



## **Oversight Procedure 21 — Management Capacity and Capability Review**

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### **1.0 PURPOSE**

The purpose of this Oversight Procedure (OP) is to describe the review, analysis, and recommended procedures and reporting requirements that the Federal Transit Administration (FTA) expects from the Project Management Oversight Contractor (PMOC) with regards to the project sponsor's management, organization, and capability to effectively and efficiently plan, develop, manage, and complete a Federally assisted capital project.

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 PMOC shall review and evaluate a project sponsor's management capability and capacity to efficiently and effectively develop a federally assisted project for implementation by evaluating the organizational structure of the project sponsor, qualifications of personnel, as well as the policies, procedures, and implementation methods. The PMOC should pay particular attention to the project sponsor's abilities, resources, staff organization, and third-party consultants because these are essential to develop and manage project cost and schedule risks, real estate acquisition, safety and security, quality assurance (QA) and quality control (QC), and other activities of Federal concern. The results of this evaluation shall help FTA make programmatic decisions regarding the project sponsor's readiness to advance the project.

### **3.0 OBJECTIVES**

The PMOC will perform evaluations and render professional opinions regarding the project sponsor's capacity and capability to successfully implement, manage, and complete a major Federally assisted capital project, and to recognize and manage project risk factors and implement mitigation measures. The evaluations shall cover the following:

1. Organization, personnel qualifications, and experience;
2. Project sponsor's approach to the work and ability to perform the work including its methods, policies, and procedures for developing and updating reasonable and realistic project cost estimates and schedules and the abilities to identify, analyze, manage, and mitigate project risks; and
3. Project sponsor's ability to collect costs and measure performance against line items in a robust Work Breakdown Structure (WBS), forecast cost to complete through an industry-accepted cost analysis technique, identify variances, and report on project status and recovery action plans on a monthly basis.

## **4.0 REFERENCES**

The PMOC shall become familiar with the following references to Federal legislation, regulation, and guidance before reviewing the project sponsor's work. These are the principal references, but this list is not exhaustive:

### **4.1 Regulations**

- [49 CFR Part 633](#), Project Management Oversight
- [49 CFR Part 673](#), Public Transportation Agency Safety Plan
- [49 CFR Part 674](#), State Safety Oversight

### **4.2 FTA Circulars**

- [C 4220.1F](#), Third-Party Contracting Requirements
- [C 5010.1E](#) (or current version), Award Management Requirements
- [C 5200.1A](#), Full-Funding Grant Agreements Guidance (See in particular chapter III, "Terms, Conditions, and Attachments.")
- [C 5800.1](#), Safety and Security Management Guidance for Major Capital Projects

### **4.3 Guidance**

- Terms of the Full Funding Grant Agreement and referenced documents
- FTA's [Project and Construction Management Guidelines](#) (2016)
- FTA's [Quality Management System Guidelines](#) (2019)

### **4.4 Oversight Procedures**

- OP 20 Project Management Plan Review
- OP 23 Real Estate Acquisition and Management Plan Review
- OP 24 Quality Assurance / Quality Control Review
- OP 25 Recurring Oversight and Related Reports
- OP 32C Project Scope Review

The PMOC shall refer to other applicable regulations, policies, guidelines, and circulars in determining the capacity and capability of a project sponsor to advance a major capital project as relevant and necessary.

## **5.0 PROJECT SPONSOR SUBMITTALS**

The PMOC will secure submittals from the project sponsor that shall be appropriate with the phase of project development. Such submittals include, but are not limited to, the following:

- Management Capacity and Capability (MCC) documents (See the table of contents in Appendix B);
- Project Management Plan (PMP) and other associated subplans (e.g., QAP, SSMP, RAMP);
- Work Breakdown Structure (WBS), detailed project schedule, and the agency's latest monthly project report; and

- Description of management tools (if not in the PMP) for controls and reporting of scope, cost, schedule, quality, safety, and security.

## **6.0 SCOPE OF WORK**

The PMOC should review the project sponsor's MCC documents to ascertain the ability to fulfill the demands of implementing a major capital project. Important aspects of this review include the project sponsor's:

- Staff qualifications and experience;
- Ability to implement methods, policies, and procedures for developing and updating reasonable and realistic project cost estimates and schedules;
- Ability to identify, analyze, manage, and mitigate project risk from scope, schedule, and cost; and
- Staff understanding of their role on the project and the project's critical issues.

While the MCC documents make up part of the PMP, the review of the entire PMP is central to the PMOC's determination regarding the project sponsor's MCC and its preparedness to advance a project into the next phase.

The FTA normally engages a PMOC to review the project sponsor's MCC as necessary throughout the life of the project. This includes the readiness reviews for Entry into Engineering, and for FFGA.

FTA may request the PMOC perform an MCC review at other times, such as:

- Post-FFGA but before construction to verify continued capability and capacity;
- At 15 to 20 percent construction completion to confirm that the project sponsor has the MCC to deliver the project;
- When the project sponsor's performance in areas such as vehicle maintenance, procurement, safety, and quality is a cause for concern;
- As required for high-risk project sponsors;
- When project sponsors exhibit less than satisfactory performance in past oversight reviews; and
- When a project sponsor engages in non-FFGA projects such as multi-modal centers, bus and maintenance facilities, new Bus Rapid Transit (BRT), or a streetcar.

### **6.1 General Review of Sponsor's Management Capacity and Capability Documents**

Appendix B identifies the MCC documents required at specific project milestones. This table also indicates when to submit preliminary information as well as when the project sponsor shall augment or modify existing information. The PMOC, during its review of the MCC documents, shall verify that the project sponsor has completed and submitted the required documents given the project phase. Further, as the project progresses, the PMOC shall ensure that the project sponsor is updating or modifying its existing information as necessary.

