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### TO BUDGET COMMITTEE FROM COUNCILLOR MCMAHON JAN 24, 2011-01-24

## 90-Day Study for Ashbridges Bay LRV Storage

## SUMMARY:

In light of new information, late infomation and changing conditions, including increasing construction costs, unknown construction costs, changes in TTC plans at several sites that present new opportunities and changes in the LRV delivery schedule, the Ashbridges Bay LRV Storage Facility merits 90 days of further study before construction begins.

It is an urgent matter because the Commission will vote regarding beginning soil removal on Feb 3, 2011

The attached report presents the new information in detail.

## **RECOMMENDATIONS:**

1. That the Budget Committee recommends a directive from the Mayor requesting a 90-day study period to thoroughly investigate new information and changing conditions which may have significantly altered the assertion that the Proposed Ashbridge's Bay LRV Storage facility is a cost-effective, essential and urgent investment for the City.

2. That at the end of 60 days, Councillor McMahon will provide a detailed report to Council evaluating this new information, these new conditions and potential alternative solutions.

3. That the TTC is provided with a further 30 days to digest the report and provide a response which can be considered at that time by Council.

4. That no tenders are to be awarded and no money is to be expended on the Proposed Ashbridge's Bay LRV Storage Facility project during the 90-day period.

January 24, 2011

#### REPORT

New information and changing conditions may have significantly altered the assertion that the Proposed Ashbridge's Bay LRV Storage facility is a cost-effective, essential and urgent investment for the City.

New information includes:

- New cost elements and increasing project costs
- Developments at existing TTC sites that create new possibilities
- New information on the timetable for LRV delivery and renovations at existing properties
- New information on the Aecom Traffic Study
- New information about the MOE request to satisfy the new City Council
- Unpublished TTC location study information
- New information following site visits by consultants/engineers
- New information on partnership agency concerns & handling of public concerns
- Unpublished information and late information on sound and vibration test failures, bylaw violation, potential class-action liability, public health risks, health & safety on site, methane mitigation and related.

#### NEW COST ELEMENTS AND INCREASING PROJECT COSTS

The latest estimate for construction alone is \$350 million. The total project cost will be more than one-half billion, but hopefully not too close to a billion dollars. The \$350 million construction cost includes some items and not others.

- Does not include soil removal \$60-\$90 million
- Does not include laying 850 metres of new deadhead track \$50-\$80 million??
- Does not include significant deadhead losses \$ millions for decades
- Does not include moving Hydro Conduit
- Does not include widening Leslie below Lakeshore & extending left lane
- Does not include liability as City knowingly violates sound by-law

#### Past mistakes when rushing cost considerations:

- 1. St. Clair line original estimate \$48 million Final bill \$106 million
- 2. Birchmount Garage deadhead original estimate \$330,000 per year
  - Actual cost is \$1.2 million every year (in 2011 dollars), 10 million+ total to this point.

#### DEVELOPMENTS AT EXISTING TTC SITES THAT CREATE NEW POSSIBILITIES

- New plans and new space at 23-acre Hillcrest site
- New space found at Roncesvailles and Russell yards
- New ideas for Exhibition Loop

#### TO CENTRALIZE OR NOT TO CENTRALIZE

Should we choose existing properties with affordable renovations or brand spanking new buildings and tracks?

One plan is to keep most of the fleet, 154 vehicles in the southeast corner of the city at Ashbridge's Bay and Russell. And the other 50 vehicles at Roncesvalles. This could create a great deal of construction and deadhead cost.



Another plan would be to use Hillcrest and Exhibition Loop instead of Ashbridge's Bay, saving hundreds of millions in construction and new track costs. Coxwell/Danforth is also under consideration.



Combined, these 5 existing TTC locations already offer more than enough capacity for all of the new LRVs and several decades of expansion.

There was already enough space in the Hillcrest Yard to store about 50 LRVs. Recently it was announced that some operations now undertaken at the site will be moved off-site. A review of plans at Roncesvalles and Russell has revealed that they will be re-fitted to accept storage and daily maintenance of at least 50 LRVs each. In addition, a tour of Exhibition Loop revealed enough storage for 20 LRVs right now; potentially 30, with minor changes.

