

SNOW PLAN UPDATE

WINTER 2024-2025

Environmental Quality & Public Works Committee

October 22, 2024

Rob Allen, Director of Streets & Roads



LEXINGTON





Presentation Overview

- Snow Season Salt Expense Comparison
- Status of Salt
- Route Rankings
- Service Levels
- **Big** Changes to the Snow Plan for Plows
- Coordination
- Sidewalk Snow Removal
- Staffing
- Projected Schedule for Plan Finalization



Snow Season Salt Expense Comparison

Fiscal Year	Salt Purchased*	Salt used (Tons)	Salt price (per ton)	Mobilizations Full / Partial
2020	\$198,608	4,215	\$86.44	4/13
2021	\$930,161**	1,745	\$90.87/92.884	2/6
2022	\$1,025,561	8,038 1,000 (rock)	\$68.90/70.90	7/2
2023	\$265,489	12,610	\$114.00	6/5
2024	\$461,128	5,048	\$90.25	5/5
2025	-	-	\$103.25	-

* Does not include personnel

“Typical” winter averages 22 mobilizations per year

** 7,000 tons loaded into W Hickman 2020

Full mobilization = All drivers and all supervisors and may include multiple shifts and days.

Partial mobilization = 1 supervisor and 1 driver or fewer per area.





Salt Supply

Currently on hand → 8,800 tons

Current storage capacity → 8,800 tons total

- 1,800 tons at Old Frankfort Pike (phasing out)
- 7,000 tons at West Hickman WWTP

Available funds in FY25 if needed: \$591,447 = 5,742 additional tons

FY25 salt cost: \$103.25/ton (In FY24, \$90.25/ton)





Route Rankings

Rank 1 -- primary arteries in and out of the city. (*Nicholasville Rd, Man O' War Blvd, etc.*) 296 lane miles*

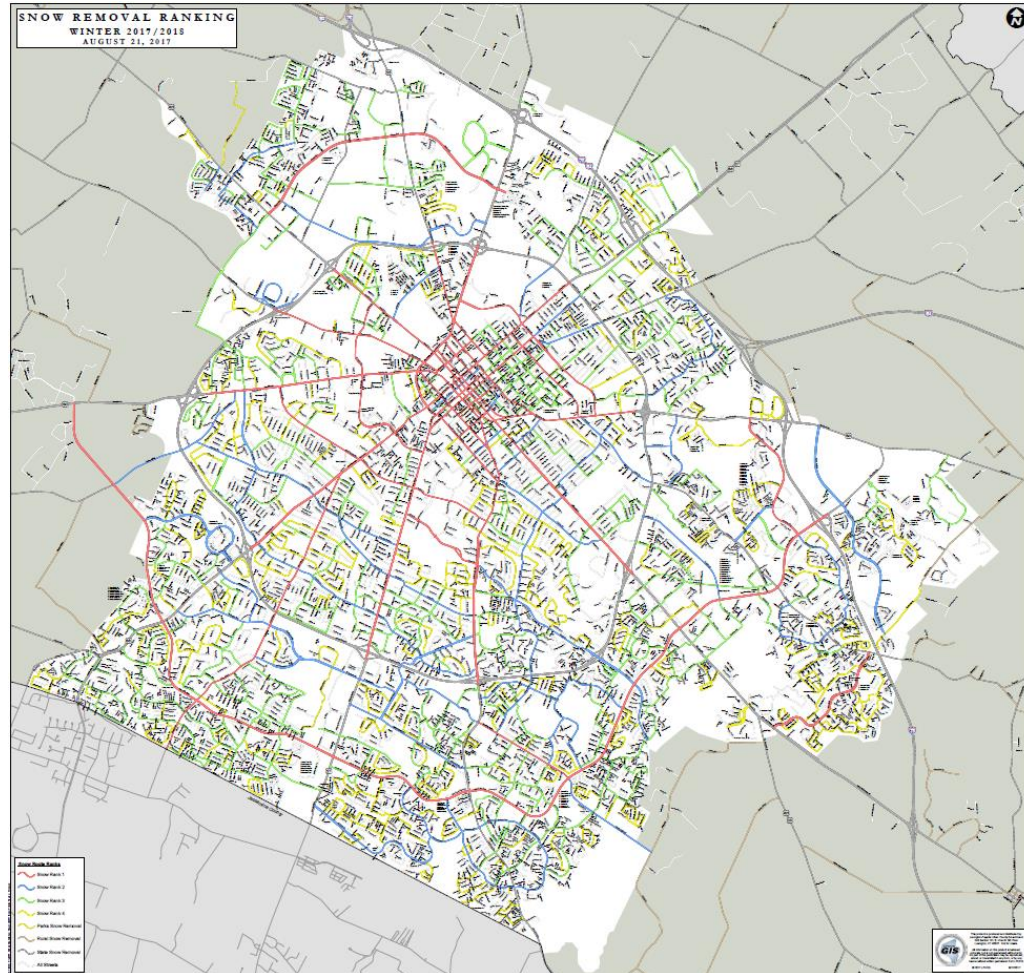
Rank 2 -- major connecting streets. (*Lane Allen Rd, Loudon Ave, etc.*) 192 lane miles*

