



Department of Public Works

Winter Maintenance

Date: January 25, 2018

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Selena Cuffee-Glenn, CAO

The Honorable Levar M. Stoney, Mayor



Winter Maintenance Plan



Key Elements of the Plan

1. Preparation

- Check, calibrate, maintain equipment
- Review snow routes
- Employee training

2. Weather Forecast Monitoring

- NWS, ACCU Weather, and local sources

3. Communications and Coordination

- Update Winter Maintenance Plan annually
- Formalize communication within DPW and other City departments
- External communications

4. Operational Procedures & Resources

- Mobilize and deploy resources according to plan

Plan Implementation

When weather reports confirm that there is a 25% chance or better of a winter storm or hazardous conditions, a graduated response goes into effect.

Level 1 – Isolated slick surfaces and freezing temperatures

Level 2 – Slick bridges surfaces and freezing temperatures

Level 3 – Light to moderate snow accumulation/ freezing rain expected

Level 4 – Moderate snow accumulation and freezing temperatures

Level 5 – Moderate/ heavy accumulation

Level 6 – Heavy snow with prolonged accumulation



Snow Removal Response Priorities

- **1. First Priority Primary Snow Routes** – initial anti-icing treatment completed up to 24 hours prior to the forecasted event for those routes identified, and within 4 hours for all others with sustained attention; as close to bare pavement as possible on all travel lanes; chains unnecessary and bare pavement on travel lanes as soon as possible after cessation of the snowfall.
- **2. Second Priority Secondary Snow Routes** - initial treatment completed within 4 hours with abrasives as snowfall is predicted continuously for 12 hours. Chemicals to serve as bond breaker may be applied after accumulation has occurred following first priority snow routes; bare pavement within 24 hours after cessation of snowfall.
- **3. Third Priority Residential Streets** - treatment **only** after first and second priority streets are completed; Snow accumulation apply deicing agents. bare pavement not intended; treat with abrasives or plow as required to improve traction within 24 to 72 hours after cessation of snowfall. As mentioned above, snow removal and ice control on public roads, streets and bridges is the highest priority for the Department.

