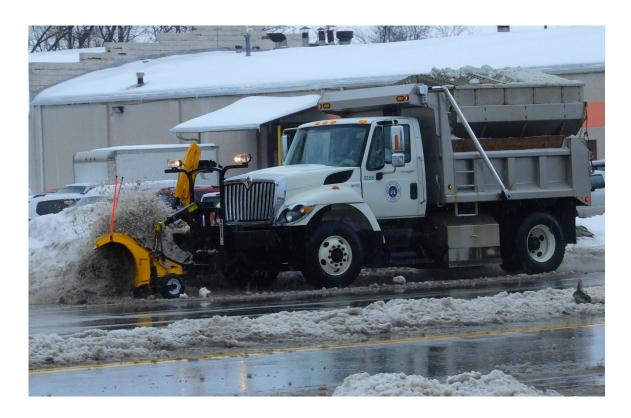


Lexington Fayette Urban County Government

Snow and Ice Control Plan Winter 2015-2016



DEPARTMENT OF ENVIRONMENTAL QUALITY & PUBLIC WORKS

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SNOW AND ICE CONTROL PLAN

DEPARTMENT OF ENVIRONMENTAL QUALITY & PUBLIC WORKS LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT

Winter of 2015 - 2016

INTRODUCTION

Snow and ice removal in Fayette County is a combined effort between the Department of Environmental Quality & Public Works and the Kentucky Department of Highways (KYDOH). The Divisions of Streets & Roads, Water Quality and Parks & Recreation are responsible for snow and ice removal for more than 1,360 lane miles of city and county roads. The state is responsible for plowing more than 500 lane miles of Federal, State, and County roads.

It is often difficult for the public to distinguish between city and state roadways within Fayette County. For example, New Circle Road is a State-maintained road, while Man O War Boulevard is maintained by the city. The map in **Appendix 1** highlights the difference between City and State maintained roadways. **During snow mobilizations, the Division of Government Communications, via LexCall (311)**, will be available, for <u>24 hours a day and 7 days a week</u>, for the public to get the latest available information concerning snow removal operations.

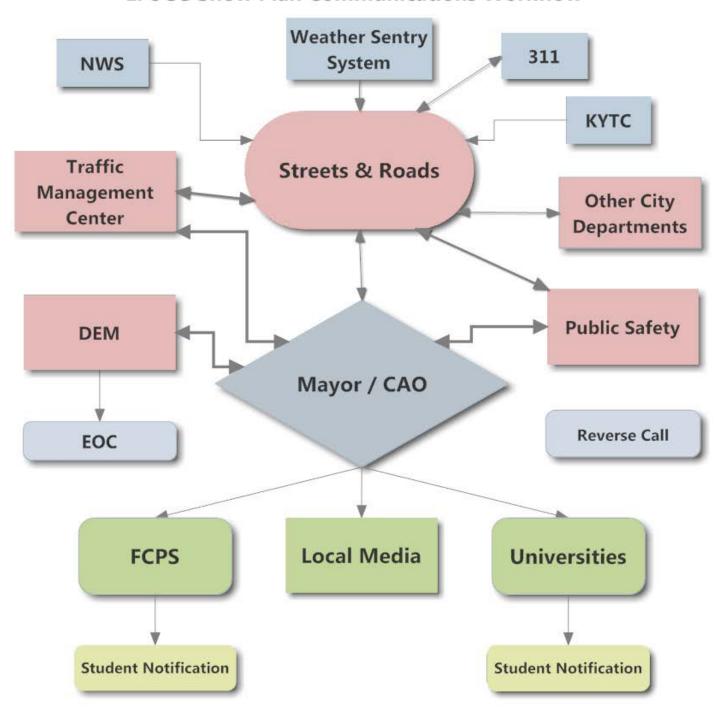
Annually, representatives from the Departments of Environmental Quality & Public Works, General Services and Public Safety; the Divisions of Government Communications and Computer Services along with Fayette County Public Schools, University of Kentucky, LexTran, and the KYDOH meet to review and update the Snow and Ice Control Plan for the upcoming winter season.

