TTC-TWRC

Toronto Waterfront Transit Environmental Assessments

- **East Bayfront**
- **West Don Lands**
- **Port Lands**

Terms of Reference Consultation Record

July 2006

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1.0 Background

The Toronto Transit Commission (TTC) is proceeding with Individual Environmental Assessment (IEA) Studies to identify the transit improvements required to support planned development in the Eastern Waterfront. These studies are being undertaken in cooperation with the Toronto Waterfront Revitalization Corporation (TWRC) and the City of Toronto. The result of the EA Studies will be the selection of a preferred alternative to provide an effective transit network to serve the new waterfront communities comprised of the West Don Lands, East Bayfront and Port Lands precincts. Given the overall problem statement, network considerations and overall planning process will be similar for the three IEA's, three similar EA Terms of Reference (ToR) documents have been prepared.

This report identifies the consultation activities undertaken during the Terms of Reference stage. It is important to understand that the Terms of Reference step was added to Ontario's environmental assessment process in 1996 because: important issues were sometimes not being identified and studied during the Environmental Assessment and the relevant members of the public were either not consulted or were not being properly consulted.

To address this, the Ontario Environmental Assessment Act now requires early consultation with potentially affected stakeholders to assist in scoping the issues and developing the process to generate and evaluate alternatives in the EA process. The Terms of Reference also provides the proponent with greater certainty during the preparation of the Environmental Assessment, as the proponent is not obligated to study matters that are not in the approved ToR.

1.1 Overview of the Public Consultation Process

Public consultation during the 'scoping' stage of the Environmental Assessment needs to be thorough. Several key questions need to be addressed:

- How is the proponent proposing to consult with the public and stakeholders during the Environmental Assessment study?
- Is the proposed public consultation process generally acceptable to members of the public and stakeholders?
- What is the best way to obtain comments from members of the public, stakeholders and the Ministry of the Environment during the Terms of Reference stage to ensure that the proposed process to be followed during the Environmental Assessment study is acceptable?
- Once the public consultation process is complete, how can we show that the process was meaningful?

Under Section 6 (3) of the Environmental Assessment Act, the proponent needs to submit a record of how various stakeholders were consulted during the preparation of the Terms of Reference. This document is intended for that record.

1.2 Consultation: Importance to the Terms of Reference

The objectives of consultation during the preparation of the EA Terms of Reference were to:

(a) Provide input on how the Project Team has defined the problem/opportunity, study areas, projected routes and service types during the Individual EAs;

(b) Comment on the proposed alternatives the Project Team is proposing to study and technical studies proposed to be conducted;

(c) Comment on the proposed EA evaluation methodology;

(d) Discuss and obtain input on how the public and stakeholders are to be consulted during the Environmental Assessment;

(e) Obtain comments from the public and stakeholders on the proposed content of the environmental assessment studies to ensure that the proposed processes to be followed during each Environmental Assessment study is acceptable;

(f) Review and recommend additional evaluation criteria; and

(g) Provide input on the draft Terms of Reference report.

2.0 Consultation Activities Undertaken

Hardy Stevenson and Associates Limited was retained to provide neutral facilitation services for the consultation process. The consultation process was all-inclusive and included the participation of several individuals and groups and the undertaking of multiple consultation activities. The consultation program included two interactive public workshops, five meetings with two advisory committees, discussions with First Nations representatives, a site walk with a community group, a meeting with a local councillor and ongoing open dialogue with residents through e-mail, fax or other means of communication.

These consultation activities were further enhanced by a project Web site, Frequently Asked Questions (FAQs) and newspaper notices.

In general, the consultation activities undertaken during the Terms of Reference were <u>not</u> developed to depend solely on the public workshops, as there were other public consultation tools that were better employed to engage the public. The focus was on assisting the Project Team to obtain constructive engagement with the members of the public, community associations, transit organizations, technical advisors and stakeholders. The Terms of Reference engagement process utilized appropriate public consultation mechanisms through a series of steps: *connecting, scoping, focusing, integrating, reviewing, and confirming.*

2.1 Advisory Committees

Four (4) meetings were held during the spring of 2006 with the Community Liaison Committee and one (1) meeting with the Technical Advisory Committee.

The Community Liaison Committee (CLC) comprised of representatives of community associations, transit specific interest groups, environmental organizations and other interested parties; the Technical Advisory Committee (TAC) comprised of technical staff from local agencies including the City of Toronto Planning Department, City of Toronto Public Works Department, Toronto Transit Commission, GO Transit, Toronto Economic Development Corporation, and the Toronto and Region Conservation Authority.

Community Liaison Committee and Technical Advisory Committee members were responsible for reviewing all relevant project materials; attending and participating in committee meetings during the development of the ToR; attending and participating public workshops and providing input on information relevant to the project.
The committees assisted the project team by:

- Defining the problem/opportunity, study area, service area, potential alignments and service types for the East Bayfront, West Don Lands and Port Lands;
- Identifying proposed alternatives to be studied, technical studies to be conducted, and proposed consultation activities to undertake for the Individual EAs;
- Identifying EA methodology;
- Recommending additional evaluation criteria; and
- Reviewing the draft Terms of Reference report.

Participating Committee	Scheduled Meeting Dates	Meeting Objectives
Community Liaison Committee	March 21, 2006	Introduce the Project Team; discuss the elements of the Terms of Reference
Technical Advisory Committee	March 21, 2006	Introduce the Project Team; discuss the elements of the Terms of Reference
Community Liaison Committee	May 9, 2006	Discuss the results of the first public workshop; review the proposed process to generate and evaluate alternatives
Community Liaison Committee	May 25, 2006	Discuss previously circulated evaluation criteria;
Community Liaison Committee	June 13, 2006	Discuss the Draft Terms of Reference Report; review the next steps in the planning process

Appendix A identifies the organizations originally invited to participate on the Community Liaison Committee. It should be noted that several additional groups were added to the CLC after project initiation. **Appendix B** encompasses the notes from each of the four CLC meetings. **Appendix C** identifies the organizations originally invited to participate on the Technical Advisory Committee. TAC members felt that one TAC meeting would be appropriate. **Appendix D** includes the notes from the TAC meeting.

2.2 Public Workshops

Two public workshops were scheduled during the Terms of Reference.

The purpose of the first public workshop, held on April 5, 2006 was to:

- Introduce the project team undertaking the EA studies;
- Provide an overview of the background to the EA studies;
- Clarify the EA study process;
- Discuss the Terms of Reference (define what a Terms of Reference is); and
- Invite participants to share ideas on purpose statement, study area, proposed consultation activities, potential service types (i.e., technologies) and potential alignments.

Sixty (60) people attended the first workshop.

The purpose of the second public workshop, held on June 13, 2006, was to:

- Update the progress of the Terms of Reference since the first workshop;
- Review and recommend additional draft evaluation criteria developed by the Project Team, in consultation with the Community Liaison Committee; and
- Distribute the draft Terms of Reference document and questionnaire with an invitation for participants to comment prior to final submittal.

Thirty-five (35) people attended the second workshop.

The first workshop was advertised as part of the Notice of Commencement in the *Toronto Star* and in *The Bulletin* (see **Appendix E**). The second workshop was advertised in the *Toronto Star* (**see Appendix F**). For both workshops, invitations were distributed to over 3,000 individuals and organizations in the TWRC's contact list.

Please see **Appendix G** for a summary of each public workshop and materials designed to engage participants.

During the second public workshop, the project team received a petition (**Appendix H**) containing the following statement:

"*The undersigned are in favor of fuel cell buses (as distinct from diesel or other buses) being expressly referenced in the Terms of Reference as an alternative to be assessed according to criteria set out for the Environmental Assessment".*

This petition was considered by the project team in the development of the Terms of Reference.

2.3 First Nations Consultation

The 1991 Statement of Political Relationship with First Nations of Ontario confirmed the right of First Nations in Canada to have an inherent right to self-government. While the study areas are urbanized and disturbed, they encompass lands related to Lake Ontario and the mouth of the Don River. The Don River and associated tributaries and ravines functioned as major portage and transportation routes up until the late 18th century. The Lake Ontario shoreline functioned as a source of fishing, area of aboriginal occupation and transportation routes. In addition, the study area may have been an area of traditional land use.

Respecting this, First Nations were invited to participate on the Community Liaison Committee and public workshops, and were asked to comment on a draft copy of the Terms of Reference (see **Appendix I**). Follow up calls were made to each First Nation for their comments on the Terms of Reference. The Iroquois and Allied First Nation participated in the second workshop and were invited to attend a meeting that would discuss the IEAs and preferred consultation methods. Other First Nations were invited to attend, including:

- Alderville First Nation
- Mississaugas of Scugog Island First Nation
- Mississaugas of the New Credit First Nation
- Six Nations of the Grand Territory
- Hurons-Wendat First Nation
- Metis Nation
- Beausoliel First Nation
- Chippewas of Georgina Island
- Chippewas of Rama
- Curve Lake First Nation
- Hiawatha First Nation.

Discussions with First Nations will occur from the outset of the Individual Environmental Assessments and continue in a manner appropriate to them. Consultation activities will be adjusted during the Individual EAs to meet particular needs of specific First Nations as those needs are made apparent. As a minimum, each First Nation will be asked to comment at each benchmark, before decisions are made pertaining to planning and design alternatives. Because of cumulative effects and implications of EA studies underway, a joint meeting between EA Teams and all First Nations is envisioned.

2.4 Consultation with Other Stakeholders

During the first Community Liaison Meeting on March 21, the project team proposed to meet with individuals or organizations separately to discuss elements of the Terms of Reference and IEA study process. Two meetings were arranged including:

- A meeting with Toronto City Councillor Paula Fletcher (Ward 30) on April 6, 2006 to exchange information about the Terms of Reference;

- A walking tour of the study area with residents of the Central Waterfront Neighbourhood Association, the Community Liaison Committee, and other members of the public.

Please see **Appendix J** for a summary of each individual meeting.

2.5 Other Methods of Communications

2.5.1 Project Web Site

The TWRC established a Web page to disseminate information more broadly to the public. The Web page contained relevant project information including:

- Project background;
- Study area;
- Notice of commencement and public workshops, workshop presentations and summary notes;
- Draft evaluation criteria;
- Summary notes of CLC and TAC meetings; and
- A copy of the draft Terms of Reference and questionnaire to obtain input.

The Web page also encouraged interested individuals to submit questions and comments through a project e-mail address: transit@towaterfront.ca.

See **Appendix K** for a visual of the Web site.

2.5.2 Newsletter

The TWRC produces a monthly newsletter that is e-mailed to over 3,000 individuals and organizations on the TWRC's contact list. The Corporation's March newsletter included an article about the Waterfront Transit EAs study and Terms of Reference and a notice for the first public workshop held on April 5.

Please see **Appendix L** for a visual of the newsletter article.

2.5.3 Frequently Asked Questions (FAQs)

The project team developed a list of key questions and responses detailing the Terms of Reference, Environmental Assessment study process and other information relevant to the project. The FAQs were posted on the project Web page and were distributed to public workshop attendees, CLC and TAC members. The questions and responses were updated regularly throughout the Terms of Reference. Please see **Appendix M** for a copy of the initial FAQs.

3.0 Consultation Enhances Study Process

An extensive amount of public consultation was undertaken even before the official kick-off of the TTC-TWRC Waterfront Transit EA Terms of Reference. In addition to the comments recorded at all Community Liaison Committee meetings, the Technical Advisory Committee meeting and both public workshops, the project team maintained and documented all comments received from interested residents and groups via e-mail, fax or phone calls as displayed in **Appendix N**. All documents and materials received from members of the public, the Community Liaison Committee and Technical Advisory Committee were reviewed by project team members and were documented for the Terms of Reference (see **Appendix O**).

Excellent public consultation processes are principled processes. As described above, the Terms of Reference engagement process utilized appropriate public consultation mechanisms through a series of steps: *connecting, scoping, focusing, integrating, reviewing, and confirming.* In keeping with this process, the following public consultation program principles were applied to this Terms of Reference:

- Transparency — The public saw how decisions were being made.
- Traceability — The public understood and traced how their input was used (or not used) in project decision making.
- Feedback — Project team members responded to public comments.
- Horizontal and Vertical Liaison — Stakeholders across government departments and agencies were consulted (horizontal liaison). Stakeholders above and below project decision makers were consulted, such as agencies, local politicians or unionized workers (vertical liaison).
- Timeliness — Members of the public were asked for their opinions before the project team made key decision. The public was involved early. There was a timely distribution of materials.
- Inclusiveness — All people who should be consulted were consulted.
- Accountability — Members of the public involved in the public consultation process knew who was making the decision.
- Clarity — For each meeting and public consultation event, the project team was clear about why they were asking the public to participate.

The results of the public consultation process demonstrated that the comments received from the Community Liaison Committee meetings, the Technical Advisory Committee meeting, and both public workshops helped shape the draft Terms of Reference through emerging themes, notably:

- Members of the Community Liaison Committee, the Technical Advisory Committee and participants of the first public workshop refined the purpose of the TTC-TWRC Transit Environmental Assessment Studies;

- Participants of the first public workshop overwhelmingly identified the importance of having transit vehicles and waterfront facilities that are fully accessible;

- Members of the Community Liaison Committee and participants at the first public workshop recognized the need for "Green" transit vehicles that are environmentally friendly;

- Members of the Community Liaison Committee and participants at the first public workshop were favourable of assessing right-of-way widths during the development and evaluation of "design alternatives";

- Participants at the first public workshop identified the importance of having an integrated transit plan that connects with adjacent communities;

- Members of the Community Liaison Committee, the Technical Advisory Committee and participants of the first public workshop provided additional network planning alternatives;

- Members of the Community Liaison Committee suggested a range of bus propulsion alternatives;

- Members of the Community Liaison Committee and participants at the first public workshop recognized the need to consider wildlife habitat improvement opportunities;

- Members of the Community Liaison Committee, the Technical Advisory Committee and participants of the first public workshop recognized the need for meaningful and effective public consultation.

4.0 Consultation on Draft Terms of Reference

The draft Terms of Reference was unveiled to the public on June 5, 2006. Community Liaison Committee members provided input on the draft document at the fourth committee meeting; Technical Advisory Committee members were e-mailed the draft Terms of reference and were asked to comment; residents who attended the second public workshop were provided a copy of the draft document as well as a questionnaire to elicit input. Comments received by the project team addressing the draft Terms of Reference are displayed in **Appendix P**.

The draft Terms of Reference was presented to both the Toronto Transit Commission and the City of Toronto's Planning and Transportation Committee, on June 21st, and July 4th, respectively. At its June 21, 2006 meeting the Commission approved recommendations to submit the Terms of References (ToRs) for Waterfront Transit Environmental Assessments

(EA) to the Ministry of Environment (MOE) and forward the report to the Planning and Transportation Committee of the City of Toronto for their consideration. At its meeting of July 4, 2006 the Planning and Transportation Committee of the City of Toronto approved the recommendation to endorse submission of the Terms of Reference (ToR) for the Waterfront Transit Environmental Assessments to the Ministry of the Environment. See **Appendix Q** for the Toronto Transit Commission Staff Report and **Appendix R** for the City of Toronto Staff Report.

5.0 Next Steps

Upon receiving public comments, a final Terms of Reference documents will be completed and submitted to the Ontario Ministry of Environment during the summer of 2006. Should the Terms of Reference receive approval from the Ministry, the project team will proceed with IEA studies for both the East Bayfront and West Don Lands precincts.

Questions or comments about this report may be forwarded to:

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Toronto Transit Commission
1900 Yonge Street
Toronto, Canada M4S 1Z2
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Fax: 416-535-1391
E-mail: bill.dawson@ttc.ca

Appendix A: Organizations Invited to Participate on the Community Liaison Committee

- Better Transportation Coalition
- Cabbagetown South
- Central Waterfront Neighbourhood Association
- Citizens for the Old Town
- City Pedestrian Committee
- Corktown Residents & Businesses Association
- Councillor Pam McConnell's Office
- Councillor Paula Fletcher's Office
- Distillery District
- Enoch Turner Schoolhouse
- Gooderham & Worts Neighbourhood Association
- Green Tourism Association
- Inglenook Community School
- Mississaugas of the New Credit First Nation
- Moving the Economy
- Neighbourhood Representation from Central Harbourfront
- Port Lands Action Committee
- Riverdale Community Development Corporation
- Rocket Riders
- South East Downtown Economic Revitalization Initiative
- South Riverdale Community Health Centre
- South Riverdale Revitalization Project
- St. Lawrence and Market BIA
- St. Lawrence Neighbourhood Association
- Task Force to Bring Back the Don
- Toronto Bicycling Network
- Toronto Environmental Alliance
- Toronto Island
- TRCA
- West Don Lands Committee
- Corktown Residents & Businesses Association
- Waterfront Action

Appendix B

Community Liaison Committee Meeting Notes

COMMUNITY LIAISON COMMITTEE
MEETING NOTES

Meeting: CLC Meeting No. 1

Project: TTC-TWRC Waterfront Transit Environmental Assessments

Date: March 21, 2006

Time: 6:30 to 9:00 p.m.

Location: Room 307, Metro Hall, 55 John Street, Toronto

Attendees:

CLC Members:
John Wilson, Task Force to Bring Back the Don
David Jackson, Distillery District
Cynthia Wilkey, West Don Lands Committee
Julie Beddoes, Gooderham & Worts Neighbourhood Association
David Fisher, Rocket Riders
Dennis Findlay, Port Lands Action Committee
David White, Waterfront Action
Steve Munro, Transit Advocate
Margaret Samuel, Central Waterfront Neighbourhood Association

Project Team:
Bill Dawson, Toronto Transit Commission
Dennis Callan, P.Eng., McCormick Rankin Corporation
Mike Bricks, Ecoplans Limited
Pino DiMascio, Urban Strategies Inc.
Kristy Findlay, Toronto Waterfront Revitalization Corporation
Tim Laspa, City of Toronto
Alun Lloyd, BA Group

Facilitator:
Dave Hardy, Hardy Stevenson and Associates Limited

Notes:
Sari Liem, Hardy Stevenson and Associates Limited

Distribution:

Regrets:
Kristin Jenkins, Toronto Waterfront Revitalization Corporation
Shirley Hartt, Enoch Turner Schoolhouse
Briana Illingworth, Moving the Economy
Michael Comstock, St. Lawrence and Market BIA
Rollo Myers, Citizens for the Old Town

Copied:
Ronny Yaron, St. Lawrence Neighbourhood Association

Item	ToR	EA	Design	Comment Noted

1. Introductions

Bill Dawson welcomed participants to the first Community Liaison Committee meeting, and introduced the project team and any other City staff present.

Committee members introduced themselves.

Pino DiMascio welcomed Committee members on behalf of Kristin Jenkins, TWRC who was unable to attend the meeting. Pino informed CLC members that the Waterfront Transit Environmental Assessments is a joint exercise between the Toronto Transit Commission (TTC), the City of Toronto, and Toronto Waterfront Revitalization Corporation (TWRC).

Bill Dawson provided a brief statement of the purpose of the project and meeting and oriented CLC members to the air photo image.

2. Present Terms of Reference for Community Liaison Committee (CLC)

Dave Hardy introduced himself as meeting facilitator and introduced Sari Liem, who will be taking notes of the meeting. Dave identified the purpose of the meeting and informed CLC members that three meetings and two workshops have been planned during the Terms of Reference phase of the project. He also informed CLC members they are encouraged to present ideas and comments to the project team in between meetings.

Dave Hardy presented the draft Terms of Reference for the CLC. He asked if committee members have any questions about the Terms of Reference or the mandate of the CLC.

No questions or comments were received.

3. Presentation of Individual EA Process (Terms of Reference Stage and Individual EA Stage).

Mike Bricks provided an overview of the Ontario EA Act and Individual EA Process. He also described the Terms of Reference stage and the Individual EA stage of the Environmental Assessment.

Dave Hardy asked CLC members if they have been involved in an individual Environmental Assessment

before and asked if they have questions regarding the Terms of Reference or Individual EA.

- A committee member asked if the project will be subject to a federal Environmental Assessment (CEAA). Mike Bricks responded that the project team does not anticipate that an environmental assessment is required under CEAA. Mike explained that CEAA is only triggered if the project affects federal lands, utilizes funding from the federal government, or requires federal permit. He also informed the committee that the project team held discussions with the Canadian Environmental Assessment Agency, who will be monitoring the Technical Advisory Committee. **X**

4. Presentation of Elements of the Draft Terms of Reference for the TTC-TWRC Waterfront Transit Environmental Assessment process.

Dennis Callan presented the preliminary schedule of the Terms of Reference and Individual Environmental Assessments.

- A committee member asked the project team to identify contact names and organizations represented by the Technical Advisory Committee. Dennis Callan responded that the Technical Advisory Committee includes representatives from government agencies. Dennis added that the project team will provide the list of TAC members to the CLC. **X**

- A committee member commented that the project team's schedule is ambitious. Pino DiMascio explained that it is important to maintain the schedule in order to start the Environmental Assessments in the fall. **X**

Dave Hardy informed CLC members about upcoming consultation activities and asked the committee if they have any suggestions for including more people in the current consultation on the Terms of Reference and on ways of consulting with the public during the Individual EA consultation process.

- A committee member responded that information about the project should be posted on a website. Dave Hardy responded that information about the project, workshop notices and meeting minutes will be posted on the TWRC website. **X** **X**

▪ A committee member asked when alternative solutions will be identified. Dennis Callan responded that the range and types of alternatives will be identified during the preparation of the ToR but will be assessed once the ToR has been approved. He also explained that new alternatives can be added during the individual EAs.	**X**			
▪ A committee member stated that there has been a lot of interest in the project from residents in her neighbourhood.				**X**
▪ Another committee member informed the project team that he will inform the rest of his organization about upcoming workshops and will distribute flyers and information articles to his community.				**X**
▪ One committee member stated that meetings should be held on Queens Quay as more residents are affected in that area.				**X**
▪ A committee member suggested that the project team consider a third public workshop. She explained that extra public meetings were needed during precinct planning process.				**X**
▪ Two committee members stated a desire for a walkabout, which would educate the public about the project.				**X**
▪ A committee member stated that photographs should be taken of corridors and intersections to compare before and after affects of the project.		**X**		

Dave Hardy asked committee members for their suggestions on how the project team can best facilitate meaningful consultation during the Individual EA.

▪ A committee member stated that the public needs more information about the process in order to understand the issues. They also need to be inspired by alternative solutions.	**X**	**X**	**X**	**X**
▪ Another committee member stated that it is important to listen to the public and to ensure their opinions make a contribution to the project. The public were satisfied with the consultation process during the development of the precinct plans because it was transparent, traceable, and participants were provided thorough feedback on the ideas that they presented.	**X**	**X**	**X**	**X**
▪ A committee member commented that this project will affect the entire City and the project team should contact and consider the opinions of residents outside of the study area. Another committee member added that TTC, TWRC, the City and community groups should collaborate and offer	**X**	**X**		

presentations at community centres about the waterfront and other redevelopment initiatives to educate the general public.			
▪ Another committee member stated that public transit must be pedestrian friendly.	**X**	**X**	
▪ A committee member stated that the project team should establish a long term vision for Queens Quay during the development of the Terms of Reference.			**X**
Dave Hardy encouraged committee members to advertise the April 5th ToR workshop in their communities.			
▪ A committee member stated that she enjoys the TWRC method of consultation and informed the project team that participants of past workshops have received a workbook and in-depth information. She stated that the project team should provide information at the same level of depth to participants at upcoming workshops. She also stated that she is interested in providing comments to the project team on the draft workbook.	**X**	**X**	
Dave encouraged committee members to email the project team their ideas for the workshop.			
Dennis Callan asked committee members what they would like to see at workshops.			
▪ A committee member suggested handouts of: maps; a chart showing the EA process, timelines; purpose of the EA; design issues for each of the three study areas; and 3D graphics of the study areas.			**X**
▪ Another committee member suggested that a walkabout be undertaken in between the first workshop on April 5th and the next CLC meeting on May 9th. She also stated that sufficient information should be provided in order for the public to present meaningful ideas. Bill Dawson replied that it would be better to undertake the walkabout during the Individual EA.			**X**
▪ A committee member stated that street cars have been depicted in most of the photos presented in the meeting.			**X**
▪ Another committee member stated that the April 5th workshop should focus on broader issues.			**X**
Dennis Callan presented the purpose statement, project,			

justification, need and opportunity.

Dave Hardy asked committee members if the purpose statement, project, justification, need and opportunity were clearly defined.

- A committee member asked how frequent and at what speed the vehicles will travel. Another committee member stated that vehicles should arrive within seven minutes. Bill Dawson responded that vehicles will be reliable and arrive frequently to ensure quality of service. **X** **X** **X**
- Another committee member stated that the City's mandate should be a "transit city".
- One committee member stated that the purpose statement needs to be more comprehensive and make reference to streets as "places". Mike Bricks responded that the project team can elaborate "objectives for land use, design and environmental excellence". **X**
- Another committee member asked if a connection to GO Train at Cherry Street is part of the study. Bill Dawson replied that the study team will examine the connection as part of the EA. **X**
- A committee member stated that access to and use of the water should be referred to in the purpose statement. **X**
- Another committee member asked how the projected peak travel compares to that of the King or Queen Street streetcar. Dennis Callan responded that the peak travel demand is similar to that of two Spadina LRTs. Bill Dawson added that the Spadina streetcar is the busiest in Toronto and that the projected peak travel is equivalent to two Spadina streetcars. **X**
- A committee member asked if the projected peak travel takes into consideration residents who do not use streetcars. Dennis Callan responded that it does consider those who do not use streetcars. **X**

  A committee member asked how the EA affects the 2015 Expo Bid. Bill Dawson responded that there are ongoing discussions with the Expo Bid organization, and at this point the plan is to proceed with the proposed transit EA project and adjust the project scope and schedule later, as required, if Council agrees to proceed with a formal bid.

Dennis Callan presented the study areas, through the use of display board maps and aerial photographs.

Dave Hardy asked CLC members to comment if the proposed study areas address the issues described in

the proposed problem statement, and if the boundaries need to be modified to ensure that certain parts of the natural and social environment are examined.

▪ A committee member asked why Lakeshore Blvd is not part of the study area. Dennis Callan responded that a link cannot be established to the existing harbourfront streetcar line.	**X**		
▪ Committee members stated that Queens Quay should be redesigned to be a pedestrian friendly street and that heavy truck traffic should be directed onto Lakeshore Blvd. Alan Lloyd responded that the character of Queens Quay will change as East Bayfront redevelops.		**X**	
▪ A committee member asked why the study area does not include: Parliament Street; the area between Cherry Street and Leslie Street; and a connection to Broadview Avenue. Pino DiMascio responded that the display boards are more accurate than the aerial photograph in the PowerPoint presentation and shows a connection to Broadview Avenue.	**X**		
▪ Another committee member stated that there should be connections to the Bloor subway line.	**X**		

Dennis Callan presented potential service types, potential routes and proposed alternatives to be studied in the Individual EA for East Bayfront and the Queens Quay.

Dave Hardy asked committee members if the purpose statement, project, justification, need and opportunity were clearly defined.

▪ A committee member suggested that the project team should examine other types of vehicles such as hydrogen fuel and electric buses.	**X**	**X**	
▪ Another committee member would like to see measures that limit vehicle traffic on Queens Quay.	**X**		
▪ Committee members stated that flexibility that does not limit transit to be provided in a dedicated transit way.	**X**		
▪ A committee member stated the need to address underground terminal capacity at Union Station. Bill Dawson replied that TTC developed a concept for underground expansion of a streetcar terminal to handle high volumes of traffic, and that this will be addressed in the EA.		**X**	
▪ Another committee member stated underground stations need to make a positive impression.		**X**	**X**

Dennis Callan presented potential service types, potential routes and proposed alternatives to be studied for West Don Lands.

Dave Hardy asked committee members if the purpose statement, project, justification, need and opportunity were clearly defined.

- A committee member asked the project team to consider the possibility of a pedestrian mall. **X**
- Another committee member stated that the streetcar should have a larger turning radius to minimize noise impacts. **X**
- A committee member asked why a connection on Parliament Street from Queens Quay north is not under consideration. Bill Dawson explained that travel demand forecasts at the time did not show a high demand from East Bayfront to West Don Lands to subway. **X**
- Committee members stated that a Parliament Street connection can serve more commuters to the Bloor subway line. This would serve Regent Park, whose community composition may change over time. **X**

Dennis Callan presented the potential service types, potential routes and proposed alternatives to be studied for Port Lands.

Dave Hardy asked committee members to provide comments and if there are other issues that should be examined.

- A committee member suggested that a north-south connection should be established along Carlaw Avenue from Queen Street and into the Port Lands. **X**
- Another committee member suggested that consideration be given to extending the proposed waterfront streetcar services further east on Kingston Road **X**

Dennis Callan informed CLC members about other adjacent studies, including East of Parliament Precinct Plan and Road EA, Mouth of the Don EA, and the Central Waterfront Esplanade Boulevard Design Competition.

- A committee member asked if a precinct plan is being undertaken for the area west of Jarvis Street. Pino DiMascio responded that a detailed planning study is being undertaken for the area. **X**

Dave Hardy asked committee members if they have other ideas to share.

- A committee member commented that the Gardiner Expressway will be top of mind with the public and asked how the study will address it. Bill Dawson responded that the project team will be undertaking the EAs based on the Gardiner remaining in place. Bill also added that the study team will respond accordingly if plans for the Gardiner change. **X**
- A committee suggested that the project team look into alternative energy sources to power transit vehicles. **X** **X**
- Another committee member asked about the possibility of introducing a monorail and whether this will be an alternative solution. Pino DiMascio responded that the project team has thought of that option. **X**

5. Schedule of Upcoming Meetings

Dennis Callan discussed the schedule of upcoming meetings and workshops.

6. Invitation to visit individual groups

Bill Dawson offered to undertake presentations to individual groups.

7. Adjourn

Bill Dawson closed the meeting and thanked participants for attending the first CLC meeting.

Attachment: Committee Liaison Committee Meeting #1 PowerPoint Presentation

COMMUNITY LIAISON COMMITTEE
MEETING NOTES*

Meeting: CLC Meeting No. 2

Project: TTC-TWRC Waterfront Transit Environmental Assessments

Date: May 9, 2006

Time: 6:30 to 8:30 p.m.

Location: Room 309, Metro Hall, 55 John Street, Toronto

Attendees: **CLC Members:**

Julie Beddoes, Gooderham and Worts Neighbourhood Association
Michael Comstock, St. Lawrence and Market BIA
Dennis Findlay, Port Lands Action Committee
David Fisher, Rocket Riders
Leila Gary, Air Pollution Coalition
David Jackson, Distillery District
Sharon Poitras, Gooderham and Worts Neighbourhood Association
Margaret Samuel, Central Waterfront Neighbourhood Association
G. Rymal Smith, Fuel Cells Canada Hydrogen Village
David White, Waterfront Action
Cynthia Wilkey, West Don Lands Committee
John Wilson, Task Force to Bring Back the Don

Project Team:

Bill Dawson, Toronto Transit Commission
Mike Ronson, Toronto Transit Commission
Dennis Callan, McCormick Rankin Corporation
Mike Bricks, Ecoplans Limited
Pino DiMascio, Urban Strategies Inc.
Kristy Findlay, Toronto Waterfront Revitalization Corporation
Tim Laspa, City of Toronto
John Kelly, City of Toronto, Transportation Services
Scott Thorburn, URS
Alun Lloyd, BA Consulting Group

Facilitator: Dave Hardy, Hardy Stevenson and Associates Limited

Notes: Pam Foster, Hardy Stevenson and Associates Limited

Distribution: **Regrets:**

Kristin Jenkins, Toronto Waterfront Revitalization Corporation
Shirley Hartt, Enoch Turner Schoolhouse
Briana Illingworth, Moving the Economy

Rollo Myers, Citizens for the Old Town
Steve Munro, Transit Advocate

Copied:
Ronny Yaron, St. Lawrence Neighbourhood Association

	ToR	EA	Design	Comment Noted

1. Introductions

Hardy welcomed participants to the second meeting of the Community Liaison Committee. Project team members and members of the CLC all introduced themselves. Dave explained that the primary focus of this meeting was to obtain input on the different alternatives and the evaluation criteria proposed to be used to make decisions about alternatives during the Environmental Assessment Stage.

2. Review of March 21 CLC Meeting Notes

Dave reviewed the notes from the first CLC meeting. A Committee member clarified if issues arise during the project, there should be additional CLC meetings.

3. Discuss Results of First Public Workshop and Transit System Plan

Since the last workshop Bill led a walkabout along Queen's Quay on April 8. Several key themes came out of the first workshop, including access and the use of 'green' technologies.

Bill noted that accessibility is being addressed by the TTC on a city-wide basis. Since 1994, everything the TTC has built or purchased is fully accessible. By 2011 the entire bus system will be fully accessible. The TTC is also moving as quickly as possible to provide 'green' TTC vehicles, including vehicles with low emissions, and those using renewable energy resources. All waterfront transit vehicles will use the greenest technology that is available to TTC.

Bill showed a map of transit corridors showing a broader integrated plan for the city. The plan outlines higher order transit for the next 20-30 years, which includes waterfront linkages. He reminded CLC members that the waterfront connection is just one part of this overall plan. The basis for the Transit EA is an integrated

	ToR	EA	Design	Comment Noted
network of TTC services connecting to waterfront/port area. Bill provided data on the busiest bus, streetcar and subway routes, and provided projections of future transit on Queen's Quay.				
• A Committee member stated that she would like more information on the transit forecasts provided. She said that the numbers for Queen's Quay seemed high. Pino DiMascio stated the project team would be pleased to show CLC members how the forecasting models are done.				X
• Another Committee member asked to date the projection data. Bill responded that the projection showed at Queen's Quay is for full build-out.		X		
• A Committee member noted that the forecasts showed the only additional route is on Queen's Quay. If the Queen's Quay is to carry volume from the Port Lands in the future, then volume numbers will be affected. The committee member said that transit ridership originating from Queen's Quay and the Port Lands should be shown separately in projection numbers. Bill said the EA Study will address this issue.	X	X		X
• A Committee member expressed concern that many assumptions were being packed into the Terms of Reference and that the assumptions should be explored now, instead of waiting for the EA to begin. It was agreed that an additional CLC would be arranged for May 25, 2006 to review the ridership projections in greater detail.	X	X		X
Bill continued his presentation and reviewed the purpose of the EA study. He noted that only the construction of transit facilities requires an EA. Providing additional service on existing roads does not require an EA. The base network does include assumptions of improvements outside of the study area. Some transit connections, such as the waterfront west connection and the Bayview connection, are included in this EA study, while others are beyond the scope of the current study.				
• A Committee member stated that the gap between this EA and the Don Mills study is a concern and that a connection from Bloor Street				

	ToR	EA	Design	Comment Noted
to the waterfront should be included in this EA. Bill replied that there was a Transportation Master Plan done for the Don Valley corridor. As the first step of that plan, the city has now initiated an EA for the corridor between Bloor Street and Sheppard Avenue.				X

Process to Generate and Evaluate Alternatives and Evaluation Criteria

Dennis Callan outlined the progress of the study, showing a preliminary project schedule. He spoke about evaluation criteria and methods to be included in the Terms of Reference.

Dennis discussed the proposed method of evaluating alternatives for the three project sites. He stated that there will be two types of alternatives; planning alternatives and design alternatives. There are also two types of evaluation criteria; screening and long list criteria.

Dennis presented East Bayfront corridor options, including the Lakeshore and Queen's Quay. He stated that it is difficult for subway riders to access the Lakeshore, and there is a natural connection to Union Station from Queen's Quay. Dennis provided two examples to show the corridor option design process. He said the same process is used for selecting technologies. The merits of buses and streetcars will be compared. Once a corridor and technology are selected, then the project team will look at design issues.

Dennis then showed West Don Lands corridor options, including Cherry Street to the King streetcar, Parliament Street to the King streetcar, and Cherry/Front Streets to the King streetcar. He stated that the study team will consider buses and streetcars. Once a corridor and technology are decided, then design issues will be evaluated.

Dennis indicated that the Port Lands study area is not as defined as the other two areas. The project team will consider all of the transit requirements and possible connections north. The system could be a streetcar or bus. The EA for the Port Lands will start later than the other two studies. The project team will be looking at both east-west and north-south connections.

	ToR	EA	Design	Comment Noted
• A Committee member suggested that a Carlaw north-south connection be included in the Port Lands.	X			
• A Committee member asked if the EA process considers the process of phasing in alternatives over time. Dennis replied that the EA is developed for the long term and that the City/TTC/Waterfront would decide on the timing/staging of construction. An EA does not approve staging.		X	X	
• Another Committee member noted that there are a lot of assumptions behind what has been presented. It would be helpful if the CLC members could review this material at leisure. The possibility of car-free zones should be more strongly portrayed. Design alternatives for the Queen's Quay central waterfront design competition should be considered.	X			X
• A Committee member asked if options could be put on the table during the EA study. Dennis responded that options could be added during the EA. The Terms of Reference outlines minimum requirements. However, it would be desirable to attempt to identify most reasonable alternatives during the preparation of the Terms of Reference.	X			X
• Some CLC members advocated options on Parliament Street— to be seen as an addition to— not an alternative to Cherry Street. It should be an extension of the Harbourfront LRT, and extend past Regent Park to the Bloor subway line.	X	X		X
• A Committee member said the idea of a Don Mills and Parliament Street streetcar was to increase connectivity to the north-south subway line. Bill said the scope of this study was to serve the developments for the three new areas and service on Parliament Street will be dealt with in this context. There may be potential for streetcars to serve developments further north on Parliament Street but this would require separate study.				X

	ToR	EA	Design	Comment Noted
• A Committee member observed that the modeling is based on 80,000 people using transit to downtown on two streetcar lines; and if Cherry Street and Queen's Quay are the only alternatives, it seems improbable to only use Queen's Quay and Cherry Street as transit options. A CLC member suggested that the King streetcar is already packed, and does not have the capacity to accommodate new transit riders. It was pointed out that not all people are going downtown and not all people are travelling at the same time and in the same direction. There will also be other outlets from the Port Lands to the north and east.				X
• Tim Laspa said the City developed the Central Waterfront Plan, and generated background information that has not been discussed at public meetings to date. He suggested the Project Team can review travel characteristics with CLC members if there is interest in looking at travel demand forecast data. A separate presentation on forecasting will be arranged for those who want to attend.	X			
• A Committee member asked if multiple routes can be approved for East Bayfront EA. Pino DiMascio replied that more than one route could be approved, as could a combined option.	X	X		
• Another Committee member said that Queen's Quay should be kept a smaller, local street. Instead of choosing between Lakeshore and Queen's Quay, the option of using both should be considered.	X	X	X	
• A Committee member stated that it is not clear how the project team is integrating the higher order transit plan with the Official Plan.	X	X		X
• Another Committee member noted that higher order transit must be in the EA because it will impact the entire waterfront. Lakeshore Boulevard has to be included in this study, as does the high capacity corridor along Cherry	X	X	X	X

	ToR	EA	Design	Comment Noted
Street. Carlaw Avenue must be included as well.				
• A Committee member stated that land consumption allocated to transit should be articulated as part of the urban plan. The CLC member also asked if the EA assumes public transit is the primary mode of transportation or is planned to complement the auto.	X	X		X
• A Committee member indicated that car-free districts mobility and connectivity with other modes of transportation.				X
• Pino DiMascio stated in the demand forecasting, the primary use was transit. The goal is that 65-70% trips will be non-auto. The project team recognizes this will not be an easy goal to reach, but they are aiming to encourage a high level of transit use.	X	X		
• A Committee member stated the Terms of Reference needed to recognize flexibility with regard to technology development. This project has a 30 year build-out window, and should accommodate future 'green' and low impact technology developments.	X			X
• A Committee member stated that if the Queen's Quay route goes into the Port Lands, there does not have to be major mixed traffic routes. There should be a long distance fast route and a short distance traffic route. Bill Dawson said that the purpose of this study is to serve these communities as best as possible. High speed long distance trips are not the priority here; connectivity for local short transit trips is the primary purpose.				X
• A Committee member said that strong north-south transit connections need to be established. She stated that she wants the streetcars on Queen's Quay to be handicapped accessible when they go into service. She asked when the TTC will buy accessible streetcars. Bill Dawson replied that this is an important issue for the TTC today. There are 250 streetcars in Toronto, and they are not accessible. It will cost $1 billion to replace them. When the TTC decides to buy				X

	ToR	EA	Design	Comment Noted
new streetcars, they will be handicapped accessible. If the Queen's Quay route is built in the next four years, new accessible streetcars may not be available by then. The TTC can only guarantee that by 2025 all streetcars will be accessible.				

Dennis Callan distributed the evaluation criteria matrix. Bill Dawson said the Project Team is asking CLC members to review and comment on the criteria.

Scott Thorburn discussed the proposed criteria for assessing the planning alternatives. Scott indicated that the project team will use screening evaluation criteria to determine whether each planning alternative gets a 'pass' or 'failing' grade. For those that pass, the evaluation criteria will help rank each option, leading to the selection of a preferred option.

	ToR	EA	Design	Comment Noted
• A Committee member noted that streetcars might be chosen over buses because of current bus propulsion systems. Scott Thorburn replied that the current comparison is diesel bus versus the streetcar recognizing that there are a lot of developments on the horizon. Scott further noted that during the EA it is possible to acknowledge this in the evaluation of alternatives and reduce the importance of emission in the evaluation of alternative technologies.		X		X
• A Committee member asked what 'accommodating through travelers' means as an evaluation criterion. Scott Thorburn said it means that these travelers' origin and destination is not in the development area. The study team needs to consider how these movements are going to be accommodated.	X	X		

Dennis Callan said that the Terms of Reference is looking at what should be included in the EA. This document explains to the Ministry of the Environment what the project is all about. He indicated that the first draft of the Terms of Reference will come out on or before May 31.

- A Committee member asked if CLC members could review a nearly final version of the Terms of Reference. Pino DiMascio replied that the

	ToR	EA	Design	Comment Noted
project team needs a deadline for CLC members to provide comments so that they can be included in the draft Terms of Reference. Pino indicated that nearly two weeks after the public workshop, the project team will produce another version of the Terms of Reference.	X			X
• A Committee member said she wants to understand the evaluation criteria better and does not know enough yet to respond thoughtfully. It was agreed that an additional CLC meeting would be held on May 25, 2006.	X			X
• A Committee member suggested a potential water-based corridor be considered. This would involve a water vehicle transporting passengers and carrying large numbers of people. It could be integrated with the transit system and provide easy transfer points. Another CLC member added that similar 'bateau' buses are located in Paris.	X	X		X
• A Committee member stated that she felt the project team was doing four-months work in two months. She asked if this process was being driven by the upcoming municipal election. Dennis Callan replied that the election was not driving the study process but that it is important to get on with the actual study.				X
• Another Committee member suggested the project team should go back to the design alternatives. She is unhappy with what has been presented. It appears that there are pre-determined outcomes. In addition to planning and design criteria, there should be a category for selecting the propulsion technology alternatives. If that criterion is not added now, the new development will be stuck with old technology.	X			X
• A Committee member suggested that the purpose of the EA is to build streetcar tracks, add tunnels and define how they are built. There are still questions for Council on rights of ways for roadways, and the issue of why there are two directions of traffic on Queen's Quay. Bill Dawson said that that is part of the design	X	X	X	X

	ToR	EA	Design	Comment Noted
process. The plan could be designed with different amounts of automobile lanes.				
• A Committee member reminded the project team that he would like the CN spur taken completely off Queen's Quay, and put on the north side of Lakeshore Boulevard. Pino DiMascio replied that anything to do with the CN spur is a political decision. The consultant team cannot make any decisions about it. Instead, the project team will show a plan that works with and without a rail spur.				X

7. Next Steps

Kristy Findlay said she will mail the presentation material to CLC members.

8. Other Items

Dave Hardy reminded the project team that CLC members had questions about the waterfront design competition. Bill Dawson said he was optimistic that the design competition will reflect the evaluation criteria. He hopes the competition is a positive effort to help focus on some of these criteria.

9. Adjourn

COMMUNITY LIAISON COMMITTEE
MEETING NOTES

Meeting: CLC Meeting No. 3

Project: TTC-TWRC Waterfront Transit Environmental Assessments

Date: May 25, 2006

Time: 6:00 to 8:00 p.m.

Location: TWRC Large Boardroom

Attendees: **CLC Members:**

Julie Beddoes, Gooderham and Worts Neighbourhood Association
Dennis Findlay, Port Lands Action Committee
David Jackson, Distillery District
Sharon Poitras, Gooderham and Worts Neighbourhood Association
Margaret Samuel, Central Waterfront Neighbourhood Association
Sylvia Pellman, St. Lawrence Neighbourhood Association
G. Rymal Smith, Fuel Cells Canada Hydrogen Village and Central Waterfront Neighbourhood Association
David White, Waterfront Action
Cynthia Wilkey, West Don Lands Committee

Project Team:

Bill Dawson, Toronto Transit Commission
Dennis Callan, McCormick Rankin Corporation
Mike Bricks, Ecoplans Limited
Pino DiMascio, Urban Strategies Inc.
Paul Croft, City of Toronto
Scott Thorburn, URS
Mark Nykoluk, URS

Facilitator: Dave Hardy, Hardy Stevenson and Associates Limited

Notes: Sari Liem, Hardy Stevenson and Associates Limited

Distribution: **Regrets:**

Kristin Jenkins, Toronto Waterfront Revitalization Corporation
Shirley Hartt, Enoch Turner Schoolhouse
Briana Illingworth, Moving the Economy
Rollo Myers, Citizens for the Old Town
Steve Munro, Transit Advocate
Michael Comstock, St. Lawrence and Market BIA
David Fisher, Rocket Riders
Leila Gary, Air Pollution Coalition

John Wilson, Task Force to Bring Back the Don
Mike Ronson, Toronto Transit Commission
Tim Laspa, City of Toronto
John Kelly, City of Toronto, Transportation Services
Alun Lloyd, BA Consulting Group

Copied:
Ronny Yaron, St. Lawrence Neighbourhood Association

	ToR	EA	Design	Comment Noted

1. Introductions

Dave Hardy welcomed participants to the third Community Liaison Committee meeting. Project team members and members of the CLC all introduced themselves. Dave acknowledged items that were submitted by Margaret Samuelson, David Fisher, Leila Gary, and Julie Beddoes to the project team for consideration. He also introduced travel demand forecasts developed by Tim Laspa of the City of Toronto.

2. Purpose of the Meeting

Bill Dawson explained that the primary focus of this meeting is to obtain input on the development of evaluation criteria to go into the Terms of Reference.

3. Review of May 9 CLC Meeting Notes

Dave Hardy reviewed the notes from the second CLC meeting.

Bill Dawson noted comments received from CLC members and the public regarding network planning alternatives, demand forecasting and timing and project schedule, which will be incorporated into the Terms of Reference.

	ToR	EA	Design	Comment Noted
• A committee member expressed a desire to learn more technical considerations in order to further understand the issues at hand. Dave Hardy replied that technical briefings could be a part of the consultation process during the Individual EAs. Pino DiMascio added that technical briefings could also be offered during the MOE review period.	x	x		x

	ToR	EA	Design	Comment Noted
• A committee member commented that the study areas for the Transit EAs and the Expo Bid overlap and asked whether the EA would be expedited if the Expo Bid is approved. Pino Dimascio responded that the Expo Bid will not affect the EAs and that there will be opportunity for a partnership and joint meetings between the TTC-TWRC and Expo Bid EA teams.	X			X
• A committee member noted a correction on page nine of CLC Meeting #2 Minutes				X

4. Discussion of previously circulated Evaluation Criteria Matrix

Dennis Callan outlined planning alternatives and design alternatives. He also presented alternatives that will be evaluated and reviewed criteria that could be considered.

Scott Thorburn led committee members through the criteria for assessing planning and design alternatives. **Note: Detailed wording changes were recorded by project team members. The original matrix and final draft incorporating suggestions from CLC members are provided under a separate attachment.**

• A committee member requested that specific consideration be given to hydrogen fuel cell buses in addition to streetcars and diesel buses. Scott Thorburn replied that technologies can be assessed under "air quality", identifying the most preferred and least preferred option. Dennis Callan added that while EA's don't address types of propulsion, fuel sources can also be examined under technological considerations.	X	X		X
• A committee member observed that a transit solution could include multiple corridor and design alternatives. Bill Dawson concurred and replied that the project team would likely be assessing packages of alternatives.	X	X	X	X
• Committee members commented that balance is necessary between through traffic and local traffic. Further, additional criteria and its				

	ToR	EA	Design	Comment Noted
corresponding "Required Minimums" and Planning Indicators" need to be considered for: local and through traffic among transit users; and local and through traffic among auto users. Pino DiMascio added that the criteria will be explicit and will encourage through transit traffic and minimize auto traffic.	x			x
• A committee member suggested that a criterion include supporting an attractive retail environment.	x			x
• A committee member suggested that more references are needed for "residences".	x			x
• A committee member suggested that planting be maximized for large street trees. Pino DiMascio replied that this could be design criteria under "Effects on natural habitat".	x			x
Scott Thorburn presented Cost criteria. Mike Bricks added that the project team will add high level cost considerations within planning alternatives and detailed cost considerations within design alternatives.				
• A committee member suggested that car free zones be referenced.	x			x
• Some committee members did not express support for on street parking. Others commented that on street parking could provide traffic calming.	x			x

7. Next Steps

Dave Hardy informed CLC members that the public workshop will held on Tuesday June 6th, from 7:00 pm to 9:00 pm at Novotel Hotel, Champagne Ballroom. He also informed CLC members that the next CLC meeting will be held on June 13th, from 6:30 pm to 8:30 pm at Metro Hall in Room 309.

Bill Dawson reminded CLC members that the criteria for assessing planning and design alternatives are a work in progress and encouraged them to send their comments to the

	ToR	EA	Design	Comment Noted

project team. He also added that the framework was seen by the Act to be a minimum requirement of the Terms of Reference. Other criteria could be added during the Individual EAs.

8. Other Items

Bill Dawson informed CLC members that the draft terms of reference will be issued before June 6th.

9. Adjourn

COMMUNITY LIAISON COMMITTEE
MEETING NOTES

Meeting: CLC Meeting No. 4

Project: TTC-TWRC Waterfront Transit Environmental Assessments

Date: June 13, 2006

Time: 6:30 to 8:30 p.m.

