

AFTER ACTION REVIEW: JANUARY 5 – 11, 2025 SNOW/ICE STORM EVENTS

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Commissioner of Environmental Quality and Public Works

January 21, 2025



LEXINGTON





Agenda

- Snow Plan
- Forecasts
- Planned response
- The weather We Received
- Execution of the Plan
- Challenges
- Lessons Learned
- Immediate Improvements
- Future Considerations
- Recent Increase in Extreme Weather



Snow & Ice Control Plan

- Reviewed by partner agencies in August 2024, presented to EQPW Committee October 2024
- The Divisions of Streets & Roads and Water Quality are responsible for snow and ice removal for approximately 1,400 lane miles of state, city and county roads. (Lane miles are the number of lanes along a road multiplied by the distance.)
- The ranking plan for snow removal was developed by identifying a basic system of roads essential to the continuation of traffic movement. While developing this plan, the realistic capabilities of the Lexington-Fayette Urban County Government, such as equipment and personnel, were kept in mind. Routes are ranked based on traffic volume, access to public transportation, emergency services, Fayette County Public Schools, and the efficiency and effectiveness of snow removal operations.



Snow & Ice Control Plan ...continued

The ranked streets are defined as follows:

Rank 1 & 1E- These streets are the primary arteries in and out of the city, such as Main Street, Nicholasville Road, Richmond Road, etc. These streets are given first priority since they provide the interconnecting link from all corners of the City. Also included are streets that provide access for emergency services such as fire stations, hospitals and the Police Department. School Zones in the city are also considered Rank 1 during normal opening hours. Rank 1 streets will be maintained for all snow events.

Rank 2- These streets are the major connecting streets, such as Red Mile Road and Loudon Avenue. Also included are streets that provide access to major office areas and business areas such as grocery stores and service stations.

Rank 3- These roadways are major collector streets and are generally streets that connect major arterial streets to residential streets.

Rank 4- These streets are local streets within residential areas, which allow residents access to the main roads. This plan allows all residences to be in close proximity of a plowed street in the shortest amount of time. The City will address the remaining residential streets as time permits and weather conditions warrant.



Snow & Ice Control Plan ...continued

Snow events will be categorized into one of three basic service levels. The response to the event is different for each of the different service levels.

Level 1: 1" to 4" - Our Streets & Roads Snow Removal team will operate under the defined Rank 1-4 plan.

Level 2: 5" to 8" - Additional streets will be added, including residential streets that connect to collector streets.

Level 3: 8" and above - Streets & Roads will attempt to plow as many streets as possible.



Snow & Ice Control Plan ...continued

SUPPORT FROM OTHER DIVISIONS

- The Division of Water Quality clears a significant portion of lane miles, using its personnel, dump trucks and 4x4 pickup trucks.
- The Divisions of Environmental Services, Waste Management, Parks & Recreation, Traffic Engineering, and Engineering provide equipment and personnel. Some normal operations of these divisions may be suspended or curtailed as equipment and personnel are reallocated to the snow removal effort.
- The Division of Fleet Services puts its staff on a 24-hours-a-day, 7-days-a-week schedule in severe weather to service and repair snow-removal equipment.



