CITY OF PITTSFIELD
DEPARTMENT OF PUBLIC SERVICES & UTILITIES, 100 NORTH ST, PITTSFIELD, MA 01201 413-499-9330

January 16, 2023

Honorable Mayor Tyer
Honorable City Council
City of Pittsfield
70 Allen Street
Pittsfield, MA 01201

Re: Snow Storm - December 23, 2022

On December 23, 2022, the City and surrounding communities experienced a significant drop in temperature after a period of heavy rain and wind, prompting a sudden transition to heavy snowfall, with temperatures staying below 15 degrees for over two days. These factors contributed to road conditions that were not conducive for normal travel.

My department has the primary responsibility for the execution of the snow and ice control and removal from our streets. After evaluating the operations and work done on the roads during that time, I have come to the conclusion that our difficulties were not caused by our lack of response. Despite our best efforts during and following the storm, I recognize that our best practices were overwhelmed by a number of storm related factors and the types of materials currently used to treat the roads during storm events.

The development of this report analyzed the following data:

1. All timecards and GPS data for all DPW employees
2. All pay data and GPS data for all contractors
3. The amount of salt, sand, and hot mix that was used
4. Weather forecasts
5. Collision reports and locations
6. Pre, during and post-storm operations
7. Discussions with MassDOT and MEMA
8. Equipment and chemical evaluation
9. Surveying surrounding communities

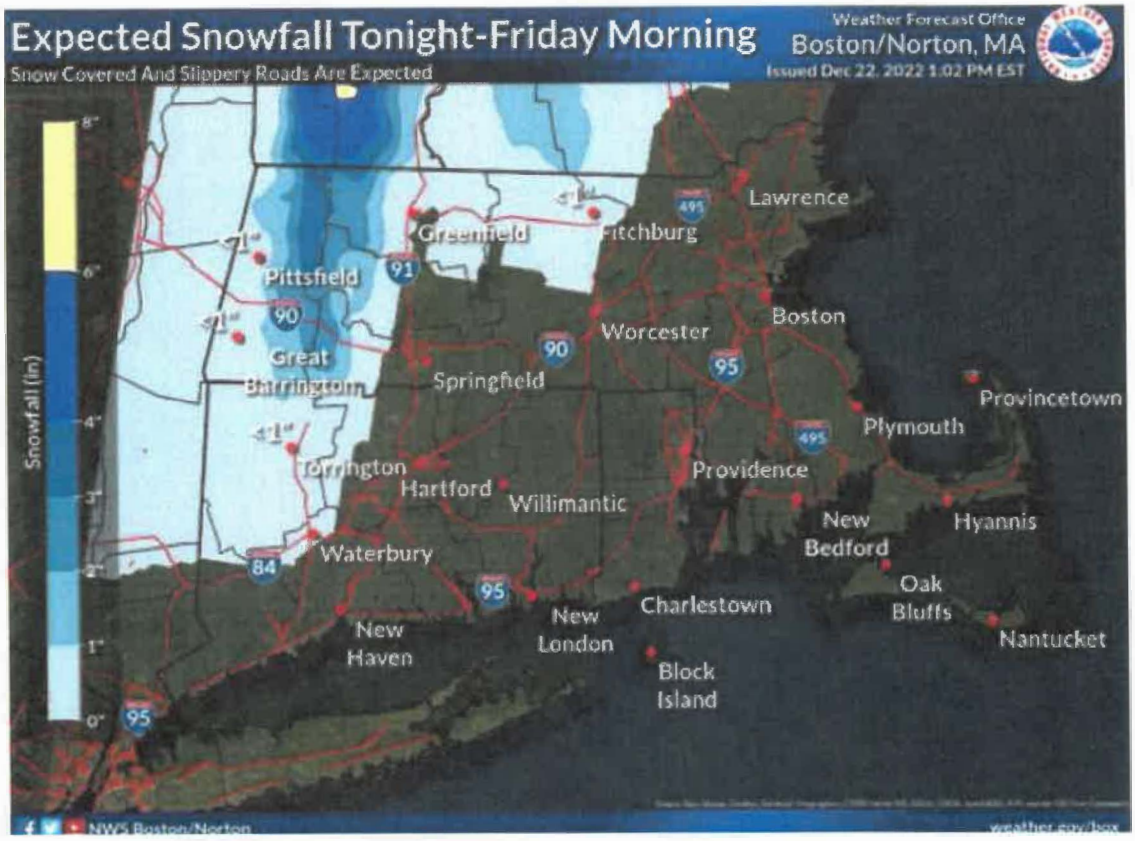
As you will see, the sections outlined in this report provide greater detail on the above elements.