At a minimum, the PMOC will review the following items to reach a determination of a project sponsor's capability and capacity to successfully manage and complete a major Federally assisted capital project:

1. Organization, personnel qualifications, and experience:
  - a) Review the complete organization of the project sponsor to determine the likelihood of the project management team successfully implementing the project. Determine whether the project sponsor has an effective and efficient organizational structure.
  - b) Review the assigned and supporting staff qualifications, including but not limited to the review of resumes. Conduct personal interviews of key agency and project leadership, based on PMOC-generated questionnaires. The purpose of the questionnaire is to gain insight into the interviewees' background and experience, to understand their concept of their project role, and to obtain their input as to the critical issues that must be managed or resolved to successfully complete the project. Sample questionnaires are in Appendix C. The PMOC can use the sample questionnaires as a guide but should also use judgment about the right approach to achieve the objective of the review.
  - c) A sample Summary Staff Qualifications/Experience Chart to document information gathered during interviews and resume reviews is included in Appendix D. These interviews and reviews should determine whether the project sponsor has the appropriately qualified staff or third-party consultants to:
    - i) Design and manage the construction of the project;
    - ii) Obtain support and incorporate requirements from the multiple jurisdictions through which the project may pass;
    - iii) Obtain cooperation and incorporate requirements from third parties including railroads, utility companies, and adjacent parcel owners;
    - iv) Deliver the project, given the form of project delivery method(s) it plans to use (e.g., Design-Bid-Build (DBB), Design-Build (DB), Construction Management/General Contractor [CM/GC], etc.);
    - v) Develop and implement a sound PMP and its required sub-plans;
    - vi) Secure and administer the required local funding; and
    - vii) Maintain the project sponsor's existing transit system with the addition of the project.
  - d) Review the project sponsor's staffing plan. A sample staffing plan is shown in Appendix E. The staffing plan should be adjusted to the project. Assess the reasonableness of the hours for each project team component over the life of the project and whether the costs for professional services in the cost estimate accurately reflect the labor required. (Note: staffing plans can be shown in hours per month or full-time equivalents (FTE) per month. The tables in Appendix E show examples of both. If FTEs are used, the industry standard is one FTE equals 160 hours per month.
  - e) Analyze whether the project sponsor has the physical resources, such as sufficient office space, equipment, and furnishings to effectively and efficiently advance the project.

- f) Assess the agency's history of performance, financial stability, adequacy of management systems, and conformance with the terms of previous awards, etc.
2. Project sponsor's approach to the work, understanding of the work, and ability to perform the work:
- a) Review the adequacy of the project sponsor's methods, policies, and procedures for developing, and its ability to develop and update reasonable and realistic project budgets, cost estimates, and schedules and the control mechanisms in place to monitor and ensure adherence with said budgets, estimates, and schedules. Evaluate the project sponsor's methods, policies, and procedures for identifying, analyzing, managing, and mitigating project risks and disputes.
  - b) Evaluate the project sponsor's approach to:
    - i) Satisfying FTA grant reporting requirements and responding in a timely manner to specific requests from Congress, FTA, and the PMOC for project-related information;
    - ii) Packaging, procuring, and managing third-party contracts in compliance with FTA and other Federal requirements;
    - iii) Developing and implementing a sound community relations program;
    - iv) Developing and implementing a land acquisition and relocation program;
    - v) Accounting for project property and maintenance of project property inventory;
    - vi) Developing and implementing a force account plan;
    - vii) Developing and implementing safety and security measures and a Safety and Security Management Plan;
    - viii) Complying with contract terms of the FFGA; and
    - ix) Entering into clearly defined intergovernmental and other local agreements (e.g. agreements with utilities or railroads) in a timely manner to secure sources of local funding and cooperation.
  - c) Evaluate the project sponsor's understanding of:
    - i) Its obligations under Title VI of the Civil Rights Act of 1964, the Disadvantaged Business Enterprise (DBE) Program, and the Americans with Disabilities Act; and
    - ii) The requirements associated with real estate acquisition and relocation in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, and FTA Circular 5010.D either with its own staff or with qualified consultants.

If the PMOC determines that the project sponsor's MCC is inadequate or weak in terms of (1) organization, personnel qualifications and experience, or (2) approach to the work, understanding of the work, or ability to perform the work, then the PMOC should make recommendations for corrective action along with a time frame for these actions.

## **7.0 REPORTS, PAPERS, PRESENTATIONS**

The PMOC shall provide the COR/ACOR with a written report, formatted in compliance with OP 01, of their findings, analyses, recommendations, professional opinions, and description of the review activities undertaken, as well as other supporting information.

After the COR/ACOR has transmitted formal acceptance of the report, the PMOC should share the report with the project sponsor. If there are differences of opinion between the PMOC and the project sponsor regarding the PMOC's findings, the COR/ACOR may direct the PMOC to reconcile their findings with the project sponsor and provide the COR/ACOR with a report addendum covering the modifications agreed upon by the project sponsor and PMOC.

When directed by the COR/ACOR, the PMOC shall perform data analysis and develop data models that meet FTA requirements using Microsoft Office products, such as Excel and Word, and use FTA templates when provided.

Upon approval by the COR/ACOR, the PMOC may add other software as required, but they should provide the COR/ACOR with documentation and report data when complete.

**APPENDICES**

**APPENDIX A: ACCEPTABLE QUALITY LEVEL..... A-1**

**APPENDIX B: MANAGEMENT CAPACITY AND CAPABILITY DOCUMENT  
REQUIREMENTS FOR MILESTONE REVIEWS ..... B-1**

**APPENDIX C: SAMPLE QUESTIONNAIRE..... C-1**

**APPENDIX D: SAMPLE SUMMARY OF STAFF QUALIFICATIONS..... D-1**

**APPENDIX E: SAMPLE AGENCY STAFF PROJECT LABOR DISTRIBUTION .. E-1**

**APPENDIX F: ACRONYMS .....F-1**

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**APPENDIX A: ACCEPTABLE QUALITY LEVEL**

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PLACEHOLDER





**APPENDIX B: MANAGEMENT CAPACITY AND CAPABILITY DOCUMENT REQUIREMENTS FOR MILESTONE REVIEWS**

<b>Symbol Legend</b>	▲ Preliminary information required	● Element to be completed	○ Element to be modified or augmented with additional information as necessary
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Management Capacity and Capacity Documents	Readiness Review for Engineering	Readiness Review for FFGA	In Bid / Award and/or Construction
Description (two pages max) of project sponsor's approach to project, covering:			
Entry to project development			
Entry to Engineering	●		
Bidding of major contracts through construction, testing, startup, revenue operations		●	○
Organizational Charts			
Agency	○	○	○
Project Team (agency staff and consultants)	●	○	○
Staff qualifications/experience chart	●	○	○
Description of roles, responsibilities, and interfaces among key project team members through responsibility matrix	●	○	○
Staffing Plan - Labor hour distribution over life of project	●	○	○
Copies of relevant RFPs, contracts, and agreements	▲	●	○
Description of Management Processes and Procedures			
Agency board decision-making authority	○	○	○
Agency leadership and executive staff decision-making authority	○	○	○

