

Steeles Avenue MCEA: Road alignment alternatives – Text description

The following provides a text version of the audio that is included in the Road alignment alternatives video.

Slide 1 (Introduction)

Hello and welcome to the road alignment alternatives video—the third of four video presentations for the Steeles Avenue MCEA Study. In this video, we will review the study progress and key decisions since the first PIC in November 2019.

Slide 2 (Roadway design components)

In the previous video, we presented the road cross-section and the road corridor that were developed earlier in the study. You can learn more about these components in the Background video, which is video 2.

The preliminary preferred design combines these components with a streetscape design for the future Steeles Avenue that will address travel demand in the community to 2031.

Slide 3 (Factors for Analysis and Evaluation)

When evaluating options for each of the design components, the project team considered numerous factors to address socio-economic, natural and cultural environments, surface and groundwater aspects, technical and transportation needs and preliminary cost estimates.

Slide 4 (Road Alignment Alternatives)

Three road alignment alternatives were developed within the south corridor. We refer to these options as Alternatives A, B and C.

All options tie into the existing Tremaine Road roundabout at the west end of the study area.

At the right side of the screen, you will see that all three options will cross a branch of Sixteen Mile Creek. The options differ with respect to their crossing points of the CP Rail line and Sixteen Mile Creek. They will also have different tie-in points to the existing Steeles Avenue near Industrial Drive.

Each option has slightly different impacts on properties and therefore different implications for residents and businesses.

All options will offer a connection to the existing Steeles Avenue and Peru Road. While the connection is depicted as a roundabout on this schematic, a signalized intersection is also being considered. The roundabout is shown here, since it has a larger footprint than the signalized intersection.

The future intersection or roundabout would also provide driveway access to the Milton Banquet and Conference Centre.

The next few slides show each of the road alignment alternatives.

Slide 5 (Road Alignment – Alternative A)

Alternative A is the shortest road and ties back to the existing Steeles Avenue sooner than the other alternatives. However, this option crosses the CP Rail line on a pronounced angle, which is not ideal from a design perspective. This Alternative also has greater impact on residential backyards. The crossing of Sixteen

Mile Creek is located on a bend in the creek, which is not ideal in terms of minimizing impacts to the creek and valley.

Slide 6 (Road Alignment – Alternative A)

Alternative A is the shortest road and ties back to the existing Steeles Avenue sooner than the other alternatives. However, this option crosses the CP Rail line on a pronounced angle, which is not ideal from a design perspective. This Alternative also has greater impact on residential backyards. The crossing of Sixteen Mile Creek is located on a bend in the creek, which is not ideal in terms of minimizing impacts to the creek and valley.

Slide 7 (Road Alignment – Alternative B)

Alternative B has a slightly deeper bend than Alternative A, which swings the road alignment a little further south. This option crosses the CP Rail line at a better angle compared to the other Alternatives. The Sixteen Mile Creek crossing is less intrusive to the creek and valley because it is located on a straight section of the creek. This option also has slightly less impact on residential backyards compared to Alternative A.

Slide 8 (Road Alignment – Alternative C)

Alternative C was developed to see how the alignment would look if we moved further away from the residential area. However, this is the least direct and longest route. A large portion of the roadway lies within the Sixteen Mile Creek floodplain and therefore certain flood protection design criteria cannot be met. This Alternative has a poor crossing angle at the CP Rail line and the greatest impact on the Sixteen Mile Creek and valley due to the location of the roundabout or intersection at Industrial Drive. This option also has a much greater impact on an existing business, as the new road would be in close proximity to the building.

Slide 9 (Road Alignment Alternatives – Evaluation)

Our detailed assessment and evaluation table compares the three road alignment alternatives, considering all of the factors mentioned previously. A summary of the key factors considered is illustrated on this slide with the relative rankings/preferences among the three alternatives.

Alternative B is preferred over the other alternatives and provides the best ‘balance’ among all factors that were considered. Alternatives A and B are ranked similarly across Cultural Environment, Transportation, Technical Considerations and Costs. Alternative B has less impact on residential backyards than Alternative A and is therefore preferred with respect to the socio-economic factor. Alternative B provides a much better Sixteen Mile Creek crossing location and angle compared to Alternative A. This minimizes the impact on the creek and valley at the proposed new bridge site. Alternative B requires slightly more vegetation removal than Alternative A. However, this impact can be mitigated, and the impact is offset by the advantages at the Sixteen Mile Creek crossing.

Alternative C is least preferred because it does not meet flood protection design criteria and involves a much greater impact on the Sixteen Mile Creek valley and other natural features. This Alternative also has a greater impact on local business and is less efficient from a transportation network perspective given the intersection connection to existing Steeles Avenue and the longer route. The higher cost and poor crossing angle at CP Rail also make this option least preferred.

Therefore, Alternative B was selected as the preliminary preferred road alignment alternative.

Slide 10 (CP Rail Grade Separation Alternatives)

Another design component to be evaluated was the grade separation design at the CP Rail line. For this, we considered an underpass alternative, or road under rail, and an overpass alternative, or road over rail.

The underpass is preferred because it:

- has less property impact;
- is more consistent with Niagara Escarpment Plan policies that help protect escarpment views;
- has less visual intrusion to the nearby community; and
- is more attractive to pedestrians, cyclists and users of mobility devices since the multi-use path is raised above the roadway under the bridge.

Please listen to the next video to learn more about the preliminary preferred design for the Steeles Avenue MCEA Study.