Date: July 17, 2020

Supplemental Information

Responses to questions raised at the June 15, 2020 Council Workshop on the Williams Parkway Review

Q1. Why are the splash pads ("kill strips") and centre medians for all options shown with concrete instead of asphalt?

A1. In response to concerns raised regarding the use of asphalt splash pads due to uneven settlement and weeds growing on the edges, the City standard for splash pads was changed around 2011 to require that these be made of concrete. The benefits are:

1. Avoidance of uneven settlement;
2. Differentiation of the surface texture between killstrips and multi-use trails;
3. Minimization of weed growth on centre medians and kill strips;
4. Allows for for the use of coloured concrete, which helps with the beautification of corridors;
5. Concrete surface is much more resistant to winter maintenance;

Staff note that, based on past tenders, there is slight increase in unit price for concrete vs asphalt, but life cycle cost analysis shows that concrete lasts longer than asphalt. The use of concrete is, therefore, less costly over the long term.

Coloured concrete is shown for median and splash pads in the slide deck presented at the workshop however during detail design, the extent of the coloured concrete will be reviewed and any maintenance concerns prior to finalizing.

Q2. Is the noise wall on Williams Parkway between McLaughlin Road and North Park Drive funded by development charges (DCs)?

A2. Yes, 90% of the funding for the noise wall that was recently installed on Williams Parkway between McLaughlin and North Park was from DC's, which is standard practice for the City when widening a road to 6 lanes.

Q3. How was the height of the noise wall measured?

A3. The height of the noise wall was determined through a noise study. The the height of the wall is measured from the grade at the cente line of the roadway. The height of the noise wall for Williams Parkway is 2.4 metres.

Q4(a). What is “induced demand”

A4(a). Induced demand refers to the documented phenomenon whereby adding new traffic lanes to a road encourages more people to drive and creates new demand for the road, resulting in a similar if not worse rate of congestion to that seen before the road widening. The concept of induced demand is accepted by many, though not all, practitioners in the transportation planning field. Further, additional work needs to be undertaken regarding the amount and impact of induced demand arising from road widenings, particularly on arterial roads, and the impacts of other provisions such as adding HOV/transit lanes and enhanced active transportation infrastructure.

The theory indicates that new trips induced by the added traffic lanes come from two potential sources; additional trips that have shifted from other modes of travel and those that had not been previously made. For the former, the initially faster travel times (or simply the perception of faster travel times) can encourage behavioural changes in travellers – the factors that made other modes (e.g. public transit, cycling) equally or more attractive than the car may no longer be seen that way; in other words, the car seems more attractive than other modes of transportation. For the latter, the additional capacity may encourage people who had chosen not to drive in the past to begin doing so.

For Williams Parkway, the addition of the new lanes for high occupancy vehicles and/or transit may serve to lower the amount of induced demand generated by the widening of the road for single use cars, as may the conversion of sidewalks to multi-use paths. It is unclear, pending further studies by transportation practitioners, what the extent of the mitigation would be.

The theory of induced demand does not account for additional new car trips that are generated from traffic that is diverted or reallocated from elsewhere in the network. These are car trips that have shifted from other roads and/or other time periods (e.g. trips previously made outside of the peak period that shift to the peak) to the road with the new lanes.

Research indicates that increasing capacity encourages more people to drive and that induced and diverted traffic often fill much if not all of the capacity added to a congested urban road. Case studies have shown that although new lanes lead to reduced travel times in the short term, the additional capacity often leads to an increase in the number of vehicles using the road in the longer term, and to a return of congested conditions.

In addition, in rapidly growing areas such as Brampton, population and employment growth leads to rising demand for travel. This by itself will overwhelm Brampton’s roads unless we can foster a shift to sustainable modes of transportation (i.e. replacing some of the single-occupant car trips with trips made by public transit, cycling, walking, or a shared mode such as carpooling or services like Uber). All of the options presented for Williams Parkway provide residents with options for various sustainable modes of travel.

Q4(b). Is induced demand accounted for in the transportation modelling for Williams Parkway?

A4(b). The City's travel demand forecasting model attempts to replicate and predict the decision-making processes and travel choices of individuals in Brampton and the broader region, reflective of local demographic and economic conditions and the availability and quality of transportation options.

Additional capacity and induced demand are addressed in the City's travel demand forecasting model in the following ways:

1. As part of the model's traffic assignment procedure, the model seeks, using the principle of user-equilibrium, to ensure that no driver can unilaterally reduce his/her travel time by shifting to another route. If the capacity of a road is increased, the traffic assignment procedure will initially reduce the travel time on that road, thus making the road more attractive. This will lead, in subsequent iterations, to more traffic being assigned to the road (shifting traffic from other roads). Eventually, when the system achieves equilibrium, there will be more traffic on the road than before it was widened.

