

Highway 400 Improvements from 1 km South of Highway  
89 to the Junction of Highway 11

## **Appendix C - Highway 400 Widening and Interchange Evaluation Summary Tables**

Evaluation Summary: Highway 400 Widening from Mapleview Drive to Duckworth Street			
Category / Evaluation Factor	Alternative 2 – Four General Purpose Lanes	Alternative 3 Two Express / Three Collector Lanes	Summary
<b>Natural Environment</b>	●	●	Both of the alternatives result in similar potential impacts to fish and fish habitat, terrestrial environment, groundwater, species at risk and surface water. Alternative 3 has a slightly larger footprint and therefore results in greater impacts to fish habitat, vegetation communities and unevaluated wetlands relative to Alternative 2. Alternative 3 will also require greater treatment of stormwater associated with the additional impervious surface relative to Alternative 2. As such, Alternative 2 is slightly preferred from a Natural Environment perspective.
<b>Socio-Economic Environment</b>	●	⦿	Alternative 3 has a greater footprint impact relative to Alternative 2 which results in greater aesthetic changes to and from the Highway 400 corridor, increased sound levels and noise mitigation requirements in noise sensitive areas and greatest impacts to land with contamination potential. Alternative 3 also impacts a greater area of land that has future development potential (beyond the future highway right-of-way outlined in the 2004 TESR). Relative to Alternative 2, Alternative 3 impacts 70 % more community, recreational, institutional and park lands, 50% more residential property, and 50% more commercial/industrial property area. As such, from a Socio-Economic Environment perspective, Alternative 2 is preferred.
<b>Cultural Environment</b>	●	⦿	Alternative 2 impacts approximately less land with archaeological potential relative to Alternative 3. Both alternatives result in the same impact to heritage properties and heritage bridges and do not impact cultural landscapes. As such, Alternative 2 is slightly preferred from a Cultural Environment.
<b>Traffic Operations</b>	●	⦿	Both alternatives will accommodate and result in acceptable traffic operations to the horizon year of 2031. Both alternatives will result in improvements to the corridor and will also have adverse effects on some aspects of traffic operation through this section of Highway 400. While the core collector system (Alternative 3) provides slightly greater benefits in terms of managing through traffic during weekday peak periods (greater capacity overall) and traffic management during future rehabilitation works, it is less desirable than the 10-lane widening with HOV lanes (Alternative 2) in terms of emergency services access and incident management (due to the limited number of transfer lanes at Essa, Dunlop and Bayfield). Additionally, Alternative 2 is slightly preferred over Alternative 3 as it allows for carpooling options and additional lanes to be used for incident management. As such, Alternative 2 is slightly preferred
<b>Operations and Maintenance</b>	●	●	Alternative 2 results in a slightly smaller footprint and in slightly less infrastructure than Alternative 3 to maintain. As such, Alternative 2 is slightly preferred.
<b>Staging</b>	●	●	Impacts during construction for both alternatives will be similar since the existing number of lanes can be maintained for both alternatives. Alternative 3 may require one more additional construction season than Alternative 2; however, since the existing lanes will remain open, both alternatives are equally preferred.
<b>Drainage</b>	●	●	Alternative 3 results in a slightly larger impervious surface area due to the widened highway footprint over Alternative 2. However, this increase can be mitigated by drainage treatments and the same number of drainage culvert extensions are required for both alternatives. As such, both alternatives are equally preferred.
<b>Cost</b>	●	⦿	Alternative 3 is approximately 20% more expensive to construct and requires approximately 60% more property relative to Alternative 2. The wider footprint to accommodate a core collector system with Alternative 3 requires more resources and represents a larger area to be maintained. As such, Alternative 2 is preferred.
<b>Overall Summary</b>			Both alternatives for widening this section of the Highway 400 corridor result in similar potential impacts to the natural and cultural environment, which can generally be minimized through mitigation measures. In terms of impacts to the socio-economic environment, the core-collector (Alternative 3) requires a greater footprint which results in greater impacts relative to the 10-lane widening with HOV lanes (Alternative 2). Relative to Alternative 2, Alternative 3 is less preferred in terms of noise and air quality considerations as it results in reduced proximity between sensitive receivers and the highway. Alternative 3 also potentially impacts 70% more community, recreational, institutional, and park land, 50% more residential property area,