One TTC manager suggested that centralizing overnight storage and light maintenance was more prudent, while another TTC manager in the published Aecom study said the opposite. A third TTC manager said that drivers are instructed to pick up passengers when driving to and from routes that are distant from storage facilities and that these distances are therefore sometimes not counted when calculating deadhead costs. The same manager admitted that many drivers do not follow the requirement of picking up passengers that are not on their actual line.

The TTC maintains that some driver check-in and clerical functions would have to be duplicated with an extra storage yard. The precise functions are now being investigated, but appear to present a nominal threat compared to deadhead losses through poorly diversified location planning.

One of the key assumptions made before beginning the storage planning was that a new site would be needed and that this site would require 22 acres of land. This assumption led to many other very expensive and disruptive conclusions.

#### DECREASING DEADHEAD COSTS

The following are preliminary remarks concerning existing TTC properties and a preliminary LRV storage plan now under investigation by independent engineers and consultants.

#### Hillcrest

Major renovations are already planned and unopposed to provide heavy maintenance of LRVs at Hillcrest. It was recently announced that financial functions in one of the buildings are scheduled to be moved out in the near future. Even without demolishing

a single building there is space outside on this 23-acre site to store at least 50 LRVs overnight. A percentage of the savings from not building Ashbridge's Bay could be used to prepare Hillcrest for storage of 60 LRVs overnight. Hillcrest is used for heavy maintenance on our existing streetcar fleet and some subway vehicle maintenance.

It was used for St. Clair streetcar storage in the past. Safety issues were cited as a problem. A report has been requested.

Line	Number of LRVs
St. Clair	20
Carlton	29
Spares	11
TOTAL	60

#### Russell (Queen East near Connaught)

With or without a new facility, this site is being renovated to permit daily maintenance & wash of new LRVs. The renovations will likely not change the size of the buildings much. The changes are budgetted and going ahead as planned without opposition. Removal of rail maintenance trailers (to Coxwell or one of the bus garage properties) and unnecessary free employee parking could increase space at this site, allowing it to house 60+ LRVs overnight.

Line	Number of LRVs
Kingston	12
Queen	29
Spares	19
TOTAL	60

#### Roncesvalles

As at Russell, with or without a new facility this site is being renovated to permit daily maintenance & wash of new LRVs. The renovations will likely not change the size of the buildings much. The changes are budgetted and going ahead as planned without opposition. Removing rail maintenance trailers and unnecessary free employee parking could increase space at this site, allowing it to house 60+ LRVs overnight.

Line	Number of LRVs
King	41

Lakeshore	2
Dundas	16
TOTAL	59

#### Exhibition

With almost no modifications this site could house 20 cars overnight;

with minor modifications, 30+ cars. Simple daily maintenance and wash could be easily added. The Exhibition fleet can be easily rotated with the Hillcrest fleet for more involved daily and heavy maintenance.

Line	Number of LRVs
Bathurst	8
Spadina	14
Harbourfront	6
TOTAL	28

SUMMARY		
Hillcrest	60	
Russell	60	
Roncesvalles	59	
Exhibition	28	
TOTAL	207	
Among other sites being studied:		
Coxwell	30?	

The TTC property at Coxwell & Danforth is currently vacant, but about 800 metres of new track would be required to move LRVs from upper Gerrard to the station (the same distance as new track down Leslie Street to Ashbridge's Bay). At Coxwell a paved yard and building already exist.

#### NEW TIMETABLE FOR LRV DELIVERY & RENOVATIONS AT EXISTING PROPERTIES

Due to LRV delivery delays and renovation work that is now scheduled to begin at the Roncesvalles and Russell yards it is now less urgent to prepare new storage. Here is the current schedule:

New LRVs Arriving	Number	Planned Storage	
Dec 2011	3 Prototypes for tests*	Russell Yard	
2012	0		
2013	26	Russell Yard	
2014	25	Russell Yard	
2015	25	Roncesvalles Yard	
2016	25	Roncesvalles Yard	
2017	25	New location(s)	
2018	25	New location(s)	
2019	25	New location(s)	
2020	25	New location(s)	

Note: According to TTC management, many of the assumptions about storage, operations and maintenance have been made on the basis of the old vehicles and will be revised after receipt of three prototypes at the end of this year and after one year of tests.

