Canadian Automobile Association

Final report - 20 Road Safety Innovation Labs Deployed Coast To Coast.

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Intersection near-miss study.

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- This was a study funded by CAA, in partnership with Miovision and municipalities, across Canada.
- The importance of this study is to show how design practices are associated with fewer near-misses and increased road safety.
- The difference from past practice is that collision data is reactive and doesn’t reveal risk factors. Near-miss data predicts where collisions will occur.

The technology.

The use of video analytic technology.

- Miovision uses 360 degree video intersection monitoring and a Miovision core computer to identify and record near-miss situations.

- This program can identify and classify near-miss situations by analyzing kinetic energy involved in potential impact. It can then classify the incident as critical, high, medium or low risk. This corresponds to seriousness of injury.

Figure 1: Miovision Automated Video-Based Conflict Analysis Tool to measure Near-Misses, also called Conflicts

Figure 2: Miovision CORE DCM and SmartView 360 Camera System

Results.

Sample of 616,854 near-misses over seven months, in 2024.

- 1 for every 770 pedestrian crossings and 1 for every 500 cyclist crossings were recorded as critical or high risk.
- Conflict zones were: Right turning vehicles 55% Pedestrian 50% Cyclist
- Left turning vehicles 34% Pedestrian 36% Cyclist
- Through Vehicles. 11% Pedestrian 14% Cyclist

Conclusion

How big data can help in the quest for Vision Zero

- This is what the study authors concluded from their results.
- “We statistically examined 21 design factors at each of these intersections to determine which were associated with lower frequency near-misses. We found that the use of turning lanes, left turn phasing, leading pedestrian intervals and compact intersection design had the biggest impact on minimizing the number of near misses.”
- “This study has shown the power of Continuous Safety Monitoring technology to collect data for understanding road safety. Furthermore, the data collected in this study has been made accessible to city transportation staff via the Miovision data platform, made possible through the generous support of CAA.”