The Division of Streets & Roads coordinates the long-range planning and equipment preparation for snow removal. The variety of conditions that can occur during the snow-and-ice season within Fayette County makes advance preparation rather difficult. These conditions consist of:

The rate and accumulation of snowfall, moisture content, presence of sleet and freezing rain, temperature variations - during and after the storm, wind velocity, time of day or night, storm duration, and intervals between storms all interact to make each event unique.

These various factors are considered when establishing procedures and protocols for snow and ice removal and when evaluating their effectiveness in minimizing a storm's impact on the community.

LFUCG Snow Plan Communications Workflow



GETTING THE WORD OUT TO THE MEDIA & PUBLIC

Prior to the beginning of the snow season, a copy of the Snow and Ice Control Plan is available in the Office of Environmental Quality & Public Works (9th floor of the Government Center) for the media and the general public to learn about notification and operating procedures.

Should conditions dictate that the Mayor or the Commissioner of Environmental Quality & Public Works declares a snow emergency; the media will be notified by LFUCG's Division of Government Communications.

The LFUCG Traffic Management Center (TMC) also keeps the media notified of street conditions and traffic movement. The TMC sends information out continuously via the Internet, and social media. Information goes to:

- 4 local television stations
- 22 radio stations covering 33 counties in Central Kentucky
- 5 radio stations along Interstate 75 (in emergencies)
- Kentucky State Police posts
- AAA
- Truck stops along the I-75, I-64 corridors

The TMC gathers traffic information from a variety of sources: the computerized traffic signal control system, video surveillance cameras, LFUCG Police dispatch, State Police dispatch, State Department of Highways, AAA, Kentucky Utilities, local schools, LexTran, Bluegrass Airport, and the LFUCG's Divisions of Streets & Roads, Government Communications, Engineering, and Water Quality.

The Traffic Management Center also gets information from the National Oceanic & Atmospheric Administration (NOAA), which is a weather band on a scanner that signals when weather conditions threaten to become severe.

The public can check local road conditions on the TMC Web site. The public can also get information on accidents, lane blockages, and snow-and-ice trouble spots and road closures on both the LexWrecks Twitter feed and the Cross-town Traffic Show, which is broadcast live from 6:30 a.m. to 8:30 a.m. weekday mornings on cable's GTV3.

WEATHER MONITORING

During the snow-and-ice season, the Division of Streets & Roads continuously monitors the weather using a national and regional weather tracking systems, which forecasts an impending storm up to about 4 hours before it impacts the Lexington area.

The weather-radar system tracks wind directions, the velocity of an impending storm, and the type of precipitation (snow, rain, sleet, etc.). In addition, Streets & Roads also relies on temperature gauges staged throughout the State along roadways to track roadside temperature conditions, observes NOAA and local area media forecasts.

NINE CONDITIONS ROAD ADVISORY LIST

The nine conditions road advisory list was developed in order to systematically advise the public of road conditions, expected travel time and, when necessary, emergency procedures that must be followed.

During local snow and ice events, the Division of Waste Management utilizes the "Conditions" established in the Fayette County Snow and Ice Removal Plan when considering modifications to the daily collection services. The Division of Waste Management will obtain the current condition rating from the Division of Streets and Roads and will consult with other partnering agencies to determine future weather impact on Fayette County.

Condition 1

Travel unrestricted on all roads with normal caution. Snow and ice are absent from roadways. No effect on commuting time.

Full Refuse collection services, unrestricted.

Condition 2

Travel unrestricted on all main roads. Side roads and subdivision streets could have occasional snow or ice. Use extra caution when using side streets. There is a minimum effect on commuting time for residents.

 Full collection services continue, with caution on secondary roads and subdivision streets.

