

Timing is Everything!!

Clear Path Weather/Iteris, Inc.

Jerry Auge, PE

October 24, 2019

Ramsey County Approach to Snow and Ice

- Mechanical
 - Joma
 - PolarFlex
 - Chemical
 - Rock Salt
 - Brine
 - Brine blends
 - PreCise fleet tracking system
 - Weather predicting software
 - ClearPath Weather
-

Ramsey County Stats

- 295 miles of roadway
- 53 miles St. Paul partnership
- 933 plowed lane miles
- Pavements are concrete and bituminous surfaces
- AADT – 150 to 25,000 per day
- 2 - 6 lane roadways
- Limited boulevard areas for snow
- Pedestrian facilities on/off
- Most urbanized county
- Smallest county in the state

Clear Path Weather

← → ↻ clearpathweather.com

Apps ArcGIS Other bookmarks

Tools METAAlerts Help Logout

MDSS Road Alerts

MDSS Blowing Snow Alerts

MDSS Maintenance Alerts

NWS Alerts

Overlay

Radar ▼

Opacity

Forecast Sites / Routes

None ▼

RWIS

Air Temp ▼

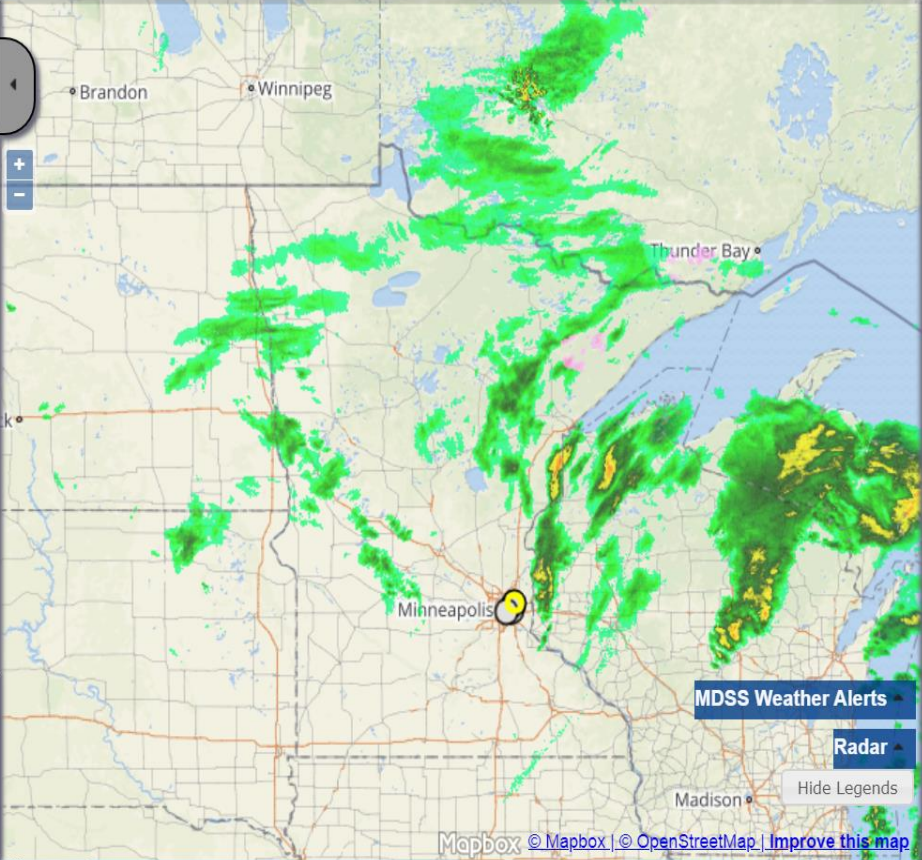
FAA / NWS

Air Temp ▼

Cameras

October 15 2019 11:20 AM

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Mapbox © Mapbox | © OpenStreetMap | Improve this map

