Appendix 1 – DEP feasibility ruling, November 7, 2001

COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
ONE WINTER STREET, BOSTON, MA 02108 617-292-5500

JANE SWIFT
Governor

BOB DURAND
Secretary

LAUREN A. LISS
Commissioner

November 7, 2001

Secretary Kevin J. Sullivan
Executive Office of Transportation and Construction
Ten Park Plaza
Boston, MA 02116-3969

Re: Decision on the EOTC Infeasibility Determination for the Arborway Restoration Project and Petition for Substitution Pursuant to 310 CMR 7.36

Dear Secretary Sullivan:

By your June 15, 2001 correspondence, the Executive Office of Transportation and Construction (EOTC) submitted to the Department of Environmental Protection (the Department) a proposed demonstration of infeasiblity for the Arborway Restoration Project (the "Arborway Project"), and a petition for a substitute project pursuant to the Transit Systems Improvement regulation, 310 CMR 7.36 (the transit regulation). As part of the submittal, EOTC also included two support documents/reports prepared by URS Corporation Group Consultants ("Analysis of Restoration of Light Rail to the Arborway" or the "URS Report") and SYSTRA Consulting ("Arborway Alternatives Analysis" or the "SYSTRA Report").

The EOTC submittal requests that the Department accept the determination that restoration of light rail service on the Arborway, a service the MBTA operated until 1985, is infeasible and approve a substitute project pursuant to the transit regulation. However, based on the requirements of the regulations, comments received by the Department both in writing and at a public meeting held on July 10, 2001, and EOTC's inability to substantiate that light rail service on the Arborway is infeasible due to engineering, environmental, or economic impacts, DEP cannot approve EOTC's demonstration of infeasibility or accept the petition for a project substitution.

The transit regulation provides that to replace a listed project, EOTC must demonstrate to the Department that the project is infeasible due to associated adverse engineering, environmental, or economic impacts. An alternative project may then be substituted if EOTC also demonstrates to the Department that the alternative project achieves equal or greater emission reductions of nonmethane hydrocarbons (NMHC), carbon monoxide (CO), and nitrogen oxides (NOx) and would provide a greater improvement in air quality for CO and NOx in the area where the required project was to have been implemented, in both the short and long term.

The Department's determination on EOTC's submittal focused on whether EOTC has in fact demonstrated that the Arborway Project is infeasible within the criteria of the transit regulation. EOTC's submittal indicates that the Arborway Project will attract new ridership and result in air pollution emission reductions. Therefore, the project will have an environmental benefit and is not infeasible due to adverse environmental impacts.

In terms of adverse engineering impacts, while EOTC presents some engineering and operational constraints such as parking and traffic impacts and potential impacts on Green Line operations, it is the Department's understanding that any new or replacement transit service will present operational and engineering challenges. In fact, the MBTA did operate transit service along this corridor until 1985. In addition, the MBTA and City of Boston signed an agreement in 1990 that outlined how the design and operational challenges raised at that time would be addressed. Based on this history and the Department's review of EOTC's submittal, it does not appear that the restoration of the Arborway Project presents unique constraints that could not be addressed in the design process. Therefore, the Department finds that the EOTC has not demonstrated that the Arborway is infeasible based on engineering impacts.

Finally, the Department finds that EOTC has not demonstrated that the Arborway is infeasible based on economic impacts. Although EOTC's analysis of the capital and operating costs reports that restoring light rail on the Arborway are significant, the Department has determined that these costs can be considered reasonable when compared to other new or replacement transit service. Further, based on public comment received, it is suggested that there are reasonable alternative assumptions, which could lower the capital cost estimates for light rail restoration and increase costs for EOTC's proposed bus alternative.

The Department requires by this letter that a schedule for design and construction of the Arborway Project be provided to the Department by December 31, 2001. The schedule shall include benchmarks, milestones and action items and shall be subject to approval by the Department.