Location: Metro Hall, Room 309

Attendees: **CLC Members:**

Leila Gary, Air Pollution Coalition
Julie Beddoes, Gooderham and Worts Neighbourhood Association
Dennis Findlay, Port Lands Action Committee
David Jackson, Distillery District
Sharon Poitras, Gooderham and Worts Neighbourhood Association
Margaret Samuel, Central Waterfront Neighbourhood Association
Daniel Belanger, Central Waterfront Neighbourhood Association
David White, Waterfront Action
Shawni Lo, Waterfront Action
Cynthia Wilkey, West Don Lands Committee
Steve Munro, Transit Advocate
David Fisher, Rocket Riders
Helen Riley, Toronto Pedestrian Committee
Edward Nixon, Union Station Revitalization Public Advisory Group

Project Team:

Bill Dawson, Toronto Transit Commission
Dennis Callan, McCormick Rankin Corporation
Pino DiMascio, Urban Strategies Inc.
Scott Thorburn, URS
Alun Lloyd, BA Consulting Group
Tim Laspa, City of Toronto

Facilitator: Dave Hardy, Hardy Stevenson and Associates Limited

Notes: Sari Liem, Hardy Stevenson and Associates Limited

Distribution: **Regrets:**

Kristin Jenkins, Toronto Waterfront Revitalization Corporation
Shirley Hartt, Enoch Turner Schoolhouse
Mike Bricks, Ecoplans Limited

Briana Illingworth, Moving the Economy
Rollo Myers, Citizens for the Old Town
Michael Comstock, St. Lawrence and Market BIA
Sylvia Pellman, St. Lawrence Neighbourhood Association
G. Rymal Smith, Fuel Cells Canada Hydrogen Village and Central Waterfront Neighbourhood Association
John Wilson, Task Force to Bring Back the Don
Mike Ronson, Toronto Transit Commission
John Kelly, City of Toronto, Transportation Services
Paul Croft, City of Toronto
Mark Nykoluk, URS

Copied:
Ronny Yaron, St. Lawrence Neighbourhood Association

	ToR	EA	Design	Comment Noted

1. Introductions

Dave Hardy welcomed participants to the fourth Community Liaison Committee meeting. Project team members and members of the CLC all introduced themselves.

2. Purpose of the Meeting

Bill Dawson explained that the primary focus of this meeting is to review comments provided by members of the CLC regarding the draft Terms of Reference (ToR), further obtain comments from the CLC on the ToR, and outline the next steps in the study.

3. Review Previous CLC Meeting Minutes

Dave Hardy reviewed the notes from the previous CLC meetings and asked committee members if corrections or additions were required.

- A committee member expressed that a reference to "pedestrian malls" in the May 9th minutes be deleted. Instead, reference should be made to "Car-free districts allowing mobility and connectivity with other modes of transportation".
- Dave Hardy stated he had received an e-mail from Michael Comstock asking the May 9th — X

	ToR	EA	Design	Comment Noted
minutes on page 5 to be changed to include his comment on the implications of commercial developments in the area; impact of large commercial clusters such as Home Depot; existing malls drawing people out of the new communities for shopping; transit intersections creating retail cluster opportunities.				
• A committee member noted correction on the spelling of her last name.				X
• Another committee member would like more detailed minutes.				X

4. Summary of Public Workshop #2

Dave Hardy provided a summary of the second public workshop. Dave noted that thirty-five people were in attendance, and about one-third were new to the Transit EA study. He asked if Committee members have comments or questions regarding the second public workshop.

5. Discuss Draft Terms of Reference

Dennis Callan reviewed comments that were submitted by four CLC members on the draft terms of reference. He asked the four CLC members who provided the comments if there was anything they would like to add.

Written Comments by CLC Member #1

• The first CLC member added that the graph on page fourteen does not consider articulated buses. Dennis Callan responded that the project team will take into account a range of streetcars and a range of buses, including articulated buses when considering bus capacity.		X		
• The same CLC member added that she can provide a more updated definition of fuel cell buses to the project team to include in the draft ToR.	X			X

Written Comments by CLC Member #2

	ToR	EA	Design	Comment Noted
• The second CLC member added that a change will be required in reference to St. Lawrence service. He also noted that the separate express route that is proposed to run along Lake Shore Boulevard has two affects: (a) provides an express route, and (b) reduces demand requirements on Queens Quay. He added that there is a need to distinguish between the two types of service (express and regular).	X			
• The same CLC member would like to see other modes of transportation such as walking and cycling be identified on charts on page 12 and 13 showing travel patterns and transit volumes. Identifying walking and cycling volumes would better illustrate transit number in a better context.				X
• The same CLC member commented that a reference to a new criterion is required to identify both transit and auto travellers travelling through the study area. The criterion would change when Queens Quay would no longer be a local road.				X
• Dennis Callan recognized the CLC member's comments that there is an artificial division of the study area into various compartments. These areas are linked and the project team would not lose sight of it.				
• Another CLC member agreed with the second CLC member's comments regarding a reference to the different travel modes. He added that a lot of people come to the waterfront on the weekends, would like non peak periods to be included in the survey data.				X
• Another CLC member identified a need to examine bi-directional service impacts.				X
Written Comments by CLC Member #3				
• Dennis Callan outlined comments provided by the third CLC member, who is not in				

	ToR	EA	Design	Comment Noted
attendance at the meeting. He identified that the CLC member expressed satisfaction with the added options and identified the need to include wildlife habitat improvement opportunities.				
Written Comments by CLC Member #4				
• The fourth CLC member asked if the TTC will be continuing with the current streetcars or have different type of streetcars in the future. She also asked if the streetcars will travel at a faster speed. Bill Dawson responded that streetcars will be replaced over the next 10 to 15 years. The TTC will be looking at new light rail low floor technologies. He added that the speed of the streetcar will change depending on the ROW and number of stops.		X		
• If the "preferred option" is evaluated to be not required in an EA, what is the next step? For instance, if the EA identifies that there shouldn't be streetcars, but fuel cell buses, and TTC can't bring streetcar tracks and you can't buy fuel cell buses either then would you would have diesel buses as a default option. Dennis Callan replied that recommendations that are beyond the scope of the EA will still be presented in the EA. It will be up to TTC to implement them. Pino DiMascio added that you can't use the EA process to bind council. The study will identify a preferred alternative.		X		
• Car free zones were not identified in the draft ToR. Bill Dawson replied that the project team added car free zones in the design considerations for both East Bayfront and West Don Lands, and in the criteria.	x			
Other Questions or Comments on the Draft ToR				
• On Page 33, the text of the ToR should refer to entertainment districts requiring transit.				X
• Does the EA just identify the preferred alternative or rank alternatives? Dennis		X		

	ToR	EA	Design	Comment Noted
Callan responded that the EA would also rank alternatives and recommend those alternatives to Council.				
• A CLC members stated that some alternatives can be unworkable. Depending on which criteria council chooses, it may or may not be implemented. Dennis Callan stated we will recommend an alternative and rate them. Council will receive the EA recommendations and make a decision.		X		
• If the preferred alternative cannot be funded by Council can you build in stages? Dennis Callan stated, EAs look forward to the future and recommend the preferred long term solution. It is up to funding authority how and when to build it. We can build it in stages. Pino DiMascio stated, this project is funded through TWRC and the commitment is there to provide capital funding.				X
• There should be a reference to the Union Station District Plan as Union Station is both a local hub and intercity hub. A Union Station heritage plan was passed by Council.	X			
• Car free zones should be added to Section 6.5.1. and 7.5.1.				X
• The ToR documents should address improvement of access to the ferry docks. Scott Thorburn mentioned that the tourism criteria would address this.				X
• The maps on pages 12, 13 and 14 are hard to read and need a legend. Exhibit 3.1 on page 14 needs to clarify the meaning of the capacity numbers.	X			
• Page 29 Sections' 6.5.1. and 6.5.2. needs to address the implications of the design competition.				X
• On page 4/5 the Sustainability Framework needs to be referenced. The evaluation language should include references to opportunities to maximize environmental	X			

	ToR	EA	Design	Comment Noted
performance.				
• On page 31 there should be a reference to Parliament Street.	X			
• On page 33 there needs to be a commitment to assess how network options may best connect the facilities.				X
• On page 36 the maps are wrongly labelled.				X
• Regarding the Central Waterfront, there needs to be consistency on how many future road lanes are provided.				X
• The potential for a World's Fair needs to be addressed, particularly regarding northward connections along the Don Valley. Bill Dawson stated that the Worlds Fair may require an individual EA for the Port Lands.	X			
• Union Station should be included as a node and the study area should be shifted to the west to include Union Station.				X
• On page 18, First Nations should be asked to provide comments at the outset and at key stages.				X
• The reference to the cultural environment in Section 6.2.10 on page 26 should include a reference to the Victory Soya Mills. The Distillery District should be added as a heritage site.	X			
• There should be a reference to auto travellers travelling through the study area.				X

7. Next Steps

Dennis Callan mentioned that comments will be incorporated into the ToR and some analysis will continue through July. The Study Team will endeavour to design and deliver several small public workshops over the summer on technical matters while the MOE is conducting its review. Some topics may include: travel demand, rail spur, union station loop, cost. CLC members

	ToR	EA	Design	Comment Noted
were asked to email suggested topics.				
The TTC (June 21) and TWRC Board will make their own comments on the report, as will City of Toronto Council (Planning and Transportation Committee on July 4). Significant changes will go back the CLC for comment. CLC members always have the opportunity to make their views known directly to the MOE.				
8. Other Items				
Bill Dawson informed CLC members that comments on the draft terms of reference are due on 16th.				
9. Adjourn				

Appendix C: Organizations Invited to Participate on the Technical Advisory Committee

- Canadian Environmental Assessment Agency – Ontario Region
- City of Toronto - Fire Services
- City of Toronto Planning - Culture Division
- City of Toronto Planning - South District (West Don Lands)
- City of Toronto Planning - South District (East Bayfront & Port Lands)
- City of Toronto Planning - Urban Design
- City of Toronto - Traffic Operations (Toronto and East York)
- GO Transit
- Ontario Ministry of Municipal Affairs and Housing
- Ontario Ministry of Public Infrastructure and Renewal
- Ontario Ministry of the Environment
- Ontario Ministry of Transportation
- Ontario Realty Corporation
- Ontario Secretariat for Aboriginal Affairs
- Toronto Economic Development Corporation
- Toronto Port Authority
- Toronto and Region Conservation Authority
- Toronto Terminal Railways

Appendix D: TECHNICAL ADVISORY COMMITTEE MEETING NOTES

Meeting: TAC Meeting No. 1

Project: TTC-TWRC Waterfront Transit Environmental Assessments

Date: March 21, 2006

Time: 3:00 to 5:00 p.m.

Location: Room 302, Metro Hall, 55 John Street, Toronto

Attendees:

TAC Members:
Terry Bruining, City of Toronto Fire Services
Bob Leek, City of Toronto Fire Services
Kathryn Thom, City of Toronto Planning – South District
Eric Pederson, City of Toronto Planning – Urban Design
Dan Francey, GO Transit
Ken Lundy, Toronto Port Authority
Adele Freeman, Toronto Region Conservation Authority
Jacqueline White, City of Toronto Transportation
David Dignard, City of Toronto Transportation
Hon Lun, TEDCO

Project Team:
Bill Dawson, Toronto Transit Commission
Dennis Callan, P.Eng., McCormick Rankin Corporation
Mike Bricks, Ecoplans Limited
Pino DiMascio, Urban Strategies Inc.
John Kelly, City of Toronto Transportation
Tim Laspa, City of Toronto Planning
Kristy Findlay, Toronto Waterfront Revitalization Corporation

Facilitator:
Dave Hardy, Hardy Stevenson and Associates Limited

Notes:
Sari Liem, Hardy Stevenson and Associates Limited

Distribution:

Regrets
William Stewart, City of Toronto Fire Services
David Smith, Ontario Realty Corporation

Copied:
Michael Mizzi, City of Toronto Planning, South District
Angus Cranston, City of Toronto Planning, South District
Gwen McIntosh, City of Toronto Planning, South District
Sherry Pederson, City of Toronto Planning, Culture Division
John Mackenzie, Ontario Realty Corporation

Anton Pojasok, Ontario Realty Corporation
Michelle Moretti, Ministry of Municipal Affairs and Housing
Bruce Singbush, Ministry of Municipal Affairs and Housing
Ernie Hartt, Ministry of the Environment
Erick Advokaat, Canadian Environmental Assessment Agency

Item	ToR	EA	Design	Comment Noted

1. Introductions

Bill Dawson welcomed participants to the first Technical Advisory Committee meeting, and introduced the project team and any other City staff present.

Committee members introduced themselves.

Bill Dawson provided a brief statement of the purpose of the project and meeting and informed committee members that the Waterfront Transit Environmental Assessments is a joint exercise between the Toronto Transit Commission (TTC), the City of Toronto, and the Toronto Waterfront Revitalization Corporation (TWRC).

2. Present Terms of Reference for Technical Advisory Committee (TAC)

Dave Hardy introduced himself as meeting facilitator and introduced Sari Liem, who will be taking notes of the meeting. Dave presented the draft Terms of Reference for the TAC and encouraged committee members to provide comments. Dave Hardy asked if committee members have any questions about the Terms of Reference or the mandate of the TAC.

No questions or comments were received.

3. Presentation of Individual EA Process (Terms of Reference Stage and Individual EA Stage)

Mike Bricks provided an overview of the Ontario EA Act and Individual EA process. He also described the Terms of Reference stage and the Individual EA stage of the Environmental Assessment.

Dave asked TAC members if they have any questions or comments regarding the Individual

EA process or the Terms of Reference stage.

No questions or comments were received.

4. Presentation of Elements of the Draft Terms of Reference for Port Lands, West Don Lands and East Bayfront Individual Environmental Assessment process

Dennis Callan presented the preliminary schedule of the Terms of Reference and Individual Environmental Assessments.

Dave asked TAC members if they have any questions or comments regarding the schedule.

- A representative from the TRCA commented that this is an aggressive schedule and asked whether it is feasible. Dennis Callan responded that the schedule is feasible and is important to maintain in order to start the Environmental Assessments in the fall. **X**

Dennis Callan informed TAC members about other adjacent studies, including the East of Parliament Precinct Plan and Road EA, Mouth of the Don EA, and the Central Waterfront Esplanade Boulevard Design Competition. Dennis also presented the purpose statement, project justification, need and opportunity.

Dave Hardy asked TAC members if they have any questions or recommendations for revising the purpose statement, need and opportunity.

- A representative from the Toronto Port Authority asked if the population projection presented includes existing population. Dennis noted that they did not; however, given the lack of existing residential in the areas this was not anticipated to affect the overall demand. **X**

Dennis Callan presented the study areas, through the use of display board maps and aerial photographs.

Dave Hardy asked TAC members to comment if the proposed study areas address the issues described in the proposed problem statement, or if the boundaries need to be modified to ensure that certain parts of the natural and social environment are examined.

- A representative from the TRCA stated that the three different study areas overlap other EA's occurring near the Keating Channel and Mouth of the Don EA. Pino DiMascio added that TWRC and the City are initiating separate environmental assessment to extend Queens Quay from Parliament Street to Cherry Street. Bill Dawson explained that staging will be challenging and will take careful integration. **X**
- A representative from the TRCA stated that it is important to present a map to the public that illustrates where the three EAs overlap and to illustrate how it will be addressed. Pino DiMascio responded that the project team will clarify the three EAs. Bill Dawson added that the project team will present a map that clearly illustrates the overlap and include a slide to address integration and timing at the first public meeting. **X**
- A representative from the City of Toronto Fire Services commented that there is a small area that has not been included in the three study areas. Dennis Callan responded that the map in the PowerPoint presentation is a rough illustration and the area includes park land and the flood plain. However, the project team will revise the map to include the area as part of the study area. **X**
- A representative from the City of Toronto Fire Services asked if the bus ramp is part of the study area. Bill Dawson responded that it is not.

Dennis Callan presented potential service types, potential routes, and proposed alternatives to be studied for East Bayfront and the Queens Quay.

Dave Hardy asked committee members to provide comments and asked if there are other issues that should be examined.

- A representative from GO Transit asked who will be undertaking the urban design. Dennis

Callan responded that Du Toit, Allsopp, Hillier will be undertaking the urban design. **X**

- A representative from GO Transit asked the project team to identify the level of detail that will be presented in the design. Dennis Callan responded that a functional design plan will be developed. **X**

Dennis Callan presented potential service types, potential routes, and proposed alternatives to be studied for West Don Lands.

Dave Hardy asked committee members to provide comments and asked if there are other issues that should be examined.

- A planner from the City of Toronto commented that the City is reviewing the subdivision application and will protect for the maximum right-of-way identified in the Master Plan given it is currently not know whether transit services will be introduced along Front Street. **X**
- A planner from the City of Toronto asked if there are maintenance or storage facilities in the area. Bill Dawson replied that there will likely be a need for a streetcar maintenance facility in the Port Lands. He added that this will be part of a broader TTC plan and a separate EA study will be undertaken for the maintenance facility. **X**

Dennis Callan presented potential service types, potential routes, and proposed alternatives to be studied for Port Lands.

Dave Hardy asked committee members to provide comments and asked if there are other issues that should be examined.

- A representative from the TRCA asked what will happen if Expo 2015 is approved and how that will affect the study. Bill Dawson replied that the project team is aware of the Expo 2015 bid and monitors the process. He added that the bid maintains the use of the LRT on the Queensway and an additional corridor in Port Lands. Dennis Callan added that the bid may accelerate the study. **X**

5. Schedule of Upcoming Meetings

Dennis Callan asked TAC members whether they would like another meeting in May or receive materials for review. Dennis added that the project team will offer to meet with TAC members individually between now and May.

- City of Toronto - Planning preferred to receive materials and provide comments. **X**

Dave informed TAC members that project documentation, meeting minutes, and workshop materials will be posted on the TWRC's website.

6. Other

Dave asked if TAC members have other comments or suggestions for the ToR.

- A representative from the Toronto Port Authority asked when construction is expected to commence. Bill Dawson replied that following approval, design and construction will proceed quickly. Construction can be completed in 2008 in West Don Lands in 2011 in East Bayfront. **X**

7. Adjourn

Bill Dawson closed the meeting and thanked participants for attending the first TAC meeting.

Appendix E

Notice of Commencement / Public Workshop #1

TORONTO WATERFRONT
REVITALIZATION CORPORATION

Toronto Transit Commission

Notice of Commencement

TTC-TWRC Waterfront Transit Environmental Assessments

The Toronto Transit Commission (TTC), under the auspices of the Toronto Waterfront Revitalization Corporation (TWRC), has initiated an Environmental Assessment of proposed transit services for the Port Lands, West Don Lands and East Bayfront development areas. The process to select preferred designs and implementation plans for the three transit projects falls under the requirements of an individual Environmental Assessment. The TTC will be completing a single, combined Terms of Reference (ToR) for the three Environmental Assessment projects and then, following Ministry of the Environment approval of the ToR, complete two separate Environmental Assessment studies for the West Don Lands and the East Bayfront transit projects.

A single, combined ToR is being developed because a network of transit services will be required to inter-connect the three communities and many of the issues related to the development of a ToR are common to the three communities. This approach will also allow members of the public to provide input to the ToR through a common consultation process. The proposed approach will ensure that area-wide planning issues are adequately addressed both in the development of the ToR, and in each individual Environmental Assessments.

Public and regulatory agency consultations are key elements of Terms of Reference development and the Individual Environmental Assessment process. Public comments are welcome at anytime during the development of the ToR. An initial set of (2) Public Workshops will be held in the spring of 2006 to receive comments on the problem definition, need, study area, service area, projected routes, service type, proposed alternatives, technical studies to be conducted, and proposed public consultation plan for Individual EAs.

The first workshop will be held on

Wednesday April 5th, 6:30 pm-9:00 pm
St. Lawrence Great Hall
157 King Street East

Advance notice of the Workshops will be published in local newspapers within the City of Toronto. Before the completion of the planning process, a draft Terms of Reference report will be made available for public review at local municipal buildings and on line. The individual EAs will proceed once the Ministry of the Environment approves the Terms of Reference.
As part of the consultation process, a mailing list for those parties who are interested in receiving further information on this study is currently being compiled. If you wish to receive information, become involved in the study, or submit comment, please contact either of the following:

Kristy Findlay
Public Affairs Department
Toronto Waterfront Revitalization Corporation
transit@towaterfront.ca
416-214-1344 ext. 248

STUDY AREA

3480844A

Appendix F

Notice of Public Workshop #2

TORONTO WATERFRONT
REVITALIZATION CORPORATION

Toronto Transit Commission

Notice of Public Workshop

The Toronto Transit Commission (TTC), under the auspices of the Toronto Waterfront Revitalization Corporation (TWRC), invites the public to attend a second workshop for the Terms of Reference (ToR) Phase of the TTC-TWRC Waterfront Transit Environmental Assessments. The purpose of this study is to identify the proposed transit services required to support development of the Port Lands, West Don Lands and East Bayfront. The workshop will be held on Tuesday June 6th, from 7:00 pm to 9:00 pm at the Novotel Hotel in Toronto.

TTC-TWRC Waterfront Transit Environmental Assessments
Second Public Workshop
June 6, 2006
7:00 pm to 9:00 pm
Novotel Hotel, Champagne Ballroom
45 The Esplanade, Toronto, Ontario

The process to select preferred designs and implementation plans for the three transit projects (Port Lands, West Don Lands and East Bayfront) falls under the requirements of an Individual Environmental Assessment. The TTC is completing a single, combined ToR for the three Environmental Assessment studies. Following Ministry of the Environment approval of the ToR, two separate Environmental Assessment studies will be initiated for the West Don Lands and the East Bayfront transit projects. The Environmental Assessment Study for the Port Lands will be initiated at some point in the future when land use planning for the Port Lands have advanced to a sufficient level of detail.

The ToR outlines the framework for undertaking an Environmental Assessment study and essentially asks two important questions. One, "what should be studied during the Environmental Assessment?"; and two, "how should the public be consulted during the Environmental Assessment?" The completion of the ToR stage will result in the approval of a framework to carry out the Environmental Assessment Studies.

As part of the consultation process, a mailing list for those parties who are interested in receiving further information on this study is being compiled. If you wish to receive information, become involved in the study, or have additional questions about the second Public Workshop, please see our Web page at www.towaterfront.ca and go to "Current Projects". You can also contact either of the following:

Bill Dawson Superintendent of Route and System Planning Service Planning Department Toronto Transit Commission transit@towaterfront.ca 416-393-4490	Kristin Jenkins Vice President, Public Affairs Toronto Waterfront Revitalization Corporation transit@towaterfront.ca 416-214-1344

PA119MAY

Appendix G

Public Workshop Materials

TORONTO WATERFRONT
REVITALIZATION CORPORATION

Toronto Transit Commission

TTC-TWRC Waterfront Transit Environmental Assessments
Public Forum #1
Terms of Reference Study Guide

April 5, 2006

What's Inside…

- EA Project Description
- Study Area Map
- Presentation Slides
- FAQ Sheet

TTC-TWRC Waterfront Transit Environmental Assessments EA Project Description

The Toronto Transit Commission (TTC), under the auspices of the Toronto Waterfront Revitalization Corporation (TWRC), has initiated an Environmental Assessment of proposed transit services for the East Bayfront, West Don Lands and Port Lands development areas. The process to select preferred designs and implementation plans for the three transit projects falls under the requirements of an Individual Environmental Assessment. The TTC will be completing a single, combined Terms of Reference (ToR) for the three Environmental Assessment projects and then, following Ministry of the Environment approval of the ToR, complete two separate Environmental Assessment studies for the West Don Lands and the East Bayfront transit projects.

A single, combined ToR is being developed because a network of transit services will be required to inter-connect the three communities and many of the issues related to the development of a ToR are common to the three communities. This approach will also allow members of the public to provide input to the ToR through a common consultation process. The proposed approach will ensure that area-wide planning issues are adequately addressed both in the development of the ToR, and in each individual Environmental Assessment.


BAY STREET
YONGE STREET
JARVIS STREET
SHERBOURNE STREET
PARLIAMENT STREET
BAYVIEW AVENUE
BROADVIEW AVENUE
CARLAW AVENUE
501
504
KING STREET
QUEEN STREET
EASTERN AVENUE
LAKESHORE BOULEVARD
CHERRY STREET
LESLIE STREET
QUEEN'S QUAY
VILLIERS STREET
COMMISSIONERS STREET
UNWIN AVENUE
NORTH
Key Connections with Existing Transit
Potential Transit Corridors
TTC Surface Route
TTC Subway
EA Study Areas

TTC - TWRC
Waterfront Transit Environmental Assessments

Public Workshop
#1
St. Lawrence Great Hall
April 5, 2006

Purpose of this Evening's Meeting

- Introduce Ourselves
- Provide an Overview of the Background to the Studies
- Explain the EA Process
- Introduce the ToR and EA Studies
- Solicit Your Early Opinions on Area and Study Issues

AGENDA

6:15 - 6:30 p.m.	**Registration**
6:30 -6:45 p.m.	**Welcome and Agenda Review** Dave Hardy, Hardy Stevenson and Associates Limited *"Introduction, Study Guide and Workbook"* Kristin Jenkins, Toronto Waterfront Revitalization Corporation Bill Dawson, Toronto Transit Commission *"Welcome"*
6:45 -7:15 p.m.	**Presentations** Bill Dawson, Toronto Transit Commission *"Background to Transit Planning in the Central Waterfront"* Mike Bricks, Ecoplans Limited *"Individual EA Process (Terms of Reference Stage and Individual EA Stage)"* Dennis Callan, McCormick Rankin Corporation *"Proposed Study Areas and Issues for East Bayfront, West Don Lands, and Port Lands Individual Environmental Assessments"* Questions
7:15 - 8:45 p.m.	**Discussion Groups** Participants will be given time to go through questions about the Terms of Reference in the workbooks. At your tables, please discuss your responses and consolidate common themes and unique or creative ideas on the flip charts provided.
8:45 – 9:00 p.m.	**Summary of Discussions** Dave Hardy, Hardy Stevenson and Associates Limited **Next Steps and Closing Remarks** Bill Dawson, Toronto Transit Commission

Workshop Materials

Workbook

- Agenda
- Worksheets
- Comment Form

Tonight we are looking for your advice on 6 questions in the workbook. Please feel free to follow along and write your response during the presentation.

Your comments on the comment form and workbook will become part of the public record. Workbooks may be handed in at end of session or mailed to TWRC.

Workshop Materials

Study Guide

- Description of the TTC-TWRC Waterfront Transit EAs
- Map of the study areas
- Presentation Slides

Map of study areas on each table

Ground Rules

Tonight we are discussing what should be studied in the future Individual EAs. We are not doing these studies. We are preparing a Terms of Reference for the studies.

- You are encouraged to ask questions of clarification during the presentation
- There are no stupid questions
- Cell phones off
- One person to speak at a time
- Jargon
- Have fun!

Waterfront Transit EAs

History of Project

- Transportation Planning part of broader planning process
- Central Waterfront Secondary Plan – March 2003
  - Land Use, Parks, Servicing
  - Auto, Cycling, Pedestrians and Transit Plans
- “Transit First” – Council approval June 2004
- West Don Precinct Plan/Master Plan – March 2005
- East Bayfront Precinct Plan/Master Plan – January 2006

Secondary Plan - Forecast TTC Ridership

- 32,000 units, 60% non-auto mode split:
  - comparable to highest existing non-subway locations
  - St. Lawrence, Harbourfront, Cabbagetown
  - 75,000 daily, 22M annual TTC trips
  - comparable to two 510 Spadina streetcars
- need to have transit “excellence”
  - attractive enough to achieve non-auto assumptions
  - higher quality/capacity than current surface services
  - focus on reliability and convenient access

Secondary Plan – Transit Capacity Analysis

- full development requires exclusive streetcar rights-of-way and increased transit priority
  - Queens Quay E, Cherry St. and Commissioners St.
- need to establish the non-auto travel patterns right from the start (“transit first”)
- subway platform expansion required at Union

Approved Secondary Plan - TRANSIT

Why Streetcars in Secondary Plan?

- cost-effective in high-demand corridors
  - two-car streetcar has 3X capacity of a 40’ bus
- passengers like streetcars -> higher mode split
- electric vehicles – no local emissions
- permanence is attractive for developers/tenants
- good use of available infrastructure/fleet
  - TTC already has streetcar infrastructure
- extremely difficult to provide high-capacity bus service to Union Station

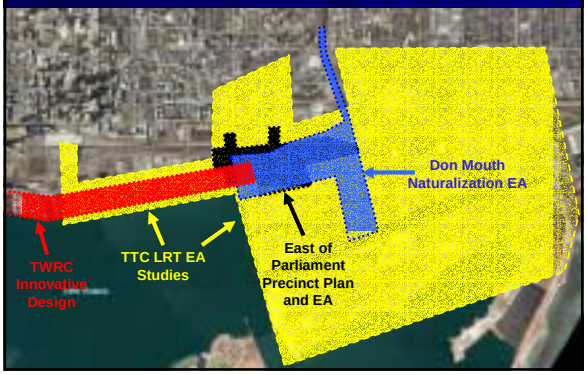
Why "Transit First"?

- need to establish non-auto travel patterns at the outset
  - City and TWRC's transportation and environmental objectives
- transit investment a catalyst to redevelopment
  - London Docklands, Woolwich Arsenal
  - Portland Oregon - South Waterfront Plan

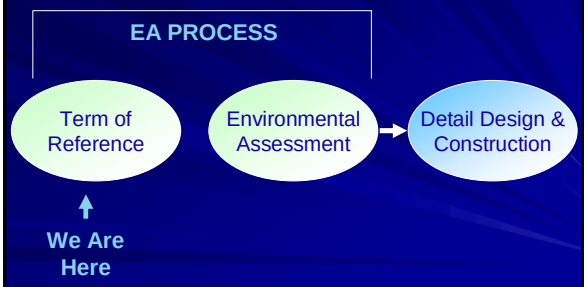
Background to Transit EA's

- Precinct Plans and EA Master Plans protect for transit ROW's
- Previous assumptions will be revisited in the Transit EA
  - update forecasts and assessments
  - more detailed review of alternatives
- Will address recent Council direction (East Bayfront, January, 2006)
  - "Transit EA to revisit whether smaller rights-of-way are technically feasible or desirable"

Concurrent Studies



Ontario Individual EA Process



Requirements of Ontario EA Act

- Problem Statement - Purpose and Rationale for the Undertaking
- Planning Alternatives - Evaluation of Alternatives to the Undertaking
- Design Alternatives - Evaluation of Alternative Methods of carrying out the undertaking
- Environment that will be affected
- Measure to reduce impacts – mitigation measures
- Consultation undertaken

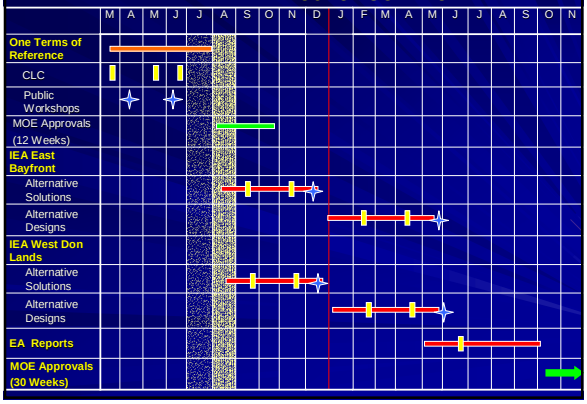
What is a Terms of Reference ?

- First step in EA Process
- Outlines framework for conducting the EA
- Must be approved by the Ontario Minister of the Environment
- Provides the opportunity to focus on the more reasonable alternatives

What is included in a ToR ?

- Problems Statement - Purpose of the studies
- Description of the study area
- Range and Types of Alternatives to be considered
- Stakeholder consultation to be undertaken
- General work plan outlining the process to generate and evaluate alternatives
- Stakeholder consultation undertaken to prepare ToR

PRELIMINARY PROJECT SCHEDULE



Waterfront Redevelopment

- Based on Secondary and Precinct Plans
- Servicing Master Plans
- Long Term Waterfront Development
  - 86,000 residential
  - 72,000 employment
- Road capacity is limited
- Main transportation demand to be accommodated by transit
- “Transit First” policy

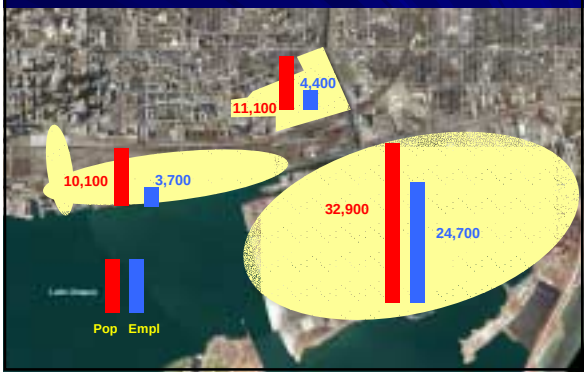
"Transit First"

- Transit first approach
- Transit within 5 minute walk of all residences
- Transit linking East Bayfront, West Don Lands and Port Lands to rest of city

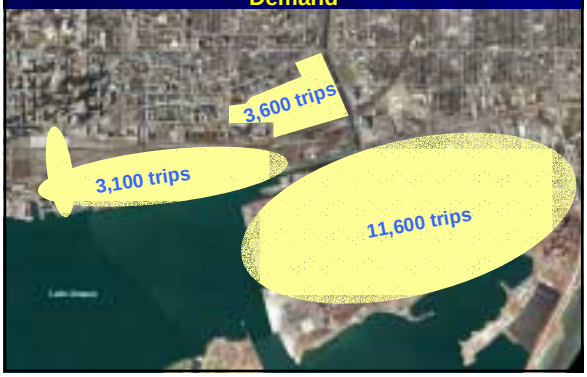
Purpose of these Environmental Assessment Studies

- To determine the transit facilities appropriate to serve the long term residential, employment, tourism and waterfront access needs of the study area while achieving the City's and TWRC's objectives for land use, design and environmental excellence.
- One Terms of Reference will outline 3 EA studies
- East Bayfront and West Don Lands transit EAs to proceed immediately
- Port Lands Transit EA to proceed later

Long Range (2030) Population & Employment



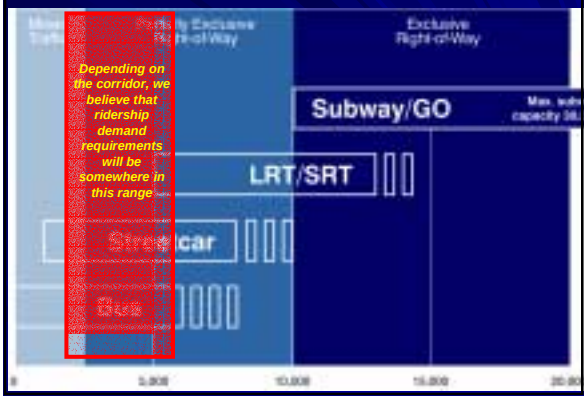
Long Range (2030) Peak Period Transit Demand



Overall Study Area

Suggested EA Study Areas

Technology Considerations



Harbourfront Streetcar in Own ROW

Houston LRT

Toronto Streetcar

Toronto Buses

Vancouver
Exclusive Bus Lanes

East Bayfront - Built Form and Massing

East Bayfront – Key Elements

- 55 acres
- Continuous water's edge promenade
- Well defined public realm - 20% of precinct
- Year round destinations
- Low-scale development at water's edge
- Non-residential uses at grade
- 1,260 affordable rental units
- 4,040 market units
- Strong commercial/cultural sector - 2-million sq ft

Queens Quay

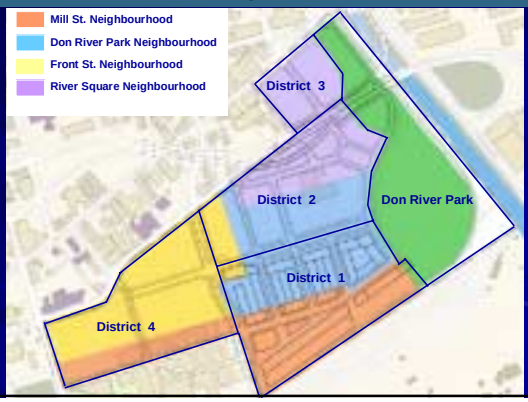
- Urban boulevard
- East Bayfront's "main street"
- Retail focus
- Pedestrian friendly
- Generous streetscaping
- Cycling lanes
- Dedicated LRT route

East Bayfront Transit EA

- From Union Station south and east to Cherry Street
- Corridor
  - Queen's Quay
- Technology
  - Probably Streetcar to accommodate the higher ridership demand
- Design Issues
  - Location of Streetcar line within road allowance
  - Location of underground entrance (portal)
  - Location of Redpath railway spur
  - Connection to Cherry and Port Lands
  - Right-of way design as per Council direction
  - Stop Locations
  - Streetscaping and public realm design
  - Configuration of underground loop

West Don Lands

West Don Lands Neighbourhoods



West Don Lands – Key Elements

- 23-acres of parks and public spaces
- 6,000 residential housing units, 1,200 affordable
- One million sq ft commercial
- School
- Recreation and childcare centres
- Public transit < five minute walk
- Bikeways, pedestrian connections
- Flood protection

West Don Lands Transit EA

- From Queen's Quay to King Street
- Corridor Alternatives
  - Cherry Street or
  - Cherry/Front Parliament Corridors
- Technology Alternatives
  - Bus or Streetcar
- Design Issues
  - Mixed traffic or exclusive right-of-way
  - Location of facility within right-of-way
  - Right-of way design
  - Stop locations
  - Connection to Queen's Quay and Port Lands
  - Streetscaping

Port Lands Revitalization

Port Lands Precincts and Phasing

Port Lands Transit EA

- Will consider all transit requirements in the Port Lands
- Possible connections north to Cherry, Broadview and Leslie
- Could be LRT or bus or both

- Waiting on various studies
  - Port Lands Implementation Study
  - Mouth of Don
  - Precinct plans and EA studies

- Actual Port Lands Transit EA will be at a later date

Workbook Questions and Small Group Discussions

Question 1

Is the purpose of the study clearly defined? What wording should be clarified?

"To determine the transit facilities appropriate to serve the long term residential, employment, tourism and waterfront access needs of the study area while achieving the City's and TWRC's objectives for land use, design and environmental excellence."

Question 2

Are the proposed study areas adequate to address the issues described in the proposed problem statement? Should the boundaries be modified, and why?

You may refer to the map on the table. There is also a full size map of the study areas in the study guide.

Question 3

a) **How can the study team best ensure meaningful and effective public consultation?**

b) **Do you have suggestions to improve the public consultation process presented?**

Question 4

East Bayfront Transit EA

a) Corridor Alternatives: Is Queens Quay the appropriate corridor to focus on?
b) Technology Alternatives: Is Streetcar the appropriate technology?
c) Design Issues: What other design issues should be considered?

Question 5

West Don Lands Transit EA

a) Corridor Alternatives: Are the suggested corridors (Cherry and Cherry/ Front/ Parliament) the appropriate corridors to study? Others?
b) Technology Alternatives: Bus and Streetcar alternatives will be studied. Comments?
c) Design Issues: What other design issues should be considered?

Question 6

Port Lands Transit EA

a) Corridor Alternatives: Should corridors be added or removed from the map?
b) Technology Alternatives: Both bus and streetcar alternatives will be considered. Any comments?
c) Design Issues: What design issues should be considered?

Breakout Discussion Groups

Small group discussions at your table:

- First, spend a few minutes to write your own response to the questions in your workbook.
- Refer to your study guide and map.
- Second, within your small group, choose a scribe and a facilitator

Breakout Discussion Groups

- Third, for each question, the facilitator asks for a response from each individual and identifies comments or ideas that at least 50% of the group commented on. Record these as "common themes" on your flipchart.
- Fourth, for each question, identify comments that are, not so common…but are creative or point to issues that need to be studied. Record these comments as "keepers" on your flipchart.

Sample Flip Chart

Question # 1 - Purpose

- Common Themes
- Keeper Ideas

Sample Flip Chart

Question # 2 – Study Area

- Common Themes
- Keeper Ideas

Breakout Discussion Groups

- Project team members are available for assistance
- In the report out, be prepared to share your group comments with the larger group
- Collect the workbooks and flip charts and hand them in.

Summary of Discussions

Common Themes

Keepers - Unique and Creative Ideas

Next Public Workshop

- Early June (Date to be established)– Draft ToR to be available
- Comments will then be incorporated as appropriate
- Draft ToR will be sent to TTC, TWRC and Toronto Council in July for approval to forward to MOE

Submit Workbooks

Hand in your workbooks to a project team member

Or

Mail or fax your workbook and/or comment form by Monday April 10 to:
Kristy Findlay
Public Affairs Department
Toronto Waterfront Revitalization Corporation
207 Queens Quay West, Suite 822
Toronto, ON
M5J 1A7
Phone: 416-214-1344 ext.248
Fax: 416-214-4591
Email: transit@towaterfront.ca

Thank You

Frequently Asked Questions (FAQs)

What is an Environmental Assessment?

Environmental Assessment or EA is a decision-making process used to promote good environmental planning by assessing early the potential impacts of certain activities on the environment. An environmental impact is anything that would cause a change to an existing area. For example, a new roadway might reduce natural foliage, breach a wetland or displace indigenous animals, including endangered species. In Ontario, this process is defined and finds its authority in the Environmental Assessment Act (EAA). The purpose of the EAA is to provide for the protection, conservation and wise management of Ontario's environment.

"Environment" is defined as 'the social, economic and cultural conditions that influence the life of man or a community'.

To achieve this, the EAA ensures that environmental problems or opportunities are considered and their effects are planned for before development or construction takes place. One of two processes— Individual Environmental Assessments or Class Environmental Assessments— must be undertaken to ensure the requirements of the EAA are met.

What is the Terms of Reference for an Environmental Assessment?

One of the features of the Ontario Environmental Assessment Act is the requirement for the preparation, submission and approval of a Terms of Reference prior to completion of an Environmental Assessment (EA). As part of the formal submission and approval process, the Terms of Reference is submitted to the Ministry of the Environment (MOE) for public and government agency comment and review. Once approved by the Minister of the Environment, the Terms of Reference sets out a framework that will guide the preparation of the EA. The approval of the Terms of Reference is the first statutory decision made by the Minister of the Environment in the EA planning and approval process.

The Terms of Reference essentially asks two important questions. One, "what should be studied by the Environmental Assessment?"; and two, "how should the public be consulted during the Environmental Assessment?" The completion of this first stage of the Environmental Assessment will result in the approval of a plan to carry out the study.

What is this Environmental Assessment generally all about?

This Environmental Assessment was established to determine the appropriate transit infrastructure to serve the City of Toronto's waterfront, specifically the East Bayfront, West Don Lands and Port Lands communities. The process to select preferred conceptual designs and implementation plans for the transit projects within the three communities falls under the requirements of an Individual Environmental Assessment.

Will there be one Terms of Reference or Three Terms of Reference for the Three Individual EA Studies?

A single Terms of Reference document will be completed which will include proposed work plans for three separate Environmental Assessment studies for East Bayfront, West Don Lands and the Port Lands. This process is being followed because: (a) the study background is similar for all three studies; (b) the three communities will be linked in a common transit network; and (c) members of the public will be similar for all three Environmental Assessments.

The proposed approach will ensure that area-wide planning issues are adequately addressed both in the development of the ToR, and in each individual Environmental Assessments.

Who initiated this Environmental Assessment?

The Toronto Transit Commission (TTC), under the auspices of the Toronto Waterfront Revitalization Corporation (TWRC), has commenced this Environmental Assessment and is considered the project's proponents.

What Led to the Commencement of this Environmental Assessment?

New transit is needed because of projected growth in the area. Preparations are being made to provide infrastructure to complement new waterfront development planned for the East Bayfront, West Don Lands and Port Lands communities.

The revitalization of the West Don Lands and East Bayfront Lands are approved through the City of Toronto's adoption of the Central Waterfront Secondary Plan. The City of Toronto outlined a Precinct Planning process to implement the Secondary Plan. The Precinct Plans were completed by the Toronto Waterfront Revitalization Corporation ("TWRC"). The Precinct Plans direct the preparation of zoning bylaws and provide guidelines for public infrastructure.

TTC-TWRC Waterfront Transit Environmental Assessments
Public Forum #1
Workbook

April 5, 2006

What's Inside…

- Meeting Agenda
- Worksheets
- Workshop Comment Form

TTC-TWRC Waterfront Transit
Public Meeting # 1

April 5, 2006 - 6:30 p.m. to 9:00 p.m
St. Lawrence Hall, Great Hall
157 King Street

AGENDA

6:15 - 6:30 p.m. **Registration**

6:30 -6:45 p.m. **Welcome and Agenda Review**

Dave Hardy, Hardy Stevenson and Associates Limited
"Introduction, Study Guide and Workbook"

Kristin Jenkins, Toronto Waterfront Revitalization Corporation
Bill Dawson, Toronto Transit Commission
"Welcome"

6:45 -7:15 p.m. **Presentations**

Bill Dawson, Toronto Transit Commission
"Background to Transit Planning in the Central Waterfront"

Mike Bricks, Ecoplans Limited
"Individual EA Process (Terms of Reference Stage and Individual EA Stage)"

Dennis Callan, McCormick Rankin Corporation
"Proposed Study Areas and Issues for East Bayfront, West Don Lands, and Port Lands Individual Environmental Assessments"

Questions

7:15 - 8:45 p.m. **Discussion Groups**

Participants will be given time to go through questions about the Terms of Reference in the workbooks. At your tables, please discuss your responses and consolidate common themes and unique or creative ideas on the flip charts provided.

8:45 – 9:00 p.m. **Summary of Discussions**
Dave Hardy, Hardy Stevenson and Associates Limited

Next Steps and Closing Remarks
Bill Dawson, Toronto Transit Commission

DISCUSSION WORKSHEETS

Question 1: Is the purpose of the study clearly defined? What wording should be clarified?

Purpose: "To determine the transit facilities appropriate to serve the long term residential, employment, tourism and waterfront access needs of the study area while achieving the City's and TWRC's objectives for land use, design and environmental excellence"

DISCUSSION WORKSHEETS

Question 2: <u>Are the proposed study areas adequate to address the issues described in the proposed problem statement? Should the boundaries be modified, and why?</u>

Refer to map on table

Question 3a: How can the study team best ensure meaningful and effective public consultation?

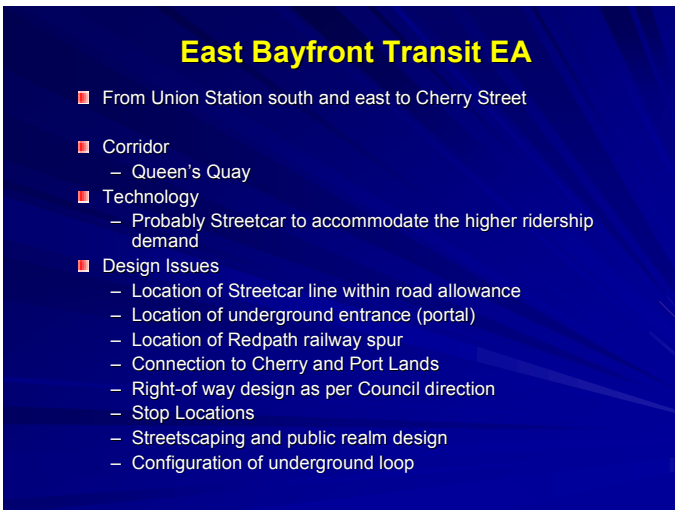
Question 3b: Do you have suggestions to improve the public consultation process presented?

Question 4: East Bayfront Transit EA

a) Corridor Alternatives: **Should the study focus on the Queens Quay corridor or are there other corridors that should be examined as well?**

b) Technology Alternatives: **Should the study focus on streetcars alone rather than assessing both bus and streetcar options?**

c) Design Issues: **What other design issues should be considered?**

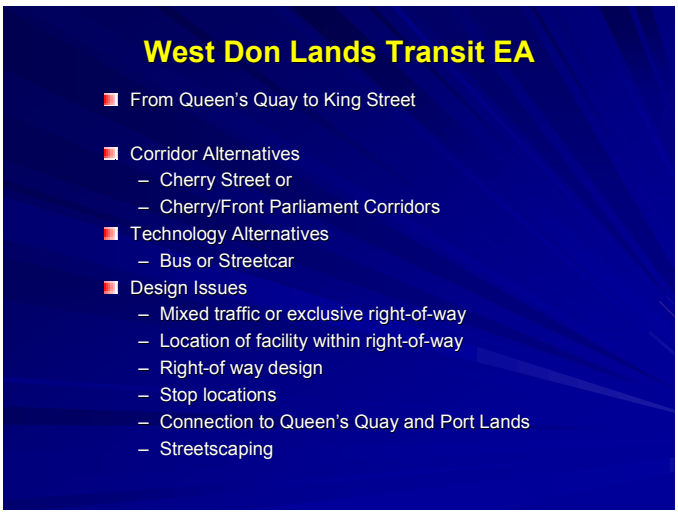


Question 5: West Don Lands Transit EA

a) Corridor Alternatives: Are the suggested corridors (Cherry and Cherry/ Front/ Parliament) the appropriate corridors to study? Others?

b) Technology Alternatives: Bus and Streetcar alternatives will be studied. Comments?

c) Design Issues: What other design issues should be considered?

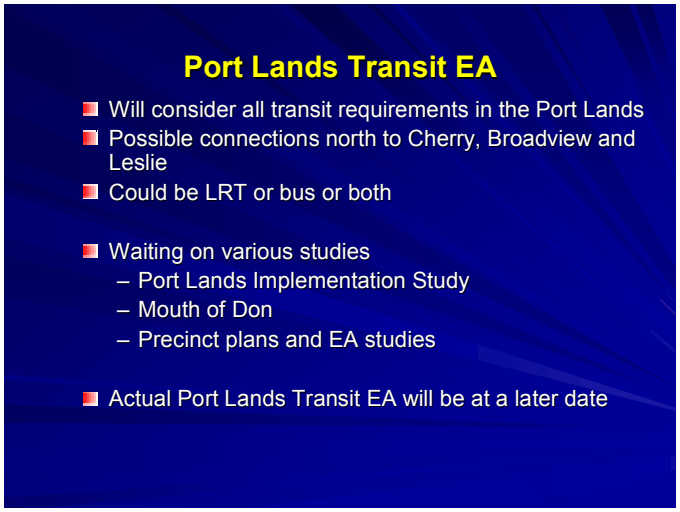


Question 6: Port Lands Transit EA

a) Corridor Alternatives: Should corridors be added or removed from the map?

b) Technology Alternatives: Both bus and streetcar alternatives will be considered. Any comments?

c) Design Issues: What other design issues should be considered?



Any Other Comments? Please use this space to record any additional comments.

COMMENT FORM

Over the course of the Workshop, I didn't get a chance to say:

Name:

Address:

e-Mail Address

Please note that all comments will become part of the public record. Your name and address will not be distributed or used for any other purposes.

