TORONTO TRANSIT COMMISSION
REPORT NO.

MEETING DATE: NOVEMBER 14, 2007

SUBJECT: TRANSIT CITY LIGHT RAIL PLAN –
EVALUATION AND COMPARISON OF ROUTES

RECOMMENDATIONS

It is recommended that the Commission:

1. Receive this report, noting that:

   - the seven *Transit City* light rail lines have been evaluated against a comprehensive set of criteria in order to allow a comparison of the relative merits and challenges of each LRT line;

   - the seven lines were evaluated against 31 criteria which were grouped into five major categories, those being :

     - line performance
     - city- and region-building
     - environmental
     - constructability and physical challenges
     - cost;

   - the evaluation confirms that all seven *Transit City* light rail lines will be good-performing routes with strong ridership, will be effective in diverting travel away from cars and onto transit; will contribute significantly to the reduction of greenhouse gas emissions in the GTA; will support key provincial and city development policies and directions; and will play an important role in city- and region-building; and

   - the evaluation confirms that, on balance, the originally-recommended lines of Sheppard East, Etobicoke-Finch West, and Eglinton-Crosstown remain good choices for starting the implementation of the *Transit City* plan and, therefore, should be the first lines to undergo environmental assessments, and

2. Forward this report to the City of Toronto and the Greater Toronto Transportation Authority.

FUNDING

This report has no effect on the TTC's capital or operating budgets.

BACKGROUND

At its meeting of March 21, 2007, the Commission endorsed the *Toronto Transit City Light Rail Plan* as the basis and priority for rapid transit expansion in the City of Toronto. That plan described a new rapid transit vision for the City of Toronto, entailing the implementation of seven new light rail lines which would bring fast, reliable, environmentally-sustainable light rail transit to parts of Toronto which do not have it now and, in so doing, would introduce a broad, interconnected network of rapid transit throughout Toronto.

At its meeting of May 8, 2007, the Commission received a staff report entitled, *Transit Environmental Assessments* which, among other things, described issues which required resolution in order to ensure fast and efficient completion of new environmental assessments, and promised that a work plan for the *Transit City* plan would be presented at the June 13, 2007 Commission meeting.

At its meeting of June 13, 2007, the Commission approved a report entitled, *Transit City Light Rail Plan – Implementation Work Plan*, which outlined the activities which were being undertaken to implement the *Transit City Light Rail Plan*. That report presented an aggressive and ambitious work plan to allow for the start of construction on at least one of the light rail lines by 2010.

On June 15, 2007, the Province of Ontario announced the *MoveOntario 2020* funding program for the implementation of 52 rapid transit initiatives in the GTHA over the next twelve years. *MoveOntario 2020* included funding for all of the light rail lines in the *Transit City Light Rail Plan.*

Following the release of *MoveOntario 2020*, TTC staff were directed to revisit their original implementation work plan to identify ways of accelerating the plan to more-closely match the twelve-year time frame contained in the Provincial plan, including the feasibility of starting construction on one of the light rail lines as early as 2009.

At its meeting of July 11, 2007, the Commission approved a report entitled, *Transit City Light Rail Plan – Implementation Work Plan Update*, which outlined a number of initiatives which TTC staff would be taking to further expedite the implementation of the *Transit City* plan. The report explained that preliminary fieldwork, alignment reviews, and structural requirement assessments had already been completed for the Etobicoke-Finch West and Sheppard East light rail lines, and that such work was about to start for the Eglinton-Crosstown light rail line. The report stated that preliminary evaluation and assessment of all of the *Transit City* lines had also been done and that, on that basis, TTC staff believed that those three lines would be strong candidates for early implementation because they would achieve significant reach for Toronto's rapid transit network, bring premium quality service to

areas which currently do not have it, achieve strong ridership levels, and offer significant potential in terms of inter-regional rapid transit connectivity, including Pearson Airport, an international gateway.

When considering that report, the Commission asked TTC staff to present a more-formal and structured evaluation and comparison of the seven light rail lines in the *Plan*. This report responds to that request.

DISCUSSION

In order to allow a better understanding of the relative merits and challenges of each of the seven *Transit City* light rail lines, a detailed evaluation has been undertaken of these lines. A comprehensive set of evaluation criteria was developed, intended to allow both quantitative and qualitative evaluation of the lines, against a number of "hard" and "soft" criteria.

The development of the *Transit City Light Rail Plan* was intended to achieve a number of city-building objectives which go beyond the base business case of ridership and financial performance. Considerable importance was given to factors such as establishing rapid transit service in areas which, to date, have not had this, provision of high-quality service to priority neighbourhoods to improve access to employment, cultural, and recreational opportunities, support for important municipal and provincial planning objectives and policies; and potential inter-regional connectivity. The evaluation criteria used in this assessment reflect this diversity of potential benefits and challenges of each line, and they have been grouped into five major categories:

- line performance
- city- and region-building
- environmental
- constructability and physical challenges
- cost

The complete list of evaluation criteria for the *Transit City Light Rail Plan* is shown in Table 1, below.

The full evaluation of the *Transit City* light rail lines against the 31 evaluation criteria is contained in Exhibit 1, attached. Predictably, the evaluation matrix shows that no one single light rail line performs best on all criteria but, rather, each of the lines has differing strengths and weaknesses. The most-significant findings are summarized in the sections below. For the purpose of summarizing the findings, the three top-performing *Transit City* light rail lines will be highlighted for each major criterion.

Evaluation of Transit City LRT Lines – Line Performance

This category of criteria deals with performance variables such as projected ridership, new ridership, population and employment brought within convenient access of new rapid transit, passenger-trips per route-kilometre and cost per rider carried on each line. These performance factors are summarized in Table 2, below.

Table 1: Criteria for Evaluation of Transit City LRT Lines

Line Performance:

- Ridership
  - Existing
  - Projected
- Current Market Share / Mode Split
- New Rapid Transit Coverage, Reach
  - Area (hectares)
  - Population
  - Full-time Jobs
  - Part-time Jobs
- Major Generators
  - En Route
  - Terminals
  - New (Annual) Passenger-Trips/Route-Kilometre
  - Total (Annual) Passenger-Trips/Route-Kilometre
- Cost/Rider

City- and Region-Building:

- Supports *MoveOntario 2020* Objectives
- Supports *Places to Grow* Principles
- Supports *Toronto Official Plan* Objectives
  - Serves Priority Neighbourhoods
  - Avenues – Re-urbanization Potential
- LRT Network Connectivity, Transfer Opportunities
  - Local
  - Regional
- Inter-Regional Connectivity Potential
- Potential for Extension

Environmental:

- Number of Car-Trips Diverted / Replaced
- Reduction in Greenhouse Gases

Constructability, Physical Challenges:

- Major Physical Challenges, Obstacles
- Municipal Right-of-Way Available
- Designated, Recognized in Official Plan
- Community, Political Acceptance, Support
- Access to Yard, Maintenance Facilities

Capital Cost:

- Construction, Property Costs
- Vehicle Costs
- Pro-rated Maintenance Facility Costs
- Total Cost/Kilometre

Table 2: Transit City Evaluation – Line Performance

	Don Mills	Eglinton - Crosstown	Etobicoke - Finch West	Jane	Scarborough - Malvern	Sheppard East	Waterfront West
Line Description							
One-Way Line Length (km)	17.6	30.8	17.9	16.5	15.0	13.6	11.0
Number of 30-metre LRVs	46	129	37	41	53	35	23
Ridership							
Existing Annual Riders (millions)							
– on current route	13.7	19	11.3	11.9	7.7	8.8	2.9
– diverted from other routes	0.9	12.6	3.9	2.9	0.0	0.0	4.9
– Sub-total existing	14.6	31.6	15.2	14.8	7.7	8.8	7.8
New Annual Riders – Projected 2021 Ridership (millions)	6.6	21.2	9.4	9.2	6.4	7.7	3.8
Total Projected 2021 Ridership (millions)	21.2	52.8	24.6	24.0	14.1	16.5	11.6
New Annual Riders Per Kilometre (millions)	0.4	0.7	0.5	0.6	0.4	0.6	0.3
Overall Annual Riders Per Kilometre (millions)	1.2	1.7	1.4	1.5	0.9	1.2	1.1
Peak Point-Hour-Direction Ridership	2,900	4,700	2,300	2,700	3,900	2,700	2,200
New Rapid Transit Coverage/Reach							
– area (hectares)	1,500	2,500	1,600	1,700	1,000	1,200	1,400
– population	87,200	114,500	76,900	96,200	52,500	57,900	60,700
– full-time jobs	26,000	32,300	18,400	13,100	5,000	24,100	14,900
– part-time jobs	6,800	9,800	6,200	6,600	3,000	7,900	6,400
Significant Trip Generators Served							
– total	26	22	35	29	18	18	9
– major generators	10	6	12	8	1	4	3
Cost Per Rider (capital)							
– cost per new rider	$9.66	$9.39	$5.47	$6.43	$9.66	$6.25	$11.47
– cost per total-riders-on-line	$3.01	$3.77	$2.09	$2.47	$4.38	$2.92	$3.76