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Management Capacity and Capacity Documents	Readiness Review for Engineering	Readiness Review for FFGA	In Bid / Award and/or Construction
Project leadership and executive staff decision-making authority	▲	○	○
Legal services for contracts, Alternative Dispute Resolution (ADR)	○	○	○
Financial management, funding approval processes and authorities	○	○	○
Procurement services	○	○	○
Community outreach and relations, interface with State and Local agencies and media, public hearings	○	○	○
Resumes of project team members			
Project management			
Agency leadership	○	○	○
Project management lead	○	○	○
Legal services lead	○	○	○
Financial management and funding leads	○	○	○
Grants management lead	○	○	○
Procurement lead	○	○	○
Agency force account work lead	●	○	○
Community outreach lead	○	○	○
Environmental Assessment and Mitigation Leads			
Environmental study and NEPA document	●		
Environmental coordination with design/monitoring	●	○	
Environmental mitigation monitoring during construction		●	○
Travel forecasting lead	○	○	
Operations planning, fleet management planning leads	○	○	
Design team lead			

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<b>Management Capacity and Capacity Documents</b>	<b>Readiness Review for Engineering</b>	<b>Readiness Review for FFGA</b>	<b>In Bid / Award and/or Construction</b>
Civil	●	○	
Structural	●	○	
Guideway and track design	●	○	
Architectural	●	○	
Mechanical	●	○	
Electrical	●	○	
Plumbing	●	○	
Communications	●	○	
Vehicle design and manufacture	●	○	
Special equipment design and manufacture	●	○	
Investigation and testing lead	●	○	
Coordination with third parties lead	●	○	
Quality assurance and quality control lead	○	○	
Project Controls			
Project controls lead	○	○	○
Cost estimating and cost estimating review leads	○	○	○
Scheduling and schedule review leads	○	○	○
Risk assessment and mitigation lead		●	○
Construction, Permits, Testing, Start-up Leads			
Construction administration		●	○
Construction management		●	○
Acquisition of permits		●	○
Testing of systems and vehicles		●	○
Start-up and transition into revenue operations		●	○
Real estate lead	○	○	○
Safety and security review lead	○	○	



## **APPENDIX C: SAMPLE QUESTIONNAIRE**

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### **1. Organizational Experience – AGENCY Project History**

Agency to describe all projects in the last five years with a construction cost of \$100M or more. Provide description, cost, schedule, project delivery methods, issues, personnel, etc.

### **2. Questions for Key Individuals within AGENCY or not Project Team – note that the questions are tailored to the position within the organization.**

#### **VP/DIRECTOR OF CAPITAL PROJECTS**

1. What is your educational background? Do you have a copy of your resume?
  2. Briefly describe your work experience prior to coming to [AGENCY], especially on rail projects, projects of comparable dollar volume, and projects in similar municipalities.
  3. Describe AGENCY experience on large dollar projects in the last five years, including budget and schedule performance.
  4. How long have you worked with AGENCY and what positions have you held?
  5. Briefly describe your role and responsibilities as VP/Director of Capital Projects as they relate to the AGENCY's project.
  6. Describe actions taken by you to complete other similar sized projects on budget and schedule. What actions would you take if you saw the project overrunning the project budget and schedule?
  7. Describe your working relationship with other AGENCY departments. What resources, if any, are available for this project from the AGENCY's Capital Projects Group?
  8. What level of personal involvement do you anticipate in the following project activities:
    - a) Project management;
    - b) Financial management;
    - c) Design and engineering;
    - d) Environmental monitoring and reporting;
    - e) ROW acquisition;
    - f) Grants administration;
    - g) Project Controls;
    - h) QA/QC;
    - i) Safety and security;
    - j) Change order negotiation;
    - k) Dispute resolution; and
    - l) Final acceptance?
  9. Who do you report to and how do you interface with your boss? Did you work with your boss prior to this project?
  10. Who reports to you? What are their responsibilities? How do you interface with each person? Did you work with them prior to this project?
  11. Who has the authority to make personnel changes on this project?
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12. What additional AGENCY staff will be required beyond that described in PMP dated \_\_\_\_\_ (or the current staffing plan)? When do you plan to bring on the additional staff?
13. Please describe your interface with:
  - a) Project Director (AGENCY);
  - b) Chief Operating Officer (AGENCY);
  - c) Manager of Project QA QC and Safety (AGENCY);
  - d) Dep. Director Project Development (AGENCY);
  - e) Dep. Director Design (AGENCY);
  - f) Dep. Director Construction (AGENCY);
  - g) Manager of Rail Communications (AGENCY);
  - h) Dep. Director Project Finance (AGENCY);
  - i) Contracting Officer (AGENCY);
  - j) Project Manager; and
  - k) Other parties, as required.
14. What do you see as the main challenges to completing the project on schedule and within budget?
15. What do you see as the greatest engineering challenge and how would you address it?
16. What do you see as the greatest construction challenge and how would you address it?
17. What is your role in addressing those challenges?
18. Describe AGENCY management approach to limit scope increase changes to the project. How will scope issues (scope creep) generated by third party or operating entity review/technical support involvement be managed?
19. If you had to start over again, what would you do differently?