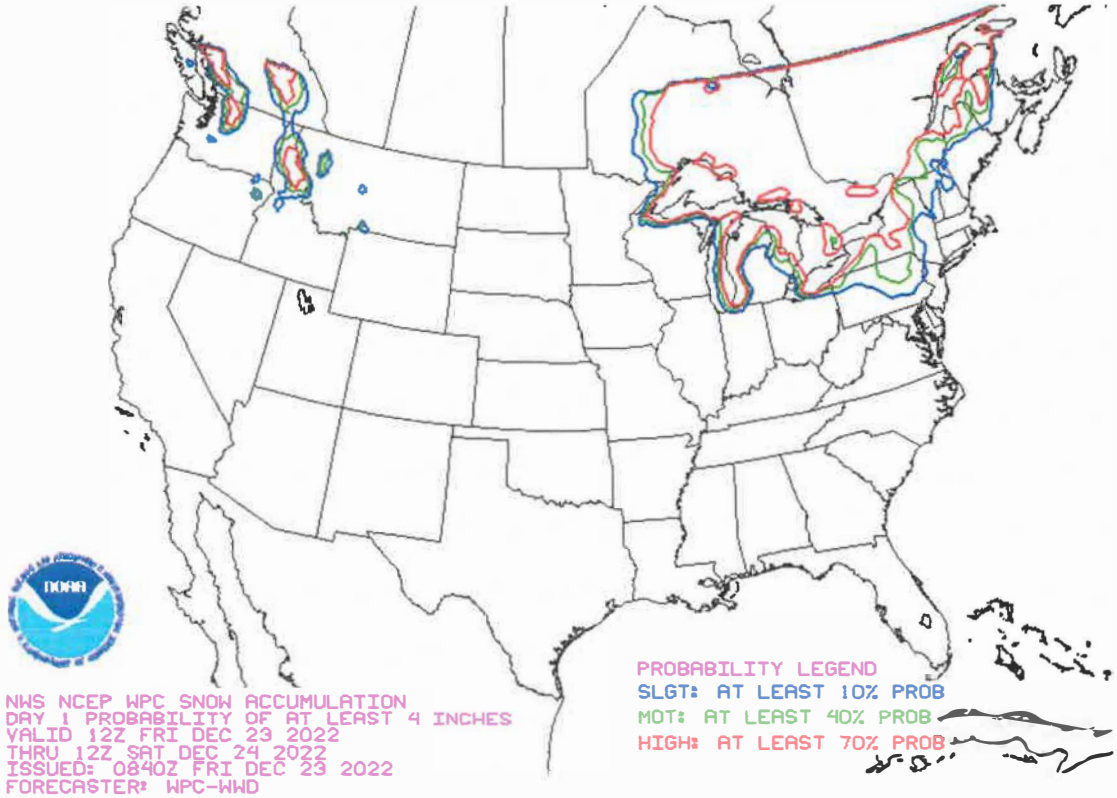
For the purposes of reviewing current practices in relation to the recommendations outlined later in this report, it is important to understand the current operations of the Department of Public Services & Utilities (DPW) during a snow or ice event. The DPW maintains approximately 450 lane miles of road of which 158 are considered mains and are divided into 6 routes of approximately equal length (around 26 lane miles each). The remaining 292 lane miles are divided into approximately 32 equal size quadrants (around 9 lane miles each). For anti-icing efforts, the department first treats the six main routes with rock salt and then, if necessary, treats the 32 quadrants with the same material. For plowing and de-icing efforts, the department calls in the contractors and loads their trucks with rock salt before going to the designated quadrant. The department then focuses on the 6 main routes, typically on a rotating 12-hour shift, until the event is finished. **See appendix for Pittsfield Snow & Ice Control Plan.**

1. Storm Preparations

1.1. Available Information

Preparation for any winter storm event begins days in advance with input from several agencies, in particular, the Massachusetts Emergency Management Agency **(MEMA)** and the National Weather Service **(NWS)**. For the storm on December 23rd, 2022 **(The Storm)**, MEMA began issuing situational awareness reports on 12/21/22 highlighting several key factors to be on the lookout for in New England. By the third report, MEMA had issued maps provided by the NWS indicating an expected drop in temperature of 40 degrees for the 23rd at the end of an average of 2 inches of rainfall. On Thursday afternoon, DPW leadership began planning for the storm. According to the latest information provided by the NWS, Pittsfield should expect a total snowfall of up to 2 inches over 3 hours starting around 4pm and ending around 7pm followed by temperatures reaching 15 degrees by 10pm. With this information in hand, it was decided to have "all hands on deck" as opposed to dividing the effort into 12 hour shifts, in order to have more snowfighters (truck with plow, wing and spreader) on the road to tackle the quick freeze. Friday morning's reports did not indicate any shift in expected conditions for Pittsfield. In fact, the morning report from the Weather Prediction Center indicated a 10% or less probability that Pittsfield would receive more than 4 inches of snow. All crews were requested to report to work at 2pm on Friday with some coming in earlier to address continual flooding conditions caused by the heavy rain in the area.


Expected Snowfall Tonight-Friday Morning
Snow Covered And Slippery Roads Are Expected
Weather Forecast Office
Boston/Norton, MA
Issued Dec 22, 2022 1:02 PM EST
Snowfall (in)
8"
6"
4"
3"
2"
1"
0"
Lawrence
Greenfield
Fitchburg
Pittsfield
Boston
Worcester
Great Barrington
Springfield
Provincetown
Plymouth
Providence
Torrington
Hartford
Willimantic
New Bedford
Hyannis
Waterbury
Oak Bluffs
Charlestown
New Haven
New London
Nantucket
Block Island
NWS Boston/Norton
weather.gov/box


NWS NCEP WPC SNOW ACCUMULATION
DAY 1 PROBABILITY OF AT LEAST 4 INCHES
VALID 12Z FRI DEC 23 2022
THRU 12Z SAT DEC 24 2022
ISSUED: 0840Z FRI DEC 23 2022
FORECASTER: WPC-WWD
PROBABILITY LEGEND
SLGT: AT LEAST 10% PROB
MOT: AT LEAST 40% PROB
HIGH: AT LEAST 70% PROB

1.2. Snow Emergency Protocol

Based on our internal protocol, a snow emergency was not activated since only 2 inches of snow was forecasted. The conditions for a snow emergency are typically 4 to 5 inches or more expected to allow for the winter alternate side parking to take effect for efficient snow plowing while allowing for overnight on-street parking. The winter hotline (413-449-5544) was active with messaging regarding the expected icy conditions on the road following the storm. This message was active until Saturday evening. Please see below for Pittsfield's "When It Snows" guidance, posted and available, in English and Spanish, on the city's website and on the City Hall Facebook page.

When It Snows In Pittsfield

Facts, FAQs, and Ordinances
Department of Public Services and Utilities
City of Pittsfield

For up-to-date information on impending snow events, please call the city's winter hotline:
413.449.5544
For other inquiries:
Contact the Department of Public Services & Utilities
413.499.9314 or visit **www.cityofpittsfield.org**.

SNOW EMERGENCY

- Starts at 7 a.m. or 7 p.m. and lasting 48 Hours
- Park on Even Side when declared on even day
- Park on ODD side when declared on ODD day
- Switch to the other side for the last 24 Hours

When a snow emergency is declared it is announced through the various channels
- News media, including print, radio, and television
- City website, www.cityofpittsfield.org
- Winter Hotline, 413.449.5544
- City of Pittsfield Facebook page
- CodeRED

Additionally, the city will attempt to contact residents before towing cars by knocking doors and making announcements.