The *Transit City* lines which are projected to carry the highest annual ridership by the year 2021 are, in order, Eglinton-Crosstown (53.0 million annual passenger-trips), Etobicoke-Finch West (25.0 million annual passenger-trips), and Don Mills (21.0 million annual passenger-trips). The lines which are projected to attract the largest number of new riders are, in order, Eglinton-Crosstown (21.0 million annual new passenger-trips), Etobicoke-Finch West (10.0 million annual new passenger-trips), and Jane (9.0 million annual new passenger-trips).

The *Transit City* lines which bring the greatest amount of population within convenient access of new rapid transit are, in order, Eglinton-Crosstown (114,500), Jane (96,200), and Don Mills (87,200).

The *Transit City* lines which would bring the largest number of full-time jobs within convenient access of new rapid transit are, in order, Eglinton-Crosstown (32,300), Don Mills (26,000), and Sheppard East (24,100).

The *Transit City* lines which would carry the largest number of new riders (passenger-trips) per route kilometre are, in order, Eglinton-Crosstown (700,000 annually/route kilometre), Sheppard East (600,000 annually/route kilometre), and Etobicoke-Finch West (600,000 annually/route kilometre).

The *Transit City* lines which would carry the largest number of riders (passenger-trips) per route kilometre are, in order, Eglinton-Crosstown (1.7 million annually/route kilometre), Jane (1.5 million annually /route kilometre), and Etobicoke-Finch West (1.4 million annually/route kilometre.

The *Transit City* lines which result in the lowest capital cost per rider carried are, in order, Etobicoke-Finch West ($2.06), Jane ($2.44), and Sheppard East ($2.80).

The last three variables described have been normalized on a per-kilometre or per-rider basis, but the variables preceding these were described using absolute numbers only, so they are distorted in favour of the length of the line.

Significant Trip Generators

All of the *Transit City* light rail lines have undergone fieldwork with respect to the number of significant residential or commercial developments located along them which generate a large number of transit trips. This inventory of significant trip generators has been correlated with existing stop-specific demand (counts of passengers boarding). The complete inventory of trip generators is illustrated in Exhibit 2, attached, and is documented in the accompanying Table E-2. As can be seen in Exhibit 2, the three *Transit City* light rail lines which currently have the largest number of significant trip generators are, in order, Etobicoke-Finch West, Jane, and Don Mills. Included in the generators for each route are those which are classified as "major" generators – such as post-secondary educational institutions, business parks, large hospitals, and high-density residential concentrations. Not surprisingly, these three *Transit City* lines also have the largest number of "major"

trip generators on them. The presence of such trips generators contribute to the projected ridership levels documented above for the *Transit City* lines.

Evaluation of Transit City LRT Lines: City- and Region-Building

This section addresses criteria which relate to whether the *Transit City* lines conform with, or support, provincial and municipal planning policies and objectives, and whether their design will contribute towards the inter-connectivity and, thus, improved travel opportunities and mobility between different areas of Toronto, and between Toronto and its neighbouring regions. These assessments are, therefore, more qualitative than quantitative.

Supports *MoveOntario 2020* Objectives

In June, 2007, the provincial government announced its intention to make a significant investment in public transit infrastructure. The purpose of this initiative, called *MoveOntario 2020*, is to reduce congestion, cut smog, provide cleaner air, reduce greenhouse gas emissions, and support sustainable urban development that leads to stronger communities and a higher quality of life.

The program comprises 52 rapid transit projects throughout the GTHA, including all seven of the *Toronto Transit City LRT* routes. The provincial program gives no priority to any of the projects beyond saying that 66% of all 52 projects are to be completed by 2015, and 95% by 2020. In this regard, building any of the *Transit City* lines will be consistent with, and will support the vision of *MoveOntario 2020*.

Supports *Places to Grow* Principles and *Provincial Policy Statement 2005*

The Province of Ontario passed the *Places to Grow Act* in 2005 to take effect in June, 2006 concurrent with the approval, by the Lieutenant-Governor-in-Council, of the province's *Growth Plan for the Greater Golden Horseshoe*. The *Growth Plan* is a multi-disciplinary framework for long-term planning and management of growth in the Greater Golden Horseshoe (GGH) to the year 2031, and explicitly recognizes the need for "collaborative decision-making" to successfully implement the Plan's vision (ref. *Growth Plan for the Greater Golden Horseshoe 2006,* pg. 7).

To this end, the *Growth Plan* outlines several guiding principles, noted below, that provide the basis for how land should be developed, how resources should be managed, and how public dollars should be invested. The *Transit City* lines are consistent with, and supportive of these broad principles, which are:

- Build compact, vibrant and complete communities.
- Plan and manage growth to support a strong and competitive economy.
- Protect, conserve, enhance and wisely use the valuable natural resources of land, air and water for current and future generations.
- Optimize the use of existing and new infrastructure to support growth in a compact, efficient form.

- Provide for different approaches to managing growth that recognize the diversity of communities in the GGH.
- Promote collaboration among all sectors – government, private and non-profit and residents to achieve the vision.

Similarly, all the lines in the *Transit City* plan are also consistent with the Provincial Policy Statement (2005), particularly those policies dealing with efficient development and land use patterns (Sec. 1.1), healthy employment areas (Sec. 1.3), appropriate housing mix and supply (Sec. 1.4), transportation infrastructure (Sec. 1.6.5-6), long-term economic prosperity (Sec. 1.7), and energy and air quality (Sec. 1.8).

Supports *Toronto Official Plan* Objectives

The *Toronto Official Plan*, approved in 2002, sets out Council's vision for how growth is to be managed in Toronto over the long-term. The plan, while broad in scope, is specific about the need to change from the urban sprawl that has occurred in the GTA over the past 50 years to sustainable, compact, transit-oriented growth in the future. The plan regards transit and growth as being inextricably tied together stating that, "…future growth within Toronto will be steered to areas which are well served by transit…" (ref. Sec.2.2 pg. 11).

***Official Plan "*Avenues"**

The *Official Plan* designates *Avenues* – corridors along major streets where re-urbanization can create new housing and jobs while improving the pedestrian environment and the urban design of the street. The plan states that "The growth and redevelopment of the *Avenues* should be supported by high quality transit services, including priority measures for buses and streetcars…" (ref. Sec. 2.2.3, pg. 23) The *Avenues* are illustrated on Map 2 of the *Official Plan*. Following is a comparison of how each route in the *Transit City* LRT plan complies with the *Avenues* designations on Map 2 of the *Official Plan*:

- **Eglinton-Crosstown (approximately 75% designated)**
  Most of this line is designated as an *Avenue*, except for:
  - the section west of Martin Grove Road
  - the section between Scarlett Road and Weston Road
  - the section between Mt Pleasant Road and Victoria Park Avenue

- **Scarborough-Malvern Malvern (approximately 67% designated)**
  Most of this line is designated as an *Avenue* along the Eglinton Avenue East and Kingston Road portions of the line. The section that is not currently designated is Morningside Drive, north of Kingston Road.

- **Sheppard East (approximately 50% designated)**
  The section of this line from Don Mills Road to approximately midway between Brimley Road and McCowan Road is designated as an *Avenue*. The section further east to Morningside Avenue is not.

- **Waterfront West (approximately 50% designated)**
  The portion of this line between Strachan Avenue and Humber Loop is not currently designated as an *Avenue*, although it should be noted that this section of the Waterfront West corridor does not follow a traditional arterial street pattern. The section that is an existing arterial road, namely Lake Shore Boulevard West, west of Humber Loop, is shown as an *Avenue* all the way to Long Branch Loop at the Mississauga boundary.

