

Vaisala Wx Horizon

Decision Support for Winter Maintenance

VAISALA

Winter Maintenance – Tasks You Need to Get Right

- Know the current impact of hazardous winter weather on your entire road network
- Know how hazardous weather will impact your network in the future
- Plow and/or treat your network at the optimal time
- Learn and improve from past events
- Analyse and act on large amounts of data



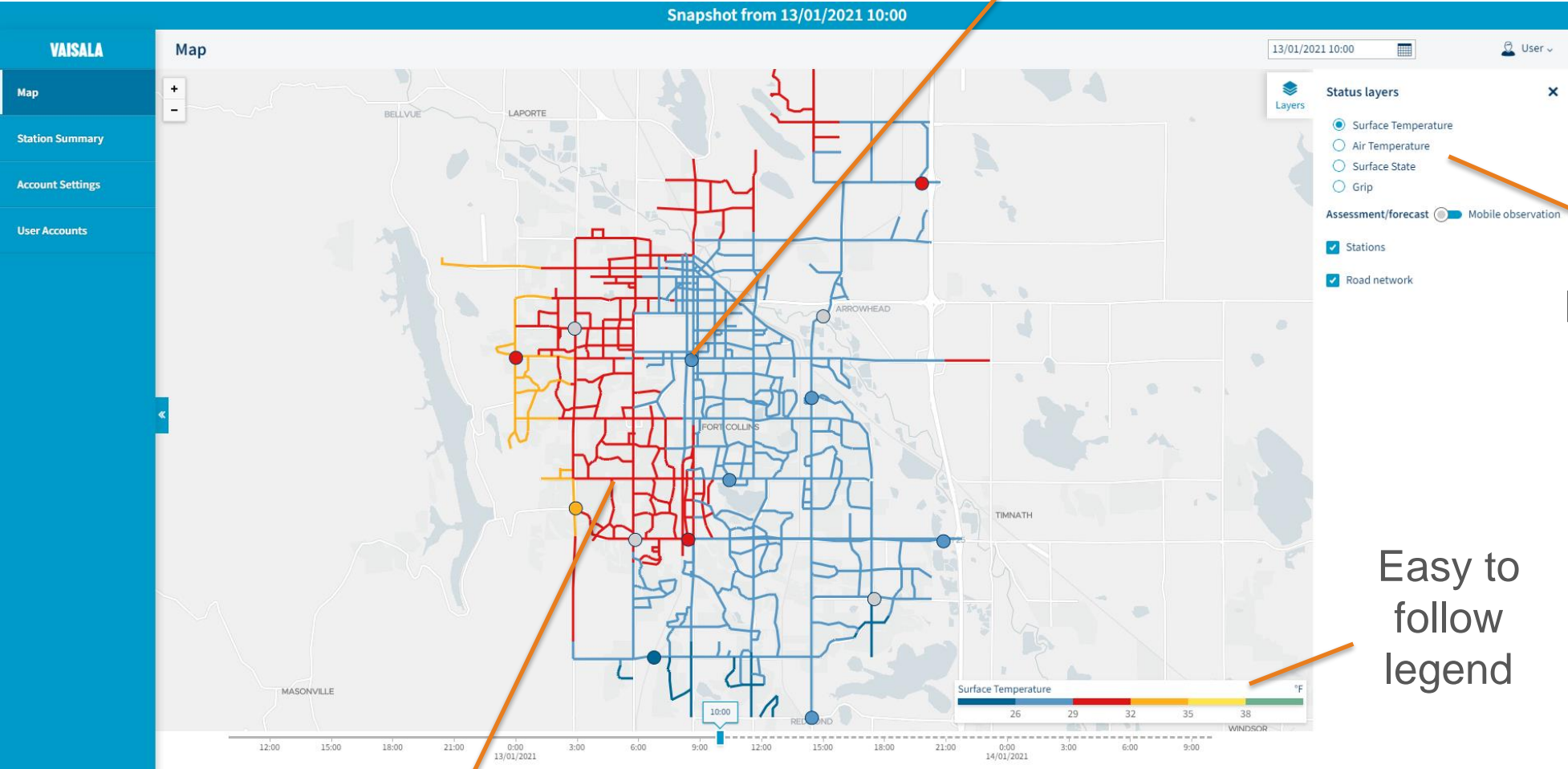
Winter Maintenance – Tasks You Need to Get Right

- Do I need to take an action?
- If so:
 - When?
 - Where?
 - How much?



Situational Awareness

Latest observed data from weather stations



Multiple observed and modelled parameters available

Easy to follow legend

Latest assessed data from segments between the weather stations

Table of multiple observed parameters from weather stations.

Situational Awareness

Snapshot from 2021-03-15 1:30

demo001cityoffortcollins 2021-03-15 1:30 User

Select parameters

Station Name	Timestamp	Surface Temp.	Surface State	Water layer	Air Temp.	Dew point	Rel. Humidity	Wind Speed	Wind Directi
Harmony @ BRT	2021-03-15 1:20	32 °F	Snow	0 mm	26.6 °F	5.8 °F	48	10.96 mph	
Harmony & Taft (OD)	2021-03-15 1:20	28.76 °F	Snow	0 mm	28.22 °F	24.44 °F	86		
Horsetooth & Stover (OD)	2021-03-15 1:20	29.66 °F	Snow	0 mm	28.4 °F				
I-25 @ Harmony Road	2021-03-15 1:20	31.82 °F	Snow	0.07 mm	29.84 °F				
Kechter @ Ziegler	2021-03-15 1:20	31.82 °F							
Mountain Vista @ Busch	2021-03-15 1:20	30.02 °F	Snow	0.15 mm	28.04 °F				
Prospect @ BRT	2021-03-15 1:20	30.38 °F	Snow And Water	0.33 mm	29.3 °F				
Prospect @ Overland Trail (OD)	2021-03-15 1:20	29.48 °F	Snow	0 mm	28.58 °F				
Timberline @ County Road 32	2021-03-15 1:20	27.32 °F	Snow	0 mm	29.48 °F				
Timberline @ Nancy Gray (OD)	2021-03-15 1:20	30.2 °F	Snow	0 mm	27.86 °F				
Trilby Road	2021-03-15 1:20	27.68 °F	Snow	0 mm	27.5 °F				

Select parameters

Filter other parameters

Selected parameters (16)

