Operational Performance Review (OPR) Summary – Highway 28 (2026)

Executive Overview

The Ministry of Transportation of Ontario (MTO) retained HDR to conduct an Operational Performance Review (OPR) of three segments of Highway 28 between Lakefield and Bancroft. The review examined existing traffic operations, safety performance, roadway geometry, roadside elements, and illumination warrants, supported by turning-movement counts, speed studies, collision records, field observations. and stakeholder feedback. The goal was to identify existing or emerging safety and operational concerns and provide recommendations for potential countermeasures.

Overall, the review found that **Highway 28 is operating acceptably** from both a traffic flow and intersection performance standpoint. Although the corridor experiences moderate volumes, seasonal surges, and a high proportion of wildlife-related collisions, the study concludes that **no major capital improvements are warranted at this time**.

However, the analysis revealed specific localized issues related to wildlife collisions, driveway activity (particularly near Kawartha Dairy), geometric constraints at select intersections, minor visibility and signage deficiencies, and isolated issues with guiderails and pavement markings.

The study also confirmed that **vehicle speeds are often near or above posted limits**, especially in certain areas of Segments 1 and 2. Collision data indicates that although speed occasionally contributes to crashes, it is **not a primary driver of collision trends**. Wildlife-related collisions account for nearly half of all recorded incidents, particularly in rural portions of the corridor.

The report concludes with targeted, low-cost maintenance and monitoring recommendations, focusing on sign adjustments, minor repairs, selective data collection, and continued observation of high-volume commercial accesses.

Key Findings

1. Traffic Volumes and Operations

Estimated 2025 traffic volumes show moderate Average Annual Daily Traffic (AADT) levels across all segments, ranging from approximately 4,700 to 8,400 vehicles per day. Weekend volumes are higher than weekday volumes, with July representing the busiest month due to seasonal travel patterns, with weekend midday peaks and weekday afternoon peaks consistently higher than surrounding hours. Operational analysis using Synchro confirms that all intersections within the study area operate at acceptable levels of service, generally Level of Service (LOS) A–C, with no critical delay or capacity concerns.

Intersection performance analysis, supported by traffic counts and Synchro assessments, shows that **all intersections operate at acceptable service levels**. Delays generally fall within LOS A–C. Turn-movement data collected at Young's Point Road and the Kawartha Dairy entrances confirm that neither volume nor queuing issues necessitate operational changes.

Mainline level-of-service modelling, drawing on Highway Capacity Software (HCS) analyses, indicates that **current corridor conditions function adequately**. Under future traffic growth assumptions, some segments—particularly those influenced by recreational travel—may reach LOS D or E during peak weekend conditions, but these projections do not justify capacity expansion at this time.

2. Speed Characteristics

Speed studies conducted with radar equipment and supplemented by MTO ongoing data reveal that **85th-percentile speeds often exceed the posted 80 km/h limit**, particularly in Segments 1 and 2. In several locations, speeds in the high-90s and even low-100s were observed, consistent with the design and driver expectations of a rural highway.

Despite these high travel speeds, collision records show that **speed-related collisions represent a small minority**. The report notes that drivers appear to travel at speeds aligned with roadway geometry and prevailing conditions rather than posted limits. A speed-limit review in Segment 3 concluded that reductions were **not warranted**, as the roadway does not exhibit the geometric or operational characteristics typical of lower-speed environments.

3. Collision Patterns and Safety Performance

The five-year collision review (excluding 2021) identified **126 collisions**, with the majority occurring at midblock locations rather than intersections. The collision distribution by month shows peak activity during late summer and early winter, consistent with tourist travel and seasonal wildlife behavior.

Key safety findings include:

- **Wildlife collisions represent ~45%** of all collisions and are the single largest contributing category.
- Midblock locations account for the majority of collisions, whereas intersection-related collisions are relatively low.
- Only **one fatal collision** occurred during the analysis period—a rear-end crash in Segment 3 involving a stopped left-turning vehicle.
- Approximately half of all collisions occurred under poor lighting conditions (dark/dawn/dusk).

- Loss-of-control and single-vehicle events are far more common than turning movements or angle crashes.

A LOSS (Level-of-Service-Safety) review found several segments performing worse than expected for similar highway facilities. However, **none met the threshold for severe underperformance**, and these findings primarily reinforce the need for localized monitoring rather than major redesigns.

4. Geometric and Field Observations

Several intersections—particularly North School Road, Haultain Road, Otter Lake Road, and Monck Road—are located on or near curves with superelevation, vertical grades, or constrained sightlines. Despite geometric limitations, collision history does not show systemic safety issues.

Field reviews highlighted minor deficiencies:

- Isolated sightline obstructions due to vegetation (e.g., near North School Road).
- Faded pavement markings at several intersections.
- Tilted or damaged signage in several locations.
- Localized pavement distress at Reid Road, Otter Lake Road, and the Kawartha Dairy accesses.
- Several legacy guiderail installations (e.g., three-cable systems) that remain functional but will require replacement at end-of-life.
- Short right-turn tapers and lack of dedicated turning lanes at some intersections and driveways.

The report also highlights **busy commercial driveways** in Segment 3—especially Kawartha Dairy and nearby businesses—where the combination of high left-turn demand, downgrades, and driver distraction creates potential for near-misses. These concerns, raised by OPP stakeholders, warrant targeted monitoring even though collision data does not yet support structural changes.

5. Illumination Assessment

Most of the study area lacks roadway lighting, consistent with its rural classification. Illumination warrant analysis found that:

- No intersection meets the thresholds for mandatory lighting.

- Several mainline segments meet point-based warrant criteria, but **benefit-cost ratios for illumination are below 1.0**, meaning lighting improvements are not economically justified.
- Illumination may indirectly reduce wildlife collisions, but this benefit is insufficient to justify installation at this time.

6. Stakeholder Input

Consultation with both Peterborough and Bancroft OPP detachments provided insights into operational conditions not always visible from data. Officers highlighted:

- Desire for improved speed compliance, particularly in Segment 2.
- Requests for speed reductions and a community safety zone near Kawartha Dairy.
- Concerns regarding sudden braking, driveway congestion, and the need for left-turn and acceleration lanes at commercial accesses.
- Preference for flashing signage to address distracted driving or pedestrian activity.

While these observations reflect lived experience, the report notes that **collision data and warrant analyses do not support major interventions at this time**. However, the concerns justify continued monitoring, especially in Segment 3.

Recommendations

1. Maintenance and Minor Improvements (Near Term)

- Repair damaged or tilted traffic signs and restore visibility where obstructed by vegetation.
- Replace or repair broken delineators at Clear Lake Road and Otter Lake Road.
- Refresh faded pavement markings at Young's Point Road, North School Road, and Reid Road.
- Install missing street name signs at Bentley Lake Loop (North) and Madawaska Mines Loop.
- Add the missing southbound deer-crossing sign in Segment 1 and consider relocating a wildlife sign in Segment 3 to better match collision patterns.

2. Monitoring and Data Collection (Ongoing)

- Collect additional summer turning-movement counts at Kawartha Dairy and Otter Lake Road to reassess need for left-turn lanes.

- Continue routine monitoring of Segment 3 for near-miss activity tied to commercial driveways.
- Collect additional data on wildlife collision patterns to support potential future mitigation.

3. Guiderail and Roadside Elements

- Repair the damaged three-cable guiderail south of Eels Creek Park Road in the near term.
- Plan for gradual replacement of legacy guiderail systems at end-of-life cycles; no urgent upgrades required.
- Continue routine pavement maintenance, prioritizing areas with noticeable cracking.

4. Illumination

- No new illumination installations are recommended at this time. Lighting may be considered if future collision patterns change. The Local Area Municipality (LAM) may pursue the installation of partial intersection lighting classified as “optional” within the OPR, provided the LAM coordinates with the Corridor Management Office and adheres to ministry illumination standards and guidelines, at no undue cost to the Ministry.

5. Turning Lanes and Tapers

- No immediate capital works for new left-turn lanes are warranted; however, Monck Road, Otter Lake Road and Kawartha Dairy should be monitored for potential future justification; reassess if traffic growth or collision patterns change. (MTO Service Provider to complete Turning Movement Counts – Summer 2026)
- Right-turn tapers remain acceptable given design speeds and collision history. Current right-turn tapers are not recommended for upgrade based on current design standards.

6. Enforcement

- Benefits of continued and ongoing Police enforcement on rural highways remains a critical complement to engineering and signage measures. Active enforcement encourages compliance with posted speeds, improves driver behavior consistency, and helps reduce aggressive or distracted driving; factors that, while not dominant in collision data, significantly influence collision severity on rural highways.

- Provides near-real-time insights to MTO, as OPP observations often identify emerging issues before they appear in collision records.

7. Maintenance and Minor Improvements addressed in 2025

- Pedestrian Warning Signs installed N/S approaching Kawartha Dairy
- Portable Variable Message Signs (PVMS) with safety messaging deployed August 1 – September 15 (Watch for Pedestrians | Drive Carefully - Congestion Possible | Stay Alert)
- Installed new Checkerboard (LR) Sign at Long Lake Road
- Installed additional No-Parking Signs – N of Woodview General Store
- Installed missing island warning sign at Woodview General Store
- Installed new Private Road Signs N/S at Trent Lakes Fire Route 1 & Trent Lakes Fire Route 2

8. Maintenance and Minor Improvements to be addressed in 2026

- Install missing Private Road Sign Trent Lakes Fire Route 2 (direction TBD by Maintenance)
- Install missing island warning sign at Apsley Inn
- Install missing island warning sign and fixed tilted sign at #29855 Highway 28 (S of Monk Road)

Conclusion

The OPR found Highway 28 to be functioning well operationally and does not require immediate capital improvements. While wildlife collisions, seasonal traffic surges, and specific driveway-related concerns warrant further attention, there is no current need for major roadway reconstruction or traffic control changes. The recommended actions focus on **cost-effective maintenance**, **continued monitoring**, and **targeted data collection**, ensuring MTO can respond promptly if conditions evolve. Proactive observation—particularly in Segment 3—will help maintain safety and performance into the future. The corridor remains a largely rural facility where targeted maintenance, not reconstruction, will deliver the greatest benefit.

Appendix A: Operational Performance Review Study Areas

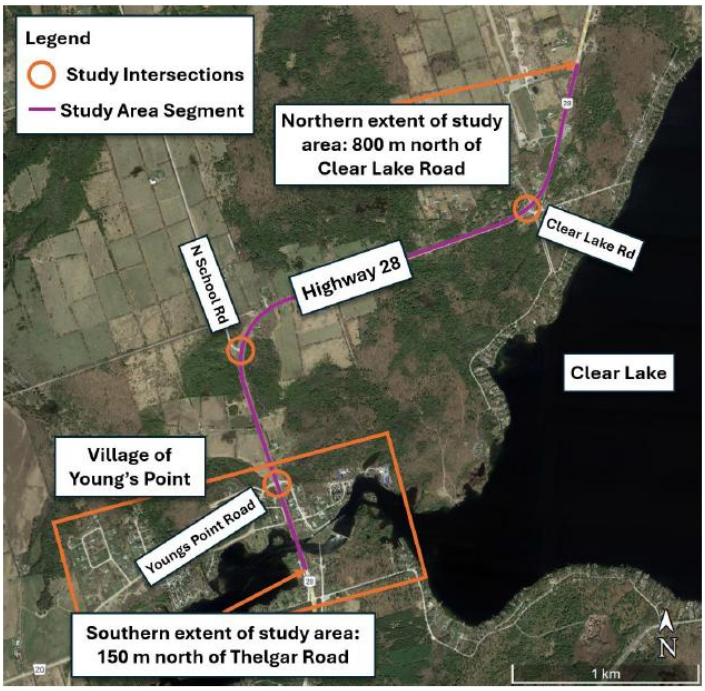


Figure 1: Highway-28 Study Area - Segment 1

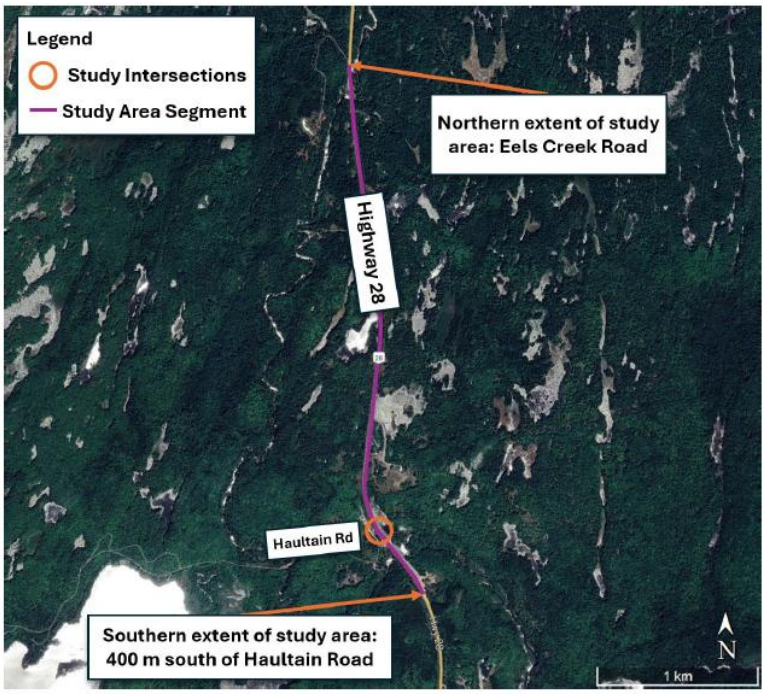
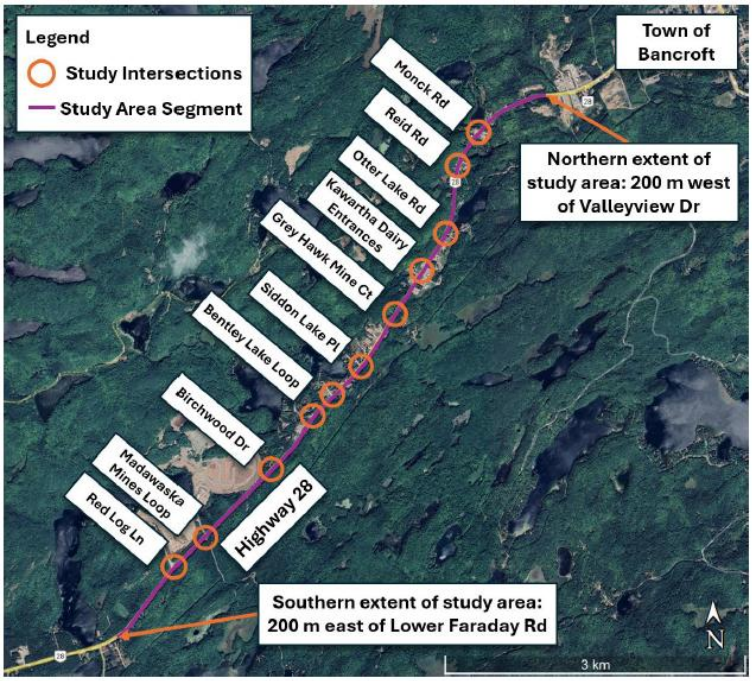


Figure 2: Highway-28 Study Area - Segment 2



Note: Highway 28 north of Monck Road is not provincially owned. However, this section is included in the study area per MTO's Work Order.

Figure 3: Highway-28 Study Area - Segment 3

Appendix B: Further Actions

* As discussed at the June 25, 2026, meeting between MTO, Highway 28 Mayors Coalition and OPP

Actions implemented to date

- Vegetation clearing to improve sight lines (Fall 2025, and ongoing).
- Pavement marking refreshed (June 2025).
- Pedestrian warning signs by Kawartha Dairy.
- Repair of localized pavement distress.
- Guiderail repair underway.

Additional actions to come

- Sign review
    - Replace or upsize wildlife warning signs where possible to ensure that all are oversized signs.
    - Work with Ministry of Natural Resources to assess if the signage being used is appropriate for the wildlife in each area, and whether signs need to be moved or added.
- Additional signage
    - No Parking signs by Woodview General Store.
    - Way-finding signs to help advise motorists of turns.
    - Speed feedback display signs to help motorists be mindful of speed.
- MTO to continue to work with OPP
    - Determine locations for potential installation of pavement markers on the edge of the roadway as speed deterrent.
    - Discuss enforcement/engineering/education strategy.
- Monitor traffic volumes and through/right-turn/left-turn counts; will capture summer traffic as well.
- Review studies completed further south of the corridor to identify potential action items.
- Review potential for replacing three-cable guiderails with full steel implements.
- Pavement symbols refresh to be completed in July 2026.
- Longer-term outlook - Implementation of rumble strips on the shoulders.
    - To be installed as part of future paving in the area as installation requires paved shoulders with specified minimum thickness.

Further feedback requested to inform next steps

- Input on accuracy of type of wildlife crossing signage and locations.
- Identify missing road signs for the ministry to replace.
- Targeted areas for enhanced enforcement to inform discussions with OPP.