Evaluation Summary: Highway 400 Widening from Mapleview Drive to Duckworth Street			
Category / Evaluation Factor	Alternative 2 – Four General Purpose Lanes	Alternative 3 Two Express / Three Collector Lanes	Summary
			<p>and 50% more commercial/industrial property area.</p> <p>With respect to traffic considerations, both alternatives will accommodate acceptable traffic operations to the horizon year of 2031; and each alternative has advantages and disadvantages to the highway operations. While the core collector system (Alternative 3) provides slightly greater benefits in terms of managing through traffic during weekday peak periods (greater capacity overall) and traffic management during future rehabilitation works, it is less desirable than the 10-lane widening with HOV lanes (Alternative 2) in terms of emergency services access and incident management (due to the limited number of transfer lanes), as well as highway maintenance and snow removal.</p> <p>In terms of the overall cost difference between the two alternatives, Alternative 3 is approximately 20% more expensive to construct than Alternative 2 and requires approximately 60% more property than Alternative 2. Alternative 3 will also have a slightly higher cost to maintain due to the additional highway infrastructure.</p> <p>Given that Alternative 2 results in slightly better operations, and that Alternative 3 results in incrementally greater community impacts and costs, <b>Alternative 2 is the overall preferred alternative for widening this section of the Highway 400 corridor.</b></p>

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<b>Evaluation Summary: Highway 400 / Mapleview Drive Interchange</b>			
<b>Category / Evaluation Factor</b>	<b>Alternative 1 Diamond</b>	<b>Alternative 2 Diverging Diamond</b>	<b>Summary</b>
<b>Natural Environment</b>	●	●	Neither alternative impacts fish and fish habitat, wildlife travel corridors, areas of significant wildlife habitat, provincially significant or unevaluated wetlands, or Areas of Natural Scientific Interest, as these natural features / functions are not present within the interchange area. Both alternatives have potential to impact significant vegetation units (deciduous and mixed forest in the northeast quadrant). Potential impacts to species at risk are considered low for both alternatives. Both alternatives do not impact any water wells, and both have moderate potential to impact groundwater recharge and discharge areas and areas of high aquifer vulnerability. There are no potential impacts to private / municipal water intakes from either alternative. As such, from a Natural Environment perspective, both alternatives are equally preferred.
<b>Socio-Economic Environment</b>	●	●	Neither alternative impacts sensitive receivers with respect to noise, air quality or aesthetics. Both alternatives have a similar property footprint and therefore result in similar negligible impacts to residential or agricultural land and have the same potential to impact properties with high, medium, and low potential from contamination and land designated for community / institutional / recreational / park features. Alternative 2 has potential to impact less of commercial / industrial property than Alternative 1 and improves traffic operations which is therefore beneficial to the commercial business in the area. As such, Alternative 2 is slightly preferred from a socio-economic perspective.
<b>Cultural Environment</b>	●	●	Both alternatives have the same potential to impact land with archaeological potential and do not impact heritage properties, heritage bridges or cultural landscapes. As such, both alternatives are equally preferred from a cultural environment perspective
<b>Traffic Operations</b>	●	●	From a traffic operations perspective the alternatives were evaluated initially based on how the interchange ramp terminals operated with a focus on the turning movements and potential delays within the interchange. Alternative 2 operated at a higher level of service than Alternative 1 and would result in significant traffic improvements within the interchange. The alternatives were then evaluated to include the existing traffic signals outside of the interchange along Mapleview Drive in order to determine if the entire system would impact the level of service of either alternative and change the initial results. Alternative 2 still operated better than Alternative 1 and the change was minimal to the level of service based on the operation of the entire system. As a final point of comparison, Alternative 1 was re-evaluated based on an optimized interchange (including double left-turn lanes at the west ramp terminal intersection, double eastbound right-turn lanes, and optimized signal timing throughout the system). Although this optimized interchange did improve the initial traffic operations of Alternative 1, some turning movements still operated at levels of service D and Alternative 2 still operated better. In addition to Alternative 2 having a higher level of service than Alternative 1, Alternative 2 also minimizes opportunities for certain collision types (turning collisions) as it does not have critical movements (left-turns) while Alternative 1 does require left-turns, giving Alternative 2 the potential to increase road safety. As such, Alternative 2 is preferred from a traffic operations perspective.
<b>Operations and Maintenance</b>	●	●	The ability to access and conduct Highway rehabilitation and stage temporary closures and/or reduce lane widths is considered equal between Alternative 1 and 2. As such, Alternatives 1 and 2 are equally preferred.
<b>Staging</b>	●	●	Alternative 2 requires one additional stage of construction along Mapleview Drive, and will have greater impacts to traffic travelling along Mapleview Drive during construction. As such, Alternative 1 is preferred from a staging perspective.
<b>Drainage</b>	●	●	Comparable drainage improvements will be required for both alternatives. As such, both alternatives are equally preferred from a drainage perspective.
<b>Cost</b>	●	●	Alternative 2 is more expensive in terms of construction cost, and has higher operations and maintenance costs. The property required for Alternative 2 is slightly lower; however, the difference in property required is negligible in terms of overall cost considerations and therefore both alternatives are considered equally impactful in terms of property costs. As such, Alternative 1 is slightly preferred from a cost perspective.
<b>Overall Summary</b>			Both the alternatives for interchange improvements at Mapleview Drive result in similar potential impacts to the natural, socio-economic and cultural environment. Alternative 1 results in slightly greater impacts to commercial / industrial relative to Alternative 2. The differences in impacts between these alternatives is relatively minor and can be addressed through mitigation. Alternative 2 improves traffic operations which is therefore beneficial to the

