Spokane Regional Light Rail Project
Implementation Plan

Spokane County Washington

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Spokane Transit

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1 INTRODUCTION AND GENERAL INFORMATION

1.1 Purpose of the Project Implementation Plan

The purpose of the Spokane South Valley Corridor Light Rail Project Implementation Plan (IP) is threefold:

1) The plan provides an outline of the overall body of work necessary to successfully implement the proposed light rail project for the South Valley Corridor. To that end, the plan will identify major elements of work and significant milestones through start of revenue service;

2) It will identify cost issues, highlight project risks that could impact project execution, and outline feasible funding options that demonstrate a realistic approach upon which the project can proceed with an assurance of local affordability;

3) The plan specifically focuses on the next, most immediate phase of project development by establishing a framework for administering this complex project through the Preliminary Engineering phase. Moreover, it will suggest project management procedures and organizational structure within Spokane Transit Authority (STA) as it relates to project implementation. Finally, it will propose a guideline for the orderly interaction of the multiple agencies, organizations, and staff involved in, and committed to, this project.

The Project Implementation Plan is a framework. Managers and staff implementing the plan will provide additional, more detailed working procedures in the context of the day-to-day management of each function or task.

The Implementation Plan contains the following fourteen sections:

1. Introduction and General Information
2. Organization and Staffing
3. Management and Administration
4. Contracts and Procurement
5. Risk Management
6. Project Finance
7. Project Control
8. Agreements
9. Real Estate Acquisition
10. Public Involvement
11. Preliminary Engineering Work Plan
12. Final Design (To be determined)
13. Construction (To be determined)
14. System Testing and Start-up (To be determined)

This document places emphasis on items 1 through 11, for the Preliminary Engineering phase of the project, recognizing that it will be expanded to include detailed treatment of items 12 through 14 as the project progresses towards actual implementation. The Implementation Plan is a mechanism for communicating the objectives of the Project to all participants. It sets forth the overall management strategy and the responsibilities, authorities, and procedures guiding their portions of the project. In addition, the Plan establishes standards by which project performance will be measured.

The development of the Project Implementation Plan will be an evolutionary process. The Plan will be updated and revised as needed. The maintenance of and subsequent revisions to the Plan are the responsibility of the STA Light Rail Project Manager.

1.2 Project Philosophy

The Spokane South Valley Light Rail Project is also referred to as the Spokane Regional Light Rail Project, reflecting the intent that it is a key component of a regional transportation system. The project intends to seek funding through a combination of federal, state and local sources as described later in this document with local resources comprising a large portion of the initial investment in what is envisioned to become a regional light rail system. Cost containment is an ethic that will need to permeate every aspect of the project. Value engineering will be an ongoing activity as opposed to only a single event at the end of Preliminary Engineering. A value-engineering event will still occur to review Preliminary Engineering as a whole at the end of the Preliminary Engineering effort. Design standards, station finishes and amenities will be revisited in order to contain project costs.

While early phases of work have indicated broad local support for the project, it is recognized that its success will largely be based on the Project team's ability to develop a cost-effective and functional project making the best use of public funds. The commitment to develop a project in this way is unwavering and all project participants must share this philosophy in order to optimize the public's investment.

A Statement of Project Purpose and a set of goals for the project has been established through the mutual and collective priorities of many participating entities, including STA, the Spokane Regional Transportation Council (SRTC), the City of Spokane, the City of Liberty Lake, the City of Spokane Valley and Spokane County. In addition, these goals have been reviewed and adopted by the Project's Citizens Advisory Committee, Steering Committee and STA's Board of Directors during the Conceptual Design and Alternatives Analysis stage. The region has a longstanding commitment to maintaining livability through sound growth planning and management. Significant challenges are being faced as a consequence of continuous growth in the region. Effective links between transportation planning and land use patterns are seen as high-leverage opportunities to balance growth and livability forces.