#### NEW INFORMATION ON THE AECOM TRAFFIC STUDY

How is it possible that the Aecom Traffic study could conclude that 58,000 vehicle in the busiest intersection in east Toronto would be unaffected by 230 daily interruptions by 100-foot long LRVs?

One clue comes on page 10 of the report, which states:

Streetcars were estimated to have a passenger car equivalency of **four** based on their length of 30 m. Therefore, streetcar volumes were multiplied by **four** to estimate an equivalent number of passenger cars for use in the analysis.

In reality, passenger cars are 4.0 or 5.0 metres long, which means a 30.0 metre LRV is equivalent to **six or more passenger cars, not four**. Secondly a 100-foot long LRV is very different in its impact on traffic than even six small cars.

This error and weak assertion, being basic assumptions behind many of the report's calculations, throw the entire report into question. The analysis which follows shows clearly how a weak traffic report could lead the TTC to conclusions about traffic impact that make no sense.

#### **TTC LESLIE STREET LOGISTICS 5AM - 7AM**

The TTC plan is to move 85 LRVs from the proposed storage site north up Leslie Street to Queen Street westbound and into 'deadhead service' for many of the downtown streetcar lines.

#### TRAVEL & TURNING TIME FOR PAIRS OF LRVs

According to the Aecom traffic report, the fastest the LRVs could move across Lakeshore, up Leslie\* and complete the turn onto Queen, if they sent the LRVs in pairs, would be about 2 minutes\* each pair or a total of 90 minutes for all 85 LRVs, if kept in pairs.

#### **TRAFFIC SIGNALS**

This assumes all green northbound signals at the 4 signal lights\*\*. If Transportation Services decides that east/west traffic should be permitted to move on Lakeshore Blvd., (currently abut 2,000 vehicles during this time period) the shortest available traffic signal cycle of about 1 minute would shorten the available travel time to about 60 minutes (within 2 hours) to send 42 pairs of LRVs up Leslie.

This means each 200-foot long pair of LRVs would travel an average of 1.3 minutes behind the previous pair, arriving on Queen westbound say, the same distance apart. They would then begin the process of separating and presumably enter into 'deadhead service' 39 seconds apart to prevent queuing. The first opportunity to thin out the wall of streetcars 39 seconds apart on Queen would be Broadview, six traffic signals to the west. These six traffic signals would have to be coordinated to remain green for about two hours. Thirty or more minutes of these two hours, would now be during the 'morning rush' which begins at 6:30 AM according to Transportation Services (7pm according to TTC).

