

# City of Ann Arbor AVL Snow Plow Mapping



[www.a2gov.org](http://www.a2gov.org)



# Winter Maintenance Goal

- Provide passable roadway
  - Free from drifts, snow ridges, and as much ice and snow pack as is practical and can be traveled safely at **reasonable speeds**.
  - May not be bare pavement



# Winter Weather Conditions

- Light Snow - Less than four inch accumulation
- Heavy Snow - More than four inch accumulation or forecast conditions that exceed the regular street maintenance resources
- Snow Emergency - Conditions that exceed all City resources



## Light Snow Response

- Salt Major roads first – if necessary switch to plowing
- The City's Public Services Area clears the high volume streets, bridges, (trouble spots)
- De-icing materials are also applied to salt route streets as they are plowed



# Heavy Snow Response

- 24/7 Operation – Utilize all resources
- Residential plowing started based on Solid Waste schedule
- Snow Desk staffed, webpage updated
- Encourage removal of vehicles from street
- Schools and private streets/lots are responsible for their own maintenance



# Snow Emergency Response

- Declared by City Administrator or designee.
- Parking restrictions may be placed citywide or in designated areas
- Utilize all available resources
- Use of contractors for additional services



# Primary Salt/Plow Routes

- The first priority is to clear the primary major streets
- The high-volume major are broken into three routes



# Prioritization Salt Routes

- 1 - Primary Salt/Plow Routes
  - Highest volume road travel lanes
- 2 - Secondary Salt/Plow Routes
  - Next lower volume roads, turn lanes, median lanes.
- 3 - Curb and Shoulder plowing





# Anti-Icing / De-Icing / Traction Enhancement

- Salt is used to prevent bonding of snow and ice and to keep accumulation workable
- Salt is used only on designated salt routes
- Sand is used to improve traction on local streets



# AVL and Snow Plow Mapping Technology

- 14 large snow plows and 33 smaller vehicles equipped with AVL
- Primary goal - increase efficiency and effectiveness of snowplow operations
  - Reduce need for admin staff during snow events to answer public inquiries
- Provide self-service view of snowplow activity using AVL and web-mapping



# AVL and Snow Plow Mapping Application Demonstration

- Application provides real-time view of snow plows and sand/salt spreader activity
- AVL snow plow mapping demonstration
- Available to the Public on Monday December 19<sup>th</sup>, 2011



# AVL and Snow Plow Mapping Application Demonstration

RSIAVLWeb Public Tracking

Radio Satellite Integrators RSI AVL Web Tracking CITY OF Ann Arbor

Logged in as A2GU

Last Update: Mon Dec 12 08:06:57 EST

TRACKING

MAP CONTENTS

MAP IDENTIFY RESULTS

VEHICLE TRACKING

Group: ActiveSnowP Vehicle: ALL

VEHICLE GROUP	LOCATION	SPEED HEADING	TIME
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The map displays a network of streets in Ann Arbor, Michigan, with tracking routes overlaid in yellow and orange. Major roads like I-94, I-275, and US-24 are visible. The routes are concentrated in the central urban area, following major thoroughfares and residential streets. The map includes standard navigation controls like zoom in/out and a hand icon for panning.



# AVL and Snow Plow Mapping Application Demonstration

REPORT TYPE	GROUPS & VEHICLES	TIMEFRAME
Vehicle Activity <input type="button" value="v"/>	Group: ALL (49 Vehicles) Vehicle: ALL	Start date & time: 12/06/2011 12 : 00 AM <input type="button" value="v"/>
	<ul style="list-style-type: none"><li><input type="checkbox"/> ALL (49 Vehicles)</li><li><input type="checkbox"/> ActiveSnowPlows (0 Vehicles)</li><li><input type="checkbox"/> ANNARBOR (47 Vehicles)</li><li><input type="checkbox"/> DeleteGroup (0 Vehicles)</li><li><input type="checkbox"/> pothole (0 Vehicles)</li><li><input type="checkbox"/> SnowPlows (0 Vehicles)</li></ul>	Stop date & time: 12/06/2011 01 : 00 AM <input type="button" value="v"/>
<input type="button" value="Generate Report"/>		<input type="button" value="X"/>



