



Appendix A.3

Technical Agency Workshops

Workshop #1

Date of Meeting	March 3, 2011	Start Time	9:30am	Project Number	
Project Name	Dundas Street BRT Planning Project & Trafalgar Road BRT Planning Project				
Location	Halton Region (1151 Bronte Road) – North/South Auditorium				
Regarding	BRT Stakeholder Workshop & Transit Project Assessment Process				
Attendees	<ul style="list-style-type: none"> - Ministry of Transportation - Kathy Ruston, Nadia Brooks, Joe Lai - Town of Oakville - Dave Bloomer, Lin Rogers, Tricia Collingwood, Jane Clohecy, Darnell Lambert, Dan Cozzi - Oakville Transit - Barry Cole, Joanne Phoenix - City of Mississauga - Mary-Lou Johnston, Andy Harvey, Matthew Williams, Robert Sasaki - City of Burlington - John Conn, Vito Tolone - Burlington Transit - Donna Shepherd - Conservation Halton - Jane DeVito, Leah Smith - Metrolinx - Morgan Skowronski - Ecoplans - Kristen Harrison, Erin Blenkhorn, Kim LeBrun - AECOM – Tom Williams, Mike Delsey, Paula Neto, Kevin Jones - MRC – Neil Ahmed, Leslie Green, Andrew Shea - GLPi – Glenn Pothier - Halton Region - Doug Corbett, James Horan, Fabio Cabarcas, Tim Dennis, Maureen Van Ravens, Jeffrey Reid, Melissa Green-Battiston, Nick Zervos, Matt Krusto, Mitch Zamojc, Alicia Jakaitis 				
Distribution	All attendees				
Minutes Prepared By	Leslie Green, MRC Paula Neto, AECOM				

**BRT Workshop – March 3, 2011
Discussion Notes**

Discussion Items	Action Items
<p><u>Project Overview</u> Dundas Street BRT Planning Project (N. Ahmed, MRC) Neil Ahmed presented an overview of both history and location. The corridor extends from Brant Street on the west to Trafalgar on the east (as shown in the presentation exhibits). A schedule was also reviewed showing completion in June 2012.</p> <p>Trafalgar Road BRT Planning Project (T. Williams, AECOM) Tom Williams presented an overview of previous studies leading to the Trafalgar Road BRT study. The first PIC for Trafalgar Road had already been held prior to coordinating the Dundas and Trafalgar projects. The Trafalgar corridor extends from Cornwall Road to the Highway 407 park-and-ride.</p>	

Discussion Items	Action Items
No specific comments were received.	
<u>BRT Principles and Implementation</u> T. Williams, AECOM Tom Williams presented a BRT overview. BRT is flexible transit mode with higher service levels (like LRT) but with lower cost. BRT improves travel time through a system of vehicles, stations, guideway, technology, service plan, branding, and station-area development. Mr. Williams also reviewed some general benefits for median systems and curb-side systems.	
No specific comments were received.	
<u>Transit Project Assessment Process</u> N. Ahmed, MRC Neil Ahmed reviewed the Transit Project Assessment Process (TPAP). He stressed that technical reports, sign-offs, public consultation, and a draft environmental report need to be complete before starting the “6 month” clock for the TPAP process.	
The Town of Oakville inquired about other projects that have been completed following the TPAP. Attendees identified the following projects that have been successfully completed following the TPAP: <ul style="list-style-type: none"> • Renforth Gateway • Yonge Subway • Georgetown Air-Rail Link 	
GLPi inquired if any of the attendees were aware of any barriers, obstacles or challenges experienced with TPAP. MTO noted that community engagement is very important in the pre-planning phase of the project; prior to commencing the TPAP. The Region noted the Ministry of Environment emphasized the amount of consultation required before the formal process starts including consultation with the Ministry of Natural Resources, Conservation Halton, etc. The TPAP involves a very robust public consultation program before the formal 6 month TPAP begins.	
<u>Approach to Ridership Forecasting</u> N. Ahmed, MRC Neil Ahmed presented the approach being used to forecast ridership. The general approach to the forecasting is to first develop a person trip table using available travel demand material (e.g. GTHA model, RTMP model, etc.). Subsequently, the transit trip table will be developed. Current local area experience will be used to simulate 2031 mode shares for local and regional transit in Burlington and Oakville. Lastly, the transit trip table will be assigned to the future transit network under a variety of assumptions. To prepare for discussion, a preliminary BRT network for Dundas was shown as well as potential implications of GO parking policies. (More detail can be found in the	

Discussion Items	Action Items
presentation slides.)	
The Town of Oakville noted that the catchment area should include the area to the north of Highway 407 including Milton. The catchment area will include the urban area of Oakville and Burlington at a minimum. Inclusion of additional areas beyond the urban area of Oakville and Burlington will be a function of the degree of accessibility of the transit network to these developments either by the adjacent municipal transit systems or by auto. The preliminary demand analysis has assumed that park and ride, kiss and ride and local transit connections will be available at selected stations to allow convenient access for the residents of Waterdown and Milton. The final determination of the catchment area of the proposed urban transit system will be an output of the transit trip table assignment to the various links in the transit network which includes both the GO Transit rail and bus systems and the municipal transit systems in Oakville and Burlington. The VISUM model assigns transit trips on the basis of total travel time.	MRC
The City of Burlington noted that the catchment area should include Aldershot and the west end of Hamilton. The catchment area will include the urban area of Oakville and Burlington at a minimum. Inclusion of additional areas beyond the urban area of Oakville and Burlington will be a function of the degree of accessibility of the transit network to these developments either by the adjacent municipal transit systems or by auto. The preliminary demand analysis has assumed that park and ride, kiss and ride and local transit connections will be available at selected stations to allow convenient access for the residents of Waterdown and Milton. The final determination of the catchment area of the proposed urban transit system will be an output of the transit trip table assignment to the various links in the transit network which includes both the GO Transit rail and bus systems and the municipal transit systems in Oakville and Burlington. The VISUM model assigns transit trips on the basis of total travel time.	MRC
The City of Mississauga noted that the analysis should consider areas that are not in the immediate area of the proposed transit system. For example, the City of Mississauga’s City Transit Terminal is accessed by Hamilton, Guelph and Kitchener. (See response above)	MRC
The Town of Oakville inquired if the HOV lanes recently implemented on the QEW have been considered in the Dundas BRT Study. MRC noted that the HOV lanes on the QEW have been considered and will not	

