

DATE: May 26, 2020

TO: Board of Trustees

FROM: Darrel Robertson, Superintendent of Schools

SUBJECT: Extreme Cold Temperatures and Impacts on Infrastructure
(Response to Request for Information #060)

ORIGINATOR: Dr. Lorne Parker, Assistant Superintendent

**RESOURCE
STAFF:** Noel Badry, Geoff Holmes, Jeff McIntyre, Coreen Moccia, Christopher Wright

REFERENCE: n/a

ISSUE

At the January 28, 2020, Public Board Meeting, Administration was asked to respond to the following:

How the extreme cold weather in the past few weeks affected Edmonton Public Schools. In particular ... the impact on Infrastructure and challenges with Transportation. How were these challenges addressed?

BACKGROUNDInfrastructure Maintenance

Extreme cold weather conditions can have negative impacts on the operation of our building systems. The potential for water line breaks increases during extreme cold weather and occurs for a variety of reasons such as: freeze up, mechanical system failure, deterioration of insulation and the possibility of structural shifting. Water line breaks during periods of extreme cold temperature are more difficult to repair and usually take longer. During the January extreme cold weather period, Infrastructure Maintenance responded to 11 related emergencies.

Student Transportation

All Edmonton School Division contracted bus carriers have cold weather protocols they follow as soon as overnight temperatures dip below approximately minus 10 degrees. These protocols include plugging in busses and reminders to drivers about proper cold start procedures. In addition, during extreme cold events, carrier maintenance staff working at the bus yards will start and run the busses during the night and early morning to ensure the busses are ready for drivers when they arrive.

In February 2019, there was a lengthy period of extreme cold over several weeks. In response to the challenges faced during this time, Student Transportation created and implemented a new late bus notification system through SchoolZone. Student Transportation staff continue to refine and update notifications in response to parental and staff feedback about the system.

CURRENT SITUATIONInfrastructure Maintenance

Staff from Infrastructure Maintenance implemented the following strategies to mitigate possible building operation issues during the January 2020 extreme cold temperatures:

- Fan systems were adjusted to run 24/7 to ensure circulation of warm air throughout the buildings.
- Boiler systems ran at maximum temperature to reduce the risk of freezing pipes.
- Infrastructure Maintenance staff were on call and available to respond 24/7 in the event of an emergency.
- All schools are equipped with a low temperature alarm that alerts security personnel to contact Maintenance staff for repairs.
- To minimize damage to flooring, Division carpet cleaning staff were on call and available 24/7.
- Where building cold air leaks were found, corrective actions were implemented to prevent similar incidents from occurring in the future.
- All custodial staff were notified to continually monitor and identify areas of concern to have those needs addressed before situations occurred.

Student Transportation

The City of Edmonton experienced eight days of extreme cold weather from January 13 to 20, 2020. In response to this, carriers implemented their cold weather procedures which included having staff on site 24 hours a day starting and running buses to ensure they were operational. In spite of these measures, extremely cold weather is hard on vehicles and during this week our carriers experienced many equipment failures. These failures were mitigated somewhat by units being brought in from surrounding areas where busing had been cancelled for the week.

Student Transportation implemented the following to help mitigate operational issues and to increase communication to schools and parents:

- Student Transportation staff kept in contact with carriers evenings and weekends to monitor potential issues and receive information about anticipated delays.
- Staff capacity was diverted to working with our carriers to help manage issues and answer incoming calls which increased by over 70 per cent compared to the prior week.
- Staff made proactive calls to schools to keep them informed about route issues. The number of late bus notifications sent to parents as a result of delayed routes increased by 184 per cent.

These measures helped keep the GPS error rate during this week to a two per cent increase overall. Many of the errors could be attributed to equipment that was borrowed from other jurisdictions that was unable to access the Division's SchoolZone GPS system.

KEY POINTSInfrastructure Maintenance

- Fan systems ran 24/7 to ensure circulation of warm air throughout the buildings.
- Boiler systems ran at maximum temperatures.
- Staff were on call and available to respond 24/7 in the event of an emergency.
- All schools are equipped with a low temperature alarm.
- Division carpet cleaning staff were on call and available 24/7.
- When building cold air leaks were found, corrective actions were implemented.

Student Transportation

- All Student Transportation contract carriers have cold start protocols.
- Student Transportation implemented a new late bus notification system in March 2019, which continues to be refined and improved.
- Throughout the extreme cold during the week of January 13 to 20, 2020, contract carriers and Student Transportation reallocated staff capacity to increase communication to parents and schools about late buses. During this period:
 - Student Transportation inbound call volumes increased by over 70 per cent
 - The number of late buses increased, resulting in a 184 per cent increase in the number of notifications made to parents.
 - The GPS error rate to parents was limited to approximately two per cent.

ATTACHMENTS and APPENDICES

n/a

GH/CM:kk