

FEDERAL TRANSIT ADMINISTRATION
PROJECT MANAGEMENT OVERSIGHT PROGRAM

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Project No.: DC-27-5001, CLIN 0003, PG 12
Task Order No. 5 – Sound Transit Capital Projects

Grantee: Central Puget Sound Regional Transit Authority
D.b.a. Sound Transit

Central Link Light Rail Project
Initial Segment
Monitoring Report, Part I – August 2007

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LIST OF ACRONYMS

APS	Auxiliary Power Supply
ATP	Automatic Train Protection
BCE	Baseline Cost Estimate
BFMP	Bus Fleet Management Plan
BHT	Beacon Hill Tunnel
BNSF	Burlington Northern Santa Fe
CAP	Corrective Action Plan
CCB	Change Control Board
CEO	Chief Executive Officer
CNRFP	Change Notice Request for Proposal
COS	City of Seattle
CSM	Construction Safety Manual
CSP	Construction Safety Plan
DSTT	Downtown Seattle Transit Tunnel
EOC	Executive Oversight Committee
EPBM	Earth Pressure Balance (tunneling) Machine
ERMP	Emergency Response Management Plan
FAI	First Article Inspection
FCC	Federal Communications Commission
FD	Final Design
FFGA	Full Funding Grant Agreement
FLS(C)	Fire Life Safety (Committee)
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FTE	Full Time Equivalent
HVAC	Heating Ventilation Air Conditioning
IDS	International District Station
IS (/AL)	Initial Segment (/Airport Link)
ITM	Integration Test Manager
KC (M)	King County (Metro)
LONP	Letter of No Prejudice
LRV	Light Rail Vehicle
MOU or A	Memorandum of Understanding or Agreement
MVET	Motor Vehicle Excise Tax
MP	Maintenance Plan
NCR	Non Conformance Report
NTP	Notice to Proceed
OCIP	Owner-Controlled Insurance Plan
OCS	Overhead Cantenary System
O&M	Operations and Maintenance
OMF	Operations and Maintenance Facility
OP	Operating Plan
OSHA	Occupational Safety and Health Administration
PE	Preliminary Engineering

PLC	Programmable Logic Controller
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
POS	Port of Seattle
PRO	Pre-Revenue Operations
PSP	Pre-Revenue Operations and Start-up Plan
PSST	Pine Street Stub Tunnel
QAM	Quality Assurance Manager
Q(P)RM	Quarterly (Progress) Review Meeting
RAM	Rail Activation Manager
RAC	Rail Activation Committee
RAP	Rail Activation Plan
RFI	Request for Information
RFMP	Rail Fleet Management Plan
RMS	Re-baselined Master Schedule
ROD	Record of Decision
ROW	Right-of-Way
RTID	Regional Transportation Improvement District
SCL	Seattle City Light
SCP	Safety Certification Program
SEM	Sequential Excavation Method(ology)
SIM	System Integration Manager
SIT(P)	System Integration Test[ing] (Plan)
SM PMP	Sound Move Program Management Plan
SODO	South of Downtown
SSCP	Safety and Security Certification Plan
SSEPP	System Security and Emergency Preparedness Plan
SSOA	State Safety Oversight Agency
SSP	System Security Plan
SSMP	Safety and Security Management Plan
SSPP	System Safety Program Plan
SSQA	Safety Security and QA
SSPS	System Safety Program Standards
ST	Sound Transit
TBM	Tunnel Boring Machine
TCE	Temporary Construction Easement
TFR	Tukwila Freeway Route
TVM	Ticket Vending Machine
UAC	Unallocated Contingency
UL/U Link	University Link
VECP	Value Engineering Change Proposal
WSDOT	Washington State Department of Transportation

1. EXECUTIVE SUMMARY

A. Project Description

- **General Description:** The Initial Segment (IS) of the Central Link Light Rail Project is a light rail line that will operate between the north end of the Downtown Seattle Transit Tunnel (DSTT) and the intersection of South 154th Street and State Route 518, connecting the cities of Seattle, Tukwila and SeaTac. The IS alignment includes tunnel, elevated and at-grade operations and is being constructed by Sound Transit (ST).
- **Length:** The IS includes 13.9 miles of double-tracked line.
- **No. of Stations:** The Full Funding Grant Agreement (FFGA) for the IS now includes 11 stations. Two additional station locations (Royal Brougham/Stadium and Boeing Access Road) were identified in the environmental documents and deferred for budgetary consideration at the time the FFGA was processed. Construction of the foundation for the Royal Brougham/Stadium Station is included in the FFGA. ST has authorized the use of local funds for construction of the platforms, canopy and other items needed to make the Royal Brougham/Stadium Station fully operational when ST begins revenue operations on the IS.
- **Additional Facilities:** The IS includes an Operations and Maintenance (O&M) facility three miles south of its northern terminal that can be expanded to accommodate vehicles for the University and Airport Link extensions. The IS also includes a Park-and-Ride facility at the southern terminal with a shuttle bus to the Airport.
- **Vehicles:** Thirty-one vehicles are being acquired to provide revenue service on the IS.
- **Ridership Forecast:** Ridership on the IS is forecast in the 2004 New Starts Report at 42,500 daily boardings in 2020.

B. Project Status

- The Project is in the Construction phase with Final Design (FD) essentially complete, excepting some systems-related elements. All major construction and systems contracts have been awarded.
- The IS is progressing on schedule (October 2003 FFGA Baseline Schedule) with respect to the revenue service date, within budget and in general accordance with approved plans, specifications and terms of the Full Funding Grant Agreement. It is the PMOC's opinion that less-than-planned construction progress continues to be an increasing risk to achieving the planned revenue service date.

C. Schedule

- Preliminary Engineering (PE): Entry into PE for the entire Central Link Project was approved in August 1997. PE for the current scope of the IS was completed in August 2002.
- Record of Decision (ROD): The ROD for the entire Central Link Project was issued in January 2000. An amended ROD for

- the IS was issued in May 2002.

Entry into FD for the IS was approved in August 2002. FD for the construction elements was completed in April 2004.
- Final Design (FD):
- FFGA Executed:

The FFGA for the IS was executed in October 2003.
- Construction:

Groundbreaking for the first construction contracts occurred in November 2003. Construction activities for the IS, including construction services, third-party activity, vehicles, right-of-way and construction costs, were approximately 75.1% complete based on expenditures as of July and compared to the estimated final cost.
- Total Project % Complete:

Total Project completion for the IS is estimated to be 73.1%, based on expenditures compared to the estimated final cost as reported in the July 2007 Agency Progress Report.
- Revenue Operations Date:

	FFGA ROD	FFGA as Amended	Forecast		Actual
			Grantee	PMOC	
Initial Segment	07/03/09	N/A	07/03/09	TBD	N/A

- Quarterly Progress Review Meeting: The next QPRM is scheduled for October 3, 2007.

D. Cost Data

Source: July 2007 ST Project Report

(\$ in millions)	<u>FFGA Amount</u>	<u>FFGA as Amended</u>	<u>Current Cost Estimate</u>	<u>Expenditure to Date</u>
Total Project Cost	\$2,437	N/A	\$2,287	\$1,671
Total FTA Share	\$500	N/A	\$500	\$185
New Starts Share	\$500	N/A	\$469*	\$185
Local Share	\$1,937	N/A	\$1,803	\$1,486

*20.5% of estimated final cost

Contingency: The Contingency identified in the FFGA consists of \$47.7 million in Unallocated Construction Contingency and \$128.3 million in Project Reserve, totaling \$176.0 million, or 9.3% of the Baseline Cost Estimate (BCE), less Contingency. ST's July 2007 Contingency Activity Report indicates that the forecast Unallocated Contingency balance is \$19.2 million, reflecting an *increase* of approximately \$0.1 million. This *increase over last month was nominal*

and not discussed in the ST July monthly report. The PMOC expects that reductions will occur in the coming months that will decrease the Unallocated Contingency. The balance of the Total Contingency identified in the FFGA is \$147.5 million, including the Project Reserve or 24.0% of the remaining forecast funds to be expended. It is the opinion of the PMOC that the contingencies for the IS, including the Project Reserve, are adequate for the current status of the Project, although it should be anticipated that all of the Unallocated Contingency will be expended prior to completion of the Project. As noted in previous reports, the cost forecasts provided by ST do not include a value for current and potential claims.

E. Technical Capacity Review

Link Light Rail IS Project Management Plan (PMP): FTA has found the PMP for the Link LRT IS Project conditionally acceptable; however, continued revision may be required. (See Major Concerns/Issues below.)

- **Operations Plan:** ST issued Rev. 1, dated August 11, 2006, in late August and the PMOC reviewed and provided comments in early September 2006 indicating its acceptability for that phase of the Project. ST had been indicating that the next revision of the Operations Plan (OP) would be issued by the end of April 2007, but it has not been received as of month-end August 2007. At the end of July, the Operations Manager advised that the revised OP was on his desk for final review and he expected it to be released in August. The PMOC is now advised that the OP will likely go to Document Control around the middle of September, making it likely that it will not be distributed much before the end of September 2007.
- **Maintenance Plan:** Revision 2 of the IS/AL Maintenance Plan, now titled "Maintenance Management Plan" and dated August 3, 2007 on the cover, was distributed by Document Control on August 14, 2007. The PMOC will review and provide comments in September/October.
- **Real Estate Acquisition Plan:** The PMOC completed its review of the current Plan for the IS and its implementation, and determined that both are acceptable.
- **Quality Assurance/Quality Control (QA/QC) Plan:** The previous PMOC received and reviewed both the Final Design Quality Plan (Revision 2, February 2004) and the Quality Assurance Program Plan (Revision 2, September 2002) and found both to be acceptable. The revised Construction Quality Plan (Revision 1, October 2004), was found to be acceptable and is under continuing review with respect to its implementation. Issues arose during April and May 2007 that reflected weakness in implementation of Construction Quality. The PMOC has been monitoring ST's response to the observed issues.
- **Construction Safety Manual:** Revision 1 of this Manual was issued in October 2002 and found to be acceptable.
- **System Safety Program Plan (SSPP):** Revision 1 of this Plan for Link Light Rail was issued in September 2002. The PMOC has suggested that ST review this document and incorporate changes relating to evolution of the Project and design as appropriate. The PMOC encourages ST and King County Metro (KCM) to continue the development of this document on a priority basis in support of the IS and follow-on projects.
- **System Security Plan:** The revised 49 CFR Part 659 that became effective on May 1, 2005 requires that a separate System Security Plan (SSP) be developed by each rail fixed guideway operating agency. Previously, Security could be included in the agency's SSPP. The Washington State Department of Transportation (WSDOT) issued a draft revised Program

Standard in mid-April and the final was issued in May 2006. The PMOC expects that the SSP will be developed and submitted to WSDOT on the same schedule as the SSPP.