Discussion Items	Action Items
have a significant impact on the Dundas BRT system.	
The City of Burlington inquired about the concepts of the Dundas Street BRT stations at both Highway 407 and Appleby Line.	MRC
MRC noted that this will be developed further as the study progresses.	
The Town of Oakville inquired if GO Transit / Metrolinx has identified parking policies at the GO stations. The Town noted that the additional parking at GO stations is impacting the ridership on local transit.	
Metrolinx advised that there are parking policies that can be implemented at GO stations and local municipalities should contact Metrolinx/GO Transit to discuss.	
The Town of Oakville noted that Route C shown on the Regional BRT Concept would have significant impact on Oakville Transit's ridership and revenue as it represents a 'local' level service whereas Routes A and B are more inter-regional by nature. Trafalgar Road is a key route for Oakville Transit and should be carefully examined.	AECOM/MRC
The Region noted that this is a concept and to illustrate the types of corridors that can be considered and will be examined further as the study progresses.	
The City of Mississauga noted that it would be beneficial to provide the origin and destination of transit trips, the number of transfers and the total trip time.	AECOM/MRC
MRC noted this is to be presented at a subsequent workshop.	
The City of Burlington noted that the fleet cost of doubling the transit service level will be very high.	
Constraints and Opportunities Trafalgar Road BRT Planning Project (P. Neto, AECOM) Paula Neto showed segments of the corridor using aerial photographs. The constraints include two creeks and right-of-way constraints. Opportunities include the Oakville GO station, future Midtown development, Sheridan College, the Uptown Core, the future North Oakville development, and the Highway 407 park-and-ride (express bus connection).	
Dundas Street BRT Planning Project (N. Ahmed, MRC) Neil Ahmed showed the Dundas corridor segments using aerial photographs. Numerous environmental (natural, social, economic, and cultural) constraints are present (and can be seen on the presentation slides). Opportunities include Highway 407, the new hospital, and the Trafalgar Road connection at the Uptown Core.	
It was suggested that mapping for Trafalgar Road should show planning areas to really capture the opportunities in the corridor.	AECOM
The City of Mississauga noted that it is important to consider areas of intensification and frequent intersections along the BRT corridor. This will	AECOM/MRC

Discussion Items	Action Items
improve the opportunities for turning at intersections and movement of transit, pedestrians and vehicles.	
Development of Alternatives Dundas Street BRT Planning Project (N. Ahmed, MRC) Neil Ahmed presented cross-sections for alternative design concepts for the BRT planning. Concepts will be developed for curb-running or median BRT, which may include bus by-pass lanes or other BRT guideway features. In coordination of the two corridors, BRT guidelines (lane and station geometry) are being applied to the Trafalgar Road corridor as well as the Dundas Street corridor. A summary of station features was also presented. Evaluation criteria were shown.	
Trafalgar Road BRT Planning Project (T. Williams, AECOM) Typical sections of the various configurations were reviewed indicating different right-of-way impacts for curb versus median BRT. Trafalgar Road has segments with narrower right-of-way which may require right-of-way acquisition depending on the alternative ultimately selected. The alignment through the future Midtown area is still being examined. Evaluation criteria were shown.	
The Town of Oakville noted that the multi-use path should be included on both sides of Trafalgar Road. If the multi-use path cannot be accommodated on both sides, the multi-use path constructed on one side must be wider than 3 m.	AECOM
Halton Region (Health) noted that the Trafalgar Road BRT should include Pedestrians and Cyclists as a factor of analysis.	AECOM
The City of Burlington noted that off road cycle tracks have been identified along the south side of Dundas Street as part of the City of Burlington Cycling Master Plan and should be incorporated in the Dundas BRT Planning Study.	MRC
The Town of Oakville inquired if there is a potential of phasing median BRT to LRT.	
AECOM noted that typically this is not a successful transition. Conversion from BRT to LRT requires shutdown of the transit system for 2-3 years for construction. This would negatively impact businesses that are dependent on system users as well as transit ridership. AECOM recommended that if LRT is the ultimate solution than curbside BRT should be considered for future median LRT construction.	
The Town of Oakville noted that intersections could be wide (8-10 lanes), which is not pedestrian friendly and inquired if pedestrian grade separations are being considered. The Town has identified locations to be considered, such as at the proposed hospital at the Third Line and Dundas Street intersection.	
AECOM noted that pedestrian grade separations are generally not preferred in urban design. Pedestrians prefer the most direct path to their destination.	