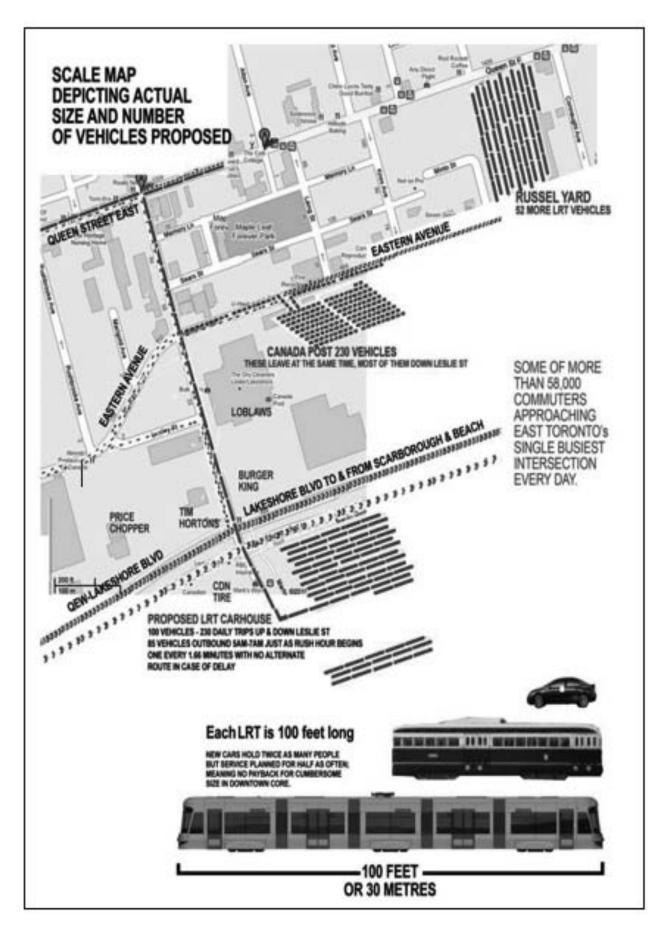
As unlikely as it is that this precise operation of feeding streetcars into service 39 seconds apart would go smoothly each morning, it is even more unlikely if it is considered that during these hours, regular Queen street service also operates, bringing passengers downtown from the Neville Loop and Kingston road lines. This will add LRVs to the Leslieville stretch of Queen Street every 5 or 10 minutes, LRVs that will need to make stops to pick up passengers. Each stop will take a minimum of about 20 seconds, but the average will be more than 20 seconds.

The plan will also be frustrated by about 300 other vehicles on Queen Street that normally attempt to travel westbound through Leslieville during this time period. These drivers navigate carefully through all kinds of slippery weather conditions, and hundreds of pedestrians.

This will complicate any plan to co-ordinate traffic signals to ensure green lights along Queen through Leslieville between Leslie and Broadview, for these two hours. Bunching of LRVs is inevitable and Queen Street in Leslieville will become the equivalent of a TTC marshalling yard every morning for two hours, before and during the morning traffic rush. The regular Queen Street streetcar service meanwhile, which already has numerous reliability problems, will become much worse.

<sup>\*</sup>About 18 seconds for two LRVs to get up to speed & clear the Lakeshore Blvd intersection. About 72 seconds to drive .501 km up Leslie, assuming steady 25 km per hour, the maximum in order to comply with the sound by-laws. There are several reasons they might have to travel more slowly. About 25 seconds minimum for both LRVs to make the Queen Street turn.

<sup>\*\*</sup>Leslie Street traffic signals cannot be easily coordinated. The four signals now on lower Leslie Street operate under three different computer systems. As of this writing they cannot be co-ordinated by Traffic Services without significant IT project work.

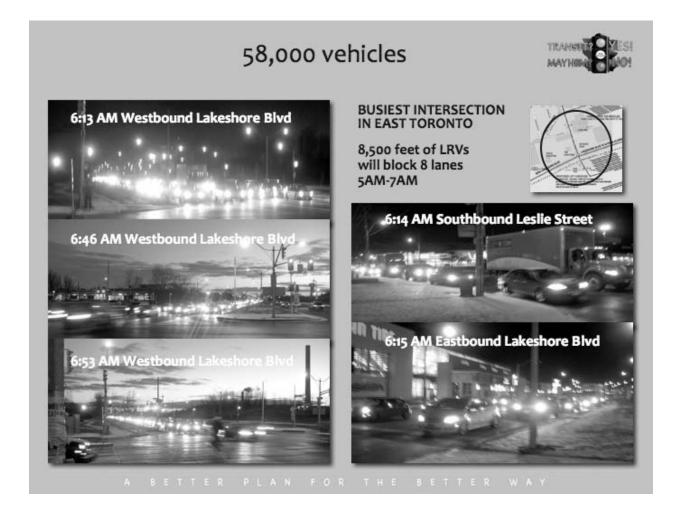


#### ALL GREEN LIGHTS, ALL LRVS MOVING

Another idea might be to move the LRVs into service even faster, by sending one long queue of them up Leslie Street. Even if Transportation Services agreed to literally -stop all traffic- to allow a steady stream of all 85 LRVs up Leslie in a continuous line, it would take about 20 minutes; and we would then have 85

100-foot long LRVs lined up bumper to bumper along Queen Street to start the service day. Could they be sent quickly into 'deadhead service,' about 10 or 15 seconds apart?