Rank 3 -- collector routes. (*Sandersville Rd, Old Todds Rd, etc.*) 356 lane miles*

Rank 4 -- local residential streets, which allow residents access to the main roads (*Dunkirk Dr, Glendover Rd, etc.*) 330 lane miles*

*lane miles:

1 mile of a 2-lane road = 2 lane-miles





Service Levels

Level 1 → 1" to 4" of accumulation

- Operate under current plan (Rank 1-4 streets)

Level 2 → 5" to 8" of accumulation

- In addition to the Rank 1-4 routes, we will add unranked residential collector streets that connect to collector streets

Level 3 → 8" of accumulation and above

- In addition to the Rank 1-4 streets, we will attempt to plow as many streets as possible





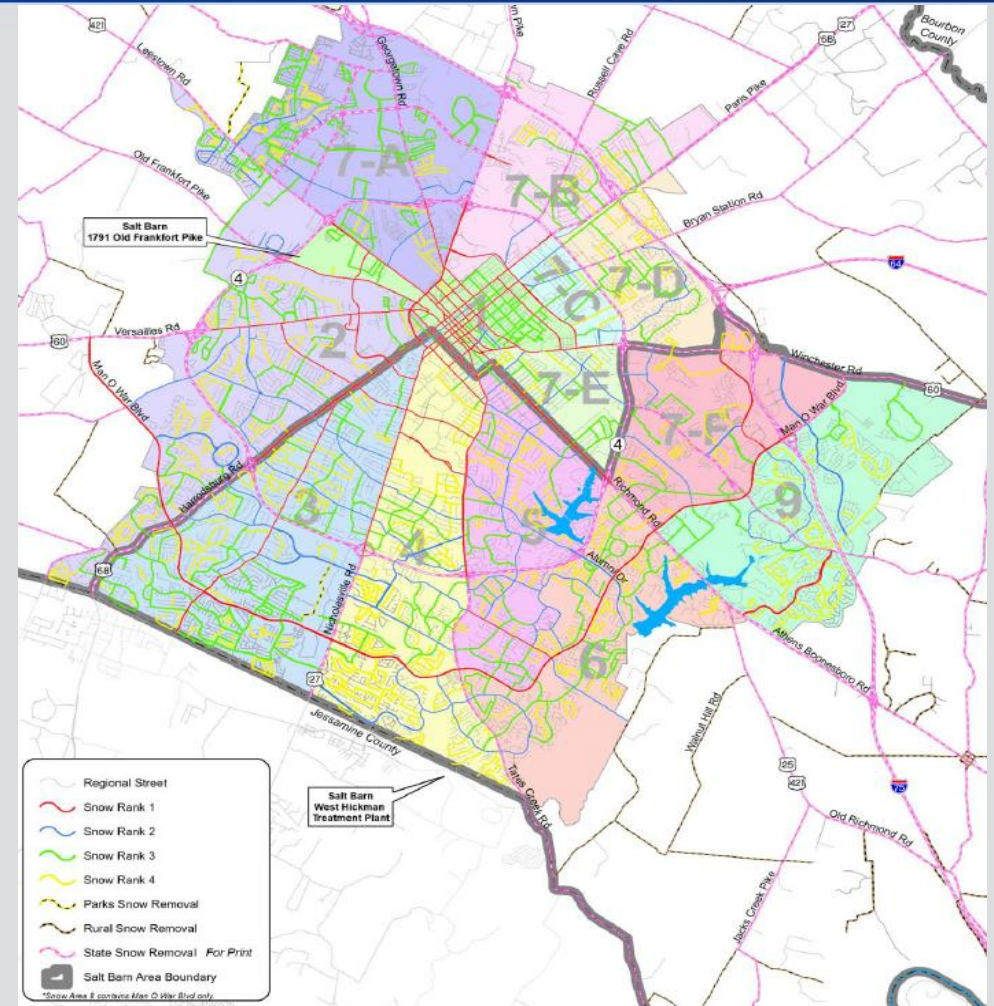
Snow Route Optimization Study

- Snow Route Optimization Study was completed this year (2024).
- 16 previous zones
- 11 current zones: 8 within Urban Services Boundary, 1 for Man O' War, 1 for east Fayette County, 1 for west Fayette County

Zone	Total Miles
1	77
2	142
3	155
4	141
5	101
6	79
7A	80
7B	43
7C	16
7D	32
7E	28
7F	50
9	67

Baseline Scenario: How it's currently done

- Legacy system.
- Zone-based routing.
- Polygonal boundaries define extent of routes.
- Thirteen zones.
- Man O War is treated separately from the zones.
- All trucks begin/end at Old Frankfort Pike site.



