



Pulling through the storm

Successful public transport operations in
harsh weather conditions

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Ruter#

What was the regularity for buses in Oslo all
of January 2024?



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of January 2024?

90,2%



What went wrong?

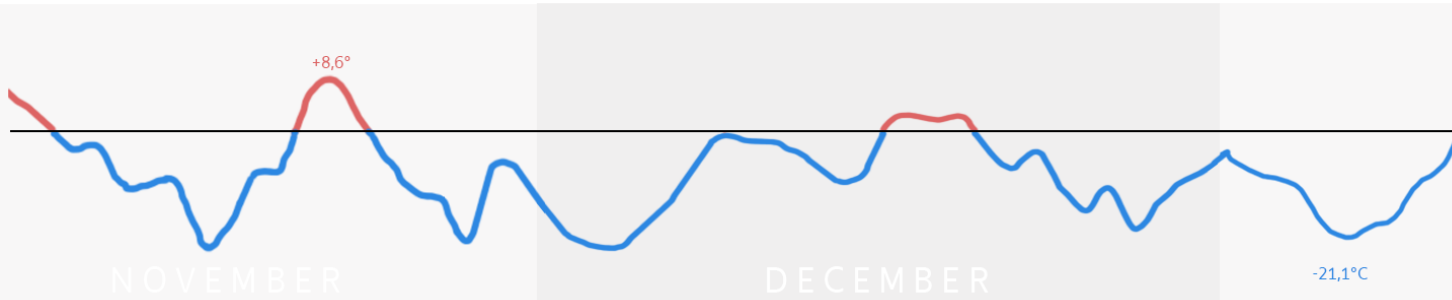
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A person wearing a grey knit beanie and a dark puffy jacket with a backpack is seen from behind, waiting at a bus stop. A red bus is visible on the street to the right, and other pedestrians are in the background. The scene is set in an urban environment with apartment buildings.

Severe weather conditions was a key contributing factor

Winter 2023-2024

November 20th
PTOs complete tire change.
Delayed from Nov 1st due to
parts shortage.



October 30th
Delays and cancellations due
to **first snowfall** of the year.

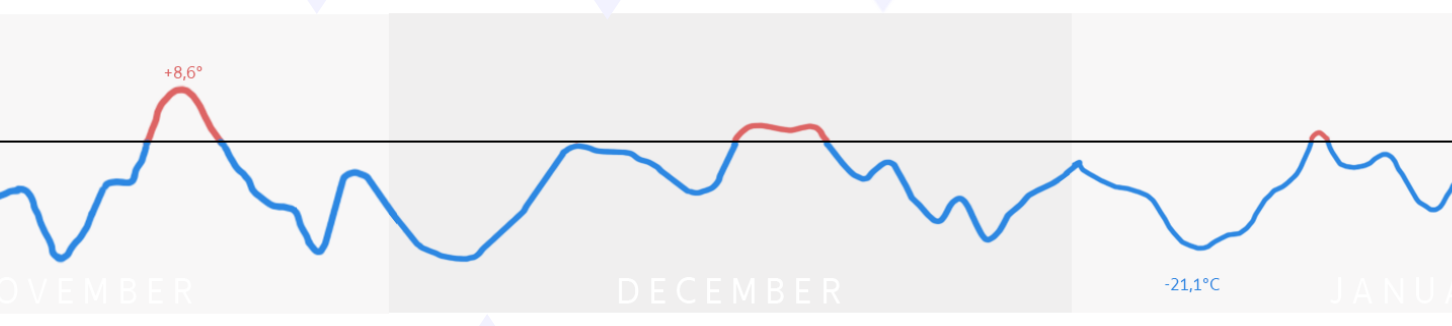
Sparks debate on **studded
tires.**

Winter 2023-2024

November 20th
PTOs complete tire change.
Delayed from Nov 1st due to
parts shortage.

December 10th
Start of **new contract**, with
MAN e-buses being put into
traffic.

December 13th
Temporary adjustment secures
stable energy supply to
charging stations.



ellations due
of the year.
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December 8th
Low temperatures for long
period. E-buses experience
very short range.