Discussion Items	Action Items
Grade separations are expensive to build and there is often a conflict between existing street grades and location of businesses.	
Preliminary Impact Assessment	
Trafalgar Road BRT Planning Project (T. Williams, AECOM) Tom Williams reviewed preliminary impacts which will vary depending on ultimate cross-section. Technical reports will be completed prior to the start of the 6-month TPAP timeline. Impacts will include stream crossings near and north of Dundas. Right-of-way could be required north of White Oaks (South). Focus areas included the interchange between Dundas and Trafalgar BRT, and the crossing of the QEW (Iroquois Shores to Cross).	
Dundas Street BRT Planning Project (N. Ahmed, MRC) Neil Ahmed reviewed the focus areas for Dundas Street. These areas represent localized areas with their own site-specific issues. For example, the provincially designated St. Paul's Presbyterian church and cemetery is a focus area due to both the church and cemetery abutting the ROW. Six focus areas were identified for the corridor.	
No specific comments were recorded.	
Summary Comments and Discussion	
The timing of the next steps was presented for discussion.	
The City of Mississauga noted that an important interim task should be developing a pre-cursor program to identify early opportunities to improve transit ridership. This will aid in increasing ridership prior to implementation of the BRT network.	
In closing, the workshop attendees would like information on ridership forecasts, implementation staging and understanding impacts to local transit at the next workshop.	AECOM/MRC
Tim Dennis noted that this was the first of a number of workshops for the BRT projects.	

DUNDAS STREET BRT PLANNING PROJECT AND TRAFALGAR ROAD BRT PLANNING PROJECT

Date: Thursday, March 3, 2011
Time: 9:00 a.m. – 3:30 p.m.
Place: Halton Region (1151 Bronte Road)
South Auditorium

AGENDA

1. Introduction Halton Region
2. Workshop Objectives G. Pothier, GLPi
3. Project Overviews:
 - BRT Principles and Implementation T. Williams, AECOM
 - Transit Project Assessment Process N. Ahmed, MRC
 - Dundas Street BRT Planning Project N. Ahmed, MRC
 - Trafalgar Road BRT Planning Project T. Williams, AECOM
4. Approach to Ridership Forecasting N. Ahmed, MRC
5. Constraints and Opportunities Analysis:
 - Trafalgar Road BRT Planning Project T. Williams, AECOM
 - Dundas Street BRT Planning Project N. Ahmed, MRC
- Lunch
6. Development of Alternatives:
 - Dundas Street BRT Planning Project N. Ahmed, MRC
 - Trafalgar Road BRT Planning Project T. Williams, AECOM
7. Preliminary Impact Assessment:
 - Trafalgar Road BRT Planning Project T. Williams, AECOM
 - Dundas Street BRT Planning Project N. Ahmed, MRC
8. Next Steps, Post Workshop Communication Halton Region
9. Adjournment

**DUNDAS STREET BRT PLANNING PROJECT AND
TRAFALGAR ROAD BRT PLANNING PROJECT**

Workshop #2

Date: Thursday, May 12, 2011

Time: 9:00 a.m. – 4:00 p.m.

Place: Holiday Inn (2525 Wycroft Road)
Royal Room

Workshop #2

AGENDA

1. Introduction Halton Region
2. Workshop Objectives G. Pothier, GLPi
3. BRT Refresher T. Williams, AECOM
4. Ridership Forecasting: D. Turvey, MRC/
T. Williams, AECOM
 - General Approach
 - Travel Demand Market
 - Transit Network Assumptions (Dundas Street and Trafalgar Road)
 - Ridership Estimates and Implications
- Lunch
5. BRT Curb versus Median Comparison Factors N. Ahmed, MRC/
T. Williams, AECOM
6. Urban Design B. Raymond, DTAH
7. Next Steps, Post Workshop Communication Halton Region
8. Adjournment

Date of Meeting	May 12, 2011	Start Time	9:00am	Project Number	60119993
Project Name	Dundas Street BRT Planning Project & Trafalgar Road BRT Planning Project				
Location	Holiday Inn (2525 Wycroft Road) Royal Room				
Regarding	Workshop #2				
Attendees	<ul style="list-style-type: none"> - Ministry of Transportation - Kathy Ruston, Nadia Brooks - Town of Oakville - Lin Rogers, Dan Cozzi, Tricia Collingwood - Oakville Transit - Barry Cole - City of Mississauga – Willy Ing, Norbert Orzel, - Mississauga Transit – Steve MacRoe - City of Burlington – Bruce Zvaniga, John Conn - Burlington Transit – Chris Foster - 407 ETR – Dave Bader - Conservation Halton - Jane DeVito - Metrolinx - Morgan Skowronski - AECOM –Paula Neto, Kevin Jones - Halton Region - Doug Corbett, Laurielle Brooks 				
Distribution	All attendees				
Minutes Prepared By	Paula Neto, AECOM				

**BRT Workshop – May 12, 2011
Discussion Notes**

Discussion Items
<p><u>BRT Refresher</u> Tom Williams presented an overview of BRT including physical attributes, system components and station area development.</p>
<p>No questions or comments were received.</p>
<p><u>Ridership Forecasting</u> Dale Turvey presented an overview of the approach used to forecast transit ridership for both the Dundas Street and Trafalgar Road corridors. The forecast assumes that the transit service system will be integrated (regional, local and GO services), speed, reliability and operating efficiency are of utmost importance, a high level of service will be provided (e.g. a bus to arrive every 10 minutes) and there will be complimentary land use and parking policies in place.</p>

Discussion Items
<ul style="list-style-type: none"> • It was noted that reliability of service is an important factor. • Stated headways were based on seated capacity of 12.5m buses. In peak hour for Trafalgar, where the trip to the Oakville GO Station from the Uptown Core Station is relatively short, standing room should also be included. If seated capacity = 42, and 50% of standing capacity is approximately 21, total capacity is 63, and headway using 12.5m buses would be 7.5 minutes. • A pricing strategy for parking at GO lots should be considered. • The importance of park n' ride facilities was noted. The Waterdown community was noted as an example because it provides a large potential ridership with a 10 minute drive to the park n ride lot. • It was noted that if the stated assumptions do not happen in real life it will have severe implications on BRT ridership levels. • Land use development policies need to be reviewed. <p>The following questions were asked:</p> <p>1) Has a system-wide calculation been completed on the costs associated with achieving an 11% mode split? Answer: A service plan and operation costs have not been examined as part of this study.</p> <p>2) Have comparative travel times between a BRT system and the GO system been developed (referred to slide 21)? Answer: Each system has assumed travel times and if one system is quicker than another, the model will shift the user to that system intuitively.</p> <p>3) Has the increase in capacity of Highway 407 and the Bloor subway line been taken into consideration? Answer: MTO assumes two exclusive transit ramps therefore improvements to transit have been included in planning.</p> <p>4) Is the model capacity constrained on the Bloor Line? Answer: No, but parking at GO stations is a constraint (i.e. if not enough parking than people can't go there to use the service).</p>

