



Public Works, Street Operations

Presents:
Metropolitan District Snow Plowing Operations
Proposed Pilot Program



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Public Works – Street Operations

Metropolitan District Snow Plowing Operations

Metropolitan District Snow Plowing Operations History:

- Staff was approached by a Metropolitan District (Blackstone) and asked if they could provide snow plowing on public streets within their District.
- Currently, the only mechanism by which the City could allow a Home Owners Association (HOA) or a Metropolitan District (District) the ability to hire private services to replace City services is a formal agreement and resolution, which must be approved by Council.
- PW Staff and City Attorney worked with Blackstone representatives to develop agreement requirements



Metropolitan District Snow Plowing Operations

Actions:

- The proposed agreement acts essentially as an Intergovernmental Agreement (IGA) between the City and the District. Council can approve execution of such an agreement by resolution.
- Street Operations has toured and documented existing conditions of concrete and road surfaces in the District.

Outcome:

The proposed resolution authorizes the execution of an agreement with the Blackstone Metropolitan District under which the Blackstone Metropolitan District would provide snow and ice control operations within the Blackstone District Boundaries.



Metropolitan District Snow Plowing Operations

Agreement Overview:

- Allows Blackstone Metropolitan District (District) to conduct snow and ice removal operations on public streets within District Boundaries
- Intended as a pilot program for 2020-2021 Snow Season only (Expires 12/31/2021)
- District agrees to indemnify, defend and hold harmless the City from and against any and all loss, damage, injuries, claims, causes of action, or any liability resulting from District or their Operator's actions or inactions.
- Requires:
 - District snow removal plan and procedures
 - Specific materials to be used or avoided (i.e. use of sand for traction is prohibited)
 - Services provided be performed and completed in a similar manner as performed by COA



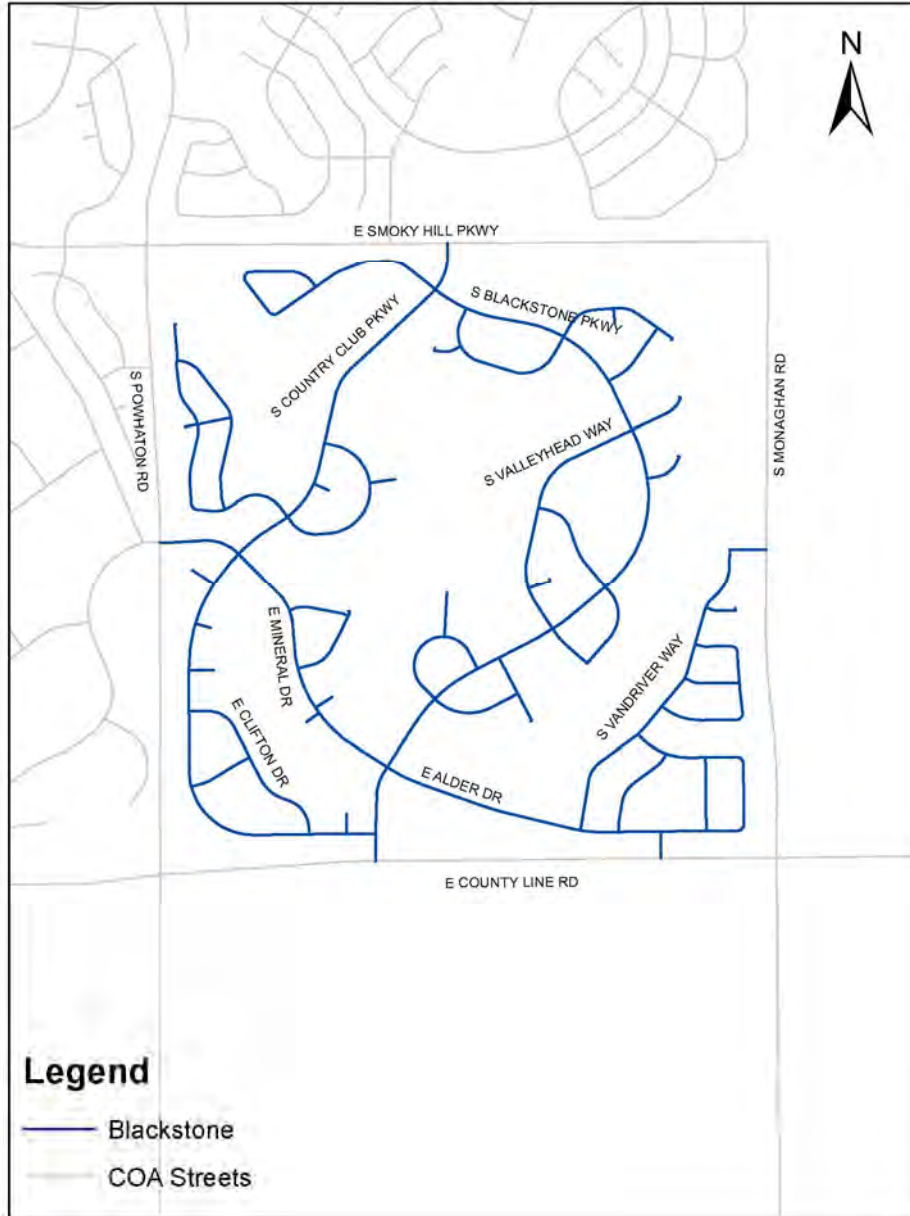
Metropolitan District Snow Plowing Operations

