

2014/2015 Snow Removal & Ice Control Preparedness



City of Lawrence
PUBLIC WORKS

Executive Summary

11/11/2014

Presented by

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Assistant Director of Public Works

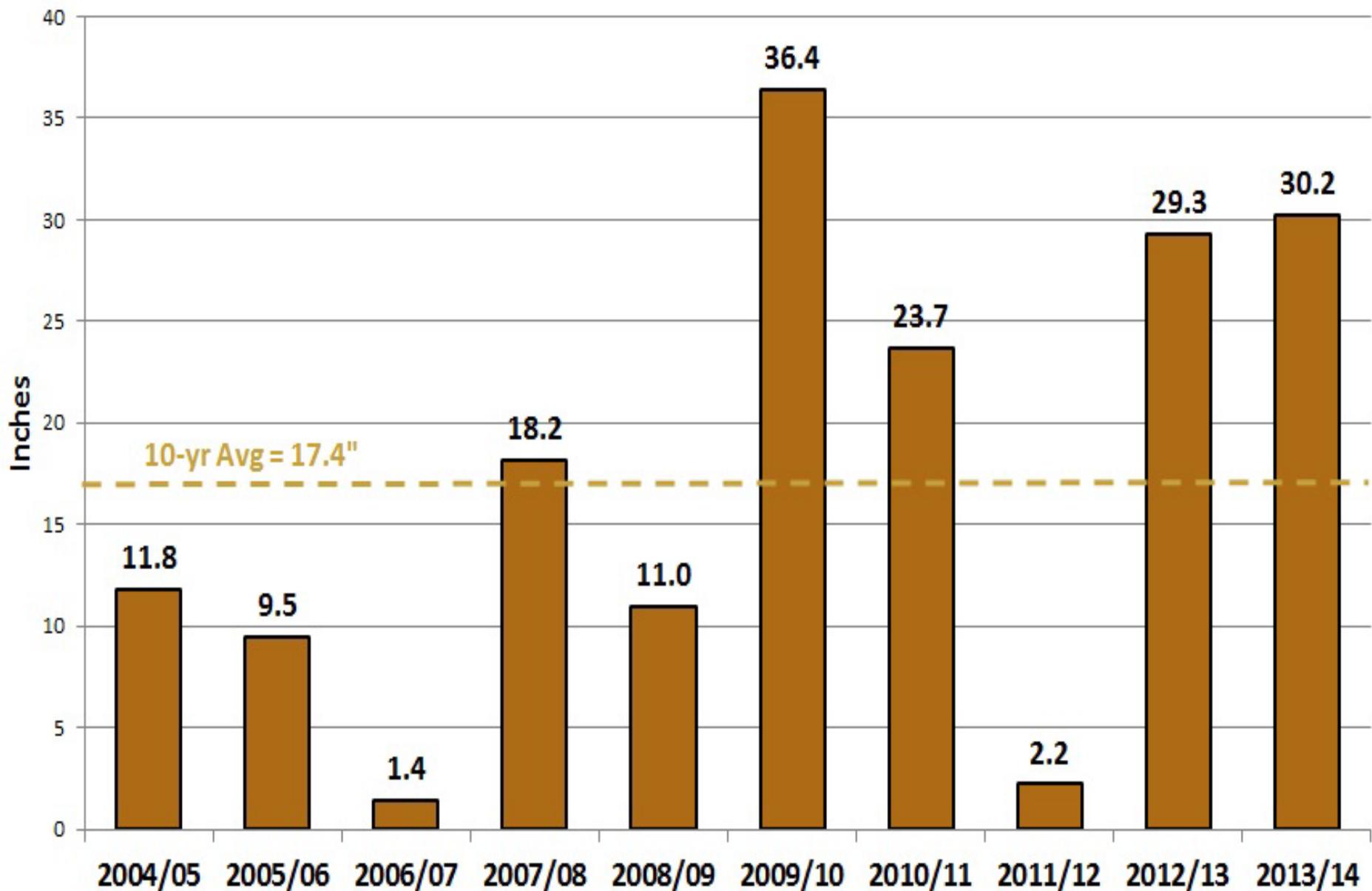
Typical Numbers For Lawrence

- Average Snowfall per year = 21”
- Average number of snow events = 7
- Record monthly snowfall = 21.9” in January 1985
- Record single event = March 23rd 1912 – 20”
- Typical snow months December thru March



Comparative Snowfall (Past 10 Years)

from Downtown Lawrence



Last Years Comparisons To The Average (back to 1893)

Weather
or Not 

Monthly Snowfall & Rankings (1893-2014)

Month	Snowfall	Average Snowfall	Ranking
November 2013	0.0"	1.3"	Tied-83rd snowiest
December 2013	5.3"	4.0"	38th snowiest
January 2014	5.4"	4.5"	38th snowiest
February 2014	16.2"	4.4"	5th snowiest
March 2014	3.3"	3.0"	42nd snowiest
April 2014	0.0"	0.6"	Tied-44th snowiest

Lawrence 2013-2014 Winter Season Summary

April 30, 2014

The seasonal total of 30.2" ranked as the 13th snowiest since 1893 when records began.

This season saw 12 days with measureable snowfall (at least 0.1"), consistent with the 1981-2010 average of 13 days.

Notable 2013-2014 Winter Events

(from Downtown Lawrence)

Dec. 21-22, 2013	0.12" Freezing Rain 4.9" Snow/Sleet
Jan. 1, 2014	1.4" Snow
Jan. 4-5, 2014	4.0" Snow
Jan. 31 - Feb. 1, 2014	Glaze Freezing Drizzle 1.1" Snow
Feb. 4-5, 2014	14.0" Snow
Feb. 9, 2014	1.1" Snow
Mar. 1-2, 2014	3.3" Snow

Comparison Last Two Seasons

	<u>2012/2013</u>	<u>2013/14</u>
● Snowfall	29.6"	29.65"
● Number of events	8	13
● Salt consumption	3,462 tons	4,428 tons
● Sand consumption	1,886 tons	4,054 tons
● Liquid Brine	53,185 gal	68,536 gal
● Man-hours	\$160,014	\$242,409
● Equipment	\$68,178	\$454,177
● Rented Equipment	\$96,204	\$59,344
● Materials	<u>\$209,861</u>	<u>\$320,735</u>
● Total cost	\$534,257	\$1,076,665