Condition 3

Travel unrestricted on all main roads with occasional snow or ice. Conditions are poor on subdivision and secondary streets with frequent snow or ice that could result in loss of traction. Use extra caution in all travel. Commuting time may be affected.

■ Full collection services on <u>all primary service roads</u>. Drivers should approach all snow covered roads with caution, avoiding roads with extreme icy conditions. This may include neighborhoods and on other secondary collection routes. Drivers will notify supervisor of any areas that have safety concerns.

Condition 4

Expect moderately hazardous snow and/or ice on most roads with reduction in ability to travel. Subdivision streets are covered with sheets of ice and are extremely hazardous. Avoid unnecessary trips. Commuting time will be doubled.

 Full collection for primary service roads. Collections for secondary roads may be modified (e.g. – restricted, delayed, or cancelled) based on feedback from partnering agencies and based on assessment by route supervisors with employee input.

Condition 5

Expect moderately hazardous snow and/or ice on most primary snow routes with reduction in ability to travel. Subdivision streets are covered with sheets of ice and are extremely hazardous. Avoid unnecessary trips. Commuting time will be doubled.

Only essential and or emergency collection services on primary service roads. All other collection services may be modified (postponed, restricted, delayed or cancelled) until such time that the condition rating is lowered or improved.

Condition 6

All roads are very slick and hazardous. There will be a serious reduction in ability to travel. Travel should be avoided if at all possible and then only if vehicle has four-wheel drive, snow tires, or chains. Commuting time will be doubled.

Only essential and/or emergency collection on primary service roads will be permitted. All other collections will be modified (restricted, delayed, or cancelled) until such time that the road and weather conditions improve.

When conditions become so severe that traffic flow and parking must be restricted for snow plowing and other snow-removal efforts, the Mayor will declare a snow emergency. A snow emergency consists of 3 stages:

Stage 1: No parking will be permitted on designated snow emergency routes.

Stage 2: No parking permitted on designated snow emergency routes plus parking restrictions on residential roads. Parking permitted on alternate sides of the street - even house numbered side on even numbered days and odd numbered side on odd numbered days.

Stage 3: No travel permitted on designated snow emergency routes unless vehicle is equipped with snow tires, tire chains, or four-wheel drive, or is an emergency vehicle or vehicle approved by the Mayor.

Conditions 7 through 9

Stage 1 through **Stage 3** snow emergencies are declared by the Mayor. During declared snow emergencies, all unnecessary travel should be avoided during each stage of the emergency (summary).

All collection services will be delayed or cancelled until such time that road and weather conditions improve.

Condition 7

A STAGE "1" snow emergency exists and has been declared by the Mayor. Conditions warrant snow plowing. Parking is prohibited on streets and thoroughfares designated as snow emergency routes. Specific condition reports will be issued for the duration of the emergency. Commuting time will be severely affected. All unnecessary travel should be avoided.

Condition 8

A STAGE "2" snow emergency exists and has been declared by the Mayor. Conditions warrant snow plowing. Parking is prohibited on streets and thoroughfares designated as snow emergency routes, plus parking restrictions on secondary residential streets. Commuting time will be severely affected. All unnecessary travel should be avoided.

Condition 9

A STAGE "3" snow emergency exists and has been declared by the Mayor. Conditions warrant snow plowing. Parking is prohibited on streets and thoroughfares designated as snow emergency routes. Specific condition reports will be issued for the duration of the emergency. Commuting time will be severely

affected. Travel is prohibited except for emergencies and/or essential activities and vehicles with four-wheel drive, snow tires and/or chains.

SNOW EMERGENCY ROUTES

The Urban County Government has designated, with appropriate signs, approximately 82 miles of roadway as Snow Emergency Routes. These are roadways that have a high traffic volume and/or shoulders that are inadequate to accommodate disabled vehicles.

Disabled or parked vehicles along these roadways can cause problems when snow plowing is in progress. A complete listing of the designated snow emergency routes is found in **Appendix 2**.