Agreement Overview – Requires (cont.):

- Pre-season tasks by the District including:
 - Acquisition of any licenses and permits to operate within COA right of way
 - Inventory & condition assessment of street, curb, gutter & sidewalk within District
 - List of equipment to be used, to be approved by COA
 - Dry run of the routes with the equipment to be used
 - Training on proper equipment operation and snow operations/procedures
- Daily logs during an event and follow-up meetings as necessary to address issues
- A post-season report, due by June 1st, that includes all log information and any additional information required by COA, including post-season condition review



Blackstone



Location



Metropolitan District Snow Plowing Operations

Future Considerations:

- Proposed agreement fulfills an immediate request but, requires a Resolution and Agreement approved by Council for each District or HOA
- Potential solution is likely to be an ordinance that allows Public Works Director to issue an instrument similar to a permit.



Questions or Concerns???

Policy Question for the Committee:

Does the Committee support forwarding to Study session?



CITY OF AURORA

RESIDENTIAL SNOW AND ICE REMOVAL UPDATE

Public Works Department
Monday, February 6, 2022

Sponsor: Councilmember Francoise Bergan





Overview

- 2022-2023 Snow & Ice Control Plan Overview
- Residential Snow Plowing Strategies and Considerations
 - Special District/HOA Plowing Pilot
 - City v. Contracted Snow Removal
 - Our Immediate Response
- Proposed Next Steps





Snow Plan Overview

The City's snow plan goal is public safety and is designed to ensure that the city's emergency services remain functioning at all times during a snow event.

- The city of Aurora provides snow removal equipment and staffing levels based on the most common types of winter storms that occur in our area.
 - The city has more than 90 pieces of snow removal equipment
- The snow plan focuses on arterial and collector streets, secondary and residential-through streets, and rural and outlying streets.
 - Liquid and granular deicer are used in tandem with the equipment to clear streets.



