



# **SNOW & ICE CONTROL**

## **Level of Service**

**Presentation to City Council**  
**October 21, 2019**

# INTRODUCTION

- Snow and ice control on our roadways is necessary to ensure the safe transportation of people traveling in and through the City of Northglenn
- The City uses general guidelines to manage snow and ice on 241 lane miles of arterial, collector, and local streets
- Due to variable Colorado weather, each storm may require different strategies to attain our goals
- Streets are cleared in order of priority impacting the greatest number of drivers
  - Residential streets may be plowed when accumulation exceeds 8" and primary/secondary routes are passable
    - 8" standard has been a City guideline for 15 years

# Northglenn Street Snow Removal Routes

The city focuses on clearing snow from roads that receive the most traffic before moving on to other streets. If a major storm is in the forecast, the city may pretreat major streets, overpasses, hills and intersections to prevent ice build up.

## Legend:

**First Priority:** Main streets. All lanes are plowed in each direction. *Examples: 104th Avenue, 120th Avenue, Huron Street and Washington Street*

**Second Priority:** School zones and streets motorists typically use to reach main streets. One lane is plowed in each direction. *Examples: Claude Court, Fox Run Parkway and Pecos Street*

**Third Priority:** Residential streets that connect with firstpriority or second priority roads. One lane is plowed in each direction.

**Fourth Priority:** Residential streets with the lightest traffic. They are plowed only if snow levels reach 8 inches, and then a single lane will be plowed down the middle of the street.



# PREPARATION

- Snow storm personnel attend the APWA Snow & Ice Conference each year for education and training
- First week of October:
  - PW and Parks meet to review safety standards, routes, responsibilities, and any changes to procedure
  - Streets supervisor ensures that snow melt materials are on hand
    - 3500-5000 gallons of Magnesium Chloride Pretreatment (Apex)
      - Pretreatment may be applied when streets are dry and temps are below freezing
    - 400-500 tons of Ice Slicer/Salt mix
  - Snow teams begin preparing equipment

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Plow drivers are divided into 2 teams: Red and Blue

Each team consists of 7-8 drivers

Teams alternate for each snow shift throughout the storm season

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# PROCEDURE

## Streets Supervisor

- Monitors NOAA for weather conditions
- Confers with Operations Manager on impending storm
- Alerts City staff via e-mail, and identifies which team will respond

## Snow Team Supervisor

- Ensures team is on-call and ready to mobilize
- Determines if pre-treatment is necessary
- Updates Operations Manager as needed

## Operations Manager

- Keeps PW Director updated throughout storm event

## Police Officer (when storm starts after hours)

- Determines when snow/ice removal needed, calls PD dispatch

## Dispatch

- Contacts WTP 24-hr emergency: Office 303.450.4061

## WTP

- Contacts Streets On-Call employee

## Streets On-Call

- Contacts Red or Blue Team Supervisor

## Snow Team Supervisor

- Determines staff needs, and will either direct the on-call employee to respond within 30 minutes or will notify the team to mobilize
- Notifies PD Dispatch and WTP that response has been initialized
  - Complete team mobilization occurs within 60 minutes
- Keeps PW Operations Manager updated

# DURATION OF EVENT

- The snow route priority schedule shall be followed
- The snow crew communicate with each other via radio
- Plow drivers inspect vehicles at regular intervals
- Each team works no more than 12 continuous hours without approval of the Operations Manager
  - Working beyond 12 hour shift will be approved only in extreme circumstances and shall not exceed 16 hours
- The City retains an on-call contractor to assist with plowing in extreme circumstances

# EQUIPMENT



Six tandem dump trucks with plows and sanders



One track skid steer  
Kubota



One single axle truck with  
plow and sander



Small trucks with plows and sanders



One Bobcat  
ice breaker  
attachment



Two backhoes



Two front end  
loaders with  
plow and bucket

# STAFF CAPACITY

- Plow crews are staffed with Streets Maintenance and Water Wastewater Distribution and Collection (WWDC) (Utilities) personnel.
- 2 Teams (Red and Blue) consist of 7-8 drivers each who have been trained to operate heavy snow removal equipment.
- Additional staff with CDL certification may assist when needed.

# SNOW EVENT COSTS

		LABOR	VEHICLE	MATERIALS QTY				PLOWING COSTS		
YEAR	# OF STORMS	HRS	MILES	APEX (gallons)	SLICER 80/20	SLICER 50/50	Rock Salt	LABOR	MATERIALS	TOTAL
2014-15	17	1,443	3,299	1,976	560		246	\$ 47,577	\$ 81,212	\$ 128,790
2015-16	11	1,343	11,780	1,225	477		36	\$ 43,040	\$ 58,403	\$ 101,443
2016-17	8	725	7,245	1,450	376		7	\$ 25,921	\$ 44,948	\$ 70,870
2017-18	10	607	5,311	600	-	456	-	\$ 20,906	\$ 39,240	\$ 60,147
2018-19	17	981	9,763	-	-	773	-	\$ 43,821	\$ 68,919	\$ 112,741
<b>5 Year Average</b>										
2014-18	12.6	1,020	7,480	1,050	471	615	96	\$ 36,253	\$ 58,545	\$ 94,798
									Average Cost Per Storm	\$ 7,524

The above information does not include fuel, equipment/vehicle maintenance or depreciation of equipment

# NEXT STEPS 2020



- Develop a Snow Operations educational video in conjunction with Communications Department
- Proactively monitor CDOT and CSP sites when snow storms are predicted
- Send staff out proactively on East and West side of I-25 to monitor conditions as storm approaches
- Debrief each storm event with team to evaluate the effort and make improvements