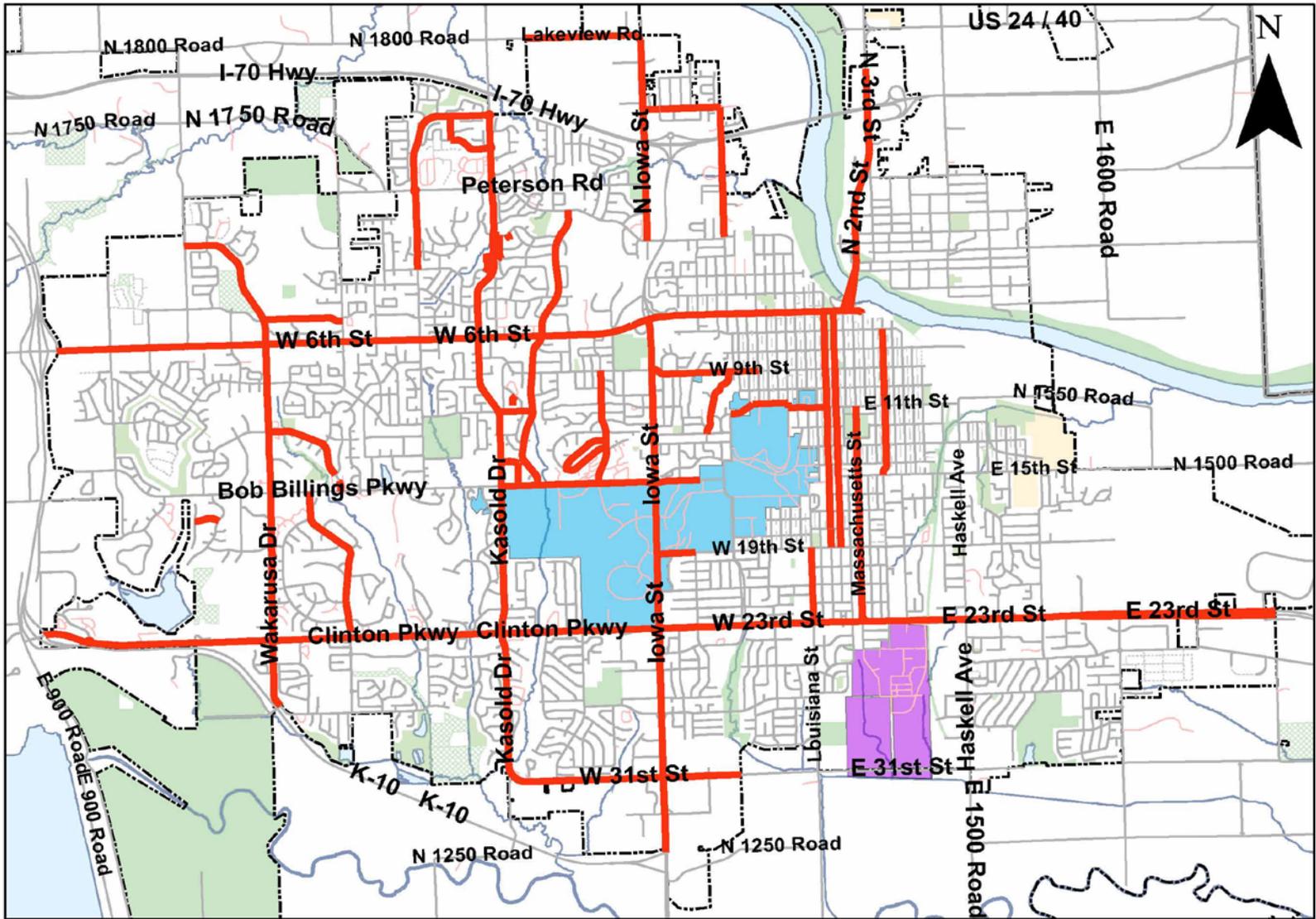
Snow / Ice Control Plan

- The city is divided into 5 areas
- Using Iowa St. & Bob Billings Pkwy. as the dividing line
- There are 17 specific routes
- Routes follow priority order from most traveled to least traveled
- Criteria
 - Traffic counts, bus routes, schools, major employment centers, and hospitals.
 - Plowing begins at a snow depth of 1”
 - Treatment begins prior to event

Pretreatment Plan

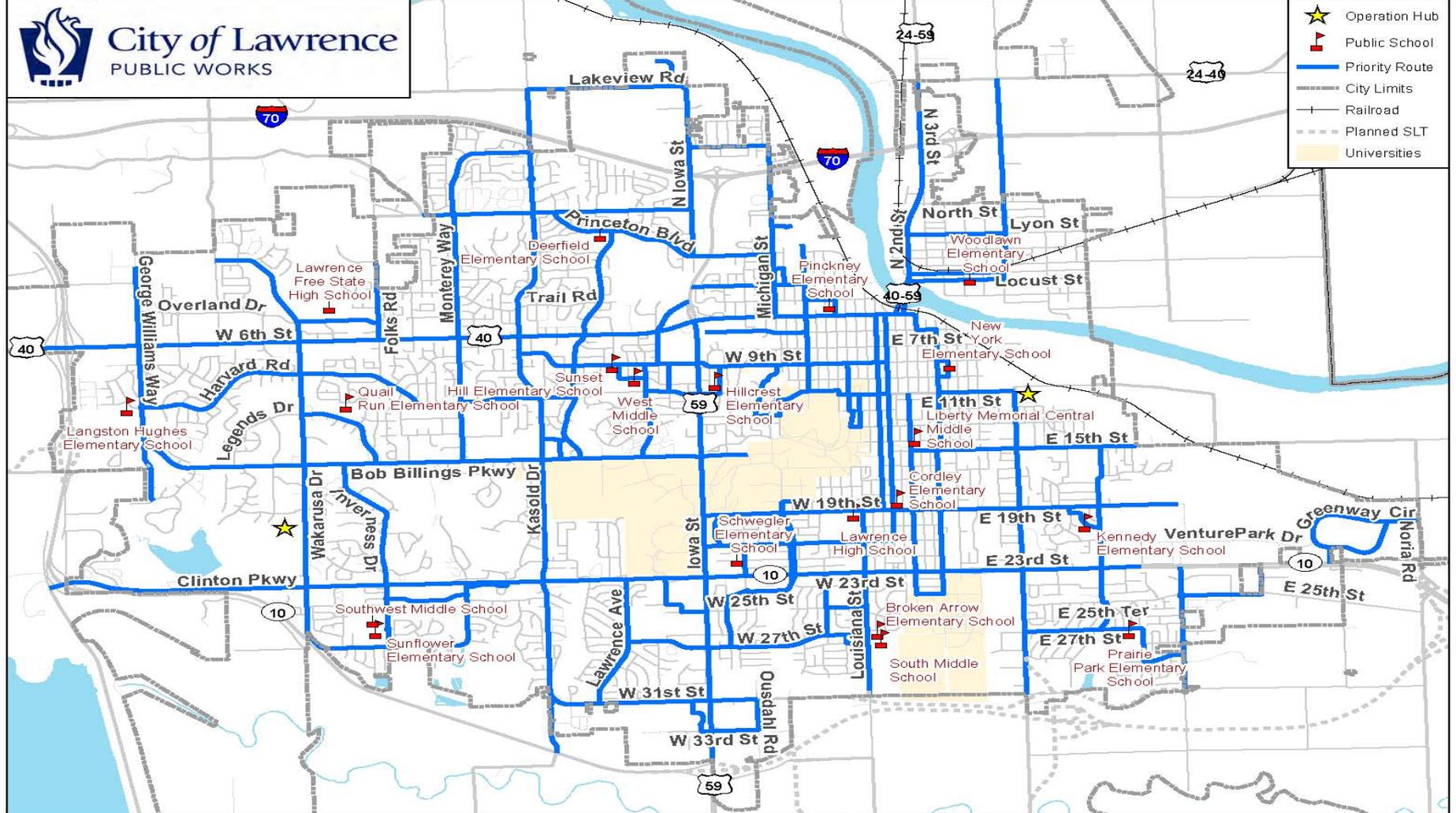
- Crews will go out ahead of the storm forecast during normal hours and pre-treat street / bridges.
 - Rain & extreme cold (15F) will eliminate the ability to do this.
- Start out in select areas
- Goals
 - Shorten the clean up time
 - Reduce cost
 - Quicker response times