Please mail or fax your workbook and/or comment form by Monday April 10th to:

Kristy Findlay
Public Affairs Department
Toronto Waterfront Revitalization Corporation
207 Queens Quay West, Suite 822
Toronto, ON
M5J 1A7
Phone: 416-214-1344 ext.248
Fax: 416-214-4591
Email: transit@towaterfront.ca

TORONTO WATERFRONT
REVITALIZATION CORPORATION

TTC-TWRC Waterfront Transit Environmental Assessments

Summary of Public Forum #1

April 2006

TTC-TWRC Waterfront Transit Environmental Assessments
Public Forum # 1

April 5, 2006 - 6:30 p.m. to 9:00 p.m
St. Lawrence Hall, Great Hall
157 King Street

1.0 TTC-TWRC Waterfront Transit Environmental Assessments EA Project Description

The Toronto Transit Commission (TTC), under the auspices of the Toronto Waterfront Revitalization Corporation (TWRC), has initiated an Environmental Assessment to identify the required transit infrastructure to support planned approved development in the East Bayfront, West Don Lands and Port Lands of Toronto's Waterfront The process to select preferred alternatives for the three transit areas require the completion of an Individual Environmental Assessment. The TTC will be completing a single, combined Terms of Reference (ToR) for the three Environmental Assessment projects and then, following Ministry of the Environment approval of the ToR, complete two separate Environmental Assessment studies for the West Don Lands and the East Bayfront transit projects. An Environmental Assessment for Port Lands will be undertaken at a later date.

Transit in the three precincts will be interconnected, supporting a system that will link the downtown core, the subway system and the GO commuter rail system. Given that the problem statement, network considerations and planning process will be similar for the three IEAs, a single EA Terms of Reference (ToR) is being prepared to govern the preparation of each IEA. The ToR will allow the IEAs to be completed on their own timetables, which are tied to the anticipated growth of the various precincts. This approach will also allow members of the public to provide input to

the ToR through a common consultation process. The proposed approach will ensure that area-wide planning issues are effectively addressed both in the development of the ToR, and in each individual Environmental Assessment.

2.0 Purpose of the Workshop

This workshop was the first of two public forums to assist in the development of the Terms of Reference. The purpose of this session was to:

- Introduce the project team undertaking the EA studies;
- provide an overview of the background to the EA studies;
- explain the EA process;
- introduce the Terms of Reference and EA studies; and
- invite participants to share ideas on purpose statement, study area, proposed consultation activities, potential service types, potential routes and proposed alternatives to be studied for West Don Lands, East Bayfront, and Port Lands.

A Notice of the workshop was advertised as part of the Notice of Commencement in the *Toronto Star* and in *The Bulletin*. An invitation to the workshop was also distributed to over 3,000 individuals and organizations in the TWRC's contact list. Approximately 60 people participated in the workshop.

3.0 Project Team Members in Attendance

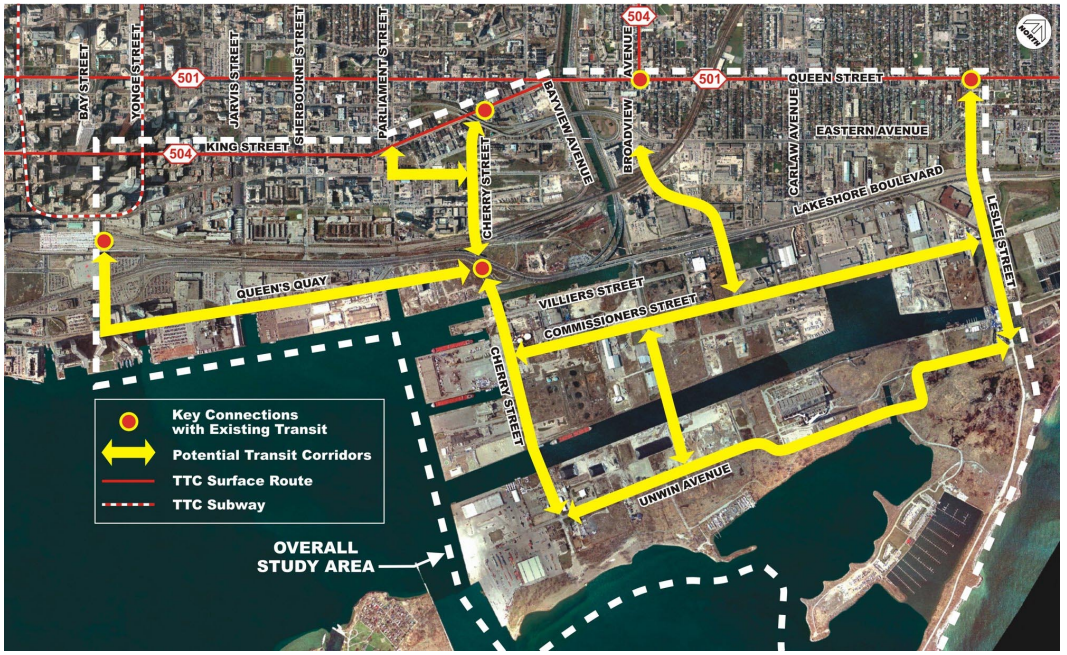
Representatives from the TWRC, TTC, City of Toronto, and consultant's team attended the workshop. Table 3.1 indicates the members of the project team who were in attendance at the workshop.

Table 3.1 Project Team Members in Attendance of April 5th Workshop

TTC	TWRC	City of Toronto	Consultants Team
Bill Dawson Superintendent – Route and System Planning	Kristin Jenkins Vice President, Public Affairs	Tim Laspa Program Manager Transportation Planning	Dennis Callan, P. Eng Principal McCormick Rankin Corporation
	Kristy Findlay Public Affairs	John Kelly Manager Infrastructure Planning Transportation Services	Mike Bricks Senior Environmental Planner Ecoplans Limited
			Scott Thorburn Manager URS Canada Inc.
			Alun Lloyd Senior Associate BA Consulting

4.0 Information Presented

A map illustrating the proposed EA study areas was presented on display boards for participants to view. Participants were also provided with a Terms of Reference Study Guide and a Workbook (see Appendix A). The Workbook included the workshop agenda, a comment form, and worksheets with six questions for participants to consider. The Study Guide, a companion to the Workbook, included a project description of the EAs, a map of the proposed study areas, presentation slides, and Frequently Asked Questions.



Participants were provided the option to discuss the questions in an interactive manner over the course of the evening and submit completed workbooks at the end of the session, or mail/fax the workbook to TWRC by the following week. Among the sixty participants who attended the workshop, 32 participants returned a completed workbook with their comments at the end of the session. To date, no workbooks have been returned via mail.

5.0 Presentations

Dave Hardy, Hardy Stevenson and Associates Limited
"Introduction, Study Guide and Workbook"

Dave Hardy, Principal of Hardy Stevenson and Associates Limited, introduced himself as facilitator and informed participants of the purpose of the evening's workshop. He outlined the agenda for the evening's session and introduced participants to the Study Guide and Workbook.

Kristin Jenkins, Toronto Waterfront Revitalization Corporation
"Welcome"

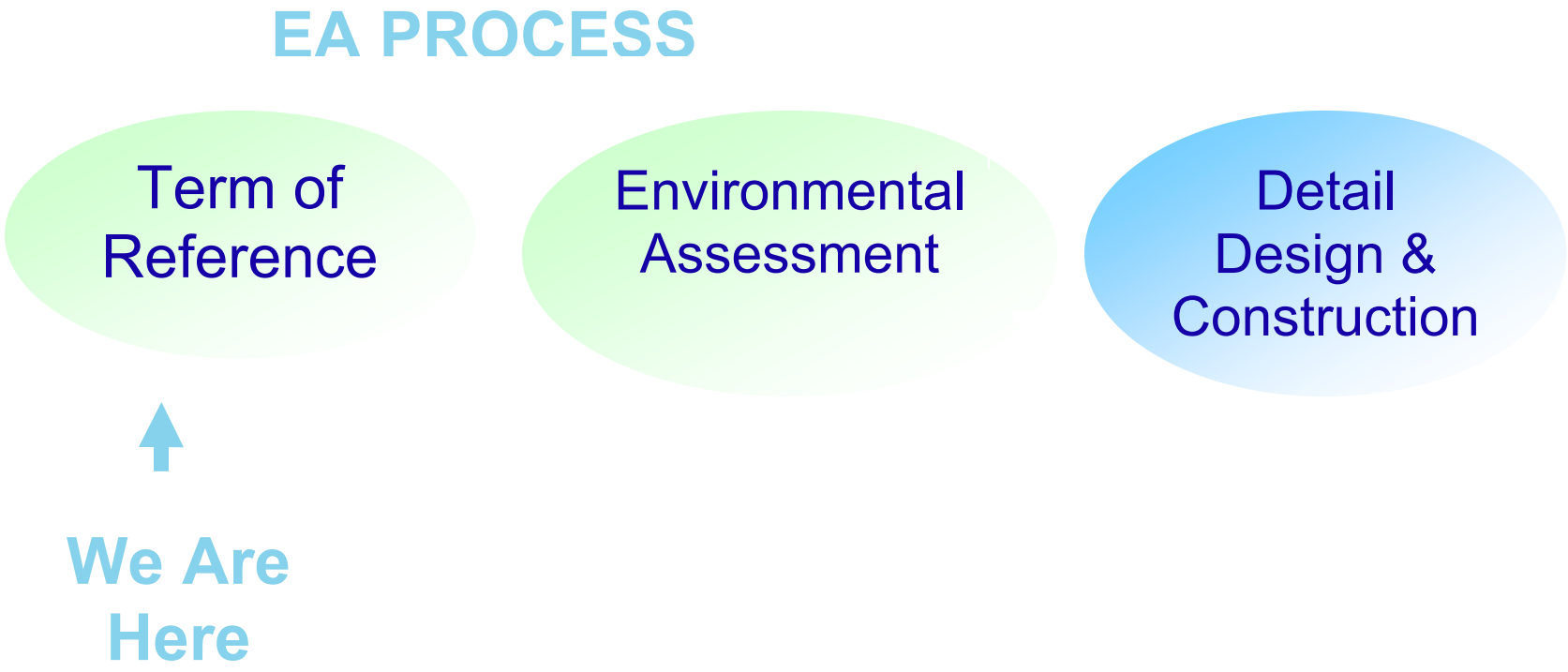
Kristin Jenkins, Vice President of Public Affairs of the TWRC, welcomed participants to the workshop. She noted that the Toronto Waterfront Revitalization Corporation is in support of the initiative led by TTC.

Bill Dawson, Toronto Transit Commission
"Background to Transit Planning in the Central Waterfront"

Bill Dawson welcomed participants and presented an overview of the history of the project, including the Central Waterfront Secondary Plan, the City's "Transit First" initiative, and the West Don Lands and East Bayfront Precinct Plan/Master Plans. He also informed participants about other concurrent studies in the study area, including the Don Mouth Naturalization EA, East of Parliament Precinct Plan and EA, and the TWRC Innovative Design competition.

Mike Bricks, Ecoplans Limited
"Individual EA Process (Terms of Reference Stage and Individual EA Stage)"

Mike Bricks provided an overview of the Ontario EA Act and Individual EA Process. He also described the Terms of Reference stage and the Individual EA stage of the Environmental Assessment.



Dennis Callan, McCormick Rankin Corporation
"Proposed Study Areas and Issues for East Bayfront, West Don Lands, and Port Lands Individual Environmental Assessments"

Dennis Callan presented the preliminary schedule for preparing the Terms of Reference and completing the Individual Environmental Assessments. He stated that the purpose of the Environmental Assessment studies was to determine the transit facilities appropriate to serve the long term residential, employment, tourism and waterfront access needs of the study area while achieving the City's and TWRC's objectives for land use, design and environmental excellence. Dennis informed participants that one Terms of Reference will be prepared to outline the planning process to be followed to complete the three Environmental Assessment studies, with the West Don Lands and East Bayfront transit

EAs proceeding immediately while the Port Lands transit EA would be undertaken at a later date. Through the use of aerial photography, Dennis presented the overall study area as well as the suggested Individual EA study areas. Dennis also provided an overview the Project Team's initial thoughts on the range and types of alternatives to be considered in the West Don Lands, East Bayfront and Port Lands including potential corridor, technologies and design issues associated with the three areas.

Question and Answer

Following the presentation, Dave asked participants if they required additional clarification about the presentation. The following outlines the questions that were asked, followed by a response from Bill Dawson.

Q: Does the scope of the study include a connection to a new GO Station?
A: The GO Station will be considered as part of the scope of the study.

Q: Why would you not consider Lakeshore Boulevard for a streetcar?
A: Lakeshore Boulevard was considered during the Secondary Plan process. The study identified Queens Quay as a more accessible corridor.

Q: Why is the EA for Port Lands proceeding at a later date?
A: It is important to finalize plans for the naturalization of the mouth of the Don River and identify bridge crossings and road networks in the Port Lands before more detailed plans for transit can proceed.

Q: How high is peak ridership on the Spadina and King streetcars?
A: Peak ridership on the Spadina streetcar is approximately 2,000 passengers per hour, while King is 1,900 passengers per hour.

Q: What is the peak capacity on the Queens Quay line on a normal day?
A: This information can be provided following the workshop. *(Information as follows: current passenger counts show that the 509 Harbourfront service carries approximately 400 passengers in the peak hour and peak direction of service on a typical weekday).*

Q: What is the distinction between an LRT and streetcar?

A: The term "streetcar" is used in Toronto to describe the railed vehicles that have been operated on Toronto streets for many years. Similar vehicles have been introduced in other cities on new lines and corridors and these vehicles are often referred to as "LRT" vehicles. These new lines often are provided with an exclusive or partially-exclusive right-of-way and may be operated in two or three-car trains but the TTC streetcar is essentially the same vehicle as what is referred to as an "LRT" elsewhere.

6.0 Summary of Input and Advice

Following the presentations, participants at a series of roundtables used the information in the study guide and the map of the suggested study areas to consider six questions:

1. Is the purpose of the study clearly defined? What wording should be clarified?

2. Are the proposed study areas adequate to address the issues described in the proposed problem statement? Should the boundaries be modified, and why?

3. a) How can the study team best ensure meaningful and effective consultation?
   b) Do you have suggestions to improve the public consultation process presented?

4. East Bayfront Transit EA
   a) Should the study focus on the Queens Quay corridor or are there other corridors that should be examined as well?
   b) Should the study focus on streetcars alone rather than assessing both bus and streetcar options?
   c) What other design issues should be considered?

5. West Don Lands Transit EA
   a) Are the suggested corridors (Cherry and Cherry/Front, Parliament) the appropriate corridors to study?
   b) Bus and streetcar alternatives will be studied. Comments?
   c) What other design issues should be considered?

6. Port Lands Transit EA
   a) Should corridors be added or removed from the map?
   b) Both bus and streetcar alternatives will be considered. Any comments?
   c) What other design issues should be considered?

Participants discussed responses within their groups while completing questions in the workbooks. This section presents an overview of feedback received from participants at the workshop. Comments from table discussions (as captured in the workbooks, flipcharts, and plenary session) are grouped under *"Common Ideas"* and *"Other Suggestions"*, which are ideas that are not so common but are unique or creative.

Question 1: Is the purpose of the study clearly defined? What wording should be clarified?

"To determine the transit facilities appropriate to serve the long term residential, employment, tourism and waterfront access needs of the study area while achieving the City's and TWRC's objectives for land use, design and environmental excellence"

Common Ideas

- Broaden the scope of the study. The suggested transit facilities will also serve residents and commuters residing outside of the waterfront community.

- Integrate the TTC-TWRC Waterfront Transit EAs with the Don Valley Corridor Transportation Master Plan or with other EA studies such as the Don River Mouth EA, East of Parliament Precinct Plan, and Gardiner Lakeshore Study.

- Recognize the waterfront as a valuable resource and amenity for the entire Greater Toronto Area.

- Include a reference to the GO Union Station in the purpose statement.

Participants frequently suggested that a list of principles be incorporated into the purpose statement. Suggested principles include the following:

- Design stops, waiting areas and vehicles to achieve maximum accessibility for families, the elderly, and the disabled.

- Respect and where possible, improve the natural environment, including wildlife and where routes run through the naturalized mouth of the Don River.

- Recognize the City's Transit First initiative.

- Promote transit while reducing vehicular trips.

- Preserve neighbourhoods and avoid major traffic routes that have the potential to divide the community.

Other Suggestions

- Include definitions for "long term" and "transit facilities"

Question 2: Are the proposed study areas adequate to address the issues described in the proposed problem statement? Should the boundaries be modified and why?

Common Ideas

- Broaden the suggested study areas to include neighbourhoods surrounding the waterfront community. For example, include Spadina Road to the west, Woodbine Avenue to the east, Lakeshore Avenue to the south, and Bloor Street to the north. Include Regent Park in the study area as there will likely be increased transit ridership as a result of new development at Regent Park.

- Identify a secondary study area to illustrate how the proposed local transit system will be integrated with the larger transit system for Toronto, and how residents outside of Toronto will commute to the area.

- Consider other connections besides Union Station.

- More north-south connections are required to balance those running east-west. A link to Bloor Street is especially needed.

Other Suggestion

- Coordinate the Waterfront Transit EAs with the Don Mills Transit EAs.

Question 3a: How can the study team best ensure meaningful and effective public consultation?

Common Ideas

- Examine all possibilities and do not formulate predetermined ideas upon initiating the EA study.
- Ensure public comments are carefully considered in the decision making process.
- Post information about the EA study, notices, and reports on the TTC and TWRC website.
- Ensure that information, notices and reports are available at public areas such as libraries and community centres.
- Ensure comment forms are provided at each meeting.
- Consult with disability groups to ensure accessibility is given meaningful implementation.

Other Suggestions

- Provide a map that identifies existing streetcar and bus routes with capacities and demands within and around the overall study area.
- Provide information that differentiates between local and through traffic.
- Provide a link from TTC and TWRC's website to websites of neighbourhood community groups.

- Inform the general public about the EA studies through newspaper articles in the media.

- Undertake a survey with residents along the Harbourfront to determine the proportions who drive compared to those using public transit. For those who drive, examine their reasons. This would be a good case study that may predict the behaviour of future residents in the area.

Question 3b: Do you have suggestions to improve the public consultation process presented?

Common Ideas

- Present transit initiatives and design alternatives from other cities. Ex: Curitiba (Brazil), Houston, Vancouver

- Provide extra public meetings, with a variety of times and dates.

- Hold weekend meetings.

- Undertake a walkabout with expert presenters to educate the public about the area and help them understand the issues.

- Provide presentations at local neighbourhood association meetings.

- Following the workshop, inform the public how their input was incorporated into the process. If certain ideas were not incorporated, identify reasons why they would not work.

Other Suggestions

- Provide the public with transportation data such as ridership survey results.

- Provide capacity data on existing routes and for different types of vehicles. This is especially insightful for north-south connecting routes.
- Include articles about the project in "The Bulletin".
- Host a design charette to generate ideas about ROW, street width and urban design.
- Share with the public alternatives the TTC previously considered, and why they are no longer under consideration.
- Include residents who are not normally involved. For instance, consult with residents in the 905 area.

East Bayfront

Q4a: Should the study focus on the Queens Quay corridor or are there other corridors that should be examined as well?

Common Ideas

- More routes and connections are required within the East Bayfront study area.
- Examine more north-south connections.
- Queens Quay is an acceptable corridor. However, maintain Queens Quay for local traffic.
- Examine a Parliament Street corridor to connect to Castle Frank subway station. However, keep Parliament Street to 20 metres.
- Examine rapid transit service along Lakeshore Boulevard.

- Connect to the GO station.

Other Suggestions

- Broaden the transportation network to provide more east-west connections to the rest of the city
- Develop a walkway, similar to that of an airport concourse that would move large numbers of people along York Quay to Union Station.

Other suggested corridors:

- Woodbine Avenue
- York Street (to connect to Union Station)

East Bayfront

Q4b: Should the study focus on streetcars alone rather than assessing both bus and streetcar options?

Common Ideas

- The study should focus on streetcars.

Other Suggestions

- Both bus and streetcar options are fine.
- Consider electric fuel cell buses and buses with hybrid engines.

- Consider more than one transit solution per area.
- Consider water-based taxis and ferries, which provide a connection between central waterfront to the Port Lands.
- Consider a light rail system such as the one in Houston.

East Bayfront

Q4c: What other design issues should be considered?

Common Ideas

- Reduce the number of car lanes.
- Reduce street widths. Routes with excessive street widths will divide neighbourhoods.
- Increase the width and amount of pedestrian sidewalks and bicycle lanes.
- Provide more landscaping.
- Provide better access for the disabled.
- Improve bicycle network connectivity.
- Implement street access platforms for buses to pull up, such as those found in Curitiba, Brazil. The height of the platform is the same as the first step on the bus, which allows easily accessible by wheelchairs.
- Ensure that transit is accessible. Develop easier transfer points.

- Ensure that bus shelters are safe.

Other Suggestions

- Do not allow parking on Queens Quay.
- Introduce a pedestrian mall, for example south of Queens Quay and on Cherry Street.
- Mitigate noise from streetcars.
- Introduce car free districts allowing only TTC, bikes and pedestrians.
- Carefully plan the locations of stops to maintain speed.
- Overlap streetcar with railway spur.
- Do not allow left turns.
- Construct a walkway under Lakeshore Boulevard to connect Union Station to Queens Quay.
- Extend Queens Quay into Port Lands.
- Introduce a signalized interchange at Parliament and Lakeshore.
- Allow streetcars in mixed traffic.
- Integrate the design of East Bayfront with the results of Central Waterfront Design competition.
- Relocate CN rail spur to Lakeshore and off Queens Quay.

West Don Lands Transit EA

Q5a: Are the suggested corridors (Cherry, Cherry/Front, Parliament) appropriate to study? Others?

Common Ideas

- Parliament Street is essential and provides a connection from Union Station to Castle Frank Station.
- Cherry/Front Street corridor is appropriate to study.
- Cherry Street corridor is appropriate to study.

Other Suggestions

- A Front Street extension is not required, due to its close proximity to King Street.
- A Cherry Street corridor will not be well used.
- Provide a connection to the GO station.

Other suggested corridors:

- Broadview Avenue
- Queens Quay East
- River Street
- Bayview Avenue

West Don Lands Transit EA

Q5b: Bus and streetcar alternatives will be studied. Comments?

Common Ideas

- The study should consider both buses and streetcars.

Other Suggestions

- Both bus and streetcar options are fine.
- Consider electric fuel cell buses and buses with hybrid engines.
- Consider more than one transit solution per area.

Q5c: What other design issues should be considered?

Common Ideas

- Bike lanes should be closer to streetcars (as opposed to against curbs or parked cars).
- Reduce the number of car lanes.
- Reduce street widths. Routes with excessive street widths will divide neighbourhoods.
- Increase the width and amount of pedestrian sidewalks and bicycle lanes.

- Provide better access for the disabled.
- Implement street access platforms for buses to pull up, such as those found in Curitiba, Brazil. The height of the platform is the same as the first step on the bus, which allows easily accessible by wheelchairs.

Other Suggestions

- Introduce a pedestrian mall on Cherry Street.
- Mitigate noise from streetcars.
- Introduce car free rights-of-way allowing only TTC, bikes and pedestrians.
- Introduce a signalized interchange at Parliament and Lakeshore.
- Design the right of way to complement streetscape.
- Allow streetcars in mixed traffic (opinions are mixed).
- Do not allow streetcars in mixed traffic (opinions are mixed).
- Make transit a priority at signalized intersections.
- Develop Parliament Street as primary transit corridor.
- Design safer bus shelters.
- Provide a railway underpass on Cherry Street.
- Provide frequent bus service on weekends and evenings.

Port Lands Transit EA

Q6a: Should corridors be added or removed from the map?

Common Ideas

- Corridors should be added within the Port Lands Transit EA.
- North-south corridors are needed, especially north to connect to the Bloor-Danforth subway (some suggestions include Broadview Avenue, Carlaw Avenue, Leslie Street).
- Extend Broadview Avenue to Unwin Avenue over a land bridge. Avoid using Donway as a corridor, as it would adversely impact the mouth of the Don River.

Other Suggestions

- Extend Queens Quay east across the Don River or connect Queens Quay to Lakeshore Boulevard.
- Additional east-west corridors are required, for instance to connect the Port Lands to the CNE, Leslie and the Beaches.
- Extend Queens Quay into Port Lands across the Don River.
- Extend Carlaw south across shipping channel.
- Considerations for Port Lands are too soon.

Other suggested corridors:

- Sherbourne Street
- Eastern Avenue
- Carlaw Avenue

Port Lands Transit EA

Q6b: Both bus and streetcar alternatives will be considered. Any comments?

Common Ideas

- Both bus and streetcar alternatives should be considered.
- Implement bus serve until Port Lands is further developed. Streetcars should be introduced during the later phases of development.

Other Suggestions

- Consider electric fuel cell buses and buses with hybrid engines.
- Provide an express service along Lakeshore Boulevard connecting Port Lands to the Beaches.
- Provide an express bus from Union Station into Port Lands.

Port Lands Transit EA

Q6c: What other design issues should be considered?

Common Ideas

- Reduce street widths. Routes with excessive street widths will divide neighbourhoods.
- Increase the width and amount of pedestrian sidewalks and bicycle lanes.
- Provide better access for the disabled.
- Implement street access platforms for buses to pull up, such as those found in Curitiba, Brazil. The height of the platform is the same as the first step on the bus, which can be easily accessed by wheelchairs.

Other Suggestions

- Implement a bus only lane on Commissioners Street.
- Use Cherry Street, Leslie Street or Broadview Street as a gateway into the Port Lands. Close the Don Roadway.
- Separate automobile traffic from transit service.
- Make transit a priority.
- Mitigate noise from streetcars.
- Locate bike lanes closer to streetcars.

7.0 Next Steps

Bill Dawson thanked participants for their enthusiasm, contributions, and feedback. He informed participants that another workshop will be held in June 2006 to present the draft Terms of Reference.

Appendix A

To be inserted into final copy.

TTC-TWRC Waterfront Transit Environmental Assessments

Summary of Public Forum #2

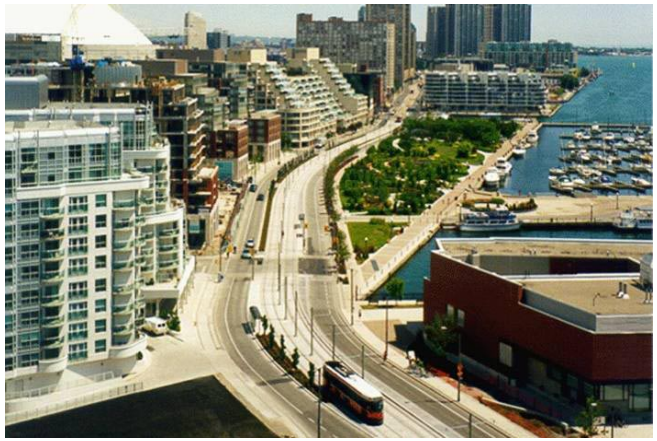
June 2006

TTC-TWRC Waterfront Transit Environmental Assessments
Public Forum # 2

June 6, 2006 - 7:00 p.m. to 9:00 p.m
Novotel Hotel – Champagne Ballroom
45 The Esplanade

1.0 TTC-TWRC Waterfront Transit Environmental Assessments EA Project Description

The Toronto Transit Commission (TTC), under the auspices of the Toronto Waterfront Revitalization Corporation (TWRC), has initiated an Environmental Assessment to identify the required transit infrastructure to support planned approved development in the East Bayfront, West Don Lands and Port Lands of Toronto's Waterfront The process to select preferred alternatives for the three transit areas require the completion of an Individual Environmental Assessment. The TTC will be completing a single, combined Terms of Reference (ToR) for the three Environmental Assessment projects and then, following Ministry of the Environment approval of the ToR, complete two separate Environmental Assessment studies for the West Don Lands and the East Bayfront transit projects. An Environmental Assessment for Port Lands will be undertaken at a later date.



Transit in the three precincts will be interconnected, supporting a system that will link the downtown core, the subway system and the GO commuter rail system. Given that the problem statement, network considerations and planning process will be similar for the three IEAs, a single EA Terms of Reference (ToR) is being prepared to govern the preparation of each IEA. The ToR will allow the IEAs to be completed on their own timetables, which are tied to the anticipated growth of the various precincts. This approach will also allow members of the public to provide input to the ToR through a common consultation process. The proposed approach will ensure that area-wide planning issues are effectively addressed both in the development of the ToR, and in each individual Environmental Assessment.

2.0 Purpose of the Workshop

This workshop was the second of two public forums to assist in the development of the Terms of Reference. The purpose of this session was to:

- Discuss what has been accomplished since the first workshop in early April.
- Review evaluation criteria developed by the Project Team, in consultation with the Community Liaison Committee.
- Distribute the Terms of Reference document and invite participants to comment.

A Notice of the workshop was advertised in the *Toronto Star* on May 29th. An invitation to the workshop was also distributed to over 3,000 individuals and organizations in the TWRC's contact list. Approximately 35 people participated in the workshop.

Novotel Hotel, Toronto

3.0 Project Team Members in Attendance

Representatives from the TWRC, TTC, City of Toronto, and consultant's team attended the workshop. Table 3.1 indicates the members of the project team who were in attendance at the workshop.

Table 3.1 Project Team Members in Attendance of June 6th Workshop

TTC	TWRC	City of Toronto	Consultants Team
Bill Dawson Superintendent – Route and System Planning	Christopher Glaisek Vice President, Planning and Design	Tim Laspa Program Manager Transportation Planning	Dennis Callan, P. Eng Principal McCormick Rankin Corporation
	Andrea Kelemen Public Affairs	John Kelly Manager Infrastructure Planning Transportation Services	Mike Bricks Senior Environmental Planner Ecoplans Limited
	Tanya Hardy Public Affairs		Scott Thorburn Manager URS Canada Inc.
			Mark Nykoluk URS Canada Inc.
			Alun Lloyd Senior Associate BA Consulting
			Dave Hardy Principal Hardy Stevenson and Associates Ltd.
			Loren Polonsky Senior Planner Hardy Stevenson and Associates Ltd.
			Sari Liem Intermediate Planner Hardy Stevenson and Associates Ltd.

4.0 Information Presented

A map illustrating earlier and new planning alternatives added since the last workshop was presented by Bill Dawson. Participants were also provided with an evaluation criteria matrix, the draft Terms of Reference, and a questionnaire with four questions for participants to consider when reviewing the Terms of Reference (questionnaire attached).

Participants were asked to submit the completed questionnaire by mail or fax to the TWRC by June 16.

5.0 Presentations and Discussions

Christopher Glaisek, Toronto Waterfront Revitalization Corporation
"Welcome"

Christopher Glaisek, Vice President of Planning and Design, welcomed participants to the second TTC-TWRC Waterfront Transit workshop. He expressed enthusiasm upon receiving input from participants on the draft Terms of Reference, which will be presented at tonight's meeting. Chris informed participants that the Terms of Reference will be submitted to the Ministry of the Environment for approval in the summer.

Loren Polonsky, Hardy Stevenson and Associates Limited
Loren Polonsky introduced himself as facilitator and introduced members of the project team. He informed participants of the purpose of the evening's workshop and outlined the agenda for the evening's session.

Bill Dawson, Toronto Transit Commission
"What Has Been Done Since the Last Public Workshop"

Bill Dawson provided a summary of the Ontario Environmental Assessment EA process and reviewed the purpose of the Environmental Assessment studies. He also reviewed the preliminary schedule and identified key themes that were heard in the first public workshop. Key themes include the desire for accessible vehicles and facilities, "green" waterfront transit vehicles, reduced right of way widths, and an integrated transit plan with adjacent neighbourhoods.

Dennis Callan, McCormick Rankin Corporation
"Proposed process to generate and evaluate alternatives"

Dennis Callan discussed the planning alternatives that were added since the last workshop, such as a Parliament Street streetcar from Union Station to Castle Frank, local transit on Queens Quay and express transit on Lakeshore Blvd., and a Broadview Street streetcar extension into the Port Lands. Dennis also discussed the proposed process to generate and evaluate alternatives.

Recently Added Planning Alternatives Discussion

Following Dennis' presentation, Loren asked participants if they had any changes to suggest to the recently added planning alternatives. The following outlines the questions that were asked, followed by a response from a member of the project team.

Q: A Broadview Avenue extension would direct traffic through residential areas. Why didn't the project team consider a Bayview Avenue extension instead of Broadview Avenue?
A: The road network plan developed as part of the Secondary Plan for the area considered options for providing access to the Port Lands area while allowing for a naturalization of the mouth of the Don River. On this basis, the plan was established to provide road access to the Port Lands via the Don Roadway rather than as an extension of Bayview Avenue. A possible extension of Broadview Avenue as a transit right-of-way is identified in the Secondary Plan but it does not identify an extension of Broadview as a public roadway

C: I am concerned that wildlife enhancements are not being made a bigger priority through the Port Lands.

Q: Will the recently added Lakeshore express route stop at Union Station? Will the route be extended to stop at the Canadian National Exhibition (CNE)?
A: It is anticipated that the transit line will connect to Union Station. If this is the recommended corridor, the project team would consider opportunities for extending it to the CNE.

Q: How will the EAs be integrated with the West 8 proposal (the winning design in the Central Waterfront Design Competition)?
A: The "West 8" design proposals for Queens Quay West will be used to develop and assess design options for Queens Quay East.

Q: Would proposed buses include bike racks?
A: Bike racks will be identified in the technology assessments as a way of encouraging non-auto travel.

Q: Can you provide us a with cost estimates for the projects being considered in each Individual EA?
A: Cost will be addressed as we proceed to the next level of study (Individual EAs).

C: A representative from the Central Waterfront Neighbourhood Association requested that the project team consider fuel cell buses as an alternative. She identified the benefits of fuel cell buses and presented a petition of over 100 signatures from neighbourhood residents.

C: Consider future transit technologies as streetcars may become obsolete.

C: Buses are easier for pedestrians to access than streetcars.

Scott Thorburn, URS Canada Inc.
"Evaluation Criteria Matrix and Importance to the ToR Process"

Scott Thorburn discussed the importance of the evaluation criteria matrix to the ToR process. Scott reviewed the evaluation criteria with workshop attendees, which were developed by the Project Team in consultation with the Community Liaison Committee. He discussed the differences between the planning and design alternatives; and informed participants that specific criteria measures will be determined during the Individual Environmental Assessments.

Evaluation Criteria Discussion

Loren Polonsky asked if participants had any suggested changes to the evaluation criteria.

C: There are no references in the evaluation criteria to minimizing adverse effect to aquatic habitat and vegetation. This wording should be included to enhance aquatic habitat.

C: Cherry Street and Lakeshore Boulevard/Queens Quay are ideal locations for a park and ride. Parking should be included in the evaluation criteria to support transit.

Q: Provisions for pedestrians are not identified in the evaluation criteria.
A: The proposed evaluation criteria include specific reference to encouraging pedestrian travel in both the Planning criteria and the Design criteria. The project team will examine provisions for pedestrians, such as the amount of boulevard space and widths of sidewalks, during the planning and design stage.

C: Consider introducing transit corridors on paths as well as roads.

C: Planning indicators should include finding opportunities to enhance the cultural landscape and built heritage features.

Q: The project team should examine streetcars operating west of Yonge Street to evaluate whether streetcars are a viable option east of Yonge Street.
A: The Project team will use our experience west of Yonge Street to evaluate options in east of Yonge, which will be part of the evaluation.

C: There is no mention of personal rapid transit system as a technology option in the Terms of Reference.

Q: Will energy costs be considered prior to decision making?
A: Energy issues will be captured under the cost scenario.

C: Energy use will affect the price of energy, and should be built into traffic projections. We should not commit public money to infrastructure that will become obsolete.

C: Local materials should be considered in the design process.

Loren, Polonsky, Hardy Stevenson and Associates Limited.
"Discuss Draft Terms of Reference"

Loren Polonsky introduced and distributed the draft Terms of Reference and invited participants to submit comments. Loren added that the draft Terms of Reference is also available online on the TWRC's website, at www.towaterfront.ca.

Draft Terms of Reference Discussion

Loren Polonsky asked if participants could suggest additions or changes regarding the draft Terms of Reference.

Q: Does a transportation master plan exist for the precinct?
A: A transportation plan is part of a Secondary Plan for both the East Bayfront and West Donlands. Detailed transportation master plans were approved by City Council on a block by block basis.

Q: Will Community Liaison Committee members receive another draft of the ToR before the next CLC meeting?
A: No, the project team will be discussing additional changes in the draft ToR at the next CLC meeting, but the ToR will not be revised until after the meeting.

Q: The City is spending a lot of money to operate transit along Don Mills. This is expected to come to a halt. There are no other north-south routes to facilitate this service.
A: This refers to a different study (Don Mills Study) and is not within the scope of our study area.

Q: There is a need to integrate the different studies that are being undertaken.
A: The project team will ensure an integrated planning study. An Environmental Assessment Master Plan was undertaken for the Don Valley corridor to tie in with the West Donlands Precinct Plan.

Q: To what extent is the project bound by what already has been approved? Some additional corridors were suggested in the last meeting. Is there flexibility?
A: The precinct plans have been approved, but there is council direction to allow reexamination of road rights-of-way.

7.0 Next Steps

Dennis Callan thanked participants for their enthusiasm, contributions, and feedback. He informed participants that comments from the public, Community Liaison Committee, and Technical Advisory Committee, are due by June 16th. The Terms of Reference will be presented to the Planning and Transportation Committee on July 4th.

Appendix A

Presentation To be inserted into final copy.

Appendix H

Petition Letter and Signatories

Central Waterfront Neighbourhood Association

A member of Harbourfront Community Association
Toronto Ontario www.cwna.ca

PETITION
REGARDING THE TTC-TWRC WATERFRONT TRANSIT ENVIRONMENTAL ASSESSMENT CONSIDERING ALTERNATIVES SUCH AS STREETCARS FOR TRANSIT ALONG QUEEN'S QUAY EAST (THE "ENVIRONMENTAL ASSESSMENT")

The undersigned are in favor of fuel cell buses (as distinct from diesel or other buses) being expressly referenced in the Terms of Reference as an alternative to be assessed according to criteria set out for the Environmental Assessment.

NAME (PRINT LEGIBLY)	ADDRESS	PHONE NUMBER	SIGNATURE
Sara Keshen	10 Yonge St. #610	416.369.0606	
Christina [illegible]	99 Harbour [illegible]	416 217 44[illegible]	
Altaf Ilassan	77-2212 Harbour Sq	416-203-0377	
Mike Carroll	801 King St. W 505	416 364 6311	
M. Magrath	2711-99 Harbour Sq	416 203-8223	
S. Clement	77 Harbour Sq	416 361 1866	
Greg Dubord	99 Harbour Sq	416 777 6699	dubord@aol.com
Jim Shedden	99 Harbour Sq	416 777 [illegible]	
Mike [illegible]	99 Harb[illegible] 3403	416 203 1200	
N. West	99 Harbour Sq 180[illegible]	416-[illegible]	cladebentley@gmail.com
T. Smart	99 Harbour Sq. 1507	416 578 7484	
J. Choi	10 Queens Quay W 1408	(647) 833-6780	
[illegible]	10 Queens Quay W 1205	416 703 48[illegible]	
[illegible]	1 Rougehaven Way	416 758 5236	
[illegible]	10 Queens Quay #2601	[illegible]	
[illegible]	10 Q Quay 1004	[illegible]	
A. Alloway	10 Queens Quay	416 703 7647	
A. Alloway	"	"	
Amer Chaudhry	" "	416-603-7359	
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[illegible]	" 2503	416-627-6403	
[illegible]	[illegible]	[illegible]	
[illegible]	1111 10 QQW	416 703 1878	
[illegible]	10 Queens Quay	416 [illegible]	
A. Takele	20 Tresorie Place	647 746 3345	
M. Roussopoulos	100 Queens Quay	416 363 6815	

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NAME (PRINT LEGIBLY)	ADDRESS	PHONE NUMBER	SIGNATURE
G. Donaldson	1411 - 10 Queens Quay W.	(416)681-0315	[signature]
H. Donaldson	1411 - 10 Queens Quay W	681-0315	[signature]
P. Pratt	1703 - 10 Queens Quay	8654429	[signature]
L. Montgomery	1505 - 99 Harbour Sq.	2039318	[signature]
G. Stavrou	181 Linden Ave	267-0856	[signature]
F. Manan	99 Zebra Trail Brampton	905 791 9896	[signature]
L. Reif	99 Harbour Sq. #2411	647-221-7259	[signature]
A Esmail	77 Harbour Sq #1002	416-705-0804	[signature]
N Haji	77 Harbour Sq #1002	416-220-5933	[signature]
P. Purushotham	99 Harbour St	416 558 3538	[signature]
P. Seevaratnam	122 Keller Blvd Scarborough	416-825-8011	[signature]
G. Pinheiro	99 Harbour Sq	416 436 3883	[signature]
Simon Fenn	99 Harbour Sq	416-203-1868	[signature]
Heather Zordel	99 Harbour Sq 2512	416 815-4343	[signature]
Margaret Chiang	99 Harbour Sq 706S	(416)2037112	[signature]
Curt Way	" " 1208	416-203-2222	[signature]
Ginette Fournier	99 Harbour Sq #2403	416-203-7835	[signature]
Anna Au	99 Harbour Sq	N/A	[signature]
S.N. Prasad	99 Harbour Sq	N/A	[signature]
C Duign	99 Harbour Sq	N/A	[signature]
Margaret Samuel	10 Queen's Quay W #1413	416-203-3028	[signature]
Barbara Longmore	99 Harbour Square 1005	416 363-2511	[signature]
Jayashree Goswami	99 Harbour Sq 3811	N/A	[signature]
Kazuyo Sato	99 Harbour Sq 3003	416-306-0884	[signature]
Gabriel Tracey	99 Harbour Sq	416 309-0664	[signature] gabriel_tracey@yahoo.ca
Susan O'Hare	99 Harbour Sq.	416 304 0664	[signature]

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NAME (PRINTED)	ADDRESS	PHONE NUMBER	SIGNATURE
A KAUSHAL	1606 - 10 Queens Quay W.	416-214-1391	[signature]
K. Chu	3101 - 10 Yonge St.	416 3650049	[signature]
[illegible]	1413 - 10 Yonge St.	416 4282396	[signature]
Mary Beth Montcalm	811 - 10 Yonge St	416 3674160	[signature]
Ken [illegible]	10 Queens Quay W #313	6477772686	[signature]
Mark Addison	3405 - 10 Yonge St.	(416)2750773	[signature]
Susan Friedt	1404 - 10 QQW	416 350-9662	[signature]
Paul Peterson	3703 - 10 Yonge St.	416 770-2803	[signature]
Josee Pelletier	10 Yonge Street	416 955-9938	[signature]
Martin Dowhat	701 - 100 QQ	416 681 1141	[signature]
ADRIAN RACCA	10 Queens Quay #1105	(416) 420-8905	[signature]
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AMAN ZAFAR	" " " 1809	416-368-7024	[signature]
JACOB KATZ	10 Queens Quay 2211	416 2058317	[signature]
KUMAR NILAY SINHA	10, Queens Quay, 612	416-861-8491	[signature]
Joyce Setu	10 Queen Quay 502	416 - 7017445	[signature]
Brad [illegible]	" " " #608	416-200-2292	[signature]
ED TATONE	53 LAWNSIDE	416-80-6G6	[signature]
Maurice SALEM	10 Queens Quay	"	[signature]
Camille "	" "	"	[signature]
Joseph "	" "	"	[signature]
Bheng Monica	" Queens Quay	416-570188	[signature]
N HENDRICK	" Queen's Quai	416-601-9522	[signature]
Michael Smirle	" " "	416-203-2186	[signature]
Mark McRae	" " "	"	[signature]
Kevin Ryan	"	"	[signature]
John HENRY	40 Asquith Ave Apt #727	416-984-7787	[signature]
DAMIEN RANKIN	650 BRIAR HILL AV	416 825-2167	[signature]
Varde Singh	246 Fred Mclaren Blvd	905 702-7166	[signature]
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NAME (PRINT LEGIBLY)	ADDRESS	PHONE NUMBER	SIGNATURE
Betsy-Anne Barton	177 HARBOUR SQ. #2301	(416) 214-2906	
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[illegible] VALLABH	77 HARBOUR SQ	416 [illegible]-9624	
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J. DAK	10 QQW - Ste 1807	416 955 0204	
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Giula [illegible]	10 QQ West	416 947 7057	
Jaime Cosh	10 QQ West	647-393-7112	
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[illegible]	[illegible] Queens Quay W	416-[illegible]	
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Donna [illegible]	10 Queens Quay West	416 [illegible]	
Linda [illegible]	10 Queens Quay W	[illegible]	
[illegible]	10 QQ W	416 [illegible]	
[illegible]	[illegible]	416 [illegible]	
[illegible]	[illegible]	416 [illegible]	
[illegible]			
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NAME (PRINT LEGIBLY)	ADDRESS	PHONE NUMBER	SIGNATURE
Marie Cushman	[illegible] Queen's Quay	416 318[illegible]	[illegible]

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e-mail: info@cwna.ca

Re: June 2006 Draft Terms of Reference e-mailed by Andrea June 5, 2006

Changes To Draft Terms of Reference to meet Petition Requirement of expressly referencing fuel cell buses (as distinct from diesel or other buses) in the Terms of Reference as an alternative to be assessed according to criteria set out for the Environmental Assessment.

Page 14, Exhibit 3.1: include a "Fuel Cell Bus" box below the "Streetcar" box and above the "Bus" box.
Page 27: in 6.4.1 add the word "diesel" after "'do nothing' alternative includes the provision of" and before "bus services".

Page 28: after #4 under Technologies, add
"5. Fuel Cell Bus Service on a dedicated right-of-way (primarily on the surface); and
6. Fuel Cell Bus Service on existing roads."

Page 28: After "facilities on both Queens Quay East and Lake Shore" delete the word "both" and add ", Fuel Cell Buses" after the new phrase "facilities on both Queens Quay East and Lake Shore buses" and before "and streetcars will be considered".

Page 28: in the list of planning alternatives, after #3 add
"4. Fuel Cell Buses in a partially exclusive right-of-way in the Queens Quay East corridor for the corridor option that only considers Queens Quay East; and
5. A combination of buses and/or Fuel Cell Buses in exclusive lanes and/or mixed traffic for the corridor option that considers local transit service on Queens Quay East and express bypass service in the Lake Shore Boulevard Corridor."

Page 28: in the second-last bullet of the page add the phrase "or Fuel Cell Bus" after "a streetcar" and before "connection from Union Station".

Page 29: in 6.5.1 add "or Fuel Cell Buses" after "accommodating streetcars" and before "within the Queens Quay east corridor".

Page 29: in 6.5.1 in 1) add "or Fuel Cell Bus path" after "streetcar line" and before "within road allowance"

Page 34: in the last bullet point before Technologies, add "or Fuel Cell Bus" after "a streetcar" and before "connection".

Page 34: #4 under Technologies, add:
"5. Fuel Cell Bus Service on a dedicated right-of-way (primarily on the surface); and
6. Fuel Cell Bus Service on existing roads."

Page 39: in 8.4.1 add "diesel" after "alternative includes the provision of" and before "bus services into the area".

Page 39: after #4 under Technologies, add:
"5. Fuel Cell Bus Service on a dedicated right-of-way (primarily on the surface); and
6. Fuel Cell Bus Service on existing roads."

Page 40:
After #6 in 8.4.1, add:
"7. Fuel Cell Bus Service on existing roads; and
8. Fuel Cell Bus Service on a dedicated right-of-way (primarily on the surface)."

In the Glossary of Terms after definition of Environmental Assessment Report add:
"Fuel Cell Bus
A bus fuelled by a pollution-free electricity generation technology. An example of a pollution-free electricity generation technology is an electrochemical cell in which the energy of a reaction between a fuel, such as liquid hydrogen, and an oxidant, such as liquid oxygen, is converted directly and continuously into electrical energy."

Appendix I

First Nations Consultation Letter

June 9, 2006

Chief

On behalf of the Toronto Transit Commission, and in cooperation with the Waterfront Revitalization Corporation and the City of Toronto, I want to inform you, and leaders of your community, about transit Environmental Assessment studies that we are undertaking along Toronto's waterfront. The Environmental Assessments will study the transit services required to support the development of the Port Lands, West Don Lands and East Bayfront communities.

The TTC is in the process of completing a single, combined Terms of Reference (ToR) for undertaking Environmental Assessments of transit projects in these communities. Following Ministry of the Environment approval of the ToR, two separate Environmental Assessment studies will be completed; one for the West Don Lands and one for the East Bayfront. The Environmental Assessment Study for the Port Lands will be initiated at some point in the future when land use planning for the area has advanced to a sufficient level of detail.

For your information, I have attached a map of the study area, and a preliminary schedule. Additionally, I invite you to review the draft Terms of Reference, which is available on the Toronto Waterfront Revitalization Corporation's web site at www.towaterfront.ca (see *current projects*).

If you wish to receive more information, become involved in the Waterfront Transit Environmental Assessment studies, or have additional questions about the Terms of Reference, please contact me at the number or email address provided below. The project team would be pleased to meet with you should you have any comments or concerns, or wish to learn more about the project. Thank you.

Regards,

Bill Dawson
Project Manager
Toronto Transit Commission
416-393-4490 bill.dawson@ttc.ca

Enclosed: Study Area Map
Preliminary Schedule of Activities

Appendix J: Consultation with Other Stakeholders

April 6, 2006: Meeting with City Councillor Paula Fletcher (Ward 30)

Project Manager Bill Dawson (TTC) met with Councillor Fletcher to discuss the Waterfront Transit EAs studies. Councillor Fletcher indicated her support for the transit project but was looking for reassurance that it is being adequately coordinated with all of the other planning currently going on for the Port Lands, particularly with respect to plans for the road network. Additionally, discussion focused on:

- Extending Broadview Avenue south to cross the Ship Channel, perhaps as an alternative to the current Don Roadway crossing;
- Extending Commissioners Street to the east to link up directly to Lakeshore Boulevard; and
- The potential for a transit/pedestrian bridge across the mouth of the Don west of the current Cherry Street bridge.

Bill proposed to meet with Councillor Fletcher at any time during the Terms of Reference stage or during the undertaking of the IEAs.

April 8, 2006: Central Waterfront Neighbourhood Association Tour

Project Manager Bill Dawson (TTC) attended a "walkabout" on behalf of the Central Waterfront Neighbourhood Association. A small but enthusiastic group attended, initially in a room in the condominium at 10 Queens Quay West, and subsequently on a walkabout on Queens Quay from York Street to Jarvis Street. Bill provided an overview of the study using materials from the first public workshop and distributed workbooks and study guides from the workshop to the assembled group. Bill asked that attendees provide comments about the study by either filling out the workbook and sending it to the project team, or by providing comments to the email address provided with the material.