**PROJECT DIRECTOR**

1. What is your educational background? Do you have a copy of your resume?
2. Briefly describe your work experience prior to coming to AGENCY, especially on rail projects and projects of comparable dollar volume.
3. How long have you worked with AGENCY and what positions have you held?
4. Briefly describe your role and responsibilities as Project Director.
5. Describe your prior project experience that gave you the skills to perform the duties of project director on a project of this size.
6. Do you have a copy of the PMP? Do you have any concerns about assigned responsibilities?
7. What are your personal responsibilities and what AGENCY resources are available to assist you to fulfill your assigned responsibilities in following areas?
8. List the key support staff assigned to assist in these specific disciplines:
  - a) Environmental monitoring and reporting;
  - b) IGA interpretation/compliance;
  - c) Third-party coordination (treat these individually);

- d) ROW acquisition;
  - e) Grants administration;
  - f) PMP updating;
  - g) Project controls (AGENCY staff);
  - h) Contract administration;
  - i) Estimating;
  - j) CO/Claims;
  - k) Consultant oversight;
  - l) DBE monitoring;
  - m) Document control; and
  - n) Reporting.
9. Who do you report to and how do you interface with your boss? Did you work with your boss prior to this project?
  10. Who reports to you? What are their responsibilities? How do you interface with each person? Did you work with them prior to this project?
  11. Describe your working relationship with the AGENCY operations, engineering, and procurement.
  12. Do you envision needing AGENCY staff beyond that described in the PMP (or current staffing plan)? Will this be adequate?
  13. Please describe your interface with the following individuals (go up a level and down two levels on org chart).
  14. What do you see as the main challenges to completing the project on schedule and within budget?
  15. What is your role in addressing those challenges?
  16. Describe the role of the operating agency or any other third-party agency in the submittal review/approval process. How will scope issues (scope creep) generated by them, or review/technical support involvement be managed?
  17. What do you see as the greatest engineering challenge and how would you address it?
  18. What is your role in addressing those challenges?
  19. What do you see as the greatest construction challenge and how would you address it?
  20. What is your role in addressing those challenges?
  21. Were you involved in the development of the Quality Assurance/Quality Control Program Plan? If so, what was your responsibility?
  22. If you had to start over again, what would you do differently?

**PROJECT QA/QC MANAGER**

1. What is your educational background? Do you have a copy of your resume?
  2. Briefly describe your work experience prior to coming to AGENCY, especially on rail projects. What is your experience on projects of comparable dollar volume?
  3. How long have you worked with AGENCY, and what positions have you held?
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4. Briefly describe your role and responsibilities as Project QA/QC and Safety Manager.
  5. What AGENCY resources are available to assist you to fulfill your assigned responsibilities in following areas:
    - a) Preparation of AGENCY Quality Program Plan (QPP);
    - b) Implementing and maintaining QPP;
    - c) Preparation of AGENCY Safety and Security Management Plan (SSMP);
    - d) Implementing and maintaining SSMP;
    - e) Review of DESIGNER OR CONSTRUCTION CONTRACTOR OR DESIGN BUILD CONTRACTOR System Safety/Security Certification Management Plan;
    - f) DESIGNER OR CONSTRUCTION CONTRACTOR OR DESIGN BUILD CONTRACTOR Environmental, Safety and Health Plan;
    - g) DESIGNER OR CONSTRUCTION CONTRACTOR OR DESIGN BUILD CONTRACTOR procedures related to system and construction safety; and
    - h) Audits/reviews of AGENCY and consultants?
  6. Who do you report to, and how do you interface with them? Did you work with this individual prior to this project?
  7. Who reports to you? What are their responsibilities? How do you interface with each other? Did you work with them prior to this project?
  8. When will the Project QA/QC Supervisor and Project Safety Supervisor be hired?
  9. Do you envision the need for additional AGENCY staff beyond that described in the PMP, or do you believe staffing is adequately addressed?
  10. Please describe your interface with the VP/Director of Capital Projects, Project Director, and all Deputy Directors.
  11. What do you see as the main challenges to completing the project on schedule and within budget?
  12. What do you see as the greatest engineering challenge and how would you address it?
  13. What do you see as the greatest construction challenge and how would you address it?
  14. What was your responsibility in the development of the Quality Program Plan (QPP)?
  15. Were you involved in the development of the PMP? Does it reflect the appropriate QPP commitments?
  16. Are you satisfied with the consultants and AGENCY Quality Plans? What improvements would you like to see?
  17. Have you prepared a safety certification checklist and schedule? How is it updated?
  18. Audits:
    - a) Who is audited?
    - b) Construction safety?
    - c) Frequency?
    - d) Who assists?
    - e) Follow up on findings?
    - f) Does AGENCY management support this process?
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- g) Are you satisfied with the audit process?
- h) How can the process be improved?
- 19. What do you see as the main challenges to obtaining safety certification?
- 20. How do you interface with the operating agency on this issue?
- 21. What is your recruitment plan for the QA Specialist and Project Safety Supervisor?
- 22. Describe the process you envision to interface with the contractor's Safety and Security Manager.
- 23. Has [AGENCY] provided training to agency and consultant staff on the project's QPP and [AGENCY]'s Project Management Procedures in accordance with the QPP? If so, is there documentation of training sessions (attendee sign-in sheets, training agenda and materials, etc.)?
- 24. Has the QPP been distributed to all personnel assigned to the Project (AGENCY, THE OPERATING AGENCY, CONSULTANTS, etc.)? Is there documentation of which Project staff members have received the QPP?
- 25. Have the Project Management Procedures established for this Project been distributed to all assigned project personnel (AGENCY, THE OPERATING AGENCY, CONSULTANTS, etc.)? Is there documentation of which Project staff members have received the procedures?

**PROJECT SAFETY AND SECURITY MANAGER**

- 1. What is your educational background? Do you have a copy of your resume?
- 2. Briefly describe your work experience prior to coming to AGENCY, especially on rail projects. What is your experience on projects of comparable dollar volume?
- 3. How long have you worked with AGENCY, and what positions have you held?
- 4. Briefly describe your role and responsibilities as Project Safety & Security Manager.
- 5. What AGENCY resources are available to assist you to fulfill your assigned responsibilities in following areas:
  - a) Preparation of AGENCY Public Transportation Agency Safety Plan (PTASP);
  - b) Implementing and maintaining ASP;
  - c) Preparation of AGENCY Safety and Security Management Plan (SSMP);
  - d) Implementing and maintaining SSMP;
  - e) Review of DESIGNER OR CONSTRUCTION CONTRACTOR OR DESIGN BUILD CONTRACTOR System Safety/Security Certification Management Plan;
  - f) DESIGNER OR CONSTRUCTION CONTRACTOR OR DESIGN BUILD CONTRACTOR Environmental, Safety and Health Plan;
  - g) DESIGNER OR CONSTRUCTION CONTRACTOR OR DESIGN BUILD CONTRACTOR procedures related to system and construction safety; and
  - h) Audits or reviews of AGENCY and consultants?
- 6. Who do you report to, and how do you interface with them? Did you work with this individual prior to this project?