2. As an activity based model, the model simulates each person's travel choice based on the availability of modes and the travel times and costs associated with each mode. For people with access to a car, reduced vehicle travel times increase the likelihood that a person will choose to drive. Additional capacity will, therefore, lead to the model forecasting a higher share of trips being made by car. [Note: this is balanced out to a degree by user-equilibrium and rising demand for travel.]

3. Increased population and employment are accounted for in the model's trip generation procedure. The procedure predicts the number of trips originating in or destined for each traffic analysis zone in the model based on the number of people and jobs in each zone.

As is the case for any travel demand forecasting model, the City's model cannot account for all of the variables that go into individual decisions about where, when, and how people choose to travel. Consequently, not everything that factors into induced demand can be accounted for in the model. This must be taken into consideration when interpreting the model's forecasts. That being said, the City's travel demand forecasting model is a sophisticated activity-based tool, developed by the University of Toronto's Travel Management Group (Dept of Engineering), and used by municipalities across the GTHA. Brampton Transportation Planning staff stands behind the results of the model as a tool to inform planning level decisions about transportation options. The City's model is about to be further updated to enhance its capabilities with respect to transit and active modes, and to incorporate new population and employment forecasts, providing for even greater demand forecasting accuracy.

Q5. Confirm the total number of net new trees for each of the options presented at the Workshop.

A5.
Number of trees removed for noise wall – 240
Number of trees still to be removed for Options 1 to 3 – 500
Number of trees to be replanted for each of the options:

1. Option 1 – 600 trees;
2. Option2 – 1100 trees;
3. Option 3 – 2350 trees;

Additional soft landscaping would be considered for any of the options above during detailed design.

Q6. Review the placement of streetlight poles in Options 1 and 3 (close to the property line) to ensure that there is no light bleed into adjacent private backyards.

A6. The streetlight poles have been placed close to the property line on the boulevard for Options 1 & 3 due to increase safety for City and or Conractor staff who perform the regular maintenance. The streetlights would use LED lighting and back shields to minimize the light bleed into private backyards.

For Option 2, in order to avoid additional costs, the cross-section will not be altered and the existing streetlight pole locations will be maintained. Street light heads will be replaced to LED lighting which will provide improved energy efficiency and reduced maintenance costs.

Q7. Did the school boards express any concern regarding Option 1 (which would see the addition of of a new lane in each direction) given proximity to schools fronting directly onto Williams Parkway? Provide a copy of a rendering showing what the widened road would look like in the sections adjacent to the schools.

A7. An initial notice was sent to the school boards as part of the Environmental Assessment (EA) Study and public consultation process in December 2006. They were also notified about the two public information centres that were held during the EA study in April 2007 and June 2008 at North Park Secondary School. In addition, the school boards were also contacted about the property requirements (permanent property takings and temporary permission to enter required for grading and planting trees to screen right of way from the school property) during the detailed design stage.

Staff met again with the public school board on June 25, 2020 and presented the options shown to Council at the workshop and there were no specific concerns noted on the options, however staff did commit to coordinating construction activities with school schedules as best as possible and to continue to communicate about the project progress with the board.

Below for reference a copy of rendering for Option 1 (six lane widening with HOV/Transit lanes) in the area adjacent to the North Park Secondary School and a photo of existing condition for comparison.

For the schools fronting Williams Parkway that are outside the limits of this project, especially those located east and west of Bramalea Road, staff would consult with the schools during the EA study plan to be undertaken in future for that section of the Williams Parkway.

North Park Secondary School - Existing


North Park Secondary School – Rendering Option 1

Q8. Is it possible to alleviate vehicular capacity concerns related to Options 2 and 3 through intersection improvments? Would intersection improvements for Options 2 and 3 be eligible for DCs?

A8. The traffic reassessment study conducted by the consultant demonstrated that the capacity issues seen on, and forecasted for, Williams Parkway are on the through lanes, not on the turning lanes at intersections with the exception of the McLaughlin Road and Main Street intersection. Improvements to these intersections could be included in Option 2 and 3, but this would not solve the bigger issue of traffic congestion on this section of Williams Parkway and could lead to increased traffic diversion to neighbourhood streets.

Only the additional turning lanes and the incremental increase in the length of the left turn storage lanes would be eligible for funding through DCs. This would be a minimal component of the total cost of Options 2 and 3.

