EX28.1.2

Analysis of Yonge Subway Extension
Final Report on TPAP and Future Actions

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S.1.85X3

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Facts and Figures on Route and Service Changes and Resulting Fleet Requirements

Yonge-University-Spadina (YUS) Subway Scale of Expansion

Extensions	Route-km	Extension as Percentage
Current YUS Subway:	30.2km	0.0%
Spadina Extension (TYSSE):	8.6km	28.5%
Yonge Extension:	6.8km	22.5%
New Total:	*45.6km*	*51.0%*

3 Main Segments of Route

Glencairn - Finch:
Based on the current run between Finch and St.Clair West (round-trip length 45.06km), and an additional 3.5km to Glencairn from St.Clair West:
(45.06km/2) + 3.5km = 26km
Glencairn - Vaughan Corporate Centre:
Based on the current run between Finch and Downsview (round-trip length 60.45km) minus the figures in the previous calculation:
((60.45km - 45.06km)/2) - 3.5km + 8.6km (TYSSE) = 12.8
Cross-check (plus Yonge Extension):
12.8km + 26km + 6.8km = 45.6km

Route Segment	Route-km	Average km/h	Notes
Richmond Hill Centre (RHC) to Finch	6.8km	32.0km/h	Assumed based on current YUS average of 30.9km/h
Finch to Glencairn	26.0km	30.3km/h	Based on current Finch - St.Clair West average
Glencairn to Vaughan Corporate Centre (VCC)	12.8km	32.0km/h	Assumed based on current YUS average of 30.9km/h

Current Fleet in Service

The TTC currently runs 288 cars as 48 consists [6-car trains] in the AM peak period, of which 4 consists are gap trains.
The TTC currently runs 294 cars as 49 consists [6-car trains] in the PM peak period, of which 2 consists are gap trains.
The TTC is planning on retiring all models older than the T-1 model, which is the latest model currently in service, by 2011.
The current fleet of TTC vehicles, including T-1 model cars, are not compatible with ATO/ATC, nor with the 7th car proposed.
For the Yonge-University-Spadina line to take advantage of ATO/ATC, the entire fleet must be replaced or retrofitted.

Current Fleet Replacement Plans

The TTC currently has 234 TR cars on order to form 39 consists [6-car trains] from an order placed in December, 2006
(the subway car order was approved by Toronto City Council in September, 2006).
The TTC has 36 additional TR cars expected to arrive with the Toronto York Spadina Subway Extension (TYSSE), to form 6 consists [6-car trains].
72 additional TR cars are included in the proposed Yonge Extension's capital cost estimate, to form 12 consists [6-car trains].

	2006 Order	TYSSE	Yonge	*Total*
TR Cars	234	36	72	*342*
TR Consists	39	6	12	*57*

This would bring the TR fleet to 342 cars as 57 consists [6-car trains].
All T-1 model cars would be moved to the Bloor-Danforth and Sheppard lines, and all cars of a model older than the T-1 would be retired.
What differences would result between Wilson and Greenwood yards is not yet clear, but if each yard is dedicated to different models, the impact is significant. Management of the Sheppard Line becomes of particular interest as it has no direct access to Greenwood Yard, but would be serviced by T-1 model cars.

Headway Minutes and Seconds Table

All headways (the distance between trains, measured in time between trains) are in seconds when doing calculations.
This table is provided for quick reference to what headways would be in minutes, and what certain headways represent.

Seconds	Minutes	Notes
300	5.00	Current AM peak headway north of St. Clair West (in future north of Glencairn)
282	4.70	Proposed AM peak headway on Yonge north of Finch
240	4.00	
210	3.50	
180	3.00	
151	2.52	Current PM peak period on entire Yonge-University-Spadina line
150	2.50	
141	2.35	Current AM peak headway between Finch and St.Clair West. Highest frequency achievable without ATO/ATC
120	2.00	Requires ATO/ATC
105	1.75	Highest frequency practical with ATO/ATC

Current Service and Planned Changes

	141 second AM-peak headway	300 second AM-peak headway
Current	Finch-St.Clair West	St.Clair West-Downsview
Planned	Finch-Glencairn	Glencairn-Downsview

Proposed Service from Finch to Richmond Hill Centre

Clarification is required as the report suggests reducing the headways on Yonge in the AM-peak while increasing headways in the PM-peak.