- **Jane (approximately 25% designated)**
  Some of this line is designated as an *Avenue*, specifically, the sections on St. Clair Avenue west of Keele Street, the section on Jane Street between Weston Road and Black Creek Drive, and the nodes around intersections with Wilson Avenue and Finch Avenue West. The following sections are not designated in the plan:
    - Jane Street between Bloor Street West and Weston Road
    - Jane Street between Black Creek Drive and Wilson Avenue
    - Jane Street between Wilson Avenue and Finch Avenue West
    - Jane Street north of Finch Avenue West

- **Etobicoke-Finch West (approximately 10% designated)**
  Very little of this line is currently designated as an *Avenue*. With the exception of nodes around the intersections with Jane Street and Weston Road, the entire section of Finch Avenue West, west of Bathurst Street is not identified as an *Avenue*.

- **Don Mills (approximately 10% designated)**
  Very little of this line is currently designated as an *Avenue.* With the exception of Pape Avenue, which is shown as an *Avenue* between Danforth Avenue and Cosburn Avenue, there is no other section of this line that has been identified in the *Official Plan* as an *Avenue*.

Official Plan "Priority Neighbourhoods"

Along with re-urbanization of the *Avenues,* the *Official Plan* recognizes that there are areas of the city that have become under-utilized, and that would benefit from policies to encourage re-integration with surrounding areas. These *Regeneration Areas* are targeted for renewal with an emphasis on re-use of existing buildings, compatible infill, transit use, and community improvement through redesign of streets and other public open spaces.

Building on these broad area regeneration policies, the *Toronto Community Safety Plan* has been developed with four pillars designed to provide the foundation for a safe city. These pillars are:

- Strong Neighbourhoods Strategy, which identifies 13 Priority Neighbourhoods across the city for targeted investment to strengthen neighbourhood supports;

- Crisis Response to help communities deal with traumatic incidents;

- Youth Opportunities such as employment, mentoring and training; and

- Youth Justice to provide constructive intervention in the traditional justice process to decrease risks of youth re-offending.

The *Transit City* light rail line plan, through its investment in upgraded transit facilities, can provide opportunities and impetus for redevelopment and regeneration to occur in these targeted areas. The specific fit between the *Transit City* plan and the thirteen Priority Neighbourhoods in the Community Safety Plan is shown in Exhibit 3, and described here:

- **Scarborough-Malvern** – serves Eglinton East-Kennedy Park, Scarborough Village, Kingston-Galloway, and Malvern

- **Eglinton-Crosstown** – serves Weston-Mt. Dennis, Flemingdon Park-Victoria Village, and Eglinton East-Kennedy Park

- **Etobicoke-Finch West** – serves Westminster-Branson, Jane-Finch, and Jamestown

- **Sheppard East** – serves Steeles-L'Amoreaux and Malvern

- **Jane** – serves Weston-Mt. Dennis and Jane-Finch

- **Don Mills** – serves Flemingdon Park-Victoria Village

- **Waterfront West** – serves no priority neighbourhoods, but does serve Exhibition Place regeneration area

Local and Inter-Regional Transit Transfer Opportunities and Connections

The number of connections and transfer opportunities which would be available from each *Transit City* line is summarized in Table 3. The *Transit City* lines which will provide the greatest number of local rapid transit transfer opportunities are, in order, Eglinton-Crosstown (7 connections), Sheppard East (4 connections), Don Mills (4 connections) and Jane (4 connections).

The *Transit City* light rail lines which will offer the largest number of inter-regional connections are, in order, Eglinton-Crosstown (8 terminals/connections), Etobicoke-Finch West (7 terminals/connections), Jane (6 terminals/connection).

All of the *Transit City* lines have the potential to be extended into neighbouring municipalities. Three noteworthy potential connections are Eglinton-Crosstown (west to Mississauga), Etobicoke-Finch West (west to Woodbine Live redevelopment, Pearson International Airport, and City of Mississauga), and Sheppard East (east to Durham Region and proposed new Seaton development).

Evaluation of Transit City Light Rail Lines – Environmental

The *Transit City* lines were evaluated with respect to their potential to attract new trips to the light rail transit lines, which are presently made or projected to be made in private cars. The estimate of the number of car-trips replaced by transit-trips was based on present and projected total trip volumes in the subject corridor which took into account the relative travel time advantage offered by the corresponding light rail line operating in its own right-of-way and the improved land-use that would be generated by the investment in premium quality light rail transit. The vehicle-kilometres were based on actual observed average automobile and transit trip-lengths, drawn from the Transportation for Tomorrow Survey (TTS).

The associated reduction in greenhouse gases (tonnes of CO_2) are based on the number of cars taken off the road as well as the number of bus services that would be replaced by more efficient light rail services. The savings from car trips replaced by light rail trips was based on the amount of CO_2 produced per typical vehicle-kilometre traveled by a private automobile minus the associated CO_2 produced in the production of electricity used to power a typical light rail vehicle per kilometre. In both cases, emissions were adjusted to account for typical vehicle occupancies. The emission reductions related to bus services being replaced by light rail services were computed in the same way.

The *Transit City* light rail lines which would replace the largest number of annual car-trips are, in order, Eglinton-Crosstown (-17,700,000 car trips/year), Etobicoke-Finch West (-7,800,000 car trips/year), and Jane (-7,700,000 car trips/year). The annual reduction in greenhouse gases, which is based on the above converted car trips, and trips converted from bus to LRT, is also highest for these same three *Transit City* lines.

Transit City lines: Rapid Transit and Regional Connections

Light Rail Route	Rapid transit connections	Regional connections
Don Mills	2 subway 2 Transit City	1 - existing terminal (Don Mills Stn) 1 - future destination (N to York) 2 - future GO connections (Richmond Hill, Crosstown)
Eglinton-Crosstown	4 subway 3 Transit City	1 - existing terminal (Pearson Airport) 1 - existing GO connection (Kennedy Stn) 5 - future GO connections (Richmond Hill, Barrie, Bolton, Georgetown, Crosstown) 1 - future destination (W to Mississauga)
Etobicoke-Finch West	2 subway 1 Transit City	1 - existing terminal (Finch Stn) 3 - future destinations (W to Woodbine, Pearson, Mississauga) 3 - future GO connections (Barrie, Bolton, Georgetown)
Jane	2 subway 2 Transit City	1 - future terminal (Steeles West Stn) 1 - future destination (N to York) 4 - future GO connections (Milton, Georgetown, Bolton, Crosstown)
Scarborough-Malvern	2 subway 1 Transit City	3 - existing GO connection (Kennedy GO Stn; Eglinton GO Stn; Guildwood GO Stn) 1 - future destination (N to York; E to Durham) 1 - future GO connection (Crosstown)
Sheppard East	2 subway 2 Transit City	1 - existing terminal (Don Mills Stn) 1 - existing GO connection (Stouffville) 1 - future GO connection (Crosstown) 2 - future destinations (N to York; E to Durham)
Waterfront West	1 subway	1 - existing terminal (Union Stn) 2 - existing GO connection (Union - all lines; Long Branch - Lakeshore West) 1 - future destination (W to Mississauga)

Evaluation of Transit City LRT Lines: Constructability, Physical Challenges

I. Competing Demands For Space within the Municipal Right-of-Way

When incorporating surface LRT into existing arterial roadways, there are a number of competing priorities for street space – typically two lanes for the LRT, four lanes for general traffic, bicycle lanes in each direction and, of particular importance in those corridors that have been designated as 'Avenues' in the City's *Official Plan*, space to introduce an enhanced public realm for pedestrians. The problem of 'physical fit' is greatest at signalized intersections, where separate left-turn lanes must also be provided.

Ideally, a typical cross-section at signalized intersections would consist of a 3-metre-wide left-turn lane in each direction, two 3.5-metre LRT lanes, and four 3.5-metre lanes for general traffic, for a total width of 27 metres. This width increases to 30 metres if 1.5-metre bicycle lanes are introduced. If the municipal right-of-way is 36 metres, which is common on arterial roads, this leaves three metres on either side of the road for pedestrian space and roadside facilities such as utility poles. Mid-block, and at unsignalized intersections, where there are no left-turn lanes, an additional three metres would be available on each side of the road and, in these sections, this additional space could be used for improved pedestrian space, streetscaping, on-street parking bays, and/or 'more-standard' 1.8-metre bicycle lanes.