During a snow emergency, the Division of Police can remove, or have removed, a vehicle from an emergency route to facilitate traffic movement and snow-removal efforts. This may occur:

- When the vehicle is parked in an area declared a Stage 1, 2, or 3 Snow Emergency.
- When the vehicle is stalled or disabled on the normally traveled portion of any public roadway and the owner is not attempting to remove the vehicle.

Vehicles are moved to an area designated by the Urban County Government. Car owners can retrieve their cars by calling the Police reports desk at **258-3563**. The Division of Traffic Engineering checks snow emergency route signs annually. Missing, damaged or unreadable signs are replaced.

TREATING THE ROADS

Pre-treating the roads with salt brine, salt, or a mixture of salt and calcium chloride is the first step in fighting a snowstorm. The LFUCG stockpiles 3,000 gallons of salt brine, 6,000 tons of rock salt (sodium chloride) and approximately 5,000 gallons of calcium chloride to begin the snow season.

Rock salt is the most widely used de-icing agent in the United States because of its cost and effectiveness. When the temperature is above 25 degrees, salt can melt several inches of snow and prevent or reduce the bonding of compacted snow to the pavement surface.

Salt is less effective at temperatures below 25 degrees and/or when traffic volumes are too light to activate the chemicals (See Figure 1). For lower temperatures, a ratio of 9 gallons of liquid calcium chloride to every ton of sodium chloride (salt) is used to treat the pavement. The calcium chloride reacts with salt to create melting at temperatures to 20 degrees below zero.

Depending on the expected conditions, the Division of Streets & Roads will be proactive and apply salt brine to streets to try to keep ice and snow from bonding to the pavement.

Streets & Roads has hand-held pavement thermometers and truck-mounted infrared thermometers to test the temperature of the pavement. The temperature of the pavement helps them determine which method of snow-and-ice control to use.

Treatment Options 30-Degrees Salt Effective Chemical Addititive // Salt Not as Effective High Low Categories

Figure 1

A fog-and-ice-detection system, which detects the amount of moisture present on the pavement and determines the exact point at which it freezes, is in place on the Clays Ferry Bridge. When freezing begins, a signal is sent to the Kentucky Transportation Cabinet in Frankfort and to Lexington's Traffic Management Center. The Division of Streets & Roads is then notified that freezing has begun at Clays Ferry, and they can respond accordingly as freezing begins on Lexington's streets. In most cases, when snow reaches a depth of one inch, snow plowing is initiated.

STREETS PLOWED BY RANK

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 have been ranked based on traffic volume, access to: public transportation, emergency services, Fayette County Public Schools, and the efficiency and effectiveness of snow removal operations. The ranked streets are defined as follows:

Rank 1

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 subdivisions, 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.

As of November 2015, there are over 1,133 lane miles of priority streets in the city. (Lane miles are the number of lanes along a road multiplied by the distance.) This rank plan is divided into 9 areas of responsibility for work crews. Each area is assigned to a supervisor who is given trucks, plows, and spreaders. Crews start with Rank 1 streets (Emergency Routes) and then proceed through all of the rank streets. When these streets are plowed one time, the crews return, by rank, to the streets that need to be re-plowed. While crews are plowing streets in the urbanized area of Fayette County, other crews are also plowing county roads. Removal efforts continue until safety hazards caused by a snow or ice emergency have been eliminated.

The amount of snow, the type of snow and\or ice, and the duration of the storm affect the time it takes to complete work on each rank street. Therefore, a specific completion time cannot be given.

SERVICE LEVELS AND SNOW ACCUMULATION

New for the 2015/2016 winter season, snow events that occur in our area may be categorized into three basic types. The response to the event is different for each service level. The following discussion presents information concerning these service levels maintained and the materials used for each type of storm:

Level 1: 1" to 4"
 Our Streets & Roads Snow Removal team will operate under previous plan (See Rank 1-4 streets above)

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

Level 3: 8" and above
 All streets plowed with additional private contractor support [in addition to contractor integration], similar to the approach used during the winter 2015 snow events.