Forecast – January 5-6, 2025 Winter Storm Blair



Winter Storm Sunday - Monday

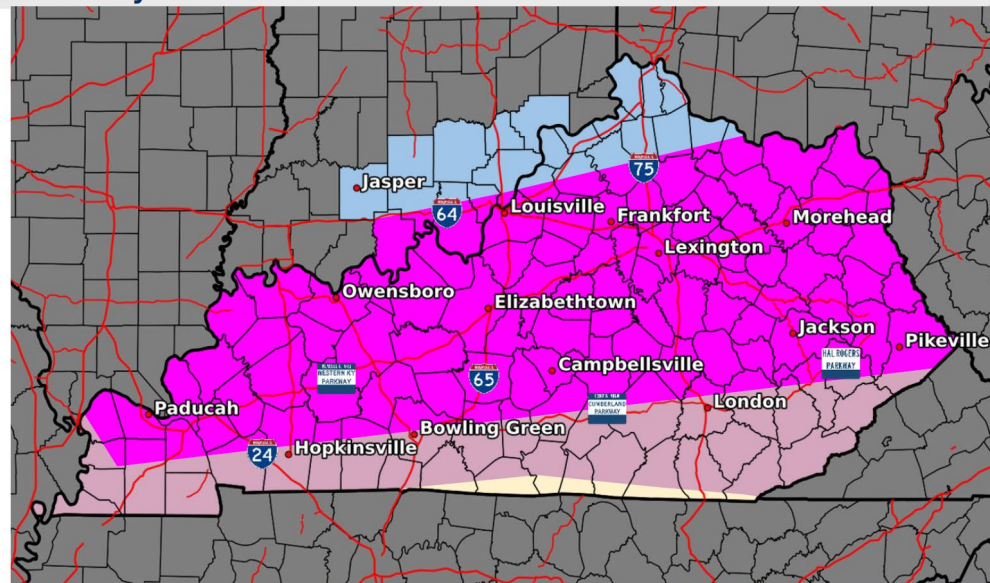
January 3, 2025

2:32 PM

Impactful wintry precipitation likely

Key Messages

- **Timing:** Sunday morning through Monday midday
- **Precipitation Type:** Wintry mix, changing to rain in southern Kentucky Sunday afternoon-night.
- **Impacts:** Snow, ice, and sleet will cause hazardous travel conditions and possible power outages.
- **Storm track is still uncertain. Precipitation types & location on this map are subject to change.**
- **Confidence** in a winter storm is high. Confidence in dominant precipitation types and amounts is medium.



Mainly Snow

Ice & Snow

Ice/Rain

Mix to Rain



National Oceanic and Atmospheric Administration
U.S. Department of Commerce

National Weather Service
Louisville, KY



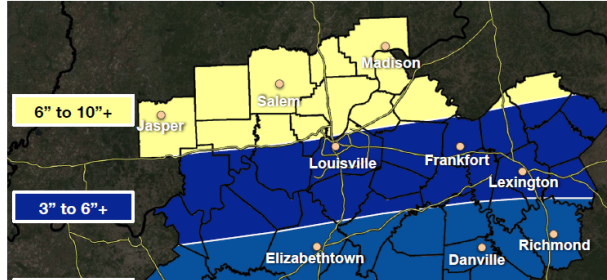
Forecast – January 5-6, 2025 Winter Storm Blair

Expected Snowfall Forecast January 3, 2025 2:32 PM

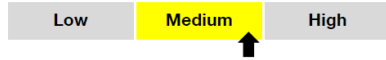
Possible Amounts From Sunday Morning until Monday Afternoon

Key Messages

- Amounts are subject to change.
- Highest snowfall amounts as you go north, especially north of I-64 into Southern IN.
- Snow amounts will depend on duration and when snow changes over to a wintry mix of ice and/or rain.



Confidence in Snow Amounts



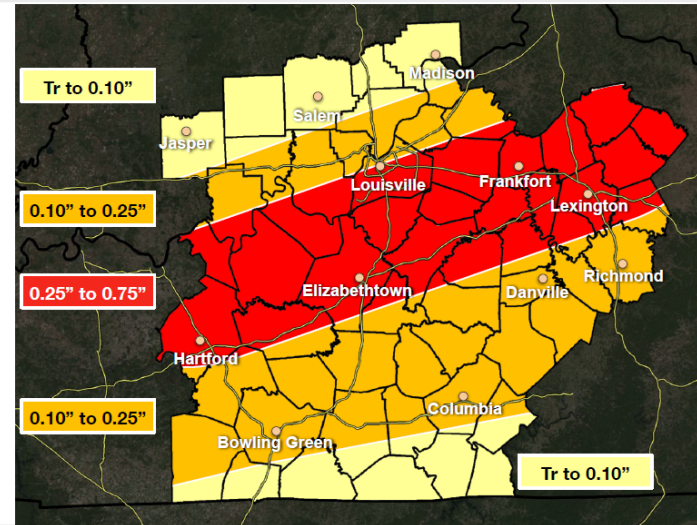
 National Oceanic and Atmospheric Administration
U.S. Department of Commerce

Expected Ice Accumulation Forecast January 3, 2025 2:32 PM

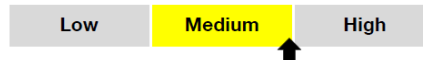
Possible Amounts From Sunday Morning until Late Sunday Night

Key Messages

- Amounts are subject to change.
- Ice amounts will be determined by the duration of time precipitation falls as freezing rain.
- Main time is Sunday afternoon into evening. With southern KY starting off as wintry mix.



Confidence in Ice Accumulation



 National Oceanic and Atmospheric Administration
U.S. Department of Commerce

National Weather Service
Louisville, KY



Forecast – January 10-11, 2025 Winter Storm Cora

Winter Storm Expected Friday January 9, 2025 5:56 AM

Significant amounts of snow possible Friday and Friday night

Details

- Winter Storm **WARNING** for much of western and central Kentucky.
- Snowfall accumulations of 3 to 6 inches are possible across southern Indiana and central Kentucky.
- Across far southern Kentucky, along the Kentucky and Tennessee border, 4 to 6 inches with locally higher amounts are possible.