	Finch - Glencairn	
	As in Report	Intended?/Current
AM-Peak	144	141
PM-Peak	144	151

> *...results in 2 minute 24 second headways to Finch and 4 minute 42 second headways to Richmond Hill Centre in the AM peak period, and 2 minute 24 second headways to Richmond Hill Centre Station in the PM rush period.*
>
> *- Quoted from page 10 in the report*

This configuration does not take advantage of any of the ATO/ATC capability since the headways are longer than the current AM rush period, which has the shortest headways in the system, unless the stated 2 minute 24 second headway is an error (and is to be maintained at 141 seconds).
If the ATO/ATC function is not to be taken advantage of at opening day, why was it a prerequisite for the project to proceed?
This part of the report brings about more questions than answers and raises doubts about the quality of the contents of the report.

Current Fleet Distribution

Formulas: Distance = Speed * Time, Speed = Distance / Time, Time = Distance / Speed, Track-km / Speed / Headway = Consists for Service

	Track-km			Consists In Service				
	Downsview to St.Clair West	Finch to St.Clair West	YUS (All)	Downsview to St.Clair West	Finch to St.Clair West	YUS (All)	Gap Trains	Total Consists on YUS
AM-Peak	15.3km	45.1km	60.4km	38	6	44	4	**48**
PM-Peak						47	2	**49**

Future Fleet Distributions

The following table assumes the same price for TR cars as paid in 2006, listed in 2006-dollars: $3,000,000
The 7th car assumes a proportional price to the TR cars by length, which is 2/3rds, and is in 2006-dollars: $2,000,000
The current number of TR consists by current estimates (detailed above) assumed for shortfall calculations is: 57
All headways are in seconds, all fleet calculations are in 6-car consists, and all capacity calculations reflect the Finch-Glencairn stretch only.
The three route segments in various headway combinations for AM-peak service are based on current service, planned changes, and the report.
All calculations assume 5 gap trains at the following locations: Wilson, St.Clair West, St.Andrew/Union, Davisville, and York Mills.
Gap trains are extra trains spaced across the line to replace a train quickly should any train become disabled and taken out of service.

RHC to Finch	Finch to Glencairn	Glencairn to VCC	Fleet Required	Fleet Shortfall	Cost to Meet	Capacity	7th Car Cost	$Total	Capacity w/7th
282	141	300	64	7	$126,000,000	28,085	$128,000,000	$254,000,000	30,638
141	141	300	70	13	$234,000,000	28,085	$140,000,000	$374,000,000	30,638
240	120	300	73	16	$288,000,000	33,000	$146,000,000	$434,000,000	36,000
240	120	240	75	18	$324,000,000	33,000	$150,000,000	$474,000,000	36,000
151	151	151	76	19	$342,000,000	26,225	$152,000,000	$494,000,000	28,609
240	120	210	77	20	$360,000,000	33,000	$154,000,000	$514,000,000	36,000
240	120	180	79	22	$396,000,000	33,000	$158,000,000	$554,000,000	36,000
210	105	240	84	27	$486,000,000	*37,714*	$168,000,000	$654,000,000	**41,143**
210	105	210	85	28	$504,000,000	*37,714*	$170,000,000	$674,000,000	**41,143**
210	105	180	88	31	$558,000,000	*37,714*	$176,000,000	$734,000,000	**41,143**
210	105	150	91	34	$612,000,000	*37,714*	$182,000,000	$794,000,000	**41,143**
180	105	150	92	35	$630,000,000	*37,714*	$184,000,000	$814,000,000	**41,143**