Snow Plan Overview

Route Priorities

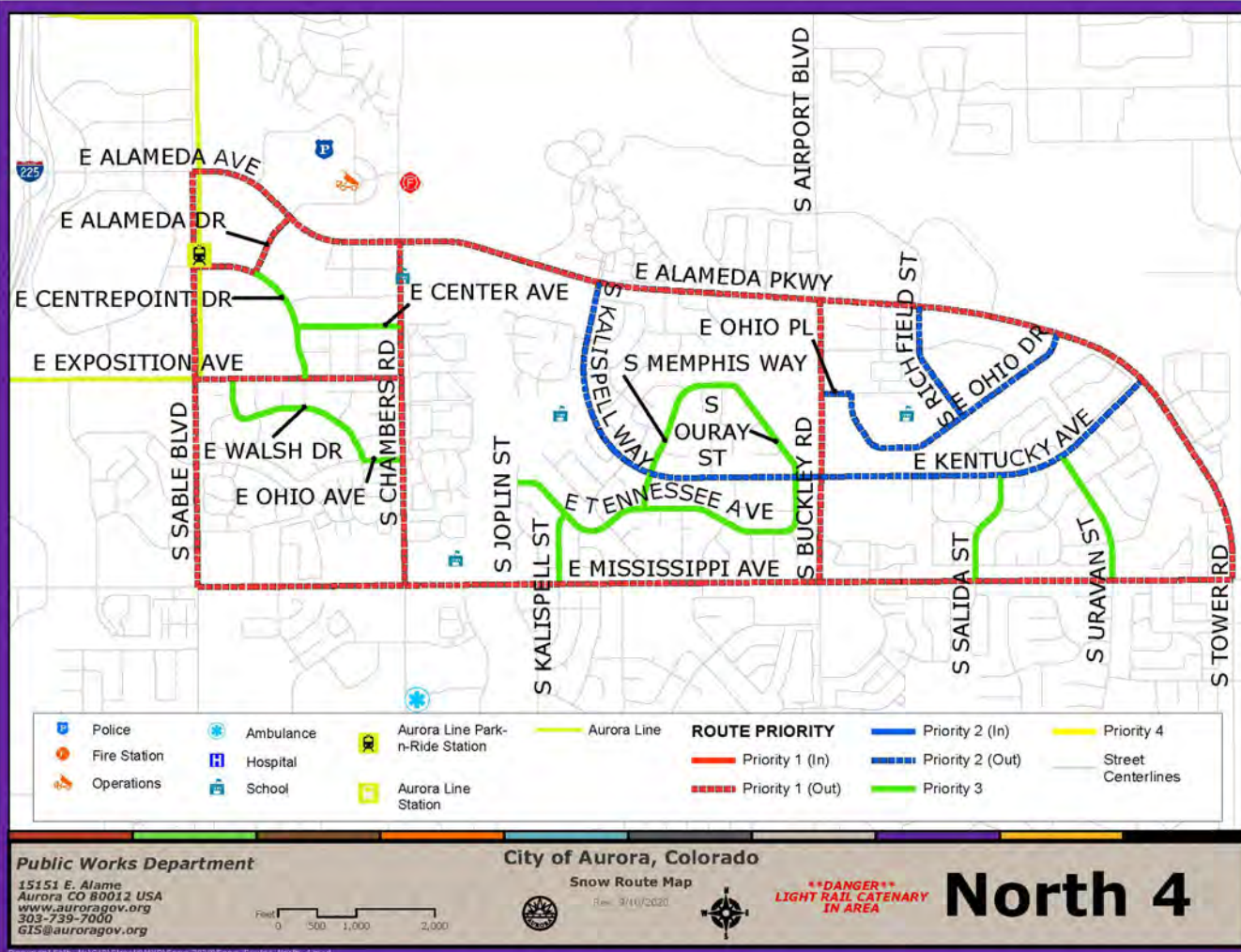
Route Priority	Route Color	Lane Miles	Roadway Classification
Priority 1	Red	870	Primarily Arterial Roads
Priority 2	Blue	362	Primarily Collector Roads, schools and hospitals
Priority 3	Green	233	Neighborhood connector streets
Priority 4	Yellow	40	Main North/South and East/West connectors in east area

Storm Categories

Category	Snow Fall	# Storms since 1994	Avg. Storms/Season
I	<2"	272	10
II	2" - 6"	258	10
III	6" - 12"	59	2
IV	>12"	15	<1



2022-2023 Snow & Ice Control Plan



Lanes Miles of Plowed Snow

	<u>Lane Miles</u>
Priority (Red)	870
Secondary (Blue)	362
Collectors (Green)	233
Other (Yellow)	<u>40</u>
	1505

Snow removal in 2021-2022 cost \$2,328,241 or **\$5.85 per resident**



2022-2023 Snow & Ice Control Plan

- Plan designed to maintain access for emergency and public safety operations on primary roadways.
- During an event, plows are deployed to Red Routes until end of snowfall or until emergency access is sustained; when that state is reached, plows are deployed to other routes in priority order.
- For Cat IV snow events plan includes deployment of contracted plow services to assist on priority routes.
- Residential streets are not prioritized for snow plowing.