Technical Approach to Storm

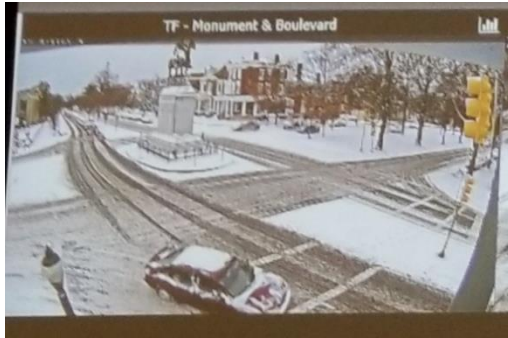
Traffic CAM Views

Thursday 1/4/18 @ 9 AM

Thursday 1/4/18 @ 10 AM

Thursday 1/4/18 @ 11 AM

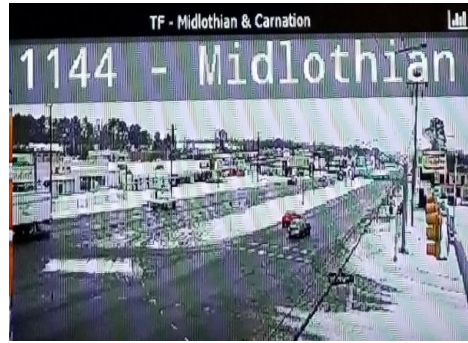
Monument & Boulevard



Belvidere & Main

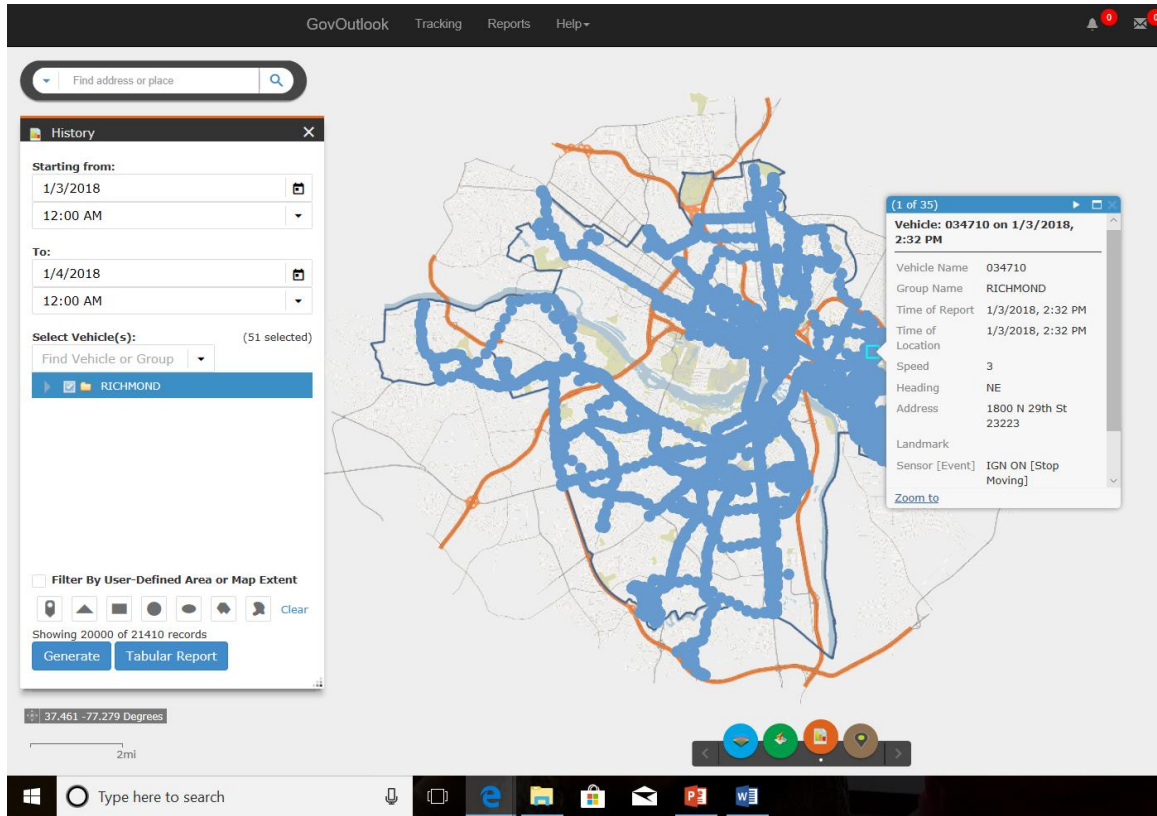


Midlothian & Cowardin

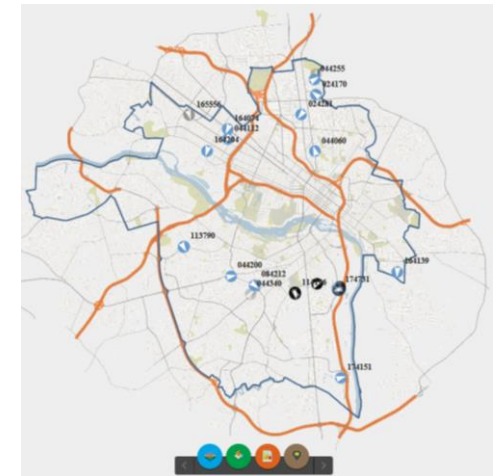


Technical Approach to Storm

Geographical Positioning System with Live Tracking



Real-Time Vehicle Tracking – displays current location and status of fleet vehicles, along with address, sensor and other attribute information.



Breadcrumbs And Breadcrumb Replay – provides a detailed trail that shows the path taken by a vehicle and lets you “replay” a vehicle trip and its activity history at various speeds.



Resources

Snow Route Management Plan

- **60 snow routes citywide**
 - **41 Primary and 19 Supplemental**
- **Current Pool of Resources**
 - **40 City owned Dump Trucks**
 - **15-19 consistently in Shop**
 - **Average age of Nine(9) Years +**
 - **Several 2002-2004 units**
 - **10 Contractor Dump Trucks**
 - **\$500 per hour per truck**
 - **Average cost of \$120,000 per day**



Program Needs for Department

- **17 additional dump trucks @\$130K each**
 - **\$2.21M**
 - **Three(3) new units due February 2018**

