

6 Alternative Solutions

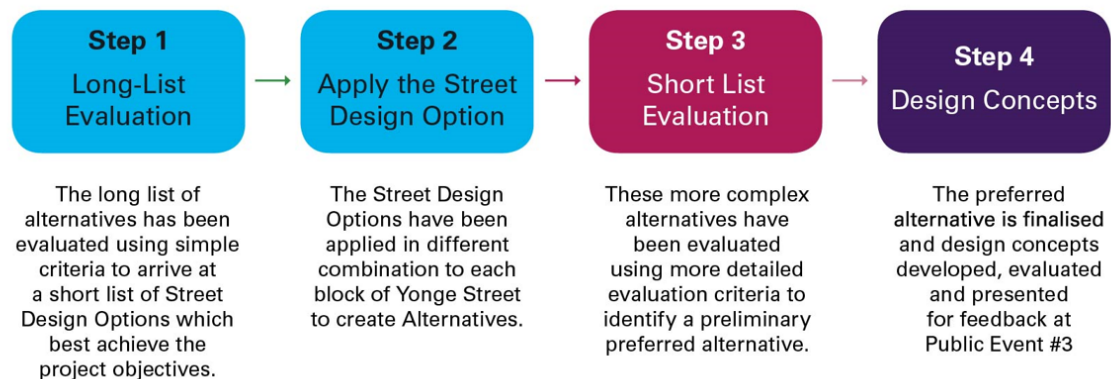
Introduction

- 6.1 Phase 2 of the EA Study identifies Alternative Solutions to address the Problem and Opportunity Statement, taking into consideration the existing environment within the Study Area and selects a preferred solution based on a thorough evaluation process and consultation with the public, agencies and other stakeholders.
- 6.2 This chapter of the ESR provides an overview of the process of developing and evaluating Alternative Solutions for the EA Study, and the results of this process.

Development of Alternative Solutions

- 6.3 Given the range of possible solutions for the EA Study and the comprehensive evaluation requirements of the EA process, the development and evaluation of Alternative Solutions has followed a structured series of steps, outlined in Figure 6-1.

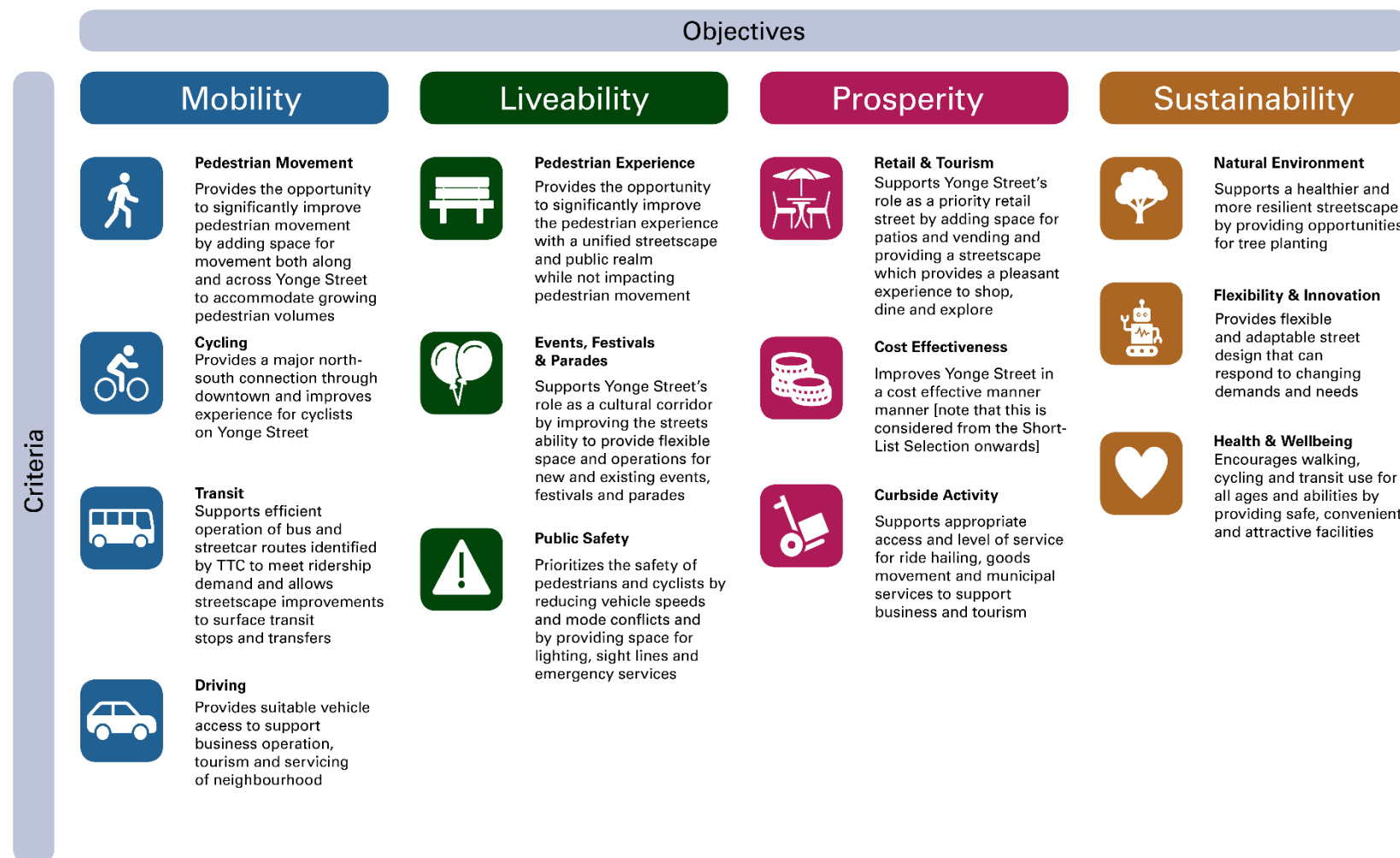
Figure 6-1: Alternative Solutions Evaluation Process



Project Objectives and Criteria

- 6.4 The process of developing Alternative Solutions has been guided by the Problem and Opportunity Statement. This statement, outlined in Chapter 5, was developed over several months, with various iterations presented and discussed with stakeholders on several occasions, including feedback received at:
- Project Team Meeting #2 (20 September 2017)
 - Project Team Meeting #3 (27 October 2017)
 - Project Team Meeting #4 (20 November 2017)
 - Stakeholder Advisory Group #1 (20 July 2018)
- 6.5 This development of the Problem and Opportunity Statement informed the identification of the four Project Objectives for yongeTOmorrow: **Mobility, Liveability, Prosperity and Sustainability**. A range of criteria for each objective was developed, as outlined in Figure 6-2.

Figure 6-2: yongeTOmorrow Project Objectives



- 6.6 The development of these objectives and criteria have been informed by a range of sources, including public policy, and have been refined over the course of the study, incorporating feedback received from stakeholders in various forums and public views expressed during public consultation, as outlined below.

Summary of Round One Consultation Feedback

- 6.7 As part of the Round One consultation process, residents, businesses and stakeholders were engaged in the consideration of many possible changes (long list of Alternative Solutions) for Yonge Street. In addition, the Project Team convened two sessions of the Stakeholder Advisory Group, the first of which to discuss the Vision and Project Objectives for the EA Study, to test the development of the Problem and Opportunity Statement; and the second to discuss the Existing Conditions of the Study area and the long-list of Alternative Solutions. The key feedback received through both sessions and broader public engagement resulted in the following themes emerging:
- Stakeholders recognized that Yonge Street should be considered as part of a broader transportation network that considers the projections of growth for residents, visitors and workers within the larger Study Area
 - Pedestrian experience on Yonge Street needs to be improved with wider sidewalks to handle daily volumes and that pedestrians should be prioritized as a primary mode of transportation on Yonge Street, followed by cyclists and then vehicles
 - Social issues and safety concerns were identified to be prevalent in the Study Area, and it was considered important for stakeholders to understand how the City plans to address these issues and their connection to streetscape design including through enhancing safety through lighting and wider sidewalks
 - Vehicular operations and servicing routes should be maintained in the future
 - Because there is currently no dedicated north-south cycling route between Sherbourne Street to the east and Beverly Street to the west, Yonge Street is ideal for cycling infrastructure. Yonge Street was considered ideal because of its absence of on-street parking and streetcar tracks, and low vehicle traffic
 - There was an expressed desire to see public realm enhancements including trees, planters, hanging gardens, relaxing spaces, space for entertainment and festivals and the introduction of more street furniture

Summary of Evaluation Process

- 6.8 A series of evaluations have been undertaken as a key part of the process to develop Alternative Solutions. These evaluations provide a systematic way of progressively assessing the many potential alternatives and identifying a manageable set of short-listed options which warrant more detailed evaluation, while maintaining a clear link to the Project Objectives and criteria at each stage.
- 6.9 As such, the level of detail in both the definition of each Alternative Solution and the evaluation is proportionate at each step, becoming progressively greater in subsequent steps. This means that more nuanced elements of the Alternative Solutions, such as potential temporal and spatial flexibility in the options (for example, where the operation of the street could vary on a seasonal basis, or where different blocks could be treated differently), are considered in more detail in the latter stages of evaluation. The purpose of the evaluation framework is to ensure that a clear and

replicable set of decisions are made at each stage, to eventually identify the Recommended Design Concept (and thereafter, the Preferred Design Concept) that addresses the unique needs and opportunities of the Yonge Street corridor.