Under this scenario all traffic on Queen Street, Eastern Avenue and Lakeshore Blvd. would have been at a standstill for 20 minutes. According to the traffic study, this means about 1500 vehicles backing up for a combined 7 kilometres of queuing, just prior to the many thousands of vehicles headed into the area for the morning rush.



This discussion does not address numerous problems associated also with the storage yard plans affecting the afternoon rush and other parts of the day.

#### PUBLIC SAFETY: DRIVERS AVOID MAJOR ARTERY

Under all of these scenarios, within a few weeks of the first gridlock, drivers of 58,000 car, trucks, vans, etc. will begin choosing routes that do not include the 6-lane/8-lane Lakeshore Blvd. artery, so vital to efficient movement in East Toronto.

Much of this traffic could be added to current volumes on Gerrard and Dundas, which are both one lane in either direction and contain thousands of cyclists. Thousands may choose residential streets to avoid Leslie Street. Accidents on residential streets, Gerrard and Dundas will increase. Pedestrians and cyclists will be injured or worse. Wards 30 and 32 will become a nightmare. Drivers from six or seven other wards will make new choices.

No matter what scenario takes place, Leslieville, the Beach and the rest of East Toronto will be seriously impacted by a poorly located TTC Facility and the TTC Queen service will be irreparably impaired.

### NEW INFORMATION ABOUT THE MOE REQUEST

In it's Notice to Proceed on this project the Ministry of the Environment noted that the New Council should be satisfied. This prompted TTC Chair Stintz in December to delay construction one-month, noting that Councillor McMahon should be satisfied that the new facility can be justified.

Councillor McMahon has requested more information from the TTC and will receive her first briefing on this on Wednesday January 13. The full list of the first information request can be found in APPENDIX A.

#### NEW INFORMATION FOLLOWING SITE VISITS BY CONSULTANTS/ENGINEERS

The information contained in the foregoing deadhead analysis emerged during tours and interviews conducted by engineers/consultants currently reviewing all documents.

The review has revealed conflicting information, changing information and unpublished information of relevance to the decisions Council must make on this one-half billion dollar project.

#### Ashbridges Bay meetings to date:

- Nov 20 Walking tour of area with TTC Staff, Transportation Services and others.
- Nov 21 Councillor and TTC Consultants
- Nov 25 TTC representatives special meeting with Councillor Elect at City Hall
- Nov 30 Councillor & Sewage Treatment Plant Expert
- Dec 3 Councillor with TTC Chair Karen Stintz
- Dec 13 Councillor addresses Commission at Davisville
- Dec 11 TTC Hillcrest Facility Tour
- Dec 15 TTC Commission at City Hall -Councillor request granted
- Dec 17 Councillor/staff and citizen's group
- Dec 20 Councillor and City Planning Dept.
- Dec 21 Ward 32 staff and Mayor's staff TTC designate, Mark Towhey
- Dec 15 Councillor & Mayor's Chief of Staff, Nick Kouvalis
- Dec 30 Ward 32 staff & Sewage Treatment Plant Expert
- Jan 05 & 12 Councillor, staff & consultants
- Jan 14 Tours of Russell, Roncesvalles, Exhibition Loop
- Jan 16-26 Numerous meets with Commission members, Mayor's office
- Jan 24 Second tour of Hillcrest

## NEW INFORMATION ON PARTNERSHIP AGENCY CONCERNS & HANDLING OF PUBLIC CONCERNS

More that 500 written submissions have been received by the TTC expressing concerns with the proposed facility. Council should be concerned with some of the responses from the TTC Such as:

# TTC Response to noise and vibration concern from condominum owners on Leslie:

Although the Bombardier Flexity Vehicle that will be commissioned for this project is widely used in other jurisdictions, the TTC has established specific criteria for those which were recently purchased. These details are considered confidential as part of the tender award and thus not available to the public. TTC's vehicle procurement specification defines both noise and vibration criteria based on international vehicle guidelines and past TTC vehicle performance experience.