Evaluation Summary: Highway 400 / Mapleview Drive Interchange			
Category / Evaluation Factor	Alternative 1 Diamond	Alternative 2 Diverging Diamond	Summary
			<p>commercial business in the area.</p> <p>Alternative 1 maintains the existing configuration while Alternative 2 introduces a new configuration that has potential to be one of the first interchanges of its kind in Ontario which will create a need for additional public education on the operations of a Diverging Diamond interchange in order for it to be successful. Alternative 2 also may require one additional season for construction and will have greater impacts to traffic travelling along Mapleview Drive throughout construction. With respect to traffic, Alternative 1 will operate at a lower level of service due to significant delays for left turning traffic to and from the ramps. Alternative 2 results in a significant improvement in traffic operations at the ramp terminals and is considered to improve road safety as it has potential to minimize opportunities for certain collision types (turning collisions as it does not have critical movements (left-turns).</p> <p>In terms of the overall cost difference between the two alternatives, Alternative 2 is more expensive to construct than Alternative 1 due to the additional roadwork required on Mapleview Drive to adopt the new Diverging Diamond configuration.</p> <p>In summary, both alternatives result in similar impacts to the natural, socio-economic, and cultural environments. Although Alternative 2 is a more expensive alternative to construct, Alternative 2 operates at a high level of service and results in a significant improvement in traffic operations and has potential to improve safety at the ramp terminals. <b>As such, Alternative 2 is the overall preferred alternative for the interchange improvements at Mapleview Drive.</b></p>