- 6.10 The evaluation framework used various scoring systems at each of the different stages; however, a deliberate decision has been taken to not apply weightings to the criteria. This has been done to avoid decisions being made in a mechanistic fashion based on a misinterpretation of the evaluation. Rather, the evaluation acts as a tool that informs the decision-making process, by making the advantages and disadvantages of each Alternative Solution clear, so that informed- and evidence-based decisions can be made that recognize the trade-offs that must inevitably be made.

Step 1: Long-list Evaluation

Street Design Options

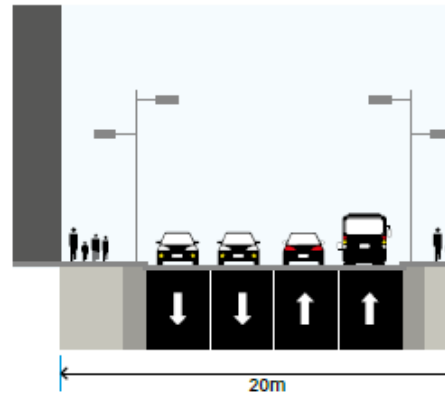
- 6.11 A key challenge in developing Alternative Solutions is the limited availability of space due to Yonge Street's 20m right-of-way for most of its length within the Study Area. This means that there is not enough room to accommodate all transport modes on Yonge Street itself, requiring trade-offs to be made. The first step in considering these trade-offs involved developing a range of Street Design Options, which were developed based on the following principles:
- **Improving conditions for pedestrians** – Alternative Solutions that reduce sidewalk widths will not be considered
 - **Ensure cycling facilities are provided** – Alternative Solutions that do not include cycling facilities on Yonge Street will provide them on a parallel street (not yet defined at this stage)
 - **Work within a 20m right-of-way** – the narrowest sections of Yonge Street have a 20m right-of-way which creates the greatest limitation on the development of Alternative Solutions and as such, the Street Design Options are based on what can fit within this width
 - A **Do Nothing option** is considered
- 6.12 The Street Design Options were developed as part of an iterative process that considered feedback received from stakeholders (outlined above), including:
- Project Team Meeting #5 (4 March 2019)
 - Technical Advisory Committee #1 (6 March 2019)
 - Stakeholder Advisory Group #2 (1 April 2019)
- 6.13 Fourteen Street Design Options were developed, illustrated in Figure 6-3, which were presented for feedback at Public Information Centre #1 on 9 May 2019. Each Street Design Option is defined as a diagrammatic cross section within a 20m right-of-way, organized into the following categories:
- Do Nothing (one Street Design Option)
 - Car Free (two Street Design Options)
 - One Driving Lane (five Street Design Options)
 - Two Driving Lanes (four Street Design Options)
 - Three Driving Lanes (two Street Design Options)

Figure 6-3: Street Design Options

Do Nothing

A

The Do Nothing alternative shows no change to the current conditions and is used for comparison purposes in the EA process.



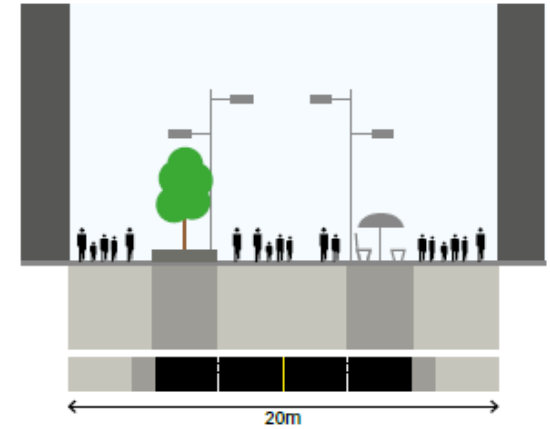
Car Free

A

This alternative provides the maximum benefit to pedestrians by providing more space to walk and opportunities to support patios, planting, and event space.

New operational strategies or an access schedule for vehicles to facilitate goods and services would be required. Alternative routes for regular transit service and driving would need to be established.

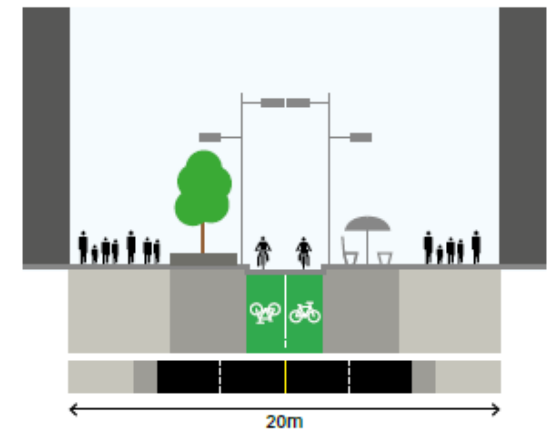
Two-way cycling facility on parallel street



B

This alternative significantly improves conditions for pedestrians and cyclists while adding space for beautification and enjoyment.

New operational strategies or an access schedule for vehicles to facilitate goods and services would be required. Alternative routes for transit and driving would need to be established.

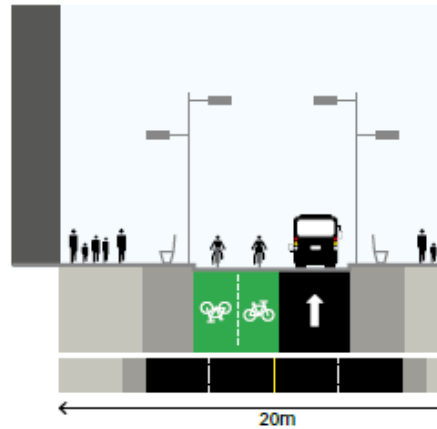


One Driving Lane

A

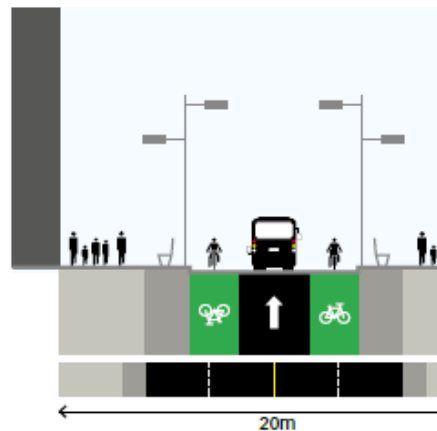
This alternative improves conditions for pedestrians and cyclists while allowing access for transit, goods and services.

Operational and access schedules would be required to define what activities have access to the single lane, when, and the direction of travel. One way travel reduces connectivity and route options for transit, goods, and services.



B

This alternative is very similar to the previous alternative but provides better connectivity for cyclists. However, transit users boarding buses may conflict with cyclists travelling in the same direction as vehicles.

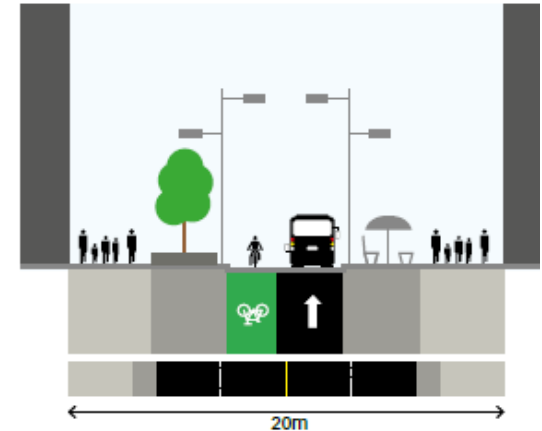


C

This alternative significantly benefits pedestrians and the public realm. Cyclists would benefit from a one way facility that would be paired with a facility in the opposite direction on a nearby street. One way travel reduces connectivity and route options for transit, goods, and services.

Operational and access schedules would be required to define the direction of travel, what types of vehicles have access, and at what times.

One-way cycling facility on parallel street

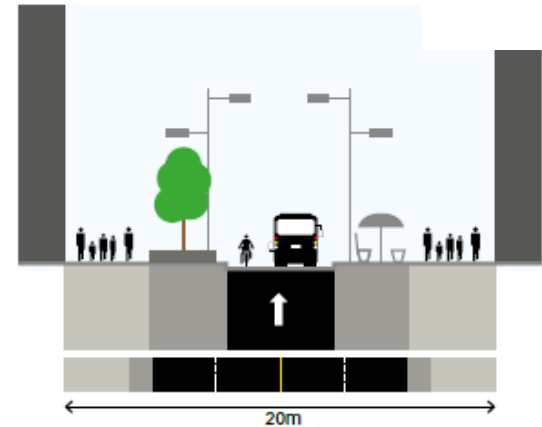


D

This alternative benefits pedestrians by increasing walking space and supporting patios, plantings, and space to enjoy the street.

Travel in one direction reduces mobility for drivers, but additional road width allows drivers to pass cyclists, transit, taxis and service vehicles.

Two-way cycling facility on parallel street



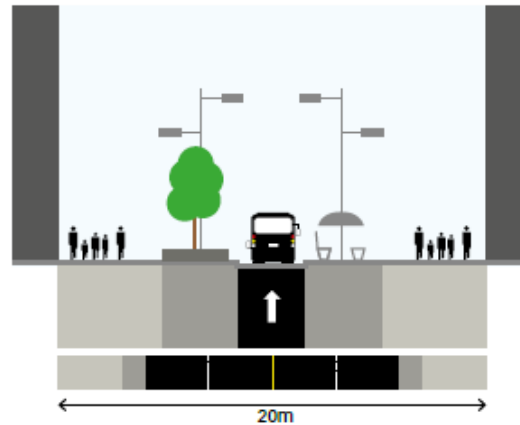
E

This alternative significantly benefits pedestrians by increasing space for walking and supporting space for enjoyment and beautification.