WORKSHOP DISCUSSION SESSION
<p>The attendees separated into smaller groups to discuss a list of topics and were brought together to share opinions and comments. This discussion was facilitated by Glenn Poitier.</p>

<p>What, if anything, is a surprise or out of line with expectations?</p> <ul style="list-style-type: none"> • 2031 numbers influenced by Lakeshore GO electrification and 5-10 minute train service. If the assumptions used do not come to fruition what is the impact to BRT service? • Are you duplicating GO Rail Service? • Length of time for electrification to take place • No transit consideration with respect to connection to Milton • On the Dundas line, there is no indication of the number of people that go there today. What is attraction to BRT on the Dundas line specifically? How many
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<ul style="list-style-type: none"> people want this route? More detail should be provided on the ridership tables to understand the numbers (i.e. 220 riders in 2031 east of Appleby = 12 riders per bus) How much of BRT service would you put in place before the electrification of GO? Surprised at low levels of increased ridership at the Aldershot station There were mixed messages on GO parking policy; may evolve overtime through Metrolinx
<p>What, if anything, is unclear or perhaps requires more explanation – are there any notable gaps or missing pieces in the analysis?</p> <ul style="list-style-type: none"> Are BRT assumptions in-line with Halton TMP/Sustainable Halton (identified 15 – 20%) in terms of local transit improvements? Does the network concept map show major and minor station locations? Travel time tradeoffs - travel time vs. cost and comfort; how do travel times for specific trips by different methods compare Analysis of how long people will wait for a bus - reliability Route changes/integration – local still has an important role to play Impact of future GO parking expansion on ridership How is GO Transit/Metrolinx integrating future parking strategy to be more sustainable?
<p>What, if any, cautions or “yellow/red flags” would you like to raise?</p> <ul style="list-style-type: none"> There are no further opportunities for development on the south side of Dundas Street therefore little opportunity for higher density transit oriented development. This creates difficulties for the required land uses to compliment transit implementation Where is ridership going to come from north of Dundas Street? Hospital parking costs vs. transit parking costs and the potential conflicts Multiple jurisdictions Integration of service with multiple providers Construction staging – use of widening and the role of Regional transit Commitment to Dundas in light of modest ridership forecasts Operational impacts at Dundas/Trafalgar
<p>How, if at all, might the BRT route configuration, station locations and/or service levels be refined or strengthened?</p> <ul style="list-style-type: none"> Consider another “major” station along Trafalgar Road (i.e. Sheridan College) Reduce the transfers required for key routes although the difficulty to design for all riders is recognized Difficult to balance “cutting edge”/”build it and they will come” mentality with cost recovery wants of decision makers Metrolinx has capital to fund some of the infrastructure for transit operations however who will operate and manage the operational budget costs?
<p>What are some potential means of increasing BRT ridership beyond the levels suggested by the ridership forecasting?</p> <ul style="list-style-type: none"> Fare incentives Consider vehicles other than large format buses (i.e. vans) Charge for parking Off-peak incentive for transit use Syntax for peak hour usage Will it cost more to go further?

<ul style="list-style-type: none"> One cost or cost per kilometre Connection between systems needs to be enhanced Walkway connections (i.e. existing berms and lack of connection for residents on south side of Dundas to north side) Make taking transit easy for people Provide amenities at stations Increase cycling facilities Reliability What impact does increasing fuel costs have? Expanding catchment area of riders
<p>What would you say are the key messages to convey to the public and how might they be made most clear?</p> <ul style="list-style-type: none"> Confidence, time, consistency Provide context similar examples: growing communities, suburban, not existing urban examples Provide cost comparisons to use BRT over other modes such as the automobile, VIA, GO Provide an integrated fare system Sell to the public and do it right the first time Difficult to sell to existing low density residential neighbourhoods (i.e. south side of Dundas) Transit for traditional employment areas (i.e. shift workers) doesn't work therefore we must consider the type of employment as ridership generators and the hours of ridership Consider conflicts in revenue generator for hospital (e.g. parking) Maximize the positives of the transit experience such as comfort/reliability/convenience Need to have significant marketing/branding similar to the auto industry Want riders to enjoy the experience Need political champions Educate council – can't keep widening roads Need to have answer regarding how the BRT will be operated Tie in travel time savings Too early for discussion on stations Need curb/median discussion and comparison Explain the role of Peel/Mississauga downstream in the system Competition with 407 Transitway with Dundas – are both needed?
<p><u>BRT Curb vs Median Comparison Factors</u> Tom Williams presented an overview of factors to compare curb side BRT transit lanes versus median BRT transit lanes including physical attributes, system components and station area development.</p>
<ul style="list-style-type: none"> The travel time differences between median vs. curb were discussed. Tom Williams indicated that the travel time for median is approximately 15 minutes 50 seconds versus 16 minutes 40 seconds for curb BRT The capacity for mixed traffic along the corridors was discussed. It was indicated that the lane configuration would remain at 4 lanes however there may be some competition at intersections

Are there statistics available on the frequency and severity of accidents and pedestrian incidents for curb vs. median? There was a general discussion around some difficulties for seniors and visually impaired individuals when crossing a median BRT system. No specific statistics were available at the workshop.