# AVL and Snow Plow Mapping Application Demonstration

MAP-BASED REPORTS    TABULAR REPORTS

Find    Bookmark    Goto a Bookmark

**MAP CONTENTS**

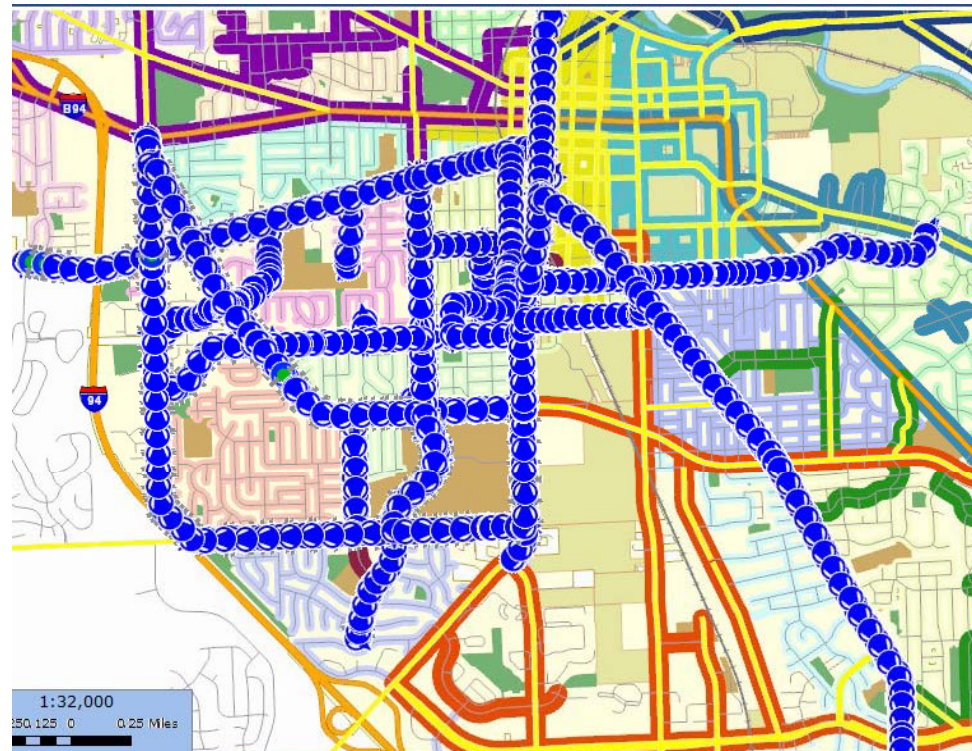
- Vehicle Layers
- Feature Layers
- Geofence Layers
- Map Layers
- Map Layers + Snow Routes

1:64,000  
0.5 0.25 0 0.5 Miles

MAP IDENTIFY RESULTS



# AVL and Snow Plow Mapping Application Demonstration





# AVL and Snow Plow Mapping Application Demonstration

- Will be linked to [www.a2gov.org/snow](http://www.a2gov.org/snow) starting Mon., Dec 19, 2011
- [http://64.27.15.44/AnnArbor/Public\\_Tracking.aspx](http://64.27.15.44/AnnArbor/Public_Tracking.aspx)



# AVL Snow Plow Public Web Info

- Linked to [www.a2gov.org/snow](http://www.a2gov.org/snow)
- Access to the AVL snow plow tracking system
- Chart of AVL snow vehicles, functions
- Step-by-step guide to viewing AVL vehicles and making historical reports
- FAQs to AVL system and winter street maintenance
- <http://mossfesvr:8888/government/publicservices/fieldoperations/Pages/snowtest.aspx>

# AVL Snow Plow Public Website

government services news contact us living in visiting working in

Home > Government > Public Services > Field Operations > snow test

CITY OF Ann Arbor government

Field Operations  
Natural Area Preservation  
Adopt-A-Park  
Solid Waste and Recycling  
Fall Leaf Management  
Street Maintenance Services - Potholes  
Snow Removal  
Park Operations  
Forestry  
Field Services  
Hydrant Flushing Program  
Sidewalk Inspections  
Field Operations Staff Directory

Select Department  
Select Online Service

search

**Preview web page to be "live" to the public on Monday, Dec. 19, 2011**

**Welcome to Ann Arbor's snow plow AVL online tracking application**

The City of Ann Arbor's automatic vehicle location (AVL) system has a public facing website for citizens to view the progress of snow plows within an online city map. Interested users may zoom into the city snow route map:

**1) to see the real-time locations and status of snow plow activity; and**  
**2) to create reports of historical winter street plow activity** for a specific time span, e.g., the last two hours or 24 hours.

**Guides to using the snow plow AVL online tracking application**

- **Link to the live snow plow AVL online tracking application and map.**
- **Chart of snow maintenance vehicles with AVL devices**, listed by vehicle number, type, and function ([pdf](#))
- *To be attached by 12/19/11: Guide to using the snow plow AVL online tracking application* providing step-by-step information and screen shots on on how to use the program.
- *To be attached by 12/19/11: Case study* typical example of using the AVL snow plow online system.
- *Expected by 1/25/2012: Using the AVL system video* ([link](#)).

**Sign up to receive snow removal e-mail updates.**

[FAQ about Street Snow Plowing \(new page\)](#)

[City of A2 Street Snow Maintenance Procedures Jan 2010 \(pdf\)](#)

[Sidewalk snow removal requirements \(new page\)](#)

# AVL Snow Plow Tracking System

- Public online AVL snow plow tracking system expected to be available Mon. Dec. 19, 2011 at [www.a2gov.org/snow](http://www.a2gov.org/snow)
- Questions?