Why does the City implement alternate side parking during snow emergencies?
- Alternate side parking rules allow one side of the street to remain clear of parked vehicles to allow for the city to clear the street of snow. on the next day, the opposite side can be cleared.
- Allowing street parking thru winter months while controlling where and when to avoid parking is a balance between providing equitable parking for residents, especially in dense neighborhoods.

What happens if one or both sides of the street have signage with parking regulations?
- The emergency order will not override existing parking regulations properly identified with signage on the street. Some streets will not allow parking on the street, by traffic order for the entire year, while, others may not allow parking on the street for certain times or the day or months of the year.

What factors does the City consider in determining whether to call a snow emergency?
- Snow emergencies are called based on a set of factors. Total accumulation is one factor, but the city also takes into account the amount of snow already on the street prior to the storm, and whether another storm is forecasted in close proximity to a snow event. Another factor is the expected temperatures on the day of a storm and the days immediately following it. The city's primary concern is safe passage on streets, as well as parking needs in neighborhoods with limited or no off street parking.

How much notice does the City provide before a snow emergency begins?
- We try to give residents sufficient time to plan ahead and give approximately 6 to 12 hours of notice before parking restrictions take effect. This also gives us time to notify the media and arrange other types of notification.

2. The Event

2.1. During The Storm – Friday 12/23/22

Our records show that 2 employees reported to work around 1pm, 8 employees reported around 2pm and 3 employees had been at work from earlier in the day as mentioned above, one employee was on vacation and one employee did not report to work. See Appendix for an hourly breakdown of the workforce. At this time, contractors had been made aware of a pending call to action on the neighborhood quadrants.

With this work force, the department was able to operate 8 snowfighters with plows, two loaders and 2 trackless plows, with two supervisors on the road. With equipment and material ready, the decision was made to not pre-treat until rain began to transition to snow. Heavy rainfall would wash away any material spread on the road.

Our GPS logs indicate that all 8 snowfighters were sent out with rock salt at 4pm when rain began to transition to snow. These snowfighters were sent out to do main routes and contractors were called in to do the neighborhood quadrants. The forecasted 2 inches of snow quickly materialized into 3 to 4 inches that fell between 4pm and 5pm, causing greatly reduced visibility during peak travel time. Records also show that another 3 inches of snow fell between 5pm and 7pm. This was far from the forecasted weather DPW prepared for. Compounding the unpredicted snow fall, the temperature dropped from 46 degrees at noon on Friday to 10 degrees at 9pm. A drop of 36 degrees in 9 hours.

Our GPS data shows that between 4pm on Friday and 4am on Saturday, every main had been covered with approximately 544lbs of rock salt mixed with sand per mile. Unfortunately, despite our best efforts, hard packed snow was prevalent on Pittsfield mains by 9:00 p.m..

FRIDAY 12/23/22 - 4PM (BOLD NUMBERS REPRESENT THE VEHICLE ID)

SUPERVISORS (PLOW ONLY)	**1103**	**1125**						
SNOWFIGHTER	**1920**	**1174**	**1171**	**1166**	**1121**	**1113**	**1111**	**1522**
SPREAD RATE (LB/MI)	*150*	*150*	*150*	*150*	*150*	*150*	*80*	*80*
DISTANCE COVERED (MI)	*78.0*	*95.0*	*91.0*	*90.0*	*77.0*	*84.0*	*62.0*	*48.0*
DURATION (HRS)	*7.8*	*6.2*	*6.4*	*7.7*	*7.0*	*7.5*	*6.5*	*4.0*
SPREAD TOTAL (LBS)	*11,700*	*14,250*	*13,650*	*13,500*	*11,550*	*12,600*	*4,960*	*3,840*
COVER PER HOUR	*1,500*	*2,298*	*2,133*	*1,753*	*1,650*	*1,680*	*763*	*960*
TRACKLESS	Trackless (1)	Trackless (1)						
LOADER	Loader (1)	Loader (1)						

2.2. After the Storm – Saturday 12/24/22

Around 10pm on December 23rd, it was determined that it was necessary to return for a second round on Saturday morning. This second attempt began at 7am with adding Calcium Chloride into our sand and rock salt mix to increase the melting ability on temperatures below 15 degrees. Our data logs show that another 434lbs of this mix was spread per mile.

Crews worked until 4pm on Saturday and were requested to report back to work on Sunday for the start of 12-hour shifts. As temperatures remained in the single digits, all material placed during the preceding 8 hours was rendered ineffective and contractors were called to respond to specific locations. At 6pm, 5 snowfighters with plows were on the road once again, working until around midnight, with 2 city snowfighters working until 2am.

Saturday 12/24/22 – 7AM (Bold Numbers Represent the Vehicle ID)

SUPERVISORS (PLOW ONLY)	**1103**							
SNOWFIGHTER	**1920**	**1174**	**1171**	**1166**	**1121**	**1113**	**1111**	**1522**
SPREAD RATE (LB/MI)	*150*	*150*	*150*	*150*	*150*	*150*	*80*	*80*
DISTANCE COVERED (MI)	*59.0*	*62.0*	*41.0*	*70.0*	*89.0*	*60.0*	*65.0*	*78.0*
DURATION (HRS)	*4.5*	*5.2*	*3.3*	*6.7*	*7.5*	*4.0*	*6.0*	*6.2*
SPREAD TOTAL (LBS)	*8,850*	*9,300*	*6,150*	*10,500*	*13,350*	*9,000*	*5,200*	*6,240*
COVER PER HOUR	*1,967*	*1,788*	*1,864*	*1,567*	*1,780*	*2,250*	*867*	*1,006*

2.3. After the Storm – Sunday 12/25/22

On the morning of Sunday 12/25/22 the 12-hour shift began at noon. However, the morning was covered with 6 snowfighters between 7am and 12pm. This allowed continued coverage between 7am and midnight, spreading 577lbs per mile on city mains.