- **Safety and Security Certification Plan (SSCP):** The PMOC received Draft Revision 0, dated December 7, 2006. The PMOC reviewed this document and provided detailed edits and comments on a marked copy of the draft plan in late March 2007. An electronic copy of the PMOC comments on the SSCP was given to ST on April 3, 2007. *In spite of verbal commitments from staff through the end of August 2007, the PMOC had not received a response from ST. The QAM committed to providing a revision that addresses the latest PMOC comments by the end of the first week in September.*
- **Rail Fleet Management Plan (RFMP):** The PMOC received a copy of the April 2007 version of the RFMP on May 9, 2007, and completed its review with issuance of a comment memo dated May 31, 2007, which included an annotated copy of the Plan. In early July, ST indicated that a revision of the RFMP, addressing the PMOC comments, should be released before the end of July. It was not released in July, but *RFMP Revision 4, dated July 31, 2007 was distributed by Document Control on August 14, 2007. The PMOC will review and provide comments in September.*
- **Bus Fleet Management Plan (BFMP):** A revised BFMP dated April 2006 for ST's Regional Express was issued in May 2006 as one of the documents supporting ST's request to enter FD on the U Link Project. The PMOC completed its review of the BFMP in late July. Although finding issues to be addressed in the next update, the PMOC nevertheless found the current version acceptable for the current phase of the Project.
- **Rail Activation Plan (RAP):** On June 26, 2007, ST issued Final Revision 0 of the RAP, which added the Rail Activation Schedule. The PMOC will review and return comments on this revision of the RAP *in September.*
- **System Integration Test Plan (SITP):** The PMOC has been reviewing iterative drafts of the SITP since May 2006. In June 2007, the Integration Test Manager advised that he was reviewing the PMOC comments and continuing to write procedures. A revised SITP Volume 1 that contains only the SITP, without procedures, was planned to go to Document Control in early July. This should have resulted in a release before the end of July 2007. The test procedures will be included in Volume 2, which is still being developed. *On August 8, 2007, the Integration Test Manager provided the PMOC with a copy of SITP Volume 1 Revision 4, and a partial copy of Volume II, in progress with four completed procedures. Both documents were dated June 21, 2007. The PMOC will review these and provide comments over the next several weeks.*
- **Link Construction Manual:** The PMOC received Revision 2, dated September 2004, and found that the Manual was acceptable, but recommended several changes for the next revision.
- **Safety and Security Management Plan (SSMP):** The revised SSMP, dated May 2007, was provided to the FTA and PMOC on June 4, 2007. The PMOC reviewed and provided comments, including an annotated copy of the submitted Plan, in a memorandum dated June 25, 2007. In the memorandum, the PMOC indicated its availability to meet with ST to discuss the comments. A draft of the revised SSMP was informally provided to the PMOC in late July. The PMOC returned comments indicating a few areas where the PMOC comments on the May 2007 revision were not fully addressed. *ST indicated that an SSMP revision would be released in August. The PMOC had not received it as of the end of August 2007.*

F. Safety

- See Attachment A.

The PMOC has developed a draft Spot Report on Safety that *continues to be* coordinated with FTA and ST.

G. Major Issues/Problems

- The lack of a fully developed and FTA-approved PMP for the Link IS Project *has limited* the ability of the PMOC to effectively monitor the status of ST's technical capability and capacity relative to the Link IS Project. In March 2007, the FTA instructed ST to develop a compliant PMP and SSMP prior to submitting any additional funding applications under the IS FFGA. ST provided an updated Staffing Plan in July 2007 which, *combined with the previously submitted update to the IS PMP, was conditionally accepted by the FTA. In its August 10, 2007, letter the FTA outlined the conditions for accepting the IS PMP and indicated that it would begin to process the FY 2007 grant subject to the following conditions:*

- *“Prior to the disbursement of funds under the grant, Sound Transit is to fill the following three (3) positions within the Link organization: a dedicated scheduler for IS rail activation and systems integration activities; a track access manager and a track inspector/maintenance person. In addition, Sound Transit management should canvas its construction managers, quality assurance, safety, security, and rail activation staff, to ensure they have adequate personnel to safely begin revenue operations by July 3, 2009.*
- *Prior to the disbursement of funds under the grant, Sound Transit is to demonstrate by two successive monthly updates of the Integrated Project Schedule subsequent to the award of this grant, that it is actively managing the Schedule for completion of construction, systems integration, testing, and start-up activities.”*

The PMOC has noted that ST is making progress in addressing the conditions outlined in the letter. The PMOC will continue to assess further refinements to the IS PMP as they are made available and monitor ST's compliance with the grant conditions mentioned in the August 10, 2007 FTA letter to ST.

- Based on its review of the current schedule and observations of construction progress in the field, it is the PMOC's opinion that the original project float has been fully consumed at this point and the probability of meeting the target date for start of revenue operations has eroded. Slower-than-planned progress on the Beacon Hill Tunnels and Stations *has further* increased the concurrency and shifted priority of activities in proximity to the Project's Critical Path (CP), thereby increasing the potential for delay. In general, the PMOC continues to be concerned with the continued delay-driven concurrency of systemwide equipment installation, integration and test activities. The C710 civil contract, currently acknowledged by ST to be the program's CP contract, is falling behind this rebaselined schedule and the contractor has submitted a revised project schedule that is not compliant with ST's schedule. In the PMOC's opinion, it remains essential that the facilities/systems interfaces and systems integration and test be defined in further detail and that the civil contracts be required to service the overall schedule.

- The lack of an approved SSMP and changes in ST's Safety and Security organizational structure raised serious questions as to ST's commitment to and plans for the implementation of the Safety and Security function(s). The PMOC has strongly urged ST to, as soon as possible, revise the SSMP to bring it into compliance with FTA requirements and to finalize its reorganization in a manner that provides a strong, independent Safety (or Safety and Security) Department that can provide the needed degree of independent oversight of both capital projects and ST Operations. Some progress appears to have been made with the formation of an executive-level Safety Oversight Committee, which first met in January 2007. In March 2007, ST indicated that it had decided on a reorganization model that would place Safety, Security, and QA under a Director-level position that reports directly to the CEO. ST is actively recruiting to staff this Executive-level position. The PMOC believes this is a large step in the right direction and urges that this new position be filled as soon as possible with a properly qualified candidate. *As of the end of August, ST had indicated that it would conclude negotiations with a selected candidate for the position in September. The PMOC repeats its previous recommendation that if the position cannot be filled in a timely manner, an interim Manager of ST Safety and Security be appointed to provide this crucial Safety oversight function during the extended recruitment period.*

ATTACHMENT A: SAFETY CHECKLIST - Central Link Light Rail Project Initial Segment		
Areas of Focus	Y/N	Status/Comment
State Safety Oversight Agency		
Does the State have a designated State Safety Oversight Agency (SSOA) as defined in 49 CFR Part 659?	Y	Washington State Department of Transportation, Public Transportation and Rail Division, Attn: Stephanie Weber 401 Second Ave., South Suite 300 Seattle, WA 98104 weberst@wsdot.wa.gov (206) 464 1286
If so, does the SSOA's authority extend to pre-revenue operations?	Y	
Has the SSOA established its System Safety Program Standards (SSPS)?	Y	The SSOA has completed the updating the SSPS to reflect the new requirements of 49 CFR Part 659 that took effect on May 1, 2005 and released the revised Standard on April 29, 2006.
Has the SSOA received, reviewed and approved the grantee's System Safety Program Plan (SSPP)?	N	A revised Tacoma Link SSPP, as well as a revised SSP; complying with the new SSPS have been approved by the SSOA. The Tacoma model will be used for Central Link. The IGA calls for the Central Link IS SSPP to be drafted by KCM, be approved by ST, and be approved by the SSOA 120 days before the planned start of revenue service.
Does SSOA participate in Project Development? Participate being things such as review design documents, attend review meetings, comment on the how the safety aspects of the Project are being addressed.	Y	The SSOA representative is invited to the Quarterly Project Management Review meetings.
Has the SSOA performed a pre-revenue safety review of the grantee's project?	N	Construction is not complete.
System Safety		
Is the grantee's overall Safety Program properly documented in its Project Management Plan (PMP)?	N	FTA Circulars and Guidance state that a Safety and Security Management Plan (SSMP) must be developed as part of the PMP to comply with FTA requirements. ST has not yet produced an acceptable SSMP for the IS.

Do the grantee's PMP and associated Safety Program include an appropriate safety policy adopted by its top management?	Y	A Safety Policy Statement appearing in an early SSMP draft was signed by the ST CEO on 8/21/03. While the SSMP was not, and still is not, fully in compliance with FTA requirements, the Safety Policy Statement is acceptable.
Do the grantee's PMP and associated Safety Program establish a specific organizational entity, and/or individual, responsible for the Safety Program?	Y	The Initial Segment Link Project Manager has overall responsibility. The day-to-day responsibility for safety activities across the project phases is not clear; they are to be described in the SSMP.
Do the grantee's PMP and associated Safety Program specify staffing requirements, procedures and authority for the safety activities?	N	This should be incorporated into the SSMP.
Do the grantee's PMP and associated Safety Program include a formal Safety Certification Program (SCP)?	Y	Safety Certification Program Plan Revision 0 dated April 2003 has been followed for design and construction; a revised Safety and Security Certification Plan (SSCP) is being developed as part of the Rail Activation Plan.
Do the grantee's PMP and associated Safety Program include the development/use of a Safety Design Criteria Manual or equivalent documents?	Y	The Design Criteria Manual properly addresses Safety.
Has the grantee developed, and the SSOA approved, the grantee's SSPP? What is the status of this process between the grantee and SSOA?	N	See above. SSOA approval of the Central Link SSPP, and SSP, is planned for 120 days prior to the scheduled revenue service start date.
Is the grantee implementing its Safety Program as defined in the PMP? Are the safety milestones being met? (Note: this does assume that the Safety Program is properly documented in the PMP.)		PMP and SSMP are under revision.
Construction Safety		
Is the grantee's Construction Safety Program (CSP) documented in the PMP?	Y	Construction Safety Manual Revision 1 dated October 2002.
Has the grantee implemented its CSP?	Y	Degree of contractor adherence to CSP requirements is unknown due to the apparent lack of regular, formal audits.
How do the grantee's OSHA statistics compare to the national average for the same type of work? If the		ST averages are reported to be comparable to national and state

comparison is not favorable, what actions are being taken by the grantee to improve its safety record?		averages.
Is the grantee using wrap-up insurance on this Project? Is the grantee using safety incentives/disincentives on this Project?	Y	An Owner-Controlled Insurance Program (OCIP) is in place.
Shared Track		
Does this Project have shared track?	N	
Has the Grantee coordinated with Federal Railway Administration (FRA) regarding waivers for shared track usage?	N	
Shared Corridor		
Does this Project include shared corridor? Please describe geography of shared corridor.	N	
What is the grantee doing to specifically address safety concerns in the shared corridor portion of the Project?	N/A	

