

Autonomous Vehicles & the Future of Litigation

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Levels of Automation Society of Automotive Engineers

- **Level 0 = No Automation**
- **Level 1 = Driver Assistance**
 - adaptive cruise control or lane-keep technology, Tesla Autopilot
- **Level 2 = Partial Automation**
- **Level 3 = Conditional Automation**
 - Can take full control under some conditions
- **Level 4 = High Automation**
 - Can be fully automated but still allow human control or be geographically limited
- **Level 5 = Full Automation**

Autonomous Vehicles in Ontario

Full autonomous, not currently allowed on Ontario

Level 1 and 2 allowed

- ex. Tesla autopilot is level 2

Fully automated cars within the next decade?

Semi-Autonomous Cars: What can go wrong?

- **Technological errors**
 - Design and maintenance
 - Cyber attacks
- **Human Error**
 - Distracted driving worse with autonomous vehicles
 - Safety mechanisms, ie. warnings if hands off steering wheel



Uber Self-Driving Car Program (March 18, 2018)



What Went Wrong?

- Uber history of ignoring regulation (California)
- Driver not paying enough attention?
- Autonomous Cars require all systems to work and work together
 - Sensors recognize pedestrians
 - Learns from experience. Confused by bike?
 - Sensors must tell car to take evasive action
 - Car must be capable of taking evasive action
- Fault of programmers, designer, manufacturer, driver, owner?

Liability for MVAs with Pedestrians

Ontario *Highway Traffic Act (HTA)* creates a reverse onus on the drivers who collide with pedestrians: **Section 193(1)**

Pedestrians have more rights in marked crosswalks

Tesla Collision in California

Tesla in Autopilot mode

- Car had history of driving towards this barrier
- Barrier damaged by previous crash could not absorb impact
- Only semi-autonomous. Driver could have corrected



Fully Autonomous Vehicles

- No requirement for human intervention in driving
 - No steering wheel or pedals



Who is at fault for accidents?

Driver plays no role in driving

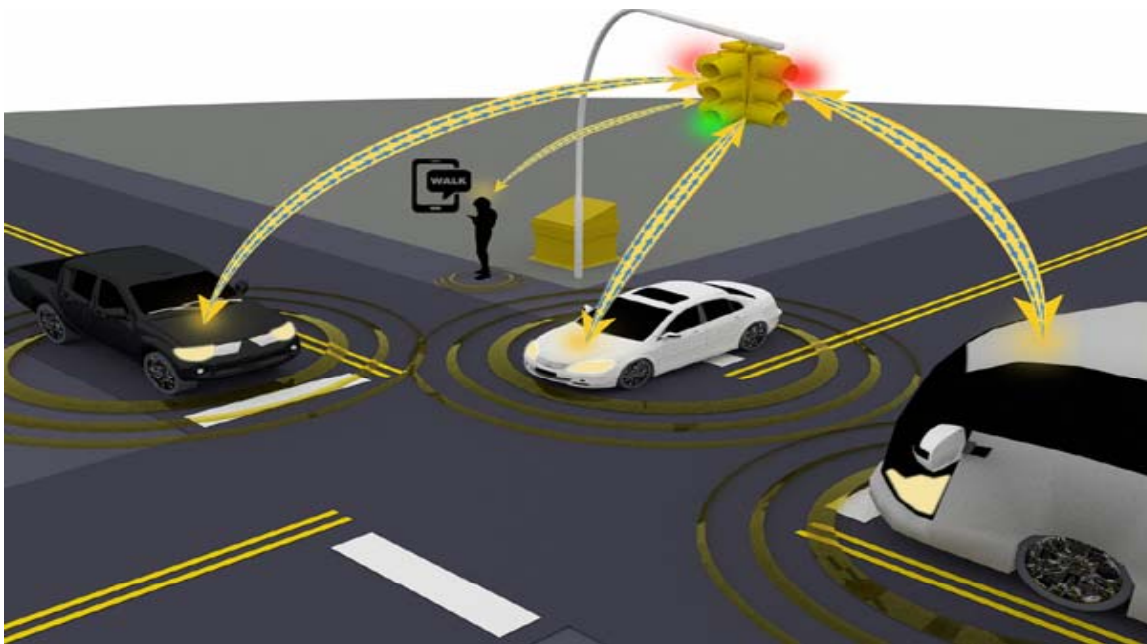
- Driver may contribute if notes issues with the car prior to driving

Who is at fault?

- Designer/Programmer of car or parts
- Manufacturer of car or specific component
 - Some car manufacturers have taken responsibility to speed up regulatory approval (Volvo, Google Mercedes)
- Owner (maintenance issues)
- Municipality or manufacturer/designers of infrastructure

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- V2V: Vehicle to Vehicle
- V2I: Vehicle to Infrastructure
- V2X: Vehicle to Everything



Future of litigation

Greater liability on designers and manufacturers of autonomous cars and their components

- Maybe complete liability (Google, Volvo, Mercedes)

Less liability on drivers

Future Legislation and Regulations to deal with widespread autonomous car use?

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Thank you!

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