TORONTO WATERFRONT REVITALIZATION CORPORATION

Waterfront Design Review Panel

East Bayfront

Innovative Design Competition for Toronto's Central Waterfront

TTC-TWRC Waterfront Transit Environmental Assessments

- Transit EA Public Meetings
- Frequently Asked Questions
- Community Liaison and Technical Advisory Committees

West Don Lands

Western Beaches Watercourse Facility

Harbourfront - Water's Edge

Commissioners Park

Lake Ontario Park

Port Lands

Port Union Waterfront Improvement Project

Mimico Waterfront Linear Park

TTC-TWRC Waterfront Transit Environmental Assessments

The Toronto Transit Commission (TTC), under the auspices of the Toronto Waterfront Revitalization Corporation (TWRC), has initiated an Environmental Assessment of proposed transit services for the Port Lands, West Don Lands and East Bayfront development areas. The process to select preferred designs and implementation plans for the three transit projects falls under the requirements of an Individual Environmental Assessment. The TTC will be completing a single, combined Terms of Reference (ToR) for the three Environmental Assessment projects and then, following Ministry of the Environment approval of the ToR, complete two separate Environmental Assessment studies for the West Don Lands and the East Bayfront transit projects.

A single, combined ToR is being developed because a network of transit services will be required to inter-connect the three communities and many of the issues related to the development of a ToR are common to the three communities. This approach will also allow members of the public to provide input to the ToR through a common consultation process. The proposed approach will ensure that area-wide planning issues are adequately addressed both in the development of the ToR, and in each individual Environmental Assessments.

Public and regulatory agency consultations are key elements of Terms of Reference development and the Individual Environmental Assessment process. Public comments are welcome at anytime during the development of the ToR. An initial set of (2) Public Workshops will be held in the spring of 2006 to receive comments on the problem definition, need, study area, service area, projected routes, service type, proposed alternatives, technical studies to be conducted, and proposed public consultation plan for Individual EAs.

Advance notice of the Workshops will be published in local newspapers within the City of Toronto. Before the completion of the planning process, a draft Terms of Reference report will be made available for public review at local municipal buildings and on line. The individual EAs will proceed once the Ministry of the Environment approves the Terms of Reference.

As part of the consultation process, a mailing list for those parties who are interested in receiving further information on this study is currently being compiled. If you wish to receive information, become involved in the study, or submit comment, please contact **transit@towaterfront.ca**

Map of Study Area

The EA Process - a guide

Draft Terms of Reference (ToR) June 2006

Draft ToR Evaluation Criteria - June 4, 2006

ToR Comments Form

Union Station Subway Platform Expansion

Marine Strategy Study

Front Street Extension

Ontario Place/Exhibition Place

Lower Don River Re-Naturalization Environmental Assessment

Cultural Infrastructure

University for Peace

Waterfront Festival Site

Gardiner Lake Shore Corridor

Waterfront Public Space Framework

Continuous Waterfront Trail

From: Kristy Findlay [kfindlay@towaterfront.ca]
Sent: April 18, 2006 9:26 AM
To: Loren Polonsky
Subject: FW: West Don Lands News

Kristy Findlay

Public Affairs Department

Toronto Waterfront Revitalization Corporation

kfindlay@towaterfront.ca

416-214-1344 x248

-----Original Message-----
From: Toronto Waterfront Revitalization Corporation [mailto:info@towaterfront.ca]
Sent: Friday, March 10, 2006 4:57 PM
To: Kristy Findlay
Subject: West Don Lands News

TORONTO WATERFRONT
REVITALIZATION CORPORATION

March 2006 Edition

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- CN Kingston Bridge Extension and Bala Pedestrian Underpass

Welcome

Welcome to the first edition of West Don Lands News. TWRC is very pleased to be able to provide the community with monthly updat on the progress of the West Don Lands revitalization project, Toronto's first new waterfront community. This electronic newsletter is brought to you in partnership with the Canada, Ontario and City of Toronto governments, along with the Ontario Realty Corporation (ORC), Toronto and Region Conservation (TRCA) and Toronto Community Housing (TCHC), all of whom are playing an important role the revitalization of the West Don Lands. We look forward to keeping you informed.

West Don Lands Hotline

TWRC has set up a dedicated telephone line so that the public can get easy access to information about the work going on in the We Don Lands. For more information, please call 416-214-9990 or email wdl@towaterfront.ca.

West Don Lands Kick-Off Event

Work is now underway in the West Don Lands. To commemorate this important milestone, on March 27 at 9:00 a.m. TWRC, in partnership with its community and federal, provincial and city government partners will host a kick-off event. This event will take pl at 645 King Street East. This location is noteworthy not only because it is a significant gateway into this new mixed-use community b will also be part of the future 19-acre Don River Park. The event will be open to everyone so watch for more details at www.towaterfront.ca.

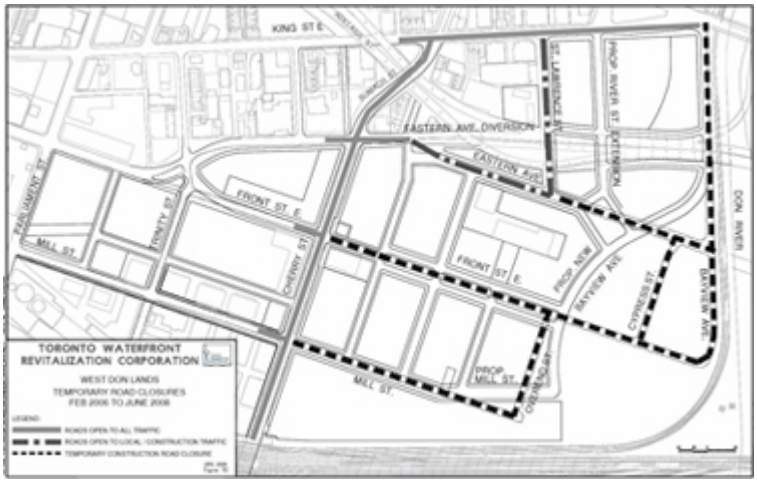
Building Deconstruction and Flood Protection Landform

Contractors are mobilizing on site to start the deconstruction of 16 buildings to allow for the construction of the low-lying berm that will provide flood protection for the area, the realignment of Bayview Avenue, the extension of River Street and the development of the first new West Don Lands neighbourhood on the McCord site. You will now begin to see construction workers, hoarding (wooden fencing) and new project signs around the area. ORC has developed a Site Specific Health and Safety Plan that promotes safety among employees, contractors and subcontractors involved with the deconstruction activities.

An Environmental Management Plan has also been developed in consultation with community, which will ensure that activities like building decommissioning and construction of the berm comply with TWRC's standards for sustainable development and protect the community. Detailed design of the berm, which will eventually become Don River Park, and relate d infrastructure continues. Construction of the berm is scheduled to start later in the summer.

Road Closures

To maintain public safety while work is being carried ou the West Don Lands, some city streets are closing. The following city streets will be closed from February 2006 June 2008: Bayview Avenue from south of the River Str connection between the Queen and King Street overpas Front Street east of Cherry Street Eastern Avenue east Lawrence Street Mill Street east of Cherry Street Overe Street Cypress Street Care has been taken to ensure th area residents and business owners continue to have ac to their properties. To report any concerns or for furthe information, please call 416-214-9990 or email wdl@towaterfront.ca.



West Don Lands Transit EA

TTC and TWRC have started work on an Environmental Assessment for West Don Lands public transit. Construction is scheduled to start on the West Don Lands transit line in 2008 and service will be operational in 2009. Public consultation is integral to this work and will continue throughout the process . TWRC, in partnership with TTC is having an interactive public workshop on April 5th from 7-9 p.m. at the St. Lawrence Great Hall (157 King St. E) to provide input on the first phase of this Environmental Assessment known as the Terms of Reference. The purpose of the Terms of Reference is to describe and set out the scope of this project. Please watch for more details on this meeting. For further information, please contact 416-214-9990 or transit@towaterfront.ca.

Soil, Groundwater and Environmental Management

ORC, in cooperation with TWRC and the City of Toronto, is in the process of finalizing a Risk Assessment/Risk Management Plan for s and groundwater in the West Don Lands. This work includes analyzing existing soil data, collecting new data and developing strategie manage the risk of contaminants. Soil and groundwater sampling is complete. The plan requires City Council approval. After City Cou approval, the plan will then be submitted to the Ministry of Environment for approval. ORC and TWRC have held two public informati sessions on the Risk Assessment/Risk Management Plan and have provided updates at other community meetings. There will be a th public information session to communicate the contents of the Risk Assessment/Risk Management Plan in early spring.

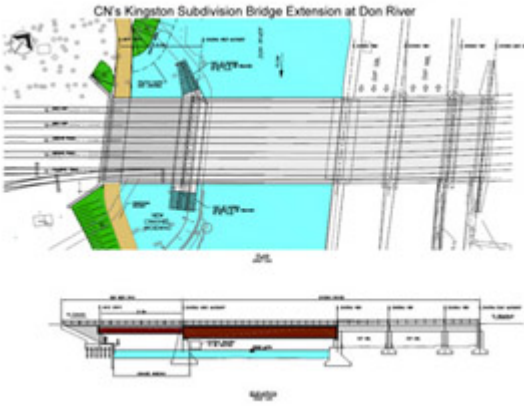
Don River Park

TWRC selected Michael Van Valkenburgh Associates (MVVA) New York and Cambridge to design Don River Park. A numbe local firms are also part of the design team including Ken Greenberg and Associates and the Planning Partnership. Don River Park will be the cornerstone and distinguishing feature the West Don Lands. This 19-acre park will provide for a ran recreational, cultural and heritage, public art, environmental trail connection opportunities for the new West Don Lands community. There will be three phases of work: concept desi (complete by spring/summer 2006), detailed design (comple fall 2006) and park construction (complete by 2007/08). Stakeholder and public consultations will begin later in April a will continue throughout the design process.

Since the Government of Canada is a financial contributor of project, it will undergo an Environmental Assessment under t Canadian Environmental Assessment Act (CEAA). This will b e done concurrently with the project design. Approval under CEAA is req before the park can be built.

CN Kingston Bridge Extension and Bala Pedestrian Underpass

TRCA is overseeing a project to extend the existing CN Kingston bridge to widen the Don River as part of the flood protection. TRCA is also undertaking a pedestrian underpass to the GO line in the Don Valley. The Bala Pedestrian Underpass will provide a trail link from the Don River Park to the existing Don River Trail and waterfront trails but is not part of the flood protection package for the lower Don.



Design of the extension and the Bala Pedestrian Underpass is complete. The design reflects close collaboration with CN Rail, GO Transit, Hydro One, ORC, the City and TWRC, as well as input from the community. TRCA, TWRC and CN Rail are currently reviewing construction bids for both structures. TRCA and CN Rail plan to announce the successful contractor within a few weeks and work will follow immediately thereafter. Please be advised that parts of the Don River Trail will be closed from Queen Street to the Martin Goodman Trail while this work is underway. The trail closure will be in effect from the end of February 2006 until spring 2007. For more information, please visit: www.trca.on.ca.

Questions? Comments?

We want to hear from you. Email wdl@towaterfront.ca or call 416-214-9990.

The Government of Canada, the Province of Ontario and the City of Toronto established TWRC in 2001 to oversee and lead the renew Toronto's central waterfront.

Canada Ontario TORONTO

Appendix M: Initial List of Frequently Asked Questions (FAQs)

The following list of questions and answers is intended to be used for public informational materials that may include project newsletters, the project Web site and related press releases. The FAQs will be updated regularly to ensure the public can access the most current and accurate project information.

What is an Environmental Assessment?

Environmental Assessment or EA is a decision-making process used to promote good environmental planning by assessing early the potential impacts of certain activities on the environment. An environmental impact is anything that would cause a change to an existing area. For example, a new roadway might reduce natural foliage, breach a wetland or displace indigenous animals, including endangered species. In Ontario, this process is defined and finds its authority in the Environmental Assessment Act (EAA). The purpose of the EAA is to provide for the protection, conservation and wise management of Ontario's environment.

"Environment" is defined as 'the social, economic and cultural conditions that influence the life of man or a community'.

To achieve this, the EAA ensures that environmental problems or opportunities are considered and their effects are planned for before development or construction takes place. One of two processes— Individual Assessments or Class Assessments— should be followed to ensure the requirements of the EAA are met.

What is the Terms of Reference for an Environmental Assessment?

One of the features of the Ontario Environmental Assessment Act is the requirement for the preparation, submission and approval of a Terms of Reference before work begins on an Environmental Assessment (EA). As part of the formal submission and approval process, the Terms of Reference is submitted to the Ministry of the Environment (MOE) for public and government agency comment and review. Once approved by the Minister of the Environment, the Terms of Reference sets out a framework that will guide the preparation of the EA. The approval of the Terms of Reference is the first statutory decision made by the Minister of the Environment in the EA planning and approval process.

The Terms of Reference essentially asks two important questions. One, "what should be studied by the Environmental Assessment?"; and two, "how should the public be consulted during the Environmental Assessment?" The completion of this first stage of the Environmental Assessment will result in the approval of a detailed public consultation plan.

It is important to understand that the Terms of Reference step was added to Ontario's environmental assessment process in 1996 because: important issues were sometimes not been identified and studied during the Environmental Assessment and the relevant members of the public were either not consulted or were not being properly consulted.

What is this Environmental Assessment generally all about?

This Environmental Assessment was established to explore the potential to expand transit to the City of Toronto's waterfront, specifically the Port Lands, West Don Lands and East Bayfront communities. The process to select preferred conceptual designs and implementation plans for the transit projects within the three communities falls under the requirements of an Individual Environmental Assessment.

How will Transit be Evaluated in Each Community as Part of the Environmental Assessment Process?

The Terms of References for the Environmental Assessment studies for Port Lands, West Don Lands and East Bayfront will be completed as one undertaking. This process is being followed because: (a) 'provision of transit' is the same for all three communities; (b) many of the issues are expected to be the same, so that any differences can be addressed through notation in one ToR document, rather than the completion of three separate Terms of Reference; and (c) members of the public will be similar for all three Environmental Assessments.

Following Ministry of the Environment approval of the Terms of Reference, two separate Environmental Assessment studies will be completed.

Who initiated this Environmental Assessment?

The Toronto Waterfront Revitalization Corporation (TWRC) and the Toronto Transit Commission (TTC) have commenced this Environmental Assessment and are considered the project's proponents.

What Led to the Commencement of this Environmental Assessment?

New transit is needed because of projected growth in the area. Preparations are being made to provide infrastructure to complement new waterfront development planned for the Port Lands, West Don Lands and East Bayfront communities. The revitalization of Toronto's waterfront will transform 809 hectares (2000 acres) of underutilized land into 40,000 units of new residential development, cultural attractions, 303 hectares (750 acres) of parks, mixed use districts and one million square meters of employment space, industrial employment space. Within the waterfront, the 32 hectares (80 acres) comprising the West Don Lands will include 6000 residential housing units, a 7.6 hectare (19 acres) Don River Park and almost 93,000 square meters of commercial space. The 36 hectares (90 acres) of lands comprising the East Bayfront includes 7000 residential housing units, the 1.6 hectare (4 acres) Sherbourne Park and over 185,000 square meters of commercial space.

The revitalization of the West Don Lands and East Bayfront Lands are approved through the City of Toronto's adoption of the Central Waterfront Secondary Plan. The City of Toronto outlined a Precinct Planning process to implement the Secondary Plan. The Precinct Plans were completed by the Toronto Waterfront Revitalization Corporation

("TWRC"). The Precinct Plans direct the preparation of zoning bylaws and provide guidelines for public infrastructure.

Appendix N: Comments Received During The Process

Date of Comment	Organization	Comment To	Via	Comments/Questions	Response	Respondent	Via	Response Date	Action
04-Dec-05	Queen's Quay East Transport Committee, Central Waterfront Neighbourhood Association	Bill Dawson, TTC	E-mail	Indicated a committee was formed to deal with transportation issues along the Queens Quay East. and asked for a meeting in the future.					
26-Jan-06	Queen's Quay East Transport Committee, Central Waterfront Neighbourhood Association	Bill Dawson, TTC	E-mail	Asked for an update on the transit study and potential meeting.	Indicated that the Waterfront Transit EAs study is about ready to proceed and offered to include their organization on the Community Liaison Committee.	Bill Dawson, TTC	E-mail	27-Jan-06	Add Margaret Samuel, Central Waterfront Neighbourhood Association to the CLC.
	Inglehook Public School	Steven Willis, MMM	Phone	Asked a question about a potential King Street streetcar line and potential impact on the school.	Identified a potential route but indicated that the Class EA Master Plan did not define whether land would be required from the school. and that a detailed analysis of this would be done during the Transit EA. Offered to include school on the Community Liaison Committee.	Kristy Findlay, TWRC	E-mail	15-Feb-06	Ask a representative from Inglewood Public School to be part of CLC.
08-Mar-06	St. Lawrence Market Neighbourhood BIA	Kristy Findlay, TWRC	E-mail	Indicated that the Union Station Public Advisory Committee has concern for the current low volume use of the TTC Queens Quay streetcar to the Station house; indicated interested in expanding that connection to this transportation hub.	None. Comment received in response to invitation to sit on CLC.				
20-Mar-06	General Public	Kristy Findlay, TWRC	E-mail	Interested in learning more about the Transit EA.	Offered assistance to talk or meet with gentleman at his convenience.	Loren Polonsky, HSAL	E-mail	20-Mar-06	
24-Mar-06	Don Watershed Technical Administrative Clerk, TRCA	Dave Hardy, HSAL	E-mail	Asked how the Terms of Reference would address the work being done simultaneously for the Waterfront Transit EAs, Mouth of the Don River EA and the Class EA for the Roads.	Incorporated the suggestion into the Waterfront Transit EA ToR document.				
04-Apr-06	West Don Lands Committee	Kristy Findlay, TWRC	E-mail	Asked to see a draft of the CLC meeting summary earlier.	Indicated that several project team members had to review the meeting summary prior to distribution to the CLC.	Kristy Findlay, TWRC	E-mail	04-Apr-06	
05-Apr-06	Task Force to Bring Back Don	Kristy Findlay, TWRC	E-mail	Interested in understanding how the QQ Extension EA will interact with the Transit EA currently underway. Asked the project team to comment on the possible timing of the initiation of that Precinct Plan/EA.	Indicated that the study was renamed and would be initiated shortly. Also indicated that the scope was broadened to have a better blend of Transportation, EA and Planning considerations.	Kristy Findlay, TWRC	E-mail	05-Apr-06	
05-Apr-06	West Don Lands Committee	Kristy Findlay, TWRC	E-mail	Also interested in understanding how the QQ Extension EA will interact with the Transit EA currently underway.	Indicated that the study was renamed and would be initiated shortly. Also indicated that the scope was broadened to have a better blend of Transportation, EA and Planning considerations.	Kristy Findlay, TWRC	E-mail	05-Apr-06	
07-Apr-06	Air Pollution Coalition	Dave Hardy, HSAL	E-mail	Asked to participate on Community Liaison Committee.	Request made to project team.	Dave Hardy, HSAL	E-mail	07-Apr-06	Invited to participate on CLC
26-May-06	Air Pollution Coalition	Andrea Kelemen, TWRC	Phone call	Asked the project team to amend comments that were misunderstood during the last CLC.	Suggested calling Dave Hardy, public consultation manager, to discuss the modifications. Mr. Hardy discussed these revisions with Ms. Gary at a public workshop on June 6.	Andrea Kelemen, TWRC	E-mail	06-Jun-06	
31-May-06	St. Lawrence Market Neighbourhood BIA	Andrea Kelemen, TWRC	E-mail	Comment: As a resident of the area and with knowledge of current retail development I see traveling out of the downtown for shopping is a growing number of trips. There will be a large commercial clustering at Leslie and Lakeshore Blvd. This cluster is of large square foot retailers which now control 78% of all retail dollars. The Wal-Mart-ized large square foot retailers will not be building downtown (example, waterfront Home-Depot site). This new type of retail will create a need for proper linkages within the transit system proposed, yet is not within your current terms of reference. The second location of modern retailing which will draw people from waterfront communities is Gerrard Sq. and will generate many north south trips. This should be addressed in plans for Carlaw's north-south development. Shopping if essential and social and the motivation of many transit trips, but not addressed in the terms of reference. Another point to consider regarding commercial development is the creation of a transit intersection at Parliament or Cherry Sts. and Queen's Quay.	[illegible] Additional comment: We know of the proposed retail/commercial cluster at Leslie St. and Lakeshore Blvd. and service from the study area to this cluster is specifically in our current draft terms of reference. Consistent with the Secondary Plan for the area, we will look at a continuous transit line from Union Station east along Queens Quay, south on Cherry Street, east on Commissioners Street and north on Leslie Street serving the proposed commercial site at Leslie and Lakeshore. You also mention the importance of linkages to the commercial development at Gerrard Square. A north-south connection from the Port Lands on Carlaw Ave. north to Gerrard and to the BD subway is included in the transit network being evaluated, and will be identified.	Bill Dawson, TTC	E-mail	01-Jun-06	
01-Jun-06	Toronto Pedestrian Committee	Bill Dawson, TTC	E-mail	Suggested that he Toronto Pedestrian Committee would be a good addition to the CLC for the Terms of Reference.	Invited the organization to participate on the CLC.	Andrea Kelemen, TWRC	E-mail	05-Jun-06	Invited to participate on CLC

Appendix O

Documents / Materials Received During the Process

TTC-TWRC Waterfront Transit Environmental Assessments

May 8, 2006

On March 29 and April 6 2006, I took a walking tour of all intersections where a proposed LRT line may go from York St to Kingston Rd and from Queen St to the waterfront where I took 4 photographs of each major intersection for the Waterfront Transit Environmental Assessments.

Unwin Ave and east of Don Roadway on Commissioners St have not been photograph at this time as well the lake Shore Blvd E east of Leslie St. This will be done this month.

From the photographs, all proposed LRT lines will have to run in mix traffic with the exception of the proposed Lake Shore Blvd E, Queen Quay E, Commissioners St and Unwin Ave lines that can be in an ROW.

To bring an LRT line south on the proposed Broadview Ave south of Eastern Ave E will require an underpass being built under the Kingston Sub rail tracks and swing to the east of the current location of manufacturing company.

How to bring the proposed Broadview LRT south of the Kingston Sub tracks has two issues facing it. One is the CN-CP rail storage tracks as they current run east-west at this time and are use to store cars for various companies in the Waterfront area. The 2nd issue is how to take the proposed Broadview LRT lines across the Lake Shore Blvd E without major impact on the traffic on the Lake Shore Blvd E. The 2nd issue will apply to all other proposed LRT lines that will cross the Lake Shore Blvd E at various points. The only option open at this time is to tunnel under both issues.

All proposed LRT Lines going north of Queen St E will be in mix traffic other than the Don Mills line at this time. Logan Ave is 100% rule out as the street is only 3 lanes wide compare to the normal 4 lanes. Pape Ave narrows to 2 lanes north of Queen St E and there are 2 Studio in the way south of Eastern Ave as well no road there in the first place.

An LRT line can go up Carlaw Ave, but will have to be tunnel from Gerrard St to Pape Ave to go under the Kingston Sub tracks as well connecting to Pape Ave. This will have a major impact on the shopping plaza on the north-east corner of Carlaw Ave and Gerrard St. A rebuilt plaza can be put back in this area once a tunnel is built.

Running a proposed LRT line up Cherry St from Unwin Ave to King St has three issues facing it. One issue is turning cars east or west at King St and Sumack St and that will require the expropriation of buildings on the south side of King St at Sumack St. The 2nd issue is to take the line across the Lake Shore Blvd E and under the Kingston Sub and the Gardiner Expressway. The third one is building a new bridge over the Keating Channel.

There is a need to look at putting a proposed LRT line on both Eastern Ave and the Lake Shore Blvd E as express lines.

As for the Queen Quay E LRT line, there are 3 issues facing it. One is the CN Spur Line servicing the Tate & Tyle sugar plant formally known as RedPath at Lower Jarvis St area. The 2nd issue is how the Queen Quay LRT line will connect with the Cherry St LRT line at the Parliament St Slip as well with the proposed Parliament St LRT Line. The 3rd one is how to connect with the proposed Lake Shore Blvd Line.

There are 2 options to deal with the CN Spur Line on the Queen Quay E and both will see the eliminations of the line east of Lower Jarvis St 100%. By doing so, it will allow the reduction of distance between the building faces along the Queen Quay E.

Option one would see the current CN Spur going north in the middle of Lower Jarvis St to Lake Shore Blvd. E. One the Spur reaches the Lake Shore Blvd E; The CN Spur Line will cross the Lake Shore Blvd E on a diagonal line to the north-east side of Jarvis St and the Gardiner Expressway to the land between the Gardiner Expressway and the Rail embankment. There is enough land in this area to put 3-4 storage tracks in to store hopper cars. That will be move during the night.

There are 2 ways to get the hopper cars backup to the main rail tracks and both will be on a 2-2.5% grade. Since only a few cars will be moved at any given time, this grade will have very little impact on CN movement. Option A would see the CN crossing Jarvis St to get back up to the main line where option B would CN crossing Sherbourne St. Of the two, I would recommend option B.

Option 2 would require too move the current stub end track further west about another 100 feet. A new left turn switch would be installed in front of the current right hand one. This would allow the CN Spur Line to go north on the west side of Loblaws to the Lake Shore Blvd E and then cross on a diagonal to the north side of the of it as note under option one. This option will have greater impact on the Lake Shore Blvd E and Jarvis St than option one.

There is no room on Tate & Tyle land to put a storage yard for the hopper cars other than buying more land on either side of the current location.

[redacted]
CLC member for Toronto Rocket Riders and GTA transit advocate.

TTC-TWRC Waterfront Transit EA Vehicle Ridership

Type of Vehicles		Headway Between Vehicles											
		1 minute service	2 minute service	3 minute service	4 minute service	5 minute service	6 minute service	7 minute service	8 minute service	9 minute service	10 minute service	15 minute service	20 minute service
40 foot bus													
Cost	$550,000	**Maximum Number of Riders being move at any given point**											
Life of Vehicle	15-20 years												
Number of seats	38												
Carries riders for off peak time	45	2700	1350	900	675	**540**	450	386	338	300	270	180	135
Carries riders for peak time	55	3300	1650	1100	825	**660**	550	471	413	367	330	220	165
Crush load	75	4500	2250	1500	1125	**900**	750	643	563	500	450	300	225
40 foot bus Hybrid													
Cost	$800,000	**Maximum Number of Riders being move at any given point**											
Life of Vehicle	15-20 years												
Number of seats	38												
Carries riders for off peak time	45	2700	1350	900	675	**540**	450	386	338	300	270	180	135
Carries riders for peak time	55	3300	1650	1100	825	**660**	550	471	413	367	330	220	165
Crush load	75	4500	2250	1500	1125	**900**	750	643	563	500	450	300	225
60 foot Articulated bus													
Cost	$800,000	**Maximum Number of Riders being move at any given point**											
Life of Vehicle	15-20 years												
Number of seats	56												
Carries riders for off peak time	65	3900	1950	1300	975	**780**	650	557	488	433	390	260	195
Carries riders for peak time	75	4500	2250	1500	1125	**900**	750	643	563	500	450	300	225
Crush load	100	6000	3000	2000	1500	**1200**	1000	857	750	667	600	400	300
60 foot Articulated bus Hybrid													
Cost	$1,100,000	**Maximum Number of Riders being move at any given point**											
Life of Vehicle	15-20 years												
Number of seats	56												
Carries riders for off peak time	65	3900	1950	1300	975	**780**	650	557	488	433	390	260	195
Carries riders for peak time	75	4500	2250	1500	1125	**900**	750	643	563	500	450	300	225
Crush load	100	6000	3000	2000	1500	**1200**	1000	857	750	667	600	400	300

TTC-TWRC Waterfront Transit EA Vehicle Ridership

Type of Vehicles		Headway Between Vehicles											
		1 minute service	2 minute service	3 minute service	4 minute service	5 minute service	6 minute service	7 minute service	8 minute service	9 minute service	10 minute service	15 minute service	20 minute service
40 foot Trolley bus													
Cost	$1,300,000	**Maximum Number of Riders being move at any given point**											
Life of Vehicle	15-20 years												
Number of seats	38												
Carries riders for off peak time	45	2700	1350	900	675	**540**	450	386	338	300	270	180	135
Carries riders for peak time	55	3300	1650	1100	825	**660**	550	471	413	367	330	220	165
Crush load	75	4500	2250	1500	1125	**900**	750	643	563	500	450	300	225
60 foot Trolley bus													
Cost	$1,900,000	**Maximum Number of Riders being move at any given point**											
Life of Vehicle	15-20 years												
Number of seats	56												
Carries riders for off peak time	65	3900	1950	1300	975	**780**	650	557	488	433	390	260	195
Carries riders for peak time	75	4500	2250	1500	1125	**900**	750	643	563	500	450	300	225
Crush load	100	6000	3000	2000	1500	**1200**	1000	857	750	667	600	400	300
CLRV Streetcar													
Cost		**Maximum Number of Riders being move at any given point**											
Life of Vehicle	30-50 years												
Number of seats	46												
Carries riders for off peak time	75	4500	2250	2040	1530	**1224**	1020	874	765	500	612	408	306
Carries riders for peak time	102	6120	3060	2640	1980	**1584**	1320	1131	990	680	792	528	396
Crush load	132	7920	3960	2640	1980	**1584**	1320	1131	990	880	792	528	396
ALRV Streetcar													
Cost	$1.369,000	**Maximum Number of Riders being move at any given point**											
Life of Vehicle	30-50 years												
Number of seats	61												
Carries riders for off peak time	100	6000	3000	2000	1500	**1200**	1000	857	750	667	600	400	300
Carries riders for peak time	155	9300	4650	3100	2325	**1860**	1550	1329	1163	1033	930	620	465

TTC-TWRC Waterfront Transit EA Vehicle Ridership

Type of Vehicles		Headway Between Vehicles											
		1 minute service	2 minute service	3 minute service	4 minute service	5 minute service	6 minute service	7 minute service	8 minute service	9 minute service	10 minute service	15 minute service	20 minute service
Crush load	205	12300	6150	4100	3075	**2460**	2050	1757	1538	1367	1230	820	615

TTC-TWRC Waterfront Transit EA Vehicle Ridership

Type of Vehicles		Headway Between Vehicles											
		1 minute service	2 minute service	3 minute service	4 minute service	5 minute service	6 minute service	7 minute service	8 minute service	9 minute service	10 minute service	15 minute service	20 minute service
New LRT's													
Cost	$3,500,000					**Maximum Number of Riders being move at any given point**							
Life of Vehicle	30-50 years												
Number of seats	65												
Carries riders for off peak time	100	6000	3000	2000	1500	**1200**	1000	857	750	667	600	400	300
Carries riders for peak time	150	9000	4500	3000	2250	**1800**	1500	1286	1125	1000	900	600	450
Crush load	225	13500	6750	4500	3375	**2700**	2250	1929	1688	1500	1350	900	675
2 Car LRT Unit						**Maximum Number of Riders being move at any given point**							
Number of seats	130												
Carries riders for off peak time	200	12000	6000	4000	3000	**2400**	2000	1714	1500	1333	1200	800	600
Carries riders for peak time	300	18000	9000	6000	4500	**3600**	3000	2571	2250	2000	1800	1200	900
Crush load	450	27000	13500	9000	6750	**5400**	4500	3857	3375	3000	2700	1800	1350
T1's Subway car													
Cost	$2,500,000					**Maximum Number of Riders being move at any given point**							
Life of Vehicle	30-50 years												
Number of seats	66												
Carries riders for off peak time	100		3000	2000	1500	**1200**	1000	857	750	667	600	400	300
Carries riders for peak time	250		7500	5000	3750	**3000**	2500	2143	1875	1667	1500	1000	750
Crush load	315		9450	6300	4725	**3780**	3150	2700	2363	2100	1890	1260	945
2 T1's Subway car						**Maximum Number of Riders being move at any given point**							
Number of seats	132												
Carries riders for off peak time	200		6000	4000	3000	**2400**	2000	1714	1500	1333	1200	800	600
Carries riders for peak time	500		15000	10000	7500	**6000**	5000	4286	3750	3333	3000	2000	1500
Crush load	630		18900	12600	9450	**7560**	6300	5400	4725	4200	3780	2520	1890

TTC-TWRC Waterfront Transit EA Vehicle Ridership

Type of Vehicles		Headway Between Vehicles											
		1 minute service	2 minute service	3 minute service	4 minute service	5 minute service	6 minute service	7 minute service	8 minute service	9 minute service	10 minute service	15 minute service	20 minute service
3 T1's Subway car		**Maximum Number of Riders being move at any given point**											
Number of seats	198												
Carries riders for off peak time	300		9000	6000	4500	**3600**	3000	2571	2250	2000	1800	1200	900
Carries riders for peak time	750		22500	15000	11250	**9000**	7500	6429	5625	5000	4500	3000	2250
Crush load	945		28350	18900	14175	**11340**	9450	8100	7088	6300	5670	3780	2835
6 car New Subway Train													
Cost	$21,500,000	**Maximum Number of Riders being move at any given point**											
Life of Vehicle	30-50 years												
Number of seats	394												
Carries riders for off peak time	600		18000	12000	9000	**7200**	6000	5143	4500	4000	3600	2400	1800
Carries riders for peak time	1600		48000	32000	24000	**19200**	16000	13714	12000	10667	9600	6400	4800
Crush load	2000		60000	40000	30000	**24000**	20000	17143	15000	13333	12000	8000	6000
4 car Monorail													
Cost	$15,500,000	**Maximum Number of Riders being move at any given point**											
Life of Vehicle	30 -50 years												
Number of seats	177												
Carries riders for off peak time	415		12450	8300	6225	**4980**	4150	3557	3113	2767	2490	1660	1245
Carries riders for peak time	692		20760	13840	10380	**8304**	6920	5931	5190	4613	4152	2768	2076
Crush load	966		28980	19320	14490	**11592**	9660	8280	7245	6440	5796	3864	2898
3 Car DLRV													
Cost	$5,000,000	**Maximum Number of Riders being move at any given point**											
Life of Vehicle	30 -50 years												
Number of seats	177												
Carries riders for off peak time	250		7500	5000	3750	**3000**	2500	2143	1875	1667	1500	1000	750
Carries riders for peak time	375		11250	7500	5625	**4500**	3750	3214	2813	2500	2250	1500	1125
Crush load	450		13500	9000	6750	**5400**	4500	3857	3375	3000	2700	1800	1350

TTC-TWRC Waterfront Transit EA Vehicle Ridership

Type of Vehicles	Headway Between Vehicles											
	1 minute service	2 minute service	3 minute service	4 minute service	5 minute service	6 minute service	7 minute service	8 minute service	9 minute service	10 minute service	15 minute service	20 minute service
	Number of Vehicles required at one stop to carry 5,000/hr riders at peak time											
40 foot bus	55	91	40	seconds headway								
60 foot Articulated bus	75	67	54	seconds headway								
CLRV Streetcar	102	49	73	seconds headway	1.13							
ALRV Streetcar	155	32	112	seconds headway	1.52							
New LRT's	150	33	108	seconds headway	1.48							
2 Car LRT Unit	300	17	216	seconds headway	3.36							
T1's Subway car	250	20	180	seconds headway	3.00							
2 T1's Subway car	500	10	360	seconds headway	6.00							
3 T1's Subway car	750	7	540	seconds headway	9.00							
6 car New Subway Train	1,600	3	1152	seconds headway	20.00							
4 car Monorail	692	7	498	seconds headway	8.38							
3 Car DLRV	375	13	270	seconds headway	4.30							

Notes:

1. CLRV's are due to be retired starting with 4 in 2008, 11 in 2009, 99 in 2010 and 82 in 2011 based on delivery date. 102 of them are schedule to be rebuilt to last another 13 years at a cost of $1.1 million each. Delivery of first prototype was schedule for 2007 with 15 in 2008, 30 in 2009, 30 in 2010, 30 in 2011 and 10 in 2012 subject to funding. Funding is currently delay at this time and maybe put into 2007 budget.

2. ALRV's were delivery in 1987-89 and are schedule to go under midlife rebuilt now. Schedule to be retire in 2018.

3. Ridership is based on maximum load at any given point not allowing for more riders wanting to get on or off along the route.

4. Cost to put a TTC Vehicle on the road is $110 per hour and a minimum of 4 hours for split shift.

5. Cost to build a subway is $125-$250 million per K

6. Cost to build a Monorail is $80-$150 million per K

7. Cost to build an ROW for LRT is $15-$35 million per K

TTC-TWRC Waterfront Transit EA Vehicle Ridership

Type of Vehicles	Headway Between Vehicles											
	1 minute service	2 minute service	3 minute service	4 minute service	5 minute service	6 minute service	7 minute service	8 minute service	9 minute service	10 minute service	15 minute service	20 minute service

8. Cost to build an ROW for BRT is $10-$35 million per K

9. First LRT prototype is schedule to show up between 2010-12 with the remaining 99 arriving 2012-214

10. Both the Subway and Monorail lowest headway is 90 seconds if built to today standards from day one.

11. Crush load is total unacceptable and discourage people from using to use transit in the first place.

12. The different in cost between BRT and LRT has to do with the cost of rails, overhead wires and power sub

13. Every 20-30 years, both the roadway for both the LRT and BRT will have to be rebuilt with the BRT seeing resurfacing of asphalt depending on type of service in-between construction and rebuilt time.

TORONTO WATERFRONT TRANSIT POTENTIAL ALTERNATIVE
HYDROGEN FUEL CELL BUSES
A COMPILATION OF SELECTED INFORMATION MATERIALS
MAY 9, 2006
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www.hydrogenvillage.ca

About Hydrogen Village

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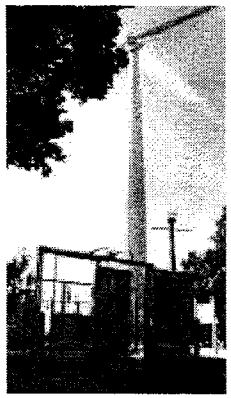


Exhibition Place Refueling Station

This facility uses an electrolyser to produce up to 65 kg/day of fuel cell-grade hydrogen for vehicle refuelling. Power for the hydrolyser comes from the adjacent wind turbine (not directly coupled). The facility includes compression, storage and dispensing equipment at a site that is accessible to vehicle fleets and on display to the public.

Application: Vehicle refueling

Technology: PEM Electrolysis
Hydrogen Storage using ASME Steel Cylinders

Location: West end of Exhibition Place
10 Alberta Circle, Toronto

Contributors:

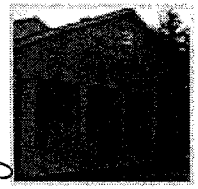
Canadian Transportation Fuel Cell Alliance (CTFCA) - NRCan
City of Toronto
Exhibition Place

Hydrogen Early Adopters Program (h2EA) - Technology Partnerships
Canada
Hydrogenics

Status: Opened August 25, 2004

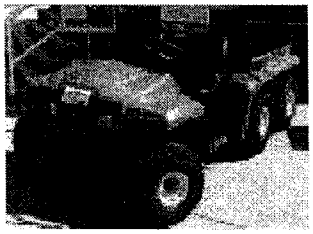
back to Projects

About Hydrogen Village



Projects

Members



Exhibition Place Gators

Exhibition Place operates two zero-emission John Deere 4x6 Gator utility vehicles. These vehicles use a hybrid power train that is composed of a 12 kW fuel cell and Ultra capacitors.

The vehicles also serve as portable 12 kW generators for remote power requirements. These vehicles refuel at the Exhibition Place Refueling Station.

Application: Utility vehicles and remote power supply.

Technology: Hydrogen PEM fuel cell/Ultra capacitor hybrid powered utility vehicles with vehicle-mounted power outlets.

Location: Exhibition Place, Toronto

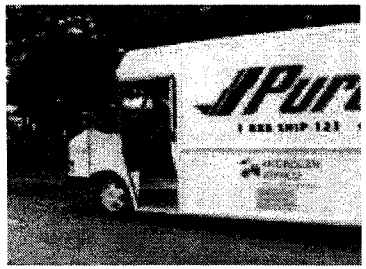
Contributors:
City of Toronto
Exhibition Place
Hydrogen Early Adopters Program (h2EA) - Technology Partnerships Canada
Hydrogenics
John Deere

Status:
Launched April 2005
Two more units to be delivered in Summer 2006

About Hydrogen Village

Projects

Members



Purolator Vehicle and Station

Purolator operates a full-size, curbside delivery van powered by a fuel cell/battery hybrid system. A facility in Purolator's West Toronto Terminal provides hydrogen for this zero-emission vehicle. The vehicle operates at full highway speed and in stop-and-go traffic in Toronto's downtown core. The hybric system uses a 65 kW fuel cell that charges and maintains charge on a 120 kW bank of batteries. The fuel cells also provide power to the electric motors when full power is required.

Application: Vehicle and vehicle refueling

Technology: PEM 65 kW fuel cell/battery hybrid vehicle

Location: Purolator's West Toronto Facility
800 Kipling Avenue

Contributors: Canadian Transportation Fuel Cell Alliance (CTFCA) - NRCan
Hydrogen Early Adopters Program (h2EA) - Technology Partnerships Canada
Hydrogenics
Purolator

Status: Launched May 27, 2005

back to Projects

Page 5

Heavy-Duty HCNG Transit Buses

Project Location

Port Coquitlam, British Columbia

Project Description

Sacré-Davey Innovations, with partner Westport Innovations and contributing member TransLink, is developing, converting and demonstrating four TransLink buses during normal service that are using a blend of hydrogen and compressed natural gas (HCNG). These buses will obtain fuel from a new fueling station located at TransLink's Port Coquitlam Transit Centre. The fuel will be captured from a hydrogen waste stream in North Vancouver, processed, then transported to Port Coquitlam.

This is the sixth sub-project in the Integrated Waste Hydrogen Utilization Project (IWHUP) and is part of TransLink's regional transit plan. TransLink is testing and evaluating a variety of innovative and alternative fuelling options for its buses. Results from this program will help TransLink plan the future expansion and development of its bus fleet.

About the Project Partners

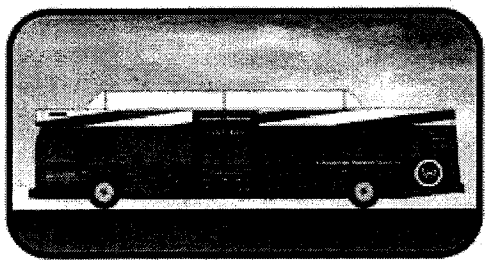
Sacré-Davey Innovations

Sacré-Davey Innovations Inc, based in North Vancouver, British Columbia, is a product and systems integration company that services a growing need for

Project Links

www.sacre-davey.com/
www.westport.com/
www.translink.bc.ca/

Integrated Waste Hydrogen Utilization Project
Waste Hydrogen Purification and Supply
Light-Duty Hydrogen Vehicle Fuelling Station
Heavy-Duty Fuelling Station
Compressed Hydrogen Distribution
Light Duty Hydrogen Vehicles
Industrial Fuel Cell Car Wash



complete environmentally sustainable solutions. Areas of experience include hydrogen energy systems, gas processing, landfill and natural gas, industrial effluent systems, water purification and PCB cleanup.

Westport Innovations Inc.

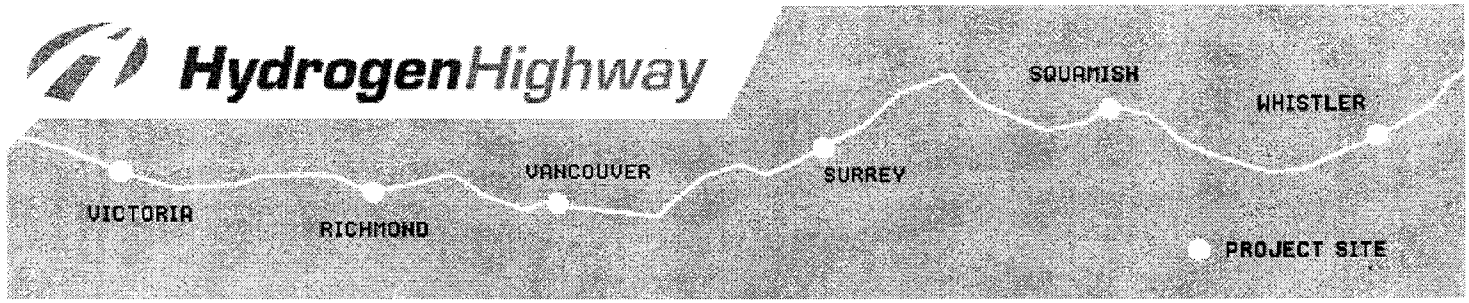
Westport Innovations Inc., based in Vancouver, is a leading developer of environmental technologies that enable vehicles to operate on clean-burning alternative fuels.

TransLink

TransLink, the Greater Vancouver Transportation Authority, is involved with transportation planning, administration of service contracts with subsidiary companies and contractors, the management of capital projects, financial management and planning, public affairs and supporting business functions.

TransLink's Security and Law Enforcement provides security and enforcement for Coast Mountain Bus, SeaBus, SkyTrain, and West Coast Express.

Return to list of Mobile projects >



Visit the highway

About the hydrogen highway

The Hydrogen Highway is a large scale, coordinated demonstration and deployment program for hydrogen and fuel cell technologies. The project leaders and participants come from British Columbia's hydrogen and fuel cell industry, government and industry associations, academic institutions and from forward-thinking organizations who participate by using or purchasing the technologies as part of a demonstration or deployment.

The amount of technology that you can 'see' when you 'visit' the Hydrogen Highway will grow over time. Below is a summary of the projects and proposals that will ultimately form the Hydrogen Highway. Those with elements that are open to public or commercial viewing are highlighted below, and contact information provided.

Victoria

- Flashlights for Campus Security - University of Victoria
- Victoria Station

Whistler

Stay tuned...

North Vancouver

- B2 Bike Light
- **INTEGRATED WASTE HYDROGEN UTILIZATION PROJECT**
  - Waste Hydrogen Purfication and Supply

- Light-Duty Hydrogen Vehicle Fuelling
- Heavy-Duty Fuelling Station
- Compressed Hydrogen Distribution
- Heavy-Duty HCNG Transit Buses
- Light-Duty Hydrogen Vehicles
- Industrial Fuel Cell Car Wash

Vancouver

- Fuel Cell Emergency Backup Power
- High Quality Hydrogen Supply - Merchant Tube Trailer Delivery
- Hydrogen Internal Combustion Engine Transit Buses
- Pacific Spirit Station
- PDA Battery Replacement – Local Hospitals
- Power Generation for Buildings - Solid Oxide Fuel Cell
- Renewable Hydrogen Production – Green Certified Electricity
- Renewable Hydrogen Production – On-Site Solar Hydrogen Generation
- Urban Search and Rescue – Emergency Lighting

Vancouver International Airport

- Airport Baggage Tug
- Two-way Radio Battery Replacement – Airport Operations

Surrey

- Powertech Station

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News

Last call at the Boot Pub

Finding one's passion on a snowboard

The marvel that is eBay

Addressing the disabled

The marvel that is eBay

Addressing the disabled

Volunteering is the best job yet

May Day! May Day!

Ridin' on a rail into the local history books

Students create 'Stream of Dreams'

Hatchery decision draws mixed reaction

Silverthorne rezoning rejected

Rainbow commercial space reduced

'Patient' Council OKs athletes' village plan

'Relaxed, fun' Lot 1/9 concept eyed

IPP legislation draws opposition locally

Council, staff hold line on taxes

'The Community' to meet May 10

Fuel-cell bus project still in works

By David Burke
Reporter

May 9, 2006

Official optimistic Whistler will see hydrogen technology in time for 2010

dburke@whistlerquestion.com

B.C. Transit officials are optimistic that the province will be the site of the largest hydrogen fuel-cell bus pilot project in the world in 2008, and that Whistler will become the northern terminus of the so-called "Hydrogen Highway" in time to showcase the technology during the 2010 Olympics.

During a presentation to Whistler Council on Monday, B.C. Transit official Steve New said officials believe the project to bring 20 fuel-cell-powered buses to Whistler, Victoria and other communities has the support of both the federal and provincial governments, in spite of the recent election of a new Conservative government in Ottawa.

He said B.C. Premier Gordon Campbell recently reiterated his government's support for the seven-year, $89 million bus project.

Asked by Councillor Nancy Wilhelm-Morden how confident he was that the project — an initiative spearheaded by Industry Canada under the old Liberal government — still has federal support, he said, "This remains a high priority at Industry Canada. The signs are still positive — it's still early to say that with much confidence, but the signs are positive."

As described by New, the fuel-cell buses that come to Whistler would replace some of the older buses in the current Whistler Transit fleet. In addition to showcasing B.C. and Canadian-based technologies during the 2010 Games, the buses would support the Whistler 2020 vision by operating on zero emission of either airborne pollutants or greenhouse gases.

In addition to enhancement of the Whistler bus fleet, the project would bring enhancements to Whistler's bus maintenance garage, and the help from B.C. Transit would help Whistler contain the cost of its transit system, he said. As well, the fueling facility would be among the first hydrogen-fueling sites along the Hydrogen Highway, which would stretch south from Whistler, perhaps as far as California, he said.

While other countries have showcased fuel-cell buses in other countries, those typically have featured two or three buses per

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P3s don't save communities money, author says

Counterpetition process set on plant upgrade

Brownlie named to Tourism B.C. board

WB not for sale, Houssian insists

Editorial

Local input gets short end of the stick

Sports

Coffee: give up 'giving up'

Motocross races this weekend

Nakajima: the ice skate swan

Fishers cast off at Whistler Open

Backcountry advisory as of Wed., May 3

Loonies ready to rock 'n' roll tonight

Motocross races this weekend

shorts...

Bike Park set to open next week

Pemberton

Entertainment

A time to laugh, a time to cry...

Get out and about with Dine and Unwind

Fair to help celebrate Wellness Week

Youngsters get behind the camera, scenes

Scratch your acting itch this Sunday

Point's work unique among First Nations

location, New said.

"This project really moves fuel-cell technology into operational mode in terms of infrastructure, which right now is limited," he said.

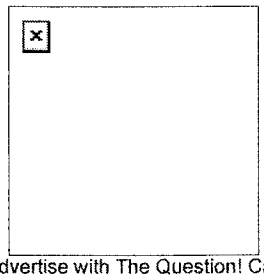
Councillor Eckhard Zeidler noted that while it's technically feasible to produce hydrogen without the use of fossil fuels, it's still an extremely expensive process. He asked New how B.C. Transit envisioned producing the hydrogen needed for the buses.

New said the first method will likely produce the fuel through the reformation of natural gas. The other two methods which are envisioned later are electrolysis of water and the transport of liquid hydrogen by rail.