Worth noting is that the highest capacity is **41,143**, which would *not* adequately accommodate the **42,000** projected by Metrolinx, yet would cost at least $654,000,000 in 2006-dollars. Without the 7th car, the capacity of *37,714* would not reach the up to *39,000* demand projected by the TTC (although the low-end of the projection is 36,000), yet would cost at least $486,000,000 in 2006-dollars.
To achieve the 10% capacity increase from the TR cars at current service levels requires $126,000,000 in 2006-dollars above the project estimate.

> *...it should be noted that the subway vehicles required to increase service levels on the YUS line (with ATO/ATC) are not included in the current TTC base capital budget...*

- Quoted from page 5 in the report

> *The current TTC capital budget does not include the fleet size to implement improved headways on the YUS line following implementation of ATO/ATC.*

- Quoted from page 23 in the report

These costs have been identified in 2006-dollars in the table above, and includes notes on the shortfall of these measures below the table.
It's **at least $288 million 2006-dollars** in additional fleet investment needed to get to **2-minute headways.**
It's **at least $486 million 2006-dollars** in additional fleet investment needed to get to **1-minute 45-second headways.**

What is a 10% Increase?

Page 12 states an increase in peak point capacities by about 10% or 3,200 passengers per hour per direction by 2010. This is inaccurate.
The TR cars are not expected to actually enter service until 2011, but not enough TR cars were ordered to replace all cars in service on YUS today.
Since 10 more TR 6-car consists, or 60 TR cars, are needed, capacity would not increase by 10% as about 20% of the fleet will still be older T-1 cars.
The figure of 3,200 passenger per direction per hour of increased capacity on the Yonge line is not 10%.
The TTC's loading standard is currently 1000 per train on the current 6-car consists in service.
A 10% increase in capacity would allow 1,100 per train. 3,200 would require 1,125 per train, an 11.25% increase.
Currently, the frequency between St.Clair West and Finch stations is 25.5 trains per hour, which means the capacity of the line is 25,500.
1,100 per train with 25.5 trains hour would result in a capacity of 28,050 passengers per direction per hour, which is an additional 2,550 passengers.
Furthermore, it is important to note that the new TR model trains would only bring capacity up to current demand levels to alleviate
the current overcapacity situation on the southern Yonge line. Page 12 states current ridership is 27,000 - 28,000 passengers per direction per hour.
There would actually be no room for additional passengers with the new trains without running tighter headways with ATO/ATC.
This makes the report's scheduling proposal inadequate, as the 10% increase only brings enough capacity for current demand.

Subway Rail Yards Needs Study as a Prerequisite

> *The Subway Rail Yard Needs Study to support the Yonge Subway Extension and other planned increases on the YUS Subway line currently being undertaken by the TTC will identify future yard requirements to 2031, including the capital cost implications for yards over and above the existing Yonge Subway extension budget, and these needs must be met prior to implementation;*

- Quoted from page 2 in the report

A Subway Rail Yards Needs Study, currently in progress, has yet to be completed. This is reiterated on page 22 in the report. The costs of yards to accommodate an expanded fleet, at least hundreds of millions even with the fleet costs excluded, will not be known until the Subway Rail Yard Needs Study is complete. What is significant and troubling is that the table illustrating fleet shortfall suggests that the Yonge-University-Spadina fleet size could almost double from 49 to 92. This is a very large yard capacity expansion requirement (88%) that could involve a new facility on a scale of Wilson Yard or Greenwood Yard. This would have a high probability of entailing a very large property acquisition cost.
Given the potentially significant costs in both capital and operations, the full costs of yards must be known prior to approval.

Bloor-Yonge Station

As of yet, although it has been authorized by the TTC on October 23, 2008, a study on addressing the capacity constraints at Bloor-Yonge station has yet to begin. According to Charles Wheeler, who made a presentation on this project to the TTC on December 17th, 2008, the Bloor-Yonge renovation is expected to cost at the very least $500 million.