From 3 options "Medium change" was selected

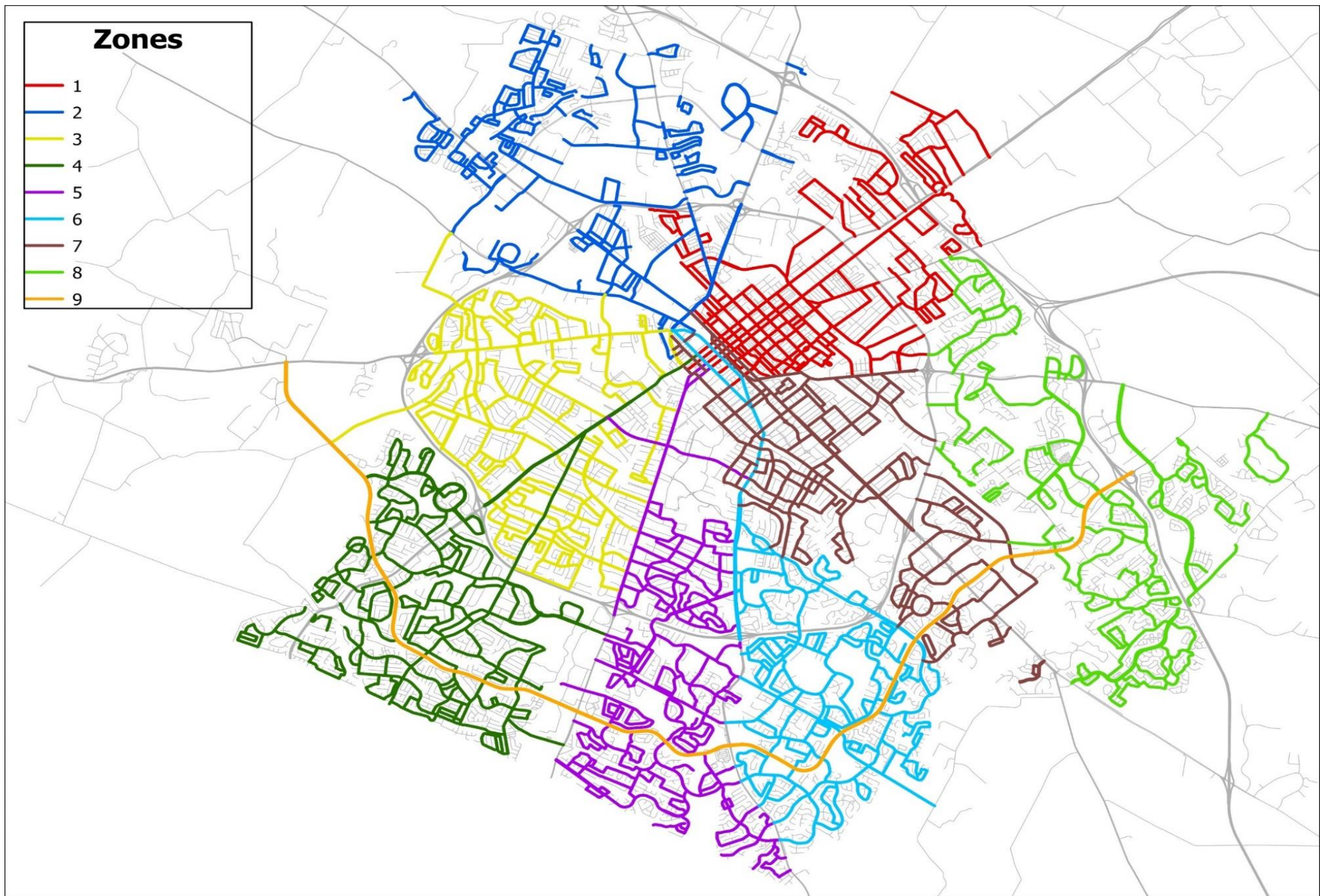


- Identified as the most desirable scenario for optimized routes.
- Performed the best among the measures:
 - Had the lowest amount of time to treat all routes.
 - Had great balance in terms of distance of routes and timing of routes both across zones and within zones.
 - Demonstrated considerable route clustering which was determined to be beneficial to snow and ice route operations.
 - Zone distribution left room for expansion in areas of growth in Lexington:
 - East (Polo Club Blvd / Todds Rd areas)
 - Northwest (Citation Blvd / Masterson Station areas)