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Evaluation Summary: Highway 400 / Essa Road Interchange			
Category / Evaluation Factor	Alternative 1 Parclo A4	Alternative 2 Parclo A / Diamond with Roundabouts	Summary
<b>Natural Environment</b>	●	●	Alternatives 1 and 2 either avoid or result in similar negligible impacts to fish habitat, the terrestrial ecosystem, groundwater resources and surface water, as such, from a natural environment perspective, both alternatives are equally preferred.
<b>Socio-Economic Environment</b>	◐	●	Alternatives 1 and 2 either avoid or result in negligible impacts with respect to noise sensitive areas, local air quality conditions, residential property, community / recreational / institutional / park features, and agricultural property. Both alternatives result in a minor change to aesthetics; however, Alternative 2 offers the opportunity for aesthetic landscaping of the centre median which can enhance the aesthetic quality of the interchange. Although Alternative 1 results in slightly greater impacts to future development lands and impacts to commercial property than Alternative 2, the difference between these impacts is relatively minor and can be addressed through mitigation. As such, Alternative 2 is slightly preferred from a socio-economic perspective.
<b>Cultural Environment</b>	●	●	Both alternatives do not impact heritage properties, heritage bridges or cultural landscapes. Alternative 1 has potential to impact more land with archaeological potential relative to Alternative 2. As such, Alternative 2 is slightly preferred.
<b>Traffic Operations</b>	●	○	Both alternatives have a low impact to the local road network with local access / routes maintained and no impacts to incident management for emergency services. Alternative 2 is slightly preferred in terms of addressing roadside safety as roundabouts in general can significantly reduce the frequency and severity of collisions and are considered safer than ramp terminal intersections. However, by eliminating left turns at the westbound ramp terminal, Alternative 2 operates at a significantly lower level of service because a two-lane roundabout is not sufficient to accommodate future traffic volumes at the west ramp terminal resulting in unacceptable traffic operations. Alternative 1 addresses MTO safety standards and operates at a desirable level of service in accommodating future traffic volumes. As such, Alternative 1 is preferred from a Traffic perspective.
<b>Operations and Maintenance</b>	●	●	The ability to access and conduct Highway rehabilitation and stage temporary closures and/or reduce lane widths is considered equal between Alternative 1 and 2. As such, Alternatives 1 and 2 are equally preferred.
<b>Staging</b>	◐	●	Alternative 2 requires a smaller scope of construction and is therefore significantly less impactful with respect to construction staging. The Highway 400 overpass structure must be replaced in both alternatives and therefore impact on traffic during construction is high for both alternatives. Alternative 2 is estimated to require one less construction season than Alternative 1. As such, Alternative 2 is preferred.
<b>Drainage</b>	●	●	Both alternatives will require drainage improvements as both alternatives have increases in impervious surface area at the interchange. As such, both alternatives are equally preferred.
<b>Cost</b>	◐	●	Alternative 1 and Alternative 2 are considered equal in their impacts to municipal utilities/ residential services. Alternative 2 is substantially less expensive from a construction cost standpoint and is slightly less impactful from an operations and maintenance cost perspective. Alternative 2 also requires slightly less property than Alternative 1. As such, Alternative 2 is preferred from a cost perspective.
<b>Overall Summary</b>			<p>The area around the Essa Road interchange is urban in nature and therefore both alternatives result in similar minor potential impacts to the natural environment and cultural environment. Although Alternative 1 results in slightly greater impacts to future development lands (at the former Barrie Fairgrounds) and impacts to commercial property in the southwest quadrant than Alternative 2, the differences between these impacts are relatively minor and can be likely be addressed through mitigation (i.e. retaining walls).</p> <p>Each alternative has advantages and disadvantages from a transportation and engineering perspective. Alternative 1 is an interchange configuration commonly used throughout the Highway 400 corridor; however, it involves complex construction staging as it has a slightly larger structure and requires an additional ramp to maintain an adjacent commercial access road. Both alternatives have a high impact to traffic during construction, with Alternative 1 anticipated to last one additional construction season longer than Alternative 2. Although roundabouts are generally considered safer (as</p>

Evaluation Summary: Highway 400 / Essa Road Interchange			
Category / Evaluation Factor	Alternative 1 Parclo A4	Alternative 2 Parclo A / Diamond with Roundabouts	Summary
			<p>they eliminate left turns), Alternative 2 will operate at a very low level of service because a two-lane roundabout is not sufficient to accommodate future traffic volumes at the west ramp terminal resulting in unacceptable traffic operations. Alternative 1 can accommodate future traffic volumes and results in acceptable traffic operations, which makes Alternative 1 preferred from a transportation and engineering perspective.</p> <p>Although Alternative 1 is approximately twice as expensive to construct than Alternative 2, the superior traffic operations of Alternative 1 outweigh the lower costs, constructability advantages, and reduced footprint impacts associated with Alternative 2. <b>As such, Alternative 1 is the overall preferred alternative for improvements to the Essa Road interchange.</b></p>

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<b>Evaluation Summary: Highway 400 / Dunlop Street Interchange</b>			
Category / Evaluation Factor	Alternative 1 Parclo B3	Alternative 2 Parclo B with Roundabout Ramp Terminals	Summary
<b>Natural Environment</b>	●	●	Both alternatives result in similar potential impacts to fish and fish habitat (one coldwater fish habitat crossing just south of Dunlop Street at the Highway 400 interchange). There are no significant terrestrial values in the vicinity of the interchange. Alternative 1 has a slightly larger property footprint than Alternative 2 and therefore has potential to impact more deciduous forest than Alternative 2. Neither alternative impacts water wells, and both alternatives have a similar potential to impact groundwater recharge and discharge areas and areas of high aquifer vulnerability. As such, from a Natural Environment perspective, since Alternative 2 results in slightly less impacts to vegetated areas relative to Alternative 1, Alternative 2 is slightly preferred.
<b>Socio-Economic Environment</b>	●	●	Both alternatives are equally preferred from an air quality and noise perspective and result in the addition of new sensitive viewer groups because of property displacements associated with the interchange improvements. Alternative 1 results in a larger property impact than Alternative 2. Alternative 1 also has potential to impact more properties with high or medium potential for contamination than Alternative 2. As such from a socio-economic perspective, Alternative 2 is preferred.
<b>Cultural Environment</b>	●	●	Alternative 2 has the potential to impact less land with archaeological potential than Alternative 1. As such, Alternative 2 is slightly preferred from a cultural environment perspective.
<b>Traffic Operations</b>	●	☉	Both alternatives are equally preferred in terms of a low impact to the local road network and incident management for emergency services. Alternative 2 is slightly preferred in terms of addressing roadside safety as roundabouts in general can reduce the severity of collisions (by removing left turns) making them more desirable than Alternative 1 from a safety perspective. Alternative 2; however, operates at low level of service because a two-lane roundabout is not sufficient to accommodate future traffic volumes at either of the ramp terminals resulting in less than desirable traffic operations failing to improve traffic flow and congestion. Alternative 1 does address roadside safety and provides enhanced operations relative to the existing interchange and therefore, Alternative 1 is preferred from a traffic perspective.
<b>Operations and Maintenance</b>	●	●	Both alternatives allow equal opportunities for access to highway infrastructure for the purpose of highway rehabilitation. As such, both alternatives are equally preferred.
<b>Staging</b>	●	●	Both Alternatives have an estimated construction duration of 3 construction seasons, and have potential to require temporary ramp closures and detours during construction. As such, both alternatives are equally preferred.
<b>Drainage</b>	●	●	Both alternatives will require drainage improvements as both alternatives have increases in impervious surface area at the interchange. Both alternatives are equally preferred from a drainage perspective.
<b>Cost</b>	●	●	Both alternatives have a high potential to impact municipal utilities / residential services in the northeast quadrant and are therefore considered equal. Alternative 2 is less expensive from a construction cost standpoint than Alternative 1 and results in less required property and associated costs. Alternative 2 is also considered less expensive to maintain than Alternative 1 as the roundabouts do not require signalized intersections at ramp terminals. As such, Alternative 2 is preferred from a cost perspective.
<b>Overall Summary</b>			<p>Alternative 2 has a slightly smaller property footprint than Alternative 1 resulting in less impacts to the natural, socio-economic and cultural environments than Alternative 1. While both alternatives result in property impacts, Alternative 1 has the potential to impact additional residential and commercial properties relative to Alternative 2.</p> <p>Alternative 2 is less expensive to construct and has lower maintenance and property costs than Alternative 1. Although Alternative 2 is more desirable in terms of minimizing impacts to adjacent commercial property and is less costly to implement, these advantages are outweighed by the significant</p>

Evaluation Summary: Highway 400 / Dunlop Street Interchange			
Category / Evaluation Factor	Alternative 1 Parclo B3	Alternative 2 Parclo B with Roundabout Ramp Terminals	Summary
			disadvantages of Alternative 2 from a transportation and engineering perspective. Alternative 2, with two-lane roundabout ramp terminals will not be sufficient to accommodate future traffic volumes at the Dunlop Street interchange and fails to adequately improve traffic flow and congestion. Given that the incremental impacts with Alternative 1 can be addressed through mitigation (i.e. through design, implementing retaining walls where warranted), that the cost difference is not significant between the two alternatives and that Alternative 1 can accommodate future traffic volumes and provide enhanced operations relative to the existing interchange configuration, <b>Alternative 1 is the overall preferred alternative for the improvements to Highway 400 / Dunlop Street interchange</b>

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Evaluation Summary: Highway 400 / Bayfield Street				
Category / Evaluation Factor	Alternative 1 Parclo A / Diamond	Alternative 2 Parclo / Diamond with Roundabouts	Alternative 3 Diverging Diamond	Summary
Natural Environment	●	●	●	All alternatives result in similar potential impacts to fish and fish habitat, the terrestrial environment, groundwater, species at risk, and surface water. Alternative 1 has a slightly larger footprint than Alternatives 2 and 3 and Alternative 2 has a slightly larger footprint than Alternative 1 which translates to incremental increases in impacts to natural features. Alternative 1 results in the greatest overall impacts to the natural environment (including vegetation removals and impacts to domestic water wells). Although Alternative 2 impacts 2 water wells, it avoids impacts to the coniferous and mixed forest community in the southwest quadrant which is impacted by Alternative 3. As such, Alternative 2 is slightly preferred from a natural environment perspective.
Socio-Economic Environment	●	●	●	Alternative 1 has the largest property footprint of the alternatives and therefore results in the greatest potential impact to residential, commercial / industrial and community land uses. Alternative 1 is consistent with the long-term planning throughout the corridor as it was part of the Approved Plan from the 2004 TESR and does not preclude development of the Bayfield Street corridor, while Alternatives 2 and 3 result in significant changes to the road network of Bayfield Street. Mitigation strategies can be considered to minimize impacts wherever possible during design. As such, from a socio-economic perspective, Alternative 1 is preferred.
Cultural Environment	●	●	●	Alternative 3 has the potential to impact less of land with archaeological potential than Alternatives 2 and 3. As such, Alternative 3 is preferred from a cultural environment perspective.
Traffic Operations	●	●	●	Although Alternative 2 has potential to improve road safety because left-turns are eliminated, it operates at the lowest level of service, as two-lane roundabouts are not sufficient to accommodate future 2031 traffic volumes. Alternative 1 has acceptable traffic operations; however, some left-turning movements from and to ramps involve long delays at peak periods. Alternative 3 operates at the highest level of service with a two-lane southbound on-ramp and results in improvements to traffic operations at ramp terminals. Although all turning traffic benefits from free flow movements with Alternative 3, when Alternatives 1 and 3 are considered in the context of Bayfield Street operations as a whole, significant improvement cannot be achieved with Alternative 3, as such, Alternative 1 is slightly preferred from a traffic perspective.
Operations and Maintenance	●	●	●	All alternatives allow equal opportunities for access to highway infrastructure for the purpose of highway rehabilitation. As such, all alternatives are equally preferred.
Staging	●	●	●	All alternatives have similar impacts to traffic during construction requiring short duration ramp closures. Alternative 1 may require one additional construction season compared to Alternatives 2 and 3 however mitigation measures to reduce closures can be considered during further design stages. As such, all alternatives are equally preferred.
Drainage	●	●	●	All alternatives will require drainage improvements as all alternatives have increases in impervious surface area at the interchange. As such, all three alternatives are equally preferred.
Cost	●	●	●	Alternative 1 requires more property than Alternative 2 and Alternative 3. Alternatives 1 and 2 will have a slightly greater impact on utilities than Alternative 3 as they have potential to impact utilities / residential services in the north ramp terminal when Alternative 3 does not. Alternatives 1 and 3 have similar construction costs, while Alternative 2 has the lowest construction cost. Alternatives 1 and 3 are also expected to be more expensive to operate and maintain than Alternative 2. As such, Alternative 2 is preferred from a cost perspective.
<b>Overall Summary</b>				Although Alternative 2 has a small footprint which minimizes impacts to adjacent commercial, residential, institutional land uses and natural features, and is the least costly alternative to implement, this alternative provides unacceptable levels of traffic operations as

Evaluation Summary: Highway 400 / Bayfield Street				
Category / Evaluation Factor	Alternative 1 Parclo A / Diamond	Alternative 2 Parclo / Diamond with Roundabouts	Alternative 3 Diverging Diamond	Summary
				<p>roundabouts are not sufficient to address the 2031 traffic volumes.</p> <p>Relative to Alternative 3, Alternative 1 results in greater overall residential and commercial property impacts. Although Alternative 1 results in a greater property footprint than Alternative 3, Alternative 1 less costly to construct than Alternative 3 and is consistent with the long-term planning throughout the corridor as it was part of the 2004 TESR.</p> <p>Both Alternatives 1 and 3 result in acceptable traffic operations for the 2031 horizon year, and although Alternative 3 operates better at the Bayfield Street interchange ramp terminals, when considered within the context of traffic conditions beyond the interchange along Bayfield Street, the differences in benefits to traffic operations between the two alternatives is negligible.</p> <p>Although Alternative 3 provides notable benefits in terms of reduced impacts to businesses and residential property and has the potential to minimize severity of collisions by avoiding left hand turns, it is an unconventional interchange configuration that offers no substantial benefits to traffic operations and is more expensive to construct relative to Alternative 1. Given that Alternative 1 is a conventional interchange configuration that is projected to operate well at a relatively lower construction cost, and mitigation strategies can be considered to reduce property impacts wherever possible, <b>Alternative 1 is the preferred alternative for interchange improvements at Bayfield Street.</b></p>

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