The single lane in one direction reduces mobility for all types of vehicles.

Operational and access schedules would be required to define the direction of travel, what types of vehicles have access, and at what times.

**Two-way cycling facility
on parallel street**

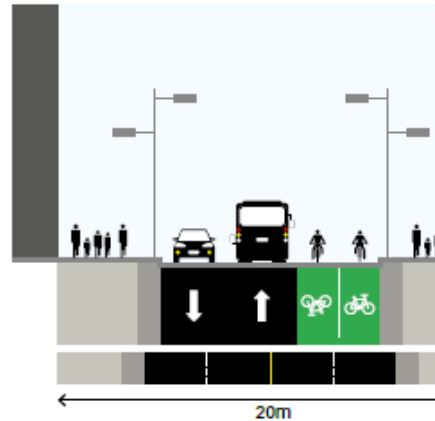


Two Driving Lanes

A

This alternative provides more benefit to cyclists than other modes. Space for walking is increased slightly. There is not enough space to accommodate planting, patios, or other spaces for enjoyment and beautification.

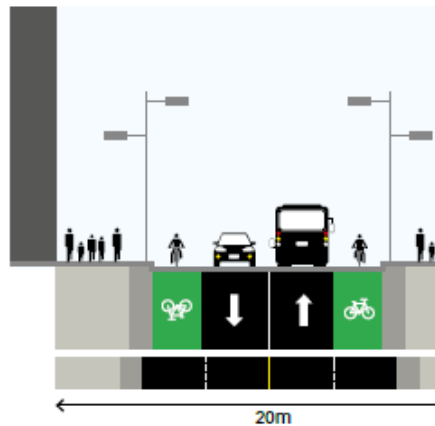
Convenience is reduced for drivers and servicing with the removal of two driving lanes.



B

This alternative provides more benefits to cyclists and has improved connectivity over the previous alternative. Space for walking is increased slightly. There is not enough space to accommodate planting, patios, or other spaces for enjoyment and beautification.

Convenience is reduced for drivers and servicing with the removal of two driving lanes.

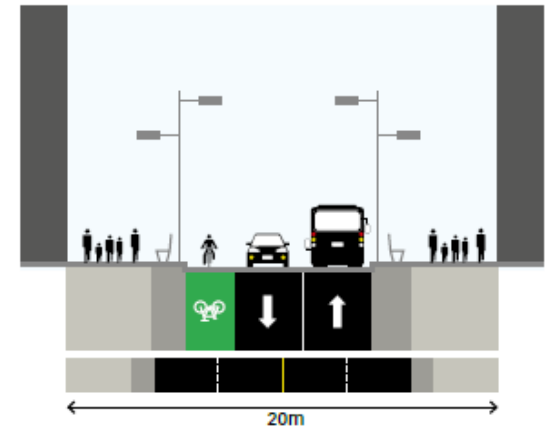


C

This alternative provides additional space to pedestrians for walking and also accommodates some street furnishings. Cyclists benefit from a one way facility that would be paired with a facility in the opposite direction on a nearby street. Space for walking is increased slightly. There is not enough space to accommodate planting, patios, or other spaces for enjoyment and beautification.

Convenience is reduced for drivers and servicing with the removal of two driving lanes.

One-way cycling facility on parallel street

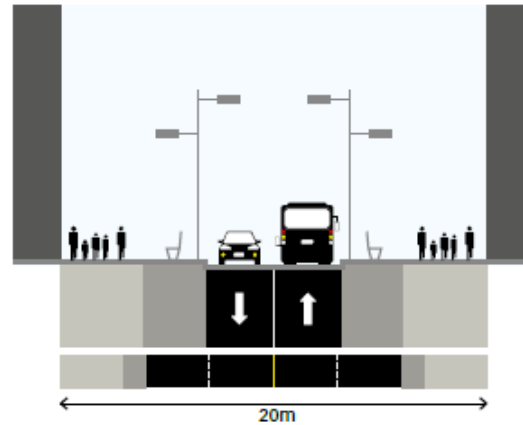


D

This alternative significantly improves the pedestrian environment by adding space to walk and accomodating space for enjoyment and beautification. Cyclists would continue to share the road with drivers.

Convenience is reduced for drivers and servicing with the removal of two driving lanes.

Two-way cycling facility on parallel street



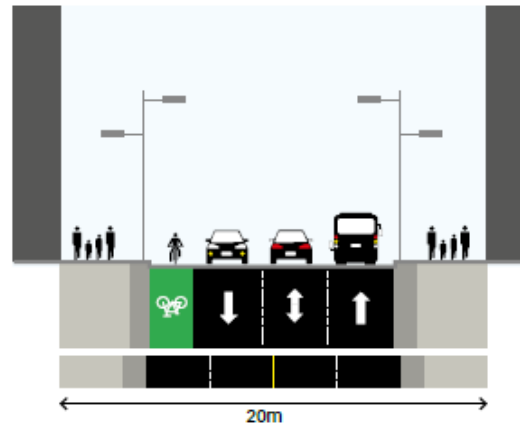
Three Driving Lanes

A

This alternative provides some benefit to cyclists with a one direction facility. Space for walking is increased slightly. There is almost no improvement to the pedestrian environment.

Convenience is somewhat reduced for drivers and servicing with the removal of 1 driving lane.

One-way cycling facility on parallel street

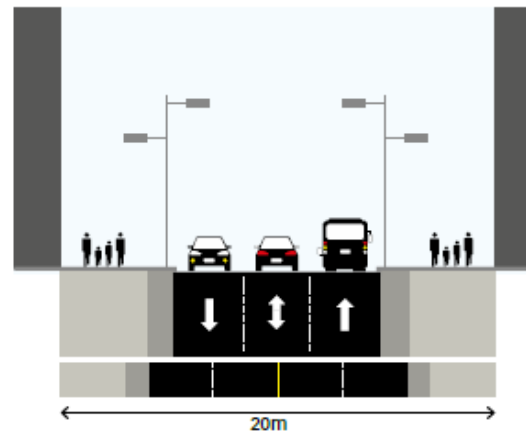


B

This alternative benefits pedestrians with increased walking space. Cyclists continue to share the road with drivers.

Convenience is somewhat reduced for drivers and servicing with the removal of one driving lane. There is not enough space to accommodate patios, plantings or other spaces for enjoyment.

Two-way cycling facility on parallel street



Evaluation of Street Design Options

6.14 The purpose of the evaluation at this stage was to consider whether the Street Design Options meet the project criteria or not. These Project Objectives and criteria were developed based on feedback received from stakeholders, including:

- Project Team Meeting #2 (20 September 2017)
- Project Team Meeting #3 (27 October 2017)
- Project Team Meeting #4 (20 November 2017)
- Stakeholder Advisory Group #1 (20 July 2018)

6.15 This set of Project Objectives and criteria was then presented at Public Information Centre #1 on 9 May 2019, and based on comments received, refinements were made, resulting in the refined descriptions provided in Figure 6-4.

Figure 6-4: Street Design Options Evaluation Criteria

 Pedestrian Movement	Provides the opportunity to significantly improve the pedestrian environment to create a pedestrian focused street.	 Street Activity	Supports Yonge Street's role as cultural corridor by maintaining space for existing events, parades and supports opportunities for new events and programming at a range of scales.
 Cyclist Movement	Provides a north south connection and improves the environment for cycling on Yonge Street.	 Streetscape & Public Realm	Supports improvements to the public realm without impacting pedestrian movement.
 Transit Movement	Allows for convenient and efficient surface transit and street access to subway entrances to service Yonge St.	 Public Safety	Supports a Vision Zero approach to eliminating fatal and serious injury road traffic collisions along Yonge St, and a CPTED approach to improving personal security through design.
 Traffic Movement	Maintains adequate driving access to support operations and economic vitality.		
 Economic Activity	Supports Yonge St's role as a priority retail street by providing additional room for patios and other on-street economic activity.	 Natural Environment	Promotes a resilient Yonge St through greening.
 Curbside Access	Supports efficient use of curbside space for taxi & ride hailing services, municipal services and goods movement.	 Flexibility & Innovation	Provides flexible and adaptable street space that can respond to changing demands and uses.
 Cost Effectiveness	Improves Yonge Street in a cost effective manner.	 Health & Wellbeing	Encourages adoption of active forms of transportation and minimizes the negative environmental impacts of motorized vehicles.

6.16 The subsequent evaluation was completed as an iterative process, considering feedback received at:

- Stakeholder Advisory Group #3 (18 July 2019): attendees were invited to rank the criteria in order of importance and share their views on which of the Street Design Options best met these criteria
- Project Team Meeting #6 (13 August 2019): the draft evaluation was shared with attendees, and feedback was received
- Technical Advisory Committee #2 (15 August 2019): the draft evaluation was shared with attendees, and feedback was received

6.17 Given the purpose of this evaluation, the scoring system aimed to identify whether each of the Street Design Options would be capable of meeting each criterion. This scoring system and results are set out in Table 6-1, and the evaluation against these criteria was based on a high-level qualitative assessment.