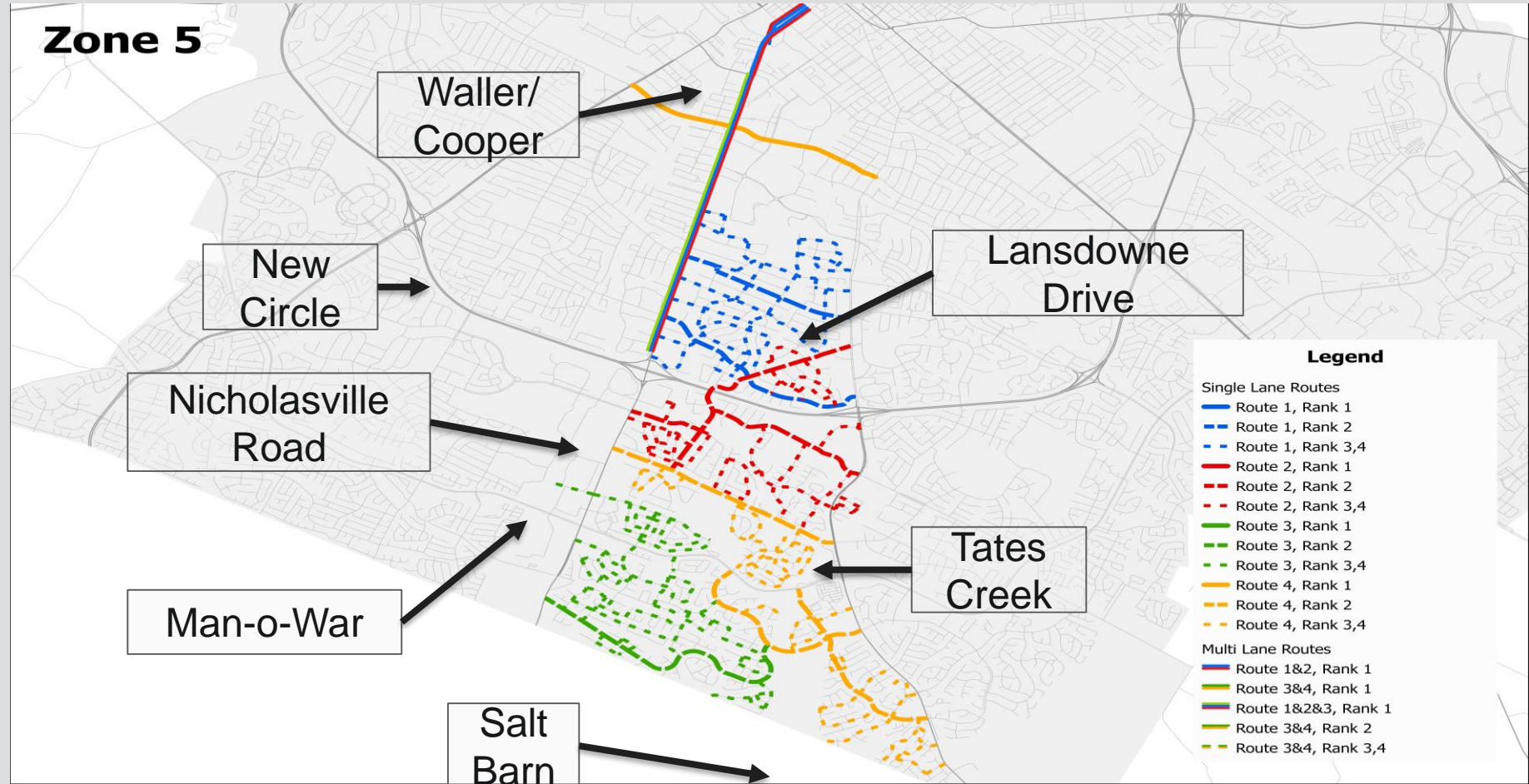
Comparing 8 zone scenario to baseline

Scenario	Treat Time	Transit Time	Total Time	Max Truck Time	Min Truck Time	Max Truck Miles	Min Truck Miles	Max Truck Weighted Miles	Min Truck Weighted Miles
Baseline	5,414	1,337	6,751	363	116	52	16	85	31
8 Zones	5,414	1,238	6,652	261	153	38	27	62	42