If the available right-of-way is less than 36 metres, and it is not practical to acquire additional property at signalized intersections, then trade-offs have to be made with respect to how the space will be allocated among the competing uses. In cases where the right-of-way is 30-to-33 metres wide, consideration would have to be given to eliminating bicycle lanes, and narrowing the traffic lanes. In locations where the right-of-way is less than 30 metres, the trade-offs become much more difficult – with design options including an underground LRT or only a single traffic lane in each direction.

II. Challenges Related to the Availability of Municipal Right-of-Way

Two of the *Transit City* light rail lines are planned on roadways that have a designated 36-metre right-of-way - Etobicoke-Finch West and Sheppard East. Sections of the Scarborough-Malvern line – Eglinton Avenue East, Kingston Road, and Morningside Avenue – also have a designated 36-metre right-of-way, with the exception of a short section of Morningside Avenue – roughly one kilometre in length – just north of Lawrence Avenue East.

There are areas in the other four *Transit City* lines where the designated rights-of-way are significantly less than 36 metres and significant trade-offs will be required between the competing priorities for surface space, as discussed below.

i) Waterfront West – The section of Lake Shore Boulevard between Kipling Avenue and Louisa Street is only 27 metres wide, and this area is part of the City's 'Avenues' designation. The design process will have to consider options such as the elimination of bicycle lanes and/or reduction in the number of general traffic lanes.

ii) Eglinton-Crosstown – The designated right-of-way on Eglinton Avenue, from roughly Keele Street to Brentcliffe Road, is typically only 27 metres. Given that there are buildings immediately adjacent to the property lines over much of this area, an Official Plan Amendment to increase the designated right-of-way, accompanied by significant property acquisition, is not a practical solution. Given the traffic conditions in this area, it is considered essential to maintain four lanes for general traffic and to not significantly reduce sidewalk space. With these requirements, the only practical option for this LRT is that it be constructed underground, with surface operation west of Keele Street, and east of Brentcliffe Road, where the designated right-of-way width is at least 36 metres.

iii) Don Mills – Don Mills Road has a designated right-of-way of 36 metres from Steeles Avenue to just south of York Mills Road. The right-of-way ranges from 30 metres to 33 metres on Don Mills Road from that point to Overlea Boulevard, as well as on Overlea Boulevard and the Leaside Bridge. Pape Avenue, and other parallel roadways that could be considered for the LRT to connect to the Bloor-Danforth subway, are very narrow, typically only 20 metres wide. On such narrow roadways, it is expected that the LRT would have to be constructed underground.

iv) Jane – Jane Street, between Black Creek and Weston Road, and between Eglinton and St. Clair Avenue, has a designated right-of-way of only 27 metres. In these areas, the design process will have to consider options for trading-off the competing demands for road space. South of St. Clair Avenue, to Bloor Street, the right-of-way is only 20 metres and, similar to the scenario described for Pape Street, above, it is expected that the LRT would have to be constructed under the roadway, or an alternative alignment be considered for this more-southerly section.

III. Additional Physical Challenges

Even on the three LRT lines where there is sufficient municipal right-of-way width for a surface LRT, the conditions at the respective subway connections – at Finch, Don Mills, and Kennedy Stations – are such that it will be necessary to consider design options with some form of grade-separation in order to provide customers with a high-quality, customer-friendly, fare-paid connection with the subway.

In addition, on the Scarborough-Malvern line, there are wetlands on Morningside Avenue, south of Ellesmere Road, which will require designs which minimize impacts on that environmentally-sensitive area.

The conditions on the Waterfront West line between Roncesvalles Avenue and Dufferin Street are unique within the *Transit City* plan; design options will have to consider LRT bridges over the expressway, and structures to incorporate sections of the LRT within the embankment adjacent to the rail corridor.

Designated, Recognized in Official Plan

The *Toronto Official Plan* illustrates its priorities for growth and expansion of the transit system in two maps – Map 4 for Higher Order Transit Corridors, and Map 5 for a Surface Transit Priority Network. The Map 4 corridors allow implementation of "transit services in exclusive rights-of-way…as priorities are established, funding becomes available and the Environmental Assessment review processes are completed." (ref. Sec. 2.2, policy 3f, pg. 14). The corridors in Map 5 allow for "increasing transit priority throughout the City by giving buses and streetcars priority at signalized intersections and by introducing other priority measures on selected bus and streetcar routes…such as: i) reserved or dedicated lanes for buses and streetcars; and ii) limiting or removing on-street parking during part or all of the day." (ref. Sec. 2.2, policy 3h, pg. 14). Compliance of each *Transit City* route with Maps 4 and 5 is described here:

- **Eglinton-Crosstown** – designated in its entirety as a Higher Order Transit Corridor (Map 4) and a Surface Transit Priority Route (Map 5).

- **Sheppard East** – designated as a Higher Order Transit Corridor (Map 4) between Don Mills Road and Midland Avenue. The same section, extended further east to McCowan Road is designated as a Surface Transit Priority Route (Map 5). The section further east to Morningside Avenue is not designated on either map.

- **Etobicoke-Finch West** – designated as a Surface Transit Priority Route (Map 5). The corresponding Map 4 route is shown in the Finch Hydro corridor, rather than along Finch Avenue itself.

- **Jane** – designated in its entirety as a Higher Order Transit Corridor (Map 4), and a Surface Transit Priority Route (Map 5), except for the connecting segment along St. Clair Avenue west of Keele Street in both cases.

- **Waterfront West** – designated as a Higher Order Transit Corridor (Map 4) between Strachan Avenue and Legion Road. The section from Roncesvalles to Long Branch is designated as a Surface Transit Priority Route (Map 5).

- **Scarborough-Malvern** – only the portion on Eglinton Avenue East and on Kingston Road as far as the GO rail line is designated as a Higher Order Transit Corridor (Map 4). The same section, extended further east on Kingston Road to Morningside Avenue is designated as a Surface Transit Priority Route (Map 5). The section along Morningside Avenue is not designated on either map.

- **Don Mills** – designated as a Higher Order Transit Corridor (Map 4) and as a Surface Transit Priority route (Map 5). Note that the two maps and the Transit City plan, between them, show three different possible connections between Danforth Avenue and the Don Valley Parkway.

Community, Political Acceptance, Support

It is difficult and premature to draw any conclusions about any community or political support for the *Transit City* lines at this early stage of implementation. Support for such projects, or the lack thereof, typically becomes evident when the details of the projects are discussed with members of the community during processes such as environmental assessments. TTC staff have, however, observed or received some responses and reactions to the Transit City lines, and these are noted here.

City of Toronto Planning staff began an environmental assessment regarding higher-order transit in the Don Mills/Don Valley Corridor prior to the release of the *Transit City* plan. There was strong community concern, and some opposition, to any higher-order transit connection from Don Mills Road to Castle Frank Subway Station on the Bloor-Danforth Subway line. This opposition was a significant obstacle to progress on that environmental assessment.

TTC staff have received strong support from City councillors for the Etobicoke-Finch West light rail line.

Residents on Jane Street, south of St Clair Avenue, have expressed concern about the compatibility of a light rail line on the narrower section of Jane Street south of Black Creek.

All City councillors through whose ward the Sheppard East light rail line would pass, have expressed strong support for proceeding with this line.

There has been strong support from City councillors for the Waterfront West light rail line. However, in the current environmental assessment, there has been a moderate amount of community opposition to the line for the section which would operate between Dufferin Street and Roncesvalles Avenue.

Access to LRV Maintenance Facilities

An important consideration in assessing the feasibility of each of the *Transit City* light rail lines is the ease of, and cost of, access between the lines and their associated maintenance facilities. A study is currently underway pertaining to the optimal locations for such maintenance facilities, for both the *Transit City* light rail lines and the existing streetcar lines. However, that study is not sufficiently advanced at this time to allow informed commentary about the proximity of the *Transit City* lines to such facilities.