In fact the available data indicates that the site failed 3 of 4 sound/vibration tests:

#### Noise Effect Summary for Transportation Sources

Time Period	Noise Effect at Nearest Properties West of Leslie Street (7 m from track Centre Lane)	Noise Effect at Nearest Properties East of Leslie Street (10 m from track Centre Lane)	Sound Level Limit
Day (0700- 2300)	65 dBA	62 dBA	63 dBA
Night (2300 - 0700)	67.dBA	65.dBA	59 dBA

#### TTC Response to concerns about the location:

The new streetcar facility will definitely be at Ashbridges Bay. There are some who are opposed to it in this location, but this is the one selected by the TTC...

In addition they have received responses from the stakeholders below, but have not published these responses:

- Bell Canada
- Canadian Environmental Assessment Agency
- Canadian Tire
- City of Toronto City Planning,
- City of Toronto Parks, Forestry and Recreation
- City of Toronto Public Health
- City of Toronto Real Estate
- City of Toronto Toronto Fire Department Services
- City of Toronto Transportation Planning
- City of Toronto Transportation Services
- City of Toronto Urban Forestry
- City of Toronto Police Services
- Emergency Medical Services
- HydroOne
- Ministry of Culture
- Ministry of Energy and Infrastructure
- Ministry of Municipal Affairs and Housing
- Ministry of Natural Resources
- Ministry of the Environment
- Ontario Provincial Police
- Rogers Cable
- Tim Horton's

- Toronto and Region Conservation Authority
- Toronto Cycling Committee
- Toronto Hydro-Electric System Limited
- Toronto Pedestrian Committee
- Loblaws

There is a great quantity of other information which has not be placed before council and properly reviewed, including information on health risks, sewage odour for 470 TTC employees, destruction of trees, natural habitats, closure of the Martin Goodman Trail during the summer etc. Councillor McMahon will receive a large quantity of information on Jan 26, 2011, allowing inadequate time for review before the TTC Commission approves the start of work on Feb 3, 2011 (See APPENDIX A).

#### CONCLUSION

Spending an extra few months to review the new information and consider the half billion dollar cost, traffic disruption, community destruction, quality of life, health and waterfront implications of this project is more than worthwhile.

The downtown fleet will not be at risk by studying this for a few months. If existing properties can be used to house our new fleet, again it will not be at risk.

If we can save \$200 million - \$300 million in unnecessary transit costs, we can actually expand transit more cost effectively.

Those who think creating gridlock on our key arteries will persuade Toronto residents to give up their cars overnight and take transit should take a ride on the Danforth line at 7:30 AM.

It is more likely that the Toronto downtown core will come to a standstill like Mexico City and then become further abandoned like Detroit, as drivers make lifestyle choices based on traffic, fuel cost and parking costs, and as we continue to under-supply transit demand (gap between supply & demand in Toronto in past two decades is about 27%).

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#### APPENDIX A NEW INFORMATION SCHEDULED TO BE PROVIDED JAN 26

#### **QUESTIONS/FURTHER STUDY**

At the December 2010 Toronto Transit Commission meeting in response to a similar suggestion from the Ministry of the Environment; the Commission voted to delay all work on the proposed Ashbridges Bay LRV Carhouse and Chair Stintz requested TTC staff to provide additional information to ensure that Councillor McMahon can be satisfied that she can feel comfortable justifying the proposed new facility with citizens in Ward 32. Below are some questions to get the process of further study underway. Please provide answers to these at your earliest convenience.

1. What is the cost of construction for the non-revenue track on Leslie Street from Queen Street to Commissioners? Please include special rubberized floating slab which may bring vibrations below legal limit.

2. Are these costs included in the \$355 M budget for the facility?

3. What changes will have to be made to existing streetcar lines to accommodate the new cars and what are the total costs associated with these changes? Will new stops all require collector turnstiles or similar? Will the curb levels have to change?

4. What is the estimated cost to modify the Russell and Roncesvalles carhouses in preparation for the 50 extra vehicles they will each house?