Table 6-1: Street Design Options Evaluation Results

	Criteria	Do Nothing	Car Free (A)	Car Free (B)	One Driving Lane (A)	One Driving Lane (B)	One Driving Lane (C)	One Driving Lane (D)	One Driving Lane (E)	Two Driving Lanes (A)	Two Driving Lanes (B)	Two Driving Lanes (C)	Two Driving Lanes (D)	Three Driving Lanes (A)	Three Driving Lanes (B)
Mobility	Pedestrian Movement	X	+	!	-!	-!	!	!	!	X	X	-!	!	X	X
	Cycling	X	!	+	!	!	-!	-!	-!	+	+	-!	-!	-!	X
	Transit	+	-!	X	-!	-!	-!	!	-!	!	!	!	!	+	+
	Driving	!	-!	X	-!	-!	-!	!	X	!	!	!	!	!	!
Liveability	Pedestrian Experience	X	+	+	!	!	+	+	+	X	X	-!	!	X	-!
	Events, Festivals & Parades	-!	+	X	-!	-!	-!	!	X	X	X	-!	!	-!	!
	Public Safety	X	+	!	!	!	-!	!	!	X	X	-!	!	X	-!
Prosperity	Retail & Tourism	X	+	+	!	+	+	+	+	X	X	-!	!	X	-!
	Cost Effectiveness	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sustainability	Curbside Activity	!	-!	X	-!	X	X	!	X	-!	-!	-!	!	!	+
	Natural Environment	X	+	+	-!	-!	+	+	+	X	X	X	!	X	X
	Flexibility & Innovation	X	+	X	X	X	X	+	X	X	X	-!	+	X	+
	Health & Wellbeing	X	+	+	-!	-!	-!	!	-!	X	X	-!	!	X	X
	Conclusions	⊗	✓	⊗	⊗	⊗	⊗	✓	⊗	⊗	⊗	⊗	✓	⊗	⊗

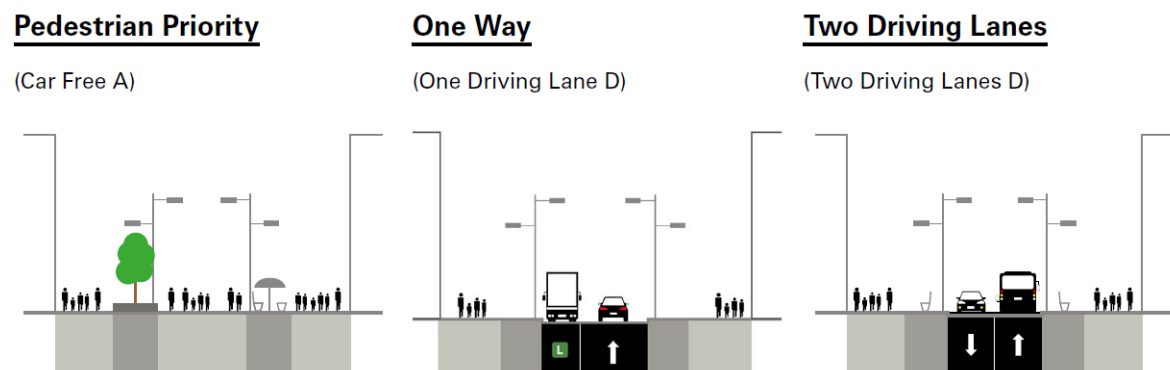
+	Meets study objective
!	Meets study objective with some challenges
-!	More significant challenges to meet study objectives
X	Fails to meet study objective

Outcomes

- 6.18 Based on the evaluation, the three Street Design Options shown in Figure 6-5 were shortlisted, because these Street Design Options prioritize pedestrian movement and improve the pedestrian experience on Yonge Street. They also provide a significant opportunity to add planting, seating, and patios. The central open space in each option supports flexibility and hosting events while the driving environment is focused on providing access to Yonge Street as a destination, rather than a route for passing through the city. All three Street Design Options:

- Increase pedestrian clearways in each direction
- Recommend a separated cycling facility on a parallel street
- Allow for the night bus service in two directions
- Consider timed access for different vehicle types (deliveries, loading, ride hail)

Figure 6-5: Overview of Shortlisted Street Design Options



Step 2: Application of Street Design Options

Shortlisted Street Design Options

- 6.19 A summary of the key features of each shortlisted Street Design Options is provided below and further illustrated in this section:
- **Street Design Option 1 (Two Driving Lanes D)** – a focus on driving access with two-way travel and an improved pedestrian experience. Some space for seating, trees and patios. Existing TTC night bus service is maintained overnight in two directions. A separated cycling facility is provided on University Avenue
 - **Street Design Option 2 (One Driving Lane D)** – one driving lane with space dedicated for deliveries, ride hailing and services, and an improved pedestrian experience. Some space for seating and patios. Existing TTC night bus service is maintained overnight in two directions. A separated cycling facility is provided on University Avenue
 - **Street Design Option 3 (Car Free A)** – a focus on active transportation and the ability to accommodate growth, tourism and events. Vehicle access is managed by time. Existing TTC night bus service is maintained overnight in two directions. A separated cycling facility is provided on University Avenue

Considerations by Block

6.20 The next step in the evaluation process was to consider the characteristics of each block of Yonge Street between Queen Street and College / Carlton Street, and how each is used differently by people, acknowledging that the future of downtown Yonge Street could apply different Street Design Options on each block, and that the design does not need to be the same for the length of the Study Area.

6.21 The Study Area was divided into four sections in order to consider the unique features of each section in the application of the Street Design Options, outlined as follows:

1. Queen Street to Dundas Square:

- Destinations include CF Toronto Eaton Centre, theatres, offices, condo/hotels, retail and dining premises
- Lower levels of pedestrian crowding observed
- Access to major parking garages
- High levels of deliveries and ride hailing activities

2. Dundas Square to Edward Street:

- Destinations include Yonge-Dundas Square, movie theatres, retail and dining premises
- Highest pedestrian crowding observed
- Lots of pedestrian movement across Yonge Street
- Larger scale retail
- Demand for special events
- Limited requirement for curbside activity

3. Edward Street to Gerrard Street:

- Destinations include Ryerson University, mixed-use developments, retail and dining premises
- High pedestrian crowding observed
- Lots of pedestrian movement across Yonge Street
- Smaller scale retail
- Demand for special events
- Requirement for curbside activity and access to loading docks

4. Gerrard Street to College / Carlton Street:

- Destinations include condos & apartments, College Park, parks, retail and dining premises
- Contains a slightly wider right-of-way of 26m
- Lower pedestrian crowding observed
- Existing layby for deliveries and ride hailing

Development of Alternative Solutions

6.22 Based on the considerations by block, four Alternative Solutions were developed:

- **Alternative 1:** Prioritizing driving access
- **Alternative 2:** Addressing short term needs
- **Alternative 3:** Destination street – planning for growth and change
- **Alternative 4:** Balancing future growth with driving access

6.23 Each of these Alternative Solutions involves applying the three Street Design Options to each block of Yonge Street in varying combinations. They were developed using an iterative process, taking into account feedback from stakeholders at the following sessions:









- Project Team Meeting #7 (13 September 2019)
- Project Team Meeting #8 (7 October 2019)
- Technical Advisory Committee #3 (16 September 2019)
- Stakeholder Advisory Group #4 (24 September 2019)
- The City of Toronto's Infrastructure and Environment Committee (17 October 2019)

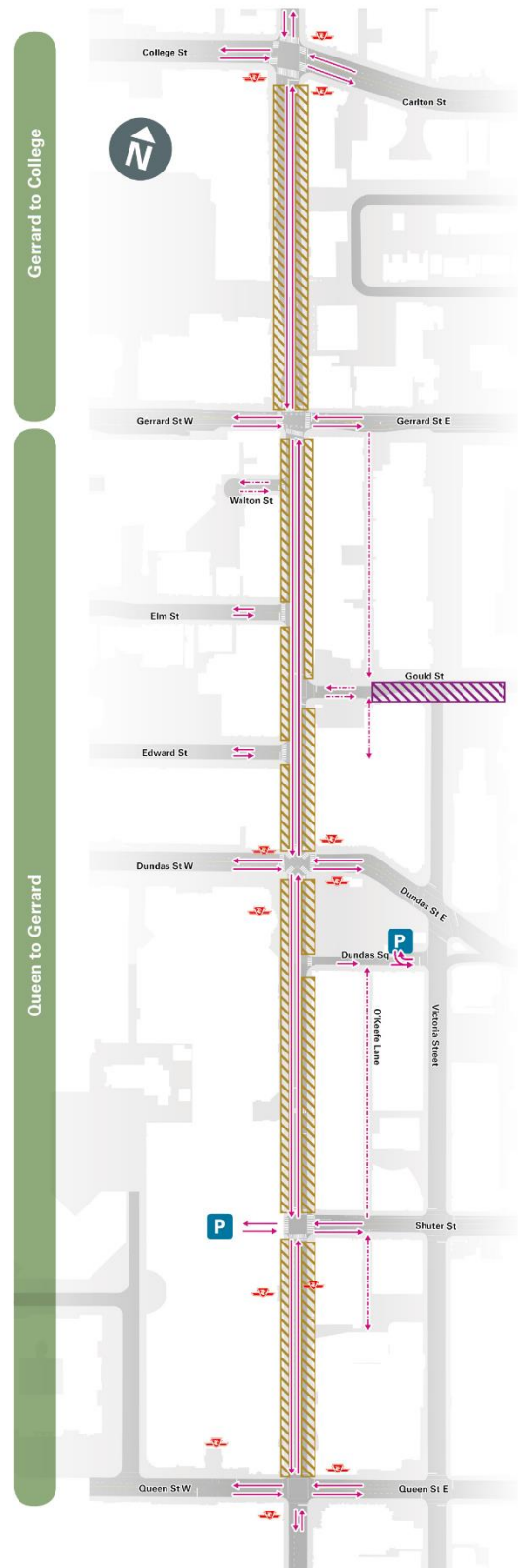
6.24 The Alternative Solutions were presented at Public Information Centre #2 on 21 November 2019 and are described below.