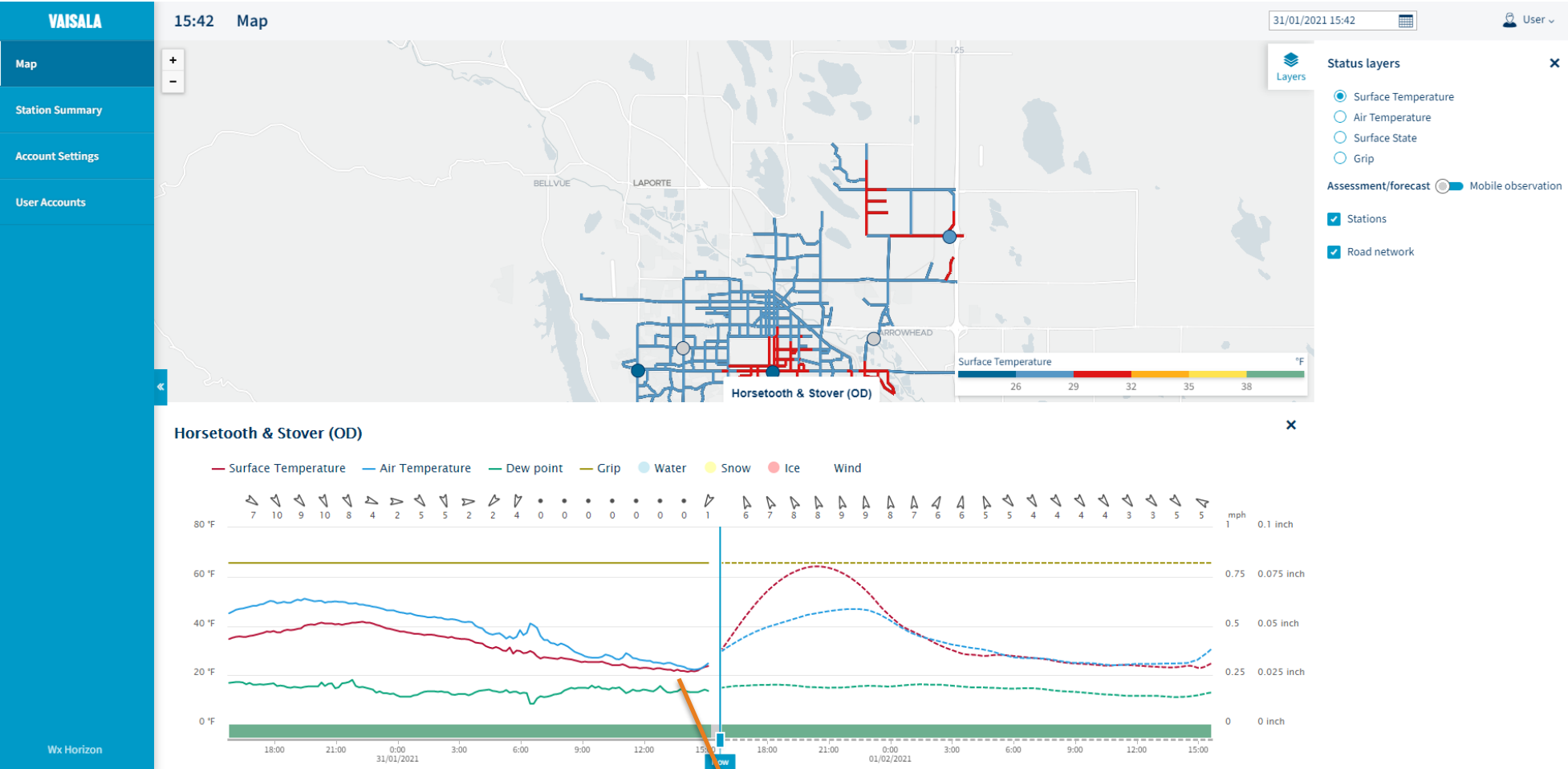
- Surface Temperature
- Surface State
- Water layer
- Air Temperature
- Dew point
- Relative Humidity
- Wind Speed
- Wind Direction
- Visibility
- Rain Last Hour
- Snow Last Hour
- Freezing temperature
- Max gust
- Precipitation intensity
- Wind gust direction
- Wind gust speed

Save Cancel

Hazardous conditions highlighted.