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7. Who reports to you, what are their responsibilities, and how do you interface with each other? Did you work with them prior to this project?
8. When will the Project Safety & Security Supervisor be hired?
9. Do you envision the need for additional AGENCY staff beyond that described in the PMP? Or do you believe staffing is adequately addressed?
10. Please describe your interface with the VP/Director of Capital Projects, Project Director, and all deputy directors.
11. What do you see as the main challenges to completing the project safely and securely?
12. What do you see as the greatest engineering challenge and how would you address it?
13. What do you see as the greatest construction challenge and how would you address it?
14. What was your responsibility in the development of the ASP and SSMP?
15. Were you involved in the development of the PMP? Does it reflect the appropriate ASP and SSMP commitments?
16. Are you satisfied with the consultants and AGENCY ASP and SSMP? What improvements would you like to see?
17. Have you prepared a safety certification checklist and schedule? How is it updated?
18. Audits:
  - a) Who is audited?
  - b) Construction safety?
  - c) Frequency?
  - d) Who assists?
  - e) Follow up on findings?
  - f) Does AGENCY management support this process?
  - g) Are you satisfied with the audit process?
  - h) How can the process be improved?
19. What do you see as the main challenges to obtaining safety certification?
20. How do you interface with the operating agency on this issue?
21. What is your recruitment plan for the Project Safety Supervisor?
22. Describe the process you envision to interface with the contractor's Safety and Security Manager.
23. Has AGENCY provided training to agency and consultant staff on the project's ASP and SSMP and AGENCY's project management procedures in accordance with the ASP and SSMP? If so, is there documentation of training sessions (attendee sign-in sheets, training agenda and materials, etc.)?
24. Have the ASP and SSMP been distributed to all personnel assigned to the project (AGENCY, THE OPERATING AGENCY, CONSULTANTS, etc.)? Is there documentation of which project staff members have received the ASP and SSMP?

**DEPUTY DIRECTOR OF PROJECT FINANCE**

1. What is your educational background? Do you have a copy of your resume?
2. Briefly describe your work experience prior to coming to AGENCY, especially on rail projects. In addition, what is your experience on projects of comparable dollar volume?
3. How long have you worked with AGENCY, and what positions have you held?
4. Briefly describe your role and responsibilities as Deputy Director of Project Finance. Are you assigned to the project full time?
5. Do you have a copy of the PMP? Do you have any concerns about assigned responsibilities?
6. What are your personal job responsibilities and what AGENCY resources are available to assist you to fulfill your assigned responsibilities in following areas:
  - a) Development of detailed financial plan;
  - b) Development of financial documentation in support of 13690 submittal;
  - c) Development of financial documentation in support of FFGA;
  - d) Development of project funding agreements;
  - e) Maintaining cash flow requirements based on contract need;
  - f) Management of capital funding sources to ensure funding matches construction draw down schedule;
  - g) Coordination with AGENCY Financial Management Division on finance and accounting support; and
  - h) Coordination with funding partners to identify funding and support debt issuances?
7. Who do you report to, and how do you interface with them (AGENCY VP of Finance)? Did you work with this individual prior to this project?
8. Explain the indirect reporting relationship with the Project Director. Do you foresee any problems arising due to this relationship structure? If so, please explain.
9. Who reports to you, what are their responsibilities, and how do you interface with each other? Did you work with them prior to this project?
10. Do you envision the need for additional AGENCY staff beyond that described in the PMP, or is it adequate?
11. Please describe your interface with the VP/Director of Capital Projects, Project Director, and all deputy directors, etc.
12. What do you see as the main challenges to completing the project on schedule and within budget?
13. Describe the process of obtaining funding for the operating agency or local municipality imposed preferential (out of scope) changes.
14. Describe the process of obtaining funding required beyond the budget.
15. Describe how the financial reporting and aspects of the project can be improved.

**MANAGER OF PUBLIC AFFAIRS & COMMUNICATIONS**

1. What is your educational background? Do you have a copy of your resume?
2. Briefly describe your work experience prior to coming to AGENCY, especially on rail projects and on projects of comparable dollar volume.
3. How long have you worked with AGENCY and what positions have you held?
4. Briefly describe your role and responsibilities as Manager of Rail Communications.
5. Do you have a copy of the most recent PMP? Do you have any concerns about your assigned responsibilities?
6. What are your personal responsibilities and what AGENCY resources are available to assist you to fulfill your assigned responsibilities in following areas:
  - a) Press releases;
  - b) News conferences;
  - c) Ground-breaking events;
  - d) Town meetings;
  - e) Management of Arts in Transit Program;
  - f) Communications with public officials;
  - g) Communication of traffic impacts (planned and unplanned);
  - h) Media relationships; and
  - i) Online communications?
7. Whom do you report to, and how do you interface with them? Did you work with your boss prior to this project?
8. Who provides you with the approval or direction to share information with the public?
9. How do you ensure that a consistent message is sent to community or media from the project team?
10. Who reports to you, what are their responsibilities, and how do you interface with each other? Did you work with them prior to this project?
11. Do you envision the need for additional AGENCY staff beyond that described in the PMP? Or is this adequate?
12. Please describe your interface with the VP/Director of Capital Projects, Project Director, and all deputy directors.
13. What do you see as the greatest community impact and how will you address it?
14. Do you have a copy of the Communications and Outreach Plan? Have you reviewed it?
  - a) Has this plan been shared with the project team (AGENCY, CONSULTANTS, etc.)? How often will this plan be updated?
  - b) Who is the individual responsible for the oversight and execution of this plan?
15. How often is the project's website updated? Who is responsible for ensuring the content on the website is accurate and up to date?
16. What is the protocol for responding to a media inquiry concerning the project?

17. Are there strategies or protocols for emergency situations (i.e., construction accident requiring closure of a major roadway)? If so, where can they be found, and is the project team (AGENCY, CONSULTANTS, etc.) aware of these protocols?