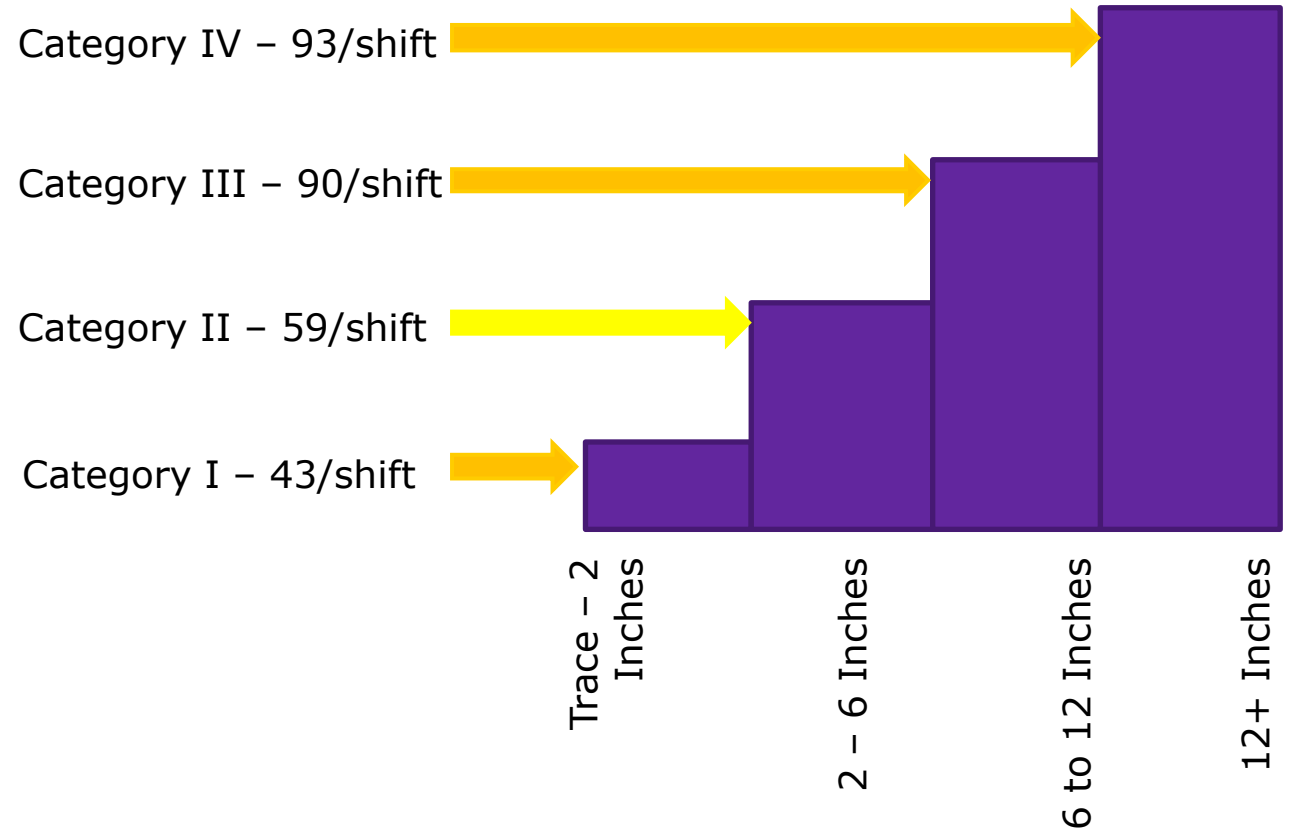


2022-2023 Snow & Ice Control Plan

It's all about People – Staffing

- Street Operations ~37% vacancy (PW, all divisions, provide 25/shift)
- Aurora Water ~20% vacancy (provide 6/shift)
- PROS ~15%-20% vacancy (provide 20/shift)
- Actively recruiting for a Streets Operations Manager (vacant for 1 year)

