Transportation
Land Development
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Services

Vanasse Hangen Brustlin, Inc.

99 High Street
Boston, Massachusetts 02110
617 728-7777
FAX 617 728-7782

Memorandum

To: MassDOT

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From: Tim Macaskill / Mike Lambert

Re: Layover Solution

The purpose of this memorandum is to outline both the need and solution strategies for Boston's Layover capacity constraint. The layover site(s) has not been identified but is on schedule to be selected in the next few months prior to the initiation of Preliminary Engineering.

THE NEED

The Boston layover yards utilized by Amtrak and the MBTA are at or near capacity, and in the case of the MBTA the current layover yard imposes significant operating inefficiencies and substantial unnecessary costs. Amtrak utilizes Southampton Yard for its overnight layover needs, while the MBTA uses both a few tracks at Southampton Yard and all of the tracks at Readville Yard for its midday layover needs.

Amtrak has confirmed that Southampton is already at capacity for overnight layover while the need for additional layover space for Amtrak will grow even further as they increase service as has been identified in the 2030 Northeast Corridor (NEC) Masterplan.

The MBTA is currently operating with midday layover yard space at capacity. According to the 2030 Masterplan the MBTA's needs will grow to needing to layover approximately 38 trainsets, up from today's 31 trainsets.

In addition to a layover capacity problem reaching a critical juncture, the primary MBTA layover yard is simply too far from Boston's South Station for an efficient operation. Readville Yard is approximately 8.4 miles from South Station, requiring trains to make long dead-head runs that incur fuel and crew time operating costs and also consume valuable track space. This track occupancy by deadhead MBTA runs strains revenue capacity for both the MBTA and Amtrak. If the current yard remains unchanged, such long distance dead-head runs will put an even greater strain on revenue train moves in the future as train frequencies increase.

Other major metropolitan areas operating commuter rail systems and Amtrak intercity service nearly always possess a layover yard or yards within 3.5 miles of the main center city station, while Boston's commuter rail layover yard is approximately 8.4 miles from South Station. In the table below, is a listing of approximate distances from major layover yards to their respective main city center/downtown stations.

Agencies / Operator	Metro Area	Primary Layover Yard Name	Approximate Distance to City Center Station
MBTA	Boston	Readville	8.4 mi
Amtrak / LIRR	NYC	Sunnyside	3.5 mi
METRA	Chicago	Western Avenue	3.5 mi
METRA	Chicago	METRA Elec. 16th St.	1.75 mi
Amtrak / METRA	Chicago	CUS South Yard	0.5 mi
GoTransit	Toronto	Don Yard	1.5 mi
GoTransit	Toronto	Bathurst North Yard	1 mi
Amtrak / MARC / VRE	D.C.	Ivy City Yard	1.5 mi
SEPTA	Philadelphia	Powelton Avenue	0.5 mi
Average distance layover yard to main station (Excluding Boston):			1.72 mi

THE SOLUTION

A site for the Layover Solution has not been finalized, while a site selection is scheduled to be completed in the next few months prior to the initiation of Preliminary Engineering for the South Station Expansion. The following elements have been completed to date:

- Identification of several potential conceptual alternatives for a new layover yard (Figure 2-1, Appendix E).
- Establishment of basic site selection criteria
- Development of a generic construction cost and PE/NEPA Budget which shall be executed as the match from the Commonwealth of Massachusetts
- Full integration into the overall project South Station HSIPR Expansion Project Work Program
- Development of a preliminary understanding of both Amtrak's and MBTA's storage capacity needs
- Development of a preliminary benefit analysis related to cost savings for the MBTA as a result of selecting a layover yard considerably closer to South Station than Readville.

Potential Sites

Several potential conceptual alternatives have been generated that would accommodate both Amtrak and MBTA's layover needs. These conceptual alternatives have primarily been focused around today's Beacon Park Yard and Widett Circle. Potential layover sites in the Boston area and the location of today's Readville Yard may be found on Figure 2-1, in Appendix E.

A 1999 report for the MBTA identified that a layover facility would be required to replace the tracks currently used by the MBTA in the Amtrak Southampton Street yard which would be

needed for additional high speed rail train sets. This study reviewed 20 or more locations and recommended a number of potential locations for future study. The current effort will use some of the work previously completed in this report to advance the recommended sites to a final location.

Basic Criteria

Key criteria for site screening and evaluation have been established including:

- Accommodation of:
  - fueling facilities,
  - service and inspection,
  - employee parking, and
  - site utility requirements
- Approximate site sizing

Cost / PE Budget

A generic capital construction cost has been approximated and a corresponding PE Budget based off this cost has been established. This $10.5 million shall be executed as the match from the Commonwealth of Massachusetts.

Work Program

A fully integrated work program, as a part of the larger Project Management Plan (PMP) has been established to include a layover solution.

Storage Needs

An understanding of both Amtrak's and MBTA's needs for storage track have been developed for the 2030 outlook. This includes clear-track lengths needed to accommodate both overnight and midday layover storage.

Benefit Analysis

A preliminary benefit analysis has been developed to quantify the approximate savings generated for the MBTA by a dramatic reduction in the dead-head train miles per year. As a result of moving a layover solution within a three mile radius of South Station the MBTA should expect to save approximately $700,000[1] per year in operating costs assuming 2030 operating volumes. If the layover solution would be closer than three miles, the savings would increase further.

[1] Per the Cost-Benefit Report, Attachment 4A.