Charging error at Alnabru.

December 11th
Delays and cancellations
because of **problems with**
charging infrastructure.

Winter 2023-2024

December 10th

Start of **new contract**, with MAN e-buses being put into traffic.

December 13th

Temporary adjustment secures **stable energy supply** to charging stations.

January 8th

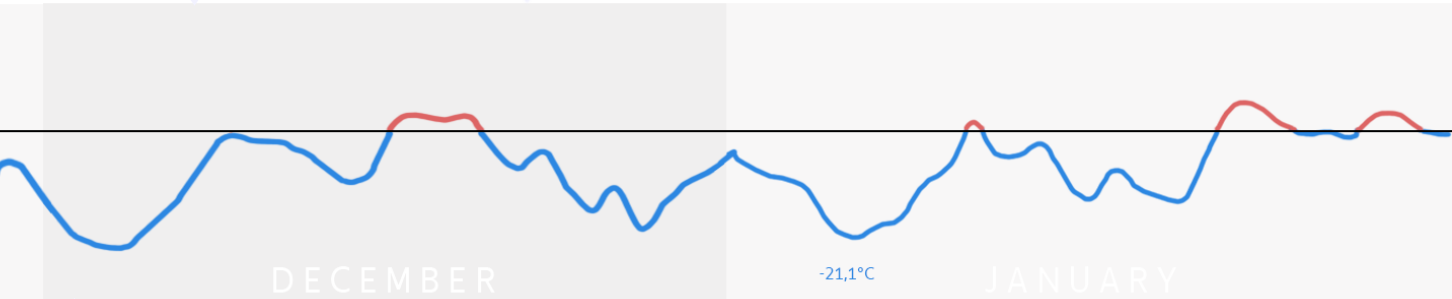
Delays and cancellations as a result of **extreme cold temperatures**.

January 17th

All busses canceled part of the day as a result of **heavy snowfall**.

January 24th

Delays and cancellations because of **weather change**.



December 8th

Low temperatures for long period. E-buses experience **very short range**.

Charging error at Alnabru.

December 11th

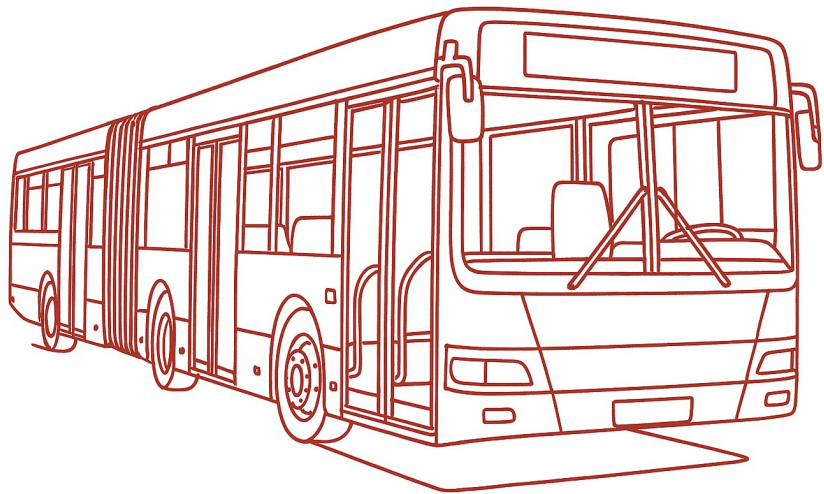
Delays and cancellations **because of problems with charging infrastructure**.

January 2nd

Delays and cancellations as a result of **heavy snowfall**.