In response to these challenges and opportunities, the Spokane South Valley Light Rail Project has established the following four core purposes:

- Help implement the Spokane region's strategy to promote and encourage mixed and transit-oriented land uses.
- Provide additional transportation mode choice in the South Valley Corridor to create an integrated, balanced regional transportation system.
- Link important activity centers in the Spokane region to enhance regional mobility for the growing population and labor force by taking advantage of available publicly owned former railroad right-of-way, which lies along the South Valley Corridor.
- Use integrated regional transportation planning as a catalyst for growth management and economic development. The issues are time-sensitive and need attention in the near term in order to respond proactively to growing regional populations and dynamic market forces.

The STA Board of Directors adopted these goals for the project on July 28, 2004:

- Maximize mobility improvements;
- Maximize environmental benefits;
- Maximize cost effectiveness;
- Maximize operating efficiencies;
- Maximize mutual support between Transit and Land Use;
- Ensure Project Affordability: limit the initial and recurring costs to amounts the community is able to fully fund;
- Maximize Potential for Economic Development;
- Maximize Potential for Community Development; and
- Respond to Community Preferences regarding high-capacity transit.

1.3 Regional Context

This project is envisioned to become a component of an expanding regional multi-modal transportation system. It is important that it be developed in concert with the Comprehensive Plans of the Cities in the corridor and Spokane County, and the multiple modes making up the region's transportation system. The South Valley Corridor Light Rail Project is envisioned to be the first segment of a future multi-corridor light rail system. It will provide light rail service from Downtown Spokane east to the City of Liberty Lake. Other future extensions are anticipated to include 1) a connection west to the Spokane International Airport/West Plains; 2) a connection to North Spokane; and 3) an extension of the South Valley Corridor east into Idaho, to the City of Coeur d'Alene. Economic studies have indicated a significant potential for transit oriented development to occur around several light rail stations in the South Valley Corridor.

In addition to a multi-corridor light rail system, the region envisions continuing to expand its regional bus services, paratransit services, and regional rideshare program, resulting in an integrated multi-modal public transportation system. STA is in the process of developing a new strategic, long-range Comprehensive Transit Plan (CTP) which will encompass a 15-year planning horizon. The CTP will incorporate this light rail project along with other emerging projects in the region.

1.4 Project Background and Planning

Examination of high capacity transit (HCT) options in the South Valley corridor has been an integral part of the Spokane transportation system planning for over two decades. Beginning in the early 1980's, the region began to bring into focus the opportunity to create a transportation system that provides transportation choices to the public rather than emphasizing one mode of transportation over others. Providing for the mobility of people and goods into and through the Spokane Metropolitan area became the focus rather than the movement of cars.

During the early 1980's, Spokane Transit Authority (STA) transitioned from a City owned transit system to a Public Transportation Benefit Area Authority. Through voter approval, STA collects 0.6 cents sales tax to support public transportation inside its service area. In the early 1990's, Spokane was among the first metropolitan areas in the nation to create an inter-modal passenger terminal, bringing together STA service, inter-city bus service, AMTRAK, and taxi service into one location to improve public transportation options. This was followed soon after by STA providing direct service from downtown Spokane to the Spokane International Airport.

The Metropolitan Transportation Plan (MTP) adopted by the Spokane Regional Transportation Council recognizes the need to create a balanced transportation system through strategic investments in highways, railroads, aviation, non-motorized and public transportation systems. The Spokane Regional Light Rail Project is the continuation of this well-established regional transportation strategy to enhance and expand the role of public transportation in the Spokane Metropolitan area. Population and employment forecasts indicate growth and development will continue to expand between the City of Spokane and Coeur d'Alene Idaho. This continued growth will result in significant increases in travel demand between Spokane County and Kootenai County. Traffic volumes on existing and planned highways will continue to increase, while the ability to physically expand roadway capacity becomes limited in the built-out urban environment because of older established neighborhoods adjacent to existing facilities.

