



Oversight Procedure 26 — Lessons Learned

1.0 PURPOSE

The purpose of this Oversight Procedure (OP) is to describe the analysis and reporting requirements that the Federal Transit Administration (FTA) expects from the Project Management Oversight Contractor (PMOC) with regards to sharing the experiences gained in all phases of major capital transit projects with a wider audience. The application of lessons learned by project sponsors of future transit projects can potentially produce better project outcomes while saving time and cost, thereby increasing the effectiveness of FTA's capital investment.

While this OP focuses on Capital Investment Grant (CIG) projects, which have specific requirements by law, it also applies to all capital projects. FTA will issue Implementation Plans (IPs) to clarify the specific reviews and expected deliverables based on the project types.

2.0 BACKGROUND

The Lessons Learned Program has existed for more than two decades and was developed by project sponsors, FTA, and its PMOCs. However, the central repository of lessons was not kept up to date and some lessons were shared with project team members only. When lessons were shared with a wider audience, the timing of the publication was often delayed, and the impact of the lesson was reduced. FTA is renewing the emphasis on the Lessons Learned Program so that it can be valuable to FTA and the transit industry.

Lessons can be derived from any phase of project implementation: design, real estate, construction, management, etc. The PMOC should work in concert with the project sponsor during each project phase to create, add to, and maintain a list of lessons learned. The lessons learned list should include significant findings, recommendations, and new insights realized. Maintenance of the list ensures that lessons will not be forgotten, and it provides ready material for inclusion in lessons learned reports to FTA. Project sponsor participation ensures that the lessons are accurately portrayed with the proper perspective.

FTA will publish lessons learned on its public website. A hyperlinked table of contents will provide access to the full documents (see sample in Appendix B below). FTA will regularly update the table of contents as FTA reviews and approves new lessons learned. The FTA public website front page has the option for users to sign up for email notification of changes or updates to the website, including lessons learned.

3.0 OBJECTIVES

The objectives are to:

- Define a simple process for capturing potential lessons as they are encountered during the project execution without a major expenditure of time and resources (*mini-lessons*);

- Provide a cumulative list of mini-lessons at the end of each project phase as a tool for the selection, full development, and formal issuance of those mini-lessons that are sufficiently robust to be developed into project lessons to be shared;
- Share lessons learned on major capital transit projects with the transit industry and other interested parties;
- Have the lessons readily available via the FTA public website;
- Increase awareness within the transit industry of pitfalls and impediments to the achievement of project goals;
- Recommend changes in FTA policies and practices when lessons learned on projects suggest that such changes may be advisable.

4.0 REFERENCES

For references, please see OP 01 Administrative Conditions and Requirements.

5.0 PROJECT SPONSOR SUBMITTALS

The PMOC should obtain documents and other materials from the project sponsor that are needed to support the development and preparation of the lesson. As mini-lessons are documented, the PMOC and project sponsor should consider the likelihood of future availability of the applicable project sponsor documents. If records will become inaccessible before the completion of the project or if the mini-lesson may be developed into a full project lesson, the PMOC should collect the documentation from the project sponsor while it is still accessible.

6.0 SCOPE OF WORK

The PMOC shall document lessons learned in the following manner:

- **Mini-lessons:** With each Comprehensive Monthly Report (refer to OP 25), the PMOC should issue a separate document containing a cumulative list of briefly described potential lessons learned to date (mini-lessons) on the project(s). With each subsequent issue of the mini-lessons document, the PMOC should note, in as little as a sentence or two for each, the potential lessons learned during the preceding quarter. Mini-lessons should track insights and remind the PMOC and project sponsor of hurdles crossed during the course of the project. Mini-lessons should be characterized by project phase and by category. Refer to Appendix B of this OP for format. The PMOC and project sponsor will review the cumulative list of mini-lessons later in the project to confirm the continued validity of the potential lessons captured in the write-ups (see below). This process recognizes that not all “good” ideas result in positive outcomes after final invoices, change orders, and claims are reconciled at the end of the project.
- **Project lessons:** These are the two or three most important lessons learned over the course of each phase of the project. Near the end of each project phase, the PMOC and the project sponsor should review the cumulative list of mini-lessons to identify those

two or three mini-lessons that continue to stand out as significant when all aspects of the project have been taken into consideration. The PMOC and the project sponsor then should collaboratively develop these into a full lessons learned, writing them for the benefit of the entire transit industry, as well as FTA. FTA will post them to FTA's public website. They should not repeat already posted lessons learned unless valuable different perspectives are presented.