MN0088 - Little Canada

Segment:
Little Canada I-694 EB Approac ▼


MDSS Weather Alerts

MDSS Road Alerts

MDSS Blowing Snow Alerts

MDSS Maintenance Alerts





Tuesday, Oct 15th 2019: 11:20 am


 Weather

Air Temp	44 °F
Dew Pt	39 °F
Humidity	82 %
Visibility	10 mi
Winds	NW 9 mph

Iteris NWS

TABLE GRAPH HUD 10-DAY

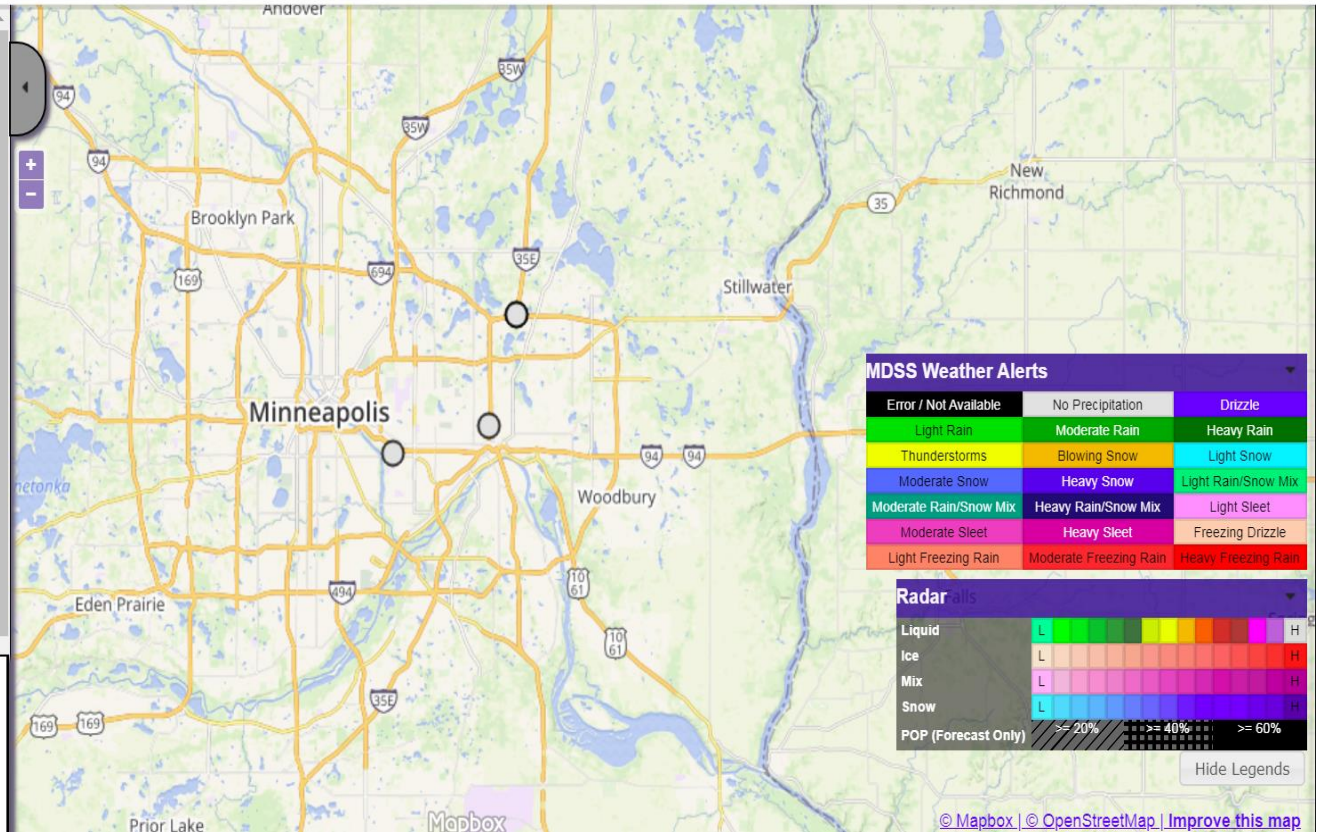
   

















- State-wide Current View
- MDSS Weather Alerts
- MDSS Road Alerts
- MDSS Blowing Snow Alerts
- MDSS Maintenance Alerts
- NWS Alerts
- Overlay
- Radar
- Opacity
- Forecast Sites / Routes
- None
- RWIS