8 Zone Scenario: route assignment

Zone 5: trucks depart from West Hickman

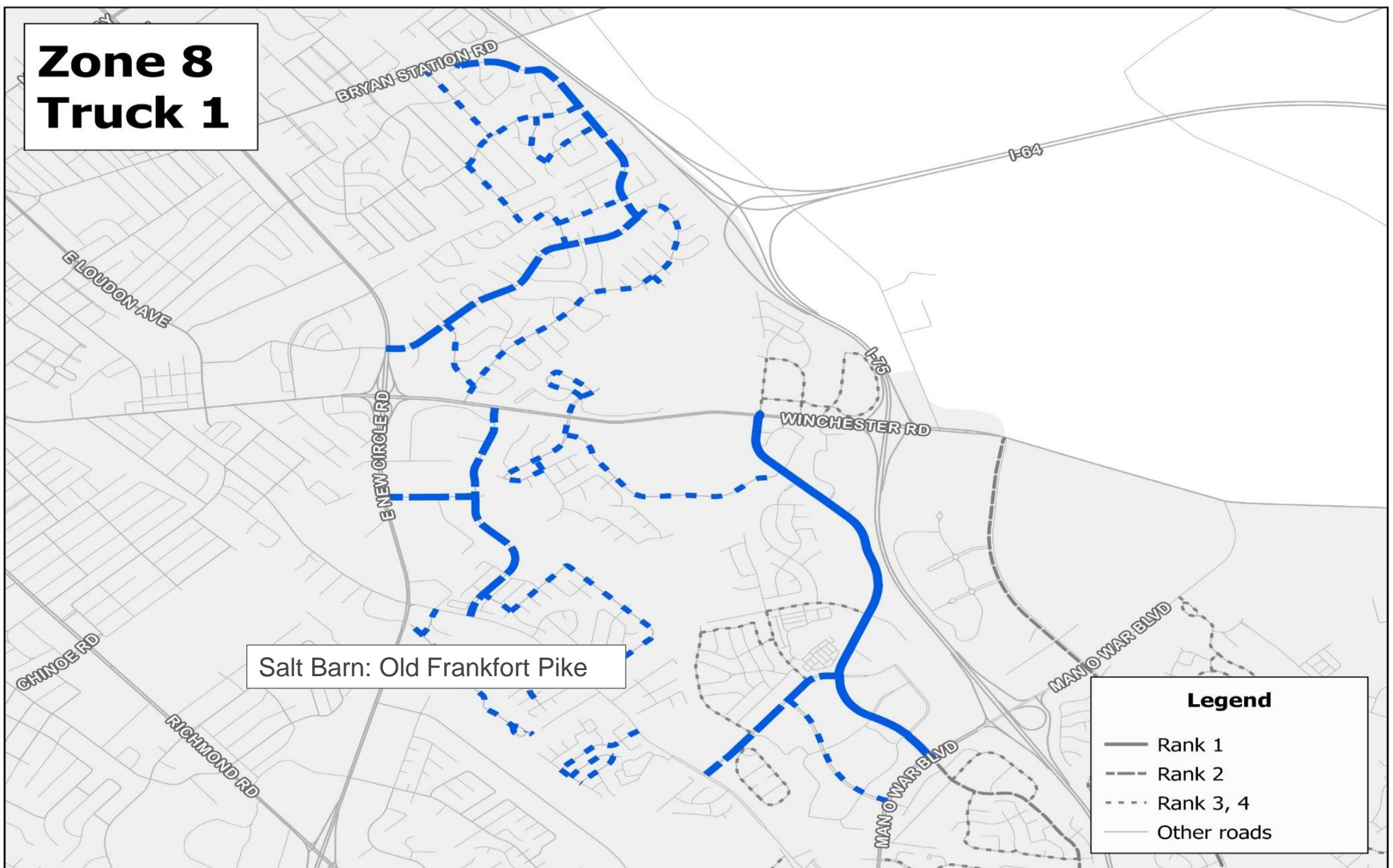


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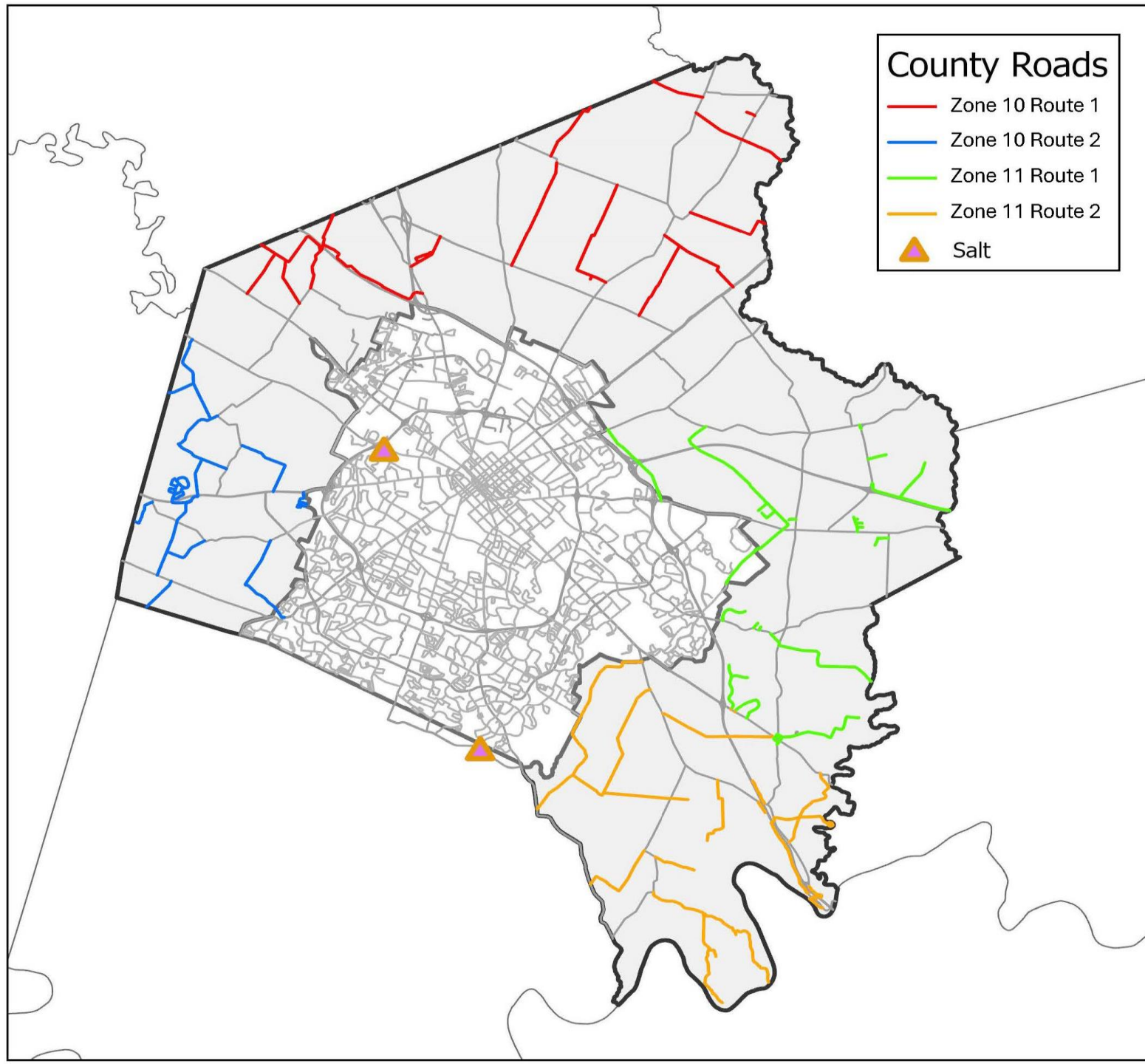
Zone 8 Truck 1