Evaluation of Transit City Light Rail Lines - Capital Costs

Capital cost estimates for construction, vehicle procurement, and vehicle maintenance facilities for the *Transit City* light rail lines are shown in Exhibit 1, along with the resulting cost per kilometre. The variation in cost per kilometre reflects the anticipated complexity of construction, based on preliminary fieldwork pertaining to physical constraints and structures which will have to be addressed for each line. The cost per kilometre increases significantly when there is a need for tunnelling, new bridges, and underground connections to existing rapid transit lines. The table shows that, based on work done to date, the Etobicoke-Finch West light rail line would be the lowest cost per kilometre to construct, with Sheppard East, Scarborough-Malvern, Jane, and Don Mills light rail lines all having slightly higher and comparable cost per kilometre. The Waterfront West and Eglinton-Crosstown lines are projected to cost more per kilometre because of the expected need for tunnelling and/or other significant civil works.

Other "Priority" Considerations in the *Transit City Light Rail Plan*

Notwithstanding the assessment of the seven *Transit City* light rail lines against the criteria presented in this report for the purpose of identifying the lines which should be the first priorities for implementation, other initiatives which are independent of this evaluation have resulted in some lines getting a "head start" in their environmental assessments, which are a prerequisite to construction.

An environmental assessment was started in 2006 for a surface rapid transit facility (bus or light rail) in the Don Mills/Don Valley corridor, which is where the Don Mills LRT will be located. That environmental assessment started before the *Transit City* plan was released, and it was the required follow-up to the Don Valley Transportation Master Plan, which had been undertaken by City Planning at the direction of City Council in 2005. That EA is currently on hold because of staffing shortages, but TTC and City Planning staff are working together to ensure that, when the study resumes, it will be consistent with the objectives and principles of the *Transit City* plan.

An environmental assessment is currently underway pertaining to the Waterfront West light rail line, which is one of the seven *Transit City* lines. This EA was started at the direction of City Council in June 2006, before the *Transit City* plan was released, because an LRT line on the western waterfront had been proposed several years earlier in the Waterfront Master Plan, because of the need to provide premium quality transit service in support of the rapidly-developing Bathurst Quay, Exhibition Place, Humber Bay Shores area, and southern Etobicoke, and the need to provide additional travel capacity in the western waterfront corridor.

An environmental assessment is currently underway pertaining to streetcar/light rail transit for Kingston Road, between Victoria Park Avenue and Eglinton Avenue. While this segment of Kingston Road is not formally part of the *Transit City* plan, the results of that study will be considered in conjunction with the implementation activities for the *Plan*.

SUMMARY

The seven *Transit City* light rail lines have been evaluated against 31 criteria intended to address considerations ranging from ridership, to benefits to priority neighbourhoods, to conformity with and support for municipal and provincial planning policies, to feasibility of constructability and implementation, to capital and vehicle costs. This evaluation has shown that all seven *Transit City* light rail lines will be good-performing routes with strong ridership; will be effective in diverting travel away from cars and onto transit; will contribute significantly to the reduction of greenhouse gas emissions in the GTA; will support key provincial and city development policies and directions; and will play an important role in city- and region-building. The evaluation shows that no one single light rail line performs best on all criteria but, rather, each of the lines has differing strengths and weaknesses. The conclusion is that, after considering all of the lines and their pro's and con's relative to the full set of evaluation criteria, the originally-recommended lines of Sheppard East, Etobicoke-Finch West, and Eglinton-Crosstown remain good choices for starting the implementation of the *Transit City* plan and, therefore, should be the first lines to undergo environmental assessments.

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November 2, 2007

11-31-80

Attachments: Exhibits 1-3
Table E-2
Appendix 1

EXHIBIT 1 - TRANSIT CITY CORRIDOR EVALUATION MATRIX

	Transit City Corridor						
	Don Mills	Eglinton-Crosstown	Etobicoke Finch West	Jane	Scarborough-Malvern	Sheppard East	Waterfront West
Line Description							
One-Way Line Length (km)	17.6	30.8	17.9	16.5	15.0	13.6	11.0
Number of 30-metre LRVs	46	129	37	41	53	35	23
Line Performance							
Ridership in Millions							
Existing Annual Riders (millions)							
- on current route	13.7	19.0	11.3	11.9	7.7	8.8	2.9
- diverted from other routes	0.9	12.6	3.9	2.9	0.0	0.0	4.9
- sub-total existing	14.6	31.6	15.2	14.8	7.7	8.8	7.8
New Annual Riders - Projected 2021 (millions)	6.6	21.2	9.4	9.2	6.4	7.7	3.8
Total Projected 2021 Ridership (millions)	21.2	52.8	24.6	24.0	14.1	16.5	11.6
New Annual Riders Per Kilometre (millions)	0.4	0.7	0.5	0.6	0.4	0.6	0.3
Overall Annual Riders Per Kilometre (millions)	1.2	1.7	1.4	1.5	0.9	1.2	1.1
Peak point-hour-direction ridership	2,900	4,700	2,300	2,700	3,900	2,700	2,200

EXHIBIT 1 - TRANSIT CITY CORRIDOR EVALUATION MATRIX

	Transit City Corridor						
	Don Mills	Eglinton-Crosstown	Etobicoke Finch West	Jane	Scarborough-Malvern	Sheppard East	Waterfront West
Current Mode Share to Transit in Corridor	28%	29%	24%	28%	28%	24%	28%
New Rapid Transit Coverage / Reach							
- area (hectares)	1,500	2,500	1,600	1,700	1,000	1,200	1,400
- population	87,200	114,500	76,900	96,200	52,500	57,900	60,700
- full-time jobs	26,000	32,300	18,400	13,100	5,000	24,100	14,900
- part-time jobs	6,800	9,800	6,200	6,600	3,000	7,900	6,400
Significant Trip Generators Served							
- total	26	22	35	29	18	18	9
- major generators	10	6	12	8	1	4	3
Cost Per Rider (capital)							
- cost per new rider	$9.66	$9.39	$5.47	$6.43	$9.66	$6.25	$11.47
- cost per total-riders-on-line	$3.01	$3.77	$2.09	$2.47	$4.38	$2.92	$3.76
City and Region Building							
Supports/included in *MoveOntario 2020* Objectives	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Supports *Places to Grow* Principles	Yes	Yes	Yes	Yes	Yes	Yes	Yes

EXHIBIT 1 - TRANSIT CITY CORRIDOR EVALUATION MATRIX

	Transit City Corridor						
	Don Mills	Eglinton-Crosstown	Etobicoke Finch West	Jane	Scarborough-Malvern	Sheppard East	Waterfront West
City and Region Building							
Supports *Toronto Official Plan* Objectives							
Serves priority neighbourhoods	Yes - 1 area	Yes - 3 areas	Yes - 3 areas	Yes - 2 areas	Yes - 4 areas	Yes - 2 areas	No
Percent of corridor designated for re-urbanization (Avenue)	10%	75%	10%	25%	67%	50%	50%
LRT Network Connectivity, Transfer Opportunities							
Local rapid transit connections	2 subway 2 Transit City	4 subway 3 Transit City	2 subway 1 Transit City	2 subway 2 Transit City	2 subway 1 Transit City	2 subway 2 Transit City	1 subway
Inter-regional connections							
- existing/future terminals	Don Mills Stn	Pearson Airport	Finch Stn	Steeles W Stn	none	Don Mills Stn	Union Stn
- existing GO connections	none	1(Kennedy Stn)	none	none	3 (Kennedy; Eglinton; Guildwood)	1 (Stouffville)	2 (Union; Long Branch)
- future GO connections	2 (Richmond Hill, Crosstown)	5 (Richmond Hill, Barrie, Bolton, Georgetown, Crosstown)	3 (Barrie, Bolton, Georgetown)	4 (Milton, Georgetown, Bolton, Crosstown)	1 (Crosstown)	1 (Crosstown)	none
Potential for Expansion	North to York Region	West to Mississauga	West to Woodbine, Pearson, Mississauga	North to York Region	North to York Region East to Durham Region	East to Durham Region	West to Mississauga