Very truly yours,

for Edward P. Kunce
Deputy Commissioner

cc: Bob Durand, EOEA Secretary
Robert Prince, General Manager MBTA

Appendix 2 – Philadelphia Deputy Mayor's remarks on successful streetcar/Emergency Vehicle coordination

CITY OF PHILADELPHIA

MAYOR'S OFFICE OF TRANSPORTATION
Municipal Services Bldg., Rm. 930
1401 John F. Kennedy Boulevard
Philadelphia, PA 19102-1667

DENISE L. GOREN
Deputy Mayor

March 16, 1999

Professor Franklyn P. Salimbene
Assistant Professor of Law
51 Eliot Street
Boston, MA 02130

Re: In-Street Streetcar Operations and Emergency Vehicles; Your Letter of 25 February 1999

Dear Professor Salimbene:

SEPTA's City Transit Division (CTD) currently operates five streetcar routes which, as is the case with Boston's streetcar system, are referred to collectively as the Green Line and converge into a common downtown subway. The non-duplicative round-trip mileage for these five routes is about 45 miles, of which 5 miles are in subway, with another 2 miles located in a surface reservation parallel to the vehicular roadway. The remaining 38 route-miles share travel lanes with vehicular traffic. Of these 38 route-miles, 36 miles are situated in narrow two-way streets, with one travel lane and one parking lane in each direction. The curb-to-curb widths of these streets vary between 34 and 50 feet. One mile is situated in a wide two-way street (about 60 feet wide) with two travel lanes and one parking lane in each direction. One mile is situated in narrow one-way streets (about 26 feet wide) with one travel lane and two parking lanes.

SEPTA's CTD also includes three other streetcar routes which are being operated temporarily with buses pending acquisition of new light rail vehicles. These three routes comprise a total of 57 non-duplicative round-trip route miles. Of these 57 route-miles, 13 miles lie in wide two-way streets (about 60 to 80 feet in width) with two travel lanes and one parking lane in each direction (in some sections streetcars have dedicated lanes). Another 33 miles lie in narrow two-way streets (34 to 50 feet in width) with one travel lane and one parking lane in each direction. The remaining 11 miles lie in narrow one-way streets (26 to 30 feet wide) typically with one travel lane and two parking lanes.

A summary of the mileage characteristics of these eight streetcar routes is as follows:

SUBWAY	5
SURFACE RESERVATION	2
WIDE TWO-WAY STREETS	14
NARROW TWO-WAY STREETS	69
NARROW ONE-WAY STREETS	12
TOTAL ROUTE-MILES	102

Appendix 2 (cont'd) – Philadelphia Deputy Mayor's remarks on successful streetcar/Emergency Vehicle coordination

As for streetcars causing delays to emergency vehicles responses, let me reiterate that I am not aware of any such criticism having been leveled here in Philadelphia during my tenure, which commenced in 1984. No street, particularly those with narrow widths commonplace in an older city such as Philadelphia, can efficiently accommodate all the usual functions: vehicular traffic, transit operations, taxi service, auto parking, truck deliveries, utility and service vehicles, vending, pedestrians, emergency (police/fire/rescue) vehicles, etc. It is also axiomatic that stakeholders in each of these particular functions want their activities prioritized, even to the extent that other functions are restricted or even prohibited. My observations are that queues of general traffic, consisting mainly of autos, trucks, and taxis, cause more delay to emergency vehicles than do buses or streetcars. And, of course, if transit vehicles were replaced entirely by private autos, the congestion would be exponentially worse.

I am aware that some fire departments dislike streetcars or trackless trolleys because of overhead wires. But this strikes me as not terribly different than other overhead utility lines, trees, aerial traffic signal and roadway sign hardware, and other obstructions. Parked vehicles also are a chronic impediment. If energized trolley wires pose a problem to fire fighting activity, modern transit communications systems allow central power dispatchers to de-energize the wires promptly.

Sometimes police and fire equipment at an emergency scene block vehicular and transit travel needlessly or for duration longer than necessary. Clearly, a streetcar route is more seriously impacted under such circumstances. But all street users can benefit from internal policies that require emergency personnel to minimize intrusions into the neighborhood, consistent with the bona fide needs in carrying out their duties. A fire truck shouldn't block a street for an hour while a tree-bound cat is being rescued.

In all candor (and under the rubric of what one might call dishonor among thieves) transit managers who dislike streetcars (because it makes their work somewhat more difficult, regardless of the ridership and external benefits) are not beyond co-opting others, such as police, fire, or traffic officials, in expressing opposition to continuance of streetcar service. It seems to me that, with very few exceptions, the debate over whether streetcars or buses should serve a particular route should pivot around the market for and economics of transit service, rather than the extraneous agendas of other entities with no direct stake in transit service planning and operation.