Staffing Model by Predicted Snowstorm Category*



* Includes supervisors





Snow Plan Storm Categories

Historical Average Number of Storms and Types

Category	Predicted Snowfall Amount	Historic (since 1994)		2021 - 2022	
		Average Storms/Season	% of Storms	Storms	% of Storms
Category I	Trace to 2 inches	10	36%	9	56%
Category II	2 to 6 inches	10	39%	7	44%
Category III	6 to 12 inches	2	20%	1	3%
Category IV	More than 12 inches	<1	5%	1	3%

For 99.5% of storms, snow melts to passable level before city resources can be deployed to plow residential streets



RESIDENTIAL SNOW PLOWING STRATEGIES AND CONSIDERATIONS





Residential Snow Plowing

District/HOA

- IGA Executed with Metro District or HOA to plow residential streets within their boundaries
- Pilot program completed June 2022

Contracted Plowing

- Usually only an option for large storms
- Can be costly if deployed more than once per year

City Plowing

- Most cost effective if deployed more than twice per year
- Requires investment in equipment and employees



District/HOA Plowing

- Following “Bomb Cyclone” in March 2019, staff began exploring a process to allow Special Districts and established HOAs to plow public residential streets within their boundaries
- Pilot program developed for High Plains Metro District via an IGA (approved January 2021, expired June 2022) which services the Blackstone neighborhood



District/HOA Plowing

The District or HOA is required to:

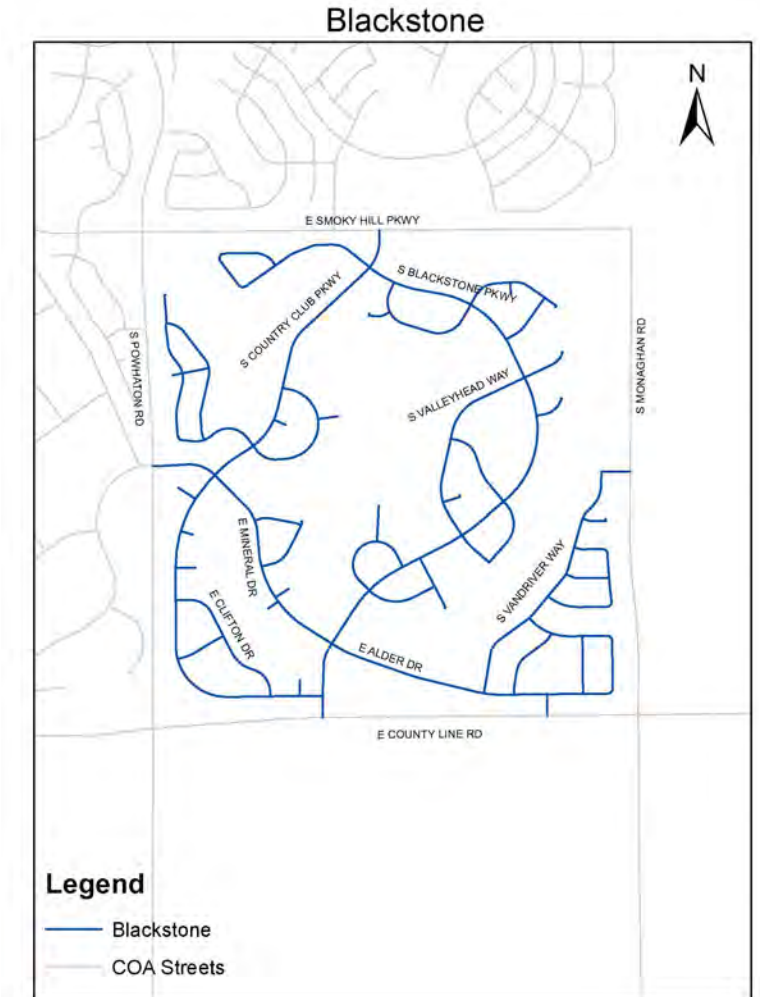
- Develop/provide snow removal plan and procedures for City review
- Use specific equipment and materials (i.e. rubber edges for plow blade)
- Provide services at least at the same level as City would provide
- Submit daily logs during an event
- Pre and post-season tasks
 - Condition assessment of street, curb, gutter and sidewalks
 - Fund any needed repairs post-season
 - Submit post-season report including details of each deployment



