

# Autonomous technology in Calgary: Reducing emergency vehicle travel times

August 31, 2021

The City of Calgary recently reported the details of its testing and implementation of autonomous vehicle and road technology, which was installed on 16 Avenue North. Calgary created this project to establish an assessment corridor for vehicle-to-infrastructure (V2I) technology. The goals of the project were to enable transport-sector innovation and further understand connected vehicle applications. The project included 12 intersections along 16 Avenue North being equipped with dedicated short-range communication roadside equipment, several emergency vehicles being outfitted with on-board equipment, and trialing pre-emption applications that relied on this technology. The project was hailed to be a success and plans for next steps are ongoing.

## 16 Avenue North as a testbed

16 Avenue North is a major road and key link in Calgary's transportation network. This multi-lane corridor connects three fire stations, an emergency medical service station, a level 1 trauma hospital and two post-secondary institutions and it is often used for emergency vehicle routing. In addition, some intersections along the corridor were already equipped for emergency pre-emption. As a result, the corridor provided an opportunity to support both internal and third party research and development in the short term, but it also prepares Calgary for the anticipated arrival of automated vehicles in the long term.

## Project objectives and outcomes

Calgary set out to test and implement connected vehicle applications that could provide an immediate and tangible benefit to both itself and the public. Four applications were tested. The testing focused on an emergency pre-emption application. Other applications included a connected vehicle validator that provided audio and visual alerts as well as an application to assist visually impaired pedestrians. This allowed Calgary to compare reliability and usefulness based on how much time passed between the emergency call being received and when the emergency vehicle arrived at its destination.

The project showed that the V2I pre-emption application benefitted the Calgary Fire Department. The V2I application reportedly provided some advantages over the current alternative methods, such as:

- Allowing for message exchange between the communication equipment in the emergency vehicle and the roadside equipment. With current methods, messages are only received by the roadside equipment. This exchange between the roadside equipment and the communication equipment in the emergency vehicle provides warnings to dispatchers of events like pedestrians in crosswalks or predicted collision warnings.
- The potential to communicate warnings of approaching emergency vehicles to other drivers or pedestrians.
- Integration into a more complex system allowing it to be used for other vehicles.

The data collected from the project showed that the pre-emption technology and equipment resulted in decreased travel times during peak hours. Overall travel time reductions were recorded during both peak morning and afternoon hours with as much as a 16.2 per cent reduction during the morning peak hours. The outcome of the project **supports the report's conclusion that the reduction in travel time is directly related to the addition of connected vehicle pre-emption technology.**

## Conclusion

Projects like this are creating the roadmap for future connected vehicle innovation. We expect adoption of autonomous vehicle technologies to continue to grow across sectors. This undoubtedly calls for careful mitigation of liability associated with such projects for all ecosystem players.

## BLG's Autonomous Vehicles Group

With broad industry experience and particular expertise in the development of **autonomous vehicle and road technology**, BLG's Autonomous Vehicles Group is here to help clients navigate the opportunities and challenges this revolutionary era of autonomy is expected to bring. For more information on AV, please reach out to your BLG lawyer or one of the key contacts listed below.

By

[Stephen Abosi](#), [Sarah Makson](#)

Expertise

[Construction](#), [Autonomous Vehicles](#), [Technology](#)

## BLG | Canada's Law Firm

As the largest, truly full-service Canadian law firm, Borden Ladner Gervais LLP (BLG) delivers practical legal advice for domestic and international clients across more practices and industries than any Canadian firm. With over 725 lawyers, intellectual property agents and other professionals, BLG serves the legal needs of businesses and institutions across Canada and beyond – from M&A and capital markets, to disputes, financing, and trademark & patent registration.

[blg.com](http://blg.com)

## BLG Offices

### Calgary

Centennial Place, East Tower  
520 3rd Avenue S.W.  
Calgary, AB, Canada  
T2P 0R3

T 403.232.9500  
F 403.266.1395

### Ottawa

World Exchange Plaza  
100 Queen Street  
Ottawa, ON, Canada  
K1P 1J9

T 613.237.5160  
F 613.230.8842

### Vancouver

1200 Waterfront Centre  
200 Burrard Street  
Vancouver, BC, Canada  
V7X 1T2

T 604.687.5744  
F 604.687.1415

### Montréal

1000 De La Gauchetière Street West  
Suite 900  
Montréal, QC, Canada  
H3B 5H4

T 514.954.2555  
F 514.879.9015

### Toronto

Bay Adelaide Centre, East Tower  
22 Adelaide Street West  
Toronto, ON, Canada  
M5H 4E3

T 416.367.6000  
F 416.367.6749

The information contained herein is of a general nature and is not intended to constitute legal advice, a complete statement of the law, or an opinion on any subject. No one should act upon it or refrain from acting without a thorough examination of the law after the facts of a specific situation are considered. You are urged to consult your legal adviser in cases of specific questions or concerns. BLG does not warrant or guarantee the accuracy, currency or completeness of this publication. No part of this publication may be reproduced without prior written permission of Borden Ladner Gervais LLP. If this publication was sent to you by BLG and you do not wish to receive further publications from BLG, you may ask to remove your contact information from our mailing lists by emailing [unsubscribe@blg.com](mailto:unsubscribe@blg.com) or manage your subscription preferences at [blg.com/MyPreferences](http://blg.com/MyPreferences). If you feel you have received this message in error please contact [communications@blg.com](mailto:communications@blg.com). BLG's privacy policy for publications may be found at [blg.com/en/privacy](http://blg.com/en/privacy).

© 2025 Borden Ladner Gervais LLP. Borden Ladner Gervais LLP is an Ontario Limited Liability Partnership.