He said he can see "synergies" between the fuel-cell bus initiative and the RMOW's planned partnership with Terasen Gas on a sustainable energy strategy. The latter, he noted, will include the construction of a $30 million natural gas pipeline from Squamish to Whistler. In the initial phase of the bus project, natural gas can be used to make hydrogen fuel, New said.

"I think the two programs are not mutually exclusive and could actually support each other," he said.

artists



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Contact Us

www.leadingedgebc.ca/usr_files/nextSpring04.pdf

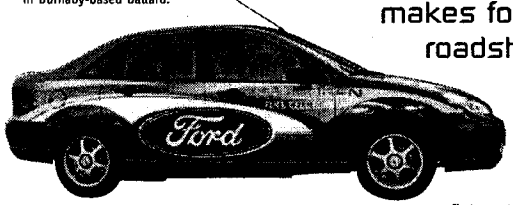
Vancouver in the fast-lane, says Ford

Impressed by the city's progressive attitudes, Ford of Canada will test a fleet of vehicles powered with Ballard® fuel cell engines on the streets of Vancouver later this year, says the motor company's president.

"Testing fuel-cell vehicles in everyday world conditions and applications is a critical step in moving the industry towards commercialization," Alain Batty told a Vancouver Board of Trade luncheon.

Batty said Vancouver was chosen because fuel-cell pioneer Ballard Power Systems is based in the city. As well, Vancouver's consumers are "very receptive to change" and routinely "early adopters" of new technology, he said.

Ford and DaimlerChrysler each have ownership stakes in Burnaby-based Ballard.



Testing Ford fuel-cell vehicles in everyday world conditions and applications is a critical step in moving the industry towards commercialization, says Ford of Canada President, Alain Batty.

Four Ford Focus fuel cell vehicles will be tested in the city for three years to determine the technology's "real-world applications." The goals of the demonstration program include technology testing, evaluating driver acceptance, measuring comfort with hydrogen fueling and educating the public on the benefits of fuel cell vehicles.

Ballard has also recently announced it will provide three of its latest generation heavy-duty fuel cell engines to EvoBus for integration into Mercedes-Benz Citaro buses for the public transport system in Perth, Australia.

Ballard will deliver the 205 kW heavy-duty fuel cell engines in the first half of 2004 and the buses will be placed in routine transit operation in the second half of 2004. Perth is the 12th city committed to demonstrating Ballard fuel cell engines in transit bus applications and will bring the total number of Ballard-powered buses on the roads this year to 36.

Thirty buses powered with Ballard® fuel cells are already on the road in 10 European cities, including Amsterdam, Barcelona, Hamburg, London, Luxembourg, Madrid, Porto, Reykjavik, Stockholm and Stuttgart. Ballard has also delivered three heavy-duty fuel cell engines to Gillig for the Santa Clara Valley Transportation Authority demonstration in California, where the buses will begin operating later this year.

Zero-emission fuel cells use hydrogen and air to produce electricity. The only byproducts created are a small amount of water and heat. Fuel cells provide two to three times the fuel economy of traditional gasoline and diesel engines. ▩

"The hydrogen highway will take us from the fossil-fuel economy we live in now to the new hydrogen economy," – Prime Minister Paul Martin.

Hydrogen highway makes for Olympic roadshow

The road to the 2010 Winter Games will be lined with hydrogen refuelling stations.

With the goal of becoming the first country in the world to "leap the hydrogen hurdle," Prime Minister Paul Martin pledged $1.1 million in federal funding for a network of hydrogen refuelling stations along the Vancouver-to-Whistler Sea-to-Sky Highway.

The project will enable hydrogen-powered buses to transport Olympic athletes and visitors, as well as showcase B.C.'s burgeoning fuel-cell industry.

"The hydrogen highway will take us from the fossil-fuel economy we live in now to the new hydrogen economy," Martin told an audience at GLOBE 2004, an environmental business tradeshow in Vancouver. "We have a world-class hydrogen and fuel-cell industry and, here in Vancouver, you are home to the largest cluster of fuel-cell expertise in the world."

The $1.1-million funding is part of a $215-million federal commitment to the development and commercialization of hydrogen and fuel-cell technologies. The project will establish stations in Victoria, Surrey, Vancouver International Airport, the University of B.C., Vancouver, North Vancouver and Whistler.

Partnering in the hydrogen highway effort are B.C.-based Ballard Power Systems, BC Hydro, Fuel Cells Canada and QuestAir, as well as Natural Resources Canada and National Research Council Canada. ▩

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3

What is NEXT?

We are NEXT

After a two-year pause, the technology sector has resumed its growth and development within the B.C. economy by posting its all-time highest numbers for GDP and employment in 2003.

And that's just for starters.

B.C.'s high-tech clusters comprising wireless, new media, information and communication technology, life sciences, alternative energy and environmental sciences continue to build critical mass and global presence.

Leading Edge British Columbia was created to ensure the province becomes recognized as a premier destination for technology enterprise. NEXT, our new quarterly publication, puts it in simple black and white for readers throughout North America.

Partnerships have been the main reason for LEBC's success. We have forged strong relationships with regional economic development organizations, consulates, industry, various levels of government, universities and research institutions – all of which are dedicated to promoting the recruitment of our burgeoning industry and our province's highly competitive business environment.

All key stakeholders share the same vision for the province's long-term, high-tech growth and aspiration for global recognition.

When LEBC was created late last year, B.C.'s premier Gordon Campbell declared: "Companies and researchers have put B.C. on track to be Canada's technology leader, generating economic opportunities and jobs in every region of the province. In turn, the province has worked with the industry to build the competitive business environment they need and to promote their competitiveness in key international markets."

The province has certainly walked the talk. Compared to other locations in the West Coast Technology Corridor, B.C. technology firms now enjoy a 23-per-cent advantage in annual business costs, combined with a competitive personal tax environment, the world's most aggressive R&D tax credit programs, leadership in key technology verticals, a world-class technology infrastructure and one of the most highly educated and motivated talent pools in North America. B.C.'s technology industry has all the elements to become a global technology destination.

Read NEXT to catch a glimpse of one of the most significant ground-floor opportunities of this decade. With a revitalized entrepreneurial spirit, B.C. has emerged as the technology industry's most progressive and inviting centre. Blue-chip bigwigs like Ford, KPMG, Deloitte, The Economist and others detailed in these pages agree, too.

Nowhere else do people enjoy such a perfect synergy of a dynamic business environment coupled with the inimitable West Coast lifestyle in one of the most vibrant, livable and beautiful cities in the world.

We are NEXT.

George Hunter is the president of Leading Edge British Columbia. He is also president of the B.C. Technology Industries Association, B.C.'s largest technology organization.

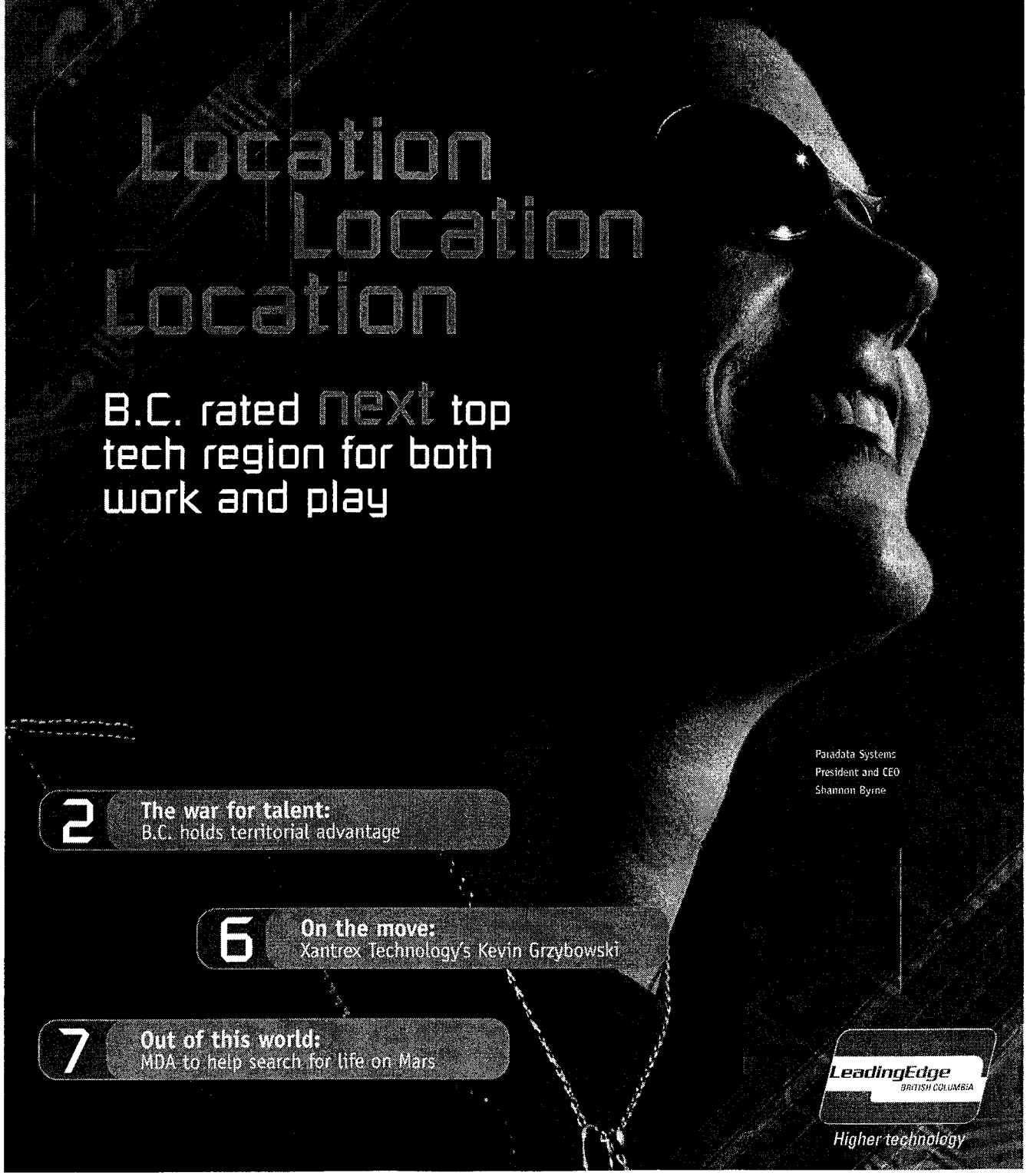
SPRING
2004
V1.1

next

TECHNOLOGY / BRITISH COLUMBIA / CANADA

Location Location Location

B.C. rated next top tech region for both work and play



Paradata Systems
President and CEO
Shannon Byrne

2 **The war for talent:** B.C. holds territorial advantage

6 **On the move:** Xantrex Technology's Kevin Grzybowski

7 **Out of this world:** MDA to help search for life on Mars

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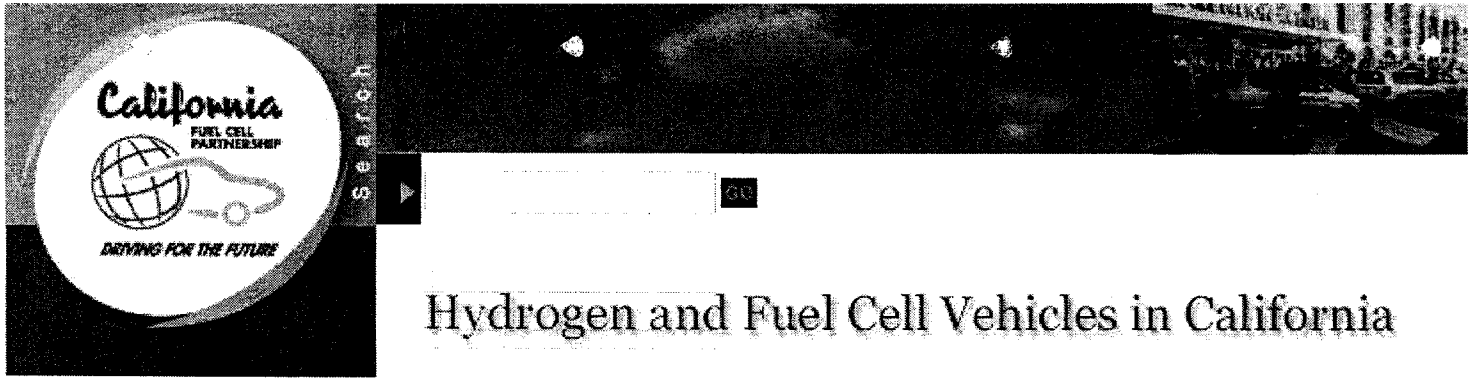
LeadingEdge BRITISH COLUMBIA
Higher technology



GO

Hydrogen and Fuel Cell Vehicles in California

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Hydrogen and Fuel Cell Vehicles in California

Members of the California Fuel Cell Partnership work together to promote the commercialization of fuel cell vehicles. The demonstration vehicles and stations that our members are placing throughout the state are an integral step in moving toward commercialization.

Where are the hydrogen fueling stations located?
What types of fuel cell vehicles are on California's roads?
Why is hydrogen being considered as a vehicle fuel?
How much does hydrogen cost?

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www.fuelcellpartnership.org

 3300 Industrial Blvd., Suite 1000 • West Sacramento, CA 95691 • phone (916)371-2870 • fax (916) 375-2008

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Fuel Cell Buses

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Fuel Cell Bus factsheet

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Fuel Cell Buses are on the road!

Fuel cell bus demonstrations allow for high visibility, real-world testing on controlled, in-service routes, supported by centralized fleet refueling and maintenance. CaFCP's bus demonstration program includes government representatives, fuel cell technology experts, and three California transit agencies who operate the demonstration sites: SunLine Transit Agency (Coachella Valley), Santa Clara Valley Transportation Authority (Silicon Valley), and AC Transit (Northeast San Francisco Bay).

At the beginning of 2005, Santa Clara VTA started operating three buses powered by Ballard Power Systems fuel cells. Later this year, AC Transit will run three Van Hool buses powered by UTC fuel cells and integrated by ISE Corporation. SunLine Transit Agency will also operate a Van Hool bus using ISE Corporation integration and UTC fuel cell technology.

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FUEL CELL BUS PROGRAM FACTSHEET

California Fuel Cell Partnership
3300 Industrial Blvd.
Suite 1000
West Sacramento, CA 95691

www.fuelcellpartnerhsip.org
info@cafcp.org

DaimlerChrysler

Ford Motor Company

GM

Honda

Hyundai

Nissan

Toyota

Volkswagen

Ballard Power Systems

UTC Fuel Cells

BP

ChevronTexaco

ExxonMobil

Shell Hydrogen

California Environmental Protection Agency,

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INTRODUCTION

On April 20, 1999, the California Fuel Cell Partnership formed to help advance fuel cell-powered electric vehicles - a new technology that promises to be a practical, affordable, and environmentally friendly transportation solution for California and the world. Transit buses using fuel cell technology can potentially reduce emissions and petroleum use, while operating more quietly than a conventional diesel bus.

While the placement of significant numbers of fuel cell buses into transit fleets is still out on the horizon, three agencies have taken steps to demonstrate the potential of fuel cells. The CaFCP will demonstrate seven fuel cell electric buses in regular transit service at Alameda Contra Costa Transit (AC Transit), SunLine Transit Agency (SunLine) and Santa Clara Valley Transportation Authority (Santa Clara VTA) beginning in 2004.

- AC Transit will procure three Van Hool buses powered by UTC Fuel Cells and integrated by ISE Research.
- Santa Clara VTA will procure three Gillig buses powered by Ballard fuel cells.
- SunLine will acquire a Van Hool bus, also using ISE Research and UTC Fuel Cells technology.

The buses will operate for two years in regular transit service, carrying fare-paying customers over normal routes.

TRANSIT BUS RULE

The California Air Resources Board (CARB) designated diesel emissions a toxic air contaminant in 1998. As such, transit buses will be required to further reduce tailpipe emissions. As part of this effort, CARB adopted a Transit Bus Fleet Rule and new bus emissions standards in February 2000, which includes a zero emission bus component. While the regulations do not specify the technology, some of the transit districts covered under this rule will meet these requirements utilizing direct hydrogen fuel cell technology. As a result, California's transit properties are in a unique environment as a first application of fuel cell vehicle technology in the heavy-duty sector.

DEMONSTRATION BENEFITS

Bus demonstrations have the potential to lead advances in other fuel cell applications as they offer an opportunity to collect data in a controlled environment:

- Buses will be placed in customer service on typical transit routes
- Central fueling and transit maintenance facilities can minimize infrastructure costs
- Professionally trained technicians work on-site

Air Resources Board

California Energy Commission

South Coast AQMD

U.S. Department of Energy

U. S. Department of Transportation

U. S. Environmental Protection Agency

AC Transit

Air Products and Chemicals

Methanex

Pacific Gas and Electric

Praxair

Proton Energy Systems

Santa Clara VTA

Stuart Energy

SunLine Transit Agency

Ztek

- Bus manufacturers and fuel cell suppliers can closely coordinate

Best of all, the buses will emit only a small amount of water - no pollution!

DATA COLLECTION

From 2004-2006, transit operators will collect and evaluate the following data from the fuel cell bus demonstration project:

- Operating and maintenance costs
- Range and fuel consumption
- Reliability of the fuel cell stack
- Service availability (hours in operation)
- Implementation/training experience
- Fleet/consumer/public acceptance
- Performance expectations
- Safety

The CaFCP seeks to collaborate with other bus demonstration programs in the United States, Europe and Japan to maximize information exchange and lessons learned.

THE BUSES

The Partnership's first fuel cell-powered bus - the ZEbus - completed an 18-month test at SunLine Transit Agency. The bus was operated in simulated bus service -- view the program evaluation report.

The ZEbus is powered by a pre-commercial, zero-emission P4 fuel cell engine, a compact but powerful 205 kilowatt (275 hp) power plant with fuel cell stacks from Ballard Power Systems. The P4 is almost two tons (2,000 kg) lighter than its P3 predecessor, and is less complex due to a reduction in the number of components.

The electric motor provides a reliable vehicle traction system and is projected to have excellent hill climbing ability, strong and smooth acceleration, and high road speed.

The 40-foot bus is virtually the same in all ways as a conventional transit bus - it can carry up to 78 passengers and is fully ADA compliant.

Additionally, a ThunderPower LLC hybrid fuel cell bus underwent road-testing and real-world passenger service at SunLine from October 2002 to March 2003 - view program information.

The 30' EZ-Rider Low-floor Thor Industries bus is equipped with a UTC 60kW PEM fuel cell, compressed hydrogen storage, advanced lead-acid batteries, and regenerative breaking for energy recovery.

ISL Research performed the system integration.

More information can be obtained by visiting the Web sites of each CaFCP member transit agency and other relevant organizations:

Alameda Contra Costa Transit
Santa Clara Valley Transportation Authority
SunLine Transit Agency
The Web site for the Northeast Advanced Vehicle Consortium (NAVC) contains additional information on fuel cells and the transit agency fuel cell effort. (NAVC is a non-profit association of private and public sector firms and agencies working together to promote advanced vehicle technologies in the Northeast U.S.)
California Energy Commission
California Air Resources Board

FUNDING

The bus demonstration program is funded by local, state and federal government agencies. Overall, approximately $27 million will be provided for purchase of buses, infrastructure and operations. These funds come from the U.S. Department of Transportation Federal Transit Administration, the U.S. Department of Energy, the California Transportation Commission, the California Air Resources Board, the California Energy Commission, the Bay Area Air Quality Management District and other local government sources.

The California Fuel Cell Partnership is a collaboration in which several companies and government entities are independent participants. It is not a joint venture, legal partnership, or unincorporated association.

Print Close

News & Events

SunLine Offering Free Trips on its Hydrogen Fuel Cell Bus!

Transit Agency urges Coachella Valley residents to experience the future of public transportation throughout the spring and summer.

Posted Date: 4/27/2006

Thousand Palms, CA – (April 24, 2006) – SunLine Transit Agency has announced that it is offering free transportation aboard its newest – and most technologically advanced – bus. The hydrogen-fueled vehicle represents a dramatic jump forward in emission-free transportation, and will continue to run fare-free until Labor Day weekend. The bus will be traveling on alternating routes during this period, and is easily recognizable with a water-droplet graphic and bold "ZERO EMISSIONS" lettering along the side. Passengers can ride for free on the hydrogen bus' entire route.

Utilizing the most advanced fuel cell technology available, the hydrogen-fueled electric fuel cell bus has no emissions; and according to the fuel cell manufacturer, UTC Power, you could drink right out of the tailpipe, as the only by-product is water.

Because of a non-combustion "engine" that has no moving parts, the bus is also virtually silent. The bus has been in operation since its unveiling November 16, 2005, at the Fuel Cell Seminar in Palm Springs. "It's hard for a 40-foot bus to creep up on anyone, but that's exactly what happened at the unveiling event," explains SunLine General Manager, Mikel Oglesby. "We hope our customers will be surprised and delighted when they encounter the free-ride experience, and get a sense of the future of public transportation."

Oglesby added that the new SunLine bus is only one of four hydrogen fuel cell-powered transit vehicles in use in the Nation, and he is proud to have one running in the Coachella Valley. "This bus is a major step in continuing SunLine's dedication to providing quality transportation to the Valley, while keeping an eye to the advancement of alternate-fueled vehicles""

SunLine Transit Agency maintains and operates 47 buses and 23 para-transit vehicles, logging some 4 million miles and transporting over 3 million riders annually throughout the Coachella Valley. For more information on SunLine's new bus and its route schedule, call SunLine Transit Agency at (760) 343-3456.

Zero-Emission Bus Demonstration Program

News Releases
Frequently Asked Questions
VTA Emissions Reductions Program

Zero-emission bus at hydrogen fueling facility

Overview:
In February 2000, the California Air Resources Board (CARB) adopted a new regulation to reduce nitrogen oxide (NOx) and particulate matter (PM) emitted by public transit buses. In December 2000, Santa Clara Valley Transportation Authority's (VTA) Board of Directors formally adopted the low-emission diesel path as its approach for complying with CARB's regulation. A number of other public transit operators in the San Jose-San Francisco-Oakland Metropolitan Area took similar action, including the San Mateo County Transit District (SamTrans). VTA has elected to demonstrate hydrogen fuel-cell technology in a joint effort with SamTrans.

A fuel-cell is an electrochemical device that combines hydrogen fuel and oxygen to produce electricity, heat and water. The electricity produced powers the buses. The major benefits of fuel-cell technology include:

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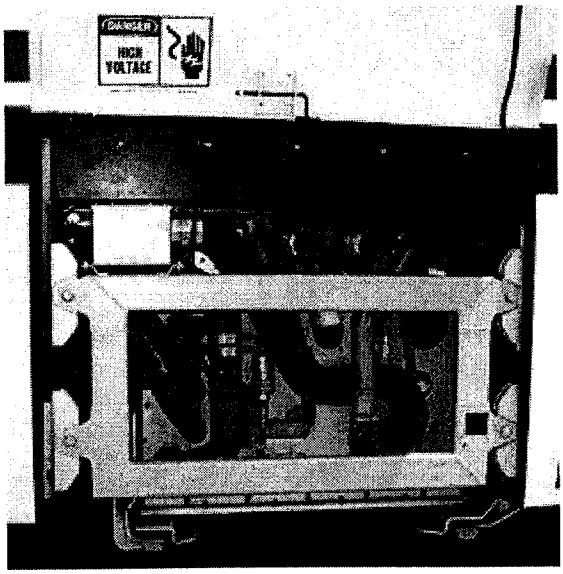
- Reducing dependence on fossil fuels
- Reducing greenhouse gases
- Improving air quality
- Improving health and quality of life, particularly in densely populated urban areas.



Ballard fuel-cell

Program Summary
VTA and SamTrans operate three 40-foot, low-floor, hydrogen fuel-cell buses as part of the Zero-Emission Bus Demonstration Program. VTA is the lead agency in the operation of these buses and SamTrans shares in the capital and operating costs. The test program consists of facility modifications and installation of a hydrogen fueling station at VTA's Cerone Operations Division, as well as training for VTA and SamTrans personnel on the new technology.

The key funding partners in the Zero-Emission Bus Demonstration Program are the Federal Transit Administration (FTA), the Bay Area Air Quality Management District (BAAQMD), Department of Energy (DOE), SamTrans, and VTA. With this investment, the funding partners aim is to explore the feasibility of using zero-emission fuel-cell technology buses in everyday mass transit service with the overall goals of reducing our dependence on fossil fuels, reducing greenhouse gases, improving air quality, and lastly improving the health and quality of life in our communities.

Buses:
Three low-floor fuel-cell buses with standard equipment including air conditioning, ramp for ADA accessibility, destination signs and an audio annunciation system.
Bus Manufacturer: Gillig Corporation
Fuel-Cell Manufacturer: Ballard Power Systems Inc.
System Integrator: Ballard Power Systems Inc. in conjunction with the
Gillig Corporation
Fuel: Compressed Hydrogen supplied by Air Products and Chemicals, Inc.

Click on the following link to view how a fuel-cell works:
www.cafcp.org/fuel-vehl

Facilities:
The buses operate from the VTA Cerone Operations Division located at Zanker Road and State Route 237 in San Jose. This

location is equipped with a separate hydrogen fueling facility supplied by Air Products. Fuel is stored in liquid form for efficient storage and dispensing. Two maintenance bays have been built to properly maintain the buses. The bays include hydrogen detection and other safety systems.

Program Funding Sources
$18.4 million: $6 million from 2000 Measure A Local Sales Tax, $6 million from San Mateo County Transit District (SamTrans), $5.1 million from the Federal Transit Administration (FTA), $0.3 million from the California Energy Commission (CEC), and $1 million from the Bay Area Air Quality Management District (BAAQMD).

The program budget is $18,450,000. This includes:
Buses $10,565,000
Facilities $ 3,103,000
Labor and Services $ 2,900,000
Contingency/Operating Cost $ 1,882,000

Schedule
Fuel-cell bus delivery: August 2004
Transit service began: February 2005

How to Reach Us
For more information on the Zero-Emission Bus Demonstration Program, or other VTA projects, call VTA Community Outreach at (408) 321-7575, TDD for the hearing impaired (408) 321-2330, or visit us on the web at www.vta.org.

For more information on fuel-cell technology, please visit the California Fuel-cell Partnership website at www.fuelcellpartnership.org.

Search:

Search

President Bush Gets on AC Transit's Zero Emission Bus

AC Transit Marketing
04/25/2006

April 22, 2006, Earth Day - During a tour of the California Fuel Cell Partnership in West Sacramento, President George W. Bush was briefed by Jaimie Levin, Director of Alternative Fuels Policy for AC Transit, regarding the many environmental benefits of its hybrid-electric fuel cell transit bus, one of the most advanced in the world. With more than double the fuel economy of diesel buses, AC Transit's three, very quiet, all-electric fuel cell buses carry thousands of passengers daily throughout East Bay communities.

White House photo by Eric Draper

Go here to read more.

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"AC Transit is turning the hydrogen future into the hydrogen now."
— Transit California

The HyRoad
AC TRANSIT'S HYDROGEN FUEL CELL PROGRAM

WHAT IS A FUEL CELL?
WHAT IS HYDROGEN?
ENVIRONMENTAL BENEFITS
ENERGY STATIONS
SAFETY
LEARNING CENTER
VISION FOR THE FUTURE
PROGRAM UPDATES
FAQs
ARCHIVES & LINKS

The Program

Fuel cell buses are clean, quiet, electrically propelled vehicles that emit only water vapor from the tailpipe.

Since 2000, AC Transit has been developing what has become the most comprehensive hydrogen fuel cell demonstration program in the world, featuring:

- Three zero-emission hybrid-electric, hydrogen fuel cell buses
- A fleet of fuel cell passenger vehicles
- On-site hydrogen production and fueling
- On-site fleet maintenance
- Ongoing, outside evaluation
- Public education and safety training

The HyRoad aims to demonstrate the viability of an emission-free transit system.

The Bus

Designed in partnership with Van Hool, UTC Power, and ISE Corporation, AC Transit's fuel cell bus represents the most advanced, fuel-efficient, zero-emission, hybrid-electric, hydrogen fuel cell bus in the world.

This partnership modified the 40-foot Van Hool A330 bus chassis to accommodate UTC's PureMotion™ 120 kW fuel cell power system and ISE's hybrid-electric drive system. Hydrogen tanks on the roof give the bus a range of 250-300 miles, and batteries recharged during braking can provide an extra 95kW of power for acceleration and climbing steep grades.

Ride a Fuel Cell Bus
Be one of the first 0.001 percent of people in the world to take a ride on a zero-emission fuel cell bus.

- Scheduled passenger service information
- Find out how the buses are performing, with near real-time information. Go to the Zero-Emission Hydrogen Fuel Cell Bus Operations Center.

Learn More

- Technical specifications
- Video of the bus in motion
  Windows | Quicktime
- AC Transit Hydrogen Fuel Cell Photo Gallery

The Funding

AC Transit has secured more than $21 million from public agencies and private sector companies (Bay Area Air Quality Management District, California Air Resources Board, California Energy Commission, California Transportation Commission, CalStart, Chevron Corporation, Department of Energy, and the Federal Transit Administration). This money has been tagged specifically for fuel cell development and may not be used for any other purpose.

Our Partners

AC Transit is proud to have been selected as the lead transit agency in the nation for this project. We could not have done it without the support of visionaries within our local communities, our local, regional, state and federal government agencies, and the manufacturers who are building the components of the HyRoad Program:

- Van Hool Bus, manufacturer of the bus bodies and chassis
- UTC Power of Connecticut, maker of the fuel cells
- ISE Corporation of San Diego, integrator of fuel cells and hybrid-electric drive systems
- Hyundai-Kia Motors, provider of light-duty fuel cell vehicles
- Chevron Corporation, builder of Oakland hydrogen energy station
- California Fuel Cell Partnership and Hydrogenics, sponsors of the Richmond hydrogen energy station

---

Evaluation

The potential importance of the HyRoad program goes far beyond the health of our local environment. The purpose of this demonstration project is to prove the viability of a zero-emission public transit system to the rest of the world.

AC Transit's program will be monitored and evaluated by the Department of Energy's National Renewable Energy Laboratory (NREL). Vehicle performance as well as institutional and public acceptance will be studied.

Education and Outreach

AC Transit has developed a comprehensive education and community outreach program in partnership with:

- Lawrence Hall of Science, UC Berkeley
- Schatz Energy Research Center, Humboldt State University
- Chabot Space and Science Center, Oakland
- The National Hydrogen Association.

Together, we will develop an educational curriculum for middle and high schools around the country. With our outreach programs, our web site, and our Learning Center, we will keep the public informed about the challenges and successes of our program, and what our findings mean to the future of our energy and transit systems.

Fuel Cell Vehicles And Fuel

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Vehicle Demonstration

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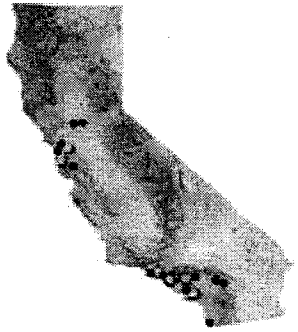

Hydrogen Fueling Station and Vehicle Demonstration Programs Map

Fuel cell cars

Fuel cell buses

One of the main goals of the California Fuel Cell Partnership is to facilitate members' placement of up to 300 fuel cell cars and buses into fleets and to promote hydrogen fueling stations to support them.

To date, many of our automotive members have placed fuel cell vehicles in customer fleets. Additionally, our transit members have started and will continue to bring fuel cell buses into revenue service. Click here for the latest developments.

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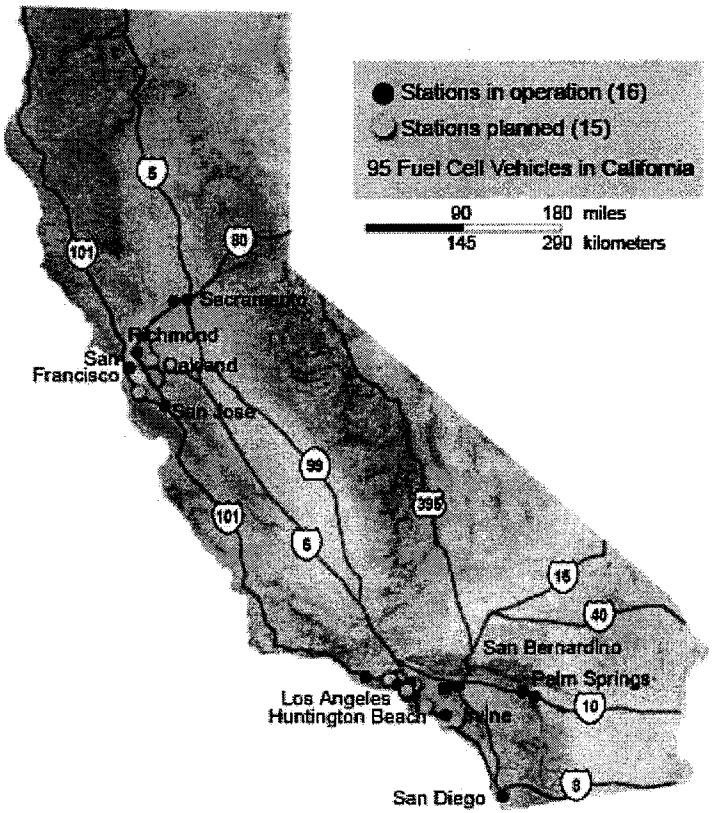
Hydrogen Fueling Stations and Vehicle Demonstration Programs

Click on Northern or Southern California for regional detail, or click on the list to jump to latest details ("+" symbol represents fleet).

- (+)AC Transit Hydrogen Energy Station - Oakland
- AC Transit Hydrogen Energy Station - Emeryville
- AC Transit Hydrogen Energy Station – Richmond
- BMW of North America – Oxnard
- Burbank Station
- Camp Pendleton Station
- (+)City of LA for Honda FCX Fleet
- (+)City of SF for Honda FCX Fleet
- Chino Station
- (+)Chula Vista Station
- CSU LA Station
- (+)Honda Home Energy Station - Torrance
- (+)Honda Hydrogen Refueling Station - Torrance
- Huntington Beach Station
- LA H2 Pipeline - Torrance
- Ontario Station
- Praxair-BP Hydrogen Fueling Station at LAX
- Riverside Station
- San Carlos Station
- Santa Ana Station
- (+)Santa Clara Valley Transportation Authority
- Santa Monica Station
- (+)SCAQMD Energy Station - Diamond Bar
- SunLine Station - Thousand Palms
- Toyota Torrance Station
- (+)UC Davis Station
- (+)UC Irvine Hydrogen Refueling Station
- UC Irvine
- UC Irvine - Mobile refueler
- UCLA Station - Westwood
- (+)West Sacramento Station
- WinTec Hydrogen Production Facility - Palm Springs



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Associate Members

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Energy Members

Fuel Cell Technology Members

Government Members

Associate Members

Alameda-Contra Costa Transit District AC Transit is one of the largest public transit operators in the United States, with a fleet of nearly 800 buses and an annual ridership of over 70 million passengers. It serves over 1.3 million people living in 13 cities in the East Bay of the San Francisco Bay Area, including Oakland, Berkeley, Newark, and Fremont. In November 1999, AC Transit had the opportunity to briefly operate and test a prototype hydrogen fuel cell bus, and concluded that this technology is one of the most significant environmental promises of the future. It subsequently became a member of the California Fuel Cell Partnership (CaFCP) and embarked upon an aggressive fundraising campaign that resulted in nearly $14 million in state, local, and federal grants to support a fuel cell demonstration program. www.actransit.org

Air Products and Chemicals, Inc. of Allentown, Pennsylvania

Air Products and Chemicals, Inc. of Allentown, Pennsylvania is the world's largest supplier of merchant hydrogen. A commercial developer, supplier, and operator of turnkey hydrogen on-site plants, Air Products is in the forefront of developing hydrogen fueling stations for clean transportation applications, and the technologies and systems for hydrogen generation, purification, and handling. A participant in numerous hydrogen energy demonstration projects in the U.S. and Europe, Air Products is working to bring low-cost distributed hydrogen production technologies to the marketplace to promote the development of hydrogen energy applications. Air Products, along with the California Fuel Cell Partnership's other energy partners, provided expertise, support and materials for the West Sacramento Hydrogen Fueling Station. Air Products managed the installation of the West Sacramento Hydrogen Fueling Station and continues to provide maintenance, hydrogen and hydrogen safety training for the members of the California Fuel Cell Partnership.
www.AirProducts.com/H2energy

Hydrogenics Corporation

Hydrogenics Corporation is a leading global developer of clean energy solutions, advancing the Hydrogen Economy by commercializing hydrogen and fuel cell products. The company has a portfolio of products and capabilities serving the hydrogen and energy markets of today and tomorrow. Hydrogenics, based in Mississauga, Ontario, Canada, has operations in North America, Europe and Asia.

Hydrogenics Corporation's three core areas of business include fuel cell power products, with particular focus on fully packaged power modules and electric hybrid systems, on-site hydrogen generation and refueling systems, and fuel cell test systems and services. www.hydrogenics.com

Institute of Transportation Studies, UC Davis

The Institute of Transportation Studies at UC Davis (ITS-Davis) was formally established in 1991 to conduct socially important research, education and outreach programs related to the energy and environmental aspects of transportation. ITS-Davis is now an internationally-recognized center that encompasses 40 affiliated academic faculty, 15 research faculty, and 80 graduate students. ITS-Davis pursues research programs in clean vehicle technologies and policy, air quality, travel behavior, telecommunications, and fuels pathways analysis. With respect to fuel cell vehicles and hydrogen, the Institute runs the nation's leading public research program on hydrogen infrastructure, hosts California's first Hydrogen Highway station, and carries out FCV demonstrations and market research with auto OEM vehicles placed on campus.
www.its.ucdavis.edu

ISE Corporation

ISE Corporation ("ISE") is a supplier of hybrid-electric drive systems and components for large buses and trucks. ISE's controllers and software govern and optimize the use of energy in hybrid-electric drive systems, which use electric power for vehicle propulsion but also generate onboard power using conventional engines or fuel cells. ISE combines its control systems with electric motors, generators, and other components purchased from various suppliers and partners, integrating all of the parts into complete "ThunderVolt ®" hybrid-electric drive systems that ISE sells to bus and truck manufacturers. The ThunderVolt ® hybrid drive system is uniquely flexible in that it can accept power from engines fueled by gasoline, diesel, natural gas, and even hydrogen. The ThunderVolt ® hybrid drive system can also accommodate hydrogen fuel cells as its principal power source, and has been shown to enhance the efficiency and longevity

of fuel cells in large vehicle applications. The California cities of Elk Grove and Long Beach placed the first large-scale orders for buses using the ThunderVolt ® hybrid drive system, and a total of more than 100 ISE-powered buses are being delivered to California cities in 2005. Transit experience with the ThunderVolt ® system shows that this hybrid drive technology improves fuel economy and reduces harmful emissions, as well as offering a smooth, quiet ride. http://www.isecorp.com/

Pacific Gas & Electric

Pacific Gas & Electric, incorporated in California in 1905, is one of the largest combination natural gas and electric utilities in the United States. Based in San Francisco, the utility serves 13 million people throughout a 70,000-square-mile service area in Northern and Central California. PG&E's Low Emission Vehicle Program supports the State's efforts to improve air quality and the objectives of the national Energy Security Act. In addition to assisting the CaFCP to demonstrate natural gas to hydrogen fueling station technology, PG&E is assessing hydrogen infrastructure impacts on its electric and natural gas distribution systems and fuel cell vehicle uses in its fleet applications. Also, PG&E's LEV customer education program provides assistance with safe, cost-effective, and reliable LEV-related services. www.pge.com.

Praxair of Danbury, Connecticut Praxair of Danbury, Connecticut, is a global, Fortune 500 company that supplies atmospheric, process and specialty gases, high-performance coatings, and related services and technologies. Praxair's primary products are: atmospheric gases and process & specialty gases – including hydrogen. Praxair helped construct the CaFCP's West Sacramento hydrogen fueling station, and continues to supply hydrogen and maintenance support for the station. www.praxair.com/hydrogen

Proton Energy Systems, Inc.

Proton Energy Systems, Inc. designs and manufactures Proton Exchange Membrane (PEM) electrochemical systems that are used for hydrogen generation, power generation and energy storage devices for commercial uses. We have two product families: HOGEN® and FuelGen® hydrogen generator systems, and UNIGEN® regenerative fuel cell systems. Our HOGEN hydrogen generators, which we are currently manufacturing and delivering to customers, produce hydrogen from electricity and water in an efficient process that creates no harmful byproducts. Our UNIGEN regenerative fuel cell systems, currently in development, combine our hydrogen generation technology with fuel cell power generators to create a new generation of backup energy devices that produce and store the

hydrogen fuel needed to subsequently generate electricity.
www.protonenergy.com

Santa Clara Valley Transportation Authority - San Jose Area

The Santa Clara Valley Transportation Authority (VTA) is an independent special district responsible for bus and light rail operations, congestion management, specific highway improvement projects, and countywide transportation planning. VTA's mission is to provide the public with a safe and efficient countywide transportation system. The system increases access and mobility, reduces congestion, improves the environment, and supports economic development, thereby enhancing quality of life.
www.vta.org

Sunline Transit Agency of Thousand Palms, California

Sunline Transit Agency of Thousand Palms, California. An internationally respected leader and advocate of clean fuels and clean energy, in 1994, SunLine became the first public transit agency in the country to park all its diesel buses and switch overnight to a fleet powered 100% by compressed natural gas. In April 2000, SunLine opened the world's first hydrogen generation, storage and dispensing facility built by a transit agency where hydrogen is generated from renewable solar power and reformed from natural gas. SunLine has many years of experience operating hydrogen infrastructure, fuel cell and blended fuel vehicles (hydrogen and natural gas), and as an Associate Member of the California Fuel Cell Partnership, looks toward a gradual replacement of its fleet with fuel cell buses.
www.sunline.org

ZTEK Corporation

Ztek Corporation is dedicated to commercializing the world's cleanest, most efficient fossil fuel energy conversion systems. Its products include hydrogen reformers for on-site hydrogen generation; solid oxide fuel cells for electrical power and hybrid systems such as its Hydrogen Electricity Co-Production System (HECP) that offer improved efficiency with or without heating and air conditioning. Ztek has over 200 international patents in full support of its product lines and is well known in the field for its innovative integration and utility technologies. It is working with Pacific Gas and Electric to install a hydrogen refueling station for CaFCP in Auburn, CA or a site to be designated in the San Francisco Bay Area. Find out more information on Ztek at www.ztekcorp.com

Member Resources

 3300 Industrial Blvd., Suite 1000 • West Sacramento, CA 95691 • phone (916)371-2870 • fax (916) 375-2008

Automotive Members

DaimlerChrysler

DAIMLERCHRYSLER DaimlerChrysler has been working on the development of fuel cell vehicles for more than a decade. Since introducing the first NECAR (New Electric Car) in 1994, pioneer DaimlerChrysler has decisively advanced fuel cell technology and presented 20 concept vehicles.

One decade later, DaimlerChrysler has deployed 30 Citaro fuel cell buses in cities throughout Europe, and started placing 60 Mercedes-Benz A-Class "F-Cell" models into the hands of customers in Europe, the USA, Japan and Singapore. As a founding member of the California Fuel Cell Partnership, DaimlerChrysler continues to support the Partnership through its on-site presence and involvement in public outreach events. www.daimlerchrysler.com

Ford Motor Company

Ford Motor Company is aggressively pursuing and implementing advancements that reduce the emissions impact of vehicles on the environment. Sustainable Mobility Technologies is dedicated to engineering fuel cell vehicles that produce zero tailpipe emissions and may eventually replace conventional vehicles. As a result, we've taken a leadership role in moving fuel cell technology from the laboratory into vehicles on the road. Ford's P2000 and Focus FCV fuel cell electric vehicles are powered by hydrogen, the Earth's cleanest, most abundant fuel--an infinitely sustainable energy source. Fuel cell vehicles offer the same safety, performance, and ease of use as today's combustion vehicles. www.ford.com

General Motors

At General Motors, we are committed to both the transportation that improves people's lives and the environment that sustains us. This is a vision we call sustainable mobility, one in which vehicles pollute less, consume less, and improve the quality of our lives even more. Although GM has pioneered many fundamental automotive technologies that have drastically reduced exhaust emissions during the last 30 years (down over 98% for hydrocarbons and carbon monoxide and 90% for oxides of nitrogen), we believe the ultimate solution lies in hydrogen powered fuel cell vehicles. That's why GM is spending the largest portion of its research and development budget to commercialize fuel cell technology. Among several other advancements in this area, GM's fuel cell vehicle development has resulted in the Hy-Wire, the world's first drivable vehicle that combines a hydrogen fuel cell with by-wire technology. Our goal is to establish the commercial viability of compelling, affordable fuel cell vehicles by 2010, and to be the first automaker to profitably sell one million fuel cell vehicles. Until fuel cells are produced in large numbers, however, hybrid propulsion systems will be a key element of GM's advanced technology plans. Hybrid technologies will provide an important bridge to a hydrogen economy and fuel cell systems that power our vehicles, and even our homes and business. Although significant technical and business challenges must be addressed on the way to a hydrogen economy, GM already has about 600 people working on fuel cell technology at its three U.S. facilities in Honeoye Falls, N.Y.; Warren, Mich.; and Torrance, Calif. GM also has a research facility in Mainz-Kastel, Germany; and offices in Tokyo. www.gmability.com

Honda

The Honda FCX fuel cell vehicle participating in activities of the California Fuel Cell Partnership is the latest in a long line of models the company has developed to reduce the impact vehicles have on the environment, including near-zero emission gasoline and natural gas vehicles, and hybrid electric vehicles. The Honda FCX, now in limited production, is the first fuel cell car in the world to receive government certification for commercial use. Since December of 2002, the FCX is part of the fleet of the City of Los Angeles, seeing

laily use in City Government business. The FCX incorporates many of the technological developments Honda ıas pioneered over the years. The FCX combines an advanced fuel cell power system with a compact, high orque drive motor. Greater acceleration performance, driving range, and packaging achievements over early ırototype vehicles have refined it for practical every day commercial use. The FCX powerplant features an dvanced fuel cell stack and a newly developed Honda Ultra Capacitor. Responsive takeoff and acceleration, s well as high energy efficiency are achieved by the combination of a high-output fuel cell stack with the ıowerful instantaneous discharge capabilities of Ultra Capacitor. This advanced fuel cell powerplant integrates egenerative braking energy recovery with a highly efficient energy management system to improve fuel :conomy and range. The FCX has an actual driving range of up to 170 miles making it practical for a wide ange of real-world applications. Honda joined the California Fuel Cell Partnership in October 1999 to help lemonstrate the potential of fuel cell vehicles and fueling infrastructure. world.honda.com/FuelCell

lyundai

Hyundai Motor Company strives to be a leader in the era of clean, hydrogen-based energy. The ompany is developing technology that brings automobiles and nature together to promote a healthier :nvironment. This effort can be seen in the Hyundai Fuel Cell Vehicle development program. Hyundai's uccessful first-generation fuel cell vehicle, based on its Santa Fe sport utility vehicle, is an award-winning ırototype that has proven the viability of fuel cell technology. Hyundai will debut its second-generation 'ehicle, based on the new Tucson SUV, in 2004. Road testing of Hyundai's fuel cell vehicles takes place at the :alifornia Fuel Cell Partnership in Sacramento, Calif. and in Korea.
ww.hyundai-motor.com

lissan

Nissan Urban air pollution is a major issue of concern today. One source is attributed to vehicle exhaust :missions, including carbon dioxide (CO2), hydrocarbon (HC) and nitrogen oxides (NOx). Nissan has taken 'igorous steps to protect the environment during vehicle use, such as by improving fuel economy and educing exhaust emissions. At the same time, Nissan is also developing a wide range of technologies -- from ow emission engines, direct-injection engines and CVT technologies featured in current models, to the future echnologies such as Hybrid and Fuel Cells -- aimed at reconciling these issues with the inherent capability of 'ehicles to provide driving pleasure. Because of their outstanding CO2 reduction, zero-emission performance, ınd freedom from fossil energy, Nissan regards fuel cells as one of the alternative technologies as a power ource for vehicles. However, significant improvements are necessary in terms of cost and practical use ıefore envisioning real mass production. Nissan has embarked on a 5-year program with Renault to develop uel cells as the ultimate clean power plant. Currently, Nissan is testing an Xterra-based fuel cell vehicle ınder real world conditions as part of the California Fuel Cell Partnership program. In North America, Nissan's ıperations include automotive styling, engineering, consumer and corporate financing, sales and marketing, listribution and manufacturing. www.nissan-global.com

'oyota

TOYOTA Toyota operates under a global Earth Charter that promotes environmental responsibility, ecognizing the need for comprehensive approaches to the effective use of resources and the suppression of ıollution and global warming. For more than a decade, Toyota has pursued development of an ultimate eco-ar that satisfies the needs of a mobile society and is friendly to both people and the earth. In 2002 Toyota ıegan limited marketing of the Toyota FCHV (Fuel Cell Hybrid Vehicle). Fuel cells represent the most ıromising next-generation power source, but we face many challenges. Toyota hopes global and open :xchanges under the spirit of "competition and cooperation" will lead to positive environmental solutions mong automobile manufacturers, other industries and administrative organizations.
ww.toyota.co.jp

'olkswagen

As one of the world leaders in helping make the car industry an environmentally responsible one, 'olkswagen is excited to be a part of this historic consortium. With the debut of its HyMotion prototype, 'olkswagen hopes to further demonstrate its commitment to the CaFCP and making fuel-cell vehicles a reality nd a success. Founded in 1955, Volkswagen of America, Inc. is headquartered in Auburn Hills, Michigan. It is wholly owned subsidiary of Volkswagen AG, headquartered in Wolfsburg, Germany. The fourth-largest roducer of passenger cars in the world and Europe's largest, the Volkswagen Group's annual sales approach million units. Volkswagen operates some 35 manufacturing facilities in 15 countries across five continents. Brands in the Volkswagen Group include Volkswagen, Audi, Seat, Skoda, and most recently Rolls Royce, amborghini, and Bugatti. In the U.S., Volkswagen has sold more than 12 million cars and has consistently een the top-selling European importer to the United States. Volkswagen joined the CaFCP in October 1999. ww.vw.com

Ballard Power Systems Inc.