Expanding Bloor-Yonge station is identified as a requirement on page 22, but cost and even feasability are not yet confirmed, nor the consequences of the construction. Until such critical details and impacts are clearly identified, the project should not be approved.

> *An RFP for a comprehensive study of the potential solutions to the existing capacity constraints of Yonge-Bloor Station will be out to tender in January 2009.*

- Quoted from page 23 in the report

This study must be completed before the project is approved.

Not mentioned on the issue of capacity of existing stations are the costs of additional exits at existing stations, including College, Dundas, and others.

Benefits Case Analysis

> *4) Request staff to report back to the Commission on the results of the Metrolinx Benefits Case Analysis in Spring 2009.*

- Quoted from page 3 in the report

> *The results of the Metrolinx BCA for the Yonge Subway Extension project will be the subject of a Commission report in Spring 2009.*

- Quoted from page 5 in the report

Does the BCA compare the investments of capacity enhancement against the earlier construction of a DRL?
Why is the City of Toronto and the TTC being asked to approve this project/report without such critical information?

Downtown Relief Line / Downtown Rapid Transit Line

> *The forecast shows Yonge line ridership south of Bloor of 25,100 per hour with 17,500 peak hour riders diverted to the Downtown RT line.*

- Quoted from page 11 in the report

The forecast of 25,100 south of Bloor on the Yonge line is incredibly significant as that figure is lower than the current demand today on Bloor-Yonge station (which is between 27,000 and 28,000, on page 12).
With the Downtown Relief Line (DRL) to be built as a subway in Metrolinx's RTP, this would make all the capacity improvements on Yonge to accommodate the extension a temporary measure. The billions of dollars of investments for expanded capacity on Yonge would serve no purpose after the construction of the DRL.
With the capacity enhancements to the Yonge line having an expense comparable to the capital investment of a second subway line, it makes more sense to build the DRL before a Yonge extension. The DRL might even be cheaper than the capacity enhancements, but that requires further study. The DRL brings many system benefits that Yonge capacity enhancements do not, such as alleviating crowding on the Queen East (501, 502) and King East (503, 504) services.
The billions of dollars needed for capacity enhancements to accommodate the Yonge Extension need not be spent if the DRL is built instead, and that is a huge savings since the DRL is supposed to be built in Metrolinx's plan anyway.
It is disturbing that this is not mentioned anywhere in the report, and that almost no study on the DRL has been included.

The projections for the DRL peak-hour ridership is about equal to that projected for the Yonge Subway Extension at Finch.

Projection Irregularities

> *The capacity of the Yonge Subway line to accommodate future ridership from this extension (and other network improvements that connect to the Yonge Subway) is a significant operational issue that requires further study and resolution before the project can proceed;*

- Quoted from page 2 in the report

> *5) Request TTC/City staff to subway a report outlining the capacity and ridership issues associated with the Yonge Subway line directly to the January 27/28, 2009 City Council meeting. The report should include consideration of the following:*
> *- Growth in background TTC ridership;*
> *- Ridership impacts of the Transit City lines, planned GO Transit rail improvements and the Metrolinx Regional Transportation Plan proposal for a downtown core relief rapid transit;*
> *- The ridership diverted from the Yonge Subway to the Spadina Subway with the opening of the Spadina line to the Vaughan Corporate Centre, and*
> *- The extension of the Yonge Subway to Richmond Hill Centre*

- Quoted from page 3 in the report

> *7) Request staff, in light of the public concerns about the capacity of the Yonge Subway south of Finch Station, to arrange additional public meetings in January 2009 to outline the planned capacity improvements that will be made to the YUS subway line in parallel with the implementation of the Yonge Subway Extension project and that the results of these meetings be reported directly to the 27/28, 2009 City Council meeting.*