EXHIBIT 1 - TRANSIT CITY CORRIDOR EVALUATION MATRIX

	Transit City Corridor						
	Don Mills	Eglinton-Crosstown	Etobicoke Finch West	Jane	Scarborough-Malvern	Sheppard East	Waterfront West
Environmental							
Annual Number of Car Trips Diverted / Replaced	-5,500,000	-17,700,000	-7,800,000	-7,700,000	-5,300,000	-6,400,000	-2,800,000
Annual Reduction in Greenhouse Gases (tonnes of CO_2)	-25,000	-70,000	-30,000	-30,000	-20,000	-25,000	-10,000
Physical and Community							
Major Physical Challenges, Obstacles	Narrow ROW, S of Don Valley	Narrow ROW, Laird-Keele	Finch connection, Ravine, Hwy 400 crossing	Narrow ROW, S of Lawrence	Highland Creek crossing	Subway connection	Rail/ Highway crossings, narrow ROW Exhibition-Roncesvalles
Percent of Line with Adequate Surface ROW	85%	50%	100%	60%	95%	100%	75%
Designated, Recognized in Official Plan	Map 4, Map 5	Map 4, Map 5	Map 4 (Hydro corridor only), Map 5	Map 4, Map 5	partial Map 4, partial Map 5	partial Map 4, partial Map 5	partial Map 4, partial Map 5

EXHIBIT 1 - TRANSIT CITY CORRIDOR EVALUATION MATRIX

	Transit City Corridor						
	Don Mills	Eglinton-Crosstown	Etobicoke Finch West	Jane	Scarborough-Malvern	Sheppard East	Waterfront West
Capital Cost (millions)							
Construction, Property Costs	$590	$1,970	$480	$560	$500	$440	$470
Vehicle Costs	$280	$770	$220	$250	$320	$210	$140
Pro-rated Maintenance Facility Costs	$110	$320	$90	$100	$130	$90	$60
Total cost	$980	$3,060	$790	$910	$950	$740	$670
Annualized Cost	$64	$199	$51	$59	$62	$48	$44
Construction cost / kilometre	$34	$64	$27	$34	$33	$32	$43
Total cost/ kilometre	$56	$99	$44	$55	$63	$54	$61

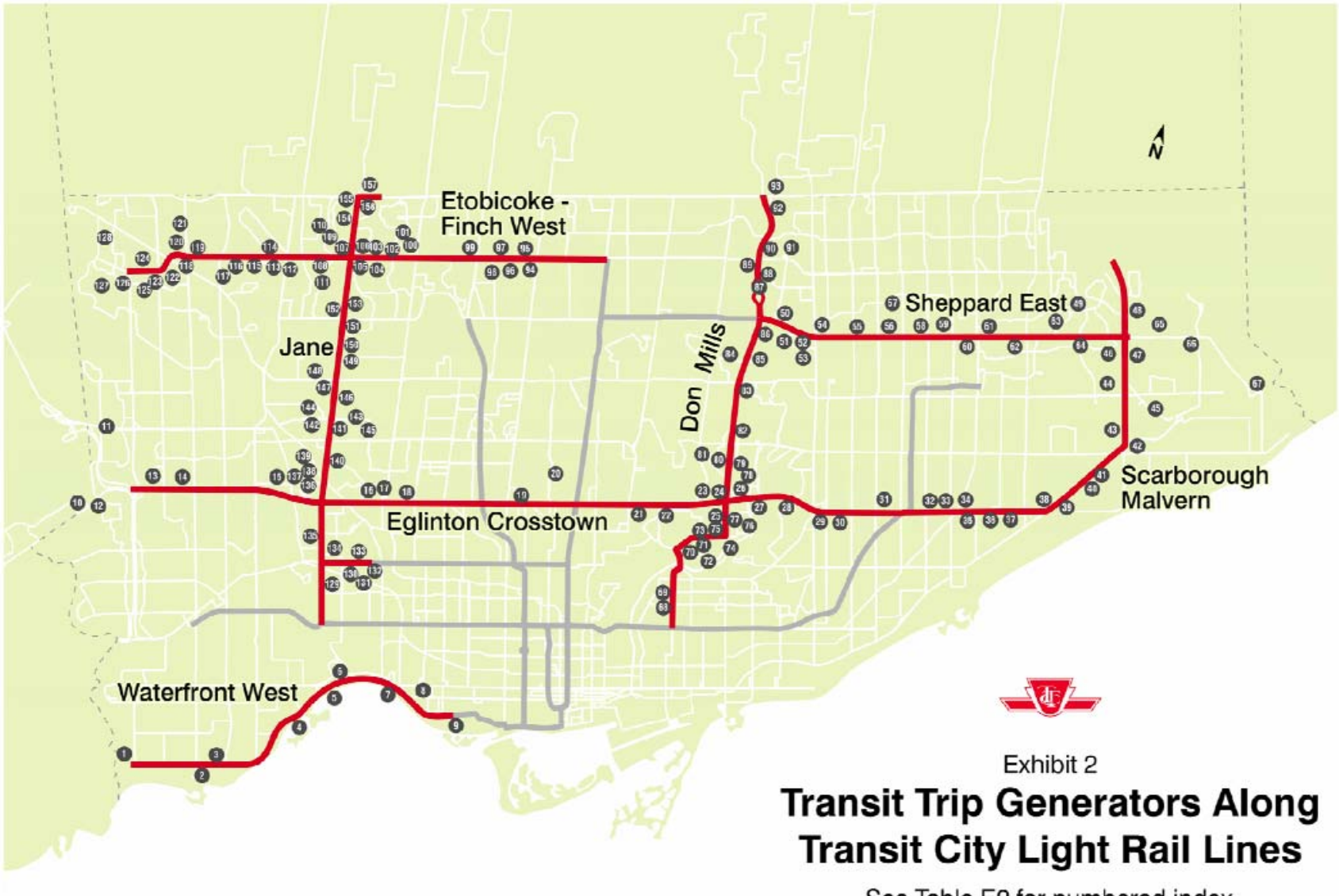

Exhibit 2

Transit Trip Generators Along Transit City Light Rail Lines

See Table E2 for numbered index

TTC SP 5-11-2007 DRG. No. 11910

Customer Generators on Light Rail Routes

Major ridership generators along proposed light rail routes as shown in bolded print.

WATERFRONT WEST

1. **Long Branch Loop - GO Transit - Mississauga Transit - TTC hub**
2. **Humber College Lakeshore Campus & Father J. Redmond Catholic Secondary**
3. Garnett Janes Residential Area - Apartments & townhouses
4. Humber Bay / Legion Road - Condominiums
5. Palace Pier Area - Condominiums
6. **Windermere Avenue - Condominiums & townhouses**
7. Sunnyside Pool and beach area
8. Jameson Avenue - Apartments
9. Canadian National Exhibition Grounds & Ontario Place

EGLINTON-CROSSTOWN

10. Airport Executive Centre
11. Hotels on Dixon Road
12. **Centennial Park - Renforth Drive**
13. Willowridge Road - Apartments
14. Widdicombe Hill Blvd - Apartments
15. Richview Road - Apartments
16. York Community Offices
17. **York Memorial Secondary School - Keele**
18. **Gabian Way - Apartments & Westside Mall**
19. Forest Hill Collegiate
20. Marshall McLuhan Secondary School
21. Leaside Secondary School
22. Laird Drive - Big box development
23. Leslie Street - Condominiums north of Eglinton Avenue
24. **Don Mills - Celestica on NW**
25. Ontario Science Centre
26. Gervais Drive - Supercentre and access to Wynford Drive employers
27. St. Dennis Drive - Condominiums
28. Bermondsey Road - Condominiums on north side & Industrial area to south
29. **Victoria Park Ave - Eglinton Square Mall**
30. **Pharmacy/Warden/Lebovic Avenue - Big box development both sides of Eglinton Avenue**
31. Rosemount Drive/Ionview Road – Apartments

Customer Generators on Light Rail Routes - cont

SCARBOROUGH MALVERN

32. Gilder Drive - Apartments
33. Brimley Road - Plazas on northwest and south west corners
34. Danforth Road - Apartments and townhouse development
35. McCowan Road - Apartments
36. Eglinton GO Station & apartments on Bellamy Road North
37. Mason Road - Apartments
38. Kingston Road - Apartments and plaza north of Kingston Rd & townhouses on south side
39. Guildwood Parkway - Condominiums south side & townhouses north side
40. Guildwood GO Station
41. Gallowway Road - Apartments & townhouses
42. Morningside Mall
43. West Hill Collegiate
44. Mornelle Court - Apartments
45. **Ellesmere - U of T Scarborough**
46. Cinemart Plaza
47. Milner Business Park
48. Casebridge Court - Industrial Area
49. Malvern Town Centre