Communications with MADOT and MEMA began in order to obtain assistance. It was learned that spreading liquid magnesium chloride would have been ineffective prior to the hard-packed snow forming. The best tool at the moment was already being used by Pittsfield. This was rock salt treated with Calcium Chloride. The state did not have any pre-mixed material available for our use

Sunday 12/25/22 - 7AM (Bold Numbers Represent the Vehicle ID)

SUPERVISORS (PLOW ONLY)	**1103**	**1125**				
SNOWFIGHTER	**1920**	**1171**	**1166**	**1121**	**1113**	**1111**
SPREAD RATE (LB/MI)	150	150	150	150	150	80
DISTANCE COVERED (MI)	132.00	102.00	90.00	91.00	132.00	114.00
DURATION (HRS)	9.50	7.40	6.20	7.40	8.10	8.00
SPREAD TOTAL (LBS)	19,800	15,300	13,500	13,650	19,800	9,120
Cover per Hour	2,084	2,068	2,177	1,845	2,444	1,140

2.4. After the Storm – Monday 12/26/22

The 12 hour shift continued on the 26th with city mains receiving another 411lbs per mile. With sunny weather and temperatures reaching 22 degrees, the mains finally began opening up and the hard pack snow and ice gave way to black top on most of our mains.

Monday 12/26/22 - 12AM (Bold Numbers Represent the Vehicle ID)

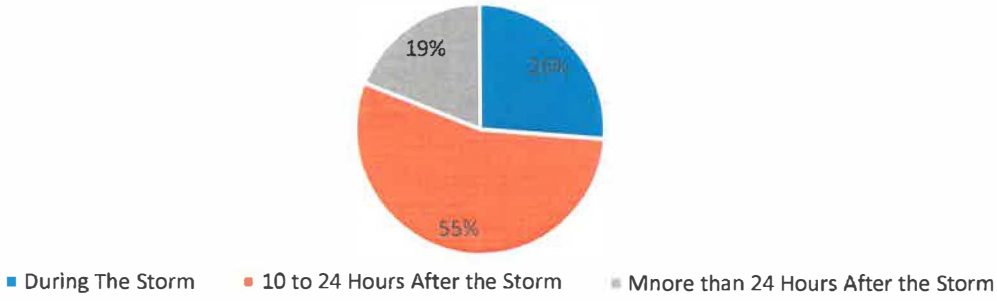
SUPERVISORS (PLOW ONLY)	**1103**	**1125**					
SNOWFIGHTER	**1920**	**1174**	**1171**	**1166**	**1121**	**1113**	**1111**
SPREAD RATE (LB/MI)	*150*	*150*	*150*	*150*	*150*	*150*	*80*
DISTANCE COVERED (MI)	*29.00*	*71.00*	*40.00*	*84.00*	*109.00*	*61.00*	*73.00*
DURATION (HRS)	*2.00*	*5.50*	*2.60*	*6.10*	*7.50*	*3.20*	*5.30*
SPREAD TOTAL (LBS)	*4,350*	*10,650*	*6,000*	*12,600*	*16,350*	*9,150*	*5,840*
COVER PER HOUR	*2,175*	*1,936*	*2,308*	*2,066*	*2,180*	*2,859*	*1,102*

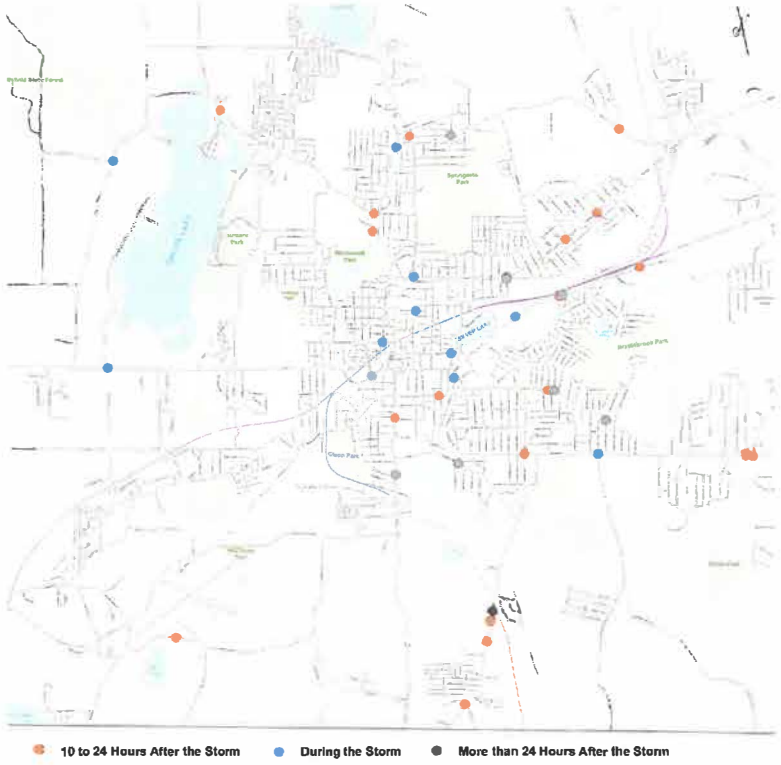
3. General Information on Collisions

3.1. Call Log vs Reports

In order to better understand the impacts of the storm, I requested all collision reports between Friday 12/23/22 and Monday 12/26/22. Pittsfield Police Department (PPD) indicated that there is a discrepancy between the total amount of collision reports (43 reports) and the number of collisions registered through the call logs. This was explained as differing due to the nature of the collision. Reports are only generated when there is property damage or injury, while calls may be received and logged with no property damage or injury. The reported 43 collisions were all minor property damage and involved 74 vehicles.