**DEPUTY DIRECTOR OF PROJECT DEVELOPMENT**

1. What is your educational background? Do you have a copy of your resume?
2. Briefly describe your work experience prior to coming to AGENCY, especially on rail projects, projects of comparable dollar volume, and projects in same municipalities.
3. How long have you worked with AGENCY and what positions have you held?
4. Briefly describe your role and responsibilities as Deputy Director of Project Development. How much time do you expect to devote to this project?
5. Do you have a copy of the PMP? Do you have any concerns about your assigned responsibilities?
6. Describe your prior project experience that gave you the skills to perform the duties of Deputy Director of Project Development on a project of this size.
7. At the current stage of the project, please describe the different responsibilities of project development and project design?
8. What are your personal responsibilities and what AGENCY resources are available to assist you to fulfill your assigned responsibilities in following areas:
  - a) Management of environmental mitigation compliance during design and construction (explain reporting process);
  - b) Management of coordination with local, state, and federal agencies (ROW acquisition; identify key entities and contact personnel);
  - c) Management of “Before and After Study;”
  - d) Development and execution of project agreements (identify major agreements that you would be responsible for developing and executing);
  - e) Coordination with regional transportation plan (what are your responsibilities in this area?);
  - f) Coordination with other active Federal, State, and county projects;
  - g) Coordination of ROW acquisition; and
  - h) Coordination of permit applications including environmental?
9. Who do you report to and how do you interface with your boss? Did you work with your boss prior to this project?
10. Who reports to you, what are their responsibilities, and how do you interface with each person? Did you work with them prior to this project?
11. Describe your working relationship with the AGENCY Engineering Department.
12. Do you envision needing AGENCY staff beyond that described in the PMP? Is this adequate?
13. Please describe your interface with the Project Director, all deputy directors, the operating agency, and other third parties.

14. What do you see as the main challenges to completing the project on schedule and within budget?
15. What is your role in addressing those challenges?
16. Describe role of OPERATING AGENCY in submittal review and approval process. How will scope issues (scope creep) generated by the OPERATING AGENCY review and technical support involvement be managed?
17. What do you see as the greatest engineering challenge and how would you address it?
18. What do you see as the greatest construction challenge and how would you address it?
19. Were you involved in the development of the Quality Assurance/Quality Control Program Plan? If so, what were your responsibilities?
20. If you had to start over again, what would you do differently?

*For all the following positions, ask similarly tailored questions:*

- **Deputy Director Design/Engineering**
- **Deputy Director of Construction**
- **Contracting Officer**
- **Manager of Real Estate**





**APPENDIX E: SAMPLE AGENCY STAFF PROJECT LABOR DISTRIBUTION**

**Table 1: Sample Agency Staff Project Labor Distribution {using full time equivalents (FTE) where 1 FTE = 160 hours/month}**

Position	Individual	2008	2008												2009	2009											
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Executive Director		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Deputy Executive Director		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Administrative Specialist		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Administrative Assistant/Reception		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Civil Systems Integration Manager		2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4
Chief of Staff		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Electrical Engineer		0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Senior Civil/Structural Engineer		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Administrative Assistant - Civil Engineering		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Director's Office FTE Total		2.0	1.3	1.3	1.3	1.3	1.3	1.8	2.2	2.7	2.7	2.7	2.7	2.7	2.0	1.3	1.3	1.3	1.3	1.3	1.8	2.2	2.7	2.7	2.7	2.7	2.7
Program Manager		0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Project Manager		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Project Development Coordinator		0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Project Manager		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Project Manager		0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.4	0.4	0.4	0.4
Project Development Manager		1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Project Development Coordinator		0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5	1.0	1.0	1.0	1.0	1.0	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.5	1.0	1.0	1.0	1.0	1.0
Administrative Assistant		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Project Manager		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Project Development FTE Total			3.2	2.1	1.2	0.2	6.6		3.2	2.1	1.2	0.2	6.6	3.2		3.2	2.1	1.2	0.2	6.6		3.2	2.1	1.2	0.2	6.6	3.2

**TPM-20 Office of Capital Project Management  
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Position	Individual	2008	2008												2009	2009											
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Civil Engineering Manager																											
Senior Civil Engineer																											
Senior Architect																											
Architect																											
Architect																											
Senior Civil Engineer																											
Senior Civil Engineer																											
Civil Engineer																											
Permits Administrator																											
Permit Assistant																											
Senior Civil Engineer																											
Civil Engineer																											
Right of Way Assistant																											
Administrative Assistant																											
CADD Operator																											
CADD Operator																											
Civil Engineering FTE Total																											
Systems Engineering Manager																											
Engineering Systems Inspector																											
Senior Systems Inspector																											
Senior Systems Engineer																											
Senior Systems Engineer																											
Senior Systems Engineer																											
Systems Engineer																											
Senior Systems Engineer																											
Systems Engineer																											
Senior Systems Engineer																											
Systems Engineer																											



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Position	Individual	2008	2008												2009	2009											
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Senior Systems Engineer																											
Administrative Assistant																											
Systems Engineering FTE Total																											
Project Control Manager																											
Project Control Specialist																											
Project Control Lead																											
Project Control Specialist/Scheduler																											
Document Control Coordinator																											
Project Control Specialist/Scheduler																											
Project Control Specialist																											
Project Control Specialist																											
Document Control Coordinator																											
Document Control Coordinator																											
Project Control Specialist																											
Document Control Coordinator																											
Project Control Coordinator																											
Project Manager																											
Senior Project Controls Engineer/ Senior Estimator																											
Administrative Assistant																											
Project Controls FTE Total																											
Construction Manager																											
Project Coordinator																											
Construction Manager																											
Construction Manager																											

**TPM-20 Office of Capital Project Management  
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Position	Individual	2008	2008												2009	2009											
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Civil Engineer																											
Construction Manager																											
Quality Control Specialist																											
Deputy Construction Manager																											
Deputy Construction Manager																											
Project Manager																											
Senior Civil Engineer																											
Construction Coordinator																											
Construction Management FTE Total																											
Program Manager																											
Community Outreach Specialist																											
Community Outreach Coordinator																											
Community Outreach Specialist																											
Community Outreach Specialist																											
Administrative Assistant																											
Project Assistant																											
Community Outreach Coordinator																											
Community Outreach Coordinator																											
Project Manager																											
Community Outreach Specialist																											
Community Outreach FTE Total																											
Program Manager																											
Environmental Planner																											

**TPM-20 Office of Capital Project Management  
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Position	Individual	2008	2008												2009	2009											
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Environmental FTE Total																											
Real Property Manager																											
Senior Real Estate Representative																											
Senior Real Estate Representative																											
Appraisal Manager																											
Administrative Analyst																											
Project Coordinator																											
Project Coordinator																											
Project Assistant																											
Administrative Assistant																											
Real Estate FTE Total																											