News Release

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Ballard-Powered Citaro Fuel Cell Buses Surpass One Million Kilometers of Service

www.ballard.com

For Immediate Release – October 20, 2005

Vancouver, Canada – Ballard Power Systems (TSX: BLD, Nasdaq: BLDP) today announced that the fleet of 33 Mercedes-Benz Citaro fuel cell buses currently operating in Europe, Iceland and Australia has surpassed one million kilometers of service. The buses, which are powered by Ballard fuel cells, have been on the road since late 2003 as part of the Clean Urban Transport for Europe (CUTE), Ecological City Transport System (ECTOS) and STEP (Sustainable Transport Energy for Perth (STEP) programs.

"Our congratulations go to our Alliance partner, DaimlerChrysler AG, on reaching this record-breaking one-million kilometer milestone," said Noordin Nanji, Ballard's Vice President, Marketing & Business Development. "We are delighted that the strong performance of Ballard's fuel cell technology has contributed to the success of these fuel cell bus demonstration programs."

Ballard's fuel cells have proven themselves in a variety of terrains and environments over the duration of the demonstrations. Of the 33 buses in operation, 17 have exceeded 2,000 hours of operation, 10 have exceeded 2,500 hours, and one has exceeded 3,000 hours. The buses have carried more than four million passengers.

In addition to powering the CUTE, ECTOS and STEP programs, Ballard fuel cells are also powering three Gillig-built fuel cells buses in Santa Clara, California. An additional three Ballard fuel cell-powered Mercedes-Benz Citaro buses are expected to enter service on the streets of Beijing, China, before the end of this year.

To learn more about Ballard's participation in demonstration programs, visit:
http://www.ballard.com/be_informed/fuel_cell_technology/demonstration_programs#

About Ballard

Ballard Power Systems is recognized as the world leader in the design, development and manufacture of zero-emission proton exchange membrane fuel cells. Ballard's mission is to develop fuel cell power as a practical alternative to internal combustion engines through technology leadership. To learn more about what Ballard is doing with Power to Change the World®, visit www.ballard.com.

This release contains forward-looking statements that are based on the beliefs of Ballard's management and reflect Ballard's current expectations as contemplated under section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities and Exchange Act of 1934, as amended. When used in this release, the words "estimate", "project", "believe", "anticipate", "intend", "expect", "plan", "predict", "may", "should", "will", the negative of these words or such other variations thereon or comparable terminology are intended to identify forward-looking statements. Such statements reflect the current views of Ballard with respect to future events based on currently available information and are subject to risks and uncertainties that could cause actual results to differ materially from those contemplated in those forward-looking statements.

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For further information, or to arrange an interview with a Ballard spokesperson, please call Michelle Cormack or Rebecca Young at 604-454-0900. Ballard and the Ballard logo are registered trademarks of Ballard Power Systems Inc.

about Ballard
company history
strategic alliances
fuel cell technology
how the technology works
technology hat trick
technology "road map"
demonstration programs
California fuel cell partnership
Vancouver Fuel Cell Vehicle Program (VFCVP)
Santa Clara Valley Transportation Authority
European fuel cell bus project
Sustainable Transport Energy for Perth (STEP)
ZEbus demonstration program
Chicago & Vancouver demonstration programs
suppliers
facilities & locations
frequently asked questions

fuel cell technology demonstration programs

Ballard participates in a number of demonstration programs designed to showcase fuel cell technology around the world, as part of the commercialization process.

California Fuel Cell Partnership

The California Fuel Cell Partnership (CaFCP) is a collaboration between auto manufacturers, fuel suppliers, fuel cell manufacturers, and federal and state governments.

Headquartered in Sacramento, California, USA, the CaFCP was created to demonstrate and test fuel cell vehicles under everyday driving conditions, investigate and demonstrate the viability of alternative infrastructure technology, promote public awareness of proton exchange membrane fuel cell-powered vehicles, and explore the path to commercialization by identifying potential problems and solutions.

Vancouver Fuel Cell Vehicle Program

The VFCVP is a five-year $9 million joint initiative between Fuel Cells Canada, Ford Motor Company, the Government of Canada, through Technology Early Action Measures support, and the Government of BC. This project will test and demonstrate five Ballard-powered Ford Focus fuel cell vehicles in 'real world' conditions in British Columbia's lower mainland, and is the first fleet demonstration of fuel cell vehicles in Canada. Demonstrating the third generation Ford fuel cell vehicles will provide valuable information on performance, durability, and reliability that can be applied toward the evolution of fuel cell vehicles to the commercial marketplace in the transition to a hydrogen economy. Ballard will have its own fuel cell vehicle for the duration of the program. Other vehicles users include BC Hydro, City of Vancouver, BC Transit, Government of BC, Fuel Cells Canada, and the NRC.

For more information: Vancouver Fuel Cell Vehicle Program website

Santa Clara Valley Transit Authority

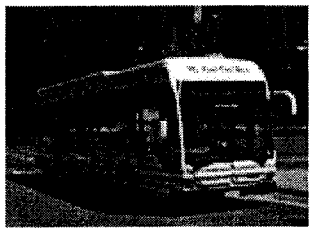
The Santa Clara Valley Transportation Authority (VTA) contracted with Gillig Corporation of Hayward and Ballard Power Systems of Burnaby, Canada to build three hydrogen-powered, zero-emission fuel-cell buses (ZEBs) for use in regular transit service. Air Products & Chemicals, Inc. supplies the liquid hydrogen, which is converted to hydrogen gas at VTA's fueling station at Cerone. The partnership produced three clean-running, low-noise, fuel-cell buses, which are operating in regular VTA service. Read more: Zero-Emission Bus Demonstration Program.

European Fuel Cell Bus Project (CUTE)

Ballard heavy-duty fuel cell engines are inside 30 Mercedes-Benz Citaro buses running in revenue transit service in 10 European cities. The two-year demonstration program includes both the European Fuel Cell Bus Project (nine cities) and the Ecological City Transport System in Reykjavik, Iceland. The European Union has lead the way in the adoption of zero-emission fuel cell technology.

Read more about the largest fleet of fuel cell buses in the world.

Sustainable Transport Energy for Perth (STEP)



Three Ballard® fuel cell-powered buses commenced route operations in Perth, Australia on September 27, 2004. As of November, 2004, each bus was working more than eight hours per day, five days per week. The buses had traveled more than 8,000 kms and had operated for more than 400 hours.

According to bus driver Paul Wroblewski, "It seems the days of 'a bus is a bus' may be over. Passengers have been very keen to embrace the new fuel cell buses - and the quietness inside the bus has allowed the overhearing of some very lively discussion by passengers about the new technology and their new found knowledge..."

Read more: EcoBus Newsletter 1 (Nov 2004), EcoBus Newsletter 2 (Mar 2005)

FUEL CELL HYBRID MidiBus

Hydrogenics integrated a fuel cell battery hybrid system into a Midibus, as part of an EC and the German State of North Rhine-Westphalia sponsored program to reduce greenhouse gas (GHG) and criteria air contaminant (CAC) emissions in European urban municipalities.

At the core of this fuel cell battery hybrid power train is Hydrogenics' HyPM®10 fuel cell power module which is well suited for buses operating in stop-and-go central urban transit routes. The HyPM®10 fuel cell power module is inherently quiet as it operates, due to its low pressure design and few moving parts. This significant noise reduction is an additional benefit in congested urban municipalities.

HyPM®'s robust fuel cell system also contributes to the bottom line due to its rapid refueling time, increased fuel efficiency and extended drive range which enables the bus to cover 200 km or greater than nine hours of typical operation between refills.

This emission free Midibus was commissioned for operation at the beginning of July 2005, at Hydrogenics' facility in Gelsenkirchen, Germany.

Fuel Cell Hybrid Midi Bus Specification Sheet

Technical Data – Power Train

Power source	Hydrogenics HyPM® 10 PEM fuel cell power module
Drive configuration	Fuel Cell – Battery Electric Hybrid
Fuel, purity	Hydrogen, 99.99 %
Fuel storage	Compressed gas tanks 5.8 kg (2 x 2.9 kg)
Maximum speed	33 km/h
Total power	25 kW
Max. fuel cell power	12 kW
Electrical storage	Alkaline batteries
Traction drive	DC 72V, 25 kW, 235 Nm
Range	>9 h, 200 km (typical)
Certifications	TÜV Approved

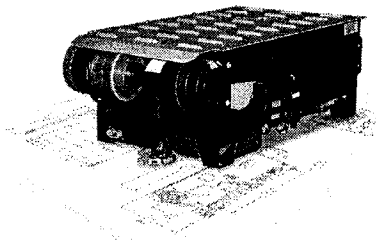
Technical Data – Bus

Bus configuration	Midi, Low floor
Height x Width x Length	2.9 x 2.1 x 5.3 m
Curb weight	3700 kg
Gross vehicle weight	6045 kg
Passengers	22* (without wheelchair: 8 seated; 14 standing)
Options	• Wheelchair ramp (automatic/manual) • Infotainment system

* Excluding driver. 19 passengers when wheelchair passenger included (8 seated, 1 wheelchair, 10 Standing)

Based on Tecnobus Gulliver Platform

Specifications subject to change without notice.



Hydrogenics HyPM®10 Fuel Cell Power Module

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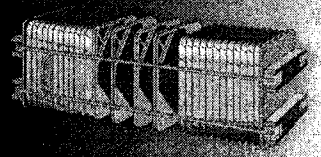


Fuel Cell Hybrid Bus Lands at Hickam AFB

A FUEL CELL HYBRID ELECTRIC BUS was unveiled at Honolulu's Hickam Air Force Base (Hickam AFB) in February 2004, becoming the first fuel cell vehicle in Hawaii and the first in the U.S. Air Force. The 30-foot flight crew shuttle bus will undergo 1 year of in-service data collection and evaluation, then will continue in routine service at the base.

NREL/PIX 13499

The U.S. Department of Energy (DOE) and its National Renewable Energy Laboratory (NREL) are participating in the bus evaluation as part of DOE's Hydrogen, Fuel Cells & Infrastructure Technologies (HFCIT) Program. This program integrates activities in hydrogen production, storage, and delivery with transportation and stationary fuel cell activities. The ultimate goal is a future in which hydrogen energy and fuel cell power are clean, abundant, reliable, and affordable and are an integral part of all sectors of the economy in all regions of the United States.

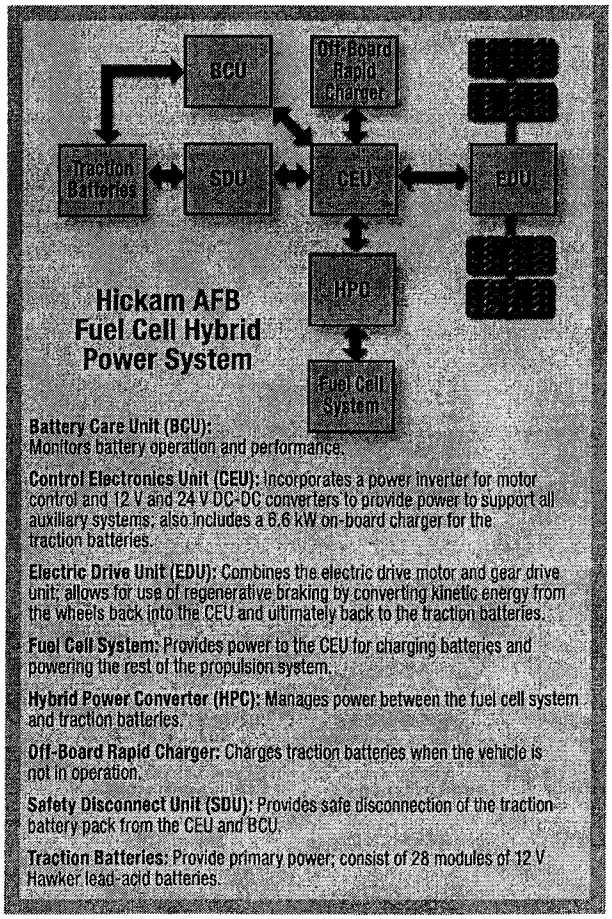
The Hickam AFB evaluation is one of several HFCIT projects that support the research and development of highly efficient, low- or zero-emission fuel cell power systems, which serve as alternatives to internal combustion engines. The U.S. Department of Transportation is also supporting this project through the Federal Transit Administration's (FTA) Hydrogen & Fuel Cell Bus Initiative.

THE HAWAII CENTER FOR ADVANCED TRANSPORTATION TECHNOLOGIES (HCATT) initiated the bus demonstration at Hickam AFB and is managing the project, with support from the University of Hawaii at Manoa. HCATT's goal for the project is to gain a better understanding of the fuel economy and performance of this fuel cell hybrid technology as well as the operation of the supporting infrastructure and hydrogen delivery. The Air Force Advanced Alternative Power Technology Transformation Office (A2PT2O) will use the results to help make future procurement and technology development and demonstration decisions.

Other project partners include power management technology developer Enova Systems and hydrogen and fuel cell technology developer Hydrogenics Corporation. Starting with an ElDorado National propane hybrid shuttle bus, Enova and Hydrogenics worked with HCATT and A2PT2O to design, develop, fabricate, and integrate the fuel cell hybrid shuttle bus. The collaborative effort was completed in 4 months at a cost of $1 million.

A BATTERY-DOMINANT SERIES HYBRID FUEL CELL SYSTEM powers the Hickam AFB shuttle bus. This system draws primarily on traction batteries to provide power for propulsion. A small (20 kW) fuel cell is used mainly to charge the batteries and extend the driving range. The small fuel cell may be economically advantageous in the future because fuel cells of this size may be the first to be commercialized for the transportation market.

The bus also has regenerative braking: the electric drive unit (EDU) converts kinetic energy (energy from the motion of the bus) to electrical energy while braking, and this energy is stored in the traction batteries. The power system diagram below shows the transfer of energy among the fuel cell hybrid system components.



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HICKAM AFB BUS FACTS

Bus Chassis	ElDorado National RE-29E
Model Year	1994
Length/Width/Height	30 ft/96 in/116 in
GVWR/Curb Weight	29,000 lb/22,240 lb
Seats	23
Wheel Base	160 in
Service	Flight crew and other off-base transportation
Drive System	Hybrid electric
Vehicle Control System	Enova Systems integration and software; calibration set based on customer needs
Electric Propulsion	Series hybrid, battery dominant, charge depleting, induction motor, 120 kW max/60 kW continuous, 7,200 rpm max, liquid cooled
Power Control	Control electronic unit (CEU 120): IGBT power inverter, input 250-425 VDC, max output 120 kW; 12 V and 24 V DC-DC converters; liquid cooled
Power Plant	Hydrogenics proton exchange membrane (PEM) fuel cell, 20 kW
Fuel and Storage	Compressed hydrogen up to 5,000 psi, 2 Dynetek tanks, each holding 5 kg hydrogen
Traction Battery Pack	Hawker EP-70/lead-acid/70 A-hr (140 A-hr total), 28 modules in 2 packs/12 V/ 336 V nominal
Battery Management and Charging	Battery care unit (BCU) monitors battery operation and performance; safety disconnect unit (SDU) controlled by BCU for connect and disconnect of battery packs; on-board charging, 6.6 kW for traction battery pack
Off-Board Battery Charging	AeroVironment 60 kW rapid charger
Auxiliaries	Electric driven 12 V/24 V from CEU
Brakes	Standard brakes and regenerative braking
Emissions Equipment	Zero emissions

This hybrid configuration and control strategy are charge depleting, meaning that the batteries can be depleted even if hydrogen fuel remains. The batteries can be restored using any of three options: plugging into a wall outlet to use the on-board charger, plugging into an off-board rapid charger, or operating the bus for a time on an undemanding drive cycle to charge the batteries using the fuel cell system. Depending on the operation of the bus and its efficiency, supplementary charging may be required only every other night.

THE BUS WILL BE EVALUATED once it enters full operation. Full operation is expected to begin in summer 2004, when continuous access to compressed hydrogen is established. A2PT2O, the State of Hawaii, and HCATT will evaluate the bus for at least 12 months, and NREL will evaluate it for at least 6 months. NREL has evaluated numerous advanced propulsion systems in buses and trucks, with the goal of providing credible data and results in the form of publicly available reports.

Like all fuel cell propulsion systems, the Hickam AFB bus is a prototype in the early stages of technological development. The purpose of NREL's evaluation of this prototype bus is not to compare its performance with that of fully developed commercial products. Rather, the purpose is to record the experience of using fuel cell bus and hydrogen infrastructure technologies, show the progress of these technologies, and facilitate understanding of the work that remains to be done to make the technologies viable. The results also will be important for predicting performance and costs in the future, when expected technological advances have been achieved.

Project Partners

- **U.S. Air Force/A2PT2O:** Funding, demonstration leadership, and operating location
- **State of Hawaii:** Funding and management support
- **HCATT/University of Hawaii at Manoa:** Project management, technology development, and data collection
- **Enova Systems:** Hybrid electric propulsion system development and integration
- **Hydrogenics Corporation:** Fuel cell development and integration
- **FTA:** Funding and management support
- **DOE/NREL:** Evaluation support

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Web Sites
DOE: www.eere.energy.gov/hydrogenandfuelcells • **Enova Systems:** www.enovasystems.com
FTA: www.fta.dot.gov • **HCATT:** www.hitdc.org/hcatt • **Hydrogenics Corporation:** www.hydrogenics.com
NREL: www.nrel.gov/vehiclesandfuels/projects_fleet_test.html

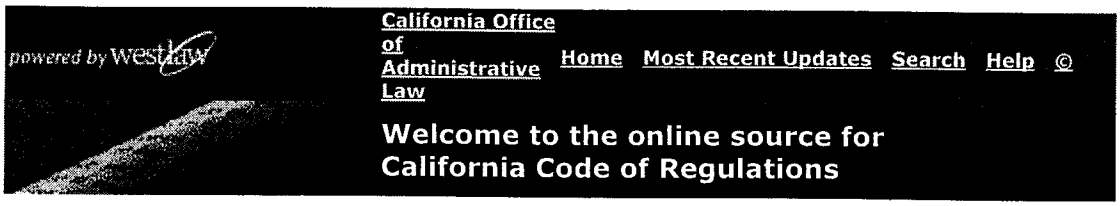
For more information contact:
EERE Information Center
1-877-EERE-INF (1-877-337-3463)
www.eere.energy.gov

A Strong Energy Portfolio for a Strong America
Energy efficiency and clean, renewable energy will mean a stronger economy, a cleaner environment, and greater energy independence for America. Working with a wide array of state, community, industry, and university partners, the U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy invests in a diverse portfolio of energy technologies.

DOE/GO-102004-1968 ■ September 2004

Printed with a renewable source ink on paper containing at least 50% wastepaper, including 20% postconsumer waste.

Zero Emission Bus Regulations: Title 13, California Code of Regulations, Section 2023.3



13 CA ADC § 2023.3

Term

13 CCR s 2023.3

Cal. Admin. Code tit. 13, s 2023.3

BARCLAYS OFFICIAL CALIFORNIA CODE OF REGULATIONS
TITLE 13. MOTOR VEHICLES
DIVISION 3. AIR RESOURCES BOARD
CHAPTER 1. MOTOR VEHICLE POLLUTION CONTROL DEVICES
ARTICLE 4. DIESEL PARTICULATE MATTER CONTROL MEASURES
This database is current through 03/10/06, Register 2006, No. 10.

s 2023.3. Zero-Emission Bus Requirements.

(a) "Zero-emission bus" means an Executive Officer certified urban bus that produces zero exhaust emissions of any criteria pollutant (or precursor pollutant) under any and all possible operational modes and conditions.

(1) A hydrogen-fuel cell bus shall qualify as a zero-emission bus.

(2) An electric trolley bus with overhead twin-wire power supply shall qualify as a zero-emission bus.

(3) A battery electric bus shall qualify as a zero-emission bus.

(4) Incorporation of a fuel-fired heater shall not preclude an urban bus from being certified as a zero-emission bus, provided the fuel-fired heater cannot be operated at ambient temperatures above 40(F and the heater is demonstrated to have zero evaporative emissions under any and all possible operational modes and conditions.

(b) Zero-emission Bus Demonstration Project - except as provided in (3) below, the owner or operator of an urban bus fleet on the diesel path in accordance with the provisions of section 2023.1, with more than 200 urban transit buses in its active fleet on January 31, 2001, shall implement a demonstration project. The owner or operator shall evaluate the operation of zero-emission buses in revenue service, and prepare and submit a report on the demonstration project to the Executive Officer for inclusion in a future review of zero-emission technology.

(1) This demonstration project shall meet all of the following specifications and requirements:

(A) utilize a minimum of three zero-emission buses,

(B) include any necessary site improvements,

(C) locate fueling infrastructure onsite,

(D) provide appropriate maintenance and storage facilities,

(E) train bus operators and maintenance personnel,

(F) place the buses in revenue service for a minimum duration of 12 calendar months,

(G) retain operation and maintenance records, and

(H) report on the demonstration program as set forth in subdivision (f) of section 2023.4, title 13, CCR.

(2) When planning and implementing the demonstration project, the operator or owner shall meet the following milestones:

(A) no later than January 1, 2002, prepare and solicit bid proposals for materials and services necessary to implement the

demonstration project, including but not limited to the zero-emission buses and the associated infrastructure

(B) no later than February 28, 2006, place at least three zero-emission buses in operation, and

(C) no later than July 31, 2005, submit a preliminary report on the demonstration project to the Executive Officer, in accordance with paragraph (f)(3) of section 2023.4, title 13, CCR and,

(D) no later than July 31, 2007, submit a report on the demonstration project to the Executive Officer, in accordance with paragraph (f)(4) of section 2023.4, Title 13, CCR.

(3) Multiple transit agencies within the same air basin may, on a case-by-case basis, petition the Executive Officer to implement a joint zero-emission bus demonstration project. Electric trolley buses shall not qualify as zero-emission buses for purposes of this joint demonstration project. No more than three transit agencies can participate in any one joint project. Transit agencies that are participating in a joint demonstration project shall:

(A) designate the agency hosting the onsite demonstration,

(B) jointly fund the demonstration project, and

(C) place a minimum of three zero-emission buses per demonstration project in revenue service.

(c) Purchase Requirement for Zero-emission Buses - The owner or operator of a transit agency with more than 200 urban buses in active service on January 1, 2007, for transit agencies on the diesel path, and January 1, 2009, for transit agencies on the alternative-fuel path, shall purchase and/or lease zero-emission buses, in accordance with the following:

(1) For transit agencies on the diesel path, in accordance with the requirements in section 2023.1, a minimum 15 percent of purchase and lease agreements, when aggregated annually, for model year 2008 through model year 2015 urban buses shall be zero-emission buses.

(2) For transit agencies on the alternative-fuel path, in accordance with the requirements in section 2023.1, a minimum 15 percent of purchase and lease agreements, when aggregated annually, for model year 2010 through model year 2015 urban buses shall be zero-emission buses.

(3) The provisions of paragraphs (1) and (2) shall not apply if the operator's urban bus fleet is composed of 15 percent or more zero-emission buses on January 1, 2008, for transit agencies on the diesel path, and on January 1, 2010, for transit agencies on the alternative-fuel path, or at any time thereafter.

(4)(A) Transit agencies on either the diesel path or alternative-fuel path may earn credits for use in meeting the purchase requirements for zero-emission buses specified in paragraphs (c)(1) and (c)(2) by placing zero-emission buses in service prior to the dates specified in paragraphs (c)(1) and (c)(2). For each zero-emission bus placed into early service, credits shall be accrued according to the following table. Each earned credit is equivalent to one zero-emission bus.

Credits per Year Place

Path	2000-2003	2004-2005	2006	2007	2008	2009
Diesel	3	2.5	2	1.5	-	-
Alternative-fuel	3	2.5	2	1.5	1.5	1

(B) Zero-emission buses placed in service to meet the zero-emission bus demonstration projects as specified in subdivision (b) are not permitted to accrue credits towards the zero-emission bus purchase requirements.

(d) The Air Resources Board shall review zero-emission bus technology and the feasibility of implementing the requirements of subdivision (c) above no later than January 2006. Based on that assessment, the Board shall decide whether to proceed with the implementation of subdivision (c) requirements.

<General Materials (GM) - References, Annotations, or Tables>

Note: Authority cited: Sections 39600, 39601, 43013, 43018, 43100, 43101, 43104 and 43806, Health and Safety Code. Reference: Sections 39002, 39003, 39017, 39018, 39500, 40000, 43000, 43000.5, 43009, 43013, 43018, 43102, 43801 and 43806, Health and

Safety Code; and Section 28114, Vehicle Code.

HISTORY

1. Renumbering of former section 1956.3 to section 2023.3, including amendment of section and Notefiled 1-31-2006; operative 1-31-2006 pursuant to Government Code section 11343.4 (Register 2006, No. 5).

+13 CA ADC s 2023.3+

END OF DOCUMENT

Website link for this regulation Mar22/06:

http://weblinks.westlaw.com/Search/default.wl?RP=%2FWelcome%2FFrameless%2FSearch%2Ewl&n=1&action=Search&CFID=0&db=ca%2Dadc&method=TNC&query=ci%28%2213+CA+ADC+s+2023%2E3%22%29&recreatepath=%2Fsearch%2Fdefault%2Ewl&RLT=CLID%5FQRYRLT355813223&RLTDB=CLID%5FDB335813223&search=Search&section=2023%2E3&sp=CCR%2D1000&spolt=Return+to+the+California+Code+of+Regulations+Service&sposu=http%3A%2F%2Fgovernment%2Ewestlaw%2Ecom%2Flinkedslice%2Fdefault%2Easp%3FSP%3DCCR%2D1000&spou=http%3A%2F%2Fgovernment%2Ewestlaw%2Ecom%2Flinkedslice%2Fdefault%2Easp%3FSP%3DCCR%2D1000&ssl=n&tempinfo=FIND&title=13&RS=WEBL6.03&VR=2.0&SPa=CCR-1000

Proposed Modifications to the Fleet Rule for Transit Agencies and New Requirements to the Transit Fleet Vehicles (February 24, 2005 Hearing)

Description: Notice of Public Hearing to Consider Proposed Modifications to the Fleet Rule for Transit Agencies and New Requirements to the Transit Fleet Vehicles

Affected Regulations: Proposed Adoption of Sections 2023, 2023.1, 2023.2, 2023.3, 2023.4; Amendment of Sections 1956.1, 2020, 2021; and Repeal of Sections 1956.2, 1956.3, 1956.4, Title 13, California Code of Regualtions (CCR)

Status: The Hearing Notice was published December 7, 2004, for a public hearing on February 24, 2005, at the Air Resources Board, Byron Sher Auditorium, 2nd Floor, 1001 "I" Street, Sacramento, CA 95814. The Final Rulemaking Package was filed with OAL on December 19, 2005. OAL has until February 2, 2006 to make a determination. The final rulemaking package was approved by OAL and filed with the Secretary of the State on January 31, 2006; the regulation became effective the same day, January 31, 2006.

Rulemaking Documents: To view the Notice of Public Hearing, Staff Report and Associated Materials, please **click here**.

Contact: Kathleen Mead at (916) 324-9550 or Nancy Steele at (626) 350-6598

technology "road map"

Ballard's Technology "Road Map" highlights the automotive fuel cell performance targets Ballard plans to meet over the next five years. The "Road Map" is the yardstick by which Ballard's performance will be measured, year over year, as the company progress toward its goal of developing commercially viable automotive fuel cell stack technology by 2010.

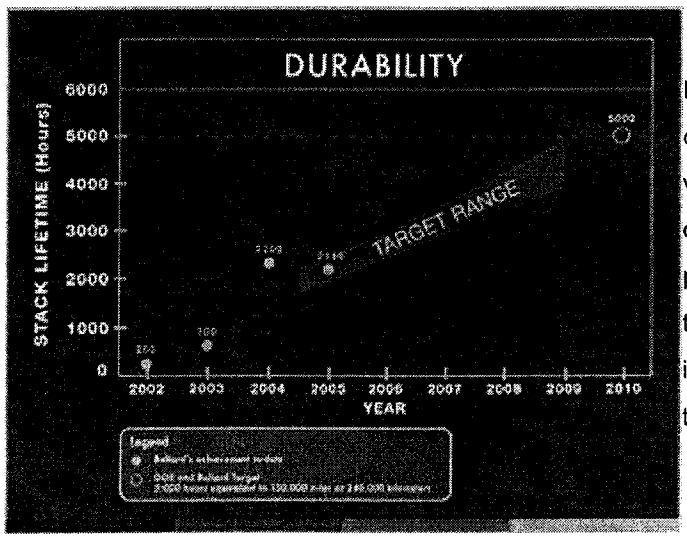
As with any emerging technology, until recently, the fuel cell industry had no established technology benchmarks or milestones against which to measure progress. However, the US Department of Energy (US DOE) recently updated its Hydrogen, Fuel Cells and Infrastructure Technologies Program's Multi-Year Research, Development and Demonstration Plan, written in 2003, laying out industry targets for fuel cell cost, durability and performance.

2005 Road Map Achievements:

Durability: 2,100 hours
Freeze Start: -25°C in 90 seconds
Power Density: 1,470 wattsnet/liter
Cost: $73 USD/kW [see notes (1) and (2) below]

Read the press release announcing our 2005 technology achievements

Durability



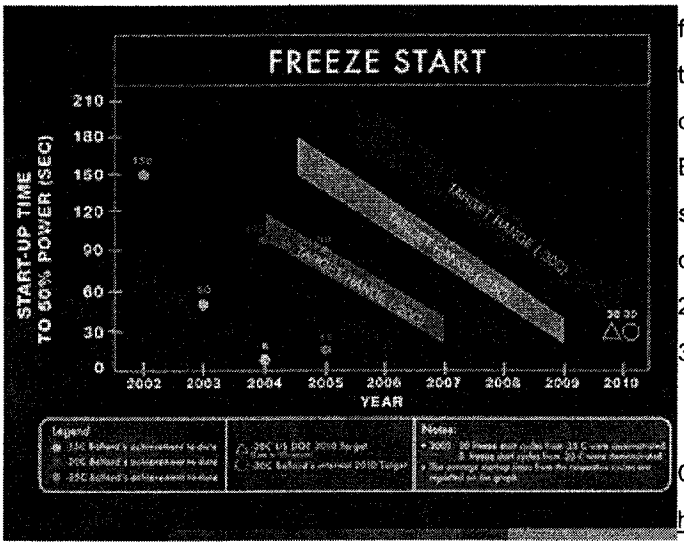
For tomorrow's consumer of fuel cell powered vehicles, durability means delivering the same level of performance and reliability they expect from today's internal combustion technology. Ballard has

already demonstrated, using real drive cycle testing, more than 2,000 hours of durability in technology demonstration, equivalent to 100,000 kilometers under regular driving conditions.

Click here to enlarge image, or download high resolution jpg.

2005 Durability Achievement: 2,100 hours

Freeze Start Capability

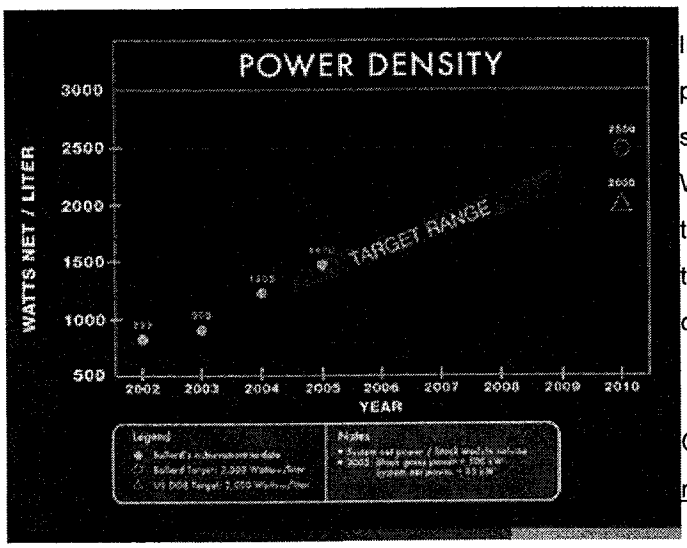


Managing the water produced by fuel cells presents a challenge in freezing temperatures and, as such, to the commercialization of fuel cell technology. Ballard has already achieved fuel cell stack start-up at -25°C, within 90 seconds, to 50% of the rated power for the stack. Ballard's 2010 target for stack freeze start is -30°C, in 30 seconds, to 50% rated power.

Click here to enlarge image, or download high resolution jpg.

2005 Freeze Start Achievement: -25°C in 90 seconds

Power Density

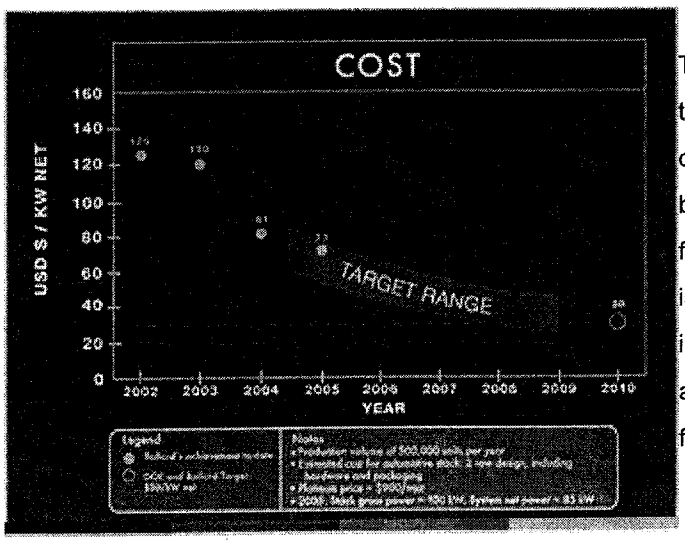


Increase in volumetric power density is the ability to package the fuel cell stack into increasingly smaller spaces within a vehicle. Ballard's target of 2,500 Wattsnet/liter is more aggressive than the US DOE's target and will go a long way towards liberating the true design potential of fuel cells in future automotive design.

Click here to enlarge image, or download high resolution jpg.

2005 Power Density Achievement: 1,470 wattsnet/liter

Stack Cost



The cost of automotive fuel cells will need to be competitive with today's internal combustion engines for the technology to be adopted widely. Ballard's target cost for the fuel cell stack, like the US DOE's, is $30 USD/kW by 2010. Stack technology innovation, new materials development and system optimization are the drivers for achieving this cost target.

Click here to enlarge image, or download high resolution jpg.

2005 Cost Achievement: $73 USD/kW (1)(2)

(1)Ballard engaged TIAX LLC to conduct an external audit of Ballard's 2005 Road Map cost estimate. Based on the design and performance information provided by Ballard, TIAX has determined that Ballard's stack cost estimate for 2005, as stated in the release, is a reasonable high volume manufacturing cost estimate. TIAX is a leading product and technology development firm, also engaged by the National Renewal Energy Laboratory/DOE in its 2005 assessment of automotive PEM fuel cell costs.

(2)Cost reflects updated methodology, and assumptions consistent with the U.S. Department of Energy (DOE) fuel cell technical target. The 2005 cost estimate represents a 10% reduction in cost

QUALITY OF LIFE AND INFRASTRUCTURE STRATEGIES

IN THE

GREATER TORONTO AREA AND ONTARIO

PREPARED BY:

[redacted]

TRANSIT ADVISORY COMMITTEE

QUALITY OF LIFE AND INFRASTRUCTURE STRATEGIES

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GREATER TORONTO AREA AND ONTARIO

PREPARED BY:

[redacted]

TRANSIT ADVISORY COMMITTEE

December 1996

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TRANSIT ADVISORY COMMITTEE REPORT

ON

QUALITY OF LIFE AND INFRASTRUCTURE STRATEGIES

EXECUTIVE SUMMARY

One of the most serious economic and environmental challenges in Ontario today is the control of smog and other toxics.

Vehicles in Ontario are a significant source of precursor emissions of harmful pollutants such as ozone and fine particulates, the result of increased auto/truck transportation. The unrestrained growth of automobile use and an escalating crisis of urban transportation have become a growing concern to communities for their deleterious effects on Health, Economics, Farm Land and Ecology.
These issues are interrelated and contingent upon one another.
They have created a multidimensional problem of individual, societal, and governmental costs in Ontario and the Greater Toronto Area. The ever increasing urban sprawl and highway expansion is coming to resemble that of the United States. In the United States it has proven to be unsustainable as it has created the "Ghetto City" centres of poverty and crime.

Although it is not the intention of this report to review exhaustively the many studies already reported in conferences and symposia worldwide, the Transit Advisory Committee participants have evaluated various strategies and they have collaborated on an action plan for sustainable transportation and improved living conditions within the GTA and Ontario.

However important an innovative approach and cost effective solutions may be, it is imperative to obtain the participation of all levels of government in a concerted effort to conquer this multifaceted dilemma. Piecemeal, fragmented efforts are uneconomical and unproductive.

APPROACH

The Transit Advisory Committee was established in January 1996 for the purpose of collaborating on an action plan to consider environmental issues and infrastructure costs related to air pollutants from automobile/truck transport. These have a destructive effect on quality of life in Ontario, as the high level of air pollution has raised health and infrastructure costs.

The Problem: Increasing Health and Infrastructure Costs Reduce our Quality of Life

The report synthesizes the discussions and the proposals submitted by the participants at a series of meetings designed to meet the two objectives of TAC.

Objectives:

1. To Reduce Automobile Traffic in the Greater Toronto Area.
2. To Expand the Use of Public Transit within the GTA and Ontario.

This report has two purposes:

1. To focus on the economics of the increasing volume of motor vehicle transport and the unsustainable environmental and societal conditions in Ontario, and
2. To propose strategies and alternative methods to resolve existing infrastructure needs by an improved public transit system and by the reduction of auto/truck traffic.

To meet its objectives, the Transit Advisory Committee intends:

1. To present a policy plan to the Ministries of Transportation, Finance, Environment and Energy and to the Municipal government; and
2. To raise public awareness through media and public forums of the effects of air pollutants on health and the economic discrepancies created by the expansion of automobile transport and the simultaneously diminishing level of the public transit system.

EFFECTS OF EXISTING TRANSPORTATION IN THE GTA

Air Pollution

Emissions from automobiles and commercial vehicles include the toxics of carbon monoxide (CO), nitrogen oxides (NO_x), volatile organic compounds (VOC_s) and particulates. As well, there are PCBs, dioxins and other toxics deposited in water and on land, which contaminate the food chain. In the city of Toronto, vehicle emissions account for 93%, 63% and 38% of the total emission of carbon monoxide, nitrogen oxides, and suspended particles, respectively (Figures 1a, 1b, 1c). This translates into approximately 132 kilotonnes of CO, 16 kilotonnes of NO_x and 0.6 kilotonnes of SP being emitted into Toronto's air annually.

Health

Air pollutants are increasingly recognized as contributors to health problems like cardiovascular diseases, respiratory ailments and cancer. Premature mortality from heart and lung diseases is caused by particulates in air pollution (see Appendix).

Infrastructure Costs

These include individual costs of the automobile, government costs of subsidization, societal costs of health and vehicle caused accidents and industry and corporate costs of auto/truck transport.

Urban Planning

Unrestricted urban sprawl has proven to be unsustainable as it discourages effective use of land and cost effective modes of transportation. It also fails to meet societal needs for walking, bicycling, readily accessible amenities and effective modes of transportation.

FIGURE 1 - Impact of Vehicle Emissions on Air Quality in Toronto

FIGURE 1a
City of Toronto Carbon Monoxide Emissions by Sector (1990)

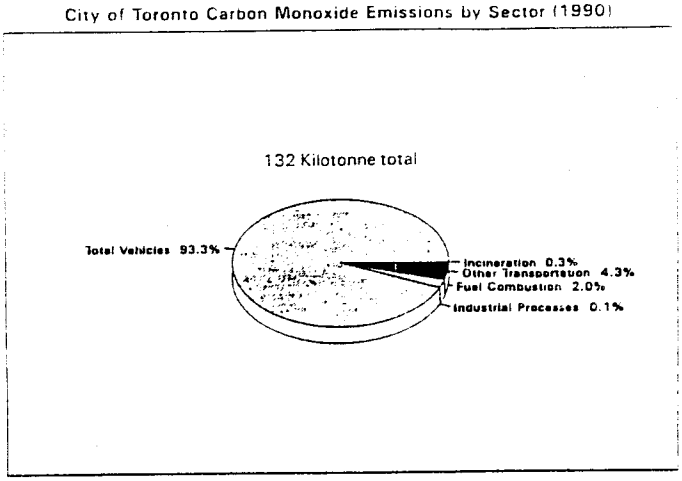


FIGURE 1b
City of Toronto Nitrogen Oxide Emissions by Sectors (1990)

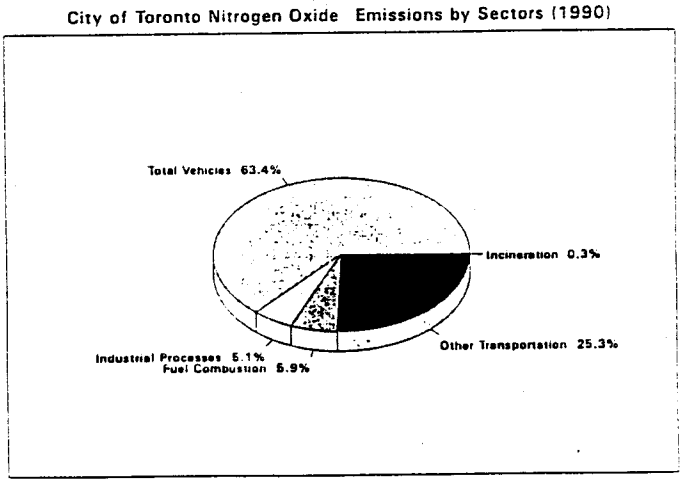
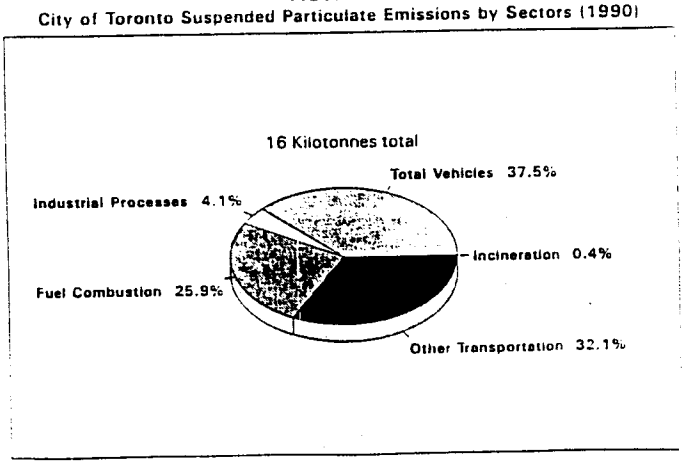


FIGURE 1c
City of Toronto Suspended Particulate Emissions by Sectors (1990)



Source: OMOEE, 1995

(Ontario Ministry of Environment and Energy, 1995)

STATE OF PUBLIC TRANSIT TODAY

There is serious and continuous decline in Greater Toronto Area use of public transit as a result of:

- Urban sprawl and changes in spacial patterns of employment,
  ex. movement of offices to suburbs and changes in nature of work patterns.

- Depressed economy and the collapse of the office-commercial real estate market in the core.

- Dependency on and convenience of the car.

- Perceived lower costs of the automobile versus cost of public transit.

- Transit fare increases.

- Erroneous decisions made in transit infrastructure and service design such as:

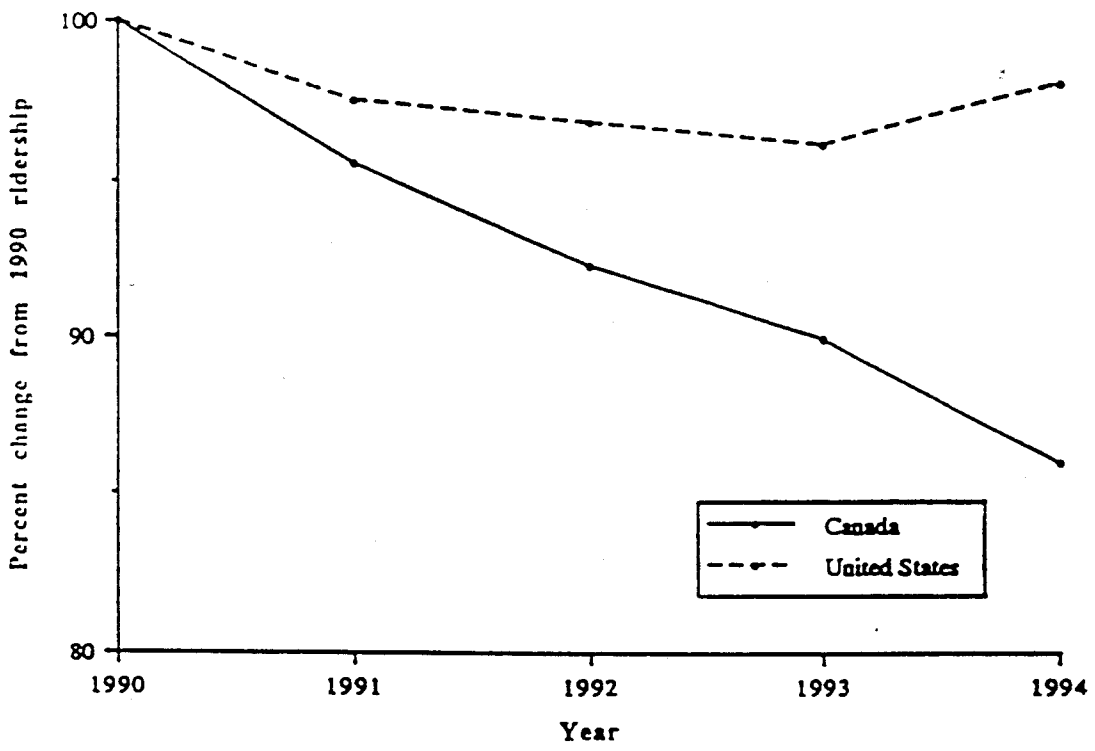
  a) Removal of fare by distance system. This had destructive effect on both short distance ridership and long distance revenues.
  b) Inconvenience of modal transfer in Scarborough, from subway to the RT.

- Limited access to public transit in all suburbs (Perl and Pucher, 1995).

- Fare and service changes within the TTC which decreased off-peak ridership at a higher rate than that of peak hours.

FIGURE 2

Comparisons of Transit Ridership (1990 baseline) in Canada and the United States, 1990-1994*



*Note: 1994 projection based on ridership through September.

(Perl and Pucher, 1995)

OBJECTIVE 1: TO REDUCE AUTOMOBILE TRAFFIC IN THE GTA

Economics of Automobile Traffic

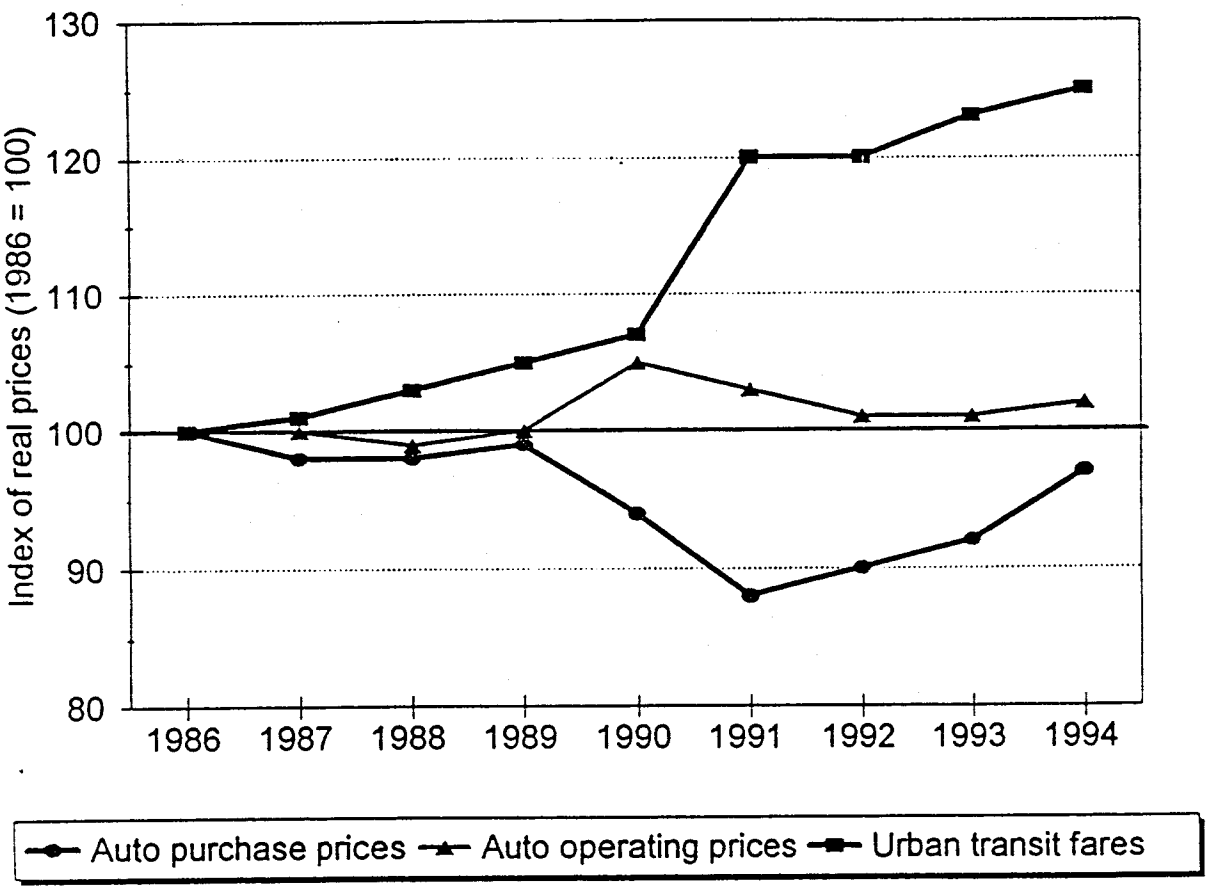
We are convinced that the ongoing economic health of the Greater Toronto Area is linked to the development of alternatives to automobile travel:

- The cost of Health to the province and taxpayers as a result of air pollution: if nitrogen oxide and volatile organic compound emissions are reduced to 45% of their 1990 levels by the year 2015, the value of avoided mortalities and morbidities in Ontario is estimated to be as much as $717 million (Ministry of Environment and Energy, 1996).
- The cost of the automobile has been called the classic externality problem, making it one of the largest public subsidy programs in Ontario (Perl and Pucher, 1995; IBI Group, 1995).
- Pollution Probe's 1991 study of the costs of the car in Ontario identifies approximately $4.5 billion per year for direct costs from government subsidy and $4.0 billion for indirect/hidden costs (Pollution Probe, 1991).