PRIVATE CONTRACTOR INTEGRATION

Also new for this coming winter season, the Lexington-Fayette Urban County Government will supplement snow removal operations through the use of private contractors. A private company will be selected to plow snow along 5 major thoroughfare areas (See Figure 2):

- Man O' War Blvd.
- Polo Club Blvd.
- Citation Blvd.

- Coldstream Research campus
- Alumni Drive (Tates Creek Rd Buckhorn Dr)

This additional support will allow up to 5 LFUCG trucks to run 2 12-hour shifts, enabling plowing more lower-ranked residential streets. This can result in an additional 300 lane miles of snow plowing by LFUCG crews.

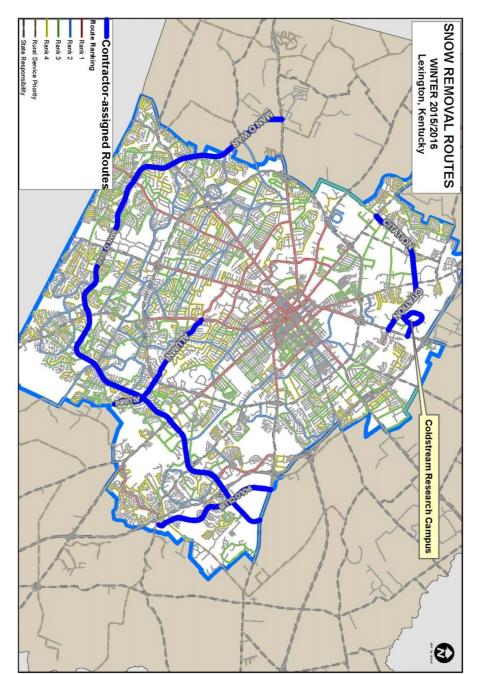


Figure 2

BRIDGES, HILLS & INTERSECTIONS

Because of the increased danger to the public by snow and ice on bridges, hills, and intersections, these are given special attention. Many of these are located on priority routes, so they are handled at the same time as general salting and plowing. At the beginning of the snowfall, small salt trucks are sent to treat bridges that are located in the downtown area, or adjacent to it. Crews check each bridge, hill, and intersection periodically in case snow or ice has built up again. Some of the bridges and hills are listed below.

BRIDGES and HILLS (Areas likely to freeze first)

| <u>Bridges</u> | <u>Hills</u> |
|----------------|--------------|
|----------------|--------------|

Alumni Dr Albany Rd Pebble Lake Dr Clays Mill Rd Armstrong Mill Reynolds Rd Roanoke Dr Citation Blvd Beacon Hill Henry Clay Blvd **Castleton Way** S Broadway Jefferson St Clays Mill Rd S Mill St Loudon Ave Delong Rd S Upper St Man-O-War Blvd Emerson Dr Shriners Ln Martin Luther King Blvd Fontaine Rd Trent Blvd Forbes Rd Zandale Dr Seventh St

Pasadena Dr Fourth St
Tates Creek Rd Gainesway Dr
Versailles Rd Lakeshore Dr

Virginia Ave Lane Allen @ Parkers Mill

W Main St

Wilson Downing Rd

Malibu Dr

N Upper St

Oxford Circle

Pasadena Dr

HELP FROM OTHER DIVISIONS

The Division of Water Quality clears a significant portion of lane miles, using its personnel, dump trucks and 4x4 pickup trucks. Also, the Divisions of Waste Management, Parks & Recreation, Traffic Engineering, and Engineering provide equipment and personnel. Some normal operations of these divisions, such as garbage collection, can 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. Personnel from the Divisions of Streets & Roads and Water Quality are often activated to unclog storm-water basins and maintain storm-water sewers during snow emergencies.

SIDEWALK CLEARANCE

In an effort to ensure mobility for pedestrians, as well as motorists, LFUCG will include sidewalk clearance as a part of snow removal operations. Full implementation of this new service will be over a **three-year period**.