Subtotal Agency Staff FTEs		2.0	4.5	3.4	2.5	1.5	7.9	1.8	5.4	4.8	3.9	2.9	9.3	5.9	2.0	4.5	3.4	2.5	1.5	7.9	1.8	5.4	4.8	3.9	2.9	9.3	5.9
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**Table 2: Sample Systems Consultant Labor Distribution Plan (Using hours/month instead of FTEs) }**

Description	2007												2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Project Management and Control							54	77	61	80	61	64	74	58	76	100	80	80	173	144	137	180	137	180
Project Manager						40	50	96	61	80	61	64	74	58	61	80	64	64	192	160	152	200	152	200
Project Controls Mgr						40	8	10	8	10	8	8	9	7	8	10	8	8	19	16	15	20	15	20
Project Controls						8	80	96	76	100	76	80	92	72	76	100	80	80	192	160	152	200	152	200

**TPM-20 Office of Capital Project Management  
Project Management Oversight**

Description	2007												2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Administrative Support						40	48	58	15	20	15	16	18	14	15	20	16	16	58	48	46	60	46	60
QA Manager							16	19	15	20	15	16	18	14	15	20	16	16	38	32	30	40	30	40
Diversity Management							16	19	15	20	16	16	18	14	15	20	16	16	19	16	15	20	15	20
Central Link Liaison							8	10	8	10	8	8	9	7	8	10	8	8	19	16	15	20	15	20
HMM Project Manager																								
Systems and Project Integration																								
Systems Integration Mgr							48	58	46	60	48	48	55	43	46	60	48	48	58	48	46	60	46	60
Design Integration Engineer							64	77	61	80	61	64	74	58	61	80	64	64	77	64	61	90	61	80
Light Rail Vehicle (LRV)																								
Light Rail Vehicle (LRV) Mgr						0	0	0	0	0	0	0	0	0	23	30	24	24	29	24	23	30	23	30
Various						0	0	0	0	0	0	0	0	0	15	20	16	16	19	16	15	20	15	20
Inspection						0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	200	152	200
Inspection						0	0	0	0	0	0	0	0	0	0	0	0	0	77	64	61	80	61	80
Traction Electrification System																								

**TPM-20 Office of Capital Project Management  
Project Management Oversight**

Description	2007												2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Traction Electrification System Mgr						40	80	96	76	100	76	80	92	72	76	100	80	80	134	112	106	140	106	140
Simulations						0	0	0	0	20	15	16	18	14	15	20	16	16	19	16	15	20	15	20
TPSS Engineer						0	16	19	15	20	15	16	18	14	30	40	32	32	96	80	76	100	76	100
TPSS Ground Mat Design						0	8	10	8	10	8	8	9	7	8	10	8	8	38	32	30	40	30	40
Ceng						0	16	19	15	20	15	16	18	14	15	20	16	16	19	16	15	20	15	20
OCS Design Engineer						0	16	19	15	20	15	16	18	14	15	20	16	16	154	128	122	160	122	160
OCS Design Engineer						0	0	0	0	0	0	0	0	0	0	0	0	0	58	48	46	60	46	60
OCS Support						0	8	10	8	10	8	8	9	7	8	10	8	8	19	16	15	20	15	20
Corrosion Mitigation						0	8	10	8	10	8	8	9	7	15	20	16	16	38	32	30	40	30	40
EMI Coordinator						0	32	38	30	40	30	32	37	29	30	40	32	32	58	48	46	60	46	60
Utilities Coordination						0	16	19	15	20	15	16	18	14	15	20	16	16	19	16	15	20	15	20
QC Manager						0	0	0	0	0	0	0	0	0	8	10	8	8	38	32	30	40	30	40
Quality Control						0	0	0	0	0	0	0	0	0	8	10	8	8	38	32	30	40	30	40
Systemwide Electrical																								
Systemwide Electrical Mgr						40	80	96	76	100	76	80	92	72	76	100	80	80	96	80	76	100	76	100
Systemwide Electrical						0	16	19	16	20	16	16	18	14	15	20	16	16	96	80	76	100	76	100
Quality Control						0	0	0	0	20	16	16	16	14	15	20	16	16	19	16	15	20	15	20

**TPM-20 Office of Capital Project Management  
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Description	2007												2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Signal System																								
Signal System Mgr						48	58	48	60	46	48	55	43	46	60	48	48	115	96	91	120	91	120	86
Design Support						16	19	15	20	15	16	18	14	15	20	16	16	77	64	61	80	61	80	58
Block Design						16	19	15	20	15	16	18	14	15	20	16	16	38	32	30	40	30	40	29
Civil Coordination						48	58	48	60	46	48	55	43	46	60	48	48	98	80	76	100	76	100	72
Quality Control						0	0	0	0	0	0	0	0	8	10	8	8	10	8	8	10	8	10	7
Communications System																								
Communications System Mgr						40	800	96	76	100	76	80	92	72	76	100	80	80	192	160	152	200	152	200
Design Support							0	0	0	0	0	0	0	0	0	0	0	0	77	64	61	80	61	80
Central Control Design							16	19	15	20	15	16	18	14	30	40	32	32	96	80	76	100	76	100
Radio							16	19	15	20	15	16	18	14	15	20	16	16	58	48	46	80	46	80
QC and Special Studies							16	19	15	20	15	16	18	14	15	20	16	16	96	80	76	100	76	100
CADD																								
CADD Mgr						40	80	96	76	100	76	80	92	72	76	100	80	80	192	160	152	200	152	200
Design Integration Engineer						0	16	19	15	20	15	16	18	14	15	20	16	16	58	48	46	50	46	60
CADD Support						0	0	0	0	20	15	16	18	14	15	20	16	16	58	48	46	50	46	60
Operations Planning																								

**TPM-20 Office of Capital Project Management  
Project Management Oversight**

Description	2007												2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Planner						0	32	38	30	40	30	32	37	29	30	40	32	32	38	32	30	40	30	40
Design Services During Construction																								
LRV P821																								
Signal Systems 822																								
Communication Systems 823																								
TPSS/OCS Systems 827																								
Radio Systems 826																								
Project Manager during Start-up																								
Fare Collection 829																								
Inspectors 822 - No allowance has been made (Current Employee)																								
Total Hours						416	1818	1307	1050	1352	1067	1130	1238	1010	1210	1506	1232	1434	3054	2578	2546	3366	2698	3362
Total FTE's based on 160hrs/month						2.6	11.4	8.2	6.6	8.5	6.7	7.1	7.7	6.3	7.6	9.4	7.7	9.0	19.1	16.1	15.9	21.0	16.9	21.0

