

# Building the safer roads of tomorrow starts today.

#### **3M<sup>™</sup> Connected Roads**

The future is closer than you think. Vehicles with assisted-driving capabilities are already on the roads and at 3M, we're committed to helping make that future a reality. Many of the automated technologies found in cars today use the same infrastructure drivers have relied on to help them safely navigate for years. Our goal is to continue to help improve safety through enhanced infrastructure for both human drivers and automated vehicles.

Express

# Greater Safety: The Driving Force of Automation

While connected and automated vehicles (CAVs) can help eliminate many of the common incidents caused by traffic congestion and day-to-day distractions, the value of supporting automated technologies doesn't end there.

Imagine navigating...



...in bad weather with unclear road markings...



...on curved roads where lines disappear from sight...



NORD

Montréal

...or on lighter surfaces, such as concrete, where white markings alone could blend in.

QUEST 417

Hull / Ottawa

Many challenges on roadways are unexpected and difficult to address for human drivers. But with highly-visible 3M reflective technologies like  $3M^{\text{TM}}$  Diamond Grade<sup>TM</sup> DG<sup>3</sup> Sheeting, we can enable both human and machine vision. This additional layer of redundancy can help reduce or eliminate even the edge case incidents where extreme conditions prevent drivers from safely navigating on their own.

# **Sharing a Common Vision**

From non-profits to private visionaries, public policy makers and more, our partnerships are critical to helping make this safer, better future a reality. We are engaging with regulatory agencies, academia, OEMs and sensing technology providers around the world to understand challenges from a global perspective and help drive the creation and adoption of comprehensive standards for CAVs and infrastructure.

# 3M<sup>™</sup> Connected Roads technologies are CAV-ready.

#### Signs

Recommended technology:

#### 3M<sup>™</sup> Diamond Grade<sup>™</sup> DG<sup>3</sup> Reflective Sheeting

The brightness and long-term durability of this sheeting material results in signs that are highly visible at a distance, enabling automated vehicles to capture, process and react to information in real time. This may help enable CAV functions like:

- ► Traffic sign recognition
- High speed automation
- On-highway platooning
- Autopilot

Returns 58% of light to driver



## Temporary Traffic Control

Recommended technology: 3M<sup>™</sup> Diamond Grade<sup>™</sup> Fluorescent

Fluorescent reflective materials are highly visible around the clock including day, night, dawn, dusk and inclement weather conditions. The result is greater readability and quicker sign identification, providing automated vehicle assistance in critical areas like roadwork and congestion.



## **Road Markings**

Recommended technology:

#### 3M<sup>™</sup> High Contrast Tapes

Combining a darker backing with high-brightness tapes creates visible markings that can be followed by automated vehicle cameras, supporting functions like:

- ► Lane departure warning
- Left turn assist
- Adaptive cruise control
- ► Lane keeping
- Traffic jam assist
- High speed automationOn-highway platooning
- Autopilot

# Safety is only the beginning.

At the core of 3M<sup>™</sup> Connected Roads is our mission to bring everyone home safely. Families and commuters. Pedestrians and road workers. We're pursuing a future of zero deaths on the road. But there are a variety of other advantages to building simple, redundant infrastructure to support the vehicles of tomorrow:





**3M Transportation Safety Division 3M Canada** P.O. Box 5757 London, ON N6A 4T1 1-800-364-3577 3M.ca/Roadsafety Visit **3M.ca/Roadsafety** to see how we're helping support the safer, more connected roads of the future.

1. Center for Transportation Research, The University of Texas at Austin. http://library.ctr.utexas.edu/ctr-publications/0-6847-1.pdf.

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