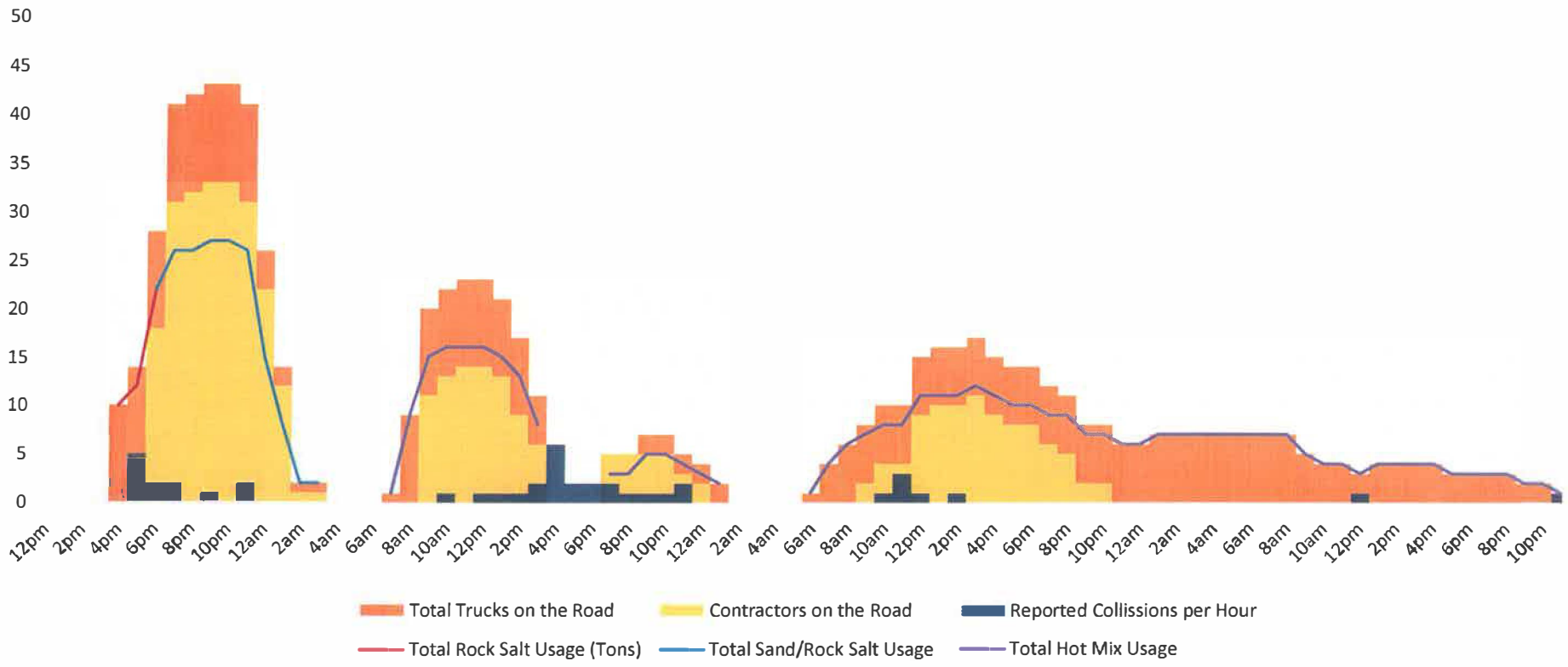
Timeframe	Total Collisions	% of Total
During The Storm	12	28%
10 to 24 Hours After the Storm	23	53%
More than 24 Hours After the Storm	8	19%
Total Reported Collisions	43	





4. Work Summary

This Chart includes an hourly breakdown of the number of snowfighters on the road, the amount and type of material spread and the collisions between Friday 12/23/22 and Monday 12/26/22. This data can also be found in a different format in the appendix.



5. General Observations

5.1. Spread Rate

The spread rate for the truck on the mains could have been adjusted for a greater amount per mile. The trucks are currently set at 150 pounds per mile. In contrast, the state sets their spread rate at 240 pounds per mile. This would have resulted in more material per mile being spread, however, with the storm conditions, including limited visibility and volume of traffic on the road at rush hour, it may not have resulted in much of a difference during the storm.

5.2. Other Towns

Due to the amount of miles and traffic volume through Pittsfield, it is very difficult to compare responses made by DPW during winter events to other surrounding communities. However, it is important to look at the normalized data to obtain a better understanding of the outcomes. Attempts to contact the town of Lenox DPW and the City of North Adams DPW were not successful at the time of this report being finalized.

Lane Miles covered by Each DPW

	Lane Miles (est.)	Trucks Used	Miles per Truck	Material Used	Municipal Official Comments
Dalton	82	7	11.7	Magnesium Chloride treated salt always	Challenging. Out after 4 to treat mains, until midnight, came back 4 to 9am on Saturday. They report having mains with hard pack until Monday.
Adams	114	13	8.8	Calcium Chloride mixed with rock salt using on-truck tanks and mixers	Pre-treated with rock salt. Around 2pm on Friday and reported to have very little issues on their mains maintained by the municipality.
Great Barrington	180	9	20.0	Untreated and Calcium Chloride treated in certain times	Difficult storm - worked until 2:30am. They reported having hard pack snow which lasted over the weekend. Diverted attention to their mains during the storm.
Pittsfield (Mains)	158	8	19.8	Rock Salt Sand mix Calcium Chloride manual mix mixed	
Pittsfield (Contractors)	292	32	9.1	Rock Salt Sand mix Calcium Chloride manual mix mixed	

It is evident that the 158 lane miles of main road treated by Pittsfield DPW during the storm spread the coverage to thin with each truck having to cover 19.8 lane miles under heavy snow fall, low visibility, and heavy traffic.

5.3. Use of Contractor on Mains

Several of the contractors with the larger spreading equipment could have been directed to pre-treat mains along with department employees. This would have left several quadrants unattended until Saturday but may have proven effective for treating the mains during the storm.