January 22nd

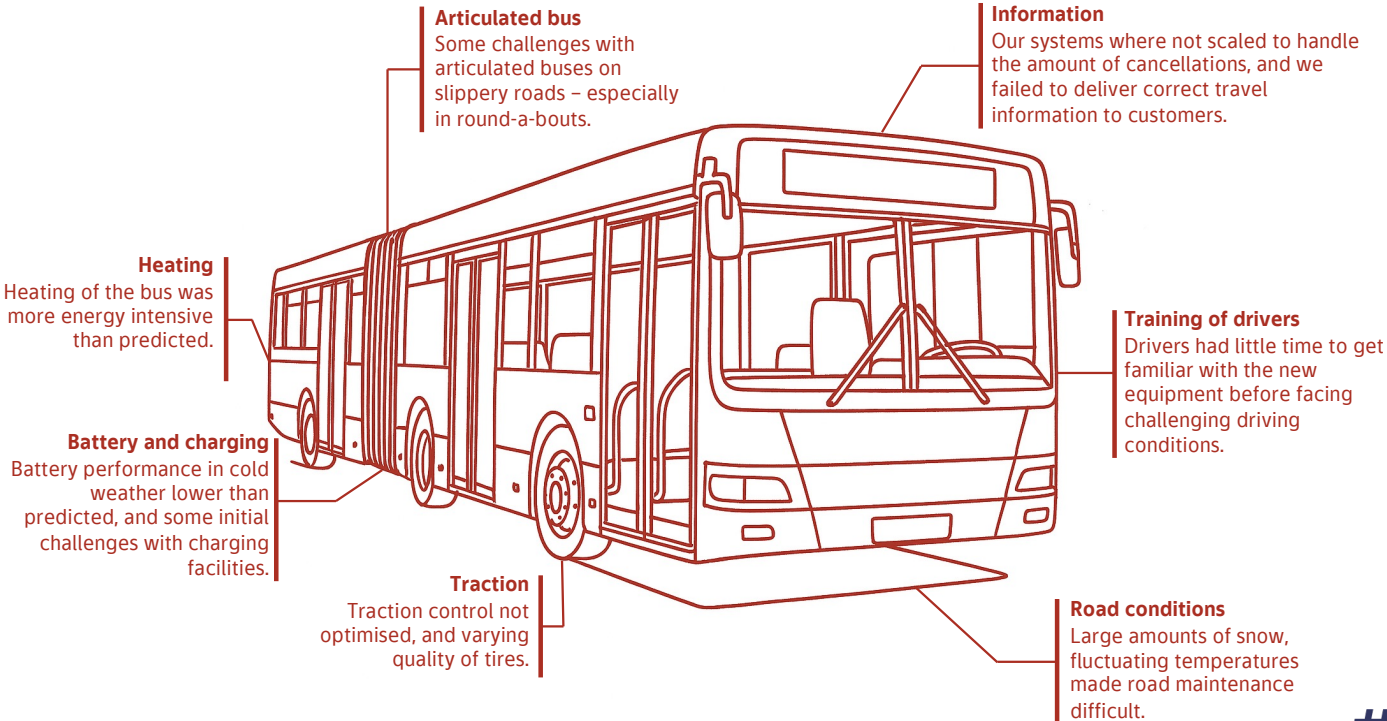
Delays and cancellations because of **weather change**.



Not **one** issue

- The sum of all parts





What have we learned?

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Three cornerstones for building preparedness:

Infrastructure

Contingency plans

Customer information

Ensure operational quality:

Close cooperation and expectation management with PTOs are key to ensuring preparedness of infrastructure.



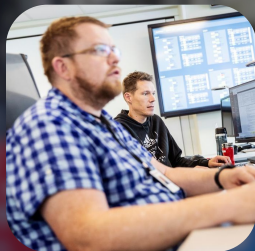
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Close cooperation and expectation management with PTOs are key to ensuring preparedness of infrastructure.

Key learnings:



Charging infrastructure – having enough charging points, learning personell how to operate them, and optimising charging routines.