- Quoted from page 4 in the report

> *A more in depth analysis of Yonge Subway ridership and capacity issues will be the subject of a direct report to the January 27/28, 2009 City Council meeting.*

- Quoted from page 12 in the report

This must include a detailed comparison with the DRL being implemented before Yonge is extended, including not only capacity impacts, but capital cost comparisons. Why not build the DRL before or in parallel with the Yonge extension? A DRL would eliminate the need for reduced headways and the need to renovate Bloor-Yonge station. Especially if a DRL is cheaper, which is conceivable given the great costs of capacity expansion.

> *The future transit network assumes the Transit City network (with more frequent service), Yonge Subway to Richmond Hill Centre (with feeder bus adjustments), Sheppard East/Finch West LRT continuous services to the Airport and extension of the Don Mills LRT from Steeles to Highway 7. Note that a select link forecast of individual network options (e.g. the Yonge Subway ridership implications) isolated from other network changes has not been undertaken to date and is not part of the current modelling efforts of any agency.*

- Quoted from page 11 in the report

> *At this time, it is not possible to isolate the peak point ridership of the Yonge Subway extension on its own from other planned network improvements. This will be addressed in the January* TTC report to the City.

- Quoted from page 11 in the report

This is important information, particularly if the Don Mills LRT is not finished and in service by the time the Yonge Subway Extension to Richmond Hill Centre is in service. This is critical information and should be available to the City and TTC before any decision is made on whether to approve the project.

TYSSE Diversion

The page 11 reference to "the diversionary impact of the TYSSE project," refering to the Spadina subway extension to the Vaughan Corporate Centre, is suspect due to its intent on diverting ridership from Yonge in its own environmental assessment predating any announcement of the Yonge Subway Extension. That function only holds if the Spadina line extends further north than the Yonge line. With the Yonge Subway Extension project going north of Steeles, the Spadina Extension suffers a dramatic loss in ability to divert ridership from Yonge as Yonge becomes the closer subway link to more locations and people. This issue conflicts with previous goals of the TYSSE project and has not been adequately addressed in this report. This makes all the capacity calculations unreliable, and puts the TTC and City at great risk regarding the sustainability of the transportation system (transit and auto).

Ridership Forecast Irregularities

There are great inconsistencies with the preliminary ridership forecasts in the AM-peak period.
The table on page 12 shows that more transfers would occur at Cummer/Drewry than at Finch.
Either Finch West or Finch East bus services, alone, would easily exceed the 1,200 passengers figure.
The Finch East service is the busiest bus service in the city. The Finch West LRT is expected to see significant growth in ridership over the current bus service after implementation. Even for preliminary figures, this is very inaccurate.

Density Comparisons

The comparisons of densities at existing TTC stations on page 20 is misleading.
High Park has a reasonable density but is among the poorest performers on the Bloor-Danforth Line.
Kennedy has a lower density than High Park yet has the highest ridership on the Bloor-Danforth line.
Jane has the lowest density yet has one of the busiest bus routes in the city and is slated to become LRT as a result.

Steeles and Richmond Hill Centre Terminals

Capacity and Projected Use Comparison

	Richmond Hill Ctr.	Steeles	Source
Transfers	23,600	3,600	*- from page 12 in the report*
Bus Bays	28	25-26	*- from pages 15, 19 in the report*

There is a huge gap in the volume of transfer traffic between Steeles station and Richmond Hill Centre station, despite the two stations having roughly equivalent sizes of bus terminals (25-28 bays). Either the Steeles bus terminal is oversized by an enormous margin, or the GO Train is not acting as an alleviator as has been said by staff in York Region, but as a feeder.

Richmond Hill Centre / Langstaff GO Station

If GO Rail service, presumably from as far as Bloomington Road and 404 as proposed for an extension of the Richmond Hill Line, acts as a feeder instead of an alleviator, it will be a disaster. Fare integration has a significant impact on whether or not GO Rail will be a feeder or alleviator, and the volume of passengers that come to the TTC by YRT/Viva (which could double).