5.4. 12 Hour Shifts

While it is standard to divide the operations into 12-hour shifts, this is not done for every storm or snow event. It largely depends on the duration, snowfall, and road conditions. For this storm, it may have been beneficial to have the crews in 12 hour shifts which would have prevented three gaps identified with no coverage:

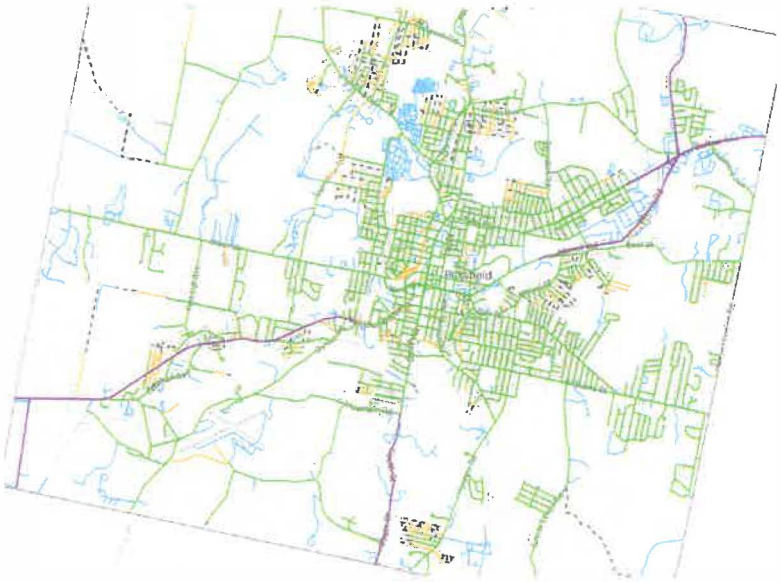
- From 12/24/22 4am to 12/124/22 7am
- From 12/24/22 4pm to 12/24/22 6pm
- From 12/25/22 2am to 12/25/22 7am

This would have reduced the number of snowfighters on the road during the storm to 6.

5.5. State DOT District 1

The state-maintained roadways were clear soon after the storm had ended. Most of the county's heavily traveled main roadways are state maintained roads. The state uses a combination of anti-icing and de-icing techniques made possible using Rock salt, Liquid Magnesium Chloride (Mag), Liquid Brine, Sand and Pre-Mixed Calcium Chloride. For this storm the state used their Mag mix which is more expensive but more effective in the temperatures experienced during and after the storm.

In Pittsfield, the maintenance of these roadways is interrupted and responsibility falls with the Pittsfield DPW. (See below map. State roadways in purple.) Due to the current unequal level of treatment between the state and Pittsfield, these transitions presented a stark contrast going from bare pavement to hard pack snow and ice.



5.6. Code Red and Other Communications

As indicated in section 1.2 of this report, a snow emergency was not called before the storm on Thursday based on the predicted weather for Pittsfield. However, when we realized that the storm was more serious than forecasted and that temperatures were preventing our efforts to de-ice and remove hard packed snow, we should have issued a snow emergency, a Code Red message, and media advisories. It is important to note that Code Red messages would alert subscribers, which may have excluded non-residents traveling through Pittsfield. These travelers would have to rely on connections with subscribers or other sources for this information.

6. Recommendations

After evaluating our response to this storm and having laid out the methodology and observations, I am including in this report a list of immediate and long-term actions we can take to be better prepared if a similar situation occurs.

6.1. What we can do now

There are two things in common along all roadways that had minimal if any hard pack snow or ice, the use of Magnesium Chloride (Mag) and how quickly it can be spread on the roadway. This type of chemical has not been used in Pittsfield roads with any regularity but the changing nature of winter storms is presenting an ever increasing challenge to the DPW. For that reason, we have ordered pre-treated Rock Salt with Mag and have it stored in one of our two salt sheds. This will allow us to use an anti-icing or de-icing method that can be effective in very low road temperatures. Consideration should be given to exclusively applying Mag treated anti-icing and de-icing products to all streets in a shorter period of time. This method will have a significant cost increase in materials in personnel. However, the burden of trying to execute the optimal cost effective effort for any given storm event can have a negative impact on road conditions.

Another immediate change put in motion is the acquisition of tanks to be mounted on 4 of our 6 snowfighters at a one-time cost of approximately $32,000. This will allow our crews to switch to Mag treated rock salt as needed depending on the temperature swings and weather forecast variability. In the event we do use this type of mix, the increased material cost will range from 20% to 33%. Here is a full expense list for this acquisition:

Mixer on Truck	
One-Time Costs:	**$32,000.00**
Retrofitting Trucks	$2,500.00
Number of Trucks	4
Total retrofit cost	$10,000.00
Liquid Mag Storage Tanks	$22,000.00
Recurring Costs (per use)	
Liquid Mag ($/Gal)	$1.15
Anticipated mix (Mag : Salt)	1.0 : 150
Mag For one Lane Mile	$1.96
Salt for one Mile	$5.85
Total cost per mile	$7.81
% increase	**33%**

State Figures for comparison	
Mix Spread (Lbs/LM)	240.00
Typical Mag Spread (Gal/LM)	1.00
Extreme Mag Spread (Gal/LM)	2.40
Average (Gal/LM)	1.70

6.2. Long Term Solutions

Looking ahead to possible improvements to our operations, we should begin conversations with the state legislature and DOT to allow for an agreement in which the state takes over the responsibility for winter maintenance of the numbered routes through Pittsfield, without stopping as shown in section 6.5. This represents approximately 25 lane miles that would result in a 30% increase in the coverage of our main roads. The benefit to Pittsfield is evident, however, the state also benefits in having continuity within their routes. With this in place, the traveling public will not experience a difference in treatment within city limits. This is possible, and with haste, could be a solution in place for next winter.

Another long-term goal, which goes along with the suggestions in section 6.1 of this report, is the acquisition of 2 new snowfighters. This has been in our fleet management plans for two years and now would be a good time to proceed since it would allow for the installation of the Mag tanks on two additional trucks in order to have all 6 main routes covered. Recall from last section that we are only installing the tanks in 4 trucks. This is due to compatibility and space, which the two older trucks are lacking.

Conclusion

I would like to acknowledge that the DPW crews and I recognize and respect the enormous responsibility we have for keeping our roads well-maintained and safe for the traveling public.

I hope this report has provided an analysis of what happened during this particular storm event along with recommendations for how to prevent this situation from happening in the future. Adjustments to our current practices, investments in equipment and materials, and a new partnership with the Massachusetts Department of Transportation will create improved methods for snow and ice removal in the City of Pittsfield.