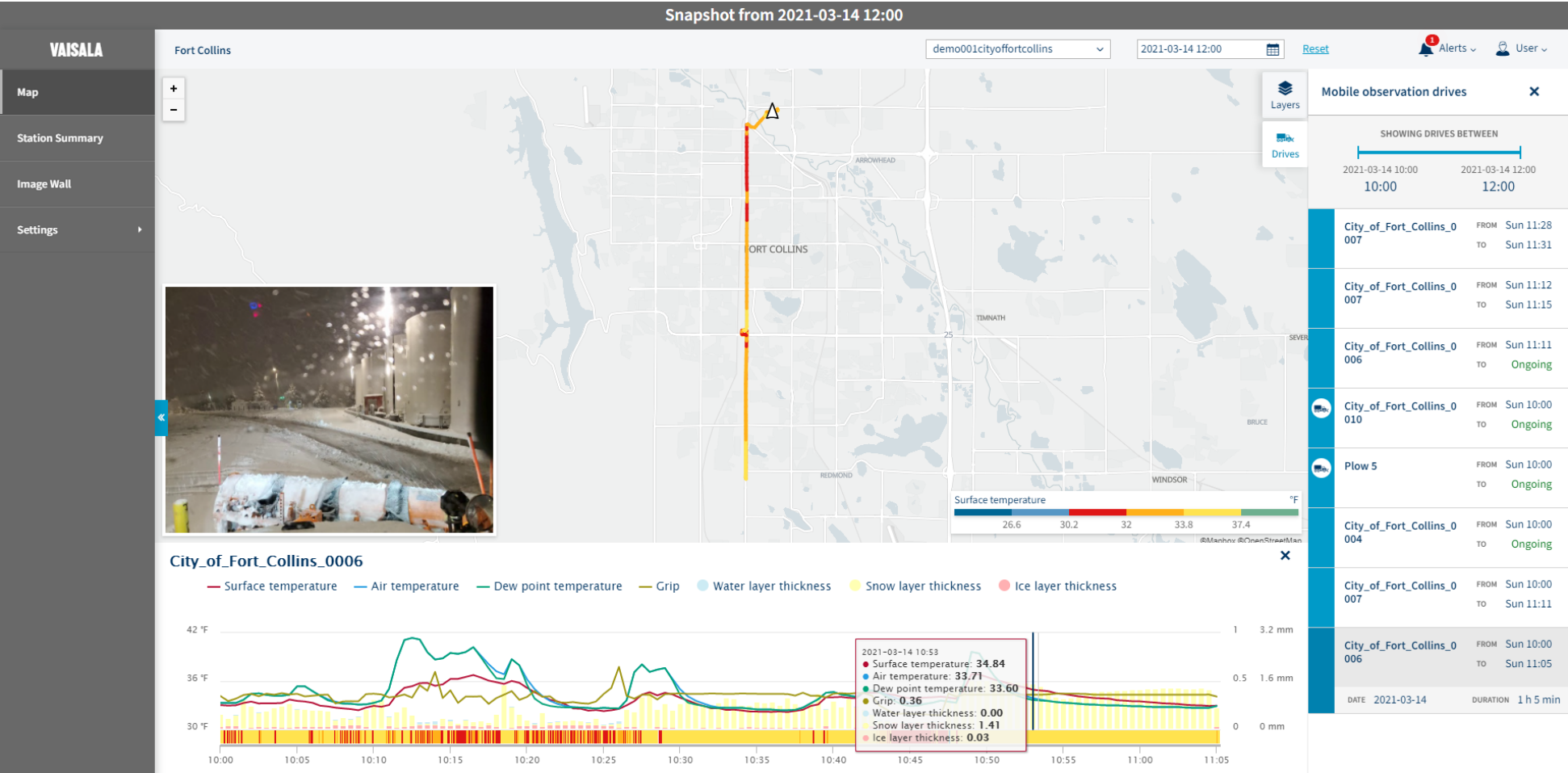
Parameters user configurable

Situational Awareness



Observed parameters from weather stations available in a graph

Situational Awareness



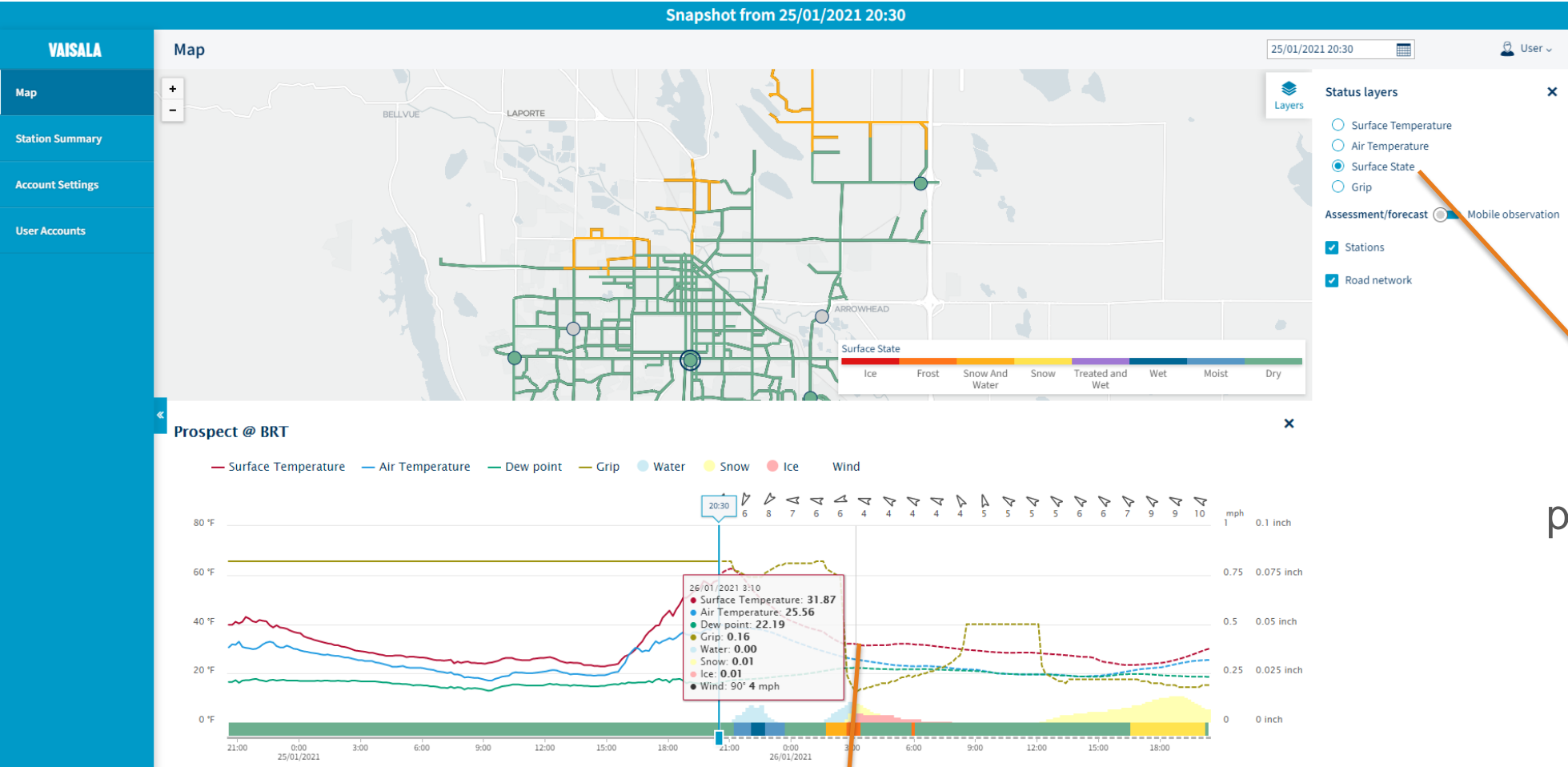
Shows data from any Mobile Sensors out on the network.

Situational Awareness

The screenshot displays the VAISALA Image Wall interface. On the left is a blue sidebar with navigation options: VAISALA, Map, Station Summary, Image Wall (selected), and Settings. The main content area is titled '16:27 UTC+1 Image Wall' and includes a user dropdown 'demo001cityoffortcollins' and a date/time selector '2021-05-28 16:27'. Below this are two checkboxes: 'Show all images' (checked) and 'Hide unavailable stations' (checked). The interface shows a grid of camera feeds. The top row contains five feeds: 'Trilby Road', 'Prospect @ BRT', 'Harmony @ BRT', 'Timberline @ County Road 32', and 'Mountain Vista @ Busch'. Below these is a larger section for 'I-25 @ Harmony Road' with eight feeds. At the bottom, a 'Wx Horizon' timeline shows a 24-hour period from 18:00 on 2021-05-28 to 15:00 on 2021-05-29, with a 'Now' marker at 16:27. An orange diagonal line is drawn across the timeline.

Image Wall shows camera images from fixed weather stations to allow visual confirmation of current conditions.

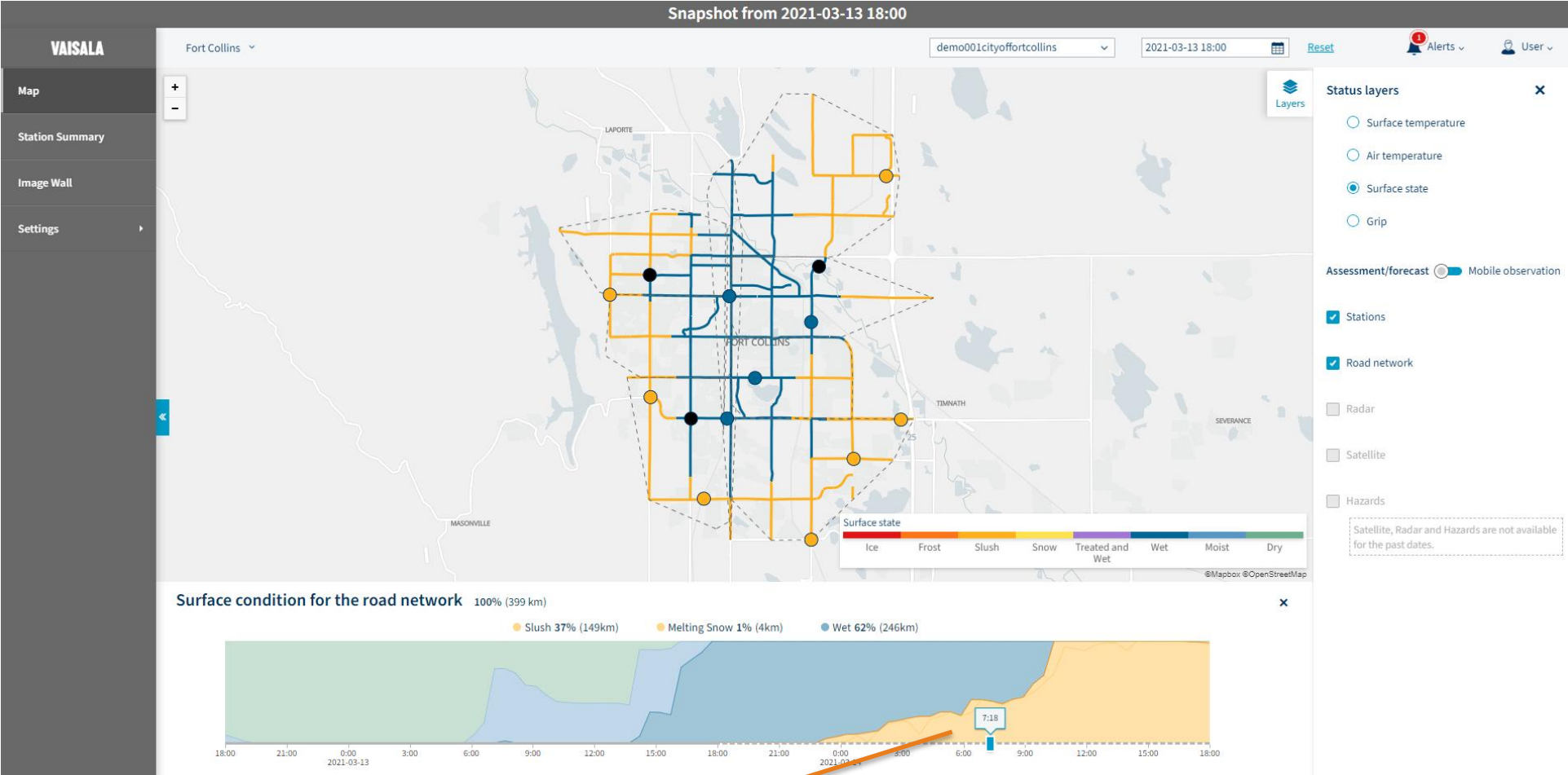
Future Awareness



Multiple forecast parameters available

Clicking anywhere on the network brings up a graph showing 24 hours of forecast information for that location

Future Awareness



Network Summary Graph shows current and forecast percentage of network covered by each surface state. Allows easy understanding of timing and extend of upcoming hazards.