  This estimate is comparable to the 1994 statistics in the study on "Full Cost Transportation and Cost-Based Pricing Strategies" (IBI Group, 1995).
- The Ministry of Transportation, in the *Social Cost of Motor Vehicle Crashes in Ontario*, concluded that motor vehicle crashes alone cost $9.1 billion in 1990, $7.4 billion of which were the human consequences to individuals, organizations and governments (ie. the value of life).
- Cost of the automobile to the individual owner in Toronto is $9180 per year as indicated in a study done by Runzheimer Canada Inc. in 1996. This cost includes $6648 for fixed ownership costs and $2532 for operating costs (Law, 1996).
- The financial impact on families in suburban communities, where the lack of adequate public transportation requires the use of more than one vehicle, is severe.
- Congestion costs, according to the Metropolitan Toronto Good Movement study done in 1988 by the Metro Toronto Roads and Traffic Department, are estimated to be 50% of the cost of goods movement to businesses by 1997 in the GTA. Their figures would translate to $1.5 to $2.0 billion per year.
- Environmental costs as a result of urban sprawl, such as agricultural capacity and ecological balance. The imbalance in the GTA transportation system--75% of all trips are by car--increases energy price and the eventual depletion of reserves.
- The social, environmental and infrastructure costs of the automobile would diminish if drivers were charged for externalities, to cut car use and car ownership.

FIGURE 3

Mobility Price Trends in Canada: 1986-1994



Source: Statistics Canada Consumer Price Indices for Canada, 1986 - 1994, Table 9, Statistics Canada Catalogue No. 62-010

(Perl and Pucher, 1995)

TABLE 1

Transportation Costs, Revenues and Subsidies in Ontario

Exhibit 5.8
Full Cost Transportation Cost Estimates, Ontario - 1994
($1994 Billions)

Mode	User Charges (1)	Basic Subsidies (2)	External Costs (3)	Full Costs = 1+2+3
INTERCITY				
Truck	4.96	0.16	0.91	6.02
Rail Freight	2.24	(0.03)	0.34	2.54
Marine Freight	1.82	0.07	0.11	2.00
Auto	13.34	0.31	1.31	14.96
Bus	0.10	0.00	0.01	0.11
Air Passenger	1.70	0.29	0.11	2.10
Rail Passenger	0.09	0.14	0.01	0.24
URBAN				
Auto (Auto 1)	19.43	(0.21)	1.96	21.18
Auto (Auto 2)	19.43	(0.21)	9.10	28.33
Transit	0.37	0.44	0.05	0.87
Truck	1.45	0	0.12	1.37

Sources: Exhibit 5.6 and Appendix C, Exhibit C.14.
Numbers may not add to row totals due to rounding.

The comparison of the Ontario results in Exhibit 5.8 with the results for Canada as shown earlier in Exhibit 4.12 shows that, in Ontario as in Canada, the automobile has much higher costs than those of any other modes: $21 - 28 billion full costs per year for urban auto and about $15 billion per year for intercity auto in 1994. The full costs of urban truck ($1.37 billion) and urban transit ($0.87 billion) are dwarfed by those of the urban auto. Among the intercity modes in Ontario, full costs for intercity truck ($6 billion) are about 40% of the intercity auto costs while the full costs of rail freight ($2.5 billion), air passenger ($2.1 billion) and marine freight ($2.0 billion) are also significant.

(IBI Group, 1995)

Automobile Traffic Reduction Strategy

Necessary measures to discourage auto usage and auto ownership:

- Parking policy to limit supply and increase the cost of parking.
- Parking to be a component of the transportation system; Municipal determination of rates in both public and private garages.
- Parking regulation and enforcement to be under the same organization to achieve consistency.
- Companies with over 30 employees to have a comprehensive transportation plan, including setting modal splits, transit coordination, van/car pools.
- Close off selective streets to traffic except for public transit, such as Chinatown, Yorkville, Kensington Market areas.
- Reduction of automobile lanes in city/metro roads; increase pedestrian and bicycling infrastructure connecting to transit.
- Ultimately introduce alternate-day driving policy according to licence plate numbers issued per address.
- Encourage telecommuting.
- Reduction/moratorium of highway expansion and road widening expenditures.
- Assign true costs to automobile owners and users to end the underpricing of urban auto transport by:
    a) special sales tax on cars
    b) increase of fuel tax
    c) increase in registration fees for passenger vehicles and trucks
    d) assign congestion and pollution taxes to auto owners and users
    e) transfer revenue to public transit

OBJECTIVE 2: TO PROMOTE PUBLIC TRANSIT WITHIN THE GTA AND ONTARIO

2A Strategies to Improve Pubic Transit

- Emphasis on Operating subsidy over Capital expenditures.

- Keep transit economically viable by an integrated service and fares Verbund type federation.

  This Verkehrsverbund (Verbund) federation of public transport organizations offers a practical solution to the problem of successfully providing integrated regional public transit in metropolitan areas in Germany, Austria and Switzerland (Pucher and Kurth, 1996).

- Use existing rail lines to provide higher speed transit from suburbs to core; augment existing services with relatively low cost.

- Provide additional stations for GO Transit connecting and corresponding to schedules of TTC and other local transit.

- Further increase commuter rail frequency to attract further increased ridership.

- Expand GO Transit off-peak Bus-Train services to provide express service between Union Station and remote GO Transit stations.

- Incorporate demand-responsive or other alternative service (public or private taxis/minivans) to transit in suburbs including better suburb-to-suburb linkages.

- Develop Provincial legislation for transit priority:
  a) Through transit activated system
  b) Reserved lanes on public roads
  c) Mandatory yielding to transit movement

- Stress coverage rather than capacity; this would be viable by privatizing specialized services while maintaining control.

- Seek privatization by franchises: companies bid on service packages, competing for the right to provide single company service on specific roads.

- Increase market share for transit by implementing Fares-by-Distance by Time of Day Service quality. Off peak fares are more elastic and will have a greater impact on ridership to maximize revenue.

2B. Ecology and Land Use Objectives

- Seek emission control for passenger vehicles, commercial vehicles and buses.
- Require automobile industry to redesign the automobile to meet ecological standards.
- Address inequities in property taxes and transfer payment programs such as higher grants for local education, transit, etc., which encourage urban sprawl.
- Seek land use zoning via legislation to curb sprawl and intensify high density and mixed use concentration.
- Adopt land use patterns which reduce transportation demand and encourage walking, bicycling and public transit within established municipalities.
- Make land use and development objectives lead, not follow, transportation planning.
- Use existing road space efficiently.

CONCLUSION: RECOMMENDATIONS FOR STRATEGIC ACTIONS

Short-term actions: (up to 3 years)

- Develop parking policy in relation to land use and as a component of transportation.
- Work on taxing cars, trucks and fuel, road pricing.
- Require companies to create transportation policy plans (Van/Car pools).
- Incorporate alternative commuting services (taxis/livery) to transit.
- Turn damaged roads to non-motorized transport to encourage non-car use.

Medium-term actions: (3 to 7 years)

- Traffic signalling system and designated space for transit.
- Divert auto subsidies to Transit.
- Develop pedestrian and bicycling infrastructure.
- Improve rail system for passengers and freight.
- Develop light-rail and/or subway-like buses.
- Consider alternate-day driving in the city.
- Redesign automobile to meet ecological standards.

Long-term actions: (7 to 30 years)

- Urban planning: Density and Independent communities.
- Comprehensive tax restructuring.
- Expansion of rapid-rail service.

GAIN/ACCOMPLISHMENT

- Reduction of air pollution.
- Reduction of Costs in Health and Infrastructure.
- Preservation of farm land.
- Preservation of natural resources.
- Cease to deplete non-renewable energy.
- Development of new Economics and Technologies.

* * * * * * * * *

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APPENDIX

APPENDIX

1. **Krahn, Murray D. et al. 1996.** ***"Direct and Indirect Costs of Asthma in Canada", Canadian Medical Association Journal.*** **154.6 pp821-831.**

   page 826-

   - Cost of asthma in 1990 was $504 million, with an upper limit estimate of $648 million. Direct costs were $306 million. Indirect costs: related disability $76 million.

   - Cost of all morbidity related to productivity loss (absence from work, inability to do housework, need to care for children absent from school, and waiting and travelling time) was $143 million, nearly 3 times higher than productivity loss due to premature death.

   - Asthma was 0.4% of the total economic burden of illness in Canada, and 7.1% of the burden of respiratory illnesses.

2. **Lang, Carolyn, et al. for the Canadian Council of Ministers of the Environment. 1995.** ***Environmental and Health Benefits of Cleaner Vehicles and Fuels: Summary Report.*** **Chapter 5.1**

   - The benefits represent the monetary values for the reduced number of health impacts associated with reduced ambient air pollution concentrations for fine particulate, ozone, and air toxics. The central value represents the "best estimate" for the benefits using central values for all variables.

   - Adverse health effects result in a number of economic and social consequences, including Medical costs, Work loss, Increased costs for chores and care giving, and other social and economic costs which include reduced enjoyment of leisure activities, pain and suffering, anxiety, and concern and inconvenience to family members and others.

   - Central estimate for the value of avoided Mortality is 4.0 million.

   - Central estimate for the value of avoided Cardiac Hospital admission is 8 300.

   - Central estimate for adult chronic Bronchitis plus the value that people attach to avoiding it is 279 000.

   - Central estimate of the monetary value per new Cancer case is 2.6 million.

- Total estimated benefits for implementation of alternative low-emitting vehicles (Alt-LEV) and fuels, are $23 050 million for the central estimate, $10 810 million for the low estimate, $29 080 million for the high estimate.

- Total estimated benefits for implementation of California vehicles and fuels are $30 170 million for the central estimate, $14 90 million for the low estimate, and $38 220 million for the high estimate. Regionally, about 73% of total benefits are gained inside the Windsor-Quebec Corridor (WQC).

Health Effects of Motorized Vehicles

Exhaust releases chemicals into the environment such as: carbon monoxide, nitrogen oxides, sulphur dioxide, ozone, hydrocarbons, particulates, benzene and 1,3-butadiene. These pollutants contribute to respiratory problems, coronary disease, cancer and premature death.

Respiratory problems are exacerbated by vehicle emissions. The millions suffering from coronary disease, emphysema, and chronic bronchitis are particularly sensitive to carbon monoxide.[1] Nitrogen dioxide weakens our defenses against respiratory infection[2], and in combination with sulphur dioxide it is particularly harmful to human health.[3] Nitrogen also contributes to the formation of ground-level ozone. Ozone damages lungs in a similar way to cigarette smoking. A Los Angeles study shows non-smokers experiencing as much breathing impairment as pack-a-day smokers.[4] Ozone also leaves lungs more susceptible to infection.[5] High levels of ozone have been linked with increased hospital visits for respiratory problems.[6]

Fine particles pollution has been linked to an increased prevalence of coughs and bronchitis, with severe effects on asthmatic children.[7] Particulate concentrations are especially high in industrial and highly trafficked areas.[8] Particulate pollution has also been tied to increased hospital admissions for children with respiratory ailments.[9]

The health of those with **Coronary Disease** is jeopardized by elevated levels of carbon monoxide and sulphur dioxide.[10][11][12] High levels of particulates result in an increased rate of hospitalization for the elderly with lung and heart problems.[13]

In a study of Toronto's air quality, 16 **Carcinogens** including 1,3-butadiene and benzene were found.[14] For the sampling sites upper bound lifetime cancer risks ranged between 1 in 10,000 to 1 in 100,000 for benzene alone.[15] Because 83% of benzene emissions in Canada are form gas powered engines, it was concluded that traffic was a major factor.[16]

Approximately 64,000 people may experience **Premature Death** from heart and lung disease caused by particulate pollution, according to a study of 239 US cities.[17] The risk of death form cardiopulmonary disease was 31% in US cities with the highest particulate levels.[18] In a Toronto study, a 2-4% excess of respiratory deaths could be attributed to everyday pollutant levels.[19]

Emissions have other health effects such as exacerbating familial anemia[20] and decreasing physical and mental energy of otherwise healthy persons.[21] They are also thought to have adverse affects on fetal development[22] and the reproductive system.

By reducing pollution we not only prevent sickness and premature death, we decrease the money spent on health. If nitrogen oxide and volatile organic compound emissions were reduced to 45% of their 1990 levels by the 2015, the value of avoided mortalities and morbidity would be estimated in Ontario to be as much as $717 million.[23]

[1]American Lung Association, Health Effects of Common Outdoor Pollutants, 18.
[2]Ibid. 19.
[3]Ibid. 19-20.
[4]Ibid. 14-15.
[5]Ibid. 15.
[6]Health Canada, Outdoor Air and Your Health: A Summary of ResearchRelated to the Health Effects of Air Pollution in the Great Lakes Basin, (Ottawa: Health Canada, March 1996) 2.
[7]American Lung Association 17.
[8]Ibid. 16.
[9]Sheiman Shprentz, Deborah et al., Breathtaking: Premature Mortality Due to Particulate Air Pollution in 239 American Cities, (Natural Resources Defense Council, 1996) 1.
[10]American Lung Association 18.
[11]Ibid. 16.
[12]Board of Health, Outdoor Air Quality in Toronto and Respiratory Health, (Toronto: City of Toronto Public Health Department, April 18 and May 30, 1996) 4.
[13]Sheiman Shprentz 1.
[14]Campbell et al., "Urban Air Quality and Human Health: A Toronto Perspective", Canadian Journal of Public Health, September - October 1995: 356.
[15]Ibid.
[16]Ibid.
[17]Sheiman Shprentz 1.
[18]American Lung Association 16.
[19]Health Canada 3.
[20]American Lung Association 18.
[21]Ibid.
[22]Ibid.
[23]Ministry of Environment and Energy, Towards a Smog Plan for Ontario: A Discussion Paper, (Ontario:Ministry of Environment and Energy) 1996, H-11.

Appendix P

Comments Received on the Draft Terms of Reference

Comments / Responses on the Draft Terms of Reference for the Waterfront East Transit EAs

Name	Comment	Response	Reference
CLC member – June 5, 2006	Specific reference should be made to “Diesel Buses” and “Fuel Cell Buses”.	The approach being taken is to categorize technologies by whether they are rubber-tired (i.e. buses) or operate on rails (i.e. streetcar/LRT vehicles) because these two categories reflect basic differences in vehicle capacity and physical ROW space needed to accommodate them. Within these categories we will consider the costs and benefits of alternative propulsion options as part of the range of options we consider for each category.	Fuel cell buses have been noted in Section 6.4.1 under Technologies
General Public – June 7, 2006	The ToR should state that Transit in the study area must link up with transit elsewhere in the City.	The Draft ToR states that transit facilities in the overall study area must connect with each other and with the rest of the existing and proposed future TTC network.	Included in Section 3.1.5
	I am pleased the ToR includes the possible direct links to the Bloor-Danforth subway via Parliament and/or Broadview.	Comment noted.	
	Consider public water transport.	Does not reasonably address the problem statement.	
	Wildlife habitat needs to be improved, not only maintained.	Evaluation criteria have been revised to reflect this comment.	
	Questionnaires should be accessible via web.	Comment noted.	
	The posted speed limit on Sherbourne is not 450 km/h (typo)	Correction noted.	
	Please note that there are TTC streetcar tracks on Parliament running from King to Carlton.	Comment noted.	
CLC member – June 11, 2006	Many of the documents on the TWRC Web site are difficult to access and download.	Comment noted.	
	I am glad to see the need for north-south connectivity is now recognized as an important part of the study.	Comment noted.	
	If the Parliament Street route is recommended, consider transit priority signalling.	This recommendation will be taken under consideration as we go forward.	
	I am pleased to see the explicit inclusion of two corridors from Union to Cherry.	Comment noted.	
	Avoid over-commitment of the loop capacity at Union Station.	This recommendation will be taken under consideration as we go forward.	
	The charts showing the morning peak transit demand outbound from the three districts are interesting, but it would also be worthwhile seeing the non-transit figures.	The outbound transit figures are meant to provide context for determining which types of Planning Alternatives should be considered. Modal splits (auto, transit, etc.) will be further developed as the study progresses.	
	The problem with the ToR is that it assumes that the TTC's standards would actually provide good service when experience elsewhere both downtown and in the suburbs shows that this is not true. More frequent overall transit service (particularly King 504 service), and off-peak service requirements should be considered.	The purpose of these EA’s is to identify appropriate transit facilities (i.e. infrastructure) required to serve the long term residential, employment, tourism and waterfront access needs in the study area. The scheduling of services that use this infrastructure is outside the scope of these EA’s.	

Name	Comment	Response	Reference
	The plan should include where the new TTC carhouse is going to be located and how it will be connected to the existing and planned network.	This recommendation will be taken under consideration as we go forward.	
	Reassess the need to include the criterion that addresses through trips.	In accordance with official documents, the City's transportation network is to support growth management by ensuring that streets are not closed to public use and stay within the public realm where they provide present and future access for vehicles, pedestrians and bicycles, space for public utilities, and services, building address, view corridors and sightlines (Official Plan, page 13). Evaluation criteria have been included to balance the needs of all users.	
	There appears to be a desire to minimize construction, vehicle acquisition and net operating costs which will benefit buses over LRT. Transit first does not necessarily mean taking the lowest cost option.	Alternatives will be evaluated according to all criteria, not only cost.	
Association of Iroquois and Allied Indians – June 12, 2006	Regarding First Nations interest, we would like to meet to discuss the consultation policy for this project. Please include me on the contact list.	Party has been contacted and added to the mailing list.	
Urban Development Services, City of Toronto – June 13, 2006	The study area definition of the WDL is not quite correct as WDL does not extend to the Gardiner Expressway. The WDL has been more accurately described in a earlier section and they should be the same.	A distinction has been made between the WDL Precinct boundary and the Study Area Boundary. It has been noted that the WDL Precinct does not extend to the Gardiner Expressway but the study are must consider integration with the surrounding lands and therefore is considered to extend to the Gardiner Expressway.	
	80 acres should not be used alone but should have a hectare equivalent.	Comment noted.	
	The focus of initial development will not be south of Front and East of Cherry but the McCord site further north. The area described will be the second phase - not sure what the reference to Division 1 is.	Text has been revised to reflect this comment.	See Section 6.1
	The EA study area focuses on the area between Cherry and Parliament yet the attraction of the WDL may be the Don River Park which is out of the study area. I would have thought that transit access to the park would be a factor.	Comment is noted. The transit plan as identified in the West Don Lands Precinct Plan proposes a stop at the Cherry Street / Front Street intersection which would be situated within 500m of the Don River Park. However the final decision on the streetcar alignment and street rights-of-way will be made through the EA process.	
CLC member – June 13,2006	The proponents are to be congratulated on the extent to which they have understood and responded to community concerns by increasing the scope and number of "alternatives to" included in this draft.	Comment noted.	

Name	Comment	Response	Reference
	If the preferred alternative for the East Bay Front should be a Queens' Quay LRT or streetcar combined with an express east-west bus on another route, what sort of commitment to establishing this route would there be once the EA is completed?	Once the EA's receive approval from MOE, TTC as proponent may proceed to design and construction of the undertaking, but only in accordance with all of the recommendations contained within the EA documents; however, the timing of construction may depend on other factors, including funding availability.	
	Supports a stronger statement that commits to car-free zones.	As noted earlier, evaluation criteria have been included to balance the needs of all road users.	
	Suggests adding the commitment "all vehicles on new routes will be fully accessible from the start of operation".	The TTC is committed to providing barrier free access. This is reflected in the evaluation criteria as a "minimum criteria" under Planning Alternatives –Barrier Free Design.	Full accessibility is one of the key considerations in Section 5.1.
	It would be appropriate at some point to say that the purpose of this exercise is to go farther and decrease levels of private traffic.	As noted previously, the purpose of these EA's is to identify transit infrastructure requirements within the study area, based on the evaluation criteria presented in the ToR. These criteria include maximizing non-auto trips.	
	Rethink the criteria that assess the planning alternatives to ensure the service quality is at least as good as in the St. Lawrence neighbourhood	Comment has been noted.	
CLC member – June 15, 2006	The study area needs to be expanded west to explicitly include Union Station.	Connections to Union Station is fundamental to the East Bayfront study.	As noted in Section 6.4.1 of the East Bayfront ToR, providing a convenient link to Union Station is a key requirement of the study.
	Transit corridors do not need to be along streets (existing or proposed) and certainly should not be in the middle of streets because that is poor access for transit-users and so discourages transit use. Accessing transit directly from sidewalks is much better than having to cross vehicle lanes - particularly more than one lane.	Various corridors and locations within corridors will be considered during the study and especially when considering "design alternatives"	Section 6.5.1 considers locations within the road allowance including centre and side of the right of way.
	Evaluation criteria should include accommodating peak PEDESTRIAN flows (i.e. wide sidewalks).	Design Alternatives will be developed to account for pedestrian comfort and safety and include the accommodation of sidewalks of a sufficient width as identified in the Precinct Plans.	
	In natural environment "must make provision for shade trees in parks and along pedestrian routes".	The evaluation of design alternatives will consider the ability to support sustainable landscaping / urban forestry.	Evaluation criteria for Design Alternatives includes maximization of vegetation opportunities.
	Consultation should not be confined to individuals and groups in the study area but to the whole city.	Consultation is being conducted in accordance with EA Act requirements.	
	Transit facilities by themselves are not much use unless they can be safely and conveniently accessed by all users - including those with luggage, bundle-buggies, strollers etc.	The TTC is committed to "barrier free access" and this is reflected in the evaluation criteria under the heading "Transportation".	Barrier free design is a criterion in assessing design alternatives.

Name	Comment	Response	Reference
	Travel demand must include walking trips, local as well as to and from transit, and include weekend and evening trips, not just commuting to work.	Peak period travel demand forecasts have been developed and will be refined during the course of the study for road, transit and other trip users. Peak period demand (generally occurring during weekday commuting periods) will assist in identifying infrastructure requirements.	
Toronto Fire Services – June 15, 2006	Document circulated to fire services is incomplete and lacked Appendix C (Primary Analysis Criteria for Planning and Design Alternatives).	Minimizing emergency access times will be a fundamental criterion in assessing design alternatives.	Evaluation criteria (Appendix C) included “minimizing emergency response time” under Transportation.
	(page 16 – Section 5) Minimizing street right-of-way width is identified as a fundamental consideration in generating design alternatives. Maintaining adequate right-of-way and street widths to provide required access route for fire department vehicles must be given priority consideration when generating design alternatives.	Comment noted.	
	(page 29, 35,& 40) “Design Alternative” Maintaining emergency vehicle access routes to at least the minimum width standards must be part of the assessment criteria when evaluating design alternatives.	Comment noted.	
	(Appendix ‘B’ & Section 6.2.6) “Proposed right-of-way for Queen Street from East Bayfront Precinct Plan”. Option (Aii) and Option (Cii) cross-section do not provide a minimum unobstructed travel lane of 6 metres (excluding parking lane) as required for fire access routes. This has previously been identified as a concern by the Fire Services when the Draft Precinct Plan (July 2005 version) was circulated by the Waterfront Secretariat Office.	Comment noted and will be addressed when assessing various alternatives during the IEA.	
GO Transit – June 15, 2006	Consider wording in the ToR to note that service scenario inter-dependencies may arise (due to overlap between the East Bayfront and West Donlands EA’s)can be dealt with at the detail design stage.	Comment noted.	
	Pg 5 - 6, GO Transit Corridor Studies - Update to GO reference is required, GO has completed the GO Class EA and CEAA process and construction of the third track is underway. Further, GO has commenced site preparation work of the Don Yard and construction of yard improvements will commence this summer.	Text has been revised to reflect this comment.	Revise the ToR where appropriate.
	Pg 22, Existing Transit - GO Transit - It would also be worth noting that Union Station is served by seven inter-regional commuter rail services. Reference to Union Station Bus Terminal should also be added.	Text has been revised to reflect this comment.	See Section 6.2.2 under GO Transit in the East Bayfront ToR.
	Pg 28, it is not clear whether the link to Union Station is part of the East Bay Front undertaking. This should be clarified.	Connection to Union Station is fundamental to the East Bayfront study.	As noted in Section 6.4.1 of the East Bayfront ToR, providing a convenient link to Union Station is a key requirement of the study.
	pg 28, last paragraph - One of the key network connections for the Waterfront services will be to Union Station subway and GO services. The last paragraph should more fully describe the range of options to be considered for this link, eg. enhanced streetcar loop or a new pedestrian connection from Union to the thru Queens Quay E & W service. Also if an express bus service is being contemplated, where would the bus terminal be located?	Comment noted and to be addressed during technical study.	
	Pg 29 item 8 - In addition to the configuration of the streetcar loop, other significant location and operational issues include pedestrian connection from loop to Union Station subway and GO Concourse. Also, is there a need identify any bus terminal associated with the express bus service?	Comment noted.	

Name	Comment	Response	Reference
	Pg 1 of Criteria for Planning Alternatives - Transportation: Transit...a further criteria is required associated with effectiveness of network building of the respective alternatives and in particular connection to the broader network at Union Station subway and GO services for the East Bay Front EA	Comment noted.	
	Pg 3 of Criteria for Planning Alternatives - Socio-Economic Environment...as GO Transit owns segments of the rail corridor and Don Yard in the vicinity of Cherry St, GO should be added to the following criteria "Minimizes interference with rail service on CN and GO operations at the Cherry St and/or Parliament St. crossings.	Comment noted and will be addressed during study.	
	Pg 1 of Criteria for Design Alternatives - Transportation: Transit...similar comment as noted above.	Comment noted.	
	Pg 3 of Criteria for Design Alternatives - Socio-Economic Environment...similar revision as noted above.	Comment noted.	
CLC member – June 16, 2006	On page 14 of the draft Terms of Reference, we request that you please add the phrase "noise pollution level," after "local air quality," and before "capital costs for construction"	Comment noted.	
	We request you add a sentence on hydrogen fuel cell powered transportation.	As stated previously, the approach being taken is to categorize technologies by whether they are rubber-tired (i.e. buses) or operate on rails (i.e. streetcar/LRT vehicles) because these two categories reflect basic differences in vehicle capacity and physical ROW space needed to accommodate them. Within these categories we will consider the costs and benefits of alternative propulsion options as part of the range of options we consider for each category.	Comments on fuel-cell consideration has been added in Section 6.4.1 under “technologies”
	We request that you replace “have two to three times the carrying capacity of a bus” with “create greater noise pollution than hydrogen-powered buses.”	Existing ToR wording will remain, since it reflects the design capacity of 140 passengers for an LRT vehicle and 55 passengers for a standard low-floor bus.	
	In the glossary section, we request that you please add the following definition after the "Fuel-cell Bus" definition: "Hydrogen Powered Bus: A bus that uses hydrogen to generate its motive power in a pollution free manner. Examples of such buses would include a zero-emission fuel cell system or an internal combustion engine system that would generate only trace emissions."	The ToR has been modified to reflect this comment.	Fuel-cell bus has been added to the Glossary.
CLC member – June 16, 2006	Please include a statement about a moving sidewalk or “people mover” to connect Queens Quay and Union Station.	The ToR has been modified to reflect this comment.	This comment has been noted under Corridors in Section 6.4.1.
CLC member – June 16, 2006	Do not consider moving sidewalks in the ToR.	The EA process is to ensure that all reasonable alternatives are considered.	

Name	Comment	Response	Reference
York Quay Neighbourhood Association – June 18, 2006	Look at the connection between Queens Quay and Union Station with as broad a frame of reference as possible. The possible is suggested: 1) a short, bright airy concourse going north-south along York street., in which a moving walkway can be installed (it is a 4 minute walk from QQ to Union). This route connects among other things to some of the major hotels and City Hall to reinforce the Path system. 2) the use of the existing tunnel as a route for an automated 'people mover' route to shuttle heavy loads from a Union Station WATERFRONT ENTRANCE on the green space at QQ/York St to the Subway, VIA and GO systems. This would mean EXTENDING the existing tunnel west into the Green Space, building a bright steel and glass structure with a wide platform, handicap access and all.	These recommendations will be taken under consideration as we go forward.	
CLC member – June 19, 2006	Include moving sidewalk in the ToR so as not to discount any idea at this point in the study.	Comment noted.	
June 19, 2006	Not clear what blue lines & green lines represent on page 36.	The green, blue and yellow lines on page 36 (Exhibit 6.1) represent the routes that will be considered during the EA.	
	Unable to see east-west route between King and railroad tracks; Bayview and Sherbourne.	Comment noted. More detailed maps will be used during the IEA	
	Unable to clearly see East West route between King and railway tracks, and Bayview and Sherbourne Ave.	Comment noted. The intent of Exhibit 6.1 was to provide study area context for the Port Lands.	
	Supports consideration of Parliament, Cherry, Broadview and Leslie north-south links.	Comment noted.	
	Very satisfied with the consultation process.	Comment noted.	
Traffic Operations, City of Toronto – June 21, 2006	In general, I am concerned that the evaluation criteria for the EAs will include some requirement that the capacity of the roadways, with transit service, in all three areas are sufficient to accommodate the vehicular traffic that will be projected. I understand that transit, pedestrians, and cycling are being encouraged. However, there is still a percentage of vehicular usage that will need to be accommodated. This may be included under the category of Transportation but it is not clear.	Comment noted and will be addressed during the study.	
	Section 6.2.4 should be modified as follows: Queen Quay East - "....before connecting back to Lake Shore Boulevard East **via** Parliament Street....The **un**posted speed limit is 50 km/h...." Lower Sherbourne/Sherbourne Street- "is a north-south oriented, **2-lane** roadway**, with left turn lanes at signalized intersections,** that extends from ...posted speed limit is **40** km/h." Parliament Street- "...extends northward from Lake Shore Boulevard East as a **4-lane** roadway..." Jarvis Street- " **un**posted speed limit is 50 km/h.."	Text has been revised to reflect this comment. Speed limit information has been removed as being unnecessary detail for the ToR stage.	
TRCA – June 22, 2006	Section 1.3 - Previous Studies: The ToR should mention the Lower Don River West Remedial Flood Protection EA (which will influence any future considerations for transit on or adjacent to the flood protection landform), and TTP Master Plan and Lake Ontario Park	Comment noted.	

Name	Comment	Response	Reference
	Section 2. - Purpose of the undertakings - Port Lands: Land use should include: TTP and Lake Ontario Park - recreational greenspace, natural greenspace. May want to include container port and energy generation to provide more specific context to some of the industrial uses.	Text has been revised to reflect this comment.	See Section 2. Port Lands ToR.
	Section 3.1.4 - Future Travel Demand - Port Lands - Should mention regional users for Lake Ontario Park, TTP, Commissioners Park (playing fields - rec centre) or proposed World Fair Bid.	Comment noted.	
	Page 12, 13 - 3 diagrams - More information should be provided to explain what these diagrams are depicting. Legend should be improved to explain arrows, and # trips (,000's per day or total per day?) - I assume these maps are for existing uses or future? If existing, should they not be located before Section 3.1.4?	Comment noted.	
	Page 26, 6.2.10 - This area is subject to the Toronto Purchase Specific Claim, between the Government of Canada and the Mississaugas of New Credit First Nation. This should be mentioned in the EA.	Comment noted.	
	Page 32 - 7.2.3 - Natural Environment - The ToR is not correct when it indicates that the "current landform will be modified". Currently, there is no landform. It will be constructed by ORC as a component of the Lower Don River West Remedial Flood Protection Project. This Landform will have specific geotechnical and structural criteria that will dictate the types of uses and maintenance activities on the landform itself, including roadways, and future transit considerations.	Comment noted.	
	Based on the Terrestrial Natural Heritage Report prepared by TRCA in 2003, there are some terrestrial habitat features worth mentioning which should be identified.	The evaluation of design alternatives will include an assessment of vegetation as noted in Appendix C.	
	Some mention regarding contaminated soils and groundwater should be included in the description of the terrestrial environment.	Text has been revised to reflect this comment.	See evaluation criteria in appendix.
	Page 32 - 7.2.4. - Aquatic Environment - It is true that Aquatic Habitat in Don River and Keating Channel are heavily impacted, however some fisheries usage has been recorded in the area. DMNP EA will also improve instream habitat.	Comment noted. The evaluation of design alternatives will include assessment of aquatic habitats as noted in Appendix C.	
	Page 32 - 7.2.5 – Socio-economic Environment - Integrating the new transit system with other existing and future infrastructure features (i.e. GO Transit overpasses, SSOs, CSOs, water mains, etc) may be a significant consideration when developing and evaluating options.	Comment noted. Chapter 5 of the Draft ToR noted that existing infrastructure will be utilized to the extent possible.	
	Page 32 - 7.2.6 - Cultural Environment - This area is subject to the Toronto Purchase Specific Claim, between the Government of Canada and the Mississaugas of New Credit First Nation. This should be mentioned in the EA. Furthermore, there are known Cultural Heritage features identified in the West Don Lands.	The EA will address First Nations peoples and activities as noted in Appendix C.	
	Page 33 - Section 7.4.1 - Corridors - #1 Not clear whether this EA includes the entire Cherry St bridge span over the Keating Channel or just from the north side of the Keating Channel - does not seem appropriate to have a plan that ends partway over a bridge. #2 - Should this not be the Crossing over the Keating Channel rather than the Don River, as in #1?	The West Don Lands EA will consider transit solutions and connections into the Port Lands. The Cherry Street Bridge is considered as part of the Port lands. Comment noted.	
	There is no consideration for transit along Mill St - Bayview, over the future Landform. Would this not be a viable option? If there is future consideration for this route, some physical constraints exist pertaining to transit over the flood protection function given the required structural constraints.	Following on the work conducted as part of the West Don Lands Precinct Plan and Waterfront Secondary Plan, transit over the future Landform is not being considered.	
	Page 36 - Exhibit 8.1 should state Port Lands, not West Don Lands.	Text has been revised to reflect this comment in the 3 separate documents.	
	Page 37 - 8.2.2 - Existing Road - Unwin identified as a minor street. I think this will change in the future as part of the build out of Port Lands. Access to a future regional attraction TTP, Lake Ontario Park.	Comment noted.	

Name	Comment	Response	Reference
	Page 38 - 8.2.3 - Natural Environment - In order to be consistent with other Transit EA sections, this should be divided into an aquatic and terrestrial component, especially since there is a significant amount of aquatic and terrestrial habitat conditions in this area in relation to those areas that were identified in the ToR and the following areas that were not, Keating Channel, Ship Channel, Lake Ontario Park, future Don Greenway. Should again mention soil and groundwater quality issues. Extent of floodplain and that DMNP Project EA is looking to remove the risk of flooding to a large portion of the Port Lands.	Comment noted.	
	Page 38 - 8.2.4 – Socio-economic environment - Should identify Toronto Port, and Port Authority Operations Yard, and future energy centre. Should mention possible Worlds Fair Bid.	Comment noted.	
	Page 38 - 8.2.5 - Cultural Environment - This area is subject to the Toronto Purchase Specific Claim, between the Government of Canada and the Mississaugas of New Credit First Nation. This should be mentioned in the EA..	Comment noted.	
	Page 39 - 8.4.1 - Corridors - No mention of Unwin or Commissioners. Just Lake Shore Boulevard.	Text has been revised to reflect this comment.	See Section 6.4.1.
	Page 43 - Exhibit 9.1 - Concerns about the proposed schedule. For the East Bayfront and West Don Lands Precincts, planning alternatives will be selected by December 2006 (type of transit and corridor), and Design alternatives selected by May 2007. DMNP Project EA unlikely to have reached a point in the evaluation of alternatives to be able to provide sufficient information to the TTC EA to finalize their design, particularly as it relates to the Cherry St bridge, and the Queens Quay intersection with Cherry St.	Comment noted. The TWRC and its consultants are committed to coordination with the other EA's being conducted in the area including the DMNP Project EA.	
	Page 46 - Section 9.1.5 - Recommend TRCA to be invited to the TAC to streamline integration with DMNP Project EA, and TTP Master Plan.	Comment noted. TRCA is a member of TAC.	
	Page 48 - Section 11 - Recommend adding Projects to "Coordination with Concurrent Studies" - would also add the Lower Don River West Remedial Flood Protection Project, the West Don Lands, Don Mouth Naturalization and Port Lands Flood Protection Project EA (not just naturalization), Lake Ontario Park, TTP Master Plan, Worlds Fair Bid.	Comment noted.	
	Exhibit 11.1 - East of Parliament Precinct Plan and EA depicted on the map is confusing and incorporates a large section of the Don Mouth Naturalization and Port Lands Flood Protection Project EA. This also appears to include tunnel connections under the GO Transit tracks in the future Bayview Ave alignment. This is very confusing and is problematic for the Lower Don River West Remedial Flood Protection Project, and the Don Mouth Naturalization and Port Lands Flood Protection Project EA.. Further, the TTC LRT EA Studies area seems to incorporate all of Lake Ontario Park and a large swath of the Tommy Thompson Park Baselands which I do not think were part of the defined study area earlier in the RFP. More accurate boundaries should be incorporated in this image.	Study area boundaries are indicative of the overall area being analyzed. The study area boundary does not imply that a new transit line will be constructed in a park or any location other than as described in the corridors to be considered.	See Section 6.4.1 under "corridors".
	There does not seem to be any consideration of greenhouse gas emissions and global warming in the evaluation criteria. There is mention of air quality, however, that does not appear to address Canada's Kyoto Commitments towards reducing the release of CO2.	The evaluation of design alternatives will include an assessment of air quality as noted in the evaluation criteria in the ToR's appendices.	
	Evaluation Criteria for Environmental impacts should have more refined commentary related to impacts on specific habitat features within, and wildlife and recreational linkages between TTP, Lake Ontario Park, Don Greenway, naturalized mouth of the Don and Don River Watershed.	More detail will be added to the criteria as the IEA progresses and various options are developed.	

Name	Comment	Response	Reference
	Evaluation criteria should assess impacts of selected modes and corridors of transit based on flood protection needs in Don Mouth Naturalization and Port Lands Flood Protection Project EA over Cherry Street, along Commissioners through southern corridor of the EA which includes the Don Greenway, and flooding of underpasses under the Kingston Railway Subdivision.	Flooding considerations will be part of the technical analysis in generating design alternatives.	
	Impacts should specify not only impacts on archaeological features, but potential impacts to potential First Nation burial grounds in recognition to the Toronto Purchase Specific Claim.	The evaluation of planning and design alternatives will include an assessment of impacts to First Nations peoples and their activities.	
	Evaluation should assess impacts on and of contaminated soils/groundwater, particularly where the proposal considers subways for the Port Lands area	Impacts on and of contaminated soils will be considered during the technical analysis. Subways will not be an option in the Port Lands.	See Evaluation Criteria in the ToR's Appendices.
	Need to include TRCA floodplain and fill policies pertaining to agency approvals.	Comment noted.	
MMAH – June 22, 2006	Under the land use criteria, please add "must be consistent with all applicable Provincial policies and plans."	This criteria has been added.	
	Please keep me informed of EA progress.	Comment noted.	
Toronto 2015 World Expo Corporation – June 28, 2006	It is essential that the TTC/TWRC is fully aware of Expo plans for the Port Lands and therefore this document should reflect the Port Lands Expo.	Comment noted and text added.	Expo 2015 is one of the concurrent studies noted in Chapter 9.
	Pg. 5, Don Mouth naturalization and Port Lands Flood Protection Project – the document states that the goal of this project is to "permanently remove approximately 230 ha of the Port Lands from the Regulatory Floodplain" – clarification on this, does this mean remove them from risk of flooding?	This is a description from another study and is only here for context.	
	Pg. 5, GO Transit Corridor Studies – Expo plans include a possible temporary GO Station at Cherry Street to service Expo visits, will the Class EA, Federal EA and Preliminary Design Study take this temporary station into consideration? If not, it should be included as part of this EA work.	This is to be addressed during the Expo 2015 study and coordinated with the East Bayfront and West Don Lands studies.	
	Pg. 7, last paragraph – states that there are potential "CEAA triggers in the Port Lands" why is this? As well, would the extension of the LRT along QQE into the Port Lands for Expo be considered an EBayfront project or a Port Lands project?	Potential triggers for this project include Navigable Waters Protection Act Permits, Fisheries Act Permits, and approval by the Canadian Transportation Agency.	See Section 10.2 in the Port Lands Transit EA ToR.
	Pg. 8, Purpose of Undertakings "Port Lands" – this section should include something about the potential for Expo on these lands. Would this EA work cover off the proposed transit lines servicing Expo?	As noted above.	Expo 2015 is one of the concurrent studies noted in Chapter 9.
	Pg. 9, "overall purpose of the undertakings in the ToR" top of page – this statement should be flexible enough to be able to cover off the Expo lands as well, perhaps the statement should include as part of the tourism uses a mention of a Port Lands Expo in 2015.	Expo 2015 requirements will be studied separately but will be coordinated with this study.	
	Pg. 10 "The Toronto Official Plan" – is this meant to be the in force OP? If not, state so, as well, the "new" OP does not yet have official status.	Comment noted. This is intended to be the new Official Plan.	
	Pg. 11, population/employment projections for Port Lands – should there be some mention of the employees anticipated for an interim period during Expo?	It can be addressed during the Transit IEA if and when required.	

Name	Comment	Response	Reference
	Pg. 15, Section 5, Key Considerations in Generating Planning and Design Alternatives – add a bullet point about designing a transit network that takes into account projected traffic an Expo would generate.	Expo 2015 is not part of this study but will be considered as it develops.	
	Pg. 24, Off-Road Multi-use Facilities – will there be some consideration of re-aligning/improving the Martin Goodman Trail through this area in conjunction with the EA work?	This will be part of the technical analysis of right of way options.	
	Pg. 28, point no. 2 top of page – there needs to be some acknowledgment that this express route has the potential to be an "Expo Express" route directly from Union Station to Port Lands.	As noted above.	
	Pg. 38, 8.3 Description of the Future Environment – this section should also include a description of the Expo project for the 6 month duration, i.e., how many visitors expected, projected workers, housing for employees, etc.	Some description include as part of "concurrent studies".	See Chapter 9, Coordination with Concurrent Studies.
	Pg. 45, 9.1.4 Community Liaison Committee During the IEA's – general point here that there should be a presentation to the CLC by Expo staff.	Comment noted. This can take place during the study.	
	Pg. 46, Technical Advisory Committee – general point that a member of Expo staff should sit on the TAC to raise Expo issues and keep us on the "radar screen".	An Expo 2015 staff representative will be included on the TAC.	
	Pg. 48, Coordination with Concurrent Studies – there should be some mention in this section on the Expo bid process and the timelines, ie., Federal letter of support Nov. '06; final decision Feb. '08 and the need for co-ordination with Expo as well – it is critical that all EA work gets done in tandem. With respect to Exhibit 11.1, the Expo site area should also be included, even if it is "proposed".	Text has been revised to reflect this comment.	See Section 6.4.1 in the East Bayfront ToR.

E-mail from [redacted] (CLC member) - June 5, 2006

Re: June 2006 Draft Terms of Reference e-mailed by Andrea June 5, 2006
Changes To Draft Terms of Reference to meet Petition Requirement of expressly referencing fuel cell buses (as distinct from diesel or other buses) in the Terms of Reference as an alternative to be assessed according to
criteria set out for the Environmental Assessment.

Page 14, Exhibit 3.1: include a "Fuel Cell Bus" box below the "Streetcar" box and above the "Bus" box.

Page 27: in 6.4.1 add the word "diesel" after "'do nothing' alternative includes the provision of" and before "bus services".

Page 28: after #4 under Technologies, add "5. Fuel Cell Bus Service on a dedicated right-of-way (primarily on the surface); and 6. Fuel Cell Bus Service on existing roads."

Page 28: After "facilities on both Queens Quay East and Lake Shore" delete the word "both" and add ", Fuel Cell Buses" after the new phrase "facilities on both Queens Quay East and Lake Shore buses" and before "and streetcars will be considered".

Page 28: in the list of planning alternatives, after #3 add
"4. Fuel Cell Buses in a partially exclusive right-of-way in the Queens Quay East corridor for the corridor option that only considers Queens Quay East; and 5. A combination of buses and/or Fuel Cell Buses in exclusive lanes and/or mixed traffic for the corridor option that considers local transit service on Queens Quay East and express bypass service in the Lake Shore Boulevard Corridor."

Page 28: in the second-last bullet of the page add the phrase "or Fuel Cell Bus" after "a streetcar" and before "connection from Union Station".

Page 29: in 6.5.1 add "or Fuel Cell Buses" after "accommodating streetcars" and before "within the Queens Quay east corridor".

Page 29: in 6.5.1 in 1) add "or Fuel Cell Bus path" after "streetcar line" and before "within road allowance"

Page 34: in the last bullet point before Technologies, add "or Fuel Cell Bus" after "a streetcar" and before "connection".

Page 34: #4 under Technologies, add: "5. Fuel Cell Bus Service on a dedicated right-of-way (primarily on the surface); and 6. Fuel Cell Bus Service on existing roads."

Page 39: in 8.4.1 add "diesel" after "alternative includes the provision of" and before "bus services into the area".

Page 39: after #4 under Technologies, add: "5. Fuel Cell Bus Service on a dedicated right-of-way (primarily on the surface); and 6. Fuel Cell Bus Service on existing roads."

Page 40:
After #6 in 8.4.1, add: "7. Fuel Cell Bus Service on existing roads; and 8. Fuel Cell Bus Service on a dedicated right-of-way (primarily on the surface)."

In the Glossary of Terms after definition of Environmental Assessment Report add:
"Fuel Cell Bus A bus fuelled by a pollution-free electricity generation technology. An example of a pollution-free electricity generation technology is an electrochemical cell in which the energy of a reaction between a fuel, such as liquid hydrogen, and an oxidant, such as liquid oxygen, is converted directly and continuously into electrical energy."

From: Bill.Dawson@ttc.ca [mailto:Bill.Dawson@ttc.ca]
Sent: Monday, June 12, 2006 4:48 PM
To: [redacted]
Cc: lorenpolonsky@hardystevenson.com; dcallan@mrc.ca; pdimascio@urbanstrategies.com
Subject: Central Waterfront Neighbourhood Association comments on the Transit ToR

Attached are the changes we have made to the ToR document in response to the petition and comments you provided at the workshop last week. I would appreciate it if you could distribute this to members of your Association or provide us with an email list for us to distribute the information.

We realise that these are not the specific changes requested in the petition, however, from a study process perspective we need to treat all technology choices in a consistent manner, and you will see that the revised wording does this. To include a unique set of options specifically related to fuel-cell propulsion would force us, from a consistency perspective, to create similar unique options for other propulsion technologies as well (battery-powered all-electric buses, trolley buses, hybrid diesel-electric buses and streetcars, diesel streetcars etc.) and this is impractical from a study process perspective.

The approach we are taking is to categorise technologies by whether they are rubber-tired (ie buses) or operate on rails (ie streetcar/LRT vehicles) because these two categories reflect basic differences in vehicle capacity and physical ROW space need to accommodate them. Within these categories we will consider the costs and benefits of alternative propulsion options as part of the range of options we consider for each category. This assessment will be based on the criteria listed in Appendix C of the ToR including, for example, local air quality and differences in tunnel section costs related vehicle emissions.

We will specifically consider future conditions with respect to technology options, including consideration of fuel-cell technologies, as you have requested.

Thank you for you input on this issue.

Bill Dawson
Superintendent of Route and System Planning
Service Planning Department
Toronto Transit Commission
☎ Phone : 416-393-4490
FAX : 416-535-1391

E-mail from [redacted] - June 7, 2006

From: [redacted]
Sent: Wednesday, June 07, 2006 7:10 PM
To: Transit
Subject: TTC questionnaire

Good morning:

I attach a few comments on the draft TOR. I would also suggest that in future when you have a questionnaire you put it onto www in a format one can simply type onto DIRECTLY. As you can see I cut and pasted your questions but it would be easier not to have to do this.

1. Does the study area make sense? Why or why not?

Yes, but I think it needs to be ABSOLUTELY clear that Transit in the study area MUST link up with transit elsewhere in the city (especially in adjacent districts).

2. Are you happy with the planning alternatives (networks, corridors and technologies) that are proposed for the West Don Lands, East Bayfront and Port Lands? Why or why not?

Yes, I am pleased to see you listened to us at the first meeting and have added possible DIRECT links to the Bloor-Danforth subway via Parliament and / or Broadview. I happen to like the idea of (new) streetcars but agree both fuel cell and 'standard' buses must be looked at too.

One possibility that has not been discussed is PUBLIC WATER TRANSPORT. I know the TTC does not at present run boats but a regular TTC operated boat service from the Beaches (or further east) and Roncesvalles (or further west) could be an effective way to move people. If Toronto gets the World's Fair and this occurs in the Portlands, this might be a way to get people there easily. Even if the decision is made NOT to look into boat transport now it would probably be good to keep the future possibility in mind as land transport is planned. (e.g. have land transport NEAR the water so if boats are ever used they can easily be linked to. The W8 proposal mentions boats.

3. Would you suggest any changes or additions to the evaluation criteria developed for this Terms of Reference? What are they?

I agree with one of the participants at the meeting on 6 June who suggested that WILDLIFE HABITAT needs to be IMPROVED not only maintained. It seems to me that a wildlife corridor must be made/created/enhanced from the Lake and Tommy Thompson Park up the Don River and further north.

I am not sure if it fits into a T of R but as a person much in favour of transit networks I think the ToR should really encourage a careful look at linkages. It makes little sense to me for the fastest / easiest links to the subway to be only to Union Station (i.e. the Yonge/University line) and not (also) to the Bloor-Danforth line. I also suggest that even if a link to Castle Frank subway from the existing streetcar tracks at Parliament/Carlton is not possible NOW (for $$ reasons) that should not preclude linking the Queens Quay streetcar line to the existing tracks at Parliament at King while work is being done in that area. It would clearly be cheaper to build this short section now and having an alternate routing from Queens Quay up Parliament if there are accidents or other problems would prove useful.

4. Do you feel that you were given ample opportunity to participate in the consultation process for the Terms of Reference? Do you have any suggestion for making public consultation more effective in the individual EA studies? Please explain.

I thought you handled the public consultation very well, I suggest that you should maybe make it easier to respond to questionnaires by putting them on www in a format one can simply type onto.

5. Do you have additional comments about the Terms of Reference? What are they?

There is a typo on page 23. The posted speed limit on Sherbourne is NOT 450km/h

You note the existing transit routes and existing roads but you do NOT note that there are TTC streetcar tracks on Parliament running from King to Carlton - in fact I gather these will be redone in 2008 or 2009. While most of this track is now only used for short-turns and non-public trips and there is no regular streetcar service on most of it (only from Carlton to Gerrard) I think it should be noted that the track is now there. Extending it from King to Queen's Quay is only about 3 blocks. Extending it north to Bloor is further but not really very far.

E-mail from [redacted] - June 11, 2006

From: [redacted]
Sent: Sunday, June 11, 2006 2:54 PM
To: Andrea Kelemen; Dennis Findlay
Subject: Draft ToR for the Waterfront Transit EA

Good afternoon:

I will be attending on Tuesday evening, but wanted to send some comments on the draft document so that you would have them in advance.