Liquid Pre-Treatment



Priority Routes

Priority Snow Routes: Lawrence, KS

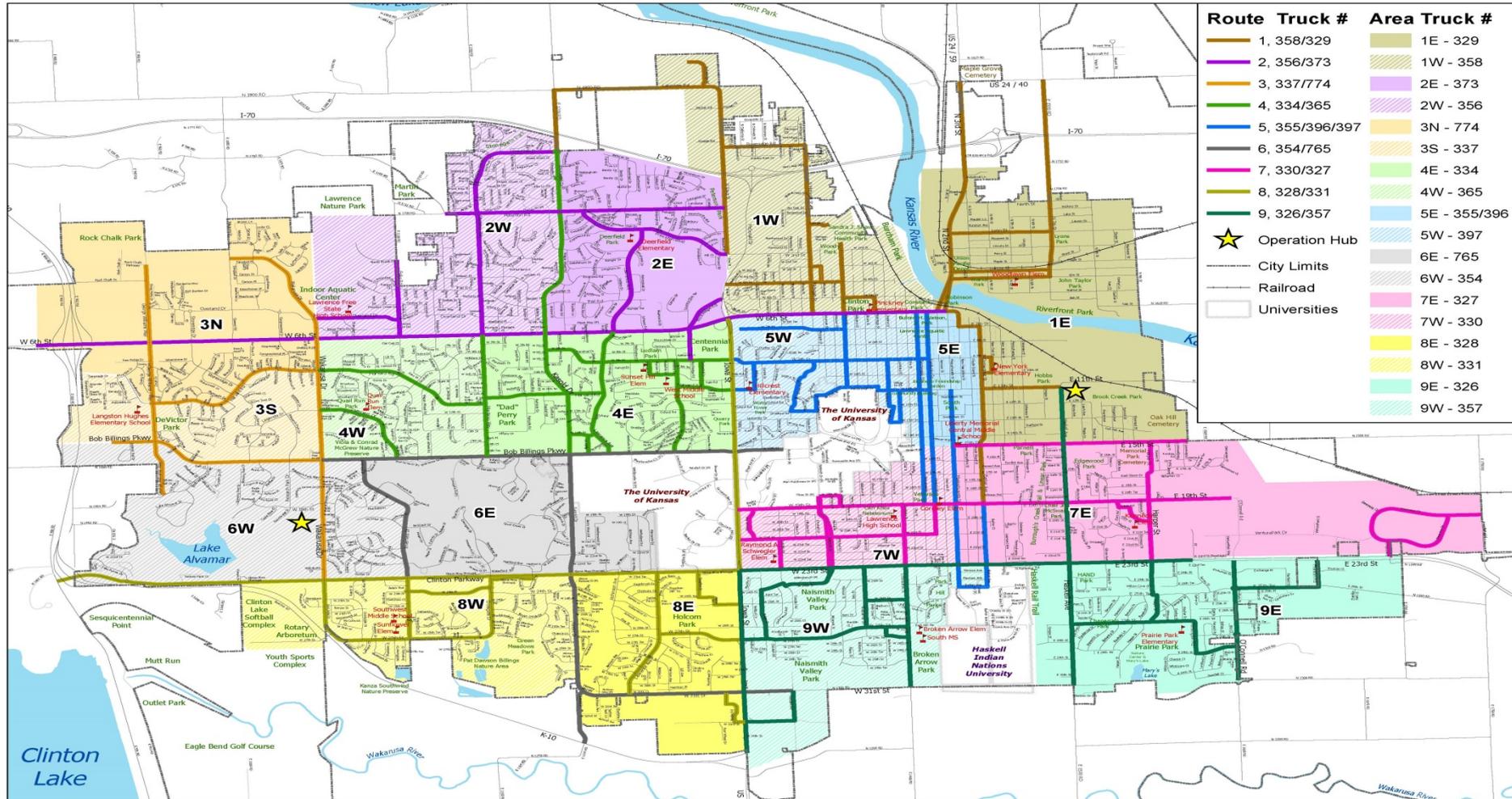


Snow & Ice Control - Plowing Routes/Areas

Lawrence Snow Response Map



Map Date: 10/13/2014



Materials



- We will start this season
 - 10,000 tons of salt
 - 1,000 tons of sand
 - 2,500 tons of salt sand mix
 - 21,000 gallons brine
 - 2,500 tons of salt on hold order



Equipment



- 7 - Tandem axle dump trucks
- 6 - Single axle dump trucks
- 9 – 1 ton 4x4 trucks
- 1 – Wheel loader
- 2 – Motor graders
- 3 – Back-hoe
- 2 – Farm tractors
- 2 – Liquid tank spreader
- 4 - Wing blades



Personnel

- 35 equipment operators
- 4 supervisors
- Division manger
- Administrative support
- Other
 - Communications Manager
 - Asst. Public Works Dir.
 - Police & Fire
 - Utilities
 - Parks & Recreation
 - Contractors



Public Awareness

- Web site
 - www.lawrenceks.org
 - Links to safety and weather
- Media
 - Lawrence “in focus” video
 - Water bill inserts
 - Press releases
 - **“Snow plows hit the streets Tuesday”**
 - Live interviews before and during events

How Can The Public Help?

- Be prepared
- Do not follow too close to plow trucks
- Allow plenty of time for traveling
- Stay home if possible
- Remove vehicles from the streets
- Wait until we clear your street to shovel driveways and sidewalks
- Patience

Annual Snow Training Day

The First Tuesday In November Each Year

- The annual practice provides an opportunity to review the plan, incorporate new streets, give equipment one more check and train employees



APWA Snow Rodeo



2014 Public Works Team took 4 awards in 7 events and competed against 40 teams from the KC Metro and NE Kansas Area.



What's New This Year

- Additional capacity for salt storage
 - 10,000 tons on hand
 - Eliminates need to order mid-season
- Wing plows
 - Increases efficiency on plowing arterials by 86%
 - Allows us to move equipment into other areas sooner
 - Safer
- Revised routes
 - Updated based on new streets
 - Updated to accommodate wing plows

Training

- Management team completed APWA
 - Winter Maintenance Supervisor Certification
- Safety training
- CDL training
- Spreader calibration
- Identify proper spreading rates
- Understanding the “buddy system”
- Verify routes



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Snow and Ice

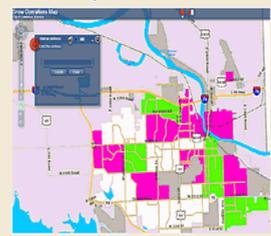
Winter 2011/2012

Use this guide as a resource for snow-related topics.