Please provide detailed deadhead cost analysis for the proposed 3-facility plan,
Russell, Roncesvalles, Proposed Ashbridges facility. Please break down by streetcar line.

6. Please provide comparable analysis if a four facility plan was devised utilizing modified Russell, Roncesvalles, Exhibition Loop and Hillcrest for northern lines.

7. Please provide any detailed analysis of the Hillcrest property that was used to eliminate Hillcrest from consideration for some maintenance functions related to new LRVs.

8. What is the cost of Toronto Water modifications that are proposed for the Ashbridges site and proposed for the adjacent storm water/sewage and DHW systems to accommodate this carhouse? Are these costs included in the current budget?

9. What is the cost of moving the Hydro One Conduit on the proposed Ashbridges site that must be re-

routed? Are these costs included in the current budget?

10. What is the cost of removing the 700 trees and the mound of contaminated soil? Are these costs included in the current budget? What is the current accurate turnaround time for this leg of the project?

11. During normal operating days, how many of the new LRV streetcars will operate on which city lines?

12. At what speed do they turn?

13. How long for a left turn in seconds? Right turn?

14. How many streetcars at a time would be proposed to be ganged together to move up Leslie Street between 5AM and 7AM?

15. Please provide the detailed rationale that led to the decision to order 30 metre-long streetcars for use on the Queen, King and Dundas lines. Please include total capital and operating cost comparisons with shorter streetcars.

16. How soon can we have a proper tour of Hillcrest facility: This is to include just two representatives for Councillor McMahon. Please do not combine with any other visitors/tours. Please provide one guide who can answer questions about all current uses on the property. Please do not prepare a formal presentation as was done last time; this is to be an efficient question-answer tour of Duncan Building, Inglis Building, Subway Operations Building, Gunn Transit Control Centre, Revenue Operation Building, (Harvey Shop), Track and Structures Operations area, the Former Davenport Garage and all other areas on the site including parking lots and adjacent Hydro properties.

17. When can we take a similar tour of Russell Carhouse?

18. Roncesvalles Carhouse?

19. Exhibition Loop property?

20. Please provide detailed architectural drawings of the Hillcrest facility.

21. Please provide changes requested by Mayor's office to TTC plans that will impact streetcars in the downtown area.

22. Please provide a list of downtown City/TTC/Build Toronto properties from Eglinton south.

23. Please provide detailed drawings of the 15 foot high sound-barrier wall proposed

to border the Martin Goodman Trail along Lakeshore Blvd. and along Leslie Street.

24. Please provide the "list of future commitments and monitoring" referenced in the Environmental Project Report Nov 2010.

ASHBRIDGE'S BAY NEW QUESTIONS FOR TTC

JAN 24, 2011

- Now that the TTC is prepared to award a tender for soil removal, It can provide details of the operation, cost, destination and truck route.
- Please provide a copy of the arrangement with Exhibition stadium.
- How much will it cost to widen Leslie south of Lakeshore and in what budget?
- Toronto Public Health was promised a Site Specific Health and Safety Plan, Human Health Risk Assessment, Dust Control Plan, Methane Mitigation Measures, for all operations beginning with soil removal. Have they received it? Please forward a copies.
- Appendix D of the Ashbridges Bay Light Rail Vehicle (LRV) Maintenance and Storage Facility Transit Project Assessment – Environmental Project Report contains information on the Hydro Conduit, pls forward.
- Pls forward also the TRCA comments
- Bell Canada
- Canadian Environmental Assessment Agency
- City of Toronto City Planning,
- City of Toronto Parks, Forestry and Recreation
- City of Toronto Public Health
- City of Toronto Real Estate
- City of Toronto Toronto Fire Department Services
- City of Toronto Transportation Planning
- City of Toronto Transportation Services
- City of Toronto Urban Forestry
- City of Toronto Police Services
- Emergency Medical Services
- HydroOne
- Ministry of Culture
- Ministry of Energy and Infrastructure
- Ministry of Municipal Affairs and Housing
- Ministry of Natural Resources
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