October 20 2019 8:20 PM















Time (GMT-0500)	Roadway: Treatment: MDSS					Roadway: Treatment: None					Air Temp	Dew Pt	Humidity	Wind				Precipitation							Cloud Cover	Visibility	Vis Obstruct							
	Temp	Pvmt Cond	Frost Prob	Maintenance	Rate	Temp	Pvmt Cond	Frost Prob	Maintenance	Rate				Wind Direction	Wind Speed (mph)	Gust (mph)	Wind Chill (°F)	Type	Precip Prob (%)	Liquid Rate (in/hr)	Liquid Acc (in)	Sleet Rate (in/hr)	Sleet Acc (in)	Snow Rate (in/hr)				Snow Acc (in)						
Tue 4pm	74	Dry	0	---	---	74	Dry	0	---	---	60	42	52	↘NNW	10	---	---	None	---	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	---
Tue 5pm	70	Dry	0	---	---	70	Dry	0	---	---	61	43	51	↘NNW	9	---	---	---	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	---	
Tue 6pm	65	Dry	0	---	---	65	Dry	0	---	---	58	43	57	↓N	10	---	---	---	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	---		
Tue 7pm	60	Dry	0	---	---	60	Dry	0	---	---	54	42	65	↘NNW	12	---	---	None	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	---		
Tue 8pm	56	Dry	0	---	---	56	Dry	0	---	---	49	41	72	↘NNW	13	---	44	RA	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	---		
Tue 9pm	53	Dry	0	---	---	53	Dry	0	---	---	46	39	77	↘NNW	15	---	40	RA	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	---		
Tue 10pm	51	Dry	0	---	---	51	Dry	0	---	---	44	38	80	↘NNW	16	22	37	RA	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	---		
Tue 11pm	50	Dry	0	---	---	50	Dry	0	---	---	43	37	81	↘NNW	16	22	35	RA	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	---		
Wed 12am	48	Dry	0	---	---	48	Dry	0	---	---	41	36	81	↓N	17	---	33	RA	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	---			
Wed 1am	47	Dry	0	---	---	47	Dry	0	---	---	40	35	83	↓N	18	---	31	RA	40	trace	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	---			
Wed 2am	44	Dry	0	---	---	44	Dry	0	---	---	38	35	87	↓N	19	26	28	RA	60	trace	trace	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	---			
Wed 3am	41	Dry	0	---	---	41	Dry	0	---	---	36	34	91	↓N	20	28	25	RA	80	trace	trace	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.50	---	---			
Wed 4am	37	Dry	2	---	---	37	Dry	2	---	---	35	33	94	↓N	20	28	24	RA	85	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	---	---			
Wed 5am	36	Damp	5	---	---	36	Damp	5	---	---	34	32	94	↓N	20	29	23	RA	80	0.02	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00	3.50	---	---			
Wed 6am	34	Wet	10	Patrol & Plow	---	34	Wet	10	---	---	33	31	92	↓N	21	29	21	MX	80	trace	0.03	0.00	0.00	0.05	0.00	0.00	0.00	0.00	2.00	---	---			
Wed 7am	33	Wet	10	Start Time: Wed 9:21am End Time: Wed 10:21am	---	33	Wet	10	---	---	31	29	92	↓N	21	29	18	FR	80	0.01	0.04	0.00	0.00	0.04	0.00	0.00	0.00	0.1	2.00	---	---			
Wed 8am	32	Slush	10		---	32	Slush	10	---	---	30	28	94	↓N	21	27	17	SN	80	0.00	0.04	0.00	0.00	0.14	0.00	0.00	0.00	0.1	1.50	---	---			
Wed 9am	32	Slush	10		---	32	Slush	10	---	---	29	28	96	↓N	20	---	16	SN	80	0.00	0.04	0.00	0.00	0.21	0.00	0.00	0.00	0.2	1.00	---	---			
Wed 10am	32	Slush	8		---	32	Slush	8	---	---	28	28	97	↓N	20	---	15	SN	75	0.00	0.04	0.00	0.00	0.35	0.00	0.00	0.00	0.5	1.00	---	---			
Wed 11am	32	Slush	10		---	32	Slush	10	---	---	29	28	96	↓N	21	28	16	SN	70	0.00	0.04	0.00	0.00	0.34	0.00	0.00	0.00	0.8	1.00	---	---			
Wed 12pm	33	Slush	8		---	33	Slush	8	---	---	29	27	92	↓N	22	---	15	SN	70	0.00	0.04	0.00	0.00	0.38	0.00	0.00	0.00	1.1	1.00	---	---			
Wed 1pm	33	Slush	5		---	33	Slush	5	---	---	30	27	89	↓N	22	---	17	SN	70	0.00	0.04	0.00	0.00	0.44	0.00	0.00	0.00	1.5	1.00	---	---			
Wed 2pm	33	Slush	5		---	32	Slush	5	---	---	29	26	88	↓N	23	31	15	SN	70	0.00	0.04	0.00	0.00	0.44	0.00	0.00	0.00	2.0	1.00	---	---			
Wed 3pm	32	Slush	5		---	32	Slush	5	---	---	29	26	89	↓N	22	30	15	SN	70	0.00	0.04	0.00	0.00	0.45	0.00	0.00	0.00	2.4	1.00	---	---			
Wed 4pm	32	Slush	5		---	32	SN	5	---	---	28	25	88	↓N	21	29	14	SN	70	0.00	0.04	0.00	0.00	0.40	0.00	0.00	0.00	2.9	1.00	---	---			







Time (GMT-0500)	Roadway: Treatment: MDSS					Temp
	Temp	Pvmt Cond	Frost Prob	Maintenance	Rate	
Tue 4pm	74	 Dry	0	---	---	74
Tue 5pm	70	 Dry	0	---	---	70
Tue 6pm	65	 Dry	0	---	---	65
Tue 7pm	60	 Dry	0	---	---	60
Wed 12pm	33	 Slush	8		---	33
Wed 1pm	33	 Slush	5	---	---	33
Wed 2pm	33	 Slush	5		---	32
Wed 3pm	32	 Slush	5		---	32
Wed 4pm	32	 Slush	5	---	---	32