Of significant note is the potential capacity that could be seen on GO at its Langstaff GO Station by the Richmond Hill Centre. A 10-car GO train has a capacity of 4,000, and 4,800 for a 12-car GO train.

Train		Frequency (in minutes)						
Consist	Loading Standard	10	8	7	5	2.35	2	1.75
TTC subway	1,000	6,000	7,500	8,571	12,000	*25,532*	*30,000*	**34,286**
10-car GO	4,000	24,000	30,000	**34,286**	48,000			
12-car GO	4,800	28,800	**36,000**	41,143	*57,600*			

A 10-car GO train every 7 minutes or a 12-car train every 8 minutes would provide roughly equivalent capacity as the Yonge subway with all its capacity enhancements except the 7th car. A 12-car GO train every 5 minutes has a capacity roughly equal to twice that of the Yonge subway at today's capacity, and roughly the same as today's capacity at every 10 minutes. GO's 2020 plan includes service at every 15 minutes, which, if using 12-car trains, would have an hourly capacity of 19,200.

Richmond Hill Centre is mentioned as an inter-modal passenger hub including interfaces between subway and GO Train, as described on page 19 in the report, but the Langstaff GO station is not part of the scope of work proper.
It also mentions CN as a connecting service, when CN is not a passenger service, but a freight service.

Time Savings compared to VIVA

> *The travel time from Richmond Hill Centre to Finch Station will be reduced from the current... 16 minutes by VIVA, to 12 minutes via the Yonge Subway (assuming 6 stations).*

- Quoted from page 14 in the report

Half of the savings on VIVA likely occur between Finch and Steeles, as the traffic conditions north of Steeles are very different from those south of Steeles. The savings between Steeles Station and Richmond Hill Centre are probably negligible, and the Yonge Subway Extension should be studied in two separate pieces, north and south of Steeles Ave.
Worth noting is that York Region will not build a busway if the time savings is only going to be 1-2 minutes.

Steeles Terminal

Traffic is said to be around 130-135 buses per hour, for a 25-26 bay bus terminal. This averages out to about 5 buses per hour at each bus bay, or each bay being used once every 12 minutes. This would strongly suggest that the bus terminal is clearly oversized for the traffic it is expected to receive. The design also creates a very long transfer between the west-end bus bays and the subway. The report states on page 15 one of the considerations were to "minimize the walking distances/transfers between bus and subway;" and recommended the design on page 16 because "it maximizes passenger convenience by minimizing passenger walking distance between the subway and the bus," which is false since a 300m walk is not a convienient transfer. 300m is a very inconvenient transfer that is not conductive to increasing ridership. 300m is almost the distance proposed as the average between LRT stations for Transit City lines (400m).

A design was submitted to URS Corp. that included a 14-bay bus terminal at platform level between the two subway tracks, but was rejected to avoid expropriating Centerpoint Mall parking lot space.
This station is estimated on page 21 to cost $195,000,000, which would be the most expensive TTC station ever built.

Fare Integration

A study on the impacts of fare integration on the TTC system, and the Yonge line in particular, has not yet been carried out. Fare integration has enormous impacts on the project. York Region is expecting fare integration as it is one of the "Big Moves" in Metrolinx's RTP and a priority project. Steeles Station is also designed to accommodate fare integration. Under these circumstances, there's a lack of critical information, which would make it irresponsible to support the project.

It is stated on page 10 that "GO Rail and the Yonge Subway... serves the same corridor but different travel markets."
Is this still true with fare integration?

Charles Wheeler had been asked on December 3rd, 2008, about whether such a study was being carried out by the TTC.
The response was that such a study was to be carried out later, but had not yet begun.
This information is needed to prior to approving this project/report.