In addition, Spokane's geographic setting with steep hillsides and a narrow valley floor creates an hourglass effect when it comes to regional east-west transportation movement. As a result, the ability to create new transportation corridors becomes limited and the need to redefine existing transportation corridors more essential. The Spokane Regional Light Rail Project capitalizes on reestablishing the role of an existing transportation corridor that was created in the late 1800's to provide access to the Spokane area by the railroads. Using abandoned railroad right-of-way acquired and preserved by Spokane County as well as right-of-way owned by the Union Pacific Railroad, the project provides a unique ability to provide a regionally significant public transportation alternative to support growth and development.

The project is an integral part of the Metropolitan Transportation Plan's investment strategy for the next twenty years to address mobility, transportation choice, improved air and water quality,and stimulate economic redevelopment in an established transportation corridor.

Following is a chronology of the background of rail transit operations and planning in the Spokane Region:

Late 1880's	Two street railway systems began service, operated by: ▪ Washington Water Power Company ▪ Spokane Traction Company
Circa 1922	Two systems combined to become the Spokane United Railways
Circa 1936	Rail transit service ceased operations, leaving motor bus services
Circa 1974	Washington State DOT conducted cursory study of light rail potential
Circa 1983	Washington State DOT updated light rail potential
1993	Spokane Regional Transportation Council (SRTC) begins High Capacity Transit (HCT) System Plan Phase 1. County Wide Planning Policies direct look at HCT corridors for developing comprehensive land use plans.
1994	SRTC finishes HCT System Plan Phase 2, which indicates South Valley Corridor has highest potential for successful HCT Implementation.
1995	SRTC starts South Valley Corridor Major Investment Study to review reasonable alternatives in the corridor. HOV, Busway, Light Rail alternatives considered.
1997	SRTC Board selects light rail as the preferred alternative and directs the development of environmental documents to further define project.
1998	SRTC conducts public and agency scoping meetings to identify concerns.
2000	SRTC and STA agree to joint development of Spokane Light Rail Project and SRTC delivers Spokane Light Rail Project Environmental Assessment (EA) to Federal Transit Administration (FTA).
2001	STA initiates conceptual design activities for light rail in the South Valley Corridor from downtown Spokane to Liberty Lake.
2002	STA initiates development of lower cost strategies for light rail alternatives in the South Valley Corridor.
2003	STA initiates further development of lower cost strategies for light rail in the corridor and decides to consider Bus Rapid Transit alternatives in concert with light rail studies.
2004	STA continues to refine LRT alternatives definition and initiates development of a draft environmental impact statement (DEIS)

2005 Alternatives Analysis for the South Valley Corridor and DEIS comparing alternatives is approved by the FTA, Region X.

2006 DEIS is distributed for public comment. The Steering Committee submits its report summarizing the analysis with conclusions and recommendations. SRTC and the City of Liberty Lake pass resolutions supportive of a light rail project along the recommended alignment with a not to exceed capital cost of $300M in 2006 dollars. STA Board passes a resolution accepting the proposed alignment, for the purpose of continued planning, and directed the Steering Committee to develop viable funding alternatives that encompassed the capital costs, real estate acquisition, and sustained operations upon revenue service.