Targeted Treatments

I need to know the optimal time to plow or treat my network in accordance with my published policy and stakeholder commitments

Map



Station Summary

Account Settings

User Accounts



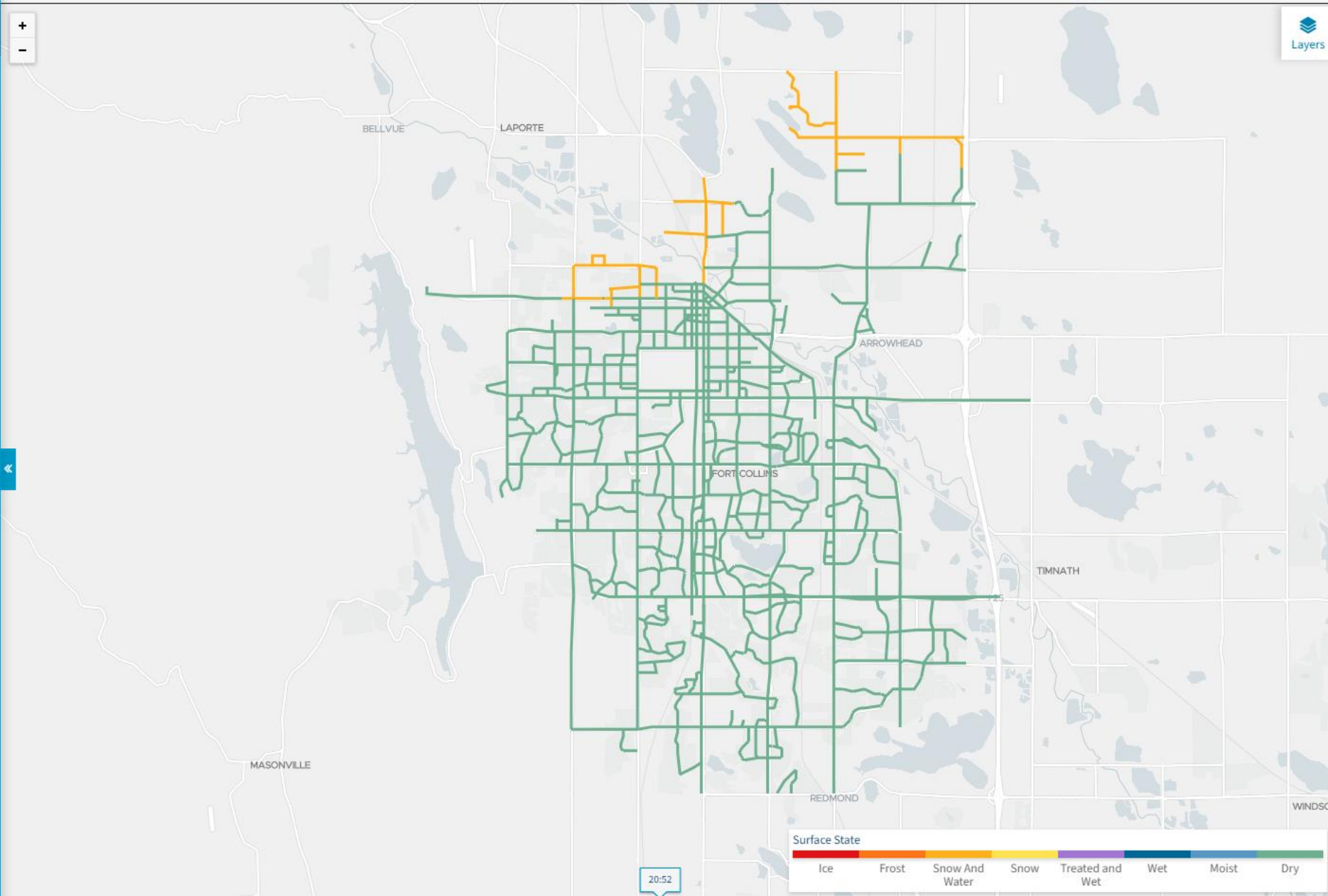
Status layers

- Surface Temperature
- Air Temperature
- Surface State
- Grip

