



NIAGARA REGIONAL POLICE SERVICE

Police Service Board Report

PUBLIC AGENDA

Subject: Community Safety – High Visibility Vehicles
Report To: Chair and Members, Niagara Police Service Board
Report Date: 2025-11-26

Recommendation(s)

That the Niagara Police Service Board (Board) approve the alterations to the markings on the patrol vehicles to retro-reflective Battenburg-inspired patterns as shown in the diagram on page 3 below, in accordance with Marked Patrol Vehicles By-Law 484-2024.

Key Facts

- The purpose of this report is to seek the Board's approval to alter the markings on patrol vehicles with retro-reflective Battenburg-inspired patterns that are intended to strengthen officer safety and enhance police visibility, particularly in side-impact zones and low-visibility conditions (e.g., snow, nighttime).
- The empirical evidence and body of research indicate that high-visibility police vehicles could enhance public perception and legitimacy by improving visibility and transparency, deter crime and traffic violations by increasing perceived police presence, improve officer safety through reflective materials that reduce collision risks, and reassure the public by ensuring vehicles are easily identifiable and trusted symbols of police presence.
- The strategy aligns with community feedback collected during the 2026-2029 Strategic Plan consultations, where residents identified police visibility and presence as top priorities for improving public safety, reassurance, and trust, in both rural and urban areas.
- This initiative also supports compliance with Ontario Regulation 392/23 (Adequate and Effective Policing – General) under the Community Safety and Policing Act, 2019 (CSPA), which requires that police services maintain adequate patrol visibility, accessibility, and the capacity to respond effectively across the community.
- The incremental cost associated to the branding of the marked patrol vehicles using the Battenburg-inspired pattern is \$500.00 per vehicle (from \$3,900.00 to \$4,400.00); vehicle detailing costs are included in the annual vehicle replacement capital budget.
- The Service will transition the 148 frontline vehicles over the next 3 years. (2026-2028).

Financial Considerations

The costs associated to decal a patrol vehicle is included in the annual vehicle replacement capital budget. The incremental cost to transition to the Battenburg-inspired pattern is \$500.00 per vehicle (from \$3,900.00 to \$4,400.00 per vehicle). Thereby increasing the annual vehicle replacement capital budget by \$10,000.00 (20 frontline vehicles replaced annually).

The Service plans to transition the 148 frontline vehicles over the next 3 years (2026-2028) and during this period approximately 60 vehicles (of the 148 frontline) will be covered in the normal vehicle replacement capital budget that will be adjusted by \$10,000.00 per annum.

Of the remaining 88 vehicles (148 – 60), that are not scheduled to be replaced by 2028, the Service plans to transition these 88 vehicles (29.3 per year) to the Battenburg decal by the end of 2028. This will result in an annual incremental cost of \$128,920.00 (29.3 x \$4,400.00) for the capital budget years of 2026-2028.

This annual incremental cost will be incorporated within the annual vehicle replacement capital budget by extending the life of the investigative vehicle pool, thereby rendering the transition to the new decal cost neutral.

Analysis

Under the CSPA and O. Reg. 392/23 (Adequate and Effective Policing – General), police services are required to maintain patrol visibility, readiness, and accessibility appropriate to the needs and geography of their communities. These regulations emphasize that adequate and effective policing includes proactive community engagement, visible presence, and measures that enhance officer safety during traffic and emergency operations. The proposed initiative advances these requirements and expectations and directly supports the 2026-2029 Strategic Plan priorities of community safety and community trust and engagement.

The Niagara Regional Police Service (Service) is proposing to introduce a high-visibility vehicle design, incorporating reflective fluorescent materials and clearly identifiable “POLICE” markings. The design aims to:

- Improve officer safety by enhancing lateral and rear conspicuity during roadside and nighttime operations.
- Increase community reassurance and deterrence, ensuring that police vehicles are readily identifiable and visible from greater distances.
- Ensure design accessibility: while some individuals may find blue and green difficult to distinguish (colour-vision deficiency), the use of neon yellow-green contrast and retro-reflective materials improves detection for all viewers, including those with common forms of colour blindness. Research in ergonomics and visibility (e.g., Solomon & King, 1995; Harrison, 2004) confirms that

fluorescent and reflective colours substantially increase recognition and reduce collision risk.

The design is informed by the evidence summarized in *Simpson et al. (2023, Journal of Criminal Justice)*, which found that highly visible, clearly marked police vehicles are perceived as more approachable, fair, and trustworthy, supporting both legitimacy and procedural justice.

The components of the design are based on the following attributes:

- Pattern: Partial Battenburg configuration (lime-yellow and blue checkered banding) with retro-reflective panels.
- Base colour: White or light silver for optimal contrast in daylight and nighttime conditions.
- Application areas: Primarily side panels for side-impact visibility, with simplified front and rear markings to reduce distraction.
- Implementation model: Phased rollout through natural vehicle replacement, supported by internal and community evaluation surveys.

Image of Proposed Design (lateral and back views):



The implementation plan has been aligned with two factors:

- Bringing awareness of pending vehicle changes to both Service members and members of the public.
- Ensure the credibility of the Service is never at risk and ensure there is as minimal disruption to service as possible, when vehicles roll out begin vehicles should be implemented strategically by district or unit.

The roll out plan will include:

1. A fully marked up demonstration vehicle displayed at Service Headquarters located at 5700 Valley Way, Niagara Falls in January 2026. This vehicle will then tour the Niagara Region spending time outside all Service buildings and facilities as well as some selected public locations. This will be aligned with media and social media coverage from the Service's Corporate Communications Unit.
2. The proposed order of rollout is as follows:
 - a. All Community Oriented Response and Engagement (CORE) Unit vehicles will be retrofit by June 2026.
 - b. All supervisor vehicles will be retrofitted by December 2026.
 - c. All frontline vehicles, district by district, until all vehicles have been remarked and deployed by end of December 2028.

Participants in the strategic plan consultations repeatedly emphasized that a visible police presence, whether through foot patrols, bike patrols, or marked vehicles, enhances reassurance and safety. The proposed high-visibility design responds directly to this input, translating community expectations into an operational initiative that increases presence and accessibility across Niagara.

Board By-Law 484-2024 Marked Patrol Vehicles section 4.1.2 (h) requires Board approval when considering any alterations to police vehicle markings.

Alternatives Reviewed

No reasonable alternatives were identified. The approach aligns with evidence-based policing best practices and supports legislated service-delivery standards under the CSPA.

Relationship to Police Service/Board Strategic Priorities

This report is aligned with the 2026-2029 Strategic Plan and its vision by enhancing community safety through visible and proactive policing, strengthening public trust and accessibility, promoting diversity and inclusion through accessible design, and advancing modernization and accountability through research-based innovation. Together, these efforts align with the Board's strategic priorities and fulfill the requirements for adequate and effective policing under the CSPA and O. Reg. 392/23.

Relevant Policy Considerations

Community Safety and Policing Act, 2019
Board By-Law 484-2024 Marked Patrol Vehicles

Other Pertinent Reports

Not applicable.

This report was prepared by Dr. Hector Perez, Corporate Analyst, Strategic Planning Innovation and Stephen Harman, Materials Manager, Fleet Services; in consultation with and reviewed by Laura Rullo, Director, Finance and Asset Management. Recommended by Luigi Greco, Deputy Chief, Support Services.



Submitted by:

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Appendices

Not applicable.

ENHANCED POLICE VEHICLE VISIBILITY

DECEMBER 5, 2025



AGENDA

1. Introduction
2. Purpose
3. Strategic Plan 2026-2029 Alignment
4. Context – Evidence based approach
5. Expected outcomes and evaluation
6. Financial considerations
7. Q/A



INTRODUCTION

Under the Community Safety and Policing Act, 2019 (CSPA) and O. Reg. 392/23 (Adequate and Effective Policing – General), police services are required to maintain patrol visibility, readiness, and accessibility appropriate to the needs and geography of their communities.

The community feedback collected during the 2026-2029 PSB Strategic Plan consultations, that participants identified police visibility and presence as top priorities for improving public safety, reassurance, and trust in both rural and urban areas.

The design proposal incorporates retro-reflective Battenburg-inspired patterns, validated through international standards and Canadian studies, to strengthen officer safety, police visibility, particularly in side-impact zones and low-visibility conditions (e.g., snow, nighttime).



PURPOSE

The **Enhanced Police Visibility Initiative** aims to enhance community safety and trust by increasing officer visibility, deterring crime, and ensuring police presence is easily recognizable and reassuring to the public.

Research has demonstrated the benefits of high-visibility vehicles for both officers and the public, as well as their potential to enhance safety perceptions and deter crime.



STRATEGIC PLAN 2026-2029 ALIGNMENT

1

Community Safety

- Integrated Crime Prevention and Harm Reduction Strategy
- Neighbourhood Presence Initiative

2

Community Trust and Engagement

- Youth Crime Prevention and Engagement Strategy
- **Road and Public Space Safety Strategy**
- Integrated Mental Health and Addictions Strategy
- Public Trust and Transparency Communications Strategy

3

Diversity and Inclusion

- Gender-Based Violence Prevention and Support Strategy

4

Modernization and Innovation

- Strategy, Innovation and Continuous Improvement

5

Organizational Health and Accountability

- Sustainable Infrastructure and Asset Management Plan



CONTEXT – EVIDENCE BASED APPROACH

Evidence on High-Visibility Police Vehicles

- Empirical research consistently shows that high-visibility police vehicles can strengthen public perception and police legitimacy by enhancing visibility and transparency.
- Increased conspicuity may deter crime and traffic violations by elevating the perceived police presence.
- Reflective and high-contrast markings can improve officer safety by reducing collision risks, particularly in low-light environments.
- Highly identifiable vehicles also provide public reassurance, reinforcing trust and recognition of police presence.

Standards and Research Context

- There is currently *no* U.S. industry standard governing visibility or conspicuity requirements for police vehicle markings (1).
- The U.K.'s Police Scientific Development Branch has established a standard titled “High-Conspicuity Livery for Police Vehicles” (2).
- Recent Canadian studies show that police vehicle decals and visual design have measurable effects on community perceptions of safety (3).

¹ [NHTSA Statutes, Regulations, Authorities & FMVSS | NHTSA](#)

² fleetid.co.uk/wp-content/uploads/2020/12/Home-Office-PSDB-14-04-High-Conspicuity-Li1.pdf

³ [Simpson, R., et al \(2023\).](#)



CONTEXT – EVIDENCE BASED APPROACH (CONTINUED)

The proposal uses lime-green/yellow colours, Battenburg patterns, and retro-reflective markings — all known worldwide for making emergency vehicles easier to see. Canadian studies (on transport trucks and emergency vehicles) show that retro-reflective materials greatly improve visibility, especially at night or in bad weather.

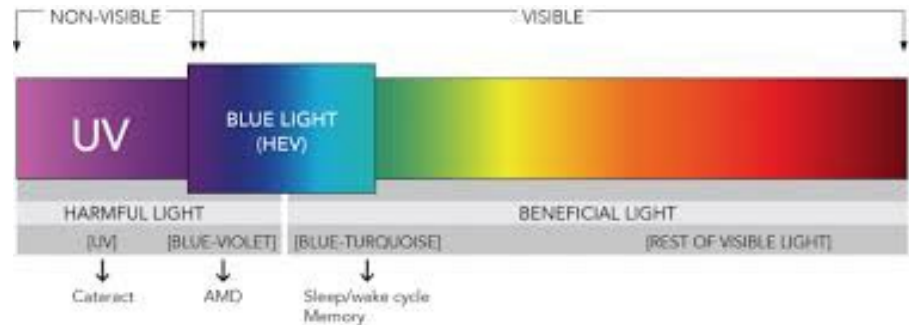
In cities and suburbs, people can usually see these markings from about 200 metres, while full Battenburg designs remain visible up to 500 metres.

A full retro-reflective outline can be seen from 601 m in clear weather, 333 m in snow, and 284 m in rain.

Clear and readable POLICE markings help the public quickly recognize the vehicle, which supports trust and understanding.



CONTEXT – EVIDENCE BASED APPROACH



CONTEXT – EVIDENCE BASED APPROACH (CONTINUED)

- Several Ontario services (e.g., Barrie, London) already use high-visibility designs based on evidence.
- Battenburg patterns are designed to catch attention and improve quick recognition by drivers.
- Strong side-of-vehicle visibility helps passing motorists see the car sooner and reduces side-impact collisions.
- Research shows the side is what drivers see most; the front is usually only noticed in rear-view mirrors.
- More visible vehicles could create a sense of stronger police presence, which supports deterrence and increases feelings of safety in the community.



CONTEXT – EVIDENCE BASED APPROACH (CONTINUED 2)



St Thomas Police Service (June 2021)



Cobourg Police Service (August 2023)



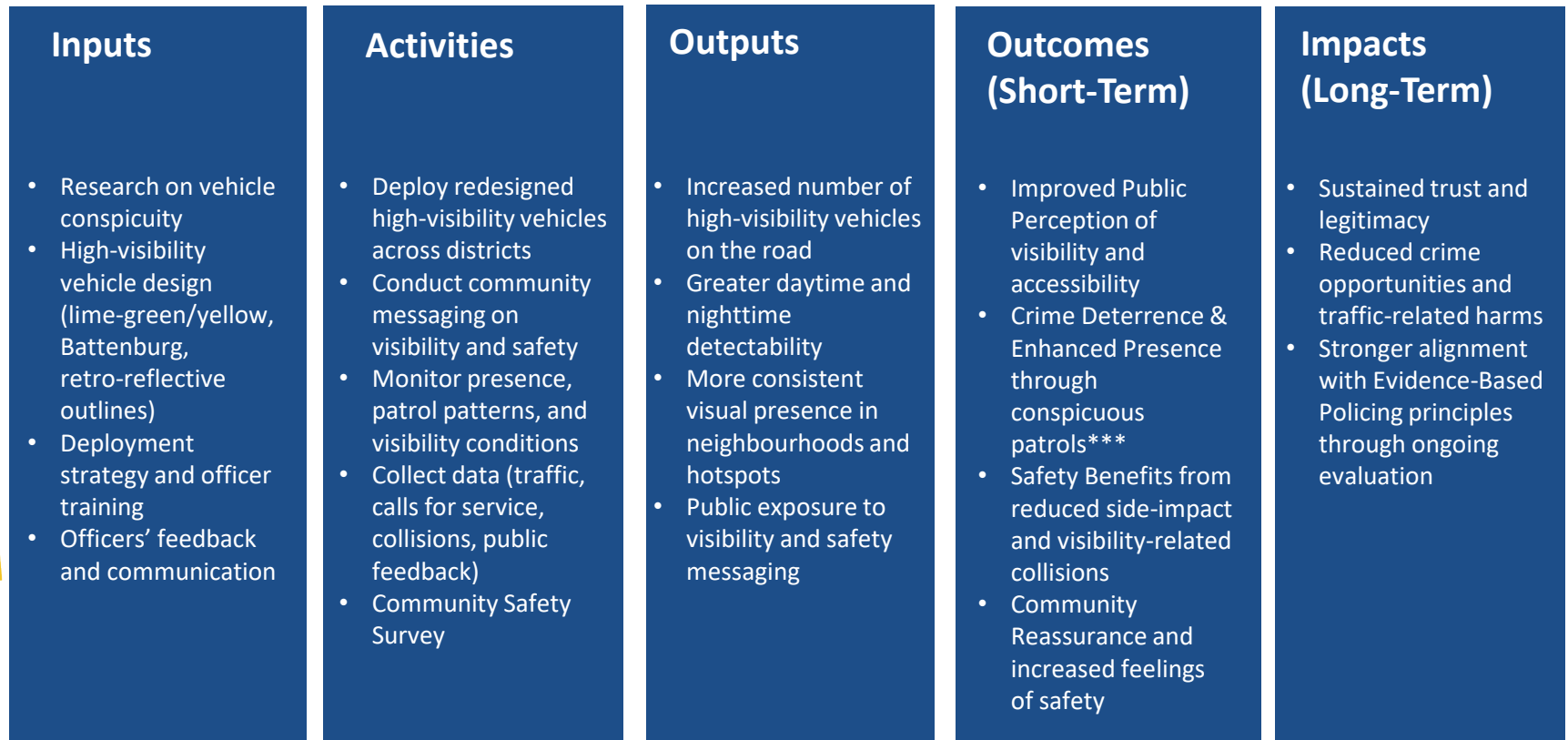
London Police Service (October 2024)



Barrie Police Service (July 2022)



EXPECTED OUTCOMES AND EVALUATION



***Supported by additional Community Safety Strategies, included in the Strategic Plan 2026-2029



FINANCIAL CONSIDERATIONS

- The costs associated to decal a Frontline Patrol Vehicle are included in the annual replacement budget.
- The incremental cost to transition to the Battenburg-inspired pattern is an additional \$500 per vehicle, the cost rising from \$3,900 to \$4,400 per vehicle.
- The Service currently has 148 Frontline vehicles requiring new decals, the service plans to transition all 148 vehicles to the Battenburg inspired pattern over a 3-year period.
- Of the 148 existing vehicles 60 will be replaced as part of the normal vehicle replacement schedule, this will leave 88 vehicles that require transitioning at an extra cost.



FINANCIAL CONSIDERATIONS (CONTINUED)

- Of the remaining 88 vehicles the service will transition the external decal to the Battenburg inspired design at a rate of approximately 30 per year
- At a rate of 30 per year the result will be an annual incremental cost of \$128,920.00 per year for 3 years.
- This annual cost will be incorporated within the annual vehicle replacement budget by extending life of the existing vehicles within the investigative pool



IMPLEMENTATION TIMEFRAME

Research & Benchmarking

- Engage with other Services to learn about their experiences
- Review literature and best-practices

Phase 1 Roll out – 2026

- Core Unit
- Supervisor Vehicles
- Regional demo vehicle to be used to Public view around NRPS buildings.

Formulate proposal

- Proposal formulation
- Determine requirements, scope, implementation and financial considerations
- Share proposal with Police Service Board for approval and strategic direction

Phase 2 Roll out 2026-2028

- District Frontline vehicles
- New cruisers as delivered to Fleet



REFERENCES

- Solomon, S. S., & King, J. G. (1997). Fire truck visibility: Red may not be the most visible color, considering the rate of accident involvement with fire trucks. *Ergonomics in Design*, 5(2), 4-10.
- Simpson, R. Experimentally testing police visibility via a visual detection exercise: Can the public spot the police vehicle?. *J Exp Criminol* (2025). <https://doi.org/10.1007/s11292-025-09685-6>
- Simpson, R., Tumilowicz, V., Charman, M., & Johnston, R. (2023). Public perceptions of, and preferences toward, police vehicle designs: A mixed-method test of a theoretical question. *Journal of Criminal Justice*, 89, 102119.
- Ratcliffe, J.H., Taylor, R.B., Askey, A.P. et al. The Philadelphia predictive policing experiment. *J Exp Criminol* 17, 15–41 (2021). <https://doi.org/10.1007/s11292-019-09400-2>



QUESTIONS?