Latest Progress News Releases

- [Crews working round the clock to clear streets](#)
- [City workers a "salt" roads to prepare for in clement driving conditions](#)
- [Bikers urged not to ride in two feet of snow](#)
- [Temporary igloos being made to save electricity](#)
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Snow Map



[View Snow Map](#)



City News

- [Three local organizations come together to make a child's day special with the 'Birthday Bear'](#)
- [Carbon monoxide: a silent killer](#)
- [Take Charge Challenge results released: Lawrence loses to Manhattan](#)
- [Parks and Recreation facilities serve as a drop-off locations for coat drive](#)
- [Shelters and park restrooms closing for season](#)
- [More city news ...](#)



Reviewing the Plan

The [Street Maintenance Division](#) conducts a practice of the snow removal plan annually. For the 2011/2012 winter weather season, review of the plan was Nov. 1. Employees from the Street Maintenance Division inspect equipment, locate required gear, and travel assigned routes streets.

Ready for Snow and Ice Readying the Plan

Routes follow a priority order from most traveled to least traveled streets. In general, winter operations progress from:

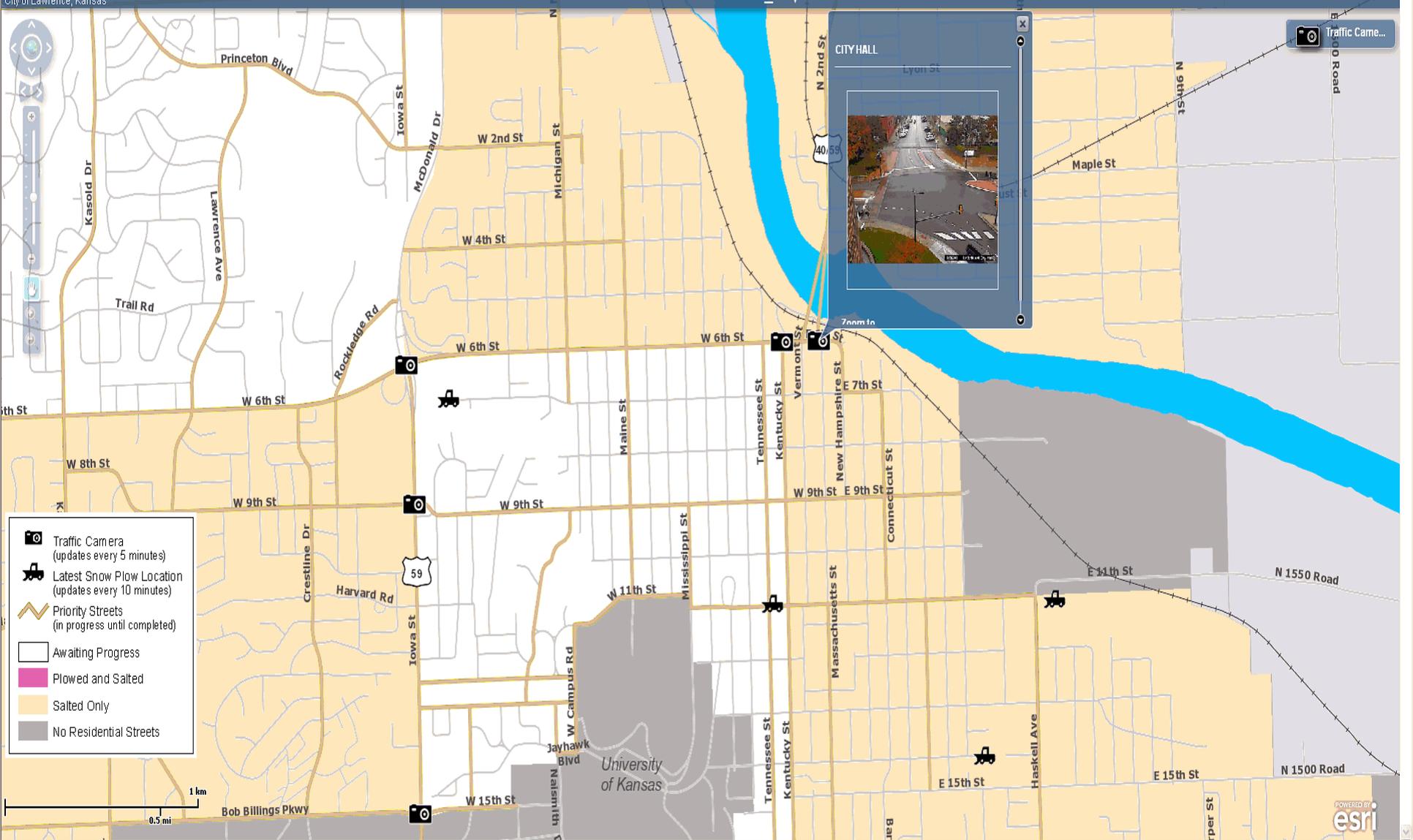
- Arterials**, high-capacity areas of travel such as Iowa Street or 6th Street
- Collectors**, low, to moderate-capacity streets that



[Spreading Routes Map \(PDF, 455 KB\)](#)