Assessment/forecast Mobile observation

Stations

Road network

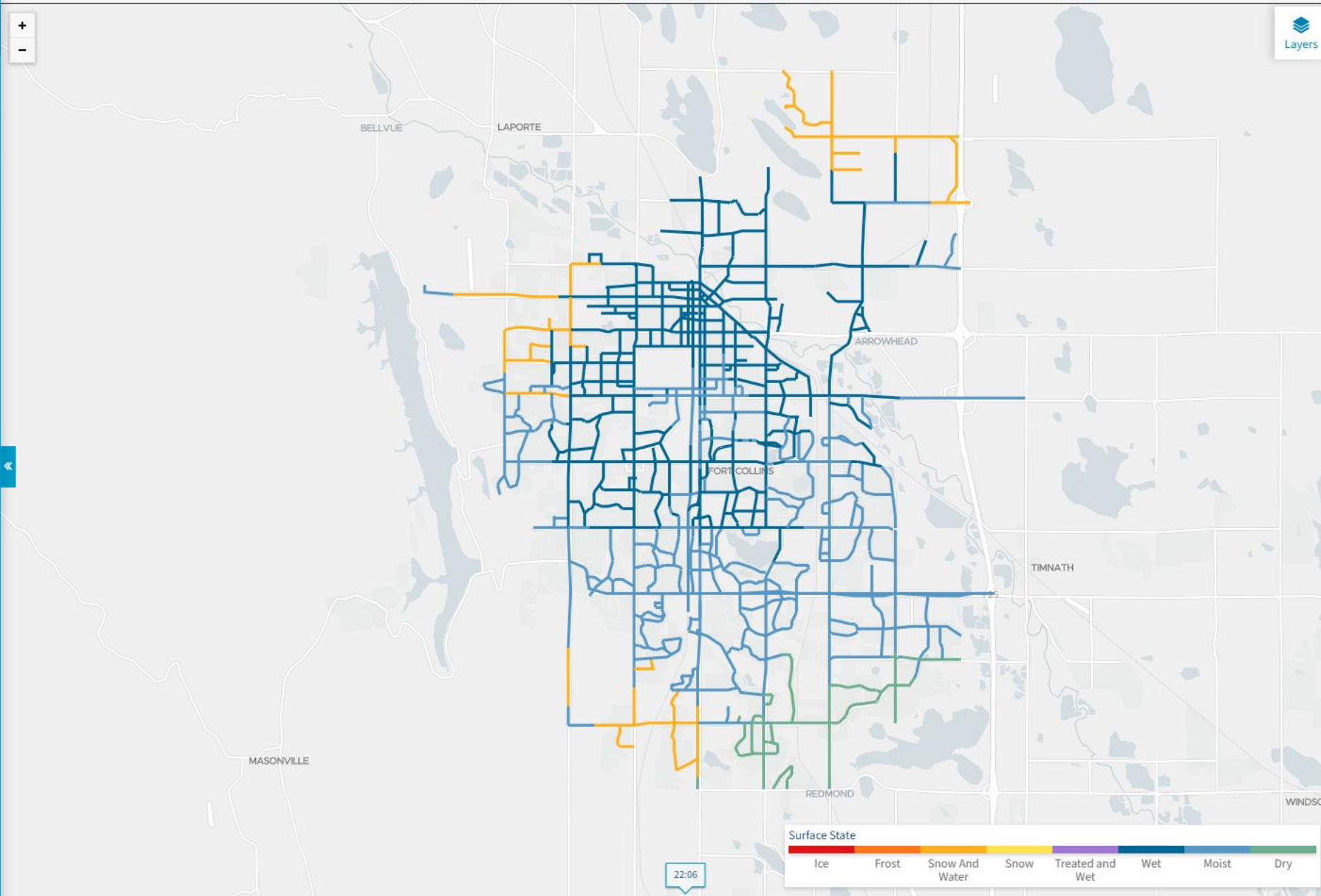


Map

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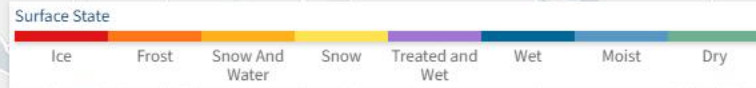
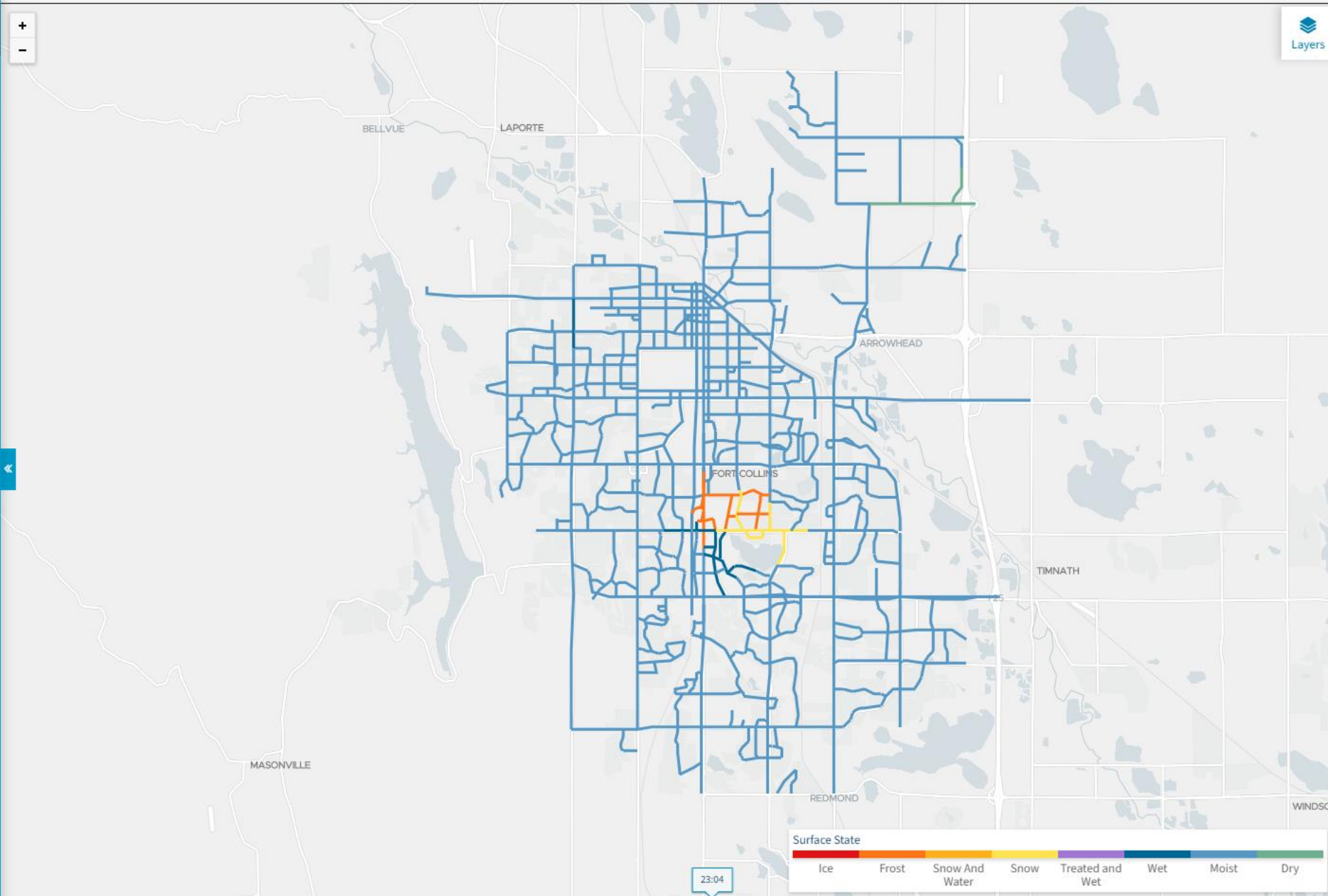
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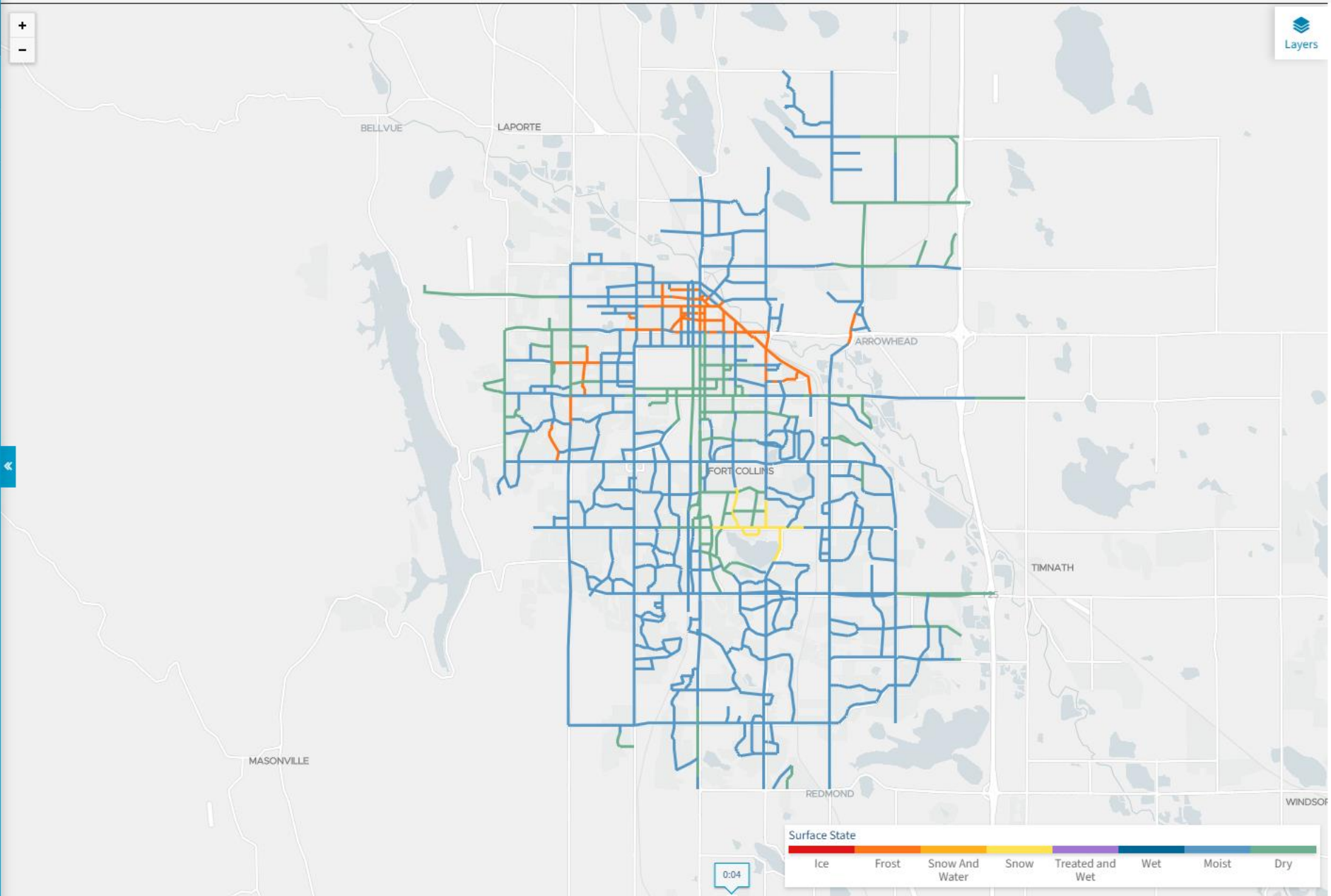
Status layers ✕