North and South of Steeles

The projected ridership north of Steeles is less that that north of Steeles.
The assumption is that the ridership projections for 2017 would 50% of those in 2031.
This puts the demand on the line north of Steeles in a similar range as the Eglinton Crosstown LRT (~7,000ppdph).
North of Steeles, the demand in 2017 does not meet the TTC's minimum demand threshold of 10,000ppdph for a subway line.

The table on page 12 shows, for the AM-peak period in 2031 (assumed 2017 is half of 2031 projections):

Station	2031	2017 (50%)	2017 AM-Peak Hour
Richmond Hill Centre	25,200	12,600	6,300
Langstaff/Longbridge	2,700	1,350	675
Royal Orchard	1,400	700	350
Clark	1,600	800	400
Steeles	4,400	2,200	1,100
Cummer/Drewry	1,700	850	425
Total	37,000	18,500	**9,250**
	Demand north of Steeles:	9250 - 425 - 1100 =	7,725

The Daily Boardings table on page 13 shows a similar picture:

Station	Daily 2031	Daily 2017 (50%)	2017 AM-Peak Hour
Richmond Hill Centre	113,500	56,750	5,320
Langstaff/Longbridge	13,700	6,850	856
Royal Orchard	6,800	3,400	425
Clark	8,100	4,050	506
Steeles	23,900	11,950	1,494
Cummer/Drewry	9,200	4,600	575
Total	175,200	87,600	**9,177**
	Demand north of Steeles:	9177 - 575 - 1494 =	7,108

The demand south of Steeles is projected at around 9,200ppdph in 2017, and should be studied more closely.

Finch Bus Terminal

A better explanation is needed on Finch Bus Terminal service changes.
If, as on page 11, the Finch and Sheppard LRT lines are connected via Finch Ave. East and Don Mills or 404, then there should be no need for a bus terminal at Finch at all, assuming an underground LRT connection.

Service and Station Comparisons

Station Comparisons

The list of typical stations in the existing TTC system that compare to the level of ridership projected for the new stations along the extension have numerous inaccuracies.

New Station	Ridership	Claimed Comparable	Ridership	Actual Comparable	Ridership	Notes
Richmond Hill Centre	113,500	Finch	92,610	St.George (YUS)	112,710	RT-RT Transfer
				St.George (BD)	116,840	
				Finch	92,610	Busy multi-terminal bus facility
				Kennedy	74,830	Large, busy bus terminal
Langstaff/ Longbridge	13,700	~~High Park~~	~~10,980~~	Runnymede	13,840	Line station, bus bay outside
		Woodbine	12,890	Woodbine	12,890	
		Dupont	14,980	Dupont	14,980	Line station, no bus bay
		Christie	12,090	Christie	12,090	
Royal Orchard	6,800	Chester	6,730	Chester	6,730	Line station, no bus connections
		~~Castle Frank~~	~~7,900~~	Glencairn	5,850	Line station, no bus bay
Clark	8,100	~~Chester~~	~~6,730~~	Bayview	8,090	
		Castle Frank	7,900	Castle Frank	7,900	
				Rosedale	7,600	
Steeles	23,900	~~Don Mills~~	~~33,420~~	Scarborough Ctr.	27,790	Large busy bus terminal
		~~Greenwood~~	~~10,130~~	Lawrence	21,660	Similar underground bus terminal design
		Davisville	24,060	Davisville	24,060	Yard, TTC HQ
		~~Main~~	~~22,120~~	St.Clair West	24,370	Underground terminal design, with streetcars
		~~Sherbourne~~	~~25,730~~	Dundas West	24,530	Connections include streetcars, GO Rail
Cummer/ Drewry	9,200	~~Chester~~	~~6,730~~	Lawrence East	9,340	
		~~Castle Frank~~	~~7,900~~	Greenwood	10,130	

GO Rail Service and Subway Service Travel Markets?