Snow Operations Map

City of Lawrence, Kansas





VEHICLE LIST

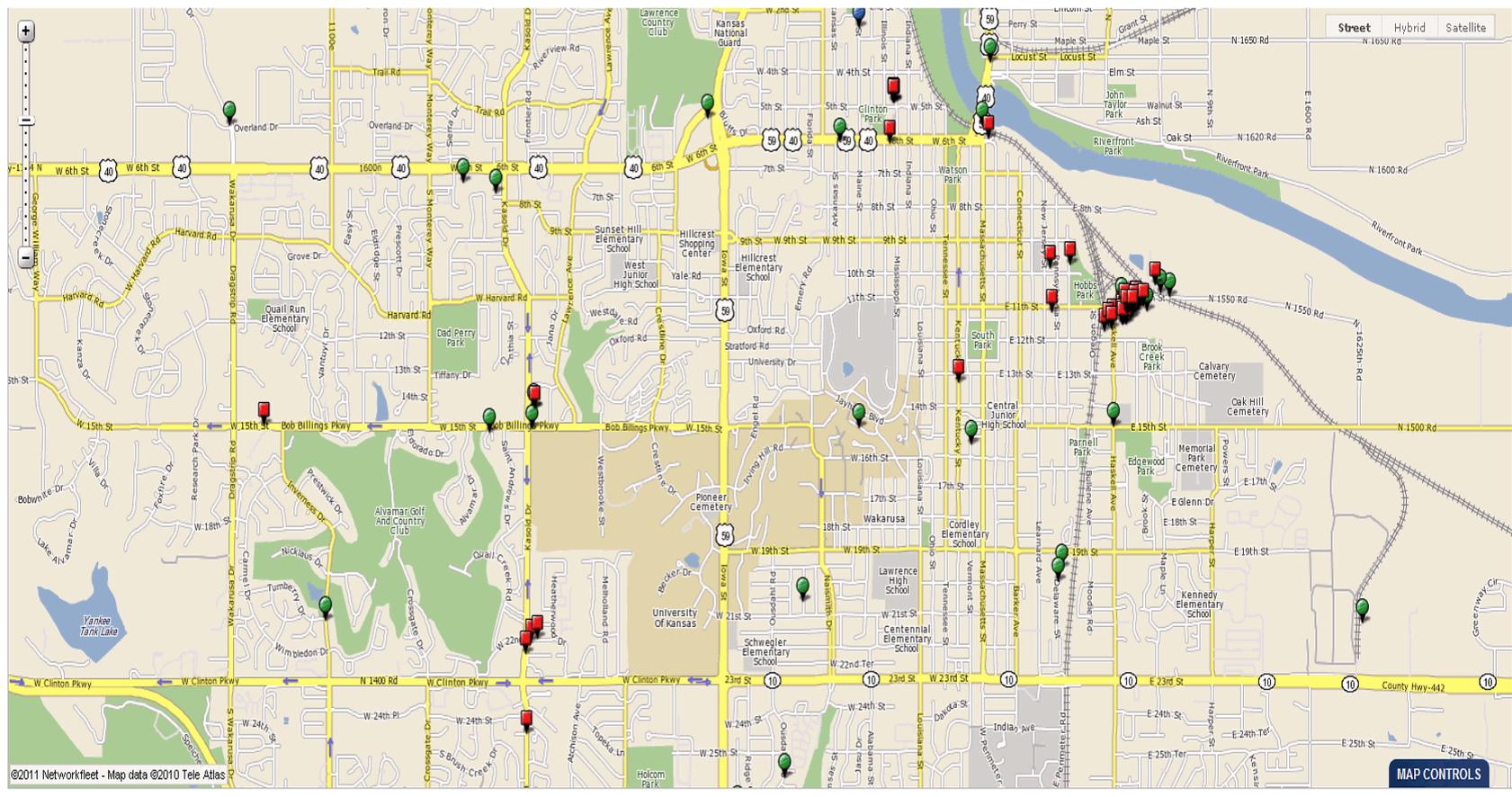
Group: - ALL GROUPS
Attribute: All Attributes
View by: Vehicle Label
Refine:

Select a Vehicle

- 302 - SUPERVISOR PICKUP (TC)
- 304 - SUPERVISOR PICKUP (BN)
- 320 - 1-TON PICKUP
- 323 - SUPERVISOR PICKUP (BC)
- 326 - DUMP TRUCK
- 327 - DUMP TRUCK
- 328 - DUMP TRUCK
- 329 - DUMP TRUCK
- 330 - DUMP TRUCK
- 331 - DUMP TRUCK
- 332 - DUMP TRUCK
- 334 - DUMP TRUCK
- 335 - DUMP TRUCK
- 336 - FLATBED
- 337 - FLATBED
- 343 - FLATBED
- 345 - FLATBED
- 361 - SWEEPER
- 364 - SWEEPER
- 366 - FLATBED
- 368 - SWEEPER
- 377 - PATCH TRUCK
- 396 - FLATBED
- 397 - FLATBED
- 401 C1500 PUSB
- 402 F150 PUSB
- 403 C1500 SB
- 405 F350 FLATBED
- 406 F150 AB
- 407 F150 CP
- 408 C1500 MA
- 409 F150 MG
- 424 SB RL
- 450 SB RL
- 453 SB RL
- 454 SB RL

Overview Map Location Detail Track Vehicle

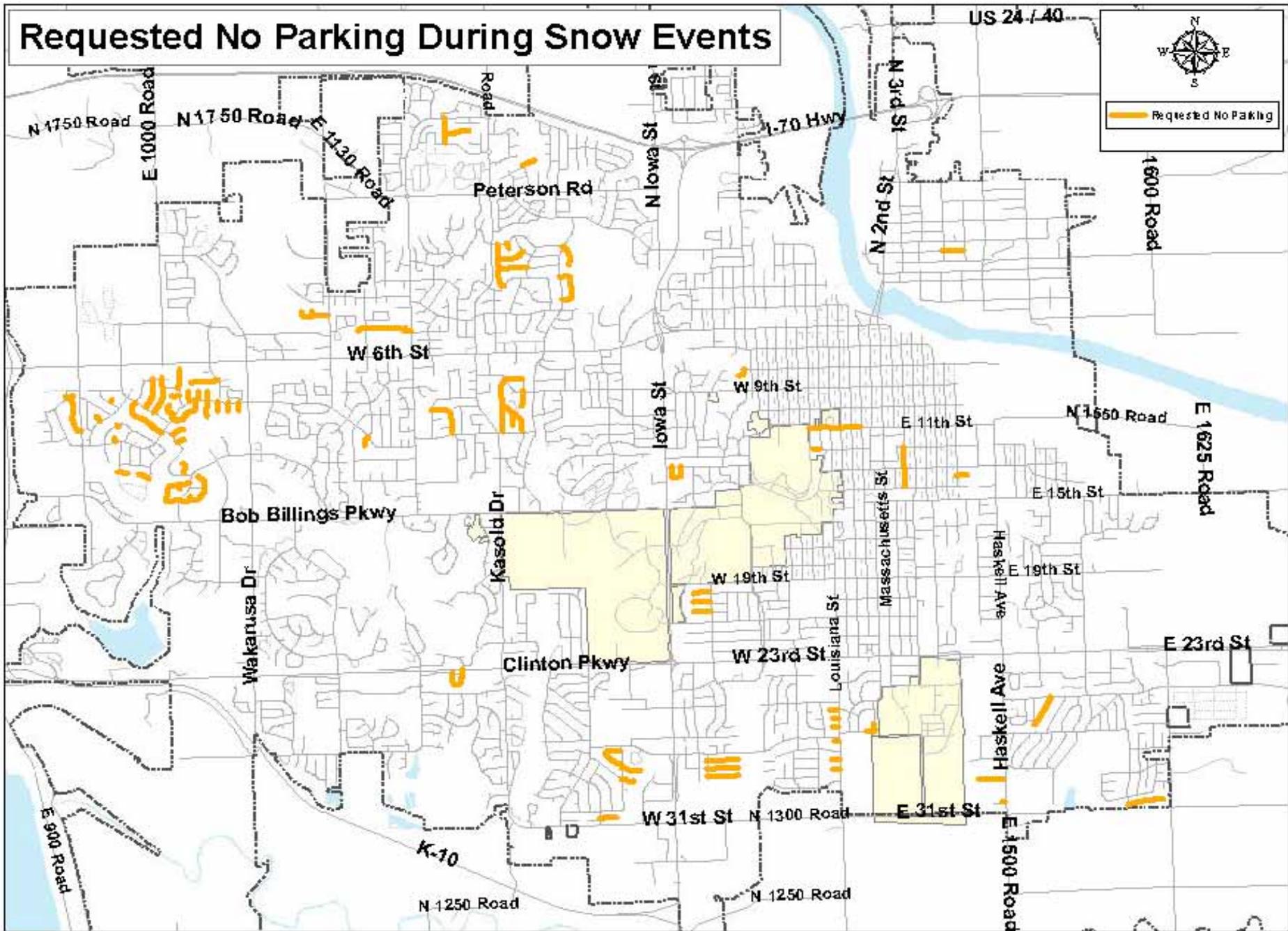
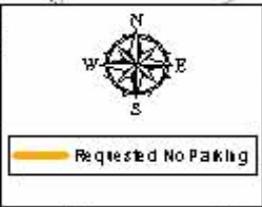
Overview Map