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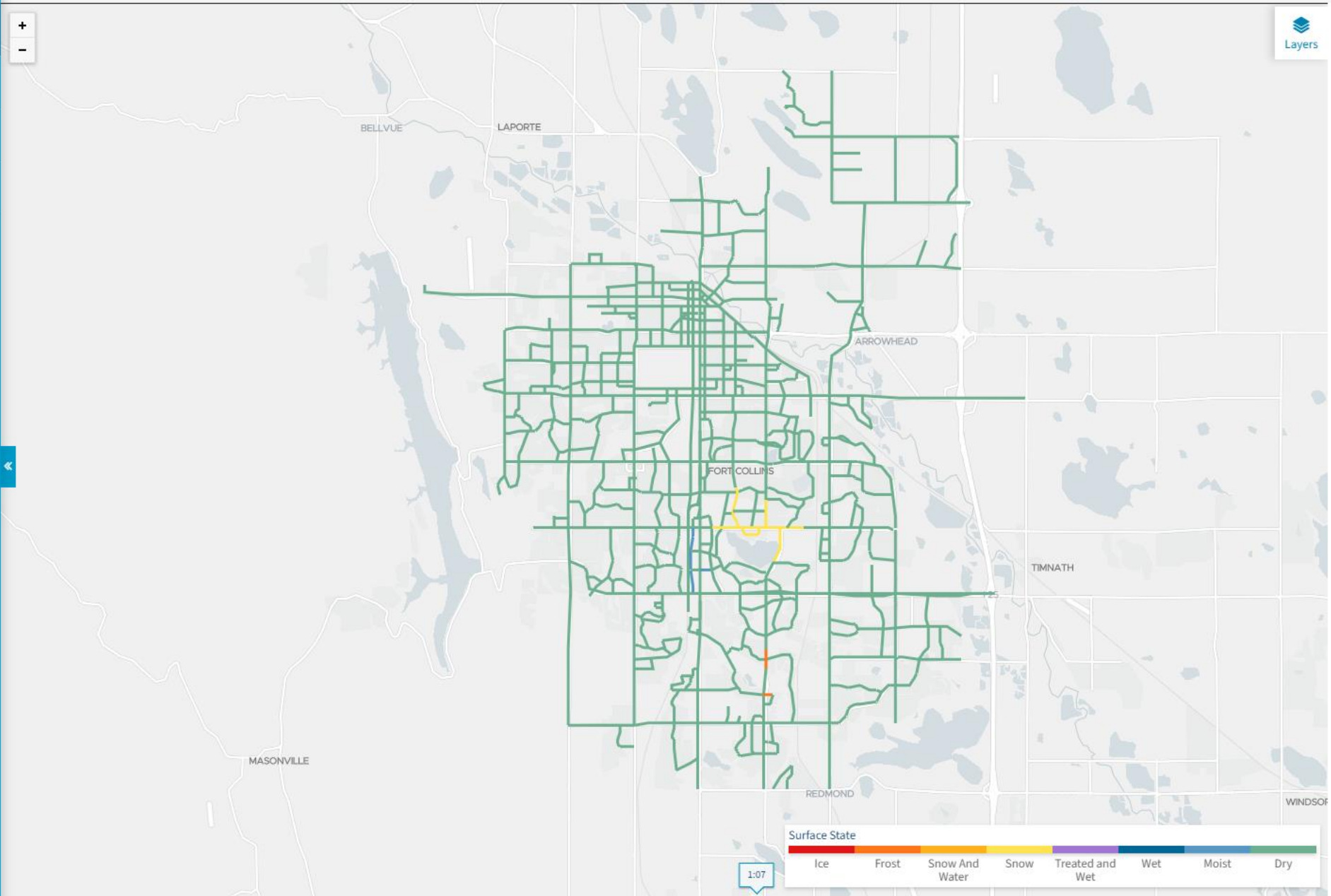
Layers