There are over 71 miles of sidewalks that fall under LFUCG's responsibility for snow removal. The city divisions involved in sidewalk clearance are: Facilities, Parks & Recreation, and Environmental Services. Similar to snow and ice removal for our streets, our sidewalks will have three different levels of service. The table below describes these levels of service by rank.

Sidewalk Snow Removal Levels of Service

| Rank 1 Facilities, Downtown (inner core), and State Corridors (including viaducts) Sidewalks @ Service Open Parks Facilities | 11.5 Sidewalk Miles (~ 60 segments) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| Rank 2 City Thoroughfares and Connectors in High Density Areas (i.e. Man O' War, Citation Blvd, Alumni Dr., etc.) Sidewalks @ Service Closed Parks Facilities & near Bus stops | 43.5 Sidewalk Miles |
| Rank 3 Lower density/residential areas Perimeter sidewalks of Parks - High density areas to have a higher priority than low density areas | 12.5 Sidewalk Miles (~186 segments) |

As stated earlier, full implementation of this service will be phased-in over a threeyear period. For this winter season, sidewalk snow clearance will implemented in the following manner:

- LFUCG will perform full clearance on Rank 1 areas within 24 hours of snow end
- LFUCG will perform partial clearance on Rank 2 areas within 48 hours of snow end
- LFUCG will perform partial clearance on Rank 3 areas within 96 hours of snow end

RURAL AREA PLAN

The rural area snow plan designates snow removal responsibilities to the Lexington-Fayette Urban County Government and the Kentucky Department of Highways. Currently, the LFUCG is responsible for salting and plowing 115 miles (230 lane miles) of rural roadway, while the KYDOH provides snow removal for approximately 500+ miles of Fayette County's roadways.

The LFUCG's rural snow plan divides the county into two sections that are separated by Leestown Rd./Main St./Richmond Rd. The direction the snowfall is moving dictates which sections of the county crews begin plowing first. All designated roads are basically of equal priority, with the exception of hilly areas near the Kentucky River. **Appendix 3** provides a complete listing of the county roadways that are the responsibility of the LFUCG.

KENTUCKY DEPARTMENT OF HIGHWAYS (KYDOH) RESPONSIBILITIES AND PROCEDURES

Because of the joint responsibility for roadways in Fayette County between the KYDOH and the Lexington-Fayette Urban County Government, it is imperative to include KYDOH in the countywide snow plan. **Appendix 3** contains a map highlighting state and county routes, information on KYDOH, and a list of state-maintained roads by priority.

The KYDOH contracts the majority of snow removal on I-75, I-64, and New Circle Road, so its crews can concentrate on keeping the other routes in Fayette County salted and plowed. To help with response time, the state calls the Lexington Division of Police when snow moves into the counties within 30 miles of Fayette County. A copy of the KYDOH's ice and snow removal plan is available online:

http://transportation.ky.gov/maintenance/pages/snow-and-ice-priority-maps.aspx

HOURS OF OPERATION

During the snow season, Streets & Roads supervisors are on call 24 hours a day, 7 days a week, on a rotating basis. If the Division of Police determines that slick or icy spots are developing on roadways, they alert Streets & Roads on-call personnel and salt trucks are dispatched to the trouble spots. In a snow emergency, crews from Streets & Roads and Water Quality work 12-hour shifts around-the-clock until the priority roads are cleared.

LFUCG GARBAGE COLLECTION POLICY IN SNOW OR ICE EVENTS

Municipal regulations and public health protection require that the Division of Waste Management provide garbage, recyclables, and yard waste collection regardless of weather conditions. The exception is in emergency situations such as heavy snow and ice when management, for the safety of its employees and the public, can suspend all collections to keep its heavy vehicles off the streets until road conditions improve. When collections are temporarily suspended, LexCall and the LFUCG's Government Communications office are notified to provide information to the public.