Alternative 1: Prioritizing driving access

- **Two Driving Lanes** has been applied from Queen Street to College / Carlton Street to allow local access and through traffic
- **Access is maintained at all times** for all vehicle types (cars, buses, trucks)
- **Temporary lane closures** are required to support events, festivals and parades. Laybys can be used to support deliveries and ride hailing.
- **Sidewalk widths** between Dundas Square and Edward Street are insufficient to accommodate forecasted 2031 pedestrian volumes.
- Pedestrian Priority Timed Access
- Ride hailing is unrestricted
- Deliveries are unrestricted

Legend









-  Widened sidewalks
-  Pedestrian priority
-  Direction of travel
-  Managed access by time
-  Unrestricted service access
-  Traffic barrier
-  Subway entrance
-  Parking garage

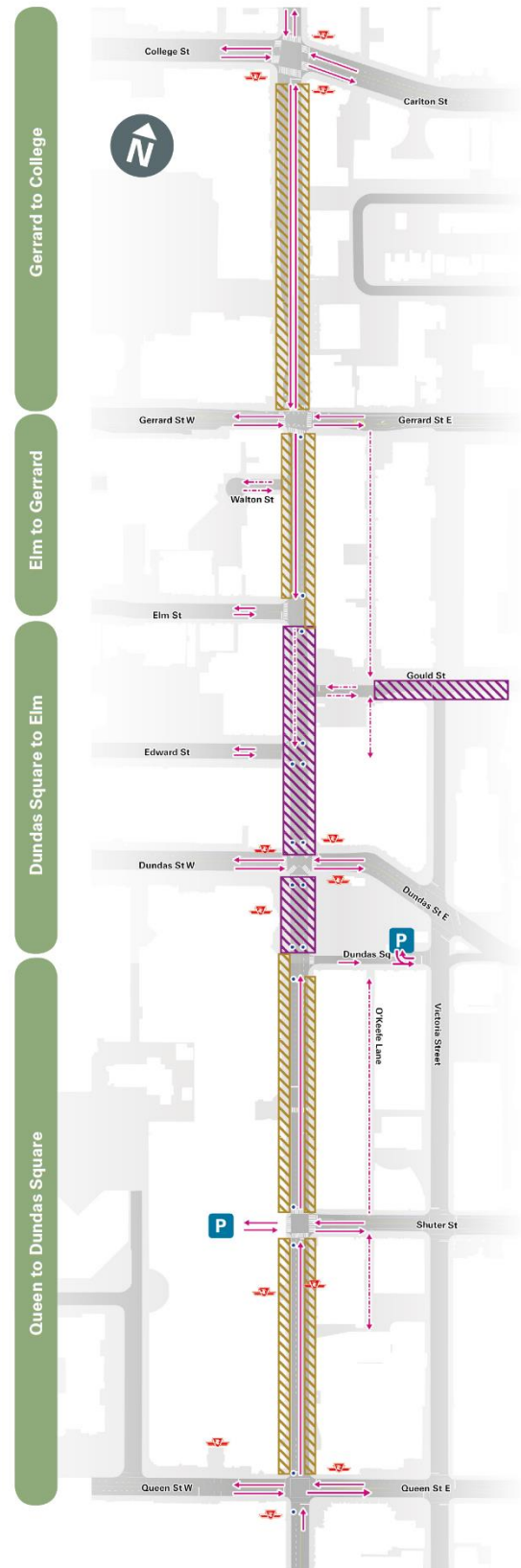


Alternative 2: Addressing short term needs

- **Pedestrian Priority** (vehicular traffic excluded) has been applied between Dundas Square and Elm Street where pedestrian crowding is the highest and events are most frequent
- From Dundas Square to Edward Street only emergency vehicles would have access during the day. From Elm Street to Edward Street southbound travel would allow service access to local businesses
- **One Way** would be applied from Queen Street to Dundas Square and from Elm Street to Gerrard Street. This is to allow local access but discourage through-traffic
- Between Gerrard Street and College Street, **Two Driving Lanes** has been applied where pedestrian crowding is low and ride hailing is common
- **97B day bus cannot be accommodated** on Yonge Street from Queen Street to Gerrard Street
- Night buses and emergency shuttles can be accommodated in both directions
- Pedestrian Priority Timed Access:
 - Night buses: 1.30 a.m. to 6 a.m. (1.30 a.m. to 8.30 a.m. on Sundays)
 - Ride hail: 9 p.m. to 6 a.m.
 - Servicing: 12 a.m. to 7 a.m.

Legend









-  Widened sidewalks
-  Pedestrian priority
-  Direction of travel
-  Managed access by time
-  Unrestricted service access
-  Traffic barrier
-  Subway entrance
-  Parking garage

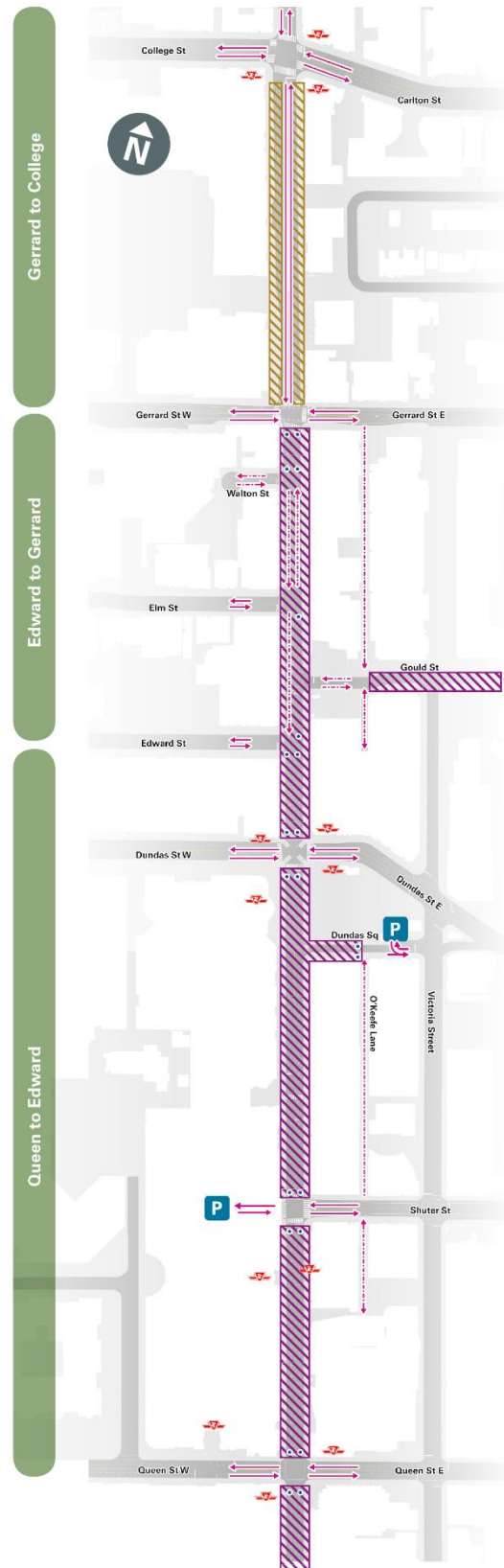


Alternative 3: Destination street – planning for growth and change

- **Pedestrian Priority** has been applied between Queen Street and Gerrard Street where future pedestrian crowding is anticipated and to support a flexible destination street for events and tourism
- From Queen Street to Edward Street only emergency vehicles would have access during the day. Between Edward Street and Walton Street, there would be limited access to serve local businesses
- **Two Driving Lanes** between Gerrard Street and College / Carlton Street has been applied where the right-of-way is wider, pedestrian crowding is low and ride hailing is common
- **97B day bus cannot be accommodated** on Yonge Street from Queen Street to Gerrard Street Night buses and emergency shuttles can be accommodated in both directions
- **Pedestrian Priority Timed Access:**
 - Night buses: 1.30 a.m. to 6 a.m. (1.30 a.m. to 8.30 a.m. on Sundays)
 - Ride hail: 9 p.m. to 6 a.m.
 - Servicing: 12 a.m. to 7 a.m.