Sincerely yours,

Denise L. Goren
Deputy Mayor
Transportation

Appendix 2 (cont'd) – Toronto Transit Commission remarks on successful streetcar/Emergency Vehicle coordination

March 3, 1999

Franklyn P. Salimbene
Assistant Professor of Law
Bentley College
51 Eliot Street
Boston, Massachusetts
02130

Dear Franklyn,

I received your letter today and as discussed on February 16, 1999, offer the following responses to your query.

Like Boston, Toronto has routes where streetcars operate along streets that are only wide enough for one travel lane in each direction and one parking lane on each side of the street. Fire trucks and other emergency response vehicles also operate on these streets. Although Streetcar Operators cannot pull over to the side of the road, they are trained to position the streetcar to best accommodate approaching emergency vehicles, for example; not stopping beside another streetcar, or stopping at a gap in the parked cars.

I chair the Emergency Procedures Committee, which is comprised of representatives from municipal Police, Fire and Ambulance services, as well as several TTC departments. This committee meets regularly and provides a forum to: develop joint operating procedures; develop, test, evaluate, review and revise emergency response plans and procedures; test and evaluate emergency equipment; and discuss items of mutual concern. The committee has been meeting since 1981 and the issue of streetcars obstructing emergency vehicles has not been raised.

I have polled several representatives from each emergency response agency, as well as several TTC authorities, to determine if the presence of streetcars, on any route has ever delayed emergency response to an incident. They all responded; not that anyone could remember.

I have 24 years experience in the Fire Prevention Section at TTC and liaising with emergency response agencies. I support your belief that good fire service and good streetcar service can co-exist and hope that my responses aid you with your research.

1900 Yonge Street, Toronto, Canada, M4S 1Z2 Telephone (416) 393-4000 Fax (416) 485-9384

Appendix 2 (cont'd) – Toronto Transit Commission remarks on successful streetcar/Emergency Vehicle coordination

If you have any further questions, please don't hesitate to contact me at 416-393-3016 or by fax, at 416-397-8204.

Yours sincerely,

Duncan Harrop
Superintendent - Fire Prevention

13-41

Appendix 2 (cont'd) – San Francisco Fire Department remarks on successful streetcar/Emergency Vehicle coordination

CITY AND COUNTY OF SAN FRANCISCO
SAN FRANCISCO FIRE DEPARTMENT

ROBERT L. DEMMONS, *Chief of Department*
HAROLD E. GAMBLE, *Deputy Chief of Operations*
PATRICK W. WHITE, *Deputy Chief of Administration*

698 SECOND STREET
SAN FRANCISCO, CA 94107-2015
(415) 558-3400

March 30,1999

Mr. Franklyn P. Salimbene
Assistant Professor of law
Bentley College
51 Eliot Street
Waltham, Massachusetts 02130

Dear Mr. Salimbene:

Your letter of February 25, 1999, regarding streetcar operations and emergency vehicles has been referred to me for handling. I directed three of our fire suppression assistant chiefs to give their input and opinions on this matter as well as drawing on my own experience during my time in the San Francisco Fire Department.

In the City of San Francisco streetcars and cable cars operate on in-street tracks. Most of the streets where these systems operate provide at least one lane in each direction for vehicle traffic. Other streets have two lanes of traffic, one in each direction, accommodating street cars, cable cars and vehicle traffic.

Our experience is that delays during emergency response caused by in-street street car or cable car operations are very rare. For such a delay to occur, two streetcars or cable cars, traveling in opposite directions, would have to be stopped adjacent to each other at the time an emergency vehicle approached. Additionally, our apparatus and vehicle drivers are aware of such possibilities, and avoid traveling on streets with in-street tracks whenever possible. As you can see, this type of situation can and probably does occur, but very seldom.

Regarding whether or not the issue of response times along narrow streets has been raised within the Fire Department, we do not track response time by the route traveled, and the issue has not come up in discussion in the Department, to my knowledge.

Thank you for your interest in the San Francisco Fire Department. If you have any further questions, I can be reached at 415-558-3411.

Very truly yours,

Patrick White
Deputy Chief, Administration