Salt Barn: Old Frankfort Pike

Legend

- Rank 1
- - - Rank 2
- . . . Rank 3, 4
- Other roads





Changes for 2024/25 Snow Season

School access routes added after consulting FCPS

Street Name	Cross Streets
Bruce St	W Second St & W Short St
Charleston Dr	Eastland Pkwy & Crawford Middle
Howard St	Georgetown Rd to Scoop Brown Way
Rookwood Pkwy	Bryan Station Rd to Northern Elementary
Scoop Brown Way	Georgetown Rd to Howard St





Sidewalk Snow Removal

- Primary execution by combined divisions of Environmental Services, Parks, Fire, and Facilities.
- Over 84 miles of sidewalks serviced with full completion of the plan.

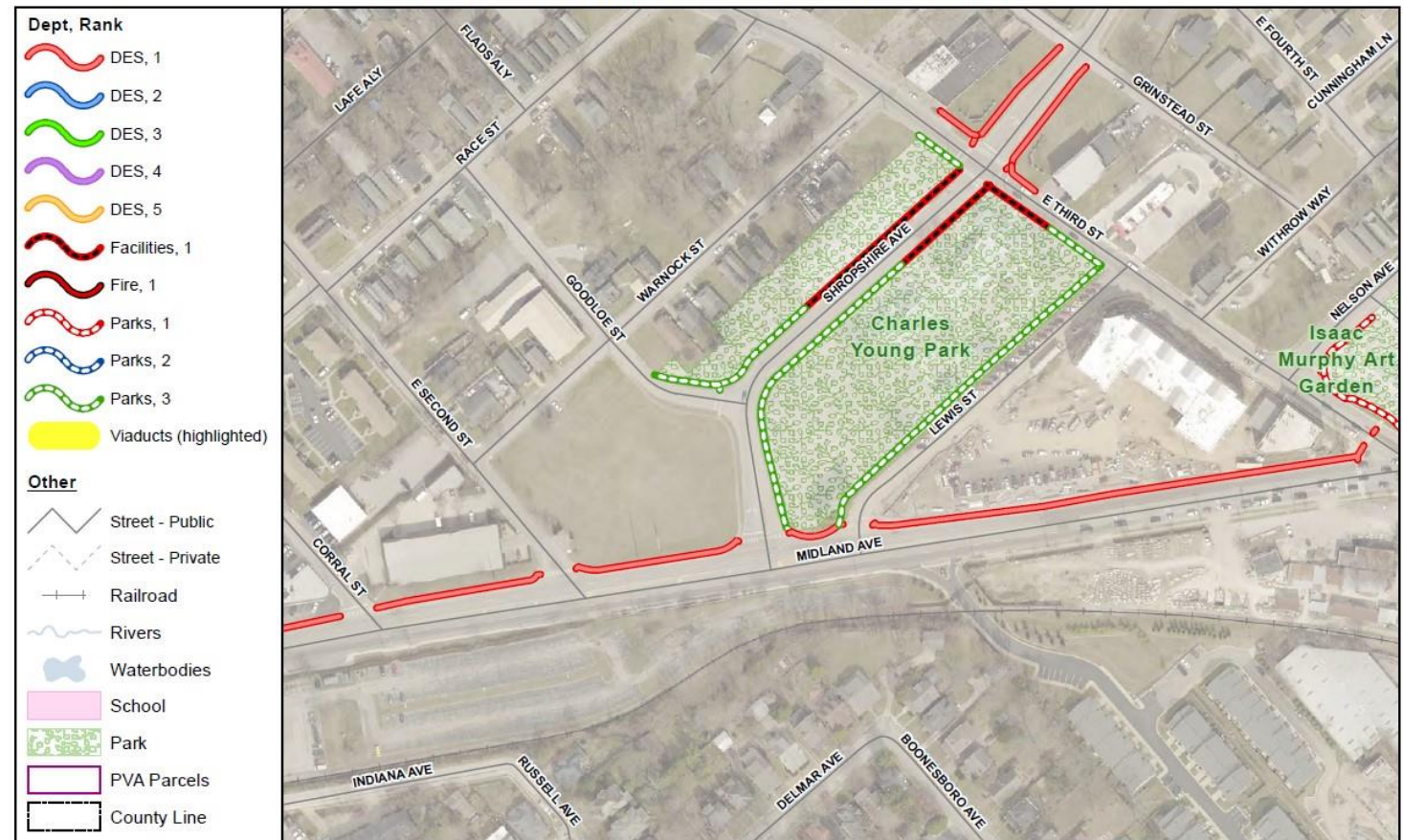




Sidewalk Snow Removal

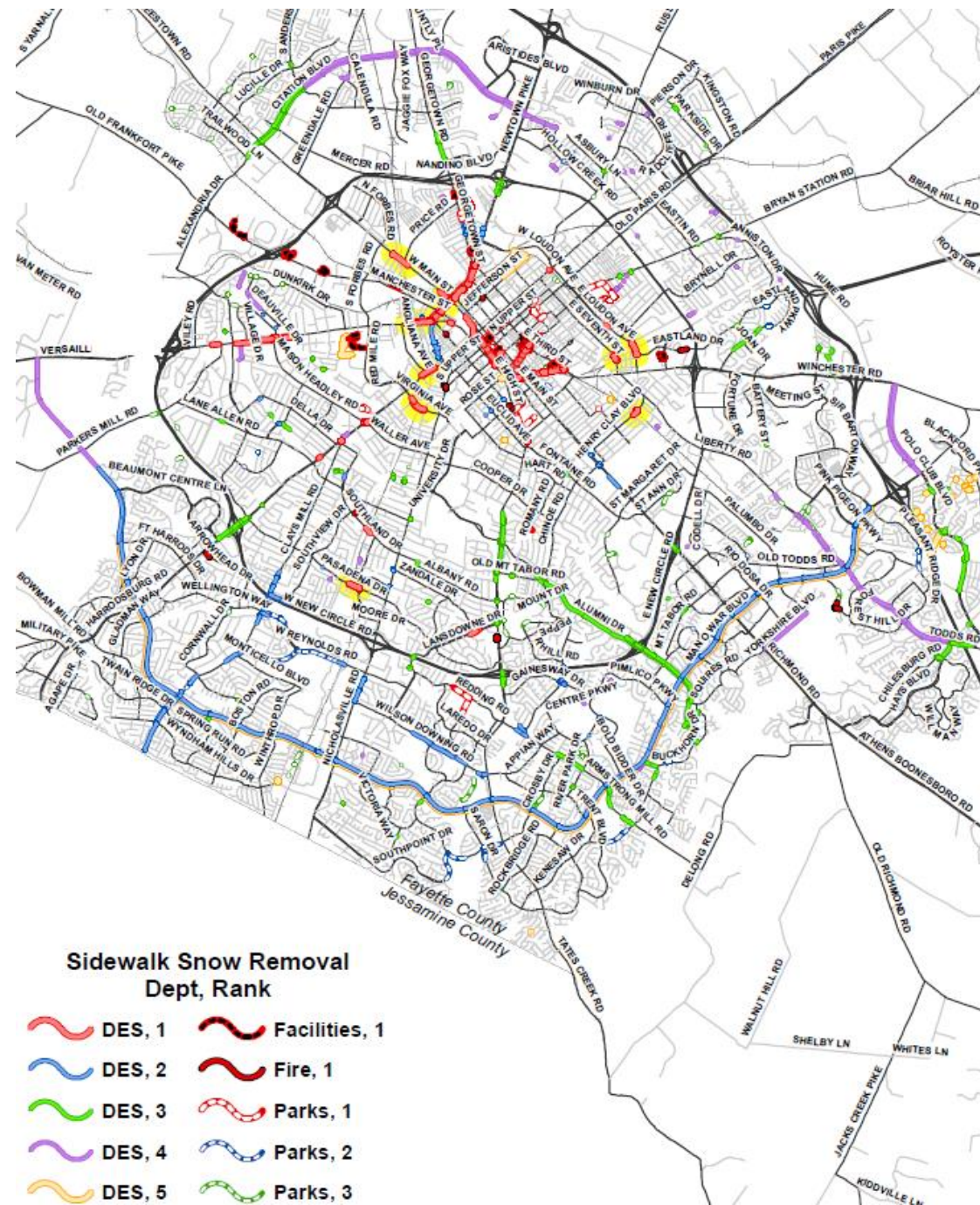
- Snow accumulation of ≥ 1 " triggers sidewalk clearing.
- Sidewalk clearing begins after snow stops.
- Must coordinate timing with road crews to minimize re-coverage after clearance.