Sincerely,

Ricardo Morales
Commissioner of Public Services & Utilities

Cc: Vinny Barbarotta, Highway Superintendent
Jeff Vincent, Retired DPW Superintendent for Lenox

City of Pittsfield

Snow and Ice Control Plan

Overall Program

The City of Pittsfield encompasses 42.5 square miles and has a population of approximately 45,000 people. The City is responsible for snow and ice control on:

208	miles of roads (accepted and unaccepted)
6	miles of sidewalk
20	City Owned buildings (including 14 school properties)
5	Parking Lots
2	Parking Garages
2	Lakes Entrances and Parking Lots
	Parks and Conservation entrances and partial lots

The Department of Public Services has the primary responsibility for the execution of the snow and ice control plan. Support is provided by the Building Maintenance, Public Utilities and Police Departments. In addition, the Fire Department plows the Fire Station lots.

In addition, there are 10 miles of state owned roads that are maintained by the Commonwealth of Massachusetts: Cheshire Road (Dalton Ave to Lanesboro town line), Dalton Avenue (Plastics Ave to Dalton town line), Merrill Road (Dalton Ave to East St), South Street (South Mountain Rd to Lenox town line), West Housatonic Street (railroad underpass to Hancock town line), and Central Berkshire Boulevard (West Housatonic St to Richmond town line)

Snow and Ice Control Policy

The goal of the Pittsfield Department of Public Services is to remove snow and ice from our roadways as rapidly and efficiently as possible, while keeping the roads open and essential traffic moving safely. Each storm develops with different factors that include air/pavement temperatures, wind, moisture content, snow accumulation, duration and post-storm weather. With the proper use of storm forecasts, personnel, equipment and materials, the Department can return roads to safe winter conditions as soon as possible. Flexibility is needed to adapt to the variety of circumstances and conditions during each snow and ice event.

Levels of Storm Response

Although winter road conditions vary from storm to storm, we use the following four categories as a general guide for our response:

Light snow/ inclement weather: Snow accumulations of 1" or less. Generally requires salting/sanding operations only, dependent on post-storm temperatures and conditions.

Small winter storm: Snow accumulations of 1"- 3". Typically requires limited plowing, accomplished with only Highway personnel and minimal hired contractors.

Medium winter storm: Snow accumulations of 3"- 8". Requires full plowing operations with Highway personnel focused on main roads and contractors in residential streets.

Major winter storm/Blizzard: Snow accumulations of >8". Requires full plowing operations with Highway personnel focused on main roads and contractors in residential streets. These storms are typically of longer duration and will often result in 12 hours on/12 hours off shiftwork for snow personnel.

Operations

Salting/Sanding: The City is divided into 6 sanding routes that are further sub-divided into two sections – main streets (collector roads/school bus routes/hills) and residential streets. The predominant method of treating streets is with the use of straight salt, which can be used on all streets to melt the snow. When pavement temperatures are below 18° and salt loses its effectiveness, the City may use a salt mixture that has been treated with magnesium chloride; or in severe cases, a 50/50% sand/salt mixture to provide improved traction on the roadway.

Anti-Icing: Sanders are deployed two hours before the snowfall is predicted to begin in order to pre-treat the main roads with salt and prevent ice from bonding with the pavement. This is done on main roads and takes approximately 3 hours to finish the routes.

De-Icing: After snow accumulation has stopped and roads are clear of snow, post-storm de-icing operations commence to improve traction and melt remaining snow and ice. Main roads are again treated with salt, and residential streets are treated with salt or sand/salt mix as conditions warrant.

Plowing: The City has 7 large dump trucks with front and wing plows, and 3 smaller plows. The City also hires approximately 40 outside contractors each winter to assist in plowing operations. The focus for clearing roadways will be main roads first; followed by residential roads. During the storm event, the goal is to keep all streets open for emergency travel. Once the accumulation has stopped, plows will clean up the streets, and push back snow to the curb line to allow for safe travel/parking and adequate snow storage capacity for future storms. The City strives to complete the plowing within 8 hours of the end of the storm for most events. In the case of major storms, that timeline may be exceeded, up to extended operations that can last several days. Highway vehicles/staff are assigned to 6 primary routes that consist of approximately 77 miles of city-wide main and priority roads. Contractor vehicles are assigned to 31 routes that encompass the remaining residential streets, with City vehicles dispatched to assist them as necessary. The Parks Division and the Building Maintenance Department are responsible for plowing school parking lots and driveways. At the end of the storm, the Highway Division will plow City parking lots and limited sidewalks.

Plow Damage: Any plow damage occurrence must be reported to Public Services no later than May 1.

Hints for Coping with Storms:

- Avoid driving during snow emergencies to allow the snow plows to do their job. If you must be on the road, reduce your speed and drive cautiously.
- Observe all winter parking bans.
- When clearing driveways, snow should be kept on the owner's property or tree lawn/grass strip. Snow should not be deposited onto the street or sidewalk.
- It is best to pile snow to the right of the driveway (as you face the street) to reduce the potential of having it re-deposited at the driveway opening when the plow passes.
- Snow shoveling can be strenuous work. Pace yourself, use proper back technique and consider shoveling periodically during larger snow falls. If possible, help out a neighbor that might need assistance in clearing their snow.
- Rarely is the collection of trash and recyclables interrupted due to a winter storm. However, bundles of newspapers and recycling bins may become buried in the snow. If a storm is predicted, please consider keeping the recyclables for collection on your next collection day.
- Prevent street flooding by clearing catch basins near your home allowing rain or melting snow to enter the drainage system.
- Do not plow snow to obstruct a fire hydrant. Consider "adopting" a hydrant by shoveling and clearing the hydrant in your neighborhood.

City Code:

Sec. 20 -15: Throwing, etc., snow and ice into streets, etc.

No person shall throw or place, or cause to be thrown or placed, any snow or ice on or into any traveled way of any street, lane or alley in the city.

Sec. 20 – 21: Removal, etc., of snow and ice from sidewalks – Duty of occupant, etc., of abutting property to remove etc.; Chief of Police, or his or her designee, to prosecute violators.