7.0 REPORTS, PAPERS, PRESENTATIONS

Each Lessons Learned Report should be no more than two or three pages in length. The title should be descriptive to allow the reader to understand the lesson content through the title alone. The report should include just enough project background information to facilitate understanding of the lesson. The Lessons Learned Report should follow the following outline:

1. Date
2. Project name
3. Abstract (a summary or concentration of the essentials of a larger issue)
4. Project phase (Project Development, Engineering, Procurement, Construction, Startup)
5. Category (management, scope, schedule, cost, risk)
6. Background (type of project, geographic location, other pertinent information)
7. The lesson (including condition, cause, effect, and remedy/resolution)
8. Applicability (types of projects, how lesson can be applied, responsible party(ies) for action)
9. Contact person and information



APPENDIX A: ACCEPTABLE QUALITY LEVEL

	Desired Outcome	Performance Requirement	Checklist	Acceptable Quality Level	Performance Measure	Monitoring Method
1	The PMOC shall identify, analyze, document, and recommend to FTA lessons learned in conjunction with project experiences.	R1a. The PMOC shall develop and document a process for identification, analysis, and documentation of lessons learned on each project to which they are assigned.	<input type="checkbox"/>	Q1a. Process exists and has been followed.	M1a. Evidence of a documented process	MM1a. Periodic review by FTA or its agent
		R1b. The PMOC shall make recommendations regarding lessons learned for the benefit of future federally assisted projects.	<input type="checkbox"/>	Q1b. The PMOC must assess and provide internal verification that the process has been followed as documented.	M1b. Documented assessment and analysis of lessons learned	MM1b. Periodic review by FTA or its agent
2	The PMOC shall develop lessons learned in planning, design, construction, revenue operations, and associated matters on capital transit projects for the benefit of future transit project sponsors to potentially produce	R2a. The PMOC shall, as an appendix to each quarterly report, develop and note mini-lessons learned that occurred during the preceding quarter organized by project phase and category .	<input type="checkbox"/>	Q2a. The PMOC shall give professional opinion of mini-lessons with appropriate discussions.	M2a. Documented evidence of mini-lessons developed by the PMOC supported by professional opinion	MM2a. Periodic review by FTA or its agent
		R2b. The PMOC shall, near the end of each project phase, develop project lessons collaboratively with the project sponsor drawing	<input type="checkbox"/>	Q2b. The PMOC shall provide written report of project lessons learned and	M2b. Documented evidence of project lessons and collaboration with project sponsor	MM2b. Periodic review by FTA or its agent

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	Desired Outcome	Performance Requirement	Checklist	Acceptable Quality Level	Performance Measure	Monitoring Method
	higher quality projects and to improve the effectiveness of future FTA capital investments.	upon mini-lessons and reflective discussions with the project sponsor.		coordination with project sponsor.		
3	The PMOC shall provide written Project Lessons Learned Reports in accordance with the prescribed format to FTA for publication on FTA's public website.	R3. The PMOC shall present their findings, conclusions, recommendations, and lessons learned in Project Lessons Learned Reports to the FTA in the prescribed format.	<input type="checkbox"/>	Q3. Reports and presentations are professional, clear, concise, and well written. The findings and conclusions have been reconciled with project sponsor to the extent possible.	M3. PMOC's findings, conclusions, and recommendations with respect to project lessons learned.	MM3. Periodic review by FTA or its agent.



APPENDIX B: SAMPLE – “MINI-LESSONS” LEARNED TABLE

LL #	Date	Phase	Category	Subject	Lesson Learned
1	Jan-09	Final Design	Schedule	Problems with getting D/B contractor to submit CPM schedules.	Future contracts need to include stronger language dealing with a contractor’s failure to submit accurate Critical Path Method (CPM) schedules and failure to follow their schedule.
2	Apr-09	Final Design	Cost	D/B contracts can have extra costs the same as sealed bid.	For future design/build projects, the budget needs to include a larger contingency amount to allow for issues that arise during the final design stage.
3	Jul-09	Final Design	Cost	Bids are coming in high on many projects nationwide.	Project sponsors should consider use of early completion incentives to stimulate greater bidder interest (more bids) and lower bids.