Legend









-  Widened sidewalks
-  Pedestrian priority
-  Direction of travel
-  Managed access by time
-  Unrestricted service access
-  Traffic barrier
-  Subway entrance
-  Parking garage

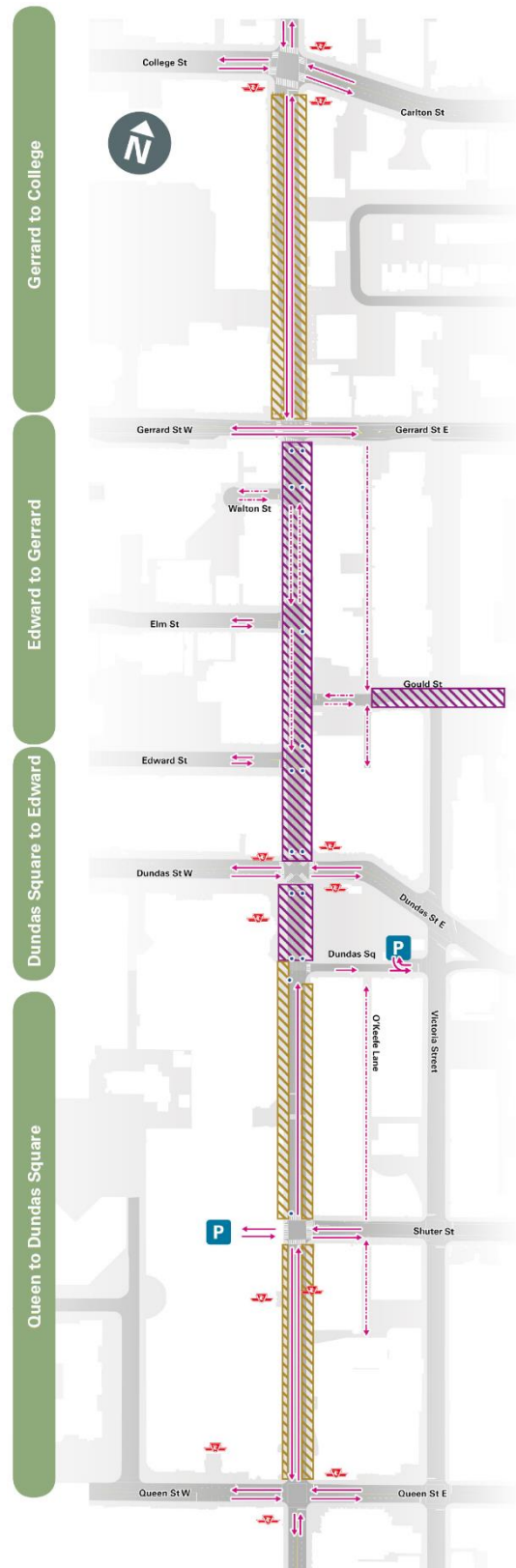


Alternative 4: Balancing future growth with driving access

- **Pedestrian Priority** has been applied between Dundas Square and Gerrard Street where pedestrian crowding and frequency of events are highest
- Between Dundas Square and Edward Street only emergency vehicles would have access during the day
- From Edward Street to Walton Street, there would be limited day access to serve local businesses
- **One Way** will be applied from Shuter Street to Dundas Square. This is to allow local access but discourage through-traffic
- **Two Driving Lanes** has been applied from Queen Street to Shuter Street, and Gerrard Street to College / Carlton Street pedestrian crowding is lower and driving access for off-street parking and ride hail is needed
- **97B bus and Wheel-Trans cannot be accommodated** from Dundas Square to Gerrard Street, but night buses and emergency shuttles can operate in two directions
- **Pedestrian Priority Timed Access:**
 - Night buses: 01:30 to 06:00 (01:30 to 08:30 on Sundays)
 - Ride Hail: 21:00 to 06:00
 - Servicing: 00:00 to 07:00

Legend

-  Widened sidewalks
-  Pedestrian priority
-  Direction of travel
-  Managed access by time
-  Unrestricted service access
-  Traffic barrier
-  Subway entrance
-  Parking garage



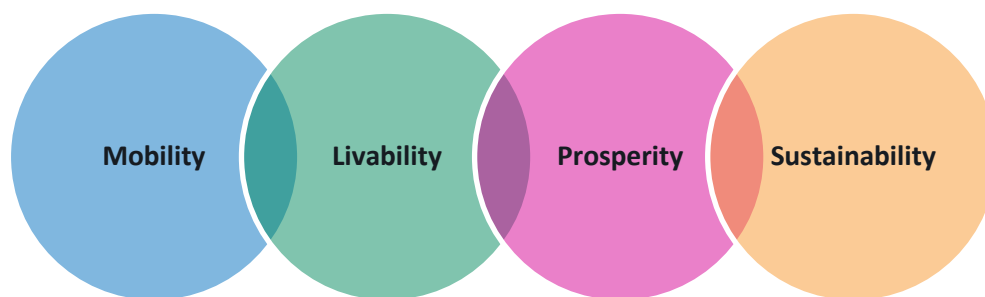
Step 3: Short List Evaluation

- 6.25 As part of Step 2, the Street Design Options were applied to Yonge Street in different combinations to develop four Alternative Solutions. In Step 3, a more detailed evaluation of the four Alternative Solutions was prepared using a custom evaluation framework, using quantitative and qualitative indicators to inform the assessment against each criterion. The evaluation of the four Alternative Solutions took account of transportation modelling on the traffic and transit impacts of each, as well as utilizing the evaluation framework described in more detail in the subsequent sections of this chapter of the ESR.

Evaluation Framework

- 6.26 Each of the Alternative Solutions were assessed against four Project Objectives for the yongeTOMorrow EA Study: **Mobility, Liveability, Prosperity and Sustainability** (shown in Figure 6-6) and associated criteria within each, based on a combination of qualitative and quantitative evaluation. Figure 6-7 summarizes the Evaluation Framework and assessment approach used to assess each of the four Alternatives at this stage of evaluation.
- 6.27 Subsequent sections summarize the Evaluation Framework and assessment approach used to assess each of the four Alternative Solutions at this stage of evaluation.

Figure 6-6: Summary of yongeTOMorrow Project Objectives



Mobility

- 6.28 The evaluation of each Alternative Solution against the Mobility objective covers the following criteria assessment:
- **Pedestrian Movement** – the extent to which each Alternative Solution can improve pedestrian movement by adding space for movement both along and across Yonge Street to accommodate growing pedestrian volumes
 - **Cycling** – the extent to which each Alternative Solution provides for north-south connections through downtown and improved experience for cyclists on Yonge Street
 - **Transit** – the extent to which each Alternative Solution supports the efficient operation of bus and streetcar routes identified by TTC to meet ridership demand and allows streetscape improvements to surface transit stops and transfers
 - **Driving** – the extent to which each Alternative Solution provides suitable vehicle access to support business operation, tourism and servicing of the neighbourhood

Liveability

- 6.29 The evaluation of each Alternative Solution against the Liveability objective covers the following criteria assessment:
- **Pedestrian Experience** – the extent to which each Alternative Solution provides the opportunity to improve the pedestrian experience with a unified streetscape and public realm while not impacting pedestrian movement
 - **Events, Festivals and Parades** – the extent to which each Alternative Solution supports Yonge Street's role as a cultural corridor by improving the streets ability to provide flexible space and operations for new and existing events, festivals and parades
 - **Public Safety** – the extent to which each Alternative Solution prioritizes the safety of pedestrians and cyclists by reducing vehicle speeds and mode conflicts and by providing space for lighting, sight lines and emergency services








Prosperity







- 6.30 The evaluation of each Alternative Solution against the Prosperity objective covers the following criteria assessment:
- **Retail & Tourism** – the extent to which each Alternative Solution supports Yonge Street's role as a priority retail street by adding space for patios and vending and providing a streetscape which provides a pleasant experience to shop, dine and explore
 - **Cost Effectiveness** – the extent to which each Alternative Solution improves Yonge Street in a cost-effective manner
 - **Curbside Activity** – the extent to which each Alternative Solution supports appropriate access and level of service for ride hailing, goods movement and municipal services to support business and tourism

Sustainability

- 6.31 The evaluation of each Alternative Solution against the Prosperity objective covers the following criteria assessment:
- **Natural Environment** – the extent to which each Alternative Solution supports a healthier and more resilient streetscape by providing opportunities for tree planting
 - **Flexibility & Innovation** – the extent to which each Alternative Solution provides a flexible and adaptable street design that can respond to changing demands and needs
 - **Health & Wellbeing** – the extent to which each Alternative Solution encourages walking, cycling and transit use for all ages and abilities by providing safe, convenient and attractive facilities
- 6.32 Each of the four Alternative Solution were assessed based on the relative performance against each of the above assessment criteria. The detailed evaluation tables are provided in Appendices G and H of this ESR. The results of this evaluation detailed in subsequent paragraphs.
- 6.33 These results were presented to the public for feedback at Public Information Centre #2 prior to the final selection of Alternative 4 as the preliminary preferred Alternative Solution. A summary of consultation feedback gathered on each of the four Alternative Solutions is outlined in more detail in this chapter of this ESR.