District/HOA Plowing

High Plains Metro District/Blackstone Pilot

- Covered 18 lane miles
- District plan called for deployment at 6" of snow accumulation (Category III)
- Condition assessments were funded by the City and only the initial assessment was contracted
- Total assessment cost:\$2,380
- District did not deploy forces
 - One Category III storm and one Category IV storm during pilot period





District/HOA Plowing

Program Considerations

- The number of events potentially needing private plowing is low
- Special District/HOA level of participation will dictate need for additional resources, including FTEs
 - Interest expressed from other metro districts and HOAs
- Equitable implementation across city
 - Possible participation with Title 31 Districts (BIDs and GIDs)
- A permit or license program will require ordinances, process, and fee development which will take a year to develop and gain approvals.



District/HOA Plowing

Proposed Next Steps

- Public Works is actively recruiting for two manager level positions in the Streets Division who can begin developing a Metro District/HOA Permit Program approach, policies, and procedures in partnership with City Attorney's Office.
 - Program development anticipated to take approximately one year
- In interim, work with City Council to develop a list Metro Districts and HOAs who are interested in participating in the program.



Residential Plowing

- After the March 2021 Blizzard, the TAPS policy committee requested an informational presentation on the costs for plowing residential streets.
- Review of City and County of Denver's residential snow program
- Two options were evaluated: Contracted plowing and City crews



City and County of Denver Residential Plowing

- Single pass on centerline of street and snow plowed to allow passage of standard passenger vehicle (not to bare pavement)
- Typically deployed at 8" accumulation or more depending on weather conditions; begins within 12 hours of snowfall ending
- 72 pieces of equipment, includes equipment equivalent to Ford F-350 pickup with Boss V-plow
- "Hybrid Model" consisting of reassigned operations staff and volunteer, non-CDL licensed employees (engineers, project managers, etc.)





City and County of Denver Residential Plowing

If Aurora were to implement a residential snow plowing program like Denver's program, the program would consist of the following:

- 862 lane miles of residential streets (includes Green routes)
- One vehicle can plow 50 lane miles in a 12 hr shift
- 18 operators/vehicles required to plow residential streets in a shift
- **Total Annual Wages: \$1,493,856/yr**
- **Pickups and Plows: \$1,695,000 one-time**



Residential Plowing Contracted v. City Crews

# Deployments	In-House Costs			Contracted Costs
	Capital	Operating	Total	
1	\$105,750	\$20,318	\$126,068	\$63,720
2	\$105,750	\$40,636	\$146,386	\$127,440
3	\$105,750	\$60,954	\$166,704	\$191,160



Residential Plowing Considerations

- Plowed residential streets allow access to a roadway network that may not be passable or prepared for the additional traffic
- High potential for private property damage
- Snow windrow
 - Blocked driveways
 - Buried and/or blocked parked cars
 - Results in hauling of snow off-site requiring additional heavy equipment and crews
- Staff and equipment are challenging due to supply chain issues and labor market.
- If residential plowing deployed more than two shifts per year, City forces are more cost efficient than contract





Immediate Residential Response

- Maximizing city resources with an “all hands-on deck” approach
 - Staff reassignments including Public Works Facilities, Aurora Water, and Parks, Recreation & Open Space. Aurora Fire is also providing support on volunteer basis.
 - Increased contractor support
- Additional crews have allowed for ability to optimize resources for plowing and ice removal
 - Currently inspecting and addressing conditions on entire subdivisions v. individual request and adjacent area
 - Making streets passable by removing ice and treating with IceSlicer to accelerate ice melting
- Residents requiring access due to medical conditions can call 303-739-7000 or the non-emergency dispatch number 303-627-3100



Residential Plowing Proposed Next Steps

- Continued use of staff reassignments and city contracted snow and ice removal to support needs in residential areas as weather conditions warrant.
- Continued evaluation of residential snow and ice removal needs/requests across neighborhoods to inform response measures.
- Once Street Division management positions are hired:
 - Can develop Special District/HOA Permit Program approach, policies, and procedures in partnership with City Attorney's Office
 - Review and update of overall snow plan including exploration of options and strategies for city residential snow removal incorporating successes and lessons learned.

Feedback and Discussion