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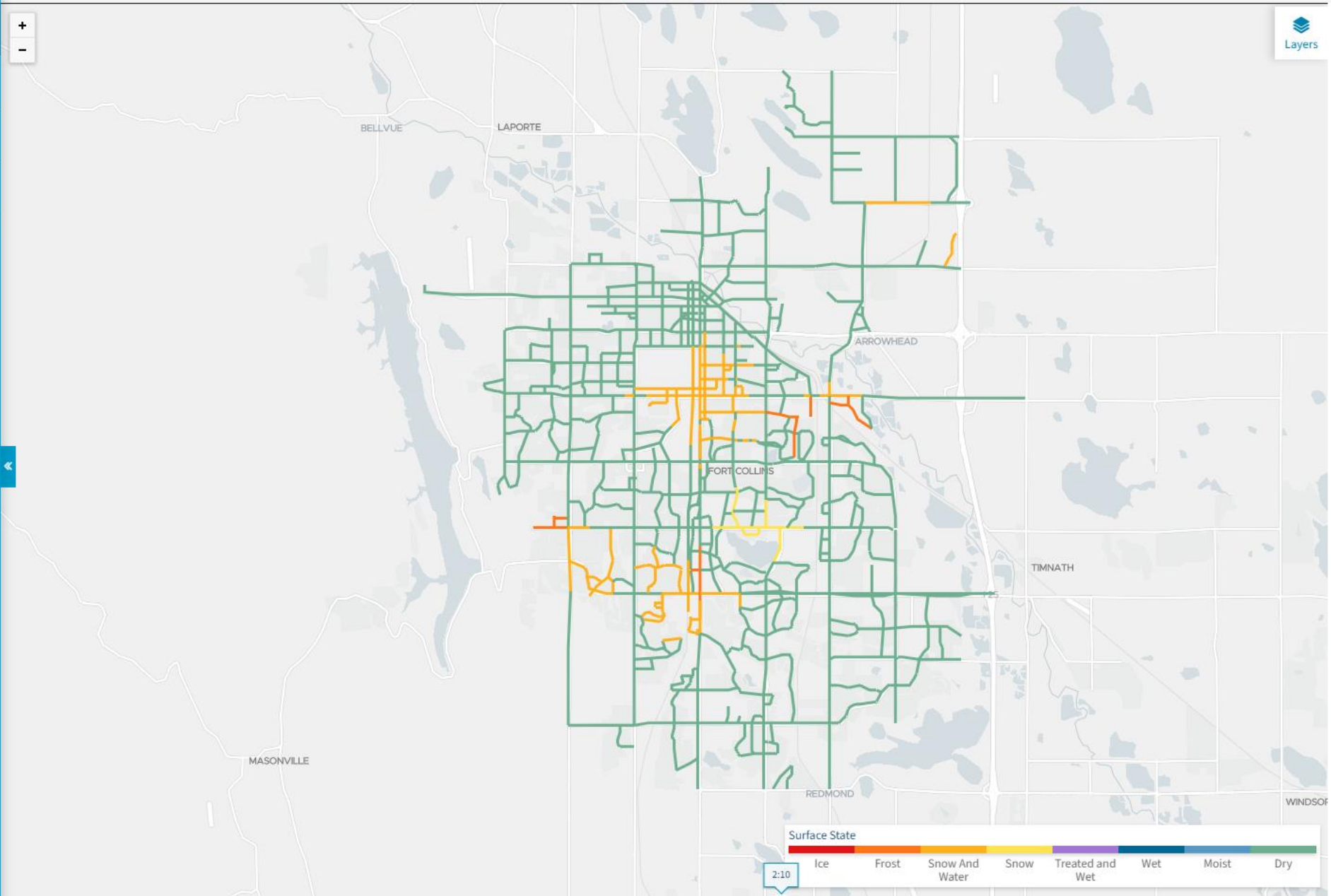
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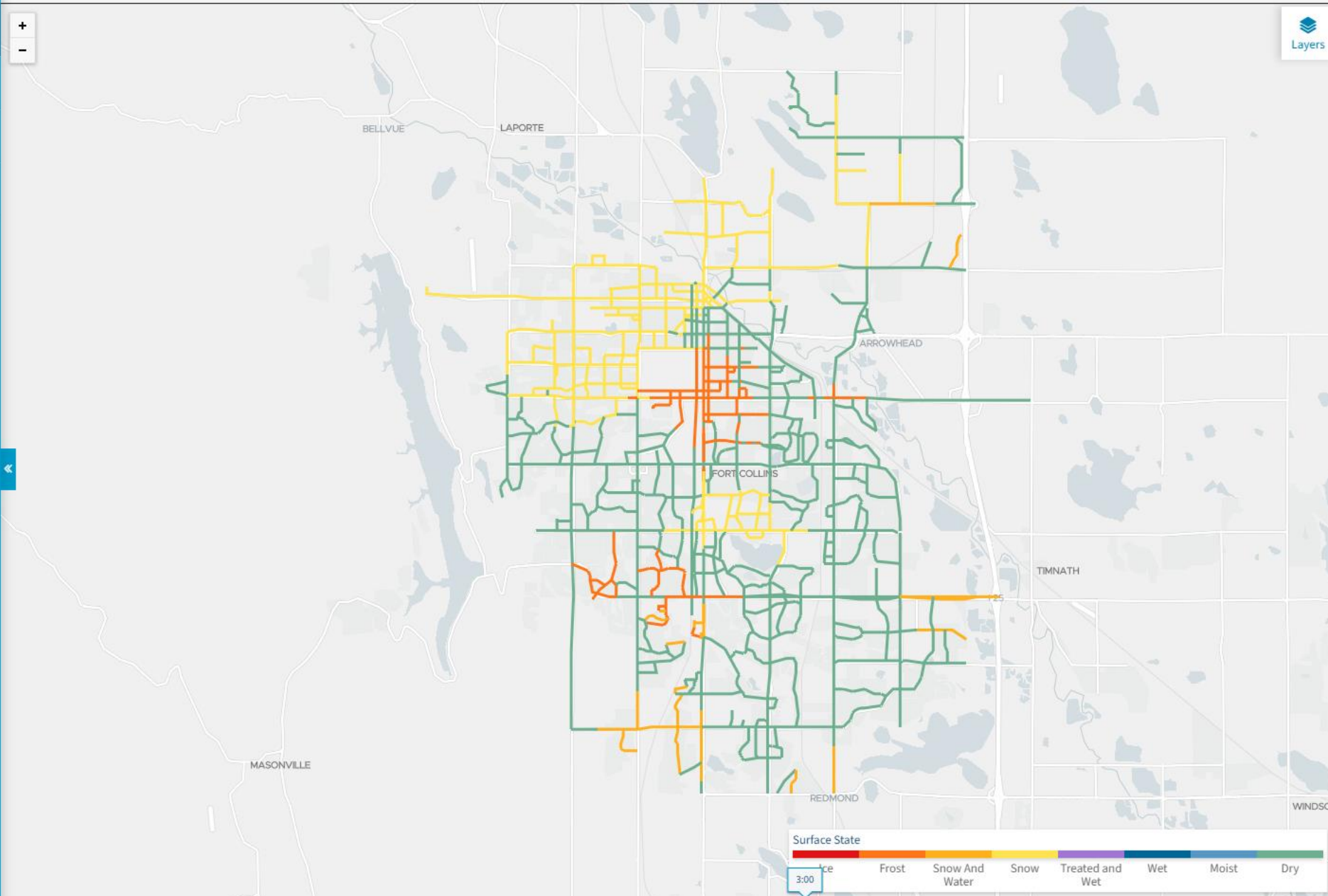
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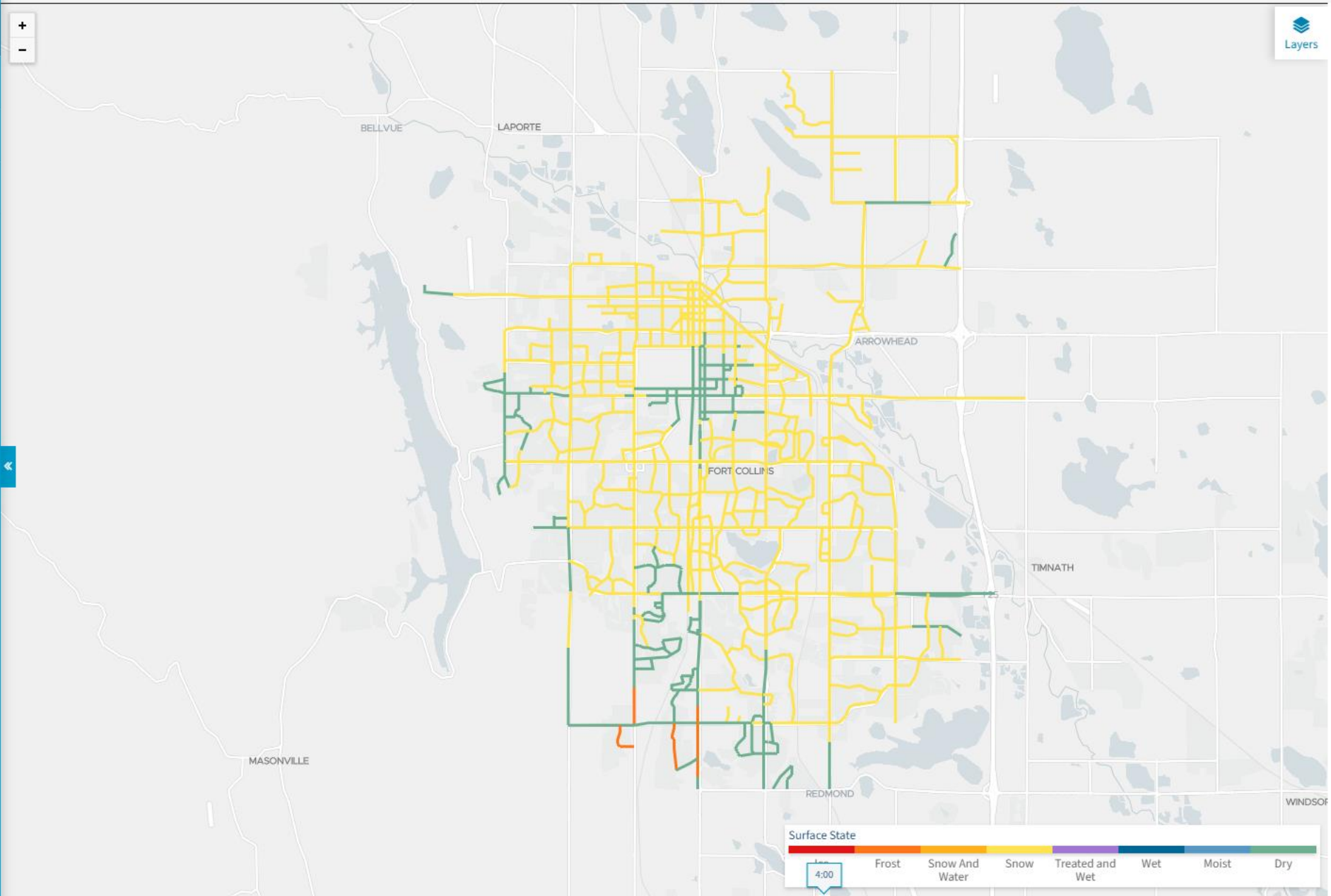
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Status layers