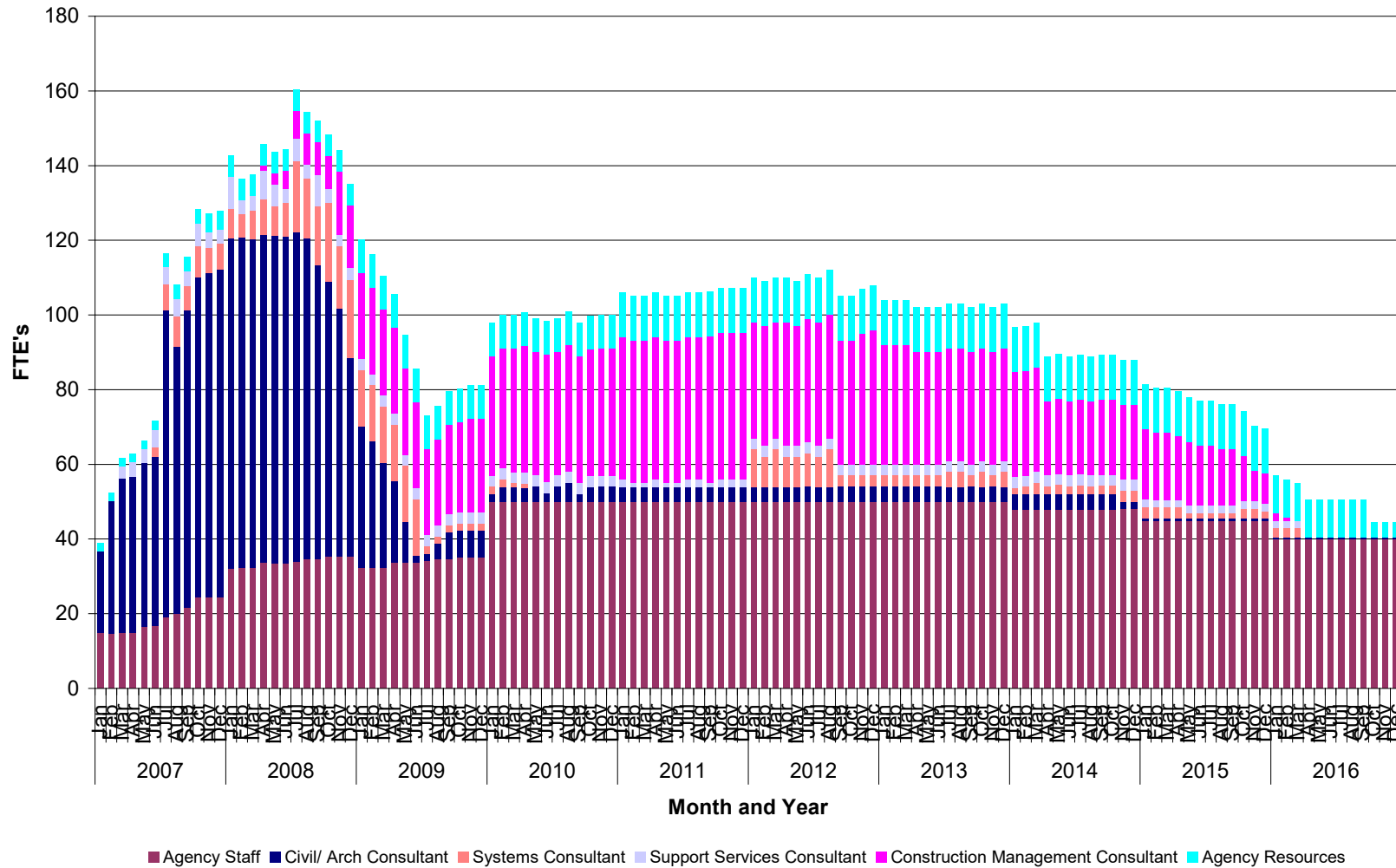
**Table 3: Sample Labor Distribution Summary Plan**

Labor Category	FTE's																							
	2007												2008											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Agency Staff	14.8	14.8	14.8	14.9	16.5	16.8	19.1	19.9	21.7	24.3	24.3	24.5	32.2	32.2	32.4	33.6	33.6	33.6	34.1	34.7	34.7	35.2	35.2	35.2
Civil/Arch Consultant	22	35.3	41.5	41.9	44	45.3	82.1	71.7	79.5	85.8	87.1	87.6	88.3	88.6	87.9	87.9	87.8	87.4	88	85.9	78.6	73.8	66.4	53.3
Systems Consultant	0	0	0	0	0	2.6	7.1	8.1	6.6	8.5	6.6	7.1	7.8	6.3	7.6	9.4	7.7	9	19.1	16.1	15.9	21	16.9	20.9
Support Services Consultant	0	0	3.1	3.8	3.6	4.7	4.6	4.6	3.8	5.8	4.2	3.8	8.8	3.7	3.9	7.6	6	3.7	6	3.5	8.3	3.7	3	3.2
Construction Management Consultant	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.6	2.8	4.9	7.5	8.5	8.8	9	16.8	16.8
Agency Resources	2.2	2.2	2.2	2.2	2.2	2.3	3.6	3.8	3.9	3.9	5	5	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7	5.7



Sample Staffing Plan Over Project Life

Sample Staffing Plan





**APPENDIX F: ACRONYMS**

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<b>Acronym</b>	<b>Term</b>
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

**TPM-20 Office of Capital Project Management  
Project Management Oversight**

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

**TPM-20 Office of Capital Project Management  
Project Management Oversight**

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

**TPM-20 Office of Capital Project Management  
Project Management Oversight**

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

**TPM-20 Office of Capital Project Management  
Project Management Oversight**

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

**TPM-20 Office of Capital Project Management  
Project Management Oversight**

<b>Acronym</b>	<b>Term</b>
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

**TPM-20 Office of Capital Project Management  
Project Management Oversight**

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