Urban Design

Brent Raymond presented an overview of specific urban design considerations for a transit system in Halton Region. The overview discussed having a pedestrian focus for urban design and elements that create a comfortable street.

The following questions were discussed:

1) In a constrained right-of-way environment, which alternative, curb vs median, provides a better landscaping environment to work with?

Answer: The landscaping environment requires certain soil volumes (e.g. 30m² of soil is target) more than a spatial width.

2) How are areas along Dundas Street with large berms going to be dealt with?

Answer: Context sensitive design

3) Is there an alternative to building noise walls for mitigation of noise impacts to residential areas?

Answer: Consider green/living walls, linear greenery and context sensitive designs.

- It was noted that travel mode prioritization in any given corridor may shift. Historically, there has been a focus/priority on accommodating the automobile. This may change over time with higher priority given to transit, cyclists and pedestrians
- It was noted by the attendees that specific areas that should have a special focus for urban design considerations include:
 - Mobility hub locations
 - Hospital
 - Towards Mid-Town on Trafalgar
 - Dundas Street in general
 - Creek crossings

Sheridan College – transform from auto based arrival to transit

Next Steps

Maureen VanRavens provided an overview of the next steps in the process for both Dundas Street and Trafalgar Road projects.

- Alternatives will be presented at the next PIC
- A report will be presented to Regional Council

If there is a need to bring an update to local councils please inform the Region

Workshop #3



Minutes of Meeting

Date of Meeting	November 16, 2011	Start Time	9:00am	Project Number	60119993
Project Name	Dundas Street BRT Planning Project & Trafalgar Road BRT Planning Project				
Location	Ron Joyce Centre, McMaster University (Burlington Campus)				
Regarding	Stakeholder Workshop #3				
Attendees	<ul style="list-style-type: none"> - Town of Oakville - Lin Rogers, Dan Cozzi, Tricia Collingwood, Dave Bloomer - Oakville Transit - Barry Cole, Joanne Phoenix - Cole Engineering – Ray Bacquie - City of Mississauga – Willy Ing - Mississauga Transit – Steve MacRae - City of Burlington – Andrea Tang, Donna Shepherd, Vito Tolone - 407 ETR – Dave Bader - Conservation Halton - Jane DeVito - Metrolinx - Morgan Skowronski - DTAH – Mark Langridge, Brent Raymond - Halton Health – Fabio Cabarcas - MRC – Neil Ahmed, Katherine Jim, Dale Turvey - AECOM – Tom Williams, Paula Neto - Halton Region – Bob Wicklund, Melissa Green-Battiston, Maureen Van Ravens, Jeffrey Reid, Nick Zervos, Matt Krusto, Doug Corbett, Christina Mastrangelo, Tim Dennis 				
Distribution	All attendees				
Minutes Prepared By	Paula Neto, AECOM				

**BRT Workshop – November 16, 2011
Discussion Notes**

Discussion Items	Action Items
Study Status and Update Neil Ahmed provided an overview and update of both Trafalgar Road and Dundas Street studies. Neil provided an overview of comments received at PIC #1 for both projects.	
<ul style="list-style-type: none"> Trafalgar Road PIC #1 was held in June 2010; the preferred alternative solution of 4 general purpose lanes and 2 bus rapid transit lanes was presented Dundas Street project PIC #1 was held in June 2011; no preferred alternative was presented at the PIC Since the last workshop, stakeholder meetings with Conservation Halton, transit operators and property owners have occurred as well as review of other relevant studies Halton Region's Transportation Master Plan was completed in October 2011. The target is to achieve a 20% transit modal split by 2031, while Halton Region is currently at approximately 5%. Dundas and Trafalgar have been 	

Discussion Items	Action Items
<p>identified as higher-order transit corridors</p> <p>Questions: No questions were asked.</p>	
<p>Transit Service Concept Dale Turvey provided an overview of the vision for public transit in Halton Region and how to achieve the vision. Dale discussed the strategy proposed including such things as a major expansion of level of transit service, enhanced passenger amenities, introduction of transit priority measures and full integration with GO an adjacent municipal transit services. Dale discussed targeting existing markets within Oakville and Burlington and the importance of providing a service that best meets the demand.</p> <p>Dale provided an overview of the specific transit infrastructure improvements proposed as part of the 2031 transit service plan concept. Items include exclusive transit lanes on Dundas and Trafalgar, transit signal priority, transit priority measures, and terminal and station stop development.</p>	
<p>Questions: How will service be coordinated between operators?</p> <ul style="list-style-type: none"> There are elements of the proposed network that are in existence (e.g. Oakville operates into Burlington). Overtime it will be an evolutionary process where operations and relationships are enforced and enhanced. Presto fare card provides a seamless transfer between systems within the GTA. <p>How will this strategy relate to GO Transit's parking strategy? It is important to find a way to reduce desirability of parking at GO stations.</p> <ul style="list-style-type: none"> Capacity of GO parking is limited in terms of the ability to expand. GO has a program to expand the capacity by about 10-15% over the next while. Road and parking capacity has to be kept in balance. Limitation on parking capacity (with the electrification of rail line) is real. It is anticipated that by 2014, the increase in access to GO stations will have to be done by public transit because of the shortage of parking. Parking supply at GO stations is a major factor in determining growth projections for local transit. GO indicated that it has 3 parking strategy documents. The cost of tiered parking facilities is prohibitive and not a priority. Looking at integrating cycling and walkability strategies into GO stations. Oakville Transit reported a steady decline in ridership to the Oakville GO Station by almost 9% because of lack of parking. It was noted that sufficient parking is required but not at the expense of transit. 	
<p>Will transit priority be at all intersections? The entire system has to work together. Transit priority is a great thing but it takes time away from other operations. Many intersections are at capacity now.</p> <ul style="list-style-type: none"> Yes – the example provided in the presentation was used to provide an illustration of how it could work. <p>Oakville Transit indicated that there is a gap in the provision of stations around the Bronte Road and Appleby Line area given the planned employment lands in the area.</p> <ul style="list-style-type: none"> The project team is not in a position to be detailed about the locations of each stop and relies on municipal partners. An approximate 500m spacing 	