SHEPPARD EAST

50. Crossroads - Apartments
51. Yorkland Business Park
52. Consumers Road Business Area
53. Settlers Road - Office towers
54. Chichester Place - Apartments
55. **Birchmount Road / Bay Mills Blvd - Apartments**
56. **Kennedy Road - Agincourt Mall**
57. Bonis Avenue - Condominiums
58. Agincourt GO Station - Apartments on south side
59. Glen Watford Drive - Chinese shopping area
60. **McCowan Road - Apartments on Pitfield and Invergordan to south**
61. Shorting Road - Industrial lands to north
62. Markham Road - Plaza, apartments and townhouses
63. Washburn Way - Lester B. Pearson Collegiate & Marion Hillard Senior Public
64. Brenyon Way - Townhouse development
65. Rouge River Drive / Dean Park Road - Residential community
66. **Meadowvale Road - Apartments at Dean Park to south**
67. Kingston Road / Sheppard - Apartments and townhouses

Customer Generators on Light Rail Routes - cont

DON MILLS

68. Mortimer Avenue - Townhouse community
69. Cosburn Avenue/Gamble Avenue - Apartments
70. Thorncliffe Park Drive (west) - Apartments to south & Industrial to north
71. East York Town Centre
72. Thorncliffe Park Drive (east) - Apartments to south & Industrial to north
73. William Morgan - Apartments
74. Marc Garneau Collegiate
75. Valley Park Middle School
76. Overlea Drive - Apartments to east
77. St. Dennis Drive - Apartments to east
78. Wynford Drive - Business park to east
79. Green Belt Drive/Barber Green - Business parks
80. Donway (south) - Apartments & Don Mills Collegiate
81. Don Mills Centre
82. Donway (north) - Apartments
83. York Mills Road - Business Park to west & Westin Prince Toronto Hotel
84. Duncan Mill - Business park
85. Graydon Hall Drive - Apartments to east
86. Parkway Forest Drive - Apartments
87. George Vanier Secondary School
88. Van Horne Avenue - Apartments & plaza
89. Seneca Hill Drive - Apartments
90. Skymark Drive - Condominiums
91. Seneca College
92. Freshmeadow Drive - Townhouses
93. Steeles Avenue - Shops on Steeles & Townhouses

ETOBICOKE - FINCH WEST

94. Bathurst Street - Apartments
95. Northview Secondary School
96. Branson Hospital
97. Torresdale Avenue/Goldfinch Court - Apartments
98. Wilmington Avenue - Apartments
99. Alness Street/Champagne Drive - Industrial Area
100. James Cardinal McGuigan Secondary School
101. Keele Street - Four Winds Drive - Apartments
102. Sentinel Road - Apartments on Sentinel and Fountainhead & York U access
103. Tobermory Drive - Apartments
104. Driftwood Avenue – Apartments
105. Jane Street – Jane-Finch Mall

Customer Generators on Light Rail Routes - cont

ETOBICOKE - FINCH WEST CONT

106. San Romanoway Apartments
107. York Gate Mall
108. Humber River Regional Hospital
109. Regina Pacis Secondary School
110. Norfinch Drive - Three hotels to north
111. Westview Secondary School
112. Weston Road - Apartments & new high density development on SE corner
113. Jayzel Drive - Apartments and townhouse development
114. Milvan Drive - Industrial area
115. Duncanwood Drive - Apartments & townhouses
116. Pearldale Avenue - Apartments
117. Islington Avenue - Apartments
118. Albion Centre
119. Kipling Avenue - Panorama Court Apartments
120. Stevenson Road - Apartments
121. North Albion Collegiate
122. Albion Road - Townhouses
123. Martin Grove Road - Father Henry Carr Secondary School
124. Westmore Drive - Industrial Area
125. William Osler Etobicoke Hospital
126. Humber College
127. Humberline Drive - Condominiums
128. Humberline Drive - Industrial area

JANE

129. Runnymede Collegiate
130. Walmart
131. George Bell Arena
132. Old Stockyards Road - Big box development
133. Mondovi Gate - Townhouses
134. Woolner Avenue - Apartments
135. Black Creek Drive - Apartments & plaza
136. Emmett Avenue - Apartments
137. York Humber High School
138. Buttonwood Hospital
139. Weston Road - Access to residential area on Levi Property
140. Trethewey Drive - Apartments
141. William Street - Apartments
142. Weston Collegiate
143. Maple Leaf Drive – Apartments

Customer Generators on Light Rail Routes - cont

144. Church Street - York Finch - Humber Hospital
145. Chamanade School
146. Falstaff Avenue - Apartments
147. York Plaza
148. Sheridan Mall
149. Heathrow Drive - Apartments
150. Exbury Drive - Apartments
151. Sheppard Avenue - Three plazas
152. Eddystone Avenue - Apartments & access to Oakdale Industrial area
153. York Gate - Apartments
154. Shoreham Drive - Apartments, plaza & access to York U
155. Hullmar Drive Apartments
156. Black Creek Pioneer Village
157. UPS Sorting Plant

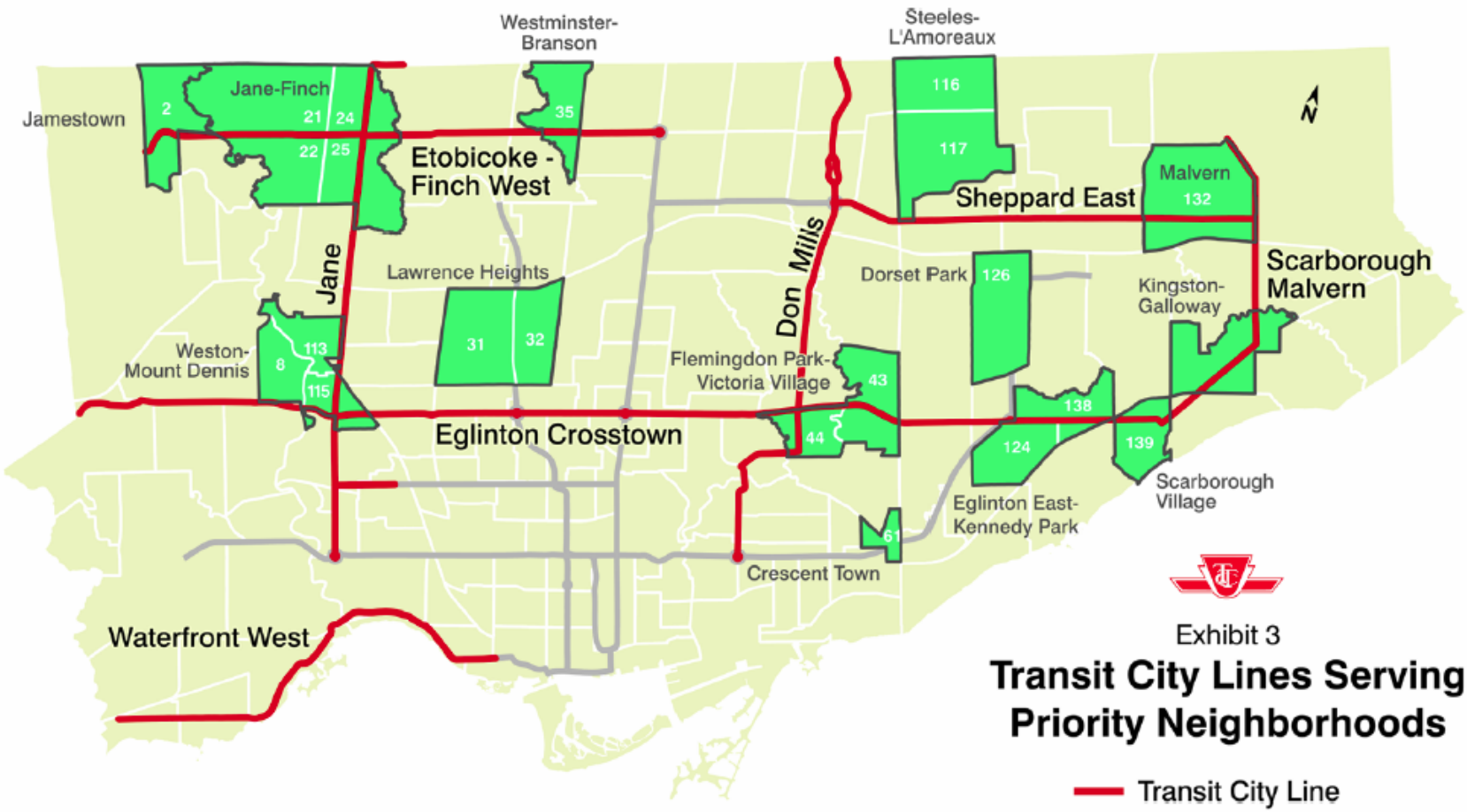

Exhibit 3

Transit City Lines Serving Priority Neighborhoods

Transit City Line

13
5
Priority Neighborhood with neighborhood codes

TTC SP 02-11-2007 DRG. No. 11909

APPENDIX 1 – TRANSIT CITY LIGHT RAIL LINES – SUMMARY OF TRANSFER OPPORTUNITIES AND CONNECTIONS WITH OTHER RAPID TRANSIT AND INTER-REGIONAL SERVICES

Sheppard East

The Sheppard East light rail route would connect with numerous TTC and regional transit services.