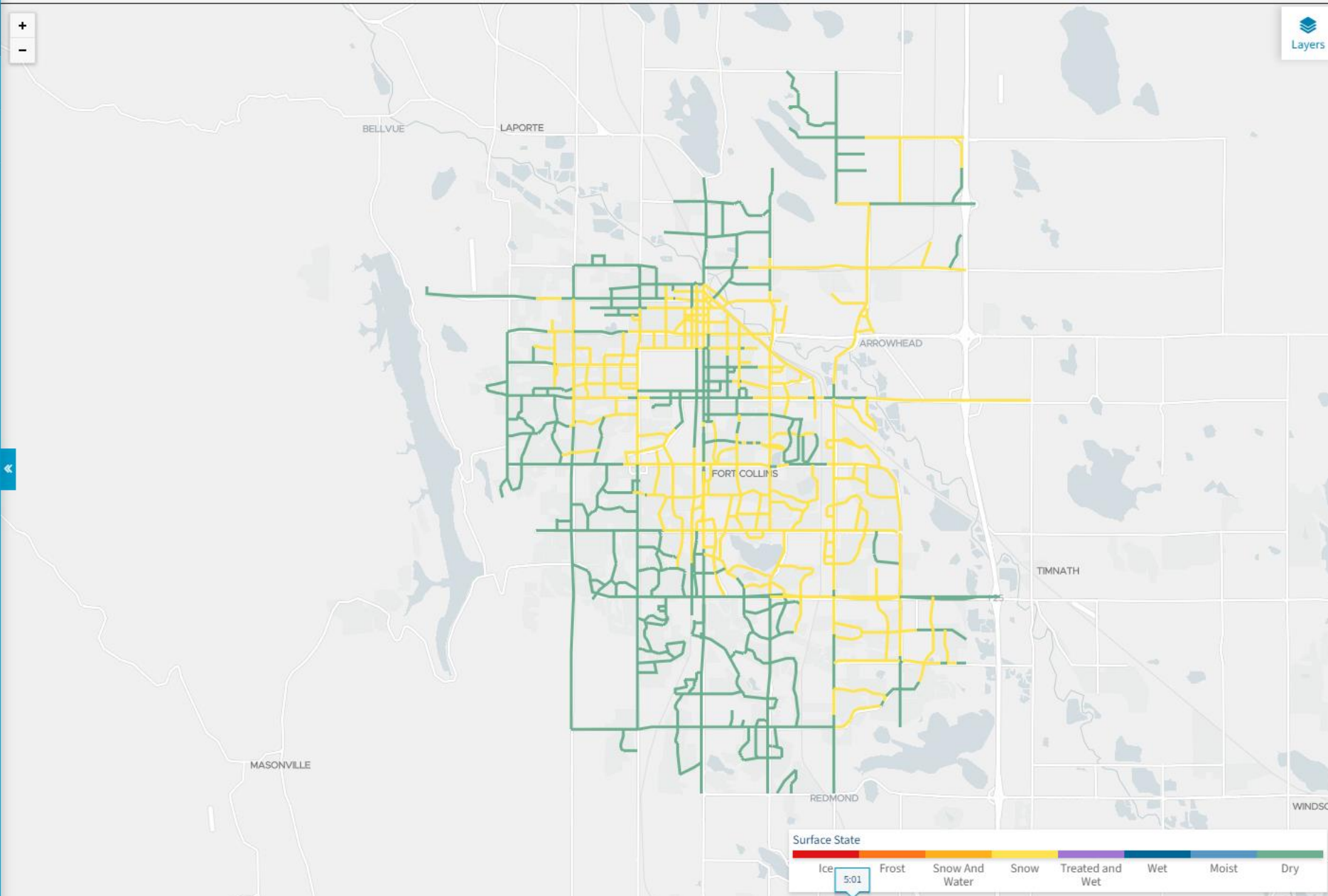


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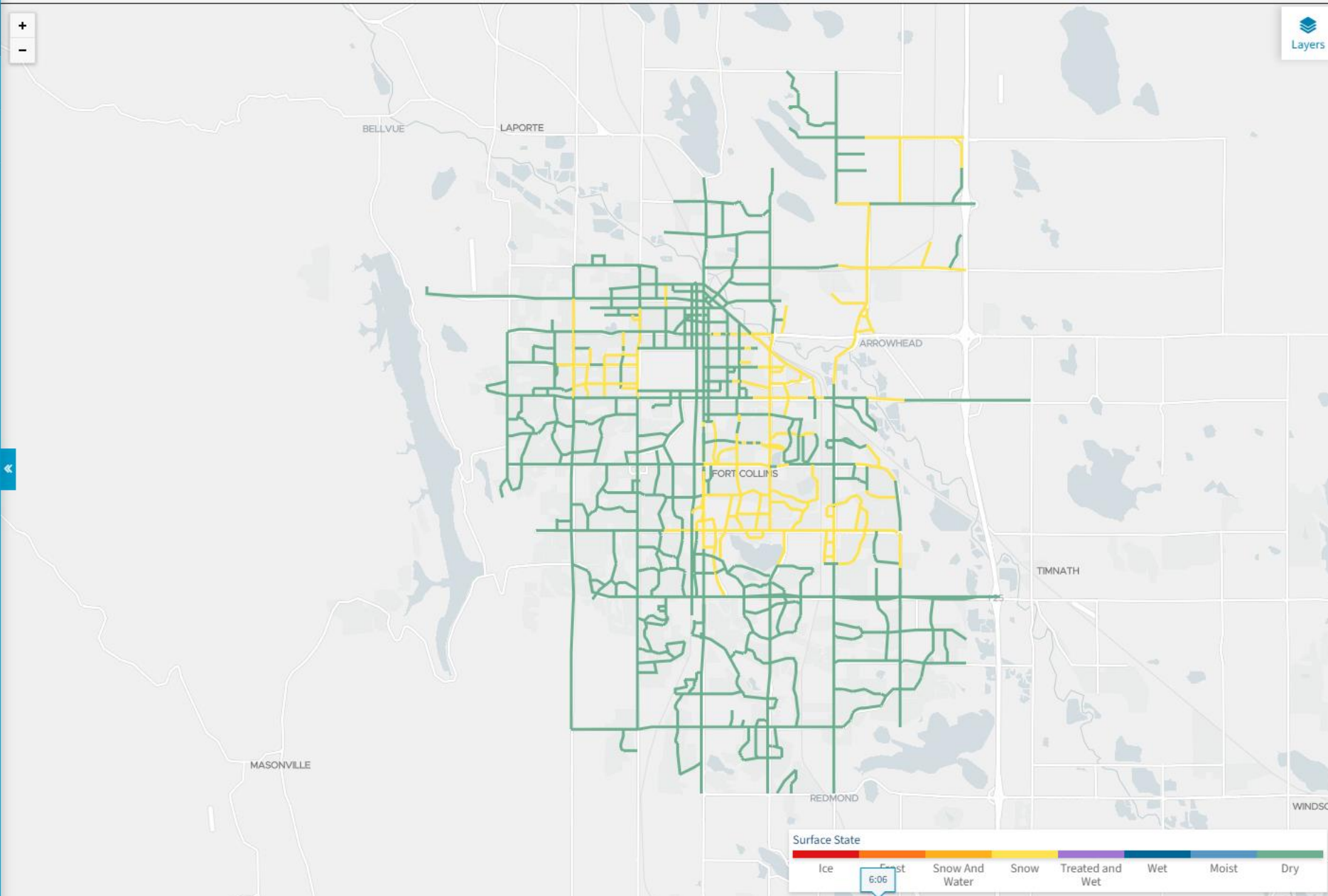
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Assessment/forecast Mobile observation

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Road network



Customer Driven

Future Developments

Future Developments

- Impact Maps
- Alerting
- Recommendations



VAISALA