DPW Storm Event 12-8-2017

Estimated Cost Storm Event December 8, 2017

North Hopkins Road	Personnel		Material		Totals
	Shift A	Shift B	Shift A	Shift B	
Friday, December 08, 2017	\$ 4,192.00	\$ 8,330.00	\$ 4,061.33	\$ 17,439.44	\$ 34,022.77
Saturday, December 09, 2017	\$ 8,330.00	\$ 5,064.00	\$ 8,396.77	\$ 656.40	\$ 22,447.17
Commerce Road	Personnel		Material		Totals
	Shift A	Shift B	Shift A	Shift B	
Friday, December 08, 2017	\$ 1,553.00	\$ 4,691.50	\$ -	\$ 11,249.92	\$ 17,494.42
Saturday, December 09, 2017	\$ 11,417.00	\$ 8,367.00	\$ -	\$ -	\$ 19,784.00
Area of Responsibility	Cost				
Material	\$ 41,803.86				
Personnel	\$ 51,944.50				
Contractor	\$ 41,410.00				
Fleet	\$ 10,000.00				
Grand Totals	\$ 145,158.36				



DPW Storm Event 1-3-2018

Est. Cost

Storm Event January 3, 2018

North Hopkins Road	Personnel		Material		Totals
	Shift A	Shift B	Shift A	Shift B	
Wednesday, January 03, 2018	\$ 6,358.00	\$ 5,665.00	\$ 4,898.00	\$ 36,200.49	\$ 53,121.49
Thursday, January 04, 2018	\$ 8,092.00	\$ 6,853.00	\$ 29,741.44	\$ 22,668.50	\$ 67,354.94
Friday, January 05, 2018	\$ 8,381.00	\$ 9,059.50	\$ 22,665.91	\$ 14,167.30	\$ 54,273.71
Saturday, January 06, 2018	\$ 7,225.00	\$ 7,328.00	\$ 39,084.44	\$ 15,698.90	\$ 69,336.34
Sunday, January 07, 2018	\$ 6,069.00	\$ 2,358.00	\$ 10,950.57	\$ 198.74	\$ 19,576.31
Commerce Road	Personnel		Material		Totals
	Shift A	Shift B	Shift A	Shift B	
Wednesday, January 03, 2018	\$ 4,436.00	\$ 7,876.00	\$ -	\$ 18,045.59	\$ 30,357.59
Thursday, January 04, 2018	\$ 9,040.00	\$ 7,876.00	\$ 12,151.52	\$ 18,045.59	\$ 47,113.11
Friday, January 05, 2018	\$ 9,284.00	\$ 6,124.00	\$ 10,098.98	\$ 3,577.38	\$ 29,084.36
Saturday, January 06, 2018	\$ 12,919.00	\$ 9,214.00	\$ 12,322.08	\$ 4,780.00	\$ 39,235.08
Sunday, January 07, 2018	\$ 12,558.00	\$ 1,418.00	\$ 7,384.50	\$ -	\$ 21,360.50
Area of Responsibility	Cost				
Material	\$ 282,679.93				
Personnel	\$ 148,133.50				
Contractor	\$ 674,415.00				
Fleet	\$ 67,489.07				
Grand Totals	\$ 1,172,717.50				



DPW Storm Event 1-16-2018

Storm Event January 16, 2018 ESTIMATED COST

North Hopkins Road	Personnel		Material		
	Shift A	Shift B	Shift A	Shift B	
Tuesday, January 16, 2018	\$ 6,786.00	\$ 7,551.00	\$ 7,747.57	\$ 20,077.39	\$ 42,161.96
Wednesday, January 17, 2018	\$ 6,534.00	\$ 5,928.00	\$ 30,950.87	\$ 16,508.03	\$ 59,920.90
Thursday, January 18, 2018	\$ 9,248.00	\$ 2,016.00	\$ 11,290.08	\$ -	\$ 22,554.08
	\$ -	\$ -	\$ -	\$ -	\$ -
					\$ 124,636.94

Commerce Road	Personnel		Material		
	Shift A	Shift B	Shift A	Shift B	
Tuesday, January 16, 2018	\$ 1,553.00	\$ 7,328.00	\$ -	\$ 11,279.14	\$ 20,160.14
Wednesday, January 17, 2018	\$ 11,417.00	\$ 8,533.00	\$ -	\$ 9,576.00	\$ 29,526.00
Thursday, January 18, 2018	\$ 10,553.50	\$ 1,761.00	\$ 1,963.26	\$ -	\$ 14,277.76
	\$ -	\$ -	\$ -	\$ -	\$ -
				\$ -	\$ 63,963.90

Area of Responsibility	Cost
Material	\$ 109,392.34
Personnel	\$ 79,208.50
Contractor	\$ 468,000.00
Fleet	\$ 33,674.92
Grand Totals	\$ 690,275.76



Questions?