Town Branch Commons Sidewalk Snow Removal





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Sidewalk Snow Removal

Rank Examples	Length - FY24	Length - FY25
Rank 1 <ul style="list-style-type: none"> Overpasses and underpasses High density city-maintained sidewalks and crosswalks City-owned facilities Open Parks & Recreation service facilities 	14.6 Sidewalk Miles	14.6 Sidewalk Miles
Rank 2 <ul style="list-style-type: none"> Designated city-maintained sidewalks on arterials and collectors in high density areas (<i>i.e.</i>, inner loop of Man O War, Wellington Way, Wilson Downing) Closed Parks & Recreation service facilities & near bus stops School routes (school closed) 	36.5 Sidewalk Miles	24.0 Sidewalk Miles
Rank 3 <ul style="list-style-type: none"> Perimeter sidewalks of Parks - High density areas 	16.6 Sidewalk Miles	16.7 Sidewalk Miles
Rank 4 <ul style="list-style-type: none"> City-owned parcels in lower density residential areas (WQ lots, greenways) Perimeter sidewalks of Parks - Low density areas 	15.3 Sidewalk Miles	15.3 Sidewalk Miles
Rank 5 <ul style="list-style-type: none"> Sidewalks at entrances to greenways Trails within greenways or parks (not true sidewalks) Outer loop of Man O War 	1.6 Sidewalk Miles	13.8 Sidewalk Miles





Coordination in Case of Emergency

- Informal assistance/support agreement with KYTC District #7.
- Updated emergency contact information across divisions and stakeholders for rapid internal communication.
- Consensus across divisions and agencies for mutual aid and support in the event of staffing shortages.
- Commissioner will serve as coordinator of rapid staff reallocation as needed.
- For 2024-25, streets providing emergency access to certain critical facilities will have a Rank 1E ranking above Rank 1 should staffing become too limited to execute the traditional plan.





2024-25 Snow Plan

Goals

- Complete [Roadway Snow Plan](#) (Rank 1 – 4 routes) within 48 hours of **precipitation ending**.
- Complete [Sidewalk Snow Plan](#) (Rank 1 – 4 routes) within 96 hours of **precipitation ending**.





Staffing

Streets and Roads – authorized strength: 67 CDL positions; 16 vacancies (4 new hires, 2 with CDL)

- 4 employees used as loaders (2 per shift, 1 loader per barn)

- 5 as mechanics

- 44 drivers split over 2 shifts

Water Quality – authorized strength: 29 CDL positions. Not all available to drive at the same time in case of sewer line breaks.

Environmental Services – authorized strength: 5 CDL positions and 11 general labor positions for clearing LFUCG sidewalks. One additional CDL driver assisting Streets & Roads.

Other – 5 Contract drivers and plows from Red River. Additional drivers from Water Quality, Parks, Waste Management, Code Enforcement, and Environmental Services (if needed).





Plan Finalization Schedule

Stakeholder Meeting – August 28, 2024
LexTran, FCPS, State DOT, etc.

EQ&PW Committee Update – October 22, 2024

Post to Webpage – October 25, 2024





Communications

- **Director of Streets & Roads** emails internal and external partners informing of expected conditions and plans. This could be as simple as monitoring current conditions and road temperatures.
- **Commissioner of EQPW** informs Administration and Council of plans of action.
- **PIO** with **EQPW PIE** support informs public and staff via socials.
- **LexCall** gathers service requests and directs them to Streets & Roads administration for resolution.
- **Snow and Ice Control** plan on the web at:
<https://www.lexingtonky.gov/snow-and-ice-control-plan>





Looking Ahead ...

- Replacing condemned salt barn at OFP with new salt dome on old landfill. New dome will have storage capacity to 4,500 ton. Projected to come online Thanksgiving.
- This will bring our storage capacity to 11,500 tons of salt under roof (New OFP + WH).
- Storage tanks purchased. Shed has been built. Brine maker should be installed and working by the end of CY24.





Shout out to our partners!

Cooperation from the following LFUCG partners is appreciated and essential for treating our roads and rights-of-way during winter weather:

A Big Thank You To”

- LexCall
- Parks & Recreation
- Police
- Public Information Office
- Water Quality
- Waste Management
- Code Enforcement
- Environmental Services
- Facilities Management
- Fleet Services
- Fire
- GTV3



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QUESTIONS ?