2. ACTION ITEMS

PR	ITEM	IDENTIFICATION	NATURE OF PROBLEM	D	A	I	COMMENTS	STATUS
1	27-1 01/05	Link integrated organization chart	A chart is needed that shows functional integration of Agency and consultant staffs.	Y	Y	N	The PMOC received a June 2007 version of the IS PMP without the required staffing information; thus, the document is incomplete. ST has indicated that it will provide the staffing plans in July 2007.	R
2	29-2 08/05	RFMP Update	RFMP requires update to reflect current operating assumptions	Y	Y	N	The PMOC has performed iterative reviews of the document and provided comments with the most recent provided in August 2006 and discussed with ST personnel in early October. ST issued a RFMP revision dated April 30, 2007, on May 9. The PMOC completed its review in late May and provided its comments to ST in a memo on May 31, 2007. <i>RFMP Revision 4, dated 7/31/07, was released on 8/14/07 and will be reviewed by the PMOC.</i>	R
3	32-1 12/06	SSMP Update	SSMP is four years old and does not comply with FTA requirements. The activities and management responsibility for IS Safety and Security elements during	Y	Y	N	Since mid-2005, the PMOC has been urging ST to revise the SSMP and bring it into compliance with FTA requirements for management of Safety and Security during the construction phase of the Project. To date, ST has not produced an acceptable SSMP. A revised draft	R

			construction are unidentified.				SSMP was received in March 2007 and found to be deficient. ST issued a revision of the SSMP, dated May 2007, in early June and the PMOC provided comments in a memorandum dated June 25, 2007. Additional comments were provided on an informal draft received in July and <i>were</i> resolved in a meeting with ST on August 7 th . <i>A revised, compliant SSMP was expected in August, but was not received.</i>	
4	33-2 12/06	Project Safety	ST has eliminated the position of Director of Safety and Security and disbursed the subordinate personnel. There is no longer anyone with properly structured independent oversight of IS Project Safety.	Y	Y	N	ST-announced reorganization is yet to be finalized. ST is forming a new Safety, Security and QA Division (SSQA), and is in the process of recruiting a manager to head it. <i>ST had targeted the end of August to fill the position. This has not happened. There are indications that the position may be filled in September.</i>	R

Legend: PR = Priority: 1 = Most Critical; 2 = Critical; 3 = Least Critical.

Grantee Action: D = Remedial Action Developed; A = Remedial Action Approved; I = Remedial Action Implemented.

Status: R = Review Ongoing; C = Completed, No Further Review Required.

3. PMOC OBSERVATION REPORT AND CURRENT ISSUES

A. Budget and Funding

**Link Light Rail
Initial Segment & Airport Link
Monthly Cost Report Summary
July 2007**

	Lifetime Budget	Commitment to Date	Incurring to Date (1)	Forecasts and Trends	Estimated Final Cost (EFC)	Budget vs. EFC
Initial Segment						
ADMINISTRATION	\$214,780,000	\$140,479,013	\$137,412,630	\$52,794,984	\$193,273,998	\$21,506,002
PRELIMINARY ENGINEERING	\$33,356,546	\$33,289,466	\$33,254,747	\$20,729	\$33,310,195	\$46,352
FINAL DESIGN	\$147,166,724	\$146,293,385	\$140,492,977	\$920,023	\$147,213,408	\$(46,684)
CONSTRUCTION SERVICES	\$90,037,274	\$89,296,278	\$71,424,537	\$10,021,037	\$99,317,315	\$(9,280,041)
3rd PARTY AGREEMENTS	\$60,264,010	\$58,773,346	\$49,799,377	\$3,818,086	\$62,591,432	\$(2,327,422)
CONSTRUCTION	\$1,174,572,446	\$1,071,253,476	\$873,704,715	\$100,016,819	\$1,171,270,296	\$3,302,150
VEHICLES	\$132,307,000	\$128,251,341	\$64,581,269	\$4,055,659	\$132,307,000	\$0
ROW	\$217,516,000	\$203,054,776	\$197,030,014	\$5,341,472	\$208,396,248	\$9,119,752
Capital Total	\$2,070,000,000	\$1,870,691,082	\$1,567,700,266	\$176,988,809	\$2,047,679,891	\$22,320,109
Project Reserve	\$128,300,000	\$0	\$0	\$0	\$0	\$128,300,000
Financing (2)	\$201,800,000	\$201,800,000	\$81,082,860	\$0	\$201,800,000	\$0
Transit Art	\$10,700,000	\$9,467,181	\$3,893,062	\$1,232,819	\$10,700,000	\$0
DSTT Debt Service (3)	\$26,100,000	\$26,100,000	\$18,075,604	\$0	\$26,100,000	\$0
Project Total (4)	\$2,436,900,000	\$2,108,058,263	\$1,670,751,792	\$178,221,628	\$2,286,279,891	\$150,620,109

Note: The current estimated final cost (EFC) for the capital project is **\$2.286B**, approximately **\$150.6M** less than than the baseline budget. The EFC reported this month is approximately the same as last month.

(1) Includes encumbrances beyond actual contract commitments.

(2) Financing costs are based on an allocation of subarea bonding and related capitalized interest with paid to date and forecasts updated annually during the first quarter of each year.

(3) DSTT debt service will be incurred once the tunnel is closed per the agreement.

(4) Totals may not equal column sums due to rounding of line entries.

Contingency: Allocated contingencies are incorporated in the Project Budgets for the Project line items. Additionally, there is an Unallocated Contingency line item. Further, there is a Project Reserve that ST considers to be another level of Contingency, but for construction only.

The Contingency identified in the FFGA consists of \$47.7 million in Unallocated Construction Contingency and \$128.3 million in Project Reserve, totaling \$176.0 million, or 9.3% of the Baseline Cost Estimate (BCE), less Contingency. ST's *July 2007 Contingency Activity Report* indicates that the forecast Unallocated Contingency balance is \$19.2 million, a \$0.1 million dollar *increase* from the previous period. Therefore, the balance of the Total Contingency identified in the FFGA is \$147.5 million, including the Project Reserve or 24.0% of the remaining forecast funds to be expended.

It is the opinion of the PMOC that the contingencies for the IS, including the Project Reserve, are adequate for the current status of the Project, although it should be anticipated that all of the Unallocated Contingency will be expended prior to completion of the Project as well as a portion of the Project Reserve. As noted in previous reports, the cost forecasts provided by ST do not include a value for current and potential claims.

Change Orders and Potential Claims: Potential claim issues are evident on several contracts, most significantly on the C810-Maintenance Facility, C700-E3 Busway, C710-Beacon Hill Tunnels and Stations, and C735-RainierValley/MLK contracts. The monthly cost and schedule reports prepared by ST for the IS Project indicate a high volume of added scope issues, field conflicts and other design-change issues on the contracts. ST personnel report that the full impacts of the changes described in the report, relative to the potential costs, are yet to be fully incorporated into the current cost forecast. It should be noted that the current IS Project Budget includes a combined \$147.5 million of remaining available Unallocated Contingency and Project Reserves, and that the Total Project Budget is not in jeopardy at this time. The reported Unallocated Contingency value reflects anticipated costs for the C803 contract; however, during June 2007, ST reported that it has reached a claim settlement on the C700 and C810 contracts and that the impact of those settlements will be reflected in the July Project reports. *The July 2007 ST IS report did not mention the C700/810 claim settlement nor did the Project Cost Summary section of the report reflect an adjustment in Project Contingency attributable to this settlement. ST has indicated that the cost associated with the C700/810 claim settlement had been reflected in prior months' EAC through trending and forecasting. The Unallocated Contingency (UAC) value will be adjusted by ST in the August reporting period to reflect a transfer of about \$10 million from the UAC budget for the C700/810 settlement.*

Additionally, the contractual impact of the re-design of the Beacon Hill Station has yet to be fully determined. *ST reports that it is not processing the C710 Contractor's monthly pay estimate due to the Contractor's failure to comply with ST's directions regarding a Project scheduling dispute. ST maintains that these withheld payments are being accounted for in their expenditure to date data and project reports.* As noted above, the PMOC continues to concur with ST that the Total Budget, including Project Reserve, is adequate for completion of the Project. However, the PMOC anticipates that essentially all of the Project Reserve will be consumed.

During December 2006 and January 2007, the PMOC conducted a summary review of ST's Change-Order documentation and in-place processes to determine responsiveness to the intent of FTA Guidelines for determining eligibility under the FFGA. As part of the process, interviews were conducted with ST's staff and CM contractors. In summary, the PMOC's review indicated that ST's Change Order documentation did not currently comply with FTA Guidelines. The results of this review were discussed with FTA and ST. ST reports that it has initiated efforts to improve its documentation in a manner that addresses the PMOC's observations and submitted representative Change Orders from various contracts with augmented documentation. The PMOC will review files associated with recent claims settlements once they are finalized.

B. Schedule

Status Overview

Over time, ST has implemented improvements to its schedule-management process and is generally able to provide a more current forecast based on actual work accomplished than had historically been the case. Since early 2006, ST has been working to develop a revised Project Schedule that would provide improved visibility and analytical capability with respect to the civil facilities and Systems Contractors work coordination, which better defines systems contractors' access requirements. The intent is to establish revised coordinated access plans to mitigate the impacts to the project schedule caused by late civil work completion which will include temporary, limited, shared, and partial access to facilities and line sections where possible. This should allow multiple Systems contractors in critical sections to coordinate their activities and better meet schedule milestones. The RMS incorporates the production forecast by analyzing contractors' production rates and trends from CM field staff reports. With this joint production projection, more realistic contract progress forecasts and milestone dates are presented. The PMOC has reviewed consecutive versions of the RMS and believes that it represents an improvement over previously presented schedules; however, further refinements are required to produce a fully logical schedule network. Also, as recognized by ST, additional detail with respect to the Systems Contractors planned work activities would be beneficial. ST Project Controls has indicated that it is working with the contractors to further define contract interface requirements; however, to date the effort continues to lag the need. The PMOC will continue to closely monitor this schedule development process.

The PMOC has noted that for the first time, the July 2007 Schedule update has a more detailed System-wide Testing and Integration, and Rail Activation activities incorporated into the RMS. ST believes that this has been an element of their RMS since January 2007; however the PMOC observes that significantly greater detail related to System-wide Testing and Integration and Rail Activation activities have been included in the July 2007 RMS. The newly incorporated detail is more consistent with the PMOC's longstanding recommendations.