Discussion Items	Action Items
<p>was used and in some areas it drops to 300-350m spacing depending on the road network and development that exists (i.e. rear facing development).</p> <ul style="list-style-type: none"> The plans at the front will identify minor stations along the corridors (approximately 22 along Dundas). <p>Oakville Transit noted that service standards at the level presented would be cost prohibitive at the municipal level. We need the investment strategy from Metrolinx.</p> <ul style="list-style-type: none"> MRC noted that to achieve the 12-15% modal split target, these are the kinds of service standards required. Providing an exclusive lane on its own is not sufficient and is only part of the toolkit. Metrolinx noted that it is looking at operations and multimodal issues and what the investment strategy can address. <p>The City of Burlington indicated that the major station in Burlington should be at the existing 407 lot, at Dundas Street and Northampton Boulevard.</p> <p>There was some discussion regarding service assumptions (e.g. end of service at midnight).</p> <ul style="list-style-type: none"> It was explained that the levels of service presented are minimum standards and consistent with the operation of the GO rail system. It is recognized that to achieve the passenger demand, the local system must be in-sync with the major operation (e.g. Oakville - the last bus is 1:30am out of Oakville station therefore the BRT system will have to be tailored to match). 	
<p>Ridership Forecasting Dale Turvey provided an overview of the 4 step general approach for ridership forecasting. Dale indicated that a draft report is available for review.</p>	
<p>Questions: Are the trips shorter in distance and equal between AM and PM peaks along Dundas Street?</p> <ul style="list-style-type: none"> In 2031, population and employment forecasts indicate that there will be a greater balance in trips originating outside Burlington/Oakville and within, creating a balanced live-work relationship. It is important to look at the assumption that there is a higher-order operation on Trafalgar Road that connects the 407 transitway and transfers at the Kipling GO station. Integration between Mississauga and our proposal is going to be substantially enhanced. <p>Will there be staging to achieve the full 2031concept?</p> <ul style="list-style-type: none"> The staging of the service increase will come from a discussion of operational funding of the system and left to the local operators, Metrolinx/GO Transit. There is recognition that there will be a gap between introducing a 10min headway or level of service and when the ridership level will exist. What is the capital cost investment associated with providing physical elements proposed is one part of the equation. The other part is the operating cost associated with it. Both things have to be dealt with in parallel. <p>If funding wasn't an issue, what would be the level of service at opening day?</p> <ul style="list-style-type: none"> 5 min headways currently exist (blended) but they all go on the same route. If the electrification occurs, it is anticipated that headways would double. 	

Discussion Items	Action Items
<p>How is the development south of Milton considered?</p> <ul style="list-style-type: none"> In the transit network model, we have assumed an enhancement of the GO rail service into Milton. The model allows the choice of how transit trips are assigned however most trips originating in Milton will go on the Milton GO line. People may drive from Milton and get on the BRT system to get to the Oakville GO line because of the park n' ride facility. <p>Does this system link to Fairview?</p> <ul style="list-style-type: none"> Yes. The BRT system has to connect to a GO station to make it a complete system. <p>The City of Burlington noted that it is launching a secondary plan study in the new year.</p>	
<p>Trafalgar Road BRT Evaluation</p> <p>Tom Williams provided an overview of the components of the typical sections for both the curb and median bus lane alternatives. In addition, Tom provided an overview of the evaluation of the two alternatives. The factors used for the evaluation were based on those presented at the last workshop and augmented by those suggested by workshop participants. The conclusion of the evaluation indicates that both options are similar with each alternative having some advantages and some disadvantages. Overall, BRT operation in a dedicated curb lane along Trafalgar Road is preferred and has been identified as the Technically Preferred Alternative.</p>	
<p>Questions:</p> <p>Was travel time factored in both on auto side and transit?</p> <ul style="list-style-type: none"> The buses would stay on Trafalgar and go through the congested QEW interchange area because there is no other means to cross at this time. One proposal is a bus only structure in the mid-town area. Both scenarios were run – staying in traffic congestion and going off-line and taking a new structure. The travel delay is less but the distance is more. The travel time was approximately the same (within 30 seconds). <p>Is the relationship between curb and median the same in terms of travel time?</p> <ul style="list-style-type: none"> The relationship stays the same (i.e. under 30 seconds difference). <p>Is there anything in best practises that would say here is the best way to protect the curb lane?</p> <ul style="list-style-type: none"> Best practices might include different coloured pavement, markings and signage. Trafalgar Road does not have a lot of loading zones, on-street parking, many entrances, etc., therefore curb BRT fits the corridor character. 	
<p>There are differences between the two alternatives in terms of safety criteria.</p> <ul style="list-style-type: none"> If we had entrances, full access intersections, etc. this would apply. When this project is complete, there will be no full access intersections. There are minimal now. If the congestion is to a point where there is intersection to intersection queuing, than this becomes an issue. <p>Enforcement is another major issue that should be considered. In Toronto, they no longer enforce the dedicated lanes. Yonge Street is not Trafalgar Road. The right turns will mainly be at intersections.</p>	
<p>Dundas Street BRT Evaluation</p> <p>Neil Ahmed provided an overview of the evaluation of the two alternatives, highlighting only the differences between the Trafalgar Road evaluation and Dundas</p>	