APPENDIX C: ACRONYMS

Acronym	Term
ACOR	Alternate Contracting Officer's Representative
ADA	The Americans with Disabilities Act
AGC	Associated General Contractors of America
ATC	Alternative Technical Concepts
AVS	Associate Value Specialist
BEA	Bureau of Economic Analysis
BLS	Bureau of Labor and Statistics
BRF	Beta Range Factor
BY	Base Year
CATEX or CE or CX or Exclusion	Categorical Exclusion
CCIP	Contractor Controlled Insurance Program
CE	Categorical Exclusion
CER	Cost Estimating Relationship
CFR	Code of Federal Regulations
CIG	Capital Investment Grant
CLIN	Contract Line Item Number
CM	Construction Manager

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Acronym	Term
CM/GC	Construction Manager/General Contractor
CMAR	Construction Manager at Risk
COR	Contracting Officer's Representative
CPM	Critical Path Method
CPTED	Crime Prevention Through Environmental Design
CR	Constructability Review
CVS	Certified Value Specialists
DB	Design-Build
DBB	Design-Bid-Build
DBE	Disadvantaged Business Enterprise
DBF	Design-Build-Finance
DBFOM	Design-Build-Finance-Operate and Maintain
DBOM	Design-Build-Operate and Maintain
DEIS	Draft Environmental Impact Statement
DF	Designated Function
DHS	Department of Homeland Security
DTS	Department of Transportation Services
EA	Environmental Assessment
EIS	Environmental Impact Statement

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Acronym	Term
EMP	Emergency Management Plan
ENR	Engineering News-Record
EPCM	Engineering/Procurement/Construction Management
ESWA	Early Systems Work Agreement
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FFGA	Full Funding Grant Agreement
FHWA	Federal Highway Administration
FLSSC	Fire/Life Safety and Security Committee
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GAO	Government Accountability Office
GC	General Contractor
GC/CM	General Contractor/Construction Manager
GMP	Guaranteed Maximum Price
HAZMAT	Hazardous Materials
IP	Implementation Plan
LONP	Letter of No Prejudice

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Acronym	Term
LPA	Locally Preferred Alternative
MBE	Minority Business Enterprise
MCC	Management Capacity and Capability
MDBF	Mean Distance Between Failures
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
NTE	Not-to-Exceed
NTP	Notice to Proceed
O&M	Operation and Maintenance
OCIP	Owner Controlled Insurance Program
ODCs	Other Direct Costs
OHA	Operational Hazard Analysis
OIG	Office of Inspector General
OMP	Operations and Management Plan
OP	Oversight Procedure
P3	Public Private Partnership
PCMG	Project and Construction Management Guidelines
PD	Project Development
PDM	Project Delivery Method

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Acronym	Term
PHA	Preliminary Hazard Analysis
PMO	Project Management Oversight
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
POP	Project Oversight Plan
PTASP	Public Transportation Agency Safety Plan
QA/QC	Quality Assurance/Quality Control
R&D	Research and Development
RAMP	Real Estate Acquisition Management Plan
RAP	Rail Activation Plan
RCMP	Risk and Contingency Management Plan
RET	Risk Evaluation Tool
RFI	Request for Information
RFP	Request for Proposal
RFQ	Request for Qualifications
ROD	Record of Decision
ROW	Right-of-Way
RSD	Revenue Service Date
S/DBE	Small/Disadvantaged Business Enterprises

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Acronym	Term
SABCE	Stripped and Adjusted Base Cost Estimate
SABS	Stripped and Adjusted Base Schedule
SAVE	Society of American Value Engineers
SCC	Standard Cost Category
SCIL	Safety Certifiable Items List
SGR	State of Good Repair
SIT	System Integration Testing
SITP	Systems Integration Test Plan
SOP	Standard Operating Procedure
SOW	Scope of Work
SSCVR	Safety Certification Verification Report
SSGA	Small Starts Grant Agreement
SSI	Sensitive Security Information
SSMP	Safety and Security Management Plan
STIP	Statewide Transportation Improvement Program
SYGA	Single Year Grant Agreement
TAR	Travel Authorization Request
TBM	Tunnel Boring Machine
TCC	FTA Office of the Chief Counsel

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Acronym	Term
TCRP	Transit Cooperative Research Program
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIGER	Transportation Investment Generating Economic Recovery
TIP	Transportation Improvement Program
TOD	Transit-Oriented Development
TPE	FTA Office of Planning and Environment
TPM	FTA Office of Program Management
TRB	Transportation Research Board
TSA	Transportation Security Administration
TVA	Threat and Vulnerability Assessment
URA	Uniform Relocation Assistance and Real Property Acquisition Act
U.S.C.	United States Code
VE	Value Engineering
VECP	Value Engineering Change Proposals
WBE	Women Business Enterprise
WBS	Work Breakdown Structure
YOE	Year of Expenditure