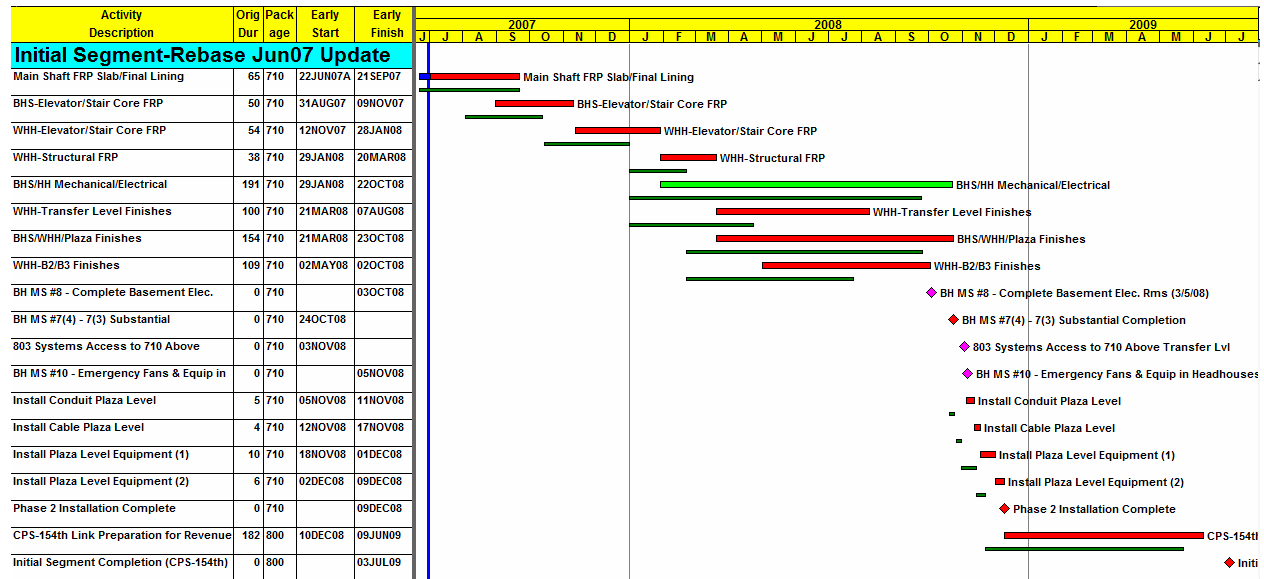
ST also has modified many of the critical activities of the C710 contract to bring them closer to a semblance of the current conditions at site. The PMOC's analysis of this update indicates that although these are steps in the right direction, additional modifications are needed before RMS can be utilized effectively as a management tool on this segment. The PMOC believes that after the contractor submits a compliant schedule in accordance with ST's directives the schedule can be appropriately enhanced.

With the exception of Contract C735, throughout the early months of 2007, none of the contractors have sustained improved rates of progress that would allow for recovery of lost time in the RMS. C735, however, improved their progress by significantly increasing the paving and rail installation production rates and completed most of these activities as of July 2007.

The continued lagging progress, construction personnel shortages, and delays throughout the civil contracts continue to impact the schedule and drive concurrency in the follow-on systems installation and test activities, particularly in the installation of traction-power equipment and communications. The PMOC continues to project that this will likely generate further delays due to the inefficiency created by shared and piecemeal access by the Systems contractors to the sites. In addition to lags in construction progress, the PMOC continues to be concerned that technical issues relating to the C803 Communications contract may be creating additional schedule risk.

Critical Path and Project-wide Float

The RMS projects nine days of Project-wide float as Revised Base Float in the July 2007 update. As can be seen below, the current CP runs through C710 Civil and Systems activities and the other system-wide testing and integration activities. The PMOC is concerned that these CP activities have been delayed in the last seven monthly updates in a row. In the schedule layout below, the Red bars show the activities from the July 2007 update while the Green bars show the activities as planned in the June 2007 update. The C710 activities have clearly slipped, again, from the June 2007 update.



To maintain focus on the CP, the PMOC has been tracking a CP activity, “Main Shaft FRP Lining,” that started on June 22. The PMOC reviewed the previous schedule updates since

January 2007 and their CP. This specific activity is on the CP in all those schedule updates and the table provided below clearly shows its pattern of delay.

Update	Data Date	Duration	Activity Planned Start Date	Planned Completion Date	Schedule Update Total Float
Jan 07	January 31	70	March 5		49
Feb 07	February 28	70	March 5		49
March 07	March 30	65	April 30		49
April 07	April 30	65	June 1		49
May 07	May 31	65	June 22		42
June 07	June 30	65	June 22	Sept 21	24
July 07	July 31	65	June 22	Nov 2	9

The table shows that in spite of continued delays in the start of this critical activity, the Total Float in all schedule updates since January had steadfastly remained at 49 days, then dipped down to 42 days in the May 2007 update. *The June 2007 update revealed* that activity started as predicted in the May 2007 schedule; however, the Total Float *was* reduced to 24 days because the concluding activity in the sequence, “BH MS#7(4)- 7(3) Substantial Completion,” slipped from September 26, 2008, to October 28, 2008. *Review of the latest schedule update from July 2007 by the PMOC shows that the completion of “Main Shaft FRP Lining” activity has slipped by 40 days, but the overall Project Float was reduced from 24 days to 9 days due in large part to schedule savings proposed by the contractor to reduce the main shaft construction stages.*

In the PMOC’s opinion, the successive updates have clearly shown that the assumptions leading into these Schedule modifications have a very low probability of success. As a result, the optimistic forecast in each Schedule update since February has not materialized. These continued Schedule modifications, based on the Contractor’s schedule updates rather than being grounded on in-depth analysis of the Contractor’s work plans and historical performance trends, have eroded the PMOC’s trust in the current Schedule as a useful tool in predicting the status of this Project. Accordingly, the PMOC recommends that a complete review of the existing RMS schedule is in order to ensure that a more realistic picture is provided to all of the stakeholders.

Based on its review of the Schedule information provided in ST’s report and observations relative to construction progress in the field, it is the PMOC’s opinion that the *Total Float sequestered in the Project Schedule Network* has been fully consumed at this point given the logic structure in the RMS and, moreover, that the probability of meeting the target date for start of revenue operations has been completely eroded. The PMOC has recommended that the Schedule evaluation should use these more conservative durations that are predicated on analysis of the Contractor’s actual work plans to analyze the Project-completion forecast.

ST commissioned an independent study of the continuing Beacon Hill Station construction activities. In the July 2007 Schedule update, ST integrated the independent consultant’s schedule for the Beacon Hill Station finishes into the Master Schedule to analyze the potential impact of the delays on the 710 contract duration. The PMOC believes that further monitoring

and modifications of C710 activities in the RMS are warranted because the completion dates predicted in the July 2007 update, which are based on the Contractor's schedule, now have a low probability of success based on the Contractor's performance against those plans.

Schedule Issues

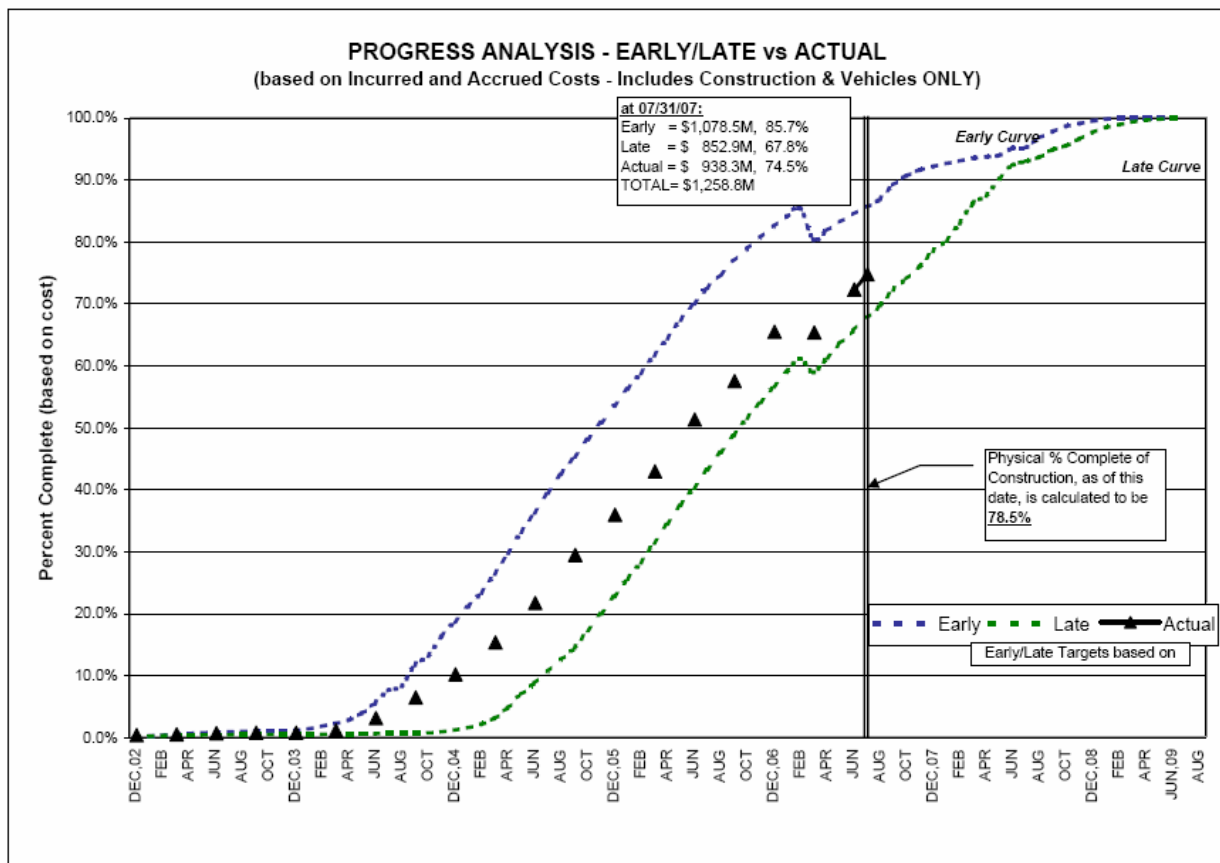
The PMOC has been reporting that it has not seen evidence that the Systems Integration/System-wide Testing and Pre-Revenue Operations, including Safety Certification activities, are adequately defined in the Project Schedule; this remains the case. *The July 2007 update of the January 2007 RMS shows that the Systems Integration and Testing for each Line Segment has been developed and logically tied at the critical interfaces.* The detailed steps for Project-wide Systems Integration and Testing have been preliminarily incorporated and include point-to-point verification and drills. ST indicates that the detailed listing of devices to be tested will be further developed and included in the process of Integration and Testing. The PMOC has received a *preliminary* schedule for Integration, Testing, and Start-Up Operations at the end of June, and ST has incorporated *that schedule* in the RMS. The PMOC will then review the August Schedule update when it is available to assess its likely impact.

The PMOC has noted improvement in ST's schedule management function; however, continuing demands on limited resources have constrained the progression of needed enhancements and this remains the case. The Link Project Office has added to and reorganized its scheduling staff and staffing levels have improved, although critical restructuring and enhancement efforts continue to lag the need. The PMOC believes that the staffing requirements for the Link Project Office Controls/Scheduling activity need to address the combined requirements for appropriately qualified staff to support the IS, Airport and University Link projects. It has been the PMOC's long-standing opinion that the resource levels currently in place and planned for this function are inadequate and are therefore negatively impacting ST's ability to efficiently manage the design, construction and operation of its various projects and revenue programs. ST is making progress in acquiring additional staff; however, the adequacy of the staffing levels can only be demonstrated through the timely development and dissemination of accurate and actionable management information.