Staff note that the following intersection improvements could be incorporated into Options 2 and 3:

Williams Parkway at Main Street:

- Increasing the length of the storage lane for the westbound left turn movement.
- Adding dual left-turn lanes for the northbound and southbound movements.
- Adding exclusive right turn lanes for the northbound and southbound movements.
- These improvements would require the widening of Williams Parkway and/or Main Street at the intersection and the existing structure in close proximity.

Williams Parkway at McLaughlin Road:

- Adding dual left-turn lanes for the northbound, southbound and westbound movements.
- Adding exclusive right-turn lane for the westbound movement.
- These improvements would require the widening of Williams Parkway and/or McLaughlin Road at the intersection and existing structure in close proximity

Impacts associated with the above noted intersection improvements include:

- While the improvements to the intersections of Williams Parkway at Main Street and McLaughlin Road would help address the capacity issues, they would not fully solve the problems of traffic congestion.
- The improved intersections would be wider, thereby increasing the crossing distances for pedestrians and cyclists and requiring longer signal times for these users.
- Less space would be available for multi-use paths and soft landscapes on the boulevards at these locations.
- For the latter two items, these are contrary to a primary focus of Options 2 and 3: to improve the pedestrian, active transportation and landscape elements in the boulevard, while maintaining the geometry of the existing road and median.

It was not recommend to include the addition of exclusive right-turn lanes at the other signalized intersections along the section of Williams Parkway included in this project for the same reasons.

In addition, it is recommend that, regardless of which option selected as preferred, a self-adaptive traffic control system be installed along the corridor. This would help improve corridor efficiency by adjusting signal timing based on traffic demand on the major and minor intersecting streets.

Q9. Is it possible to have a barrier (fence or raised planters) constructed between the splash pad ("kill strip") and multi-use path in Option 1 to protect pedestrians?

A9. Any fence or physically barrier could be an obstruction to motorists especially from sight lines at intersections. Barriers would hinder snow plowing and removal operations and conflict with the clear zone for the safety requirement of the roadway. Also, there is concern that a flexible post alternative option would not survive during the winter maintenance. Therefore, staff do not recommend the use of fences or other vertical barriers.

Q10. Are pedestrians/bicycle counts available for the section of Williams Parkway between McLaughlin Road and North Park Drive?

A10. There are no bicycle counts available for Williams Parkway. Staff do have pedestrian volume counts including the bicycle counts for the signalized intersections which would include those bicyclists that dismount to walk across the street. The pedestrian volumes for the morning, afternoon and evening peak hours are summarized in the below spreadsheet. There are no pedestrian and bicycle volume counts for mid block locations along this section of Williams Parkway.

Pedestrian Volume

Intersection	Count Date	Peak Hour	Crosswalk				Total
			East	North	West	South	
Williams Parkway at McLaughlin Road	Wed June 28, 2017	AM	10	12	1	5	28
		MD	2	2	6	9	19
		PM	9	14	7	5	35
Williams Parkway at Royal Orchard Drive at Vodden Street	Wed Oct 24, 2018	AM	5	3	13	18	39
		MD	1	4	1	2	8
		PM	3	7	3	9	22
Williams Parkway at Murry Street	Wed Oct 24, 2018	AM	2	4	3	6	15
		MD	1	4	1	2	8
		PM	3	7	3	9	22
Williams Parkway at Main Street	Wed Oct 24, 2018	AM	17	10	32	21	80
		MD	22	8	23	23	76
		PM	20	13	58	59	150

Williams Parkway at Centre Street	Tues Dec 04, 2018	AM	3	3	8	2	16
		MD	0	2	1	1	4
		PM	2	5	2	1	10
Williams Parkway at Kennedy Road	Thurs Apr 12, 2018	AM	10	8	9	6	33
		MD	8	6	4	6	24
		PM	5	8	11	10	34
Williams Parkway at Rutherford Road	Thurs May 25, 2017	AM	20	1	0	1	22
		MD	4	0	0	0	4
		PM	6	2	0	4	12
Williams Parkway at Southlake Boulevard	Wed Oct 24, 2018	AM	0	4	4	0	8
		MD	0	1	1	0	2
		PM	2	4	9	0	15
Williams Parkway at Hwy 410 west Terminal	Wed Nov 18, 2015	AM	0	11	0	1	12
		MD	1	3	0	1	5
		PM	0	4	0	0	4
Williams Parkway at Hwy 410 east Terminal	Wed Nov 18, 2015	AM	2	16	0	0	18
		MD	0	1	0	2	3
		PM	2	7	0	3	12
Williams Parkway at North Park Drive/Howden Boulevard	Tues Dec 04, 2018	AM	29	63	137	37	266
		MD	0	0	6	1	7
		PM	0	4	3	0	7