1.5 Project Description/Corridor Overview (See Alignment Map)

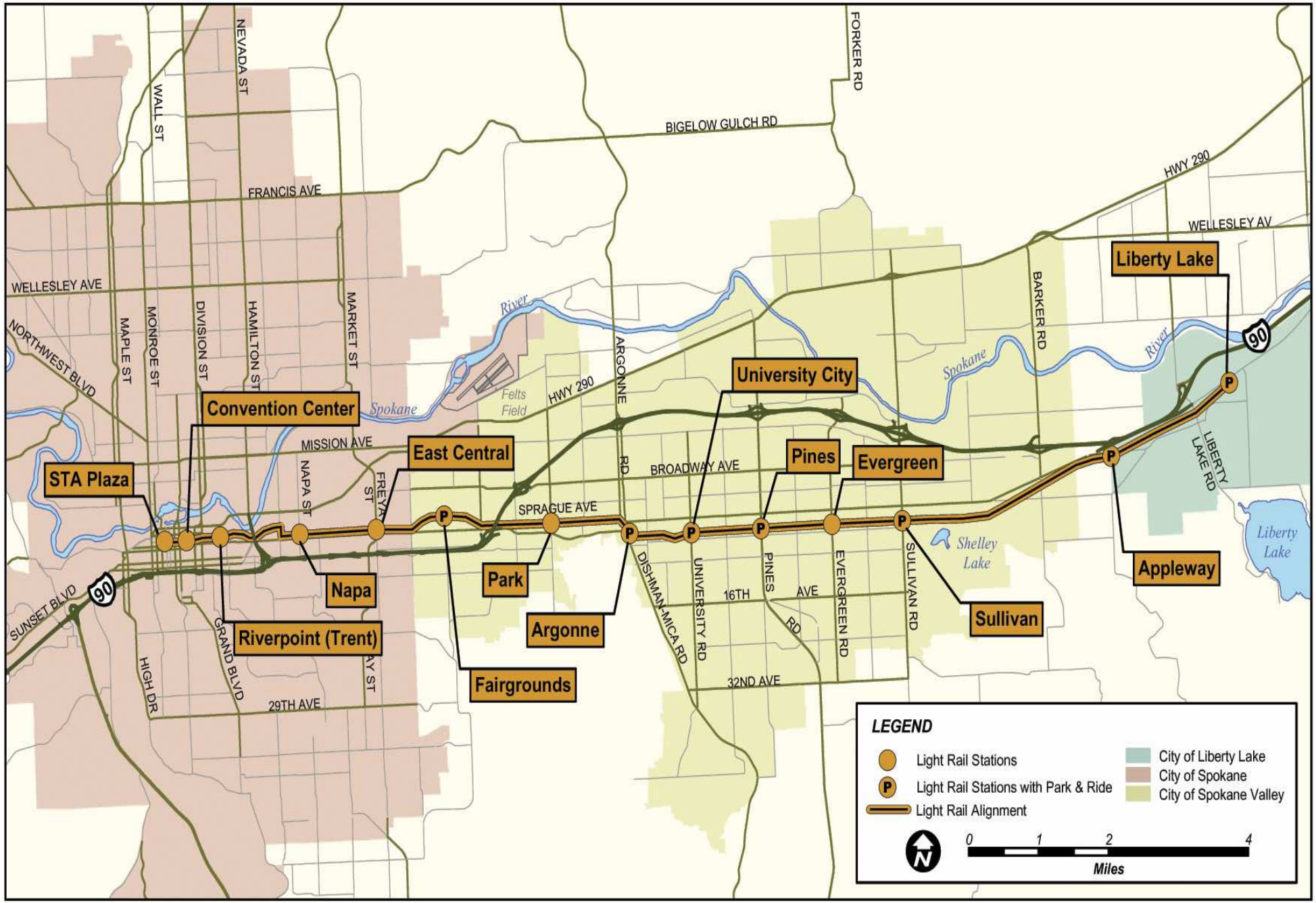
The locally preferred transit alternative for the South Valley Corridor Light Rail Project is described in the report, "Recommendations of the Steering Committee: Preferred Alternative for High Capacity Transit in the South Valley Corridor" dated June 2006. The environmental implications of this alternative are addressed in the "Draft Environmental Impact Statement (DEIS), South Valley Corridor Project" dated December 2005. The Project will also be referred to as "The Spokane Regional Light Rail Project" or simply as "the Project".

The Project is defined as:

Development of Light Rail from Downtown Spokane through Spokane Valley to the City of Liberty Lake over an alignment of approximately 15.5 miles. Characteristics include:

- Up to 14 passenger stations with 7 park and ride facilities.
- Forego electrification and procure diesel powered light rail vehicles
- Use single-car operations with vehicles capable of connecting into multiple unit trains
- Initially develop a single-track alignment with passing tracks for two-way operations
- Provide for simple, modest station platforms, shelters and passenger amenities