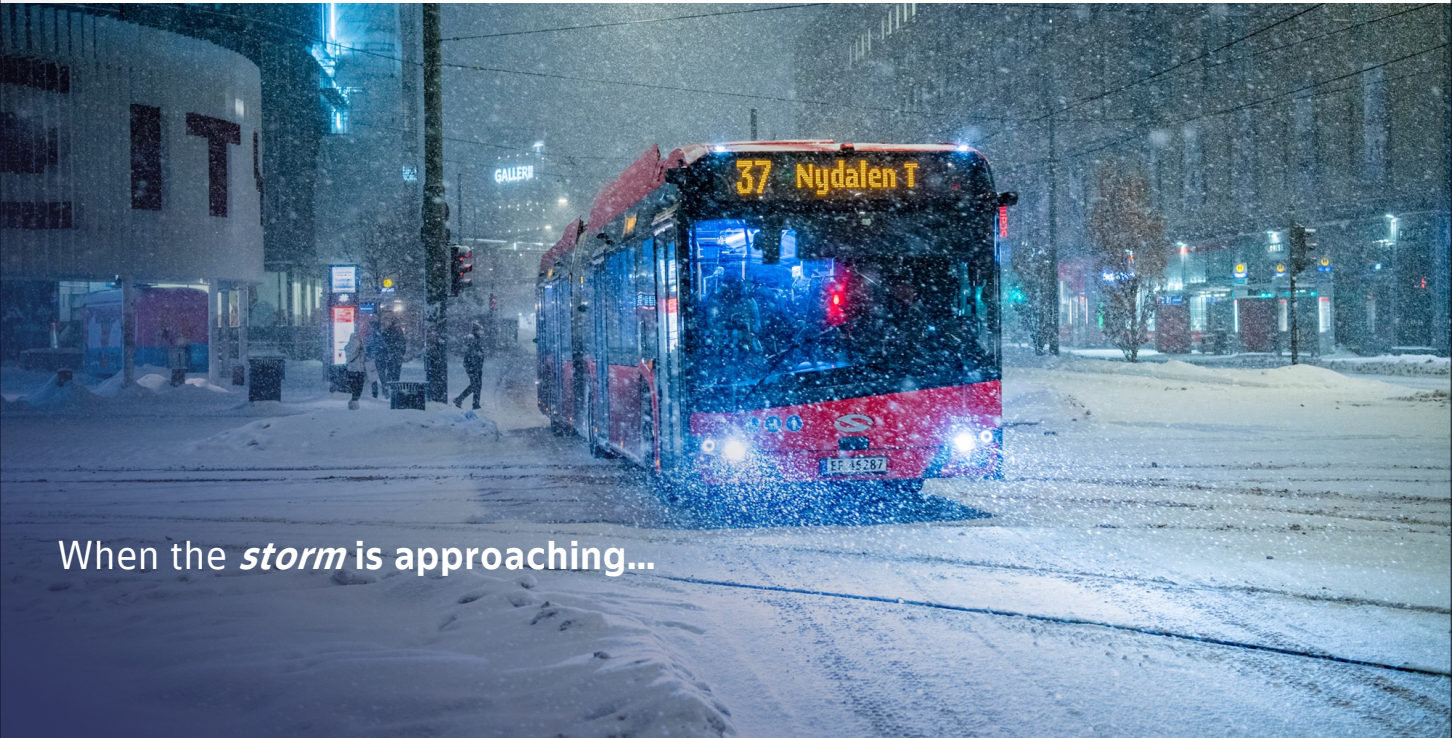
Evaluating and adjusting **operational capacity** in cold weather



Tires and traction control – Suitable tires and optimised for slippery road conditions



Training of personell on new buses, charging infrastructure and winter operation.



When the *storm* is approaching...

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When the weather report shows challenging conditions, preparedness levels are heightened – and procedures for closer cooperation between Ruter, PTOs and road owners put in place:

Key learnings:



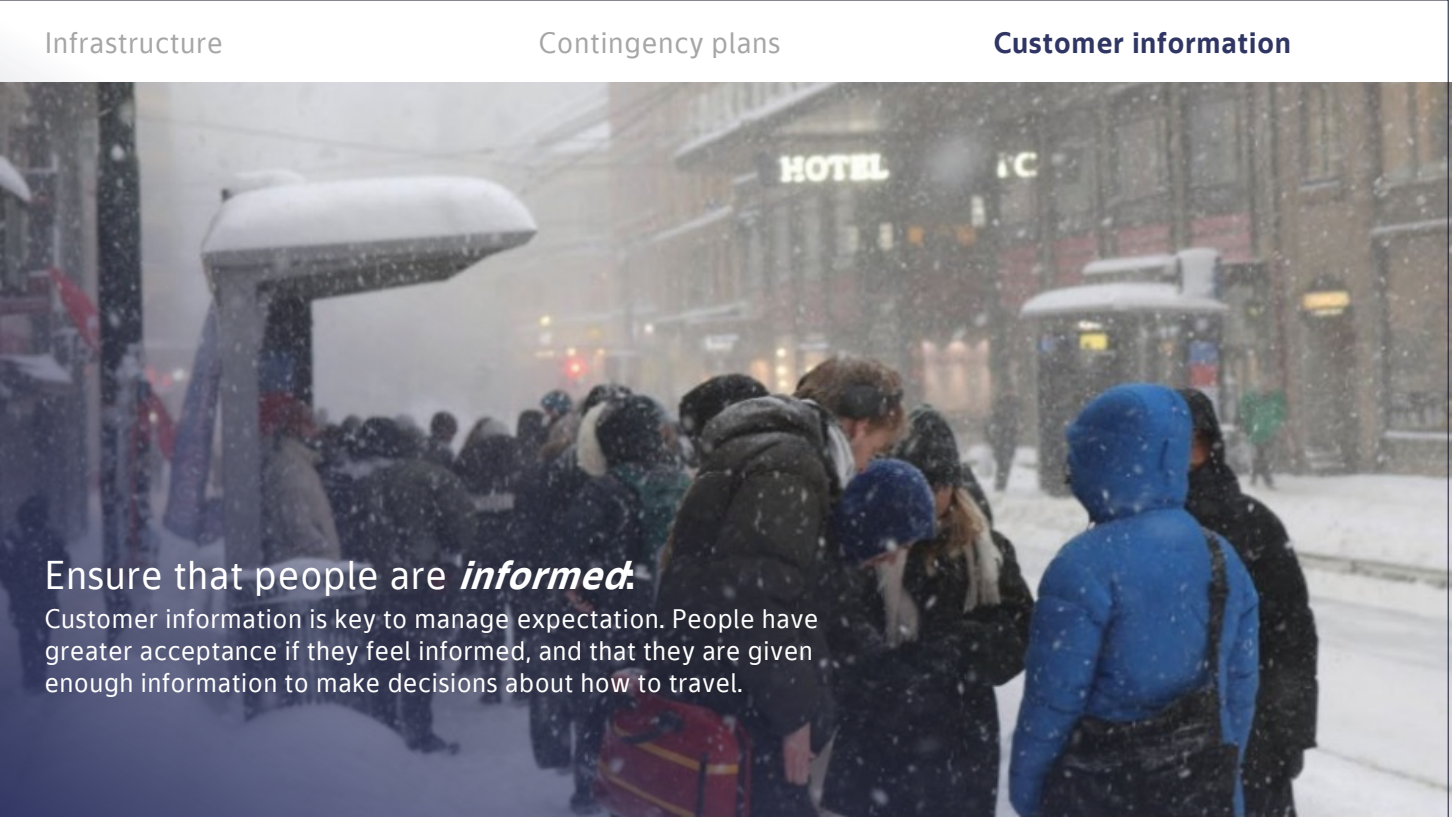
PTOs brief on their preparedness, status on infrastructure, potential problem areas and ability to deliver service.



Close cooperation with **road owners** to ensure road maintenance and priority for critical roads.



Actions include plans for **adjusting service level** and street-level measures to quickly address known problem areas



Ensure that people are ***informed***:

Customer information is key to manage expectation. People have greater acceptance if they feel informed, and that they are given enough information to make decisions about how to travel.

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Ensure **reliability** of the information given by improving data quality



Give people **information** in advance, and manage expectations



Ensure that messaging is **consistent**, and that the whole organisation has the same messaging

A person with blonde hair, wearing a grey knit beanie and a dark jacket, stands with their back to the camera, looking towards a bus stop. A red bus is visible on the right side of the street, and other pedestrians are walking in the background. The scene is set in an urban environment with buildings and trees.

The main key to *success*:

**Collaborating to bring
people where they need
to go**



We are ready!

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