As noted in earlier reports, the Link Project Controls staff has been publishing monthly reports that provide improved information and visibility into Project status and the PMOC has commended them for this effort. However, further improvement in terms of providing quantifiable cumulative and incremental information on the primary work activities for each major Project element is still needed. Specifically, the report needs to include quantifiable progress information on what was planned cumulatively and incrementally versus what was actually achieved, plus discussion of the resulting impacts or opportunities along with the quantifiable plan information for the next reporting period. Some of this type of information was being generated, but not for all elements. Recent reports provide some graphical information on progress, but little discussion of impacts and mitigation. The next step in the evolution of the planning and reporting efforts should feature enhancement of the planning in support of the facilities/systems installation, leading to start-up and test and the addition of narrative analyses along with discussion of Project Management's intent to focus on how the actual progress influences future plans. The Project Management and Project Controls staffs have indicated their

commitment to further improvement in this area; however, the PMOC believes that a strong commitment on the part of Project and Agency Management, evidenced by appropriate resource application, is also necessary to effectively advance this capability.

The figure below shows estimated actual progress compared to the early and late-start schedule measured by incurred-plus-accrued costs for construction and vehicle contracts. The PMOC had requested information regarding the maintenance of the source information on the curves and status information depicted below. The PMOC was concerned that the base information may not include adjustments for change work and claim impacts that would skew the results of the reported status. The most recent data reflect an adjustment to planning, but not to the progress as would be measured on the basis of a larger value.



Construction/Systems:

DSTT (C510): Overall contract work is estimated at 97% complete with punchlist work in progress. Contracts 802, 803, and 807 have access and are nearing completion with the primary work in the tunnels, although work will continue after bus service resumes. The C803 work is lagging due to hardware and software deficiencies that have forced ST to implement short-term work-around solutions to meet compliance criteria prior to reopening the DSTT to bus operations in late September 2007.

It is the PMOC's opinion that the planned September 24, 2007 re-opening is achievable, although ST has confirmed that the full systems testing plan will not have been completed by that time and that work-arounds will need to be implemented to facilitate operations. *ST reports that the Bus-Operator training in the DSTT was concluded during the month of August 2007.* The PMOC has been informed by ST that rail systems work will continue in the off hours up to the rail pre-revenue operations date in mid 2009.

Beacon Hill (C710): In its current update, the CP activities in the Contractor's schedule continue to slip and the PMOC's analysis shows that the date for turnover of the facility to the Communications System Contract might slip. Progress on activities with logic ties to this milestone is driving concurrency in planned systems work. ST has continued to reject the Contractor's schedule submittals, but this issue has limited ST's ability to determine a realistic completion date for this contract. This issue also has potential to affect the planned interfaces with C802, C803 and C807 contracts.

TBM mining of the NB tunnel continued during the month, starting with one shift per day. Approximately 513 feet of NB tunnel was mined during the month, well short of the planned 1,100 feet. The Contractor had suspended operations for approximately one week during August while the conveyor system for muck removal was relocated to the NB tunnel. The Contractor mobilized additional TBM operators to commence a second TBM shift during the month.

Concreting of the SB tunnel invert was completed while the station access shaft, tunnel waterproofing and concrete arch construction continued during the month. Rail welding and placement was completed south of McClellan Station during the month. The finishes on McClellan Station continued during the month with installation of art glass, miscellaneous structural steel, concrete work, stud framing, glazing, painting and elevator installation.

At the end of July, ST issued a letter to Obayashi that asked for a delay mitigation schedule. ST received that schedule and rejected it as being non-responsive to the requested Project mitigation schedule as well as to the current progress on site. The PMOC is concerned that the large number of outstanding claims, unresolved technical questions, and open NCR items being carried monthly on this contract are hindering the necessary cooperation between the contractual parties on this CP project. Further deterioration of the collaborative environment between the parties on this Project, have the potential to lead to lost opportunities to improve the Project performance and negatively impact the overall Program Schedule, ultimately affecting the July 2009 revenue operations date.

Rainier Valley (C735): ST estimates that this contract is approaching 91% complete with finish work underway intermittently in all 10 reaches. The southerly six reaches are substantially complete with a combined ST and City of Seattle punchlist being finalized. *The trackwork was completed during the month with track slab paving and decorative concrete elements continuing in reaches 7, 8, 9, and 10. Miscellaneous concrete finishing and intersection work and repair continued throughout the site during the month.*

Station steel fabrication and finishing work continued to lag the schedule due to subcontractor performance issues. *The Myrtle TPSS and Signal building were set during the month as well as the Edmonds equipment building. Catenary installation continued in reaches 1 through 3 during the month.* ST is working with the subcontractors to prioritize their work at site and to minimize the impact to the project schedule.

ST/CM's evaluation is that the current level of construction craft crews and management staff resources has shown marked improvement. The southern 33% of Contract 735 was released to C802, C803 and C807 contractors in mid-May, slightly earlier than planned in the Rebaselined Master Schedule. The follow-on contractor's work continued during the month with good progress being attained and minimal coordination issues experienced with the prime contractor. Early segment closeout procedures continued during the month with the City of Seattle for the first six segments. Further schedule impacts related to the City inspection and closeout program will be clarified once the first segments are completed. *The PMOC notes that the by-reach closeout process is taking longer than ST originally anticipated and unless concluded for the first three segments, opportunities for schedule recovery for this as well as other contracts that have significant City of Seattle closeout segments will be lost.* ST, the City and Contractor continue to work in a cooperative effort to coordinate the implementation of complex and challenging phased traffic-management schemes at major intersections.

A Quality audit of the C735 operations was conducted during October with a number of findings being issued. As of the end of *August*, most of the findings had been closed and a smaller subset of those issues is still outstanding at the end of the month.

Tukwila Freeway Route (C755): The span-erection activity on this contract is no longer one of the near-critical activities on the Project CP. The criticality of this activity is waning due to the lack of progress on the other contracts and the continued reliable progress on the critical aspects of the C755 work-to-date.

Progress in the installation of the pre-cast elevated segments of the guideway continued during *August*. The Contractor has continued the previous erection rate of approximately two-to-three spans per week during the month. The erection gantry proceeded to erect spans in zones 13 and 14. The RE's report currently indicates that this activity continues to be approximately fourteen weeks behind the contract schedule; however, as noted above, it is not considered to be a near-critical project activity at this time.

Concrete plinth placement activity continued with approximately 40,266 feet or approximately 70% of the plinth in place at the end of *August* 2007. Plinth installation rates are slower than originally planned but currently conform to the revised project schedule requirements.

The second placement of concrete in the transition structure in zone 18 experienced some unusual cracking after concrete placement during the month. The cause of the cracking is under investigation by ST and, following discussions between the Contractor and ST, an agreement on how to proceed with subsequent pours was reached. A concrete-crack repair methodology is being developed for this problem.

The South section of the guideway was scheduled for release to the C807 Contractor in May but was actually released on June 18, 2007. This is a delay from the planned turnover date and has been reviewed and coordinated with the follow-on Systems contractors. The Contractor continued rail installation activities in the available areas. *Major construction work of the Tukwila 154th Station was completed in August and the Systems contractors are coordinating their activities with the Prime Contractor during the final Station completion.*

An additional NPDES permit violation fine in the amount of \$79,000 was levied against the Project during the month. Both ST and the Prime Contractor are working with the State DOE to negotiate a reduction of the permit violation thresholds and the amounts of the fines against the Project to date.

Operations and Maintenance Facility (C810): ST issued the Contractor a notice of substantial completion for the O & M Facility on November 17, 2006 that was effective on November 3, 2006. ST reports that the initial punchlist included more than 2,500 items at that point, leading to the implication that substantial completion was issued prematurely. ST has indicated that as a result of the claim settlement agreement reached during June 2007, remaining punchlist and preparation work will be completed by either its small-works or clean-up contractors. The details of the settlement were scheduled to be finalized subject to ST Board action and will be reviewed by the PMOC when available.

King County Metro was scheduled to move into the O&M Facility in the first week of April 2007; however, this was delayed until the middle of August 2007 and full occupancy is being further delayed, pending receipt of a Certificate of Occupancy. A limited number of King County Metro personnel moved out of temporary trailers and into the Facility during the month. The balance of the move is anticipated once the final certificate of occupancy is obtained.

Light Rail Vehicles: ST indicates that design remains at 98% completion and the contract overall completion is at 45% as of the end of July 2007. Contractor design and product submittals, with related ST reviews, are continuing. The first two cars (LRVs 101 and 102), which were fully manufactured in Osaka, Japan are on property and have completed static testing. *LRV 103 is scheduled for shipment from the Everett Final Assembly Plant to ST on September 5, 2007. Static testing is in progress on LRV 104. LRVs 105 through 117 are in various stages of assembly at the Everett plant. Car shells 118 through 135, including the four Airport Link vehicles, are in various stages of production in Japan. The final walk-through inspection has been done on 118 through 122 and they are ready to ship to the U.S. Vehicles 123 through 135 are painted and interior equipment has been inspected.*

A delay in delivery of the Phase III Auxiliary Power Supply (APS), coupled with communications subcontractor issues, will have a negative impact on the acceptance schedule for individual vehicles. *Through June 2007, the ST vehicle delivery schedule continued to show that the last IS vehicle (LRV131) would be accepted on July 30, 2008, 15 days ahead of schedule and despite the APS issue. As a result of a worsening in the APS situation, the June 30, 2007, update of the LRV Conditional Acceptance Schedule showed LRV 131 being conditionally accepted on December 8, 2008. At the end of July, the Vehicle Manager indicated that this date*

might be optimistic by about one month. As reported in April and May, progress made at meetings with Kinkisharyo and the APS manufacturer (Oerlikon) was negated when Oerlikon was acquired by another company (Rheinmetall) and that company began discussion with the car builder on the APS situation. Rheinmetall advised the car builder that costs to build the APS are double the price contracted by Oerlikon and it will assume no further risk. The effect of this stance is to not ship the first production APS or order material for production of additional units until all testing and the FAI is complete on the first production unit. Kinkisharyo has been trying to resolve the issue with Rheinmetall and has met with ST to discuss this. ST advised Kinkisharyo that it is contractually responsible to deliver the APS units and asked for a realistic plan and delivery schedule by June 14th. ST is also internally meeting to discuss alternatives. The plan delivered by Kinkisharyo is to bring another manufacturer (Transtechnik) on board to produce the units in the event that agreement cannot be reached with Rheinmetall to deliver the units as contractually required and on an acceptable schedule. Transtechnik could have its first production unit delivered in May 2008 and complete delivery by December 2008. As Rheinmetall indicated it would not even order material for the balance of the units until after an acceptable FAI of the first production unit, its delivery schedule would not be much different than that proposed by Transtechnik. ST is, therefore, considering that conditional car acceptance is going to resume in May 2008 when production APS units begin to be installed on the cars and it will not end until about January 2009, after the final APS for car 131 (last of the base order) is delivered in December 2008. While this would significantly reduce vehicle float, it would still leave five months before a July 2009 ROD. As discussed below, there are other vehicle issues that are causing delay, but their resolution will likely be concurrent with the APS resolution. Negotiations between Kinkisharyo and Rheinmetall *came to a successful conclusion in August with Rheinmetall accepting a revised contract from Kinkisharyo and agreeing to a new delivery schedule that would facilitate acceptance of the last of the 31 cars by the end of September 2008, according to Kinkisharyo. The Source Inspection for the second APS unit was scheduled for August 30, 2007, in Montreal. Kinkisharyo is continuing to pursue a contract with a second APS supplier, Transtechnik, as a back-up and possibly for supply of units for the UL option cars.*