Discussion Items	Action Items
<p>Street. Many of the factors in the evaluation were similar to the Trafalgar Road study. Dundas Street has constrained areas including impacts to built heritage, creek crossings/realignments. The conclusion of the evaluation indicates that both alternatives are similar however curb BRT is more preferred from a transportation perspective and has been identified as the Technically Preferred Alternative.</p> <p>Neil provided an overview of the four Bronte Creek crossing alternatives. Neil noted that the existing structure will have to be replaced. With the removal of the bridge, maintaining the four lanes of traffic during construction is a key consideration. It was determined through the evaluation that Option 1 (widening to two lanes to the north) was the preferred alternative for the Bronte Creek crossing. This would include replacement of the south structure and a new north structure.</p>	
<p>Questions:</p> <p>No questions were asked.</p>	
<p>WORKSHOP DISCUSSION</p> <p>Curb versus Median Evaluation using the AIMMS approach (advantages, impediments, maybes, missing, surprises)</p>	
<p>Advantages</p> <ul style="list-style-type: none"> General agreement that curb BRT is the preferred approach Ability to accommodate landscaping/streetscaping Installation of shelters Ease of maintenance and snow removal Safety for riders, passenger boarding and alighting Pedestrian waiting area/plaza area Comfort of riders waiting; may feel more comfortable on the curb Easier to integrate with local service Ease of implementation (constructability) and staging (quick start) Easier to fund due to lower costs Accessibility for development especially for Trafalgar Road from Dundas to 407 ETR (zero setbacks/urban design, short walking distance, ground floor waiting areas) All modes of traffic have better recycle times <p>Impediments</p> <ul style="list-style-type: none"> Constraints of existing conditions (e.g. Munn's Church, Munn's Cemetery) Enforcement for curb BRT (similar to known HOV issues in Toronto) – need for education of the do's and don'ts) Safety/operational issues with high right turn movements at intersections Safety in general, on-street parking (north of Dundas) Deterrent to mixed vehicle use; may leave option to fall back to HOV May require a centre pedestrian refuge due to long crossing from one direction and may be an issue for people with mobility challenges Local service may impede BRT and impact travel time of BRT system Closing off existing full moves (right-in/right-out) will be challenging (residences, churches, etc.) <p>Maybe's</p> <ul style="list-style-type: none"> Expense and where is funding coming from? Who will operate? How will Trafalgar Road over the QEW work/look/transition? 	

Discussion Items	Action Items
<p>Missing</p> <ul style="list-style-type: none"> Land use information Ability to convert to future LRT Buy-in and acceptance from the customer – what do they perceive to be better? Funding Consultation with EMS on emergency access Rationale needs to be explained to the public as to why bus and not HOV lanes Cycling lanes on Bronte Road crossing and support for active transportation <p>Surprises</p> <ul style="list-style-type: none"> Very little difference in travel time between the median and curb street alternatives 	
<p>Bronte Creek Crossing Evaluation</p> <ul style="list-style-type: none"> It was identified that there should be a provision for a cycling facility on the bridge crossing. 	
<p>Costs and Staging</p> <p>Dale Turvey provided an overview of the elements that were considered in the estimate of BRT costs along the Dundas Street and Trafalgar Road corridors. The costs are an interim order of magnitude estimates and do not include additional property required at intersection. Elements included in cost estimates are: corridor road expansion, terminal and stop development and support corridor development.</p> <p>The staging for each project was discussed by Dale Turvey and Tom Williams.</p>	
<p>Questions:</p> <p>Are the transit priority measures included in the costing?</p> <ul style="list-style-type: none"> Yes – three locations are assumed in the Third Line area under Support Corridor Development. Does not include the Bronte Road station at Wycroft. 	
<p>Can we separate out the supplemental costs as opposed to integrating into one big project (e.g. road improvements will be done by the Region regardless of BRT implementation)?</p> <ul style="list-style-type: none"> The full costing information will be provided at the PIC. <p>On road versus off road terminals – if something is located within the corridor, will it be built and paid for as part of road related costs or are you expecting transit operators to deliver?</p> <ul style="list-style-type: none"> We have assumed that the development of these terminals would go to the transit side. The project team did not discuss the splitting of the funding of that total. It is based on the Quick Win funds envelope and funding is available. <p>Is the number of major stations/terminals double counted across the two projects?</p> <ul style="list-style-type: none"> If Trafalgar Road was a separate project there would be 3 however it is not double counted. The uptown core station cost was associated with Dundas Street project. <p>Are the costs of vehicles included in the Quick Wins funding?</p> <ul style="list-style-type: none"> The Quick Wins totals approximately 60 million. The costs of the vehicles were not included in the full cost estimate. Difficult to estimate without an integrated service plan. 	

Discussion Items	Action Items
<p>What size of fleet is required for what headway? This is a simple calculation.</p> <ul style="list-style-type: none"> This hasn't been dealt with to date. <p>What is assumed as the highest level of amenities provided for stations?</p> <ul style="list-style-type: none"> All of the items mentioned. Costs are based on the footprint of the Zum example in Brampton. <p>Does the costing for station developments include the consideration for fibre optics to provide communications capabilities?</p> <ul style="list-style-type: none"> The costs associated with stations include this. Fibre optic connections with reconstruction of roadway will include this element. 	
<p>Staging Questions</p> <p>Transit service could occur prior to the reconstruction of Dundas Street (transit service and then ultimately BRT).</p> <ul style="list-style-type: none"> Yes, however there has been a lot of emphasis on the logistics of the construction and how many contracts are going to be involved consistent with the funding provided. Funding is driven by development charges funding, therefore, progressing from east to west in the corridor makes sense from the overall concept in that services don't start if part of the service is under construction for 2-3 years. Running a rapid transit service through a construction zone would not provide a good service. <p>There was a reference to queue jump lanes as an interim solution for the south end of Trafalgar Road as a longer term strategy. How do you envision this working?</p> <ul style="list-style-type: none"> There are no physical changes anticipated but a transit signal to allow transit users to continue (a jump on the cars). Purely a signal and signage change. 	
<p>Roadway Operations</p> <p>Neil Ahmed and Tom Williams provided an overview of trip diversion, u-turns, emergency service vehicle access for each corridor as well as where existing right-in/right-out locations are along the corridors. It was noted that an operational plan is still required for emergency service vehicles and will be addressed.</p> <p>The traffic impact summary was provided for both corridors including travel time for transit and autos. The analysis indicates that auto travel times will increase and transit travel time will decrease in 2031 with curb BRT.</p>	
<p>Will the TPA process allow right-in/right-out locations to change if required?</p> <ul style="list-style-type: none"> The TPA process will allow this because only concerns of Provincial interest will impact the approval of the project. <p>Have other jurisdictions dealt with EMS vehicles?</p> <ul style="list-style-type: none"> We are getting input from EMS and to set expectations that there will be changes to both corridors. 	
<p>Corridor Development</p> <p>Mark Langridge, DTAH provided an overview of examples of recently completed stations and the types of amenities that went into the stations including: Union Station in Toronto, McNab Terminal in Hamilton, Zum in Brampton.</p> <p>Tom Williams provided an overview of a preliminary exploration of a minor station. A</p>	

Discussion Items	Action Items
plan view schematic was provided as an illustration. Features that were considered optional and not included in the cost estimates include push-button platform heaters and snow melt technology as they add significant capital and operating costs.	
<p>Discussion and Questions:</p> <p>Anything we missed during our discussion on amenities?</p> <p>Is the assumption that all vehicles would have bike racks?</p> <ul style="list-style-type: none"> Dwell time has to be kept at a minimum so on-bus bike loading reduces dwell time. <p>The location of minor versus major stations was questioned (e.g. Alton and Palermo may not require a major station; something scaled to be more appropriate to the area).</p> <ul style="list-style-type: none"> Agreed. <p>What were the budgets for the station examples provided?</p> <ul style="list-style-type: none"> \$3.5 million for Union Station terminal (6 yrs ago); \$5 million for Hamilton <p>What do you think is essential for a minor/major station?</p> <ul style="list-style-type: none"> Visual and audible service information is important for real time service information Major stations should have the amenities as discussed but the size should be scoped as per location The need for ticketing is likely not required due to the implementation of Presto <p>Are driver facilities required?</p> <ul style="list-style-type: none"> Yes, at major stations <p>Is bicycle parking included in the cost of minor stations?</p> <ul style="list-style-type: none"> The roof was not included over the bike parking area and will be added <p>Is there any potential for vertical pedestrian access happening within either corridor?</p> <ul style="list-style-type: none"> There are pedestrian bridges being considered by the Town of Oakville and should be considered in the development of these projects (i.e. Dundas Street and Third Line) 	
<p>Streetscaping Opportunities</p> <p>Brent Raymond, DTAH provided an overview of guiding principles to design for each corridor. Brent indicated that the street design should complement the neighbourhood that it is going through. The importance of sustainability, built form character, landscape features, cultural features was discussed.</p> <p>Tom Williams provided an overview of key features in the Trafalgar Road corridor. Tom indicated that the Trafalgar Road project will build upon the work completed through previous studies, including the Midtown Business and Development Plan, Uptown Core Review and the North Oakville East Secondary Plan.</p>	
<p>Questions:</p> <p>There is a prevalence of landscaped berms on the south side of the Dundas corridor.</p>	

Discussion Items	Action Items
<p>Is there potential for them to be integrated? They are on publicly owned land.</p> <ul style="list-style-type: none"> They provide opportunities to provide green areas into the corridor. We will be moving into a more site-specific review of the corridor and will include on plans <p>There may be constraints in some areas for providing a multiuse pathway/facility similar to what was shown at Eglinton example (5-6m).</p> <ul style="list-style-type: none"> The team isn't dictating landscaping requirements or multiuse trail options but only showing examples of what is possible and completed in other jurisdictions. <p>Please consider that there should be a minimum standard for pedestrian facilities. It is too easy to take away from the pedestrian realm therefore we should protect it.</p> <ul style="list-style-type: none"> The Region protects for a 3 m wide active transportation facility on both sides of the road. If we make wider active transportation facilities then we reduce landscaping room. There needs to be a balance. Oakville is working on an urban forest strategic plan to understand what is required for trees to survive in an urban environment. You may be asked how your plan complies with the Town of Oakville's strategic plan. <p>What was the design speed for this corridor?</p> <ul style="list-style-type: none"> Posted speed of 60 km/hr and the design speed is 80 km/hr. <p>Were the design aspects of the multiuse paths, etc included in the cost estimates?</p> <ul style="list-style-type: none"> The items included in the cost estimates came from the roadway capital program (e.g. 3m on each side was used for benchmarking) and estimates will be updated as we move forward. 	
<p>Next Steps</p> <p>Paula Neto reviewed the TPA process, project schedule. It was explained that the preliminary design would continue through the next 6-month time frame. PIC #2 is November 24.</p>	
<p>Open Forum Discussion:</p> <ul style="list-style-type: none"> Once Phase II of the TPA process begins, it is a 6 month process. While under certain circumstances there is an opportunity to stop the process or restart, the key to a successful project is to do a lot of upfront work during the project pre-planning period. The team met with MOE and it was concluded that a draft Environmental Project Report will be submitted to MOE for review. Tim Dennis provided closing remarks. 	
<p>Adjournment 3:30pm</p>	