The alignment runs along 0.6 miles of an existing street in Downtown Spokane, from its western terminus adjacent to the STA Plaza Transit Center, on Riverside Avenue through the heart of the business and financial district. East of Downtown Spokane, the alignment follows alongside of approximately 1.25 miles of existing BNSF railroad right-of-way, 0.8 miles of roadway alignment in East Riverside Avenue, and 4.4 miles alongside of or sharing trackage with the UPRR branchline to Dishman Mica Road in the City of Spokane Valley. Continuing eastward first along Appleway Boulevard and then along an abandoned railroad right-of-way now owned by Spokane County, the alignment passes through the City of Spokane Valley to City of Liberty Lake. The alignment continues through the City to the developing hi-tech area on the City's eastern fringe. The corridor includes up to 14 new light rail stations, many of which interface with existing STA transit centers and bus service.


STA Plaza
Convention Center
Riverpoint (Trent)
Napa
East Central
Fairgrounds
Park
Argonne
University City
Pines
Evergreen
Sullivan
Liberty Lake
Appleway
NEVADA ST
WALL ST
FORKER RD
BIGELOW GULCH RD
HWY 290
FRANCIS AVE
WELLESLEY AV
WELLESLEY AVE
NORTHWEST BLVD
MAPLE ST
MONROE ST
DIVISION ST
HAMILTON ST
MARKET ST
ARGONNE RD
BARKER RD
LIBERTY LAKE RD
River
Spokane
Felts Field
MISSION AVE
NAPA ST
FREYA ST
BROADWAY AVE
SPRAGUE AVE
DISHMAN-MICA RD
UNIVERSITY RD
PINES RD
EVERGREEN RD
SULLIVAN RD
16TH AVE
32ND AVE
SUNSET BLVD
HIGH DR
GRAND BLVD
29TH AVE
Shelley Lake
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Light Rail Stations
Light Rail Stations with Park & Ride
Light Rail Alignment
City of Liberty Lake
City of Spokane
City of Spokane Valley
N
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Miles

This alignment provides high-capacity rail transit service in Central and Eastern Spokane, Spokane Valley, and Liberty Lake, supported by an expanded feeder-bus network, providing numerous points of connection between light rail and bus service throughout the metropolitan area.

The design and development of the system shall plan for expansion in the future to a full double-track alignment with longer stations for multiple-car trains

The initial capital budget for development of the system shall not exceed a ceiling of $300 million expressed in 2006 dollars. Specific determination of budget for implementation shall be based on funding availability and design refinement during preliminary engineering. Preliminary engineering will address potential upgrades of the alignment and project definition based on an assessment of priorities and limitations of available funding.

A diversified funding strategy that includes existing resources, private sector participation, and revenues derived from any new taxes subject to approval by voters has been recommended in the report, *Report on Financing of a Light Rail System for Spokane, Washington*, dated June 30, 2006 and is summarized in Chapter 6 of this Implementation Plan. This funding strategy is anticipated to be refined and confirmed during the preliminary engineering phase of the project. This Implementation Plan assumes project completion for revenue service operations by 2014.

Beginning in Downtown Spokane, the Project is divided into five line sections:

1. Downtown Spokane Segment
2. BNSF Corridor Segment
3. UPRR Corridor Segment
4. East Valley Segment
5. Liberty Lake Segment

Each section is described below.

<u>Downtown Spokane Segment</u>

The Downtown segment consists of a single track alignment running in the center of Riverside Avenue, between Post Street and Division Street, a distance of approximately 0.6 miles. The light rail trackway will be exclusive running, but will be paved and available for emergency vehicle passage. Generally, there will be a single traffic lane preserved in each direction alongside of the LRT trackway, with on-street parking also preserved except in station blocks where parking may be removed. Local driveway access will be right-turn in and out only, such that auto traffic will only be allowed to cross the LRT tracks at signalized intersections. The western terminus will be stub-ended at the Plaza Station where turn-back operations will occur.

Two passenger stations are included in this segment, one at STA's Plaza Transit Center between Post Street and Wall Street, and the other serving the Convention Center District, located between Bernard Street and Browne Street.

BNSF-East Riverside Segