

## Options Considered

Option	Advantages	Disadvantages	Decision
Enforcement & Road Maintenance	<ul style="list-style-type: none"> <li>Improves stop sign compliance</li> <li>Improves road condition</li> <li>No additional capital costs</li> </ul>	<ul style="list-style-type: none"> <li>Only effective for short durations</li> </ul>	<p>The fence at 131 Brace Cove has been damaged by errant vehicles due to a lack of stop sign compliance and/or poor road conditions. The Administration suggests that enforcement and road maintenance, while important tools, should not be the primary mitigation measures as these tools are only effective for short durations.</p>
Retain Existing Boulders	<ul style="list-style-type: none"> <li>Offers limited protection to private property</li> <li>No additional capital costs</li> </ul>	<ul style="list-style-type: none"> <li>May shift if struck by errant vehicles.</li> </ul>	<p>The existing boulders should remain because there have been collisions with private property.</p>
Retain Concrete Jersey Barriers	<ul style="list-style-type: none"> <li>Offers limited protection to private property</li> <li>No additional capital costs</li> </ul>	<ul style="list-style-type: none"> <li>Previous concrete jersey barriers in the roadway were not properly secured to an appropriate foundation nor were they located appropriately within the right-of-way</li> <li>Not designed to reduce collision severity for the occupants in an errant vehicle</li> <li>May shift or topple if struck by an errant vehicle</li> <li>Ongoing maintenance costs</li> </ul>	<p>The existing concrete jersey barriers are not recommended because these devices were intended to be a temporary solution until a permanent solution was determined.</p>

<b>Option</b>	<b>Advantages</b>	<b>Disadvantages</b>	<b>Decision</b>
Roadside Traffic Barrier (e.g. guardrail, continuous / connected concrete barrier, crash cushion)	<ul style="list-style-type: none"> <li>• Properly secured to an appropriate foundation</li> <li>• Protects private property</li> <li>• Designed to reduce collision severity for the occupants in an errant vehicle</li> </ul>	<ul style="list-style-type: none"> <li>• Requires an unobstructed barrier-to-obstacle separation distance</li> <li>• Would impede pedestrian accessibility</li> <li>• Sharp edges of guardrail or crash cushion poses hazard to pedestrians</li> <li>• Additional cost of \$10,000 to \$20,000</li> <li>• Ongoing maintenance costs</li> </ul>	A roadside traffic barrier is not recommended because there is insufficient separation distance and it could pose a hazard to pedestrians.
Rigid Bollards	<ul style="list-style-type: none"> <li>• Properly secured to an appropriate foundation</li> <li>• Do not pose a sharp edge hazard to pedestrians</li> <li>• Do not impede pedestrian accessibility</li> <li>• Protect pedestrians and private property</li> </ul>	<ul style="list-style-type: none"> <li>• Not designed to reduce collision severity for the occupants in an errant vehicle</li> <li>• Design and construction costs of \$4,000</li> <li>• Ongoing maintenance costs</li> </ul>	Rigid bollards are not recommended because they could result in injuries to the occupants of errant vehicles.
Energy Absorbing Bollards	<ul style="list-style-type: none"> <li>• Properly secured to an appropriate foundation</li> <li>• Do not pose a sharp edge hazard to pedestrians</li> <li>• Do not impede pedestrian accessibility</li> <li>• Protect pedestrians and private property</li> <li>• Designed to reduce collision severity for the occupants in an errant vehicle</li> </ul>	<ul style="list-style-type: none"> <li>• Due to limited sidewalk space, a sidewalk expansion or concrete curb extension would be required to install the energy absorbing bollards which results in design and construction costs of \$35,000 to \$65,000</li> <li>• Ongoing maintenance costs</li> </ul>	Energy absorbing bollards are not recommended due to the availability of a more cost efficient solution.

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Raised Crosswalk	<ul style="list-style-type: none"> <li>• Raises awareness of pedestrian crossings near the park</li> <li>• Improves stop compliance</li> <li>• Decreases speeds for turning vehicles</li> </ul>	<ul style="list-style-type: none"> <li>• Design and construction costs of \$11,000</li> <li>• Capital costs for design and installation</li> <li>• Ongoing maintenance costs</li> </ul>	<p>A raised crosswalk is recommended. This option improves the safety of all road users at the intersection by raising awareness of pedestrian activity and improving stop compliance.</p> <p>A raised crosswalk would also address outstanding concerns raised in the Willowgrove Neighbourhood Traffic Review (NTR) regarding westbound left and westbound right turning speeds at this intersection. The Traffic Calming Policy states that vertical deflection devices can be explored if horizontal deflection devices are deemed ineffective.</p> <p>The temporary median island and additional stop sign installed on Patrick Crescent have been unable to improve stop compliance at the intersection.</p>