The owner responsible for land or a building abutting a paved sidewalk, or the occupant therein, shall, after snow has ceased to fall thereupon or whenever snow shall have collected or deposited upon any such sidewalk, within 24 hours, remove the same or cause the same to be removed from such sidewalk; and also remove or cause to be removed from such sidewalk, or cover or cause to be covered with sand or some other suitable substance, within 24 hours after it has formed or appeared, any ice with which the same may be encumbered, in such was as to render such sidewalk safe and convenient for travel, to a width of 36 inches. In the event that the sidewalk has a width of less than 36 inches, the owner may only remove snow to the width of the sidewalk. If a person is found to be violating the provisions of this section, it shall be the duty of the Chief of Police, or his or her designee, the Director of Public Health, or his or her designee, and the Building Commissioner or his or her designee, to assess a fine to any such person in accordance with the fine scheduled set forth in Chapter 4 ½ entitled "Noncriminal and Criminal Enforcement," § 4 ½ - 2.

Sec. 20 – 24: Snow emergency regulations.

Whenever impending weather conditions threaten to constitute a traffic hazard impairing transportation, the movement of food and fuel supplies, medical care, fire, health and police protection, and other vital facilities of the City, the Mayor, or, in the absence of the Mayor, his or her designee, shall declare an emergency period. Whenever such an emergency exists and the Mayor or his or her designee, shall have caused announcement by use of available news media, any or all of the following parking prohibitions shall become effective at either the time designated or upon the accumulation of three inches of snow, as measured at the Department of Public Works garage:

(a)

No driver shall stop, stand or park any vehicle within the limits of the traffic arteries or part thereof which are designated as weather or snow emergency routes by the Traffic Commission; provided, however, that this section shall not apply to passenger vehicles stopped temporarily during the actual loading or unloading of materials. All such arteries shall be identified by appropriate signage.

(b)

No vehicle shall be parked or allowed to stand on any street, which includes all public ways and all private ways which are subject to City snow removal for the duration of the snow emergency.

(c)

City off-street parking facilities shall be open and made available for parking free of charge for the duration of the snow emergency at the McKay Street parking deck and the Columbus Avenue parking deck.

(d)

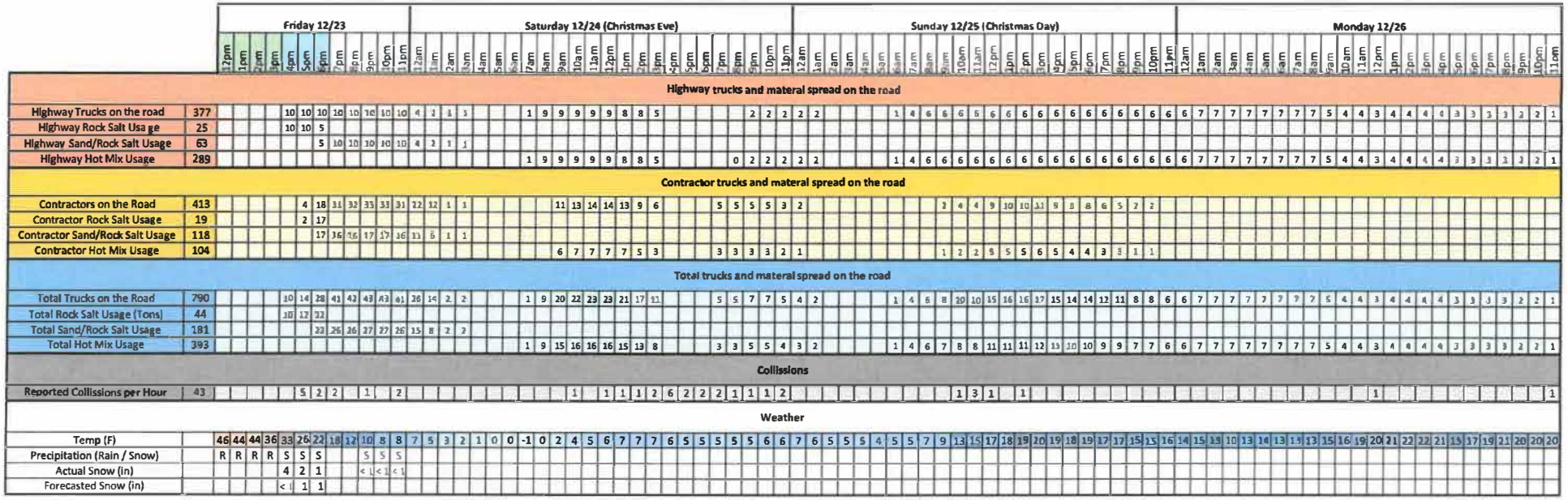
Except for the designated parking facilities in Subsection (c) no person shall park or allow any vehicle registered in his or her name to park upon any land owned or controlled by the City, which shall include any land owned or controlled by any department of the City, including the School Department, after having been forbidden to do so by the person who has lawful control of said premises on behalf of the City.

(e)

During the entire month of November of each year, the City through its Police Chief shall ensure that a public service announcement program be set forth via radio, television, and newsprint to educate and inform the residents as to these regulation and the consequences of violation.

(f)

Vehicles found in violation of the provisions of this section, except those specifically exempt by law, shall be removed to a convenient place as provided in § 13-115.1 of this Code, and the owner of the vehicle so removed or towed away, shall be liable for the cost of such removal and storage, if any, within the limits set forth in § 12-117 of this Code. Neither removal nor storage of a vehicle under the provisions of this section shall be deemed to be service rendered or work performed by the City or the Police Department of the City. The contractor shall bear any and all liability to the owner of such vehicle for any damage caused to it arising out of negligence in course of such removal and storage.


Friday 12/23
Saturday 12/24 (Christmas Eve)
Sunday 12/25 (Christmas Day)
Monday 12/26
Highway trucks and materal spread on the road
Highway Trucks on the road 377
Highway Rock Salt Usage 25
Highway Sand/Rock Salt Usage 63
Highway Hot Mix Usage 289
Contractor trucks and materal spread on the road
Contractors on the Road 413
Contractor Rock Salt Usage 19
Contractor Sand/Rock Salt Usage 118
Contractor Hot Mix Usage 104
Total trucks and materal spread on the road
Total Trucks on the Road 790
Total Rock Salt Usage (Tons) 44
Total Sand/Rock Salt Usage 181
Total Hot Mix Usage 393
Collissions
Reported Collissions per Hour 43
Weather
Temp (F)
Precipitation (Rain / Snow)
Actual Snow (in)
Forecasted Snow (in)