The vehicle communications subcontractor had not progressed in accordance with the plan, incurring delays to design submittals and resulting in inadequate integration testing as well as lags in the development of required documentation. The Qualification Tests on the first vehicle's communications equipment were started on February 2, 2007, and had to be suspended due to software problems and would remain suspended until Geofocus completed its software modifications. The qualification tests were finally held on June 14 and 15, 2007 and Unit 1, with the new software, passed the tests and has been conditionally approved. It appears that the only significant open issue left with Geofocus is the delivery schedule for the production units, which was under discussion in June. In July, ST reported that there are some minor software problems related to the diagnostic elements but these are being worked through and software retesting will be done. Delivery of units continues to be slow, but is not critical due to the APS delays. *The receipt of software revisions to closeout open items as a result of the production unit qualification tests is scheduled for September 10 and the actual close-out qualification test is scheduled for September 20, 2007. If the test is successful, this issue would be considered resolved.*

Dynamic testing on the test track, which had been scheduled to begin in late February 2007, was slipped to mid-March, partly due to the readiness and Safety program review in January 2007. Testing slipped further due to Electro-Magnetic interference (EMI) problems between vehicle systems that arose in March when testing restarted. EMI generated by the propulsion system EMI was interfering with the Cab Signal system frequencies. The source has been isolated to the propulsion system cables to the motors. ST reported that the propulsion supplier proposed use of an alternate propulsion-switching frequency that may mitigate the conflict with the cab-signal frequencies. ST has done some preliminary tests, confirming that this will substantially reduce interference with cab-signal equipment. Additional testing was being done through July and the recommended solution to the problem was expected in August 2007. Testing done from July 16th through 20th on the propulsion system software and new Automatic Train Protection (ATP) filter test board indicated that the combination appeared to have solved the interference problem. There may still be a need to make minor modifications to the wayside signal strength at some locations. Testing was done to measure wayside signal strength for adjusting the ATP filter board and EMI field testing of modified vehicles was scheduled for August 20, 2007. *Testing in August confirmed a satisfactory resolution to the EMI problem. The new propulsion software did not generate an excessive level of vehicle EMI emissions. A final report from the subcontractor, Elin, is expected in the next few weeks.*

Systems: Final Design reviews are continuing on all systems elements. As of the end of July 2007, design and overall completion on the systems contracts was reported as follows:

Contract	Design Completion	Overall Completion
802 (Signals)	99%	80%
803 (Comm.)	62%	42%
807 (TES)	99%	71%

The C803 showed *no progress in the month of August other than in testing, which increased from 36% to 42%, but that constitutes only 10% of the Project in total. The design and overall completion are the same as reported at the end of July.*

DSTT Civil/Systems Coordination

The DSTT was released for bus operator training on June 14, 2007. Systems work and testing that remain will be completed in the overnight hours when buses are not operating. Signal work is essentially complete except for punchlist and problem solving work. Some improvements *are* needed to bus antennas to provide better coverage for buses entering the IDS staging area. *The Contractor (GETS) is procuring material and the installation of additional antennas at IDS is scheduled for the week of September 3, 2007.* Problems with a switch machine at Pine Street Interlocking (not in the path of bus traffic) were investigated by the manufacturer and a solution has been determined. *In August, the switch was rewired by the manufacturer and testing is scheduled to resume on September 5, 2007.* The traction power system will not be ready to energize until late August, with SIT of traction power elements scheduled to begin on September 4th. This should provide adequate time for completion of testing before the scheduled DSTT opening of September 24, 2007, for bus passenger service. Communications installation testing by GETS was reported as complete at the end of July. SIT of communications at all DSTT

stations was reported as having started on July 9th. Revised DSTT Emergency Scenarios *began testing on August 20th and are scheduled to be complete on September 14, 2007. Access Control testing and HVAC control interfaces will be tested after the DSTT opens for revenue bus service.* As indicated in previous reports, some spillover of testing until after passenger operations begin is not a significant issue since bus operations cease in the evening and leave an ample overnight window for completion of systems work and rail System Integration Testing (SIT). The Fire Control and Deluge systems have been tied together and designed to be operational from a single station Fire Control Panel. Although progress is evident, the PMOC believes that a number of work-arounds that must be accepted by the Seattle Fire Department will need to be in place at the opening of the tunnels to public bus service.

C802 - Signals

Submittals for the Signal Contract continue to progress smoothly and the Contract Schedule for the design effort is close to target. Signal installation work in the DSTT is complete; some corrective work is in progress. Interface testing between signal and SCADA began in late May and was expected to be complete in early June. Bus antenna reading problems in the DSTT have been solved and testing was completed. As noted above, *additional antennas are being installed in the IDS bus staging area.*

C700 is substantially complete and punchlist work was completed during July. *The substantial completion walk-through still remains pending availability of ST and Contractor personnel. Final acceptance will be deferred until the entire system is complete and tested.* All installation work in the yard (C810) has been completed, cable testing has been completed, and signal testing in the north yard area *must wait for track maintenance on the switches. The track inspection/maintenance contract awarded to Rail Works in August should enable this work to be done quickly.* Switch machine installation on MLK (C735) at the Henderson Interlocking was completed in June and rail bonding *and signal work is in progress.* All C735 Signal Design is complete and cable pulling has begun. *The Othello Signal House was delivered and set on foundation. Factory wiring for the Walden Signal House is complete and it should be shipped by September 14, 2007.* C755 engineering is complete. Field installation began in June and is proceeding at a low level, *with switch plinth work in progress.* Factory wiring of the Boeing Access signal case is *nearly complete and it is expected to ship during the third week of September.*

NCRs were issued to the contractor for failing to comply with contractual requirements for maintenance of installed equipment. The Contractor advised ST that maintenance would begin on April 30th but as of the end of May, the RE Report indicates the NCRs remain open. In June, the Contractor performed the required maintenance at the Stadium and Yard Entrance Interlockings, but the NCRs remain open because submitted paperwork requires revision. *As of the end of August, the Contractor has not submitted the required revised paperwork to closeout the NCR.* In May, the Contractor submitted a cost proposal for access delays to three contract areas: C510, C700, and C810. In June, the RE advised the Contractor that the proposal must be revised and resubmitted to eliminate identified unacceptable items. *As of the end of August, the Contractor has not submitted the required revised cost proposal.*

C803 - Communications

ST is continuing to evaluate the schedule for communications work and the possibility that more crews than the contractor (GETS) and subcontractor (Mass Electric) had planned may now be needed to address compression of scheduled activities across the Project. Discussions continue both internal to ST and with the contractor.

The Fiber Optic backbone between the Communications Trailer at the Operations and Maintenance Facility (OMF) and Westlake has been installed, telephone ports have all been tested, CCTV is up and running in all Train Control and Communication (TCC) rooms, and Programmable Logic Controllers (PLCs) in the DSTT are communicating with central control. *Relocation of the OCS from the trailer to the OMF is scheduled to occur between September 6 and 9, 2007. A meeting was held on August 31st to plan and coordinate the three-day move.*

Radio System test data received in March revealed that there are several areas where the signal strength of the radiax cables that run the length of the DSTT on the northbound and southbound sides is lower than it was in September 2005 before the DSTT was closed. In two areas, the signal strength is significantly lower than it was. The contractual requirement was to *test the cable. Discussions* are to be held with KCM regarding the need to correct these deficiencies before Bus-Operator training begins or before passenger service begins. In July, replacement antennae were installed near the University Station. *Testing was performed in August and it was determined that the pre-closure signal-strength levels were attained in that area. KCM acceptance is required before this issue can be closed. Bus tracing is being conducted using the antenna.*

The second Software Process audit submitted by the contractor (GETS) was reviewed and rejected by the ST QA Office. Discussions will be held among Link Management to address this deficiency. *As of the end of August, this issue remains open.*

C807 - Traction Power

Traction-power equipment is progressing with the substations in various stages of delivery, installation and manufacture. The CP for traction power is the OCS system. Poles were delivered for all contracts and are stored on site. The OCS in the Test Track area and the yard are complete, with punchlist work *still in progress on the yard system waiting for parts that have been ordered. Final Testing remains on both systems. The Shop OCS system will remain un-energized until completion of personnel training.*

DSTT OCS regulation is complete. Punchlist inspection is being done at night and should be complete in early September. The Pine Street TPSS has been powered up, but the OCS has not been energized. The IDS TPSS is scheduled for powering up on September 9, 2007. All required Traction Power installation work and testing is scheduled for completion before the end of September; however, if necessary, these could be completed in the DSTT after the September 2007 reopening without affecting bus operations.

On C700, all contract work is complete and only testing remains. On C810, yard is complete except for open punch list items waiting for parts.

Due to delays in paving and subsequent rail installation along C735 MLK Way, that portion of the alignment is important to the traction power/OCS installation in that it provides flexibility to the contractor in marshalling its resources between line segments. The Rainier Beach TPSS was set on its foundation on April 12 *and it is due to be connected by Seattle City Light on September 5, 2007. The Othello TPSS was set on its foundation during the last week in August. The McClellan TPS is on-site and scheduled to be set on its foundation at the end of October.* Catenary pole installation began along MLK in early May and was completed on the south one-third of the MLK alignment at the end of July. *Installation of cantilevers for the OCS began in August. On C755, pole installation is progressing and cantilever arm installation began in August. The Boeing Access TPSS was set on its foundation in August. The South 133 TPSS and South 154 TPSS are in manufacture and due for delivery on September 27, 2007, and October 3, 2007, respectively.*

ST has developed an approach to address payment for the direct costs incurred due to access delays and facilitate the implementation of the new master schedule provisions. Dates have been determined for C510, C700, C735, C755 and C810 and CNRFPs have been issued for C510, C700 and C810. Effective dates are expected to be determined for the other contracts soon. ST is developing the independent cost estimates while they await the contractor proposals.

TVMs

ST plans to procure approximately 62 additional TVMs (56 to be installed and 6 spare units) under the existing contract. In April 2006, the ST Board approved a change order on the existing contract to acquire the TVMs and it was issued along with NTP in May 2006. The first TVMs are scheduled for delivery in December 2007.