Figure 6-7: Short List Evaluation Framework & Assessment Criteria

Objectives	<div>Preferred</div>					
	Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Summary
Mobility	<div>Pedestrian Movement</div>	!! Does not address crowding and crossings at busiest locations in 2031.	+ Addresses crowding and crossings at busiest locations in 2031.	++ Best addresses crowding and crossings in 2031 throughout focus area.	+ Mostly addresses crowding and crossings at busiest locations and in sections experiencing development.	Alternative 3 adds significant space for pedestrians to address crowding. Alternatives 2 and 4 also add significant space, but address crowding at busiest locations to a lesser degree. Alternative 4 provides more space around Gerrard Street in this area of planned growth, while Alternative 2 does not.
	<div>Cycling</div>	!! Provides the least improvement for cyclists travelling on Yonge Street.	! Provides some added comfort for cyclists travelling on Yonge Street in pedestrian priority areas and one way sections.	+ Provides the most comfort for cyclists travelling on Yonge Street within pedestrian priority areas.	! Provides the some added comfort for cyclists travelling on Yonge Street in pedestrian priority areas and one way sections.	All Alternatives include a dedicated cycling facility on University Avenue. Alternative 3 provides the best cycling environment on Yonge Street. Alternatives 2 and 4 provide smaller pedestrian priority zones and traffic calming.
	<div>Transit</div>	+ Lowest impact on buses and streetcar routes due to diverting drivers.	! Some mitigation measures required to manage impacts on buses and streetcars.	! Some mitigation measures required to manage impacts on buses and streetcars.	! Some mitigation measures required to manage impacts on buses and streetcars.	Alternative 1 has the least impact on buses and streetcars, while Alternatives 2, 3 and 4 have a similar level of impact. In all Alternatives, mitigation measures are needed to minimize impacts.
	<div>Driving</div>	+ Lower impact to road network performance with fewer mitigation measures required.	! Higher impact to road network performance requiring some mitigation measures.	! Higher impact to road network performance requiring some mitigation measures.	! Higher impact to road network performance requiring some mitigation measures.	Alternative 1 has the least impact on driving, while Alternatives 2, 3 and 4 have a similar level of impact. In all Alternatives, mitigation measures are needed to minimize impacts.
Liveability	<div>Pedestrian Experience</div>	! In areas of highest pedestrian crowding, there won't be enough space for street furniture.	+ In a few areas of crowding, there won't be enough space for street furniture.	++ Significant space for permanent and temporary furnishings to improve the pedestrian experience.	+ In a few areas of crowding, there won't be enough space for street furniture.	All Alternatives provide a 2.7m zone for seating and furnishing. This zone may need to be used for clearways where crowding is highest in Alternatives 1,2 and 4.
	<div>Events, Festivals & Parades</div>	! Road closures required for events on all blocks.	+ Supports events associated with Yonge-Dundas Square.	++ Strongly supports events on all blocks where tourism is high.	+ Supports events near Yonge-Dundas Square and Ryerson Campus.	Only Alternative 3 provides good support in all of the blocks associated with entertainment and tourism. While, while Alternatives 2 & 4 are more focused on Yonge-Dundas Square.
	<div>Public Safety</div>	!! Provides lowest level of protection for pedestrians and cyclists.	! Pedestrian priority zones protect active modes on only the busiest sections of Yonge Street.	++ Conflicts with drivers are reduced the most with a large pedestrian priority zone.	+ Pedestrian priority zones protect active modes near Ryerson and where development is planned.	Alternatives 3 and 4 have a greater positive impact on safety (compared to Alternatives 1 and 2), as they provide a greater separation from vehicles and allow activation of the street.

Objectives	Preferred					
	Criteria	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Summary
Prosperity	 Retail & Tourism	! In areas of highest pedestrian crowding there won't be enough space for patios.	+ Space for permanent and temporary patios /vending in the busiest sections.	++ Significant space for permanent and temporary patio patios/vending in blocks associated with entertainment.	+ Space for permanent and temporary patios /vending in the busiest sections and where the number of small shops is high.	All Alternatives provide a 2.7m zone for patios/ vending. In Alternative 1 there may not be enough space for patios on blocks with crowding. Patios can also occupy central area when pedestrian priority zones are in operation.
	 Cost Effectiveness	++ Lower costs associated with managing driving access (bollards etc) and public realm improvements.	+ Higher costs associated with managing driving access (bollards etc.) and public realm improvements.	! Highest costs associated with managing driving access (bollards etc) and public realm improvements.	+ Higher costs associated with managing driving access (bollards etc.) and public realm improvements.	Estimated costs for construction and operation are highest for Alternative 3 and lowest for Alternative 1, with Alternatives 2 & 4 somewhere in between.
	 Curbside Activity	++ Good access throughout for deliveries, ride hailing, servicing and off street parking.	+ Timed driving access restrictions limited to Dundas Square to Elm Street.	!! Highest level of timed driving access restrictions from Queen Street to Gerrard Street.	! Timed driving access restrictions from Dundas Square to Gerrard Street.	All Alternatives maintain access for ride hailing, deliveries, services and off street parking. Alternative 1 offers the most access during the day and Alternative 3 offers the least. An intermediate level of access is provided in Alternatives 2 and 4.
Sustainability	 Natural Environment	! In areas of highest pedestrian crowding there will not be enough room for tree planting.	+ In most blocks there will be opportunities for tree planting.	++ Significant space for available for planting.	+ In most blocks there will be opportunities for tree planting.	All Alternatives provide a 2.7m zone for planting. This zone may need to be used for clearways where crowding is highest in Alternatives 1,2 and 4.
	 Flexibility & Innovation	! Presence of driving lanes limits level of flexibility on regular & short term basis.	+ Good flexibility in the vicinity of Yonge-Dundas Square.	++ Highest level of flexibility throughout blocks associated with events, tourism and growth.	+ Good flexibility in the vicinity of Yonge-Dundas Square and section where development is planned.	Alternatives 2, 3 and 4 offer greater flexibility than Alternative 1, due to the presence of pedestrian priority zones.
	 Health & Wellbeing	! Reduced driving lanes provide some traffic calming and an improved pedestrian environment helps, helping promote active modes.	+ Good support for active modes in busiest pedestrian areas.	++ Extent of pedestrian priority zones provides highest support for active modes.	+ Good support for active modes in areas experiencing crowding and development.	Alternatives 2, 3 and 4 encourage walking, cycling and transit use to a greater degree than Alternative 1, due to the presence of pedestrian priority zones and traffic calming due to no through traffic.

Evaluation Findings

6.34 The evaluation criteria are described below by project objective and associated criteria.

Objective #1 and Associated Criteria – Mobility

Provide **Mobility** for a diverse and evolving city

6.35 The Mobility objective focuses on the potential to improve the movement of people and goods in the yongeTOMorrow EA Study Area through improved user choice, accessibility, and connectivity options. The evaluation of each of the Alternative Solutions against the Mobility objectives identified that:

- Alternatives 2-4 each provide significant space for pedestrian movement to address crowding issues, which is realized to the greatest extent in Alternative 3. Specifically, Alternative 4 provides more space around Gerrard Street in this area of planned growth due to the design features. Meanwhile, Alternative 1 does not address crowding and crossings at the busiest locations in the Focus Area and least meets this criterion for evaluation
- All Alternative Solutions include a dedicated cycling facility on University Avenue. Alternatives 2-4 provide additional comfort for cyclists travelling on Yonge Street, which is realized to the greatest extent in Alternative 3
- Alternative 1 presents the lowest level of impact on buses and streetcar routes due to diverting drivers. Some mitigations are required to manage the impact of Alternatives 2-4 on buses and streetcars
- Alternative 1 has the least impact on driving, while Alternatives 2-4 have a similar level of impact on road network performance requiring some mitigation measures to address these impacts

Objective #2 and Associated Criteria – Liveability

Celebrate and enhance **Liveability** by providing an enriching and adaptable urban destination

6.36 Yonge Street must continue to support existing urban form while ensuring flexibility in embracing future conditions. The corridor must provide a safe, enriching and layered streetscape that residents will embrace while continuing to attract visitors and tourists from all walks of life.

6.37 In addition, the street must support a growing local community and strong visitor base that will allow for 24/7 living including shopping, dining and entertainment. Existing neighbourhoods must be reinforced, and new developments must be integrated to ensure a local and sustainable identity. The evaluation of each of the Alternative Solutions against the Liveability objectives identified that:

- All Alternative Solutions provide the same 2.7m zone for seating and furnishing – however, in areas of highest pedestrian crowding between Dundas Square and Edward Street, Alternative 1 provides insufficient space for pedestrians. Alternatives 2-4 each provide space for

enhancing the pedestrian experience, in particular in Alternative 3, which adds significant space for permanent and temporary furnishings to improve the pedestrian experience

- Alternatives 2-4 each support events, festivals and parade activities in the Focus Area, to the greatest extent in Alternative 3. Alternatives 2 and 4 support events associated with Yonge-Dundas Square and Alternative 4 additional supports events near Ryerson Campus. However, Alternative 1 would require continued road closures for events on all blocks and therefore least addresses this criterion
- Alternative 3 and 4 deliver a greater positive impact on safety compared to Alternatives 1 and 2 as they provide a greater separation from vehicles and allow street activation. Alternative 1 provides the lowest level of protection for pedestrians and cyclists

Objective #3 and Associated Criteria – Prosperity

Support **Prosperity** with a public realm that further develops Yonge Street as an economic and cultural hub

6.38 To support and attract economic vitality, reliable access for people, goods and servicing to a connected community, city and region is paramount. Yonge Street’s future developments must be compatible with adjacent business and residential districts, and consider not only today’s construction, maintenance and operating costs, but tomorrow’s as well. The evaluation of each of the Alternative Solutions against the Prosperity objectives identified that:

- While all Alternatives provide a 2.7m zone for patio vending, Alternative 1 may lack sufficient space to accommodate patios on blocks with crowding. Significant space is added for this activity in Alternative 3, while space for permanent and temporary patios/vending in the busiest sections is provided in Alternatives 2 and 4
- Estimated construction and operation costs are highest for Alternative 3, lowest for Alternative 1 and in between for Alternatives 2 and 4. Higher costs in Alternatives 2-4 are associated with additional signage for traffic controls
- All Alternative Solutions maintain access for ride hailing, deliveries, services and off-street parking, with the greatest extent for this in Alternative 1 due to it comprising fewer proposed changes
- Alternative 3 offers the least flexibility for driving access within the Focus Area, while an intermediate level of access is provided in Alternatives 2 and 4

Objective #4 and Associated Criteria – Sustainability

Foster **Sustainability** with design that respond to our changing climate, protects our ecological assets, and benefits our wellbeing

6.39 In the face of a changing climate, environmental considerations are paramount. The planning, design and implementation of a transformative Yonge Street must focus heavily on sustainability and the environment. It must consider all seasons and the micro-climate (sunlight, snow, wind,

weather, etc.) as well as air and noise pollution to ensure a healthy, resilient environment for current and future communities.