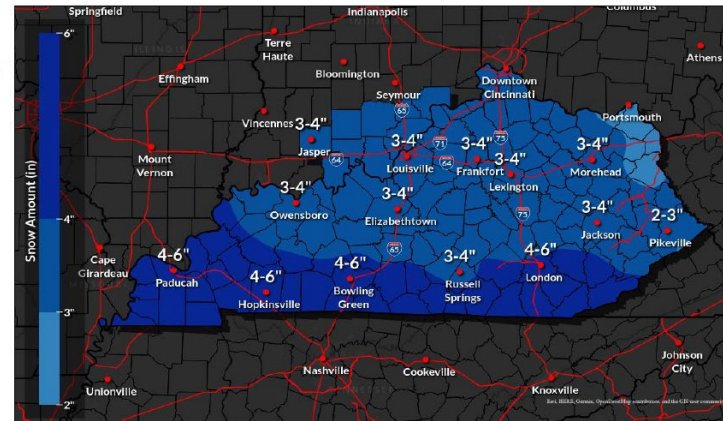
Fore

Winter Storm Expected Friday January 9, 2025 5:56 AM

Storm Total Snow Friday through Saturday

Details

- Confidence is **HIGH** for all snow as the precipitation type.
- Confidence is **MEDIUM** for snow amounts.
- Storm total snowfall of 3-6 inches expected.
- Localized higher totals of 6+ inches possible in southern Kentucky.





Planned Response / Pretreatment

- Pretreat ranked roads, hills & bridges Thursday through Saturday (1/2/25 – 1/4/25)
- Timing – switch to treat and plow 7:30a am Sunday
- Rotate 12-hr shifts begin 7:30a Sunday
 - Full staff (per shift) = 40 drivers, 4 support (loader and mechanics), 4 supervisors & 3 managers*
- Treatment – salt, salt brine, and beet heat
- Fleet – 34 dump trucks, 8 trades trucks, 5 contactor trucks, 4 tank trucks, 8 1-ton trucks





The Weather We Received

- Jan 5th – 5” snow, ½” ice
- Jan 6th – 2” snow
- Jan 7th – temps 20-25 °
- Jan 8th – temps 15-25 °
- Jan 9th – temps 13-25 °
- Jan 10th – temps 13-28 °, 3” snow
- Jan 11th – temps below freezing, trace of snow





Execution of Plan

- Snow Plan executed as storm arrived

- As ice accumulated, down limbs & trees
 - reset treatment plan
 - reduced staff available Sunday & Monday

- Adhered to the plan
 - it is routine to start over when new snow starts

- 2 different winter events in 7 days (Blair and Cora) that were treated as 1 event





Challenges

- Ice doesn't plow well. Plows don't have downward pressure.
- Examples:
 - Radcliffe Road took at least 8 passes between Sunday and Thursday to get 2 lanes clear
 - Mason Headley was salted and plowed numerous times by 3 drivers. Later used liquid application to break the ice
 - Used a grader to break the ice on Fort Harrod and Lyon Dr after they had been salted twice
- Low temperatures Tuesday night suspended treating roads & increased issues for equipment
- Beginning Tuesday, crews treated trouble areas for garbage collection
- Bus route information – staff began treating bus routes that are not on ranked roads Friday. The snow that came in Friday/Saturday meant that we had to return to the ranked roads. Once those were treated again we returned to treating the bus routes on Sunday.





Challenges continued

- Trees – calls to remove down limbs and trees began Sunday night
 - Each removal takes 2-3 employees and can take 15 minutes or 3 hours depending on the size
 - Iced limbs still attached to trees hung into the roadway. These can break truck lights, mirrors and windshields, in addition to damaging the trees and potentially including power or communication wires. Therefore, our drivers are trained to shift driving to avoid these limbs.
- Staff – 12 total vacancies in Streets & Roads. 3 of those are filled by employees from Parks. Additionally, we had some employees from Waste. Remaining vacancies are typically filled by supervisors
- Equipment – 3-6 trucks down at any point as the storms continued which spread working trucks over more miles. Fleet was fantastic getting trucks back into service!