Start-Up

The PMOC has long recommended that an independent but logically tied schedule be developed for the six months allocated for rail activation in the Master Schedule. The Rail Activation Manager (RAM) advised in September 2006 that plans were in development, with priority being given to the test track, and yard and OMF areas required for delivery, storage, maintenance, and testing of vehicles. The DSTT would then be addressed. Beginning in late 2006, regular coordination meetings on DSTT have been chaired by KCM and attended by ST. This has resulted in development of an informal schedule for the testing, training, and other needed start-up activities.

Limited integration testing of the test track began again in late January. Testing was suspended again in March due to the vehicle EMI problem discussed above. It will not resume until that problem is solved and the interference eliminated, or another approved fix put in place. ST personnel projected a resumption of testing in May 2007, but that was dependent on a relatively early solution to the problem by the vehicle manufacturer and subcontractors. As described earlier, it may be one or two months before LRVs will be ready for testing; however at this point it will not impact the CP. The ST Safety Manager expressed some concerns over the level of Safety awareness exhibited by some personnel, indicating that increased training and improved test operations procedures may be warranted.

A Start-Up Schedule was to be developed by the Pre-Revenue Operations & Start-up Subcommittee (PSS) of the Rail Activation Committee (RAC), and was planned for issuance as a baseline by the end of September 2006. The PMOC continues to strongly recommend that the Start-Up Schedule be integrated into the Master Construction Schedule as soon as possible. The RAP Final Revision 0, dated June 26, 2007, was received on June 29. It includes a Rail Activation Schedule, but a brief review revealed that the Schedule requires a considerable amount of work. The Schedule deficiencies were discussed with the RAM during the week of July 9, 2007. *In the RAM's June 2007 Schedule update, the preliminary Systems Integration and Rail Activation Schedule was incorporated. The July 2007 update addresses some of the PMOC's concerns and comments. However, in the PMOC's opinion, the Schedule needs to be vetted for its activities, durations and sequencing. ST maintains that a detailed Systems Integration and Rail Activation Schedule was incorporated in the January 2007 RMS, however the PMOC notes that needed additional detail and refinements to their preliminary schedule have materialized in their later RMS update in June 2007.*

The PMOC met with the ST scheduler in early August to discuss development of the Integrated Schedule. The Schedule update that was developed was in a generally acceptable format and discussion was held on how to verify durations and logic ties while keeping the Schedule current. It became clear that an additional scheduler was required. This need was subsequently discussed with the Link Executive Director and later became a funding condition as detailed in the August 10, 2007, letter from the FTA to ST, discussed below.

The development of the SSCP and SITP, two of the three plans that support the RAP, progressed well, with the PMOC reviewing and providing comments on successive drafts of each plan. Work on the third plan, the Pre-Revenue Operations & Start-up Plan (PSP) was expected to accelerate in early 2007. A draft PSP had not been provided to the PMOC through the end of August. In early April, the Chair of the Pre-revenue Subcommittee gave a copy of a recently developed KCM Operations and Start-up Plan that is thought to be adequate to serve as a model for the PSP. The PMOC briefly reviewed the Plan to assess that possibility and found that it did not have the required content of a PSP. The PMOC met with the RAM and KCM Operations Manager in August to discuss the status of the PSP. *The KCM Ops Manager indicated that he would take the lead in developing the PSP and have a draft for review in the September/October 2007 timeframe.*

The PMOC reviewed and provided comments to ST on an April 2003 version of the Link Light Rail Safety Certification Program Plan. The SSCP has been iteratively reviewed and has yet to reach an acceptable level of development. A Meeting was held on July 11, 2007 to discuss Safety and Security Certification and the PMOC had been hopeful that one of the purposes of the meeting was to finalize the SSCP. That proved not to be the case *as it was* an informational meeting on process for the SSOA, but the QAM advised that the plan was done and would be released shortly. *As of the end of August 2007, the revised SSCP had not been issued, but it has been promised for the first week in September.*

The first draft version of the System Integration Test Plan (SITP) was provided to the PMOC for review in May 2006 and has undergone iterative review and comment cycles since that time. Copies of the revised Plan were provided to the PMOC in early March 2007. The SIT Schedule

was still under development and not included in the submitted revision. The PMOC reviewed the revised SITP and provided comments in early May 2007 to the System Integration Test Manager (ITM). In June, the ITM advised that the PMOC comments were being addressed and that he was rewriting test procedures. The first rewrite was provided to the PMOC for comments, which the PMOC made by annotating a copy of the procedure. The ITM advised that comments will be incorporated in procedure rewrites and that a revision of the SITP, without the Procedures volume, would be sent to Document Control before mid-July and should be released to the PMOC before the end of July 2007. The ITM reported that the revised draft SITP was sent to Document Control in early July, but the PMOC had not received a copy by the end of the month. *In early August, the ITM provided a copy of SITP Volume I, dated June 26, 2007, to the PMOC for review. There is still no Schedule contained in the SITP. The ITM also provided an in-progress copy of Volume II (Test Procedures), also dated June 26, 2007. It contained three procedures developed up to that date. The PMOC's comments will be provided by annotation of the documents.*

In June 2006, a Test-Track SITP was drafted by Systems Engineering, based on extraction of pertinent tests from the draft IS/AL SITP. The Test-Track SITP was reviewed by QA and Safety and the Rail Activation Committee (RAC). The draft schedule (actually a matrix of tests with planned dates) showed the first Integration test occurring in early October 2006 and then full-scale testing commencing in early November 2006 and continuing to completion in early February 2007. The start of full-scale testing was pushed back to January 9, 2007, and completion to late February. As indicated previously, the suspension of testing for the "safety stand-down," as well as other factors, has caused slippage of the completion of Test Track integration testing. Testing restarted in late January and was targeted for mid-to-late March completion. Through the end of February, seven of 11 identified tests had been performed on C700. Of these, only two were completed without any need for a re-test. Re-testing and the performance of the four remaining tests were scheduled for completion by the end of March. As described earlier in this report, SIT was suspended again in March due to the vehicle EMI problem. In the absence of a Test Manager, the Vehicle Manager had taken on the task of developing a Test Schedule, including significant prerequisite activities for many tests. As of the end of May, the Schedule was still in draft form and the test matrix continued to provide the only Schedule information. The level of uncertainty as to availability of LRVs and test procedures made it difficult to finalize a Schedule. *The ITM now has test-scheduling responsibility and the PMOC will meet with the ITM and others to discuss scheduling issues.*

Since May, the only SIT performed were the dead-wire (SIT # 202) and live-wire (SIT # 301) tests in the yard. No additional SIT will be carried out until after the DSTT opens for bus operation at the end of September. In October, the balance of testing on C700 will be conducted. After the Systems contractors complete their remaining work (at night) in the DSTT, then SIT can be accomplished in the tunnel (again at night). SIT will then not resume until after it is possible to pull a train through the Beacon Hill Tunnel, which may be anytime from January 2008 to April 2008, or even later if Contractor performance worsens. The ITM has advised the schedulers that if a two-week block is left after the turnover of each contract, it would be possible to complete segment SIT in that timeframe. An additional week or two will have to be added for emergency drills that will be scheduled to take place in that segment. The actual test and drill activities that occur in each of these time blocks will have to be formally scheduled and

integrated with the Construction Schedule. C710 will be the last contract turned over and after completion of that segment SIT, including drills, some end-to-end SIT, including system-wide drills, will be required. Systemwide Pre-Revenue Operations (PRO) will then follow. How long that will be required is dependent on what the PSP calls for in the way of segmental PRO. A draft PSP is not expected before late September or October and that may not contain a Schedule. With proper planning and performance of segment tests, drill and PRO, it may be possible that C710 SIT, end-to-end SIT, and system-wide PRO could be completed in as little as six-to-eight weeks after Contractor turnover of a truly completed C710. All of these will have to be scheduled in detail. The below table shows the System Integration Tests that were successfully completed to date. Several other tests were performed on C700, but they had deficiencies that require correction and re-testing. The ITM is in the process of auditing those test reports to determine if they were successfully completed or will have to be repeated.

COMPLETED SYSTEM INTEGRATION TESTS (as of August 31, 2007)		
<u>SIT No.</u>	<u>Descriptive Test Name</u>	<u>Contract Areas Completed</u>
102	Car Mover Clearance	C700; C810
103	LRV/Car Mover Interface	System wide
201	LRV Dynamic Outline Clearance	C700; C810
202	LRV/OCS Dead Wire Interface	C810
203	LRV/Track Switch Interface	C700
301	LRV/OCS Live Wire Interface	C810
501	LRV/Floor Jack Lift	C810 (Equipment)

C. Project Management

Project Management Plan: Update to the Link IS PMP has been an issue for some time and remains a current and critical issue as the Project is transitioning from construction to systems installation, integration, test and start-up. As mentioned earlier in this report, the FTA has conditionally accepted the IS PMP, subject to the conditions mentioned in the Technical Review Capacity section of this report.

The current PMOC requested a PMP update to reflect the ST reorganization implemented in April 2004. FTA directed that the PMP for the IS and University Link be prepared as stand-alone documents and accepted December 2005 as the target completion date for that effort. Iterative submittals and reviews have taken place over the intervening time with the most recent revision, complete with staffing plans, was made available for the PMOC review in July 2007. After review of the latest PMP, the PMOC still had concerns with staffing as described below.

Staffing: The PMOC has recommended that FTA require ST to develop time-phased staffing plans for each of its overlapping projects so a consolidated plan that demonstrates the Agency's technical capacity is established. In its December 2005 letter authorizing entry into PE for the University Link Project, FTA directed that ST develop staffing plans consistent with the PMOC's recommendation. Over the intervening time, an acceptable staffing plan has yet to be issued. It continues to be the PMOC's opinion that current staffing levels are inadequate to maintain the technical capacity to efficiently and effectively carry out ST's scheduled backlog of

projects. For the Initial Segment, the PMOC observed stretched resources in several areas and recommended that Link Management canvas its key managers to determine if they had enough staff to safely and effectively complete, test, and start-up for revenue service in July 2009. Some specific deficiencies were identified in a meeting with the Link Executive Director. The PMOC recommended that, at a minimum, four additional personnel be immediately retained: a scheduler, a track access manager, a track inspector/maintainer, and a QA professional. Retention of the first three of these personnel was made a condition of PMP acceptance in the FTA's letter of August 10, 2007.

PMP Conditional Acceptance: In an August 10, 2007, letter to the ST CEO, the FTA Regional Administrator conditionally approved the IS PMP and set the following conditions to be met before processing the FY2007 grant (conditions reformatted and identifying letters and numbers added by the PMOC for tracking purposes):

1. ST to fill three positions:
 - a) Scheduler for IS rail activation and systems integration activities
 - b) Track Access Manager
 - c) Track Inspector/Maintainer
2. ST to canvas its construction managers, Quality Assurance, Safety, Security, and rail activation staff, to ensure they have adequate personnel to safely begin revenue operations on July 3, 2009.
3. ST to demonstrate by two successive monthly updates of the Integrated Project Schedule that it is actively managing the Schedule for completion of construction, systems integration, testing, and start-up activities.