First: A non transit issue. Please tell whoever at the TWRC is building docs for online distribution to stop creating monsters. The TOR contains a multi-coloured page overlay with the word "DRAFT" that contributes enormously to the size of the file especially when it is printed. As a general observation, many of the docs on the TWRC's website are immense. This is ok for someone like me with highspeed access, but there are times a low-bandwidth version would be handy for those who can't deal with the large docs.

Now on to the report itself.

I am glad to see that as a result of past meetings the need for north-south connectivity is now recognized as an important part of the study. The demand flow projection charts show clearly that many people are not travelling to the core, and we need to allow for this on two accounts -- first from a simple question of access to multiple destinations and second to reduce the need for a car for trips that don't happen to fit into a limited view of what transit should be doing.

Parliament Street is an intriguing idea, not least because of the Regent Park redevelopment. This route has always languished with infrequent (or no) bus service ever since the Bloor subway opened in 1966. If we go via this route, transit priority signalling is essential as there are many, many traffic lights along this route, and travel can be quite slow because Parliament Street traffic waits for everyone else.

I am also pleased to see the explicit inclusion of two corridors from Union to Cherry - the one via Queen's Quay that can handle local service and the one via the railway corridor that would be much better for things like a World's Fair connection and for the inner end of any long-haul service originating in the Don Valley or Queen/Kingston Road corridors.

This is important on three counts:

First, the express and long-haul services can be just that - fast and attractive rather than bumbling along stopping at every lamp-post in the manner of the Harbourfront West streetcar to the CNE.

Second, the infrastructure for the local service on Queen's Quay will not have to be over-engineered to provide for much higher capacity operations typical of a fair shuttle or a medium capacity LRT line that could originate in the Don Valley Corridor.

Third, the loop at Union Station (which is to be expanded) is utterly unsuited to the sort of demand a significant LRT operation would require. I won't waste my time on the details here, but I think that 16 years after we opened the original, we can accept that it has limitations. Even the proposed expansion will not be up to the combined demands of various proposed waterfront initiatives.

I understand that some preliminary work is underway to protect for a Bremner Blvd LRT coming in from the west which may or may not include the Waterfront West LRT. Capacity requirements for this need to be included in any review of Union Station. We must avoid over-commitment of the loop capacity at Union so that we are not facing a "gotcha" when politicians ask in the future why a new project requirement (for more capacity somehow) suddenly appears on the books.

The charts showing the morning peak transit demand outbound from the three districts are interesting, but it would also be worthwhile seeing the non-transit figures: driving, getting a ride, walking, cycling. This would put the transit figures in context and would also show where, if anywhere, there are opportunities for shifting the modal split and/or unmet requirements for capacity.

Discussions of existing transit (and indeed the plans on which future transit schemes are based) focus on the morning peak. However, there is a very large amount of off-peak demand generated by neighbourhoods, and this needs to be taken into account. One thing the list of existing services does not show is the fact that outside of the peak period, some services are extremely infrequent or do not exist at all. It would be useful to show maps by time of day so that people could see where there is transit service at various times. The lines should be colour coded to indicate the general frequency.

TTC service maps look great with all of those closely spaced red lines, but when you look closely and find that some services are every 20 minutes or worse, it's not worth waiting for them. If we are going to build a "transit first" neighbourhood, it needs to have good transit service that addresses all-day demands, not just those of the morning commuters. Otherwise, the neighbourhood will revert to car orientation because the TTC will evaporate outside of the rush hour.

Examples from the current schedules (May 2006) show that the service people get is really much worse than the information in the ToR (where it is specified at all).
Yonge 97: 30 minute headway from Queen's Quay, weekday peak periods only. No other service.
Sherbourne 75: 20 - 30 minute offpeak headways.
Bay 6: Headways 15 - 30 minutes evenings and weekends.
Pape 72A: Offpeak service, M-F only, daytime, every 24 minutes.
Jones 83: Half hourly off peak service. No late evening or Sunday service.

Cherry 172: Service only on Saturday/Sunday midday and afternoon. 20 min Sat, 30 min Sun. No weekday service. This is a seasonal service for beach and Distillery district access that originated with the now-departed Rochester Ferry service.
Kingston Road 503: Peak period only.
King 504: See comments in following section.
Lake Shore 508: The 508 operates into the larger study area only in the AM peak when three trips come east to Parliament. PM peak service runs west from Church and King.

All of this is worrying in the context of the "do nothing" alternative where

"... it is assumed that the TTC will provide transit services to the area based on its normal service standards ... It is assumed that the frequency of service provided on these routes will reflect the actual passenger demand for the service based on the TTC normal financial standards."

In fact, the TTC's "normal service standards" amount to providing as little service as possible and driving people to use their cars because there is no alternative especially during the off-peak period. A "do nothing" approach does not fit in with the stated "transit first" objective, and it must be resoundingly opposed by everyone. The TTC standards operate on the basis that as and when riders materialize, they may deign to run a bus now and then, provided that they have one to spare. This does not lead to a transit-oriented lifestyle.

It should be noted that the TTC's long-standing reaction to complaints from the St. Lawrence neighbourhood about transit service is that people living there can walk up to King Street in the hopes that the 504 is running reasonably regular service that day. The 504 is already the source of complaints about service quality from other neighbourhoods such as Parkdale, King/Niagara and King/Spadina. Since rerouting the 504 through the north end of the study area is part of this scheme, the TTC also needs to address the overall question of the adequacy of service on this route.

An additional issue that needs to be included in the overall plan for LRT/streetcar lines is the location of a possible new TTC carhouse for the next generation of vehicles. Wherever this goes, it should be easily connected to the existing and planned networks. I do not know what preliminary work the TTC has done on identifying a site for this carhouse, and given that council is dragging its feet on approval of a new generation of streetcars, this could sit idle for a long time, long enough that the ideal sites may be lost. This is a serious problem with consequences far beyond the study area itself.

In the Criteria for Assessing Planning Alternatives, the required minimum is that the design "provide transit service quality at least as good as comparable communities such as the St. Lawrence". See my comments above about the TTC and the St. Lawrence -- this "criterion" would let the TTC get away with running a few buses a day through the study area on the grounds that service is already available within reasonable walking distance. **This is a very important problem with the TOR - it assume that the TTC's**

standards would actually provide good service when experiences elsewhere both downtown and in the suburbs show that this is not true.

Also in the Criteria, there are statements about providing for both transit and auto travellers who are passing through but not destined for the study area. The problem here is whether such a criterion could be used to justify an expressway for the auto trips. We really need to put some context on this sort of criterion including saying to such through traffic "get lost" rather than re-activating plans for the Scarborough Expressway. There is a separate criterion about minimizing through auto trips on local roads, but if a road gets itself designated as regional rather than local, this criterion evaporates.

With respect to cost, there is a desire to minimize construction and vehicle acquisition cost and net operating cost. This will almost certainly produce a bus network, not an LRT network. LRT by its nature is more expensive and intrusive (construction effects) up front, but provides greater long-term capacity. If you want to skew the study to produce a bus plan, just say so. Otherwise, this criterion needs to be one of many, but with the clear understanding that we get what we pay (or don't pay) for. Transit first does not mean taking the lowest cost option.

See you Tuesday,
[redacted]

E-mail from [redacted] - June 12, 2006

From: [redacted]
Sent: June 12, 2006 10:46 AM
To: Dawson, Bill
Cc: lorenpolonsky@hardystevenson.com; davehardy@rogers.blackberry.net; akelemen@towaterfront.ca
Subject: RE: TTC-TWRC Waterfront Transit EA Studies

Hello Mr. Dawson:

Yes I would like to be included on the contact list. Our organization is particularly interested in the consultation policy (or lack of) regarding this project.

It would be great if we could meet to discuss the project.

[redacted]
Association of Iroquois and Allied Indians
387 Princess Ave.
London, Ontario
N6B 2A7
(519) 434-2761
(519) 679-1653 Fax

E-mail from [redacted] - June 13, 2006

----- Message from <[redacted]> on Tue, 13 Jun 2006 17:09:33 -0400 -----

To: <tlaspa@toronto.ca>

Subject: ToR for TTC on the Waterfront

Tim
I understand that you are collecting comments on the review of the draft ToR for EAs in the Waterfront. I have a couple of comments and these are focused on pages 30 to 35 of the document.

1. The study area definition of the WDL is not quite correct as WDL does not extend to the Gardiner Expressway. The WDL has been more accurately described in a earlier section and they should be the same.

2. 80 acres should not be used alone but should have a hectare equivalent

3. the focus of initial development will not be south of Front and East of Cherry but the McCord site further north. The area described will be the second phase - not sure what the reference to Division 1 is.

4. The Ea study area focuses on the area between Cherry and Parliament yet the attraction of the WDL may be the Don River Park which is out of the study area. I would have thought that transit access to the park would be a factor.

page 32 - line 5, spelling of Master
page 32 - third line from the bottom, spelling of employees.

Hope this helps

[redacted]

E-mail from [redacted] (CLC member) - June 13, 2006

Comments on Draft ToR dated June 2006

1. The proponents are to be congratulated on the extent to which they have understood and responded to community concerns by increasing the scope and number of "alternatives to" included in this draft.

2. Other CLC members, and especially Cindy Wilkey, chair of the West Don Lands Committee, have expressed concern that some of the items included in the "alternatives to," in particular an added bus route and the design options, are not in the scope of the ToR as it was originally described to us. It would be valuable and reassuring to us if the status of any conclusions on these issues at the completion of the EAs could be clarified in the ToR. If the preferred alternative for the East Bay Front should be a Queens' Quay LRT or streetcar combined with an express east-west bus on another route, what sort of commitment to establishing this route would there be once the EA is completed?
As well, what standing would preferred design alternatives have? Would the City, the TTC or the TWRC be obliged, as a result of the EA, to implement these designs? Perhaps a paragraph to two could be added to the introductory material of the ToR clarifying this.

3. The fourth bullet-point on page 2, says that new streetcar routes *will* operate in exclusive rights-of-way while other parts of the document, notably section 3.1.1 and the lists of alternatives, contradict this by making exclusive rights-of-way an alternative to be studied. Perhaps the bullet-point on page 2 should be deleted to increase clarity and consistency.
As well, as I have often said, I would like to see more commitment to car-free zones where suitable than one mention in the evaluation criteria. A bullet could be added to this list on page 2 saying something like, "Car-free zones will be considered where appropriate, in accordance with the TWRC sustainability framework." A similar point could be added to the list on page 16, item 5 and in the list of design-alternative issues on p.35 (7.5.1).

5. On page 2, a further bullet-point might make this commitment: "All vehicles on new routes will be fully accessible from the start of operation."

6. The paragraph at the foot of page 8 refers to the City's policy to not "significantly increase vehicular capacity." It would be appropriate at some point to say that the purpose of this exercise is to go farther and decrease levels of private traffic. This is implied in other places and in the evaluation criteria but not explicitly stated.

7. The criteria for assessing planning alternatives include service quality at least as good as in the St. Lawrence Neighbourhood. I think this arises from a misunderstanding of a comment from the committee that we should try to achieve *transit ridership* at the St. Lawrence level. Service to St. Lawrence isn't great. Out of rush hour the 72A, the Sherbourne and Parliament buses are infrequent. Service on all routes is virtually non-existent during the evening and on weekends. As for the King car, 504, it is god's gift to the taxi industry. A wait of 10-15 minutes is normal on weekday afternoons, 15-20 on weekends.

E-mail from [redacted] - June 15, 2006

Here is my response to the questionnaire on the TOR.

Thanks.

[redacted]

1. The study area needs to be expanded west to explicitly include Union Station. This is important for all transit connections, particularly if there is an express corridor along Lakeshore Blvd. (which is a great suggestion). It is also important for pedestrian north-south access to the waterfront along Bay or York Sts.

2. Transit corridors do not need to be along streets (existing or proposed) and certainly should not be in the middle of streets because that is poor access for transit-users and so discourages transit use. Accessing transit directly from sidewalks is much better than having to cross vehicle lanes - particularly more than one lane. So more options should be included eg. for Queen's Quay (p.25).Also the north-south connections need to be improved, particularly east of the Don River.

3. The evaluation criteria should be expanded to include accommodation of transit-users i.e. pedestrians.

So, in land-use planning/urban design, the criteria should include " must be capable of accommodating peak pedestrian flows" and the indicators should include "wide sidewalks and crosswalks".

In transportation, "must provide safe, convenient access and adequate waiting space to accommodate peak numbers of transit-users" AND "must provide safe, convenient and adequate pedestrian routes to transit stops and to all amenities.

In natural environment " must make provision for shade trees in parks and along pedestrian routes".

4. Consultation should not be confined to individuals and groups "in the study area" (p.44). The waterfront is very important to the whole city. Transit should make provision for access, particularly at weekends. On pedestrian issues, formal consultation with the Toronto Pedestrian Committee would be helpful.

5. Overall purpose (p.9) Transit facilities by themselves are not much use unless they can be safely and conveniently accessed by all users - including those with luggage, bundle-buggies, strollers etc.

(p.10) Travel demand must include walking trips, local as well as to and from transit, and include weekend and evening trips, not just commuting to work.

E-mail from Toronto Fire Services - June 15, 2006

TORONTO

Emergency Management
Research & Development
[redacted]

Fareed Amin
Deputy City Manager

Fire Services
4330 Dufferin Street
Toronto, Ontario
CANADA
M3H 5R9

Tel: 416-338-9136
Fax: 416-338-9527

June 15, 2006

Andrea Kelemen
Public Affairs Department
Toronto Waterfront Revitalization Corporation
207 Queens Quay West, Suite 822
Toronto, Ontario

RE: Waterfront Transit Environmental Assessments – Draft Terms of Reference.

I have reviewed the Draft Terms of Reference (June 2006) and have the following comments.

a) Document circulated to fire services is incomplete and lacked Appendix C (Primary Analysis Criteria for Planning & Design Alternatives)

b) [page 16 – Section 5] Minimizing street right-of-way width is identified as a fundamental consideration in generating design alternatives. Maintaining adequate right-of-way and street widths to provide required access route for fire department vehicles must be given priority consideration when generating design alternatives.

c) [page 29,35 & 40] "Design Alternatives" Maintaining emergency vehicle access routes to at least the minimum width standards must be part of the assessment criteria when evaluating design alternatives.

d) [Appendix 'B' & Section 6.2.6] "Proposed right-of-way for Queen Street from East Bayfront Precinct Plan". Option [Aii] and Option [Cii] cross-section do not provide a minimum unobstructed travel lane of 6 metres (excluding parking lane) as required for fire access routes. This has previously been identified as a concern by the Fire Services when the Draft Precinct Plan (July 2005 version) was circulated by the Waterfront Secretariat Office.

[redacted]
Toronto Fire Services

E-mail from GO Transit - June 15, 2006

----- Message from <[redacted]@gotransit.com> on Thu, 15 Jun 2006 14:57:43 -0400 -----
To: <Bill.Dawson@ttc.ca>, <dcallan@mrc.ca>
Subject: RE: TTC-TWRC Waterfront Transit EAs - ToR - GO Comments

Bill/Dennis;
I've read through the Draft EA , my comments are as follows;

At a general level,...it is understood that 3 IEA's will be undertaken, however, in reading the East Bayfront and West Don Lands sections, some of the service scenarios identified would overlap between the 2 IEA's, ie. some inter-dependencies may arise. I don't think it is a major issue but you may want to eliminate any possible "process-related" questions by noting in the TofR that these kind of service scenario inter-dependencies can be dealt with at the detail design stage (or other appropriate wording).

It would have been useful to have the Consultation Report as part of this review as it is a key piece of info that MOE looks at in their review.

More specific comments...

* Pg 5 - 6, GO Transit Corridor Studies - Update to GO reference is required, GO has completed the GO Class EA and CEAA process and construction of the third track is underway. Further, GO has commenced site preparation work of the Don Yard and construction of yard improvements will commence this summer.
* Pg 22, Existing Transit - GO Transit - It would also be worth noting that Union Station is served by seven inter-regional commuter rail services. Reference to Union Station Bus Terminal should also be added.
* Pg 28, it is not clear whether the link to Union Station is part of the East Bay Front undertaking. This should be clarified.
* pg 28, last paragraph - One of the key network connections for the Waterfront services will be to Union Station subway and GO services. The last paragraph should more fully describe the range of options to be considered for this link, eg. enhanced streetcar loop or a new pedestrian connection from Union to the thru Queens Quay E & W service. Also if an express bus service is being contemplated, where would the bus terminal be located?
* Pg 29 item 8 - In addition to the configuration of the streetcar loop, other significant location and operational issues include pedestrian connection from loop to Union Station subway and GO Concourse. Also, is there a need identify any bus terminal associated with the express bus service?

Appendix C - Evaluation Criteria

* Pg 1 of Criteria for Planning Alternatives - Transportation: Transit...a further criteria is required associated with

effectiveness of network building of the respective alternatives and in particular connection to the broader network at Union Station subway and GO services for the East Bay Front EA
* Pg 3 of Criteria for Planning Alternatives - Socio-Economic Environment...as GO Transit owns segments of the rail corridor and Don Yard in the vicinity of Cherry St, GO should be added to the following criteria "Mimimizes interference with rail service on CN and GO operations at the Cherry St and/or Parliament St. crossings.
* Pg 1 of Criteria for Design Alternatives - Transportation: Transit...similar comment as noted above.
* Pg 3 of Criteria for Design Alternatives - Socio-Economic Environment...similar revision as noted above.

If you have any questions regarding the above, please call.

[redacted]

E-mail from [redacted] (CLC member) - June 16, 2006

Following the Community Liaison Committee Meeting on Tuesday, June 13, although we are disappointed that you did not incorporate all of the original changes that we requested, we take into consideration your comments below, we thank you for the changes, we accept your changes and, with respect to your changes (attached), the CWNA requests the following 4 adjustments:

On page 14 of the draft Terms of Reference, we request that you please add the phrase "noise pollution level," after "local air quality," and before "capital costs for construction";

On page 14, we request that you please add the sentence: "Hydrogen fuel cell powered transportation is clean burning and low noise pollution technology. This is important for the waterfront community. This technology is different than diesel, bio-diesel, diesel-electric, fully-electric-trolley, streetcar and LRT technology."

On page 14, we request that you please delete the phrase "have two to three times the carrying capacity of a bus." and that you please replace that with the phrase "create greater noise pollution than hydrogen-powered buses."

In the glossary section, we request that you please add the following definition after the "Fuel-cell Bus" definition:

"Hydrogen Powered Bus: A bus that uses hydrogen to generate its motive power in a pollution free manner. Examples of such buses would include a zero-emission fuel cell system or an internal combustion engine system that would generate only trace emissions."

Please feel free to let me know if you have any questions or require further information.

Thank you.

[redacted]
Secretary and VP Communications
Central Waterfront Neighbourhood Association P.O. Box 81002 Harbour Square Postal Outlet 47B Harbour Square Toronto, Ontario, M5J 2V3

E-mail from [redacted] (CLC member) - June 16, 2006

Hi Bill:

You will have received an email exchange between Lela Gary and myself.

This is a rather important issue that we (I) have failed to include in the T of R for the EA process. The idea originally comes from Braz Menezes of YQNA.

They are suggesting that we should be considering a way of moving people between Union Station and the waterfront (Queen's Quay), that does not necessarily require that we have the street car tunnelling up and then back down . The idea is that you would have the QQ streetcar (transit) continuing East and West along QQ and that we use the existing tunnel, or another tunnel to Union Station for another transportation vehicle. It could be a moving side walk, or a shuttle electric vehicle as used in places like the Houston Airport. The advantage is that you do not have to do the expensive tunnelling for the Street car, as well, you would not have to do another tunnel for the East bound Transit vehicle that would go out East bound on QQ to the East Bay Front. (solving the issue of where it would come up.)

I know that it raises a myriad of other questions, but those could be addressed in the EA study that follows, BUT I think it is important that we look at the connection between Queen's Quay and Union Station with as broad a frame of reference as possible. Thus I would request that in some way be able to include this idea into the Terms of Reference. If you would be so kind as to bring this to the attention of the team that is pulling together the final draft of the Terms of Reference, I would appreciate that very much.

Thanks [redacted] for Port Lands Action Committee.

E-mail from [redacted] (CLC member) - June 16, 2006

Good evening everyone:

There are times where I don't feel like being diplomatic and this is one of them.

The idea is to move large numbers of people from the waterfront to the subway. Putting a moving sidewalk or some such link in the existing tunnel is one of the most harebrained ideas I have ever heard (although some subway proposals come close <grin>).

First off, the number of people projected for the two LRT lines (east and west) is significant. Second, this will convert what is now a direct ride into a "transfer" and a rather long shuttle to the subway. Third, that tunnel is bloody cold in the winter.

The idea of being able to ride straight across from waterfront west to east is intriguing, but simply cutting off the Union connection and replacing it with a walkway is ludicrous. If the issue is that the structure of the junction at Bay and Queen's Quay is such that through track is not (currently) possible, then fix that in the structure so there is a full Y junction at that intersection. I am always amazed that people are happy to propose complex alternatives to what is basically a simple problem: rip off the roof of the existing junction, rebuild it so that it does not require the current structural columns now in the way of a through east-west track, and put the roof back. Probably a lot cheaper than a walkway or shuttle, and it preserves the ride through to Union for those who need it.

For those who can't remember, the TTC had a much shorter moving walkway at Spadina Station that (a) was often stopped and (b) eventually closed. If they cannot operate something that simple reliably, how do you expect them to operate a much longer version? What will the alternative be for people who cannot walk that distance easily?

I'm not going to be polite about this: This is a really, really dumb idea.

[redacted]

E-mail from [redacted], York Quay Neighbourhood Association - June 18, 2006

Yes it is a VERY DUMB idea to think of a moving walkway inside the Existing tunnel. The TOR for the EA gives this impression and should be reformulated by TTC.

It is also quite dumb to continue our traditional "tunnel vision' solution to structural infrastructural provision. Just another taking the roof off and moving a column or two. etc. is how we have managed. The Spadina walkway probably did not work for exactly the same half-baked solution.

What YQNA is advocating is a fresh look at what we want and need if we start with the premise of:

1) a green public access waterfront to serve the GTA
2) a desirability for east west waterfront transit from the Don to the Humber, and
3) connecting comfortably to Union Station for a large number of Weekend travel, a lesser number of commuters, and a projected excessive number of visitors (for a six month period only, if EXPO 2015 happens-and on which all infrastructure expenditure will be based).

The YQNA solution offered for consideration is:

1) a short, bright airy concourse going north-south along York street., in which a moving walkway can be installed (it is a 4 minute walk from QQ to Union). This route connects among other things to some of the major hotels and City Hall to reinforce the Path system.

2) the use of the existing tunnel as a route for an automated 'people mover'
route to shuttle heavy loads from a Union Station WATERFRONT ENTRANCE on the green space at QQ/York St to the Subway, VIA and GO systems. This would mean EXTENDING the existing tunnel west into the Green Space, building a bright steel and glass structure with a wide platform, handicap access and all.

There are unlimited possible architectural/engineering solutions.
What this approach will solve:

1) do away with the need to build another expensive tunnel which we have heard may stretch from Parliament St to Bay and up;
2) provide perfect East-West access with just a major pick-up/drop-off point at the W-F Entrance (making it feel like less of a transfer; and
3) make it possible to move people quickly from the mean-looking and crowded, platform at Union Station to the peak Waterfront venues, by just increasing the frequency of the shuttle vehicle at peak periods, without have to provide street cars for the Spadina system. The present use of the street-car system is wasteful to carry passengers 2-stops to Harbourfront and the island ferries.

We need more discussion on this, must rely on Bill at TTC to lead the vision for the future for the network, including on whether the streetcar is the most appropriate long-term

solution for the Waterfront (or Hybrid buses/articulated or otherwise) or eventually the use of fuel-cell technology.

Let's not settle for just a dumb solution. Whatever we do will be there for many years and as Dennis states, we must look at the connection between QQ and Union Station with as broad a frame of reference as possible.

Thank you Steve for getting the discussion going, with best wishes, [redacted] on behalf of YQNA.

E-mail from [redacted] (CLC member) - June 19, 2006

Hi everyone,
With all due respect, I feel that any judgment about any idea at this point in this process will be counter-productive. This is a time for us to open up every possible avenue of exploration. We have, together, created terms of reference that are far broader than was initially envisioned so that we can be sure to "get it right". In my experience, the good thing about so-called "hare-brained" ideas is that they generate discussion and often provide the link to a truly elegant solution.
[redacted]

Fax from Unnamed, June 19, 2006

006 16:10 From-TORONTO WATERFRONT REVITALIZATION CORP 416 214 4591 T-231 P.002/003 F-804

PAGE 01

NTO WATERFRONT

Toronto Tran Commissio

QUESTIONNAIRE: TERMS OF REFERENCE

We Appreciate Your Comments!

The purpose of the TTC-TWRC Waterfront Transit Environmental Assessments study is to identify the proposed transit services required to support development of the Port Lands, West Don Lands and East Bayfront.

The process to select preferred designs and implementation plans for the three transit projects (Port Lands, West Don Lands and East Bayfront) falls under the requirements of an Individual Environmental Assessment. The TTC has completed the draft version of a single Terms of Reference (ToR) for all three Environmental Assessment studies (as distributed).

The Terms of Reference of the TTC-TWRC Waterfront Transit Environmental Assessments outlines the framework for undertaking an Environmental Assessment study and essentially asks two important questions. One, "what should be studied during the Environmental Assessment?" and two, "how should the public be consulted during the Environmental Assessment?" The completion of the ToR stage will result in the approval of a framework to carry out the Environmental Assessment Studies.

Following Ministry of the Environment approval of the ToR, two separate Environmental Assessment studies will be initiated for the West Don Lands and the East Bayfront transit projects. The Environmental Assessment Study for the Port Lands will be initiated at some point in the future when land use planning for the Port Lands have advanced to a sufficient level of detail.

As part of the study process to complete the ToR, we are asking you to review the document and send us your comments to this questionnaire by June 16, 2006 (see contact information below).

1. Does the study area make sense? Why or why not? + green lines on pg 30

I'm not clear what blue lines on Pg...

[illegible]

Please send your questionnaire to:
Andrea Kelemen, Public Affairs
Toronto Waterfront Revitalization Corporation
207 Queen's Quay West Suite 822, Toronto, ON M5J 1A7
Tel: 416-214-1344 ext. 248; Fax: 416-214-4591
E-mail: transit@towaterfront.ca

9-Jun-2006 16:11 From-TORONTO WATERFRONT REVITALIZATION CORP 416 214 4591 T-231 P.003/003 F-804

2. Are you happy with the planning alternatives (networks, corridors and technologies) that are proposed for the West Don Lands, East Bayfront and Port Lands? Why or why not?

I'm unable to clearly see East West route between King + Railway tracks + Bayview + Sherbourne Ave.

Proposed Right of Option C [illegible] accomodates all modes of transportation, that makes it very favorable!

Excellent consideration of Parliament St, Cherry St, Broadview + Leslie St N.S. links!

3. Would you suggest any changes or additions to the evaluation criteria developed for this Terms of Reference? What are they?

Under Natural environment section Noise/Sound factor needs to be considered. Present use of steel wheels on steel tracks makes loud noise. This transport near residences is less desirable than LRT's!

4. Do you feel that you were given ample opportunity to participate in the consultation process for the Terms of Reference? Do you have any suggestion for making public consultation more effective in the individual EA studies? Please explain.

Definitely, your work organizing consultation was excellent!

5. Do you have additional comments about the Terms of Reference? What are they?

I look forward to upcoming meetings!

TWRC Comment Questionnaire.pdf

E-mail from [redacted] (City of Toronto) - June 21, 2006

Bill,
As requested, I have reviewed the draft Terms of Reference for Waterfront Transit EAs. I have the following comments that do not require a meeting of the TAC.

In general, I am concerned that the evaluation criteria for the EAs will include some requirement that the capacity of the roadways, with transit service, in all three areas are sufficient to accommodate the vehicular traffic that will be projected. I understand that transit, pedestrians, and cycling is being encouraged. However, there is still a percentage of vehicular usage that will need to be accommodated. This may be included under the category of Transportation but it is not clear.

More specifically, there are errors in the description of the existing road network in the East Bayfront Area. Section 6.2.4 should be modified as follows:

Queen Quay East - "....before connecting back to Lake Shore Boulevard East **via** Parliament Street....The **un**posted speed limit is 50 km/h...."
Lower Sherbourne/Sherbourne Street- "is a north-south oriented, **2-lane** roadway**, with left turn lanes at signalized intersections,** that extends from ...posted speed limit is **40** km/h."

Parliament Street- "...extends northward from Lake Shore Boulevard East as a **4-lane** roadway..."

Jarvis Street- " **un**posted speed limit is 50 km/h.."

Please call me if you have any questions.

[redacted] Traffic Operations
Toronto and East York District, East Area

E-mail from [redacted] (TRCA) - June 22, 2006

From: [redacted]@trca.on.ca]
Sent: Thursday, June 22, 2006 1:30 PM
To: Transit
Subject: RE: ATTENTION : Andrea Kelemen TTC - TWRC Transit EA
Importance: High

Hi Andrea

I am going to provide my comments on the TTC - TWRC Transit EA as I will not be able to receive comments from other staff today. A formalized response will arrive in the next couple of days from TRCA, however, in the interest of time, I would like to submit my initial comments below.

If you have any questions regarding the enclosed, please contact me at your convenience.

Regards
[redacted]

COMMENTS:

Section 1.3 - Previous Studies: The ToR should mention the Lower Don River West Remedial Flood Protection EA (which will influence any future considerations for transit on or adjacent to the flood protection landform), and TTP Master Plan and Lake Ontario Park (both of which will influence transit ridership as these areas are built out and will act as major regional attraction or destination).

Section 2. - Purpose of the undertakings - Port Lands: Land use should include: TTP and Lake Ontario Park - recreational greenspace, natural greenspace. May want to include container port and energy generation to provide more specific context to some of the industrial uses.

Section 3.1.4 - Future Travel Demand - Port Lands - Should mention regional users for Lake Ontario Park, TTP, Commissioners Park (playing fields - rec centre) or proposed World Fair Bid.

Page 12, 13 - 3 diagrams - More information should be provided to explain what these diagrams are depicting. Legend should be improved to explain arrows, and # trips (,000's per day or total per day?) - I assume these maps are for existing uses or future? If existing, should they not be located before Section 3.1.4?

Page 26, 6.2.10 - This area is subject to the Toronto Purchase Specific Claim, between the Government of Canada and the Mississaugas of New Credit First Nation. This should be mentioned in the EA.

Page 32 - 7.2.3 - Natural Environment - The ToR is not correct when it indicates that the "current landform will be modified". Currently, there is no landform. It will be constructed

by ORC as a component of the Lower Don River West Remedial Flood Protection Project. This Landform will have specific geotechnical and structural criteria that will dictate the types of uses and maintenance activities on the landform itself, including roadways, and future transit considerations.

Based on the Terrestrial Natural Heritage Report prepared by TRCA in 2003, there are some terrestrial habitat features worth mentioning which should be identified.

Some mention regarding contaminated soils and groundwater should be included in the description of the terrestrial environment.

Page 32 - 7.2.4. - Aquatic Environment - It is true that Aquatic Habitat in Don River and Keating Channel are heavily impacted, however some fisheries usage has been recorded in the area. DMNP EA will also improve instream habitat.

Page 32 - 7.2.5 - Socioeconomic Environment - Integrating the new transit system with other existing and future infrastructure features (i.e. GO Transit overpasses, SSOs, CSOs, water mains, etc) may be a significant consideration when developing and evaluating options.

Page 32 - 7.2.6 - Cultural Environment - This area is subject to the Toronto Purchase Specific Claim, between the Government of Canada and the Mississaugas of New Credit First Nation. This should be mentioned in the EA. Furthermore, there are known Cultural Heritage features identified in the West Don Lands.

Page 33 - Section 7.4.1 - Corridors - #1 Not clear whether this EA includes the entire Cherry St bridge span over the Keating Channel or just from the north side of the Keating Channel - does not seem appropriate to have a plan that ends partway over a bridge.
#2 - Should this not be the Crossing over the Keating Channel rather than the Don River, as in #1?

There is no consideration for transit along Mill St - Bayview, over the future Landform. Would this not be a viable option? If there is future consideration for this route, some physical constraints exist pertaining to transit over the flood protection function given the required structural constraints.

Page 36 - Exhibit 8.1 should state Port Lands, not West Don Lands.

Page 37 - 8.2.2 - Existing Road - Unwin identified as a minor street. I think this will change in the future as part of the build out of Port Lands. Access to a future regional attraction TTP, Lake Ontario Park.

Page 38 - 8.2.3 - Natural Environment - In order to be consistent with other Transit EA sections, this should be divided into an aquatic and terrestrial component, especially since there is a significant amount of aquatic and terrestrial habitat conditions in this area in relation to those areas that were identified in the ToR and the following areas that were not, Keating Channel, Ship Channel, Lake Ontario Park, future Don Greenway. Should again mention soil and groundwater quality issues. Extent of floodplain and that DMNP Project EA is looking to remove the risk of flooding to a large portion of the Port Lands.

Page 38 - 8.2.4 - Socioeconomic environment - Should identify Toronto Port, and Port Authority Operations Yard, and future energy centre. Should mention possible Worlds Fair Bid.

Page 38 - 8.2.5 - Cultural Environment - This area is subject to the Toronto Purchase Specific Claim, between the Government of Canada and the Mississaugas of New Credit First Nation. This should be mentioned in the EA.

Page 39 - 8.4.1 - Corridors - No mention of Unwin or Commissioners. Just Lake Shore Boulevard.

Page 43 - Exhibit 9.1 - Concerns about the proposed schedule. For the East Bayfront and West Don Lands Precincts, planning alternatives will be selected by December 2006 (type of transit and corridor), and Design alternatives selected by May 2007. DMNP Project EA unlikely to have reached a point in the evaluation of alternatives to be able to provide sufficient information to the TTC EA to finalize their design, particularly as it relates to the Cherry St bridge, and the Queens Quay intersection with Cherry St.

Page 46 - Section 9.1.5 - Recommend TRCA to be invited to the TAC to streamline integration with DMNP Project EA, and TTP Master Plan.

Page 48 - Section 11 - Recommend adding Projects to "Coordination with Concurrent Studies" - would also add the Lower Don River West Remedial Flood Protection Project, the West Don Lands, Don Mouth Naturalization and Port Lands Flood Protection Project EA (not just naturalization), Lake Ontario Park, TTP Master Plan, Worlds Fair Bid.

Exhibit 11.1 - East of Parliament Precinct Plan and EA depicted on the map is confusing and incorporates a large section of the Don Mouth Naturalization and Port Lands Flood Protection Project EA. This also appears to include tunnel connections under the GO Transit tracks in the future Bayview Ave alignment. This is very confusing and is problematic for the Lower Don River West Remedial Flood Protection Project, and the Don Mouth Naturalization and Port Lands Flood Protection Project EA.

Further, the TTC LRT EA Studies area seems to incorporate all of Lake Ontario Park and a large swath of the Tommy Thompson Park Baselands which I do not think were part of the defined study area earlier in the RFP. More accurate boundaries should be incorporated in this image.

Evaluation Criteria General comments:

a) There does not seem to be any consideration of greenhouse gas emissions and global warming in the evaluation criteria. There is mention of air quality, however, that does not appear to address Canada's Kyoto Commitments towards reducing the release of CO2.

b) Evaluation Criteria for Environmental impacts should have more refined commentary related to impacts on specific habitat features within, and wildlife and recreational linkages between TTP, Lake Ontario Park, Don Greenway, naturalized mouth of the Don and Don

River Watershed.

c) Evaluation criteria should assess impacts of selected modes and corridors of transit based on flood protection needs in Don Mouth Naturalization and Port Lands Flood Protection Project EA over Cherry Street, along Commissioners through southern corridor of the EA which includes the Don Greenway, and flooding of underpasses under the Kingston Railway Subdivision.

d) Impacts should specify not only impacts on archaeological features, but potential impacts to potential First Nation burial grounds in recognition to the Toronto Purchase Specific Claim.

e) Evaluation should assess impacts on and of contaminated soils/groundwater, particularly where the proposal considers subways for the Port Lands area.

f) Need to include TRCA floodplain and fill policies pertaining to agency approvals.

[redacted]
Toronto and Region Conservation Authority
5 Shoreham Drive
Downsview, Ontario M3N 1S4

E-mail from [redacted] (MMAH) - June 22, 2006

Hi Bill,

Thanks for the opportunity to comment on the draft Terms of Reference for the Waterfront EA.

I've reviewed the document and suggest the following revisions to Appendix C "Evaluation Criteria". Under the Land Use criteria required minimum, please add 'Must be consistent with all applicable Provincial policies and plans'.

By copy of this email, I also request to be kept informed on the progress of this EA. .

Regards,

[redacted]
Planner, Planning Projects
Municipal Services Office - Central Region
Ministry of Municipal Affairs and Housing

E-mail from [redacted], Toronto 2015 World Expo Corp. - June 22, 2006

From: [redacted]@tedco.ca]
Sent: Wednesday, June 28, 2006 1:57 PM
To: Pino DiMascio
Cc: [redacted]
Subject: TTC - TWRC Waterfront EA Terms of Reference
Importance: High
Hi Pino
Please find attached Expo staff comments on the Draft Terms of Reference for the Waterfront Transit EA.
As well, could you please advise me when the next technical advisory committee for this project will be as we want to ensure that Expo has a presence on the committee. If you have any questions, please contact me.
Thanks!

[redacted]
Toronto 2015 World Expo Corporation
Metro Hall, 55 John Street, 7th Floor
Toronto, Ontario, CA.
M5V 3C6

Direct: (416) 981- 1927
F: (416) 214 - 4660
E: [redacted]
W: www.tedco.ca/2015expo.html

TTC – TWRC Waterfront Transit EA's
Draft Terms of Reference, June 2006

Expo Staff Comments

As an overall comment, it is essential that the TTC/TWRC is fully aware of Expo plans for the Port Lands and therefore this document should reflect the Port Lands Expo. The document currently does not make mention of Expo at all, and while it won't be known until Feb. '08 whether or not we get Expo, it is important to know whether or not the EA work that will be undertaken for the Port Lands transit EA's will be sufficient for the purposes of Expo as well. In the interest of saving time, I would like some assurances that we will not have to duplicate any efforts on EA work when/if we get awarded the Expo.

The following constitute general comments and questions:

Pg. 5, Don Mouth naturalization and Port Lands Flood Protection Project – the document states that the goal of this project is to "permanently remove approximately 230 ha of the Port Lands from the Regulatory Floodplain" – clarification on this, does this mean remove them from risk of flooding?

Pg. 5, GO Transit Corridor Studies – Expo plans include a possible temporary GO Station at Cherry Street to service Expo visits, will the Class EA, Federal EA and Preliminary Design Study take this temporary station into consideration? If not, it should be included as part of this EA work.

Pg. 7, last paragraph – states that there are potential "CEAA triggers in the Port Lands" why is this? As well, would the extension of the LRT along QQE into the Port Lands for Expo be considered an EBayfront project or a Port Lands project?

Pg. 8, Purpose of Undertakings "Port Lands" – this section should include something about the potential for Expo on these lands. Would this EA work cover off the proposed transit lines servicing Expo?

Pg. 9, "overall purpose of the undertakings in the ToR" top of page – this statement should be flexible enough to be able to cover off the Expo lands as well, perhaps the statement should include as part of the tourism uses a mention of a Port Lands Expo in 2015.

Pg. 10 "The Toronto Official Plan" – is this meant to be the in force OP? If not, state so, as well, the "new" OP does not yet have official status.

Pg. 11, population/employment projections for Port Lands – should there be some mention of the employees anticipated for an interim period during Expo?

Pg. 15, Section 5, Key Considerations in Generating Planning and Design Alternatives – add a bullet point about designing a transit network that takes into account projected traffic an Expo would generate.

Pg. 24, Off-Road Multi-use Facilities – will there be some consideration of re-aligning/improving the Martin Goodman Trail through this area in conjunction with the EA work?

Pg. 28, point no. 2 top of page – there needs to be some acknowledgment that this express route has the potential to be an "Expo Express" route directly from Union Station to Port Lands.

Pg. 38, 8.3 Description of the Future Environment – this section should also include a description of the Expo project for the 6 month duration, i.e., how many visitors expected, projected workers, housing for employees, etc.

Pg. 45, 9.1.4 Community Liaison Committee During the IEA's – general point here that there should be a presentation to the CLC by Expo staff.

Pg. 46, Technical Advisory Committee – general point that a member of Expo staff should sit on the TAC to raise Expo issues and keep us on the "radar screen".

Pg. 48, Coordination with Concurrent Studies – there should be some mention in this section on the Expo bid process and the timelines, ie., Federal letter of support Nov. ’06; final decision Feb. ’08 and the need for co-ordination with Expo as well – it is critical that all EA work gets done in tandem. With respect to Exhibit 11.1, the Expo site area should also be included, even if it is “proposed”.

APPENDIX Q: TORONTO TRANSIT COMMISSION REPORT NO.

MEETING DATE: June 21, 2006

SUBJECT: TTC – TWRC WATERFRONT TRANSIT ENVIRONMENTAL ASSESSMENTS – TERMS OF REFERENCE

RECOMMENDATIONS

It is recommended that the Commission:

1. Authorize the submittal of the Terms of Reference (ToR) for Waterfront Transit Environmental Assessments (EA) to the Ministry of Environment (MOE);

2. Forward this report to the Planning and Transportation Committee of the City of Toronto for their consideration.

FUNDING

There are no funding implications from this report. All of the costs associated with the study are being paid by the Toronto Waterfront Revitalization Corporation (TWRC). Sufficient funds from this source have been included for work related to the Environmental Assessments in the 2006-2010 Capital Program under "Waterfront Initiatives – TWRC"; the *East Bayfront Streetcar and Station Expansion* project and the *West Don Lands Streetcar* project, as set out on pages 1465 to 1469 and 1473 to 1476, respectively.

BACKGROUND

At its meeting of January 25, 2006, the Commission authorized the retaining of McCormick Rankin Corporation to undertake individual environmental studies for waterfront transit projects.

The first step in an individual environmental assessment process is the preparation of a "Terms of Reference" for the environmental assessment studies. This work has now been completed, as described below and in the attached Terms of Reference document.

The revitalization of Toronto's Central Waterfront has been a high priority for the City of Toronto for a number of years, and the area has been the subject of an extensive planning and design process undertaken by the City of Toronto and the TWRC. The City approved a secondary plan for the area in April 2003 and, since that time, the TWRC, in conjunction with the City, has prepared a "Sustainability Framework" to guide the development towards a sustainable, environmentally-sound design. Central to both these documents is the need for

higher-capacity transit facilities through the area to create communities which rely primarily on non-auto-based travel modes for travel to, from, and within the area. This approach has been strongly supported by the TTC and City Council, notably through their support for the concept of a "transit first" approach of having a high-quality transit service in place when the first developments in the area are being occupied to encourage a high level of transit use from the outset.

Planning is proceeding quickly for the West Don Lands and East Bayfront precincts. The Precinct Plans and the road and servicing EA Master Plans for these areas were approved by City Council in May and December 2005, respectively. Work has begun on the construction of the flood protection landform required for development to proceed in the West Don Lands area, and the first zoning approvals are expected to come before Council in the fall 2006. It is currently planned that the first development sites in the West Don Lands will be under construction in 2007.

To fulfil Council's direction regarding a "transit first" approach to development in the area, work must proceed immediately on the approval, design, and construction of transit facilities to serve these areas.

DISCUSSION

Provincial Ministry of the Environment approval for the construction of transit facilities, such as those proposed for the waterfront, requires individual environmental assessment studies. These studies will take approximately two years to complete and involve an extensive public participation component.

The first phase of the project involves the development of three inter-linked Terms of Reference for individual environmental assessments for transit projects in the three development areas. This approach to the Terms of Reference has been developed based on meetings with Ministry of Environment staff that occurred in 2005 and early 2006. The second phase of the project involves the preparation of individual environmental assessments for transit projects in the East Bayfront and West Don Lands areas. The preparation of an environmental assessment study for transit facilities in the Port Lands area is not part of the current project and is expected to proceed following resolution of issues related the naturalization of the mouth of the Don River and related road facility plans.
The attached Terms of Reference describes the process for conducting the EA studies. The purpose of the studies is:

> *To determine the transit facilities appropriate to serve the long-term residential, employment, tourism, and waterfront access needs in the study area while achieving the City's and the TWRC's objectives for land use, design and environmental excellence.*

The studies will assess planning and design alternatives to achieve this objective and compare these to a "do nothing" option. The studies will also determine environmental impacts of the options assessed, along with the identification of mitigating measures for any adverse environmental impacts of preferred alternatives. An integral part of each study will be a

consultation program during the course of the studies including public workshops at two key milestones.

In developing the attached Terms of Reference, two public workshops were held on April 5, 2006 and June 6, 2006, each of which was attended by approximately 100 people. A Community Liaison Committee was established for the study which met to review material four times during the preparation of the Terms of Reference.

As detailed in the attached ToR Public Consultation Record, the public generally endorsed the Terms of Reference and expressed support for the project to proceed as soon as possible.

Next Steps

Subject to Commission approval, the Terms of Reference will be forwarded to the Planning and Transportation Committee of the City of Toronto. Any comments received through this process will be incorporated into the Terms of Reference document, as appropriate, along with a record of the document's formal approval. Staff will then submit the document to the Ministry of the Environment for their approval. If any substantive changes are requested by Planning and Transportation Committee, staff will report on these changes to the Commission before the document is submitted to the MOE.

Under the Ontario Environmental Assessment Act, the Ministry is required to complete their review of the document within 13 weeks. Following approval of the Terms of Reference, the individual EA studies for the West Don Lands and East Bayfront areas will proceed. These studies, and the associated public consultation process, are expected to take approximately one year to complete. This will be followed by an MOE review period of 30 weeks. EA approval is expected to be obtained early in 2008.

JUSTIFICATION

In accordance with the Ontario Environmental Assessment Act, the attached Terms of Reference must be submitted and approved by the Ministry of the Environment as part of an individual Environmental Assessment process.

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June 5, 2006
11-55-47
Attachment: TTC-TWRC Waterfront Transit Environmental Assessments Draft Terms of Reference (ToR) June 2006 (note Attachment A Public Consultation Record available at General Secretary's office)

TORONTO STAFF REPORT

Appendix R: City of Toronto Staff Report

June 12, 2006

To: Planning and Transportation Committee

From: Ted Tyndorf, Chief Planner & Executive Director, City Planning Division

Subject: Toronto Waterfront Revitalization Initiative
TTC-TWRC Waterfront Transit Environmental Assessments –
Terms of Reference
Ward 28 - Toronto Centre-Rosedale
Ward 30 - Toronto-Danforth

Purpose:

To endorse submission of the Terms of Reference (ToR) for the Waterfront Transit Environmental Assessments to the Ministry of the Environment consistent with the report and attachments that will be dealt with by the Toronto Transit Commission at their meeting of June 21, 2006.

Financial Implications and Impact Statement:

There are no financial implications resulting from the adoption of this report.

Recommendation:

It is recommended that City Council endorse submission of the Terms of Reference for the Waterfront Transit Environmental Assessments to the Ministry of the Environment for approval as part of the individual Environmental Assessment process, in accordance with the requirements of the Ontario Environmental Assessment Act.

Background:

At its meeting on July 20, 21 and 22, 2004, City Council adopted Clause 14 contained in Policy and Finance Committee Report 6 entitled “Transit First Investments in Toronto’s Waterfront” and, in doing so, requested among other things, that the TWRC initiate immediately, in co-operation with the TTC and the City of Toronto, Environmental Assessment studies for the transit projects required to serve the East Bayfront and West Don Lands.

Furthermore, at its meeting of December 5, 6 and 7, 2005, City Council adopted as amended Clause No. 2 of Policy and Finance Committee Report 2 entitled "East Bayfront Precinct Plan and Class Environmental Assessment Master Plan" and in doing so, indicated:

- the TTC and TWRC be directed, in the Transit EA, to revisit whether smaller rights-of-way are technically feasible and desirable;
- the TTC and TWRC consult with community stakeholders on this matter; and
- no implementation of rights-of-way that might be impacted by this process will be implemented before the transit EA is complete.

Following from this, at its meeting of January 25, 2006 the Toronto Transit Commission, in cooperation with the TWRC and City of Toronto, authorised the retaining of McCormick Rankin Corporation to undertake individual environmental studies for waterfront transit projects in the East Bayfront, West Don Lands and Port Lands development areas.

Comments:

Provincial Ministry of the Environment approval for the construction of transit facilities such as those proposed for the waterfront requires individual environmental assessment studies. These studies will take approximately two years to complete and involve an extensive public participation component.

The first step in an individual environmental assessment process is the preparation of a "Terms of Reference" for the environmental assessment studies. This work has now been completed, as described below and in the Terms of Reference document attached to the TTC staff report.

The Terms of Reference document describes the process for conducting the EA studies. The purpose of the studies is:

> **To determine the transit facilities appropriate to serve the long-term residential, employment, tourism and waterfront access needs in the study area while achieving the City's and the TWRC's objectives for land use, design and environmental excellence.**

In developing the Terms of Reference two public workshops were held, one on April 5, 2006 and a second on June 6, 2006 each of which was attended by approximately 100 people. A Community Liaison Committee was established for the study which met to review material four times during the preparation of the Terms of Reference. As detailed in the ToR Public Consultation Record, the public generally endorsed the Terms of Reference and expressed support for the project to proceed as soon as possible. It is further noted that Council's direction to review rights-of-way for waterfront streets that may be affected by this study is included in the Terms of Reference framework.

To fulfil Council's direction regarding a "transit first" approach to development in the area, work must proceed immediately on the approval, design, and construction of transit facilities to serve these areas.

The studies will assess planning and design alternatives to achieve this objective and compare these to a "do nothing" option. The studies will also determine environmental impacts of the options assessed, along with the identification of mitigating measures for any adverse environmental impacts of preferred alternatives. An integral part of each study will be a consultation program during the course of the studies including public workshops at two key milestones.

Conclusions:

TTC and City staff are seeking the approval of the Toronto Transit Commission and City Council respectively, to submit the Terms of Reference for the Waterfront Transit Environmental Assessments to the MOE. Under the Ontario EA Act, the Ministry is required to complete their review within 13 weeks of receipt of the document.

Following MOE approval of the Terms of Reference, the individual EA studies for the West Don Lands and East Bayfront areas will proceed. These studies, and the associated public consultation process, are expected to take approximately one year to complete. This will be followed by an MOE review period of 30 weeks. EA approval is expected to be obtained early in 2008.

The Waterfront Secretariat's Office has been consulted in the preparation of this report.

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Ted Tyndorf
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