©2011 Networkfleet - Map data ©2010 Tele Atlas

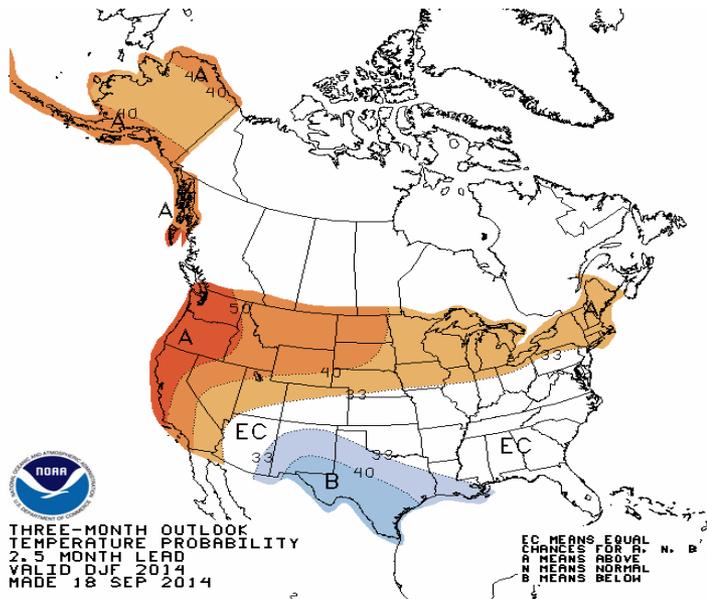
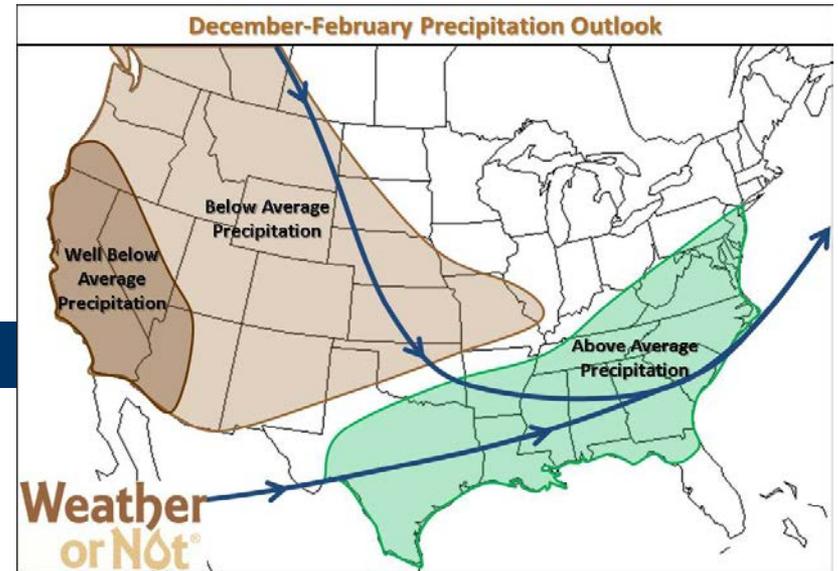
MAP CONTROLS