ST Progress in Meeting Conditions: As of the end of August 2007, the only reported progress is the retention of a contractor to perform track inspection and maintenance services for the segments turned over by contractors to ST. The track inspection/maintenance contract has been awarded as an "on call" contract to Rail Works and is being managed by the Rail Manager. Oversight will be provided by the ITM, who will receive copies of all submitted Contractor-Inspection reports. Track, including special work, will be inspected bi-weekly until PRO begins and then it will be inspected semi-weekly. The PMOC reviewed the scope of work and inspection forms to be used, and finds them generally acceptable. Similar forms have been successfully used by resident track inspection personnel on other LRT systems. The PMOC will review a sampling of Contractor-submitted forms over the next month. If they are appropriately completed by the Contractor, the PMOC would recommend that this contract be deemed a suitable equivalent to the retention of a Track Inspector/Maintainer (Condition 1c).

D. Quality

The PMOC continued to observe selected audits and reviewed the resulting findings and their implementation. The PMOC deems that in general, the Quality Assurance process was working during the month. However, the recent realignment of organizational responsibility that apparently shifts aspects of the ST Safety program to the QA functional manager continues to be a concern to the PMOC. At this time it is not apparent to the PMOC that meaningful

consideration has been given to the scope, relationships and proper level of appropriately qualified resources needed to effectively fulfill the requirements of the functions. It is increasingly important that ST develop a PMP and SSMP that clarify the roles, responsibilities, authority and reporting relationships of its functional managers.

Additional Quality Control issues have been observed during March and April relative to the appropriateness of materials and cognizance of plans and specifications on the part of the inspection staff. Specifically, the PMOC observed that the implementation of temporary support provisions over a public Right-of-Way were not in compliance with approved plans, specifications or codes. Subsequent to the PMOC's observations, ST stopped work on the affected structure and took steps to address the issue. Although the specific issue has now been addressed, it is the PMOC's opinion that this is clear evidence of weakness in the Construction Management/Inspection function and recommends that ST investigate the root cause of the identified lapse. This issue will be addressed as part of the CAP in response to the PMOC's draft Spot Report 8.

E. Safety and Security

SSMP, Organization, and Staffing: The PMOC updated Attachment A in November 2006 to reflect its concern over ST's lack of progress in producing a compliant SSMP for the construction phase of the IS project, as well as concern over organizational changes that appear to have weakened Safety oversight on the Project. Since mid-2005, the PMOC has been urging ST to revise SSMP Rev 1.1, dated October 1, 2002, to bring it into compliance with FTA requirements. Through July 2007, ST had not produced an acceptable revision. The latest draft of the SSMP was received and reviewed by the PMOC in June 2007. Comments, including an annotated copy of the submission, were returned to ST by memo dated June 25, 2007. *A revised draft was received and informally commented upon by the PMOC in late July. On August 10, 2007, the PMOC met with ST to resolve its comments and agreement was reached on the revisions required for the SSMP to be deemed acceptable. It was the PMOC's understanding from that meeting that a revised SSMP would be issued in August. This information was shared with the FTA and served as the basis for the FTA stating in its August 10th letter that the SSMP was acceptable. As of the end of August, ST has not forwarded to the PMOC the promised SSMP revision. The PMOC strongly recommends that ST issue the revised IS SSMP as soon as possible.*

Based on the PMOC's continuing observations, the FTA commissioned a Spot Report on Safety and Security. *A draft of the Spot Report was provided to ST in May 2007 and a meeting was held at the FTA offices on June 5, 2007, attended by the ST CEO and staff, and the PMOC to discuss the draft Spot Report and a draft response letter prepared by ST. The PMOC explained its findings and recommendations, and ST expressed its agreement with some and disagreement with others as indicated in a draft response letter. By meeting's end, it was agreed that the PMOC would work with a representative of ST to seek common ground on areas of difference and finalize a response from ST, including a CAP. These would be included in the next draft of the Spot Report, which would be revised as needed based on new information received. A meeting was held with the ST representative later in the week and tentative agreement was reached on an approach and the content of the CAP. Another meeting was held on July 11 to*

review the proposed ST response to the Spot Report and the completed CAP, and agreement was reached on specific findings and recommendations. Through an exchange of emails later in July, the wording of the findings and recommendations in the Final Spot Report and in the ST Response and CAP were agreed upon. The ST Response and CAP were issued on July 27, 2007. The wording of the Response is slightly at variance with the agreement reached with staff and the CAP has some significant variances. In early August, the PMOC *met with the Link Executive Director to discuss these variances and seek a means to finalizing the Spot Report in the manner agreed with ST staff. This meeting was followed up by an August 17 email from the PMOC, transmitting suggested language that addresses stated ST concerns and is consistent with FTA direction to the PMOC. The PMOC is scheduled to meet with the Link Executive Director and the Construction Safety Manager on September 6 to work towards finalizing language that will enable publishing of the Final Spot Report.*

F. Environmental

ST is routinely providing status information on environmental issues in the weekly Resident Engineer's reports. ST Construction Management staff has indicated that it will apply for extensions to its wetland construction permits due to the likelihood that the term of the permits will be exceeded by the construction activity. ST is analyzing the extent of the time extension that will be needed. Contract C755 has incurred two formal violations and been notified of attendant monetary penalties.

G. Areas of Concern

- Over time, the PMOC has voiced concern that ST may not be in full compliance with the tenets of FTA Guidelines regarding reporting requirements established in 49 CFR 633.27, Implementation of a Project Management Plan (d). In the June-August 2005 timeframe, the PMOC had not seen evidence that ST was producing and delivering monthly reports that fully met the tenets of FTA's Guidelines. The FTA and PMOC have engaged in discussions with ST on this issue and the PMOC is working with ST to coordinate enhancements to ST's Project reporting. The PMOC's review of recent reports indicates that improvements continue to be made; however, additional improvement is needed in the content of the reports relative to detail and narrative analysis of deviations from plan.
- The PMOC believes that the development of a modified Schedule will enable effective coordination of the construction and systems contractors as well as facilitate the SIT program for the Project, and that this effort is of increasing criticality to the Project. This effort is in progress, but its conclusion has languished for several months. The PMOC believes that a short-term intensive effort is required to initiate full implementation of the Revised Schedule as the focal point and primary tool to support the efficient management of the remaining work. As noted above, ST implemented a Re-baselined Project Schedule for the IS Project in January 2007. The PMOC further noted earlier in this report that a review of this Re-baselined Project Schedule yielded logic flaws and inconsistencies that have since been communicated to ST staff for follow-up and revision. Further enhancement to address SIT along with other start-up activity is

required. *As indicated earlier, this has been made a condition of PMP approval in the FTA's letter to ST dated August 10, 2007.*

- In working with ST staff to address FTA reporting requirements, the PMOC has become concerned with the level of staffing currently in place relative to fulfilling concurrent responsibilities on three separate projects. It is becoming crucial to the evaluation of ST's continuing technical capability and capacity that the PMPs for each of these projects include fully developed staffing plans and related budgets, and that they are issued in the near future. The PMOC reviewed the information as the part of the U Link Final Design Readiness Assessment and recommends that revised PMPs that reflect the organizational changes be issued as soon as possible. *As indicated earlier, this has been made a condition of PMP approval in the FTA's letter to ST dated August 10, 2007.*
- Slower-than-planned progress on the C710 contract is causing further deterioration in the Project Float inventory to the extent that the PMOC believes that the planned FFGA ROD may be in jeopardy. The PMOC continues to be concerned with the timeliness and limited visibility afforded by the information-management processes and products currently available to Link management with respect to the actual Project status from a Schedule perspective.
- The absence of an acceptable SSMP and organizational turmoil relative to the Safety and Security functions raises concerns because of a lack of adequate Project Safety and Security oversight. As indicated previously, these issues along with recommendations for action that will lead to further improvement are addressed in the PMOC's Draft Spot Report that assesses Project and ST Safety and Security Practices and Management that *is discussed above and which the PMOC is working with ST to finalize. The promising improvement to come from the planned Safety, Security, and Quality organizational element reporting to the CEO has been slow in being realized, with no implementation as of the end of August. As indicated previously, the PMOC commented twice on SSMP revisions since late June and will meet with ST on August 8, 2007 to resolve comments in hopes of receiving an acceptable SSMP during August. However, a promised revision to the SSMP was not received by the end of August.*
- Recent PMOC field observations have revealed apparent weakness in ST's Construction Management/Inspection function. The PMOC will continue to monitor ST's response to the PMOC's observations.

ATTACHMENT B: SUMMARY OF CONCERNS AND RECOMMENDATIONS

ITEM NO. KEY

- 1.XX Technical Capability and Capacity**
- 2.XX Program and Project Management Plans**
- 3.XX Project Development and Implementation**

PRIORITY (PR)

- 1 – Most Critical**
- 2 – Critical**
- 3 – Least Critical**

GRANTEE ACTION

- D – Remedial Action Developed**
- A – Remedial Action Approved**
- I – Action Implemented**

PMOC STATUS

- R – Review On-going**
- C – Completed – No further review required**

CATEGORY OF CONCERN

<u>S – SCOPE</u>	<u>B – BUDGET/COST</u>
<u>SC – SCHEDULE</u>	<u>Q – QUALITY</u>
<u>SS – SAFETY/SECURITY</u>	<u>F - FFGA</u>
<u>TC -TECHNICAL CAPACITY</u>	<u>M - MANAGEMENT</u>

<u>PR</u>	<u>ITEM NO.</u>	<u>IDENTIFICATION</u>	<u>Category</u>	<u>NATURE OF CONCERN</u>	<u>PMO RECOMMENDATION</u>	<u>D</u>	<u>A</u>	<u>I</u>	<u>STATUS</u>
1	1	IS PMP Submittal	TC	PMP not available for IS	Revise and submit PMP per current ST organizational structure				<p>Submission received in early June without required staffing information. <i>After review and discussion, the FTA has conditionally accepted the PMP with the conditions identified in an August 10, 2007, letter to ST. The PMOC will monitor ST's response and compliance with those conditions.</i></p> <p>A revised SSMP was received and reviewed in June. PMOC comments were provided to ST in a memo on June 25, 2007. Informal comments were provided on a draft revision in late July and the PMOC <i>met</i> with ST on 8/8/07 to resolve, with the intent of receiving an acceptable SSMP before the end of August. <i>Agreement was reached at the meeting, but the promised SSMP revision was not received by the</i></p>
1	2	IS SSMP	SS	SSMP not available	Immediately submit revised SSMP compliant with FTA criteria				

Legend: PR = Priority: 1 = Most Critical; 2 = Critical; 3 = Least Critical

Grantee Action: D = Remedial Action Developed; A = Remedial Action Approved; I = Remedial Action Implemented.

PMO Contractor Status: R = Review Ongoing; C = Completed, No Further Review Required.