It is suggested on page 18 that Royal Orchard Station may be dropped from the project, which is suspicious since it has the highest level of walk-in ridership and a high level of existing residential density. This creates a 2.5km distance between Longbridge/Langstaff and Clark stations, which is the kind of distance that is more commonly seen on GO Rail services. While the study compares the distance to that between St.Clair West and Eglinton West stations, such distances are the exception, not the rule. This makes the service style similar to GO Rail despite earlier mention that GO Rail and the Yonge Subway serve the same corridor but different travel markets on page 10.
If both GO Rail and the subway have great distances between stations, what's the difference between travel markets?

Operating Costs

> *...there have not been any discussions to date with respect to responsibility for operating costs. Metrolinx has reserved discussions on operating cost implications for a future report to be delivered in 2013, well before the scheduled opening of the Yonge Subway Extension project in 2017.*

- Quoted from page 5 in the report

It must be noted that in 2013, construction will be about half-way done. This would put the City of Toronto in an extremely weak position, and this issue must be resolved before the City of Toronto gives any approval for this project to proceed. Prior to the City of Toronto approving this project, the City of Toronto is in a position of strength to ensure its needs are met.

> *Estimates of the net operating costs of the Yonge Subway Extension will be developed following the finalization of the ridership forecasts in Spring 2009.*

- Quoted from page 13 in the report

This is important information that must be available before approving the project, as there are no guarantees on who pays.

> *Any increases in net operating costs incurred for the Yonge Subway Extension will be at no cost to the City of Toronto;*

- Quoted from page 22 in the report

No discussions regarding operating costs incurred for the Yonge Subway Extension have taken place yet. This issue must be resolved and guaranteed prior to approval of the project.

Platform Doors

On page 21, the estimate includes platform doors for the new stations. This is a frivilous expense that should be rejected. Platform doors serve little purpose unless the trains are to be completely unmanned, but unmanned TTC vehicles would violate existing union agreements between TTC and ATU Local 113 and risks unrest between TTC and ATU Local 113. Unmanned operations would involve all stations be equipped with platform doors. The safety argument is weak when most of the stations proposed to be equipped with these are forecast to have low relatively low use, leaving little justification.

Actions for Consideration by the Executive Committee

Based on the contents of this document regarding the Yonge Subway Extension Final Report on TPAP and Future Actions, the Executive Committee is asked to consider the following:

1	On the grounds that there are numerous inconsistencies and mathematical errors, and a significant lack of information on issues pertaining to capacity, costs, and feasability, as identified in this document, that the Executive Committee reject the Yonge Subway Extension Final Report on Transit Project Assessment Process and Future Actions as presented.
2	That the Executive Committee, with the TTC, initiate a study comparing the Yonge capacity expansion measures' costs and impacts with those of a Downtown Relief Line, from approximately University Ave. to the Bloor-Danforth line between Pape and Greenwood, funded by the City of Toronto.
3	That the Executive Committee, with the TTC, initiate a study of the Yonge Subway Extension into two separate segments - Finch to Steeles, and Steeles to Richmond Hill Centre - evaluating and assessing the two segments individually.
4	That the Executive Committee, with the TTC and City Council, authorize public consultation meetings regarding Bloor-Yonge to be arranged in the Yorkville area to reach those that transfer to the Bloor-Danforth line from southern Yonge.
5	That the Executive Committee defer further action on the Yonge Subway Extension project until the following studies, which hold important information needed to make a responsible and informed decision, have been completed: - Study on the Capacity Expansion at Bloor-Yonge Station - Benefits Case Analysis of the Yonge Subway Extension (Metrolinx) - Subway Rail Yards Needs Study - Peak Point Yonge Ridership and Capacity Study - Net Operating Cost Estimates of the Yonge Subway Extension - Study on Fare Integration Impacts on the Yonge Line - Study on the Downtown Relief Line East
6	That the Executive Committee forward this document to the TTC, and to Toronto City Council.