Roadway:
Treatment: None

Temp	Pvmt Cond	Frost Prob	Maintenance	Rate	Air Temp	Dew Pt	Humidity	
74	 Dry	0	---	---	60	42	52	↓
70	 Dry	0	---	---	61	43	51	↓
65	 Dry	0	---	---	58	43	57	↓
60	 Dry	0	---	---	54	42	65	↓
33	 Slush	8	---	---	29	27	92	↓
33	 Slush	5	---	---	30	27	89	↓
32	 Slush	5	---	---	29	26	88	↓
32	 Slush	5	---	---	29	26	89	↓
32	 SN	5	---	---	28	25	88	↓

Humidity	Wind				Type
	Wind Direction	Wind Speed (mph)	Gust (mph)	Wind Chill (°F)	
52	↘ NNW	10	--	--	None
51	↘ NNW	9	--	--	--
57	↓ N	10	--	--	--
65	↘ NNW	12	--	--	None
72	↘ NNW	13	--	44	 RA
92	↓ N	22	--	15	 SN
89	↓ N	22	--	17	 SN
88	↓ N	23	31	15	 SN
89	↓ N	22	30	15	 SN
88	↓ N	21	29	14	 SN

Precipitation							
Type	Precip Prob (%)	Liquid Rate (in/hr)	Liquid Acc (in)	Sleet Rate (in/hr)	Sleet Acc (in)	Snow Rate (in/hr)	Snow Acc (in)
None	--	0.00	0.00	0.00	0.00	0.00	0.0
--	0	0.00	0.00	0.00	0.00	0.00	0.0
--	0	0.00	0.00	0.00	0.00	0.00	0.0
None	5	0.00	0.00	0.00	0.00	0.00	0.0
 RA	10	0.00	0.00	0.00	0.00	0.00	0.0
 SN	70	0.00	0.04	0.00	0.00	0.38	1.1
 SN	70	0.00	0.04	0.00	0.00	0.44	1.5
 SN	70	0.00	0.04	0.00	0.00	0.44	2.0
 SN	70	0.00	0.04	0.00	0.00	0.45	2.4
 SN	70	0.00	0.04	0.00	0.00	0.40	2.9

Humidity	Wind				Type
	Wind Direction	Wind Speed (mph)	Gust (mph)	Wind Chill (°F)	
52	↘ NNW	10	---	---	None
51	↘ NNW	9	---	---	---
57	↓ N	10	---	---	---
65	↘ NNW	12	---	---	None
72	↘ NNW	13	---	44	 RA
92	↓ N	22	---	15	 SN
89	↓ N	22	---	17	 SN
88	↓ N	23	31	15	 SN
89	↓ N	22	30	15	 SN
88	↓ N	21	29	14	 SN

Snow Rate (in/hr)	Snow Acc (in)	Cloud Cover	Visibility	Vis Obstruct
0.00	0.0		10.00	--
0.00	0.0		10.00	--
0.00	0.0		10.00	--
0.00	0.0		10.00	--
0.00	0.0		10.00	--
0.44	1.5		1.00	--
0.44	2.0		1.00	--
0.45	2.4		1.00	--
0.40	2.9		1.00	--

Ramsey County Benefits to this system

- Web based program
- Requires a login
- Has a mobile app
- Calling in snow plow operators
- Duration of the storm event
- Calling off snow plow operators
- Weather predictions are accurate
- Material application rates
- Pavement temps
- Wind direction/speed
- Sun/Clouds

End User Costs

- County participation – 18 County's
- \$3000 per year
- Prorate when starting in contract
- Contract is currently available for Counties
- Rich Sanders – Polk County Engineer
- Leah Dailey – Sales Manager - Iteris

ClearPath Weather – Polk County

Description	Price
<p>ClearPath Weather® – Pavement Forecasting Services and Support Consisting of:</p> <ul style="list-style-type: none"> • Unlimited access to our cloud-based software for one pavement site • 48-hour pavement and weather forecast for 1 site • Access of radar/satellite on a 2-, 6-, 12- or 24- hour loop • Live camera, RWIS and METAR observations • Access to MDSS mobile app • \$350/month for one site 	\$4,200/yr.

Additional Services	Price
<p>Toll-Free Access to Iteris Forecast Operations Center</p> <ul style="list-style-type: none"> • \$75/month for unlimited access <ul style="list-style-type: none"> — 24/7 number to speak with a meteorologist about your forecast to gain better insight about inclement weather. 	\$900/yr.
<p>METAAlerts Alerting Services for up to 5 Users</p> <ul style="list-style-type: none"> • \$50/month <ul style="list-style-type: none"> — Customizable email or text message alerts that are forecast-based, RWIS observed, or warnings issued by the NWS. 	\$600/yr.

<https://www.clearpathweather.com/>

Questions

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