At Don Mills Station, the Sheppard East LRT would connect with the existing Sheppard Subway, the planned Don Mills LRT, and the TTC and York Region Transit/VIVA bus services that operate out of the interregional bus terminal at Don Mills Station. One stop farther west on the subway is Leslie Station, with its connection to Oriole GO Station. The line would connect with the planned extension of the Scarborough RT to a new station at Sheppard Avenue in the Malvern community, which would provide important connections from Sheppard Avenue to Scarborough Centre, including the regional mall Scarborough Town Centre and the Scarborough Civic Centre, and to the Bloor-Danforth Subway. Towards its eastern end, the Sheppard East LRT corridor would connect with the proposed Scarborough-Malvern light rail corridor, another component of the Transit City Light Rail Plan. A direct connection would be made at Agincourt GO Station with GO Transit's Stouffville line, which intersects with the Sheppard East LRT. Along the length of its route from Don Mills Station to Meadowvale Avenue, the Sheppard East LRT corridor connects with six TTC bus routes that provide direct interregional bus service into York Region, in cooperation with York Region Transit. A short connection away from the Sheppard East LRT corridor is Scarborough Centre Station, with its numerous TTC bus connections, and the important GO Transit and intercity bus terminal. The Sheppard East LRT corridor could be extended farther east to Durham Region, and light rail service on the Sheppard East LRT corridor could be through-routed over the Scarborough-Malvern Corridor to provide further local and regional transit connections.

Etobicoke-Finch West

The Etobicoke-Finch West light rail route would connect with numerous TTC and regional transit services.

At Finch Station, the Etobicoke-Finch West LRT would connect with the existing Yonge Subway, and TTC, GO, York Region Transit/VIVA, and Brampton Transit bus services that operate out of the interregional bus terminal at Finch Station. The line would connect with the planned inter-regional extension of the Spadina Subway to a new station at Finch Avenue and Keele Street, which would provide important connections south to Toronto and north to York University and regional services in York Region. The Etobicoke-Finch West LRT corridor would connect with the proposed Jane light rail corridor, another component of the Transit City Light Rail Plan. Connections could also be made with GO Transit and VIA Rail Canada trains on the GO Georgetown line, with GO Transit trains on the Bradford/Barrie line, and with possible future GO Trains to Bolton on the CPR MacTier Subdivision. Along the length of its route from Finch Station to Highway 27, the Etobicoke-

Finch West LRT corridor connects with five TTC bus routes that provide direct interregional bus service into York Region, in cooperation with York Region Transit. Direct connections would be made at the western end of the line with Mississauga Transit, Brampton Transit, York Region Transit, and GO Transit bus routes that serve the Humber College area. The Etobicoke-Finch West LRT corridor could be extended farther west to the Woodbine Racetrack redevelopment project, Pearson Airport, and the Malton community within Mississauga.

Eglinton-Crosstown

The Eglinton-Crosstown light rail route would connect with numerous TTC and regional transit services, and would span from one end of Toronto to the other.

The Eglinton-Crosstown LRT would connect with the existing Bloor-Danforth Subway, Scarborough RT, and GO Transit Stouffville Line trains at Kennedy Station, as well as the planned Scarborough Malvern LRT; with the planned Don Mills LRT; with the existing Yonge Subway at Eglinton Station; with the Spadina Subway at Eglinton West Station; and with the planned Jane LRT. The Eglinton-Crosstown LRT line intersects with three existing GO Transit rail lines (Richmond Hill, Bradford/Barrie, and Georgetown) and two potential GO Transit rail lines (Crosstown, Bolton). At and near Pearson Airport, the Eglinton-Crosstown LRT line would connect with the planned Mississauga Transitway, and with the many regional and local services that serve the airport. The line would provide a new rail transit service to Pearson Airport. Along the length of its route from Kennedy Station to Pearson Airport, the Eglinton-Crosstown LRT corridor connects with seven TTC bus routes that provide direct interregional bus service into York Region, in cooperation with York Region Transit, and into Mississauga, in cooperation with Mississauga Transit. The Eglinton-Crosstown LRT corridor could be extended farther west into Mississauga, and light rail service on the Eglinton-Crosstown LRT corridor could be through-routed over the Scarborough-Malvern Corridor to provide further local and regional transit connections.

Waterfront West

The Waterfront West light rail route would connect with numerous TTC and regional transit services.

At Union Station, the service using the Waterfront West LRT would connect with the main interregional transit hub in the Greater Toronto area, Union Station, with its TTC subway, streetcar, and bus service; GO Transit train and bus service; planned future intercity bus service; and VIA Rail Canada and other intercity rail services. The line would directly serve the central business district of Toronto. Possible future extensions could be made to the west, into Mississauga.

Don Mills

The Don Mills light rail route would connect with numerous TTC and regional transit services.

At its south end, the Don Mills LRT would connect with the existing Bloor-Danforth Subway. The line would connect with the planned Eglinton-Crosstown LRT line, with its many regional connections. The Don Mills line would directly serve the Don Mills Station on the Sheppard Subway and the planned Sheppard East LRT line. This station is an important interregional transit node, with connecting York Region Transit/VIVA service. It would be possible to continue the line further north, past Steeles Avenue, to directly serve York Region. Other connections could be made with GO Transit on its Richmond Hill line, and on its potential Crosstown line.

Jane

The Jane light rail route would connect with numerous TTC and regional transit services.

At its south end, the Jane LRT would connect with the existing Bloor-Danforth Subway. The line would connect with the joint Toronto-York planned extension of the Spadina Subway at a new station at Steeles Avenue West, at the north end of the York University Campus, east of Jane Street. This station would be an important interregional transit node, with many connecting passengers from GO Transit and York Region Transit/VIVA customers. The Jane LRT line could be continued north to directly serve York Region. The Jane LRT corridor would connect with the proposed Etobicoke-Finch West light rail corridor, another component of the Transit City Light Rail Plan. Other connections could be made with GO Transit and VIA Rail Canada trains on the GO Georgetown line, with GO Trains on the Georgetown and Milton lines, and with possible future GO Trains to Bolton and on the Crosstown GO line.

Scarborough-Malvern

The Scarborough-Malvern light rail route would connect with numerous TTC and regional transit services.

At Kennedy Station, the Scarborough-Malvern LRT would connect with the existing Bloor-Danforth Subway and Scarborough RT, the existing GO Train services on the Stouffville Line, and the planned Eglinton-Crosstown LRT. The Scarborough-Malvern LRT would directly serve two existing GO Train stations on the Lakeshore East line, and could potentially serve the possible future GO Crosstown line. At its northern end, the Scarborough-Malvern LRT corridor would connect with the proposed Sheppard East light rail corridor, another component of the Transit City Light Rail Plan. A short connection away from the Scarborough-Malvern LRT corridor is Scarborough Centre Station, with its numerous TTC bus connections, and the important GO Transit and intercity bus terminal. The Scarborough-Malvern LRT corridor could eventually be extended farther east to Durham Region, and light rail service on the Scarborough-Malvern LRT corridor could be through-routed over the Sheppard East Corridor and/or the Eglinton-Crosstown Corridor to provide further local and regional transit connections.