Requested No Parking During Snow Events

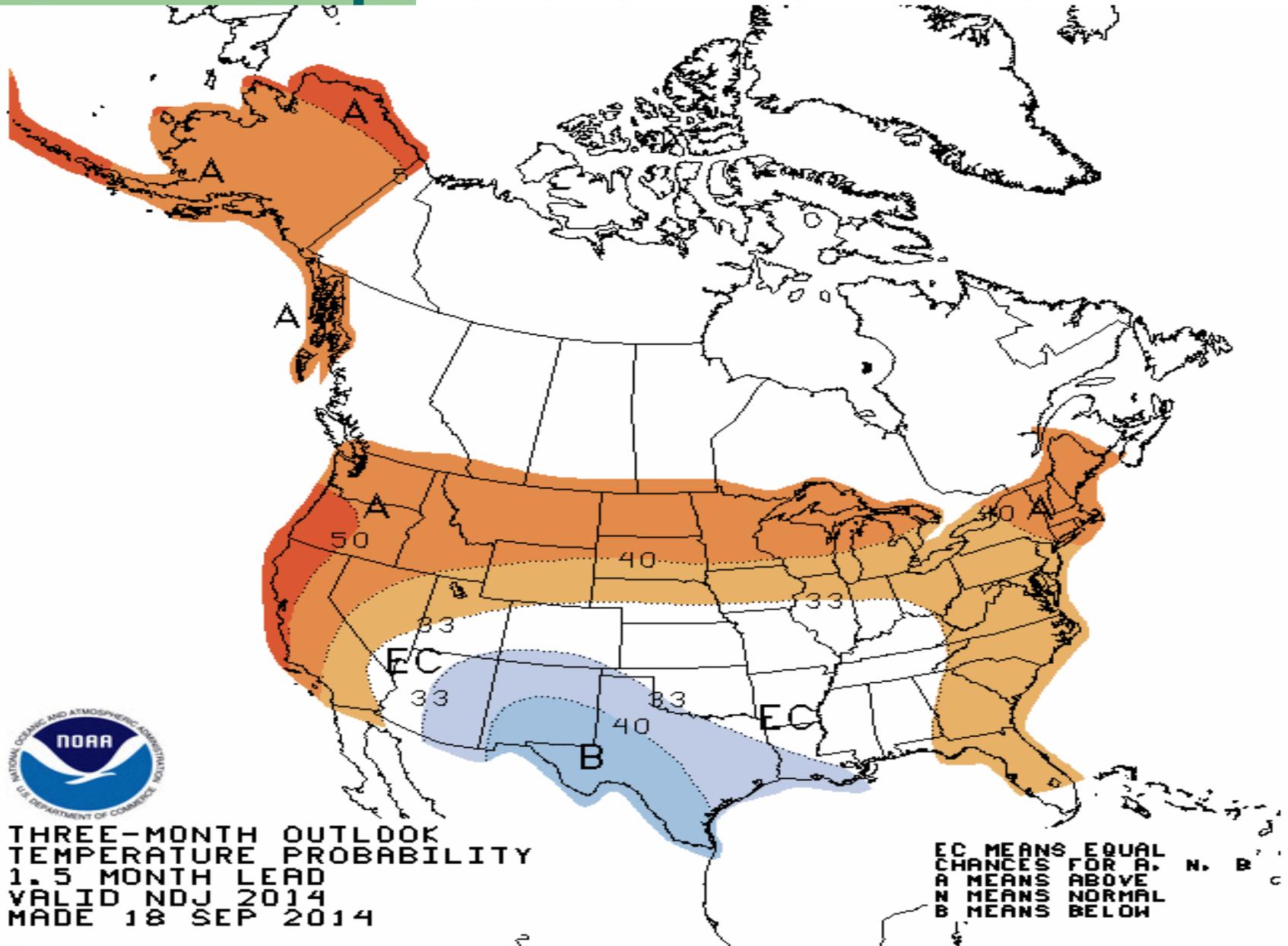


Forecasts

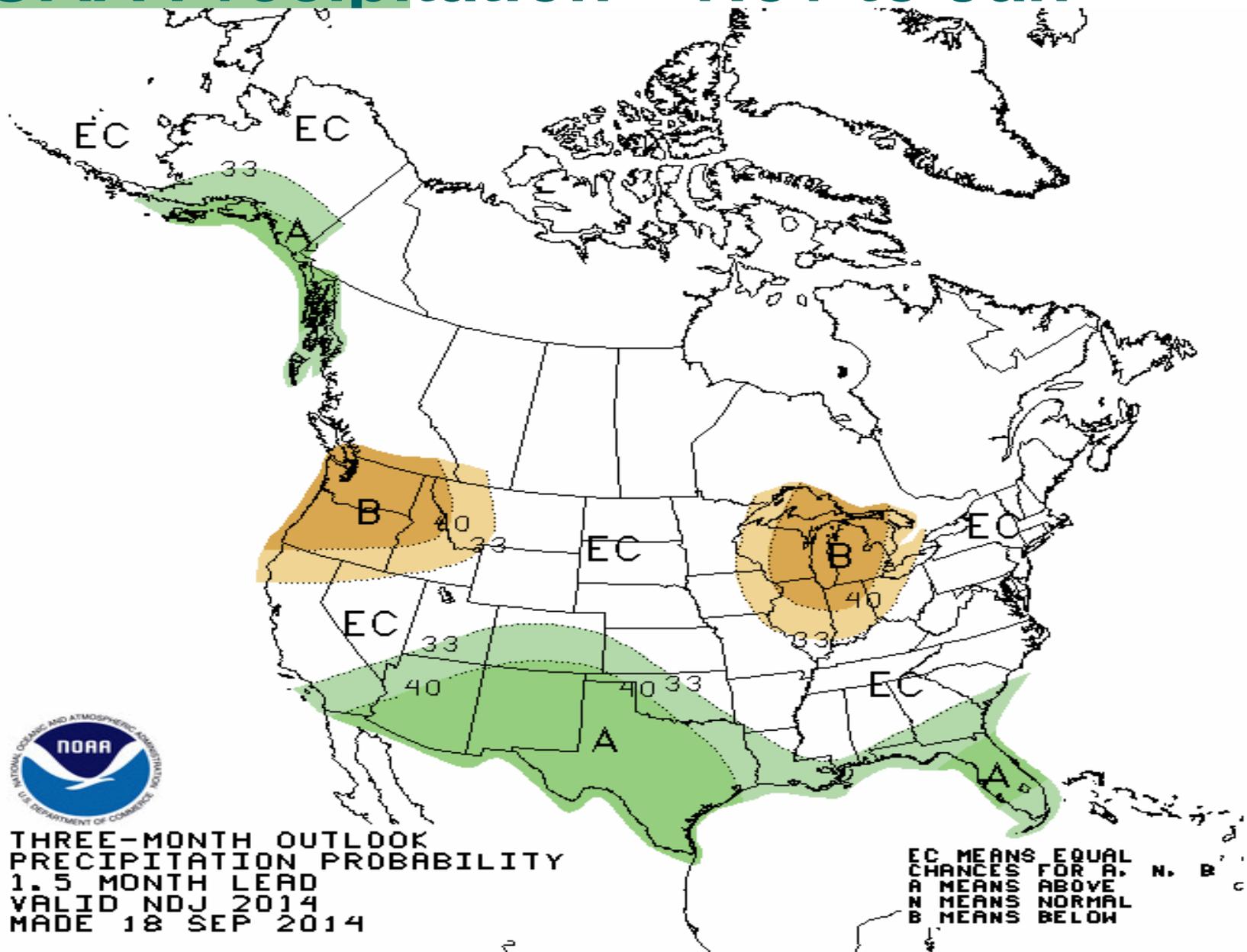
- NOAA Forecast
- Farmers Almanac
- Weather or not



NOAA Temperature – Nov to Jan



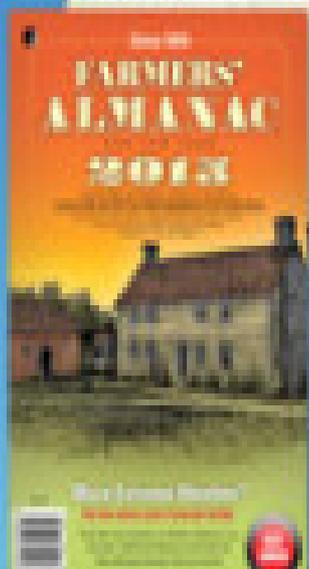
NOAA Precipitation – Nov to Jan



THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
1.5 MONTH LEAD
VALID NDJ 2014
MADE 18 SEP 2014

EC MEANS EQUAL
CHANCES FOR A, B, C
A MEANS ABOVE
N MEANS NORMAL
B MEANS BELOW

2015 WINTER OUTLOOK



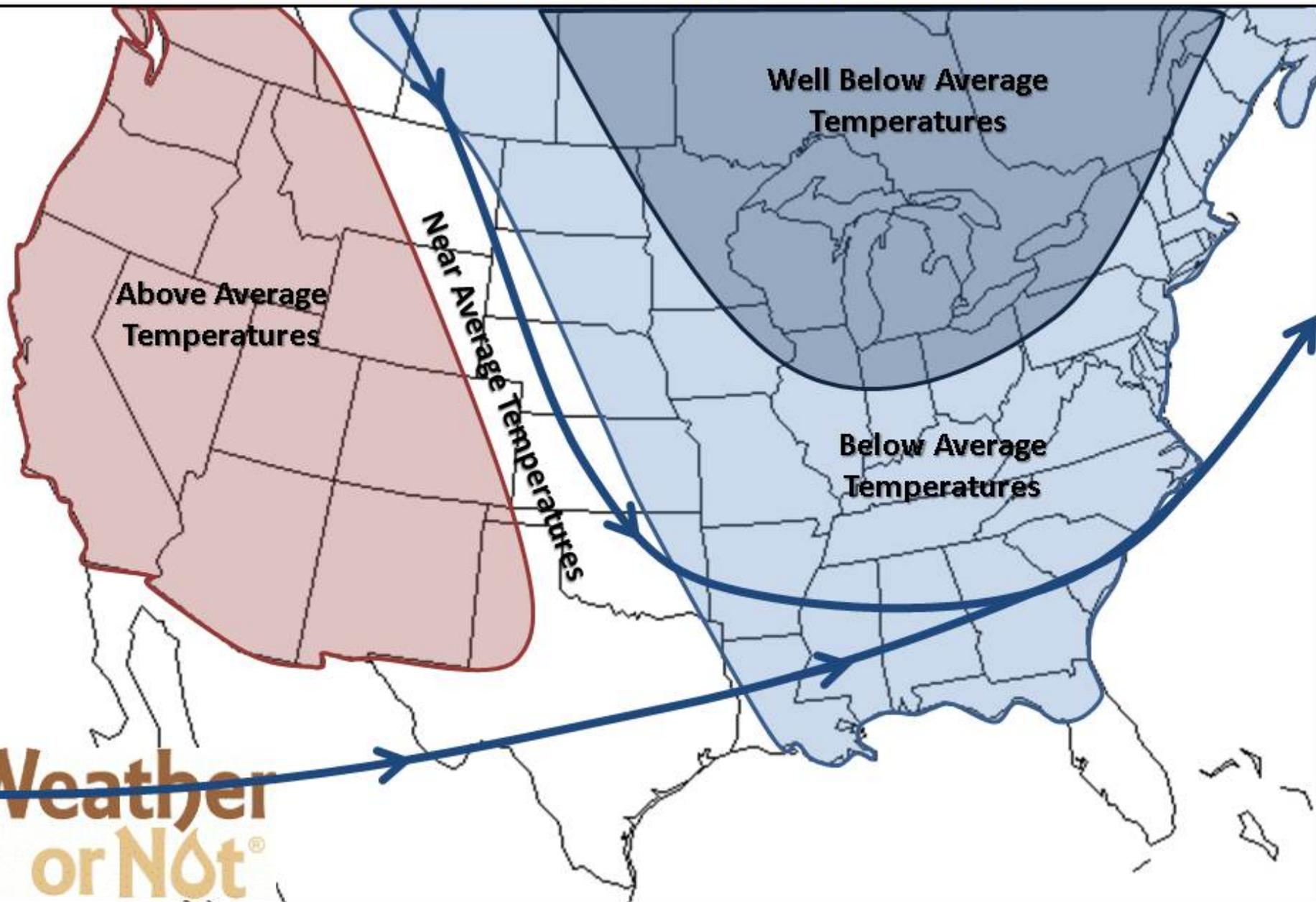
More weather at
FarmersAlmanac.com



twitter

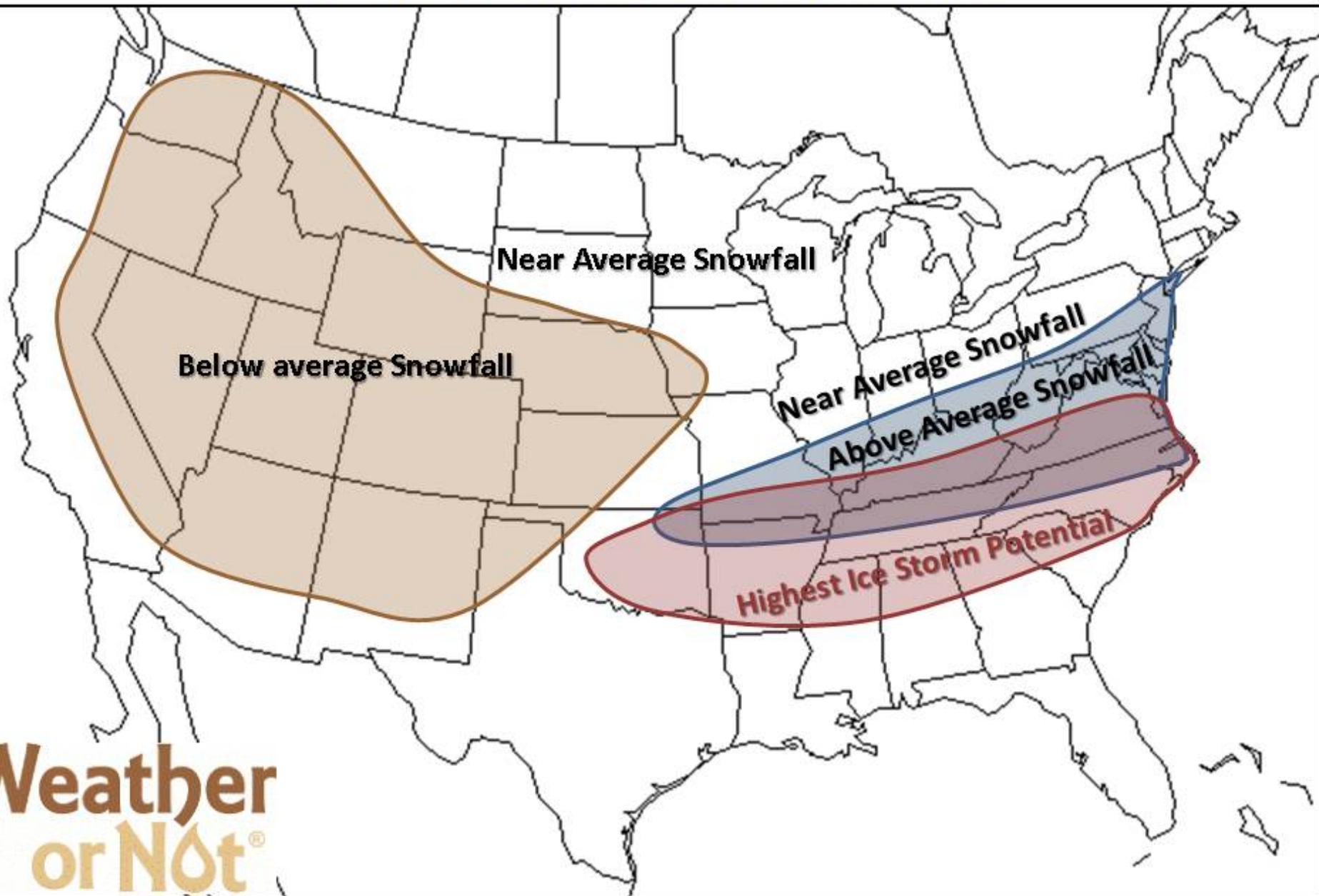


December-February Temperature Outlook



**Weather
or Not®**

December-February Snowfall Outlook



**Weather
or Not®**

So, What's Really Going To Happen?

- Based on the three weather indicators we are preparing for a near normal winter
- Very similar patterns to last year
- Several small / short events with ice early on
- A few snow events January / February

Summary

- Plan is updated
- Equipment is ready
- Materials are well supplied
- Staff have been trained
- Press releases are out
- Web site is updated
- We are ready to tackle what ever mother nature throws at us

Questions?