6.40 By adopting Complete Streets and Vision Zero principles today and planning for tomorrow, Yonge Street can become a flexible and dynamic hub of innovation that can grow with changes in technology, rather than being hampered by them. Through enhancing Yonge Street's existing natural and cultural assets by integrating the streetscape, street trees, open space and public art, an environment that promotes safe and healthy living can be developed. The evaluation of each of the Alternative Solutions against the Prosperity objectives identified that:

- All Alternative Solutions provide a 2.7m zone for planting, with such enhancements to the natural environment most possible in Alternative 3 and least possible in Alternative 1. In Alternatives 2 and 4, there are opportunities for tree planting in most blocks at relative levels to each other
- Alternatives 2, 3 and 4 offer greater flexibility for multi-modal and mixed-use activities due to the presence of pedestrian priority zones, while Alternative 1 limits the level of flexibility on a regular and short-term basis
- Alternatives 2, 3 and 4 encourage active and sustainable transportation choices to a greater degree than Alternative 1. Alternatives 2 and 4 provide good support for active modes in areas experiencing crowding and development

Impacts of Alternative Solutions on Driving & Transit

6.41 Traffic modelling was performed to compare the four Alternative Solutions and inform the evaluation of each, based upon concept designs developed for each during this EA Study. Each of the Alternative Solutions generally results in a worsening of network performance compared to the future baseline, which is to be expected as there is a localized reduction in vehicular traffic capacity on Yonge Street.

6.42 Alternative 3 was found to perform significantly worse at the network level when compared to the other options, in all three peak hours. This indicates significant congestion and gridlock due to the full Yonge Street closure. For general traffic, impacts to northbound (NB) and southbound (SB) travel times are generally greater, and more noticeable than impacts on eastbound (EB) and westbound (WB) travel times. Results on each street include:

- **Bay Street:** impacts to NB movement on Bay Street in the p.m. is particularly high, with increases of over a minute in all Alternative Solutions except Alternative 1. Other increases above one minute occur on Bay Street NB and SB in the a.m. This indicates that Bay Street is particularly sensitive to changes on Yonge Street. Similar impacts can be seen on Bay Street during the Saturday peak hour, albeit at a smaller scale, with Bay Street seeing increased travel time in both directions of less than one minute
- **Church Street:** impacts are more moderate than Bay Street across all four Alternative Solutions, in the a.m., p.m. and Saturday peak hours, though the street still sees increases in travel times southbound in both a.m. and p.m. in Alternatives 2 and 3. This indicates that vehicles are choosing Bay Street over Church Street as an alternative route to Yonge Street, and a more optimal solution that encourages more traffic to switch to Church Street would be beneficial

- **Yonge Street:** results are limited to Alternative 1 as through-traffic is restricted in Alternatives 2, 3 and 4. Alternative 1 sees a substantial increase in travel time (over a minute) in both directions, in the a.m., p.m. and Saturday peak hours. This occurs due to the lane reduction on the street and turning vehicles that cause significant queues
- **Dundas Street:** in the a.m., travel times decrease by up to 1 minute in Alternatives 2, 3 and 4 in both directions, due to reduced cycle length at the Yonge & Dundas intersection. Alternative 1 sees no change as the cycle length remains unchanged. In the p.m. peak hour, however, westbound traffic sees moderate to significant delays (except in Alternative 4) because of a backup of traffic turning northbound onto Chestnut Street. This backup is caused by congestion on Bay Street, which propagates onto side streets. In the Saturday peak hour, Dundas Street sees a small reduction of travel time (less than 30 seconds) in both directions in all Alternative Solutions except Alternative 1, which sees a negligible increase in travel time in the eastbound direction
- **College Street:** Minimal impacts to travel times are observed in both directions, during the a.m., p.m. and Saturday peak hours
- **Queen Street:** Moderate impacts to travel times are observed in both directions during both the a.m. and p.m. peak hours, most notably in Alternatives 2 and 3. This is partially attributed to relaxed turning restrictions at the Yonge and Queen intersection, as cars deviate around the Yonge Street closure. The impacts to Queen Street during the Saturday peak hour are largely negligible

6.43 Impacts to transit within the Study Area were also taken into consideration and assessed through traffic modelling. The key findings as a result of this work identified that:

- **501/502 Streetcar:** Impacts are not significant in the eastbound direction in the a.m., p.m. and Saturday peak hours, except Alternative 3 in the p.m., caused by general network congestion. In the p.m., impacts to the routes are not significant in the westbound direction either. However, in the a.m., the streetcars face moderate increases in travel time (up to a minute) in Alternatives 1 to 3, and a significant increase in Alternative 4 (over two minutes)
- **505 Streetcar:** Minimal impacts are observed in both directions during the a.m. peak hour. Significant impacts are observed in the p.m. due to a high volume of turning traffic at Dundas Street and Chestnut Street. The 505 sees a small reduction in travel time (30-45 seconds) in both directions in 2, 3 and 4 in the Saturday peak hour; the route is not materially impacted in Alternative 1
- **506 Streetcar:** Minimal impacts are observed in the WB direction in both a.m. and p.m. peak hours. More substantial increases are eastbound in both a.m. and p.m. peak hours due to turning vehicles at College and Elizabeth. In the Saturday peak hour, the 506 sees over a minute of reduced travel time westbound and a small to negligible decrease in travel time WB
- **6A and 6B Bus:** (Bay Street) the routes do not experience the full effect of increased congestion on Bay Street due to the dedicated bus lane. However, since traffic can use the lane when turning, TTC bus travel times do increase on Bay Street, especially SB in the a.m. peak hour and NB in the p.m. peak hour. The impact is felt most in Alternative 3 due to the high level of congestion

Summary of Round Two Consultation Feedback

- 6.44 As part of the Round Two Consultation process, residents, businesses and stakeholders were engaged to consider:
- The short list of street design options (i.e. two driving lanes, one driving lane, pedestrian priority and cycling facility on alternative street)
 - The four Alternative Solutions (Alternatives 1-4), which demonstrate the application of different street design options on different blocks along Yonge Street between Queen Street and College / Carlton Street)
 - A review of a preliminary preferred Alternative Solution
- 6.45 The key feedback gathered through the stakeholder and public consultation at Public Information Centre 2 resulting in the emergence of the following themes:
- **Pedestrian experience:**
 - The pedestrian experience remains the top priority
 - Pedestrian priority zones were generally supported with consideration for expansion
 - Safety is a priority for all users and people with mobility needs and those who require assistive devices should feel at ease and have the space required to move freely on Yonge Street
 - **Cycling experience:**
 - Increased consideration for cycling on Yonge Street
 - Proximity of University Avenue cycling facility to Yonge Street inconvenient from east/north
 - **Vehicle access:**
 - Increased consideration for goods movement, ride hailing and business access
 - Vehicular access should be maintained (for example, to parking garages)
 - Concerns about increased travel times, traffic congestion and impacts to larger network
 - **Space for patios and street retail:**
 - Dedicated space for patios and street retail was expressed as important to contribute to economic vibrancy, street activation and safety
 - **Support festivals and events:**
 - Consideration of a phased or temporal approach to pedestrian priority zones
 - **College Street to Gerrard Street**
 - Increase consideration for cyclists
 - Maintain access for vehicles to allow residents to access their homes
 - **Gerrard Street to Elm Street**
 - Increase consideration for accessibility, cycling, goods movement and curbside movement
 - Increase consideration for conflicts between vehicles, pedestrians and cyclists
 - **Elm Street to Dundas Square**
 - Increase consideration for accessibility and cycling
 - **Dundas Square to Queen Street**
 - Increase consideration for accessibility, cycling, goods movement and transit.

Summary of Evaluation Results

- 6.46 Based on the results of the evaluation and informed by stakeholder consultation, Alternative 4 was selected as the preliminary preferred Alternative Solution. The full Public Consultation Report is provided in Appendix A of this ESR. Overall, Alternative 4 provides a good balance between improving Yonge Street as a destination for pedestrians, tourism and events, while also providing more opportunities for driving access to support businesses relative to other Alternative Solutions.
- 6.47 In particular, Alternative 4 encourages walking, cycling and transit use due to the presence of pedestrian priority zones and traffic calming. It provides good support for active modes in areas experiencing crowding and development and mostly addresses crowding and crossings at the busiest locations. Meanwhile, Alternative 4 provides some added comfort for cyclists travelling on Yonge Street through traffic calming.
- 6.48 Alternative 4, like Alternatives 2 and 3, requires some mitigation measures to manage the impact on buses, streetcars and the road network. However, unlike Alternative 1, which requires the least mitigation, Alternative 4 provides a good level of flexibility in the vicinity of Yonge-Dundas Square and sections where development is planned and better meets the needs of the range of users of the space. Alternative 4 also provides an intermediate level of access for curbside activity relative to the other Alternative Solutions while providing space for flexible retail and tourism activities on-street.
- 6.49 While Alternative 3 most strongly supports the EA Study's Project Objectives related to improving pedestrian experience and developing Yonge Street as a cultural destination, it also presents the most challenges in supporting driving access for transit, deliveries, ride hailing and access to off street parking. While Alternative 2 focuses on pedestrian and public realm improvements where Yonge Street is currently its busiest, from Dundas Square to Elm Street, Alternative 4 extends improvements north to Gerrard Street to consider the impacts of planned new developments.
- 6.50 Combining the evaluation and consultation feedback, the Design Team recommended that Alternative 4 best addresses the Project Objectives and the diversity of stakeholder priorities, although refinements were needed as follows:
- Increased consideration and comfort for cyclists
 - Increased flexibility and access for businesses, tourism and city operations, including goods movement, waste removal and ride hailing.