Lessons Learned

- Sync with FCPS - received bus information in April & October; additional concerns received Monday & Tuesday (our snow season training begins in September)
- Communication during event
- Education to public of our planned response and the impact to residents (unranked roads, parked cars, what a plow will and won't do, etc.)
- Where does the snow go? (turn lanes, crosswalks, overpasses driveways, parking lot entrances, sidewalks)





Immediate Improvements

1. Parks and Recreation is redeploying 8 existing snow-equipped trucks and staff, prioritizing clearing neighborhood streets compatible with their equipment. Clearing Parks parking lots and roads would be completed with Streets and Roads support, if needed, upon completion of support of Snow Plan roads.
2. Fleet Services has ordered 5 new snow packages (plow, spreader and v-box for the bed) that fit Chevrolet 3500 HD trucks.
 - a. We will add these to existing trucks in our fleet that are assigned to Parks and Recreation and will staff them with Parks and Recreation employees.
 - b. These will be used on neighborhood and county roads that match the capacity of the Chevrolet 3500 HD.
 - c. Upfit costs: approximately \$15,000 each (\$75,000 total)
3. With Council approval, Fleet Services will initiate the purchase of 3 additional tanker trucks for application of salt brine /beet heat.
 - a. Liquid applications are effective to remove packed snow/ice in addition to regular pretreatment activities.
 - b. These vehicles have an 8-month lead time to purchase. We need to order them as soon as possible to have them for next winter.
 - c. Approximately \$220,000 each (\$660,000 total).
4. Emergency contract for road help in neighborhoods. We have spoken to 5 interested contractors.
5. We are including FCPS in pre-storm meetings and communication and remain in contact with them throughout each storm.





Future Considerations

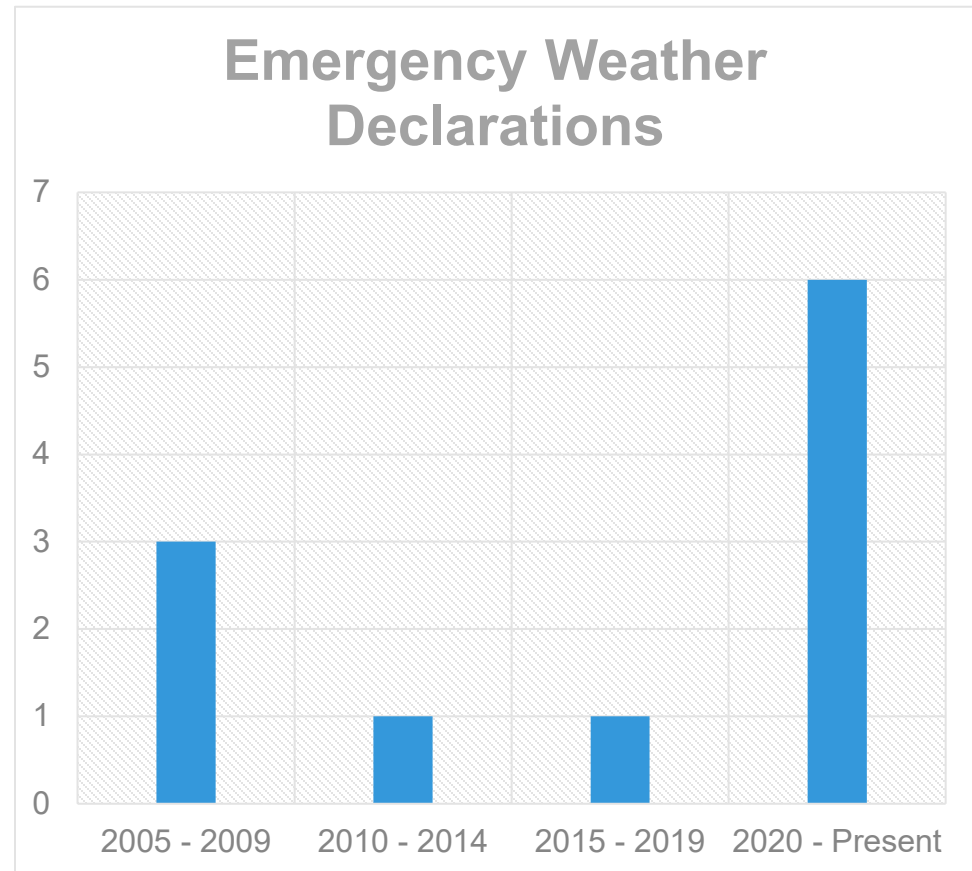
- Manage on-Street Parking?
- Changes to the Snowplow tracker
- Work with FCPS before, during and after storms
- Sidewalks
- Review ranking of roads
- Budget/Plan for more frequent significant storms





Recent Increase in Extreme Weather

- Reviewed data going back 20 years
- Counted only weather events so severe as to require emergency declaration
- More emergency-level events since 2020 than in the previous 15 years combined
 - Does not include non-weather emergencies, such as COVID-19
 - Post-2020 was also the only period to have 2 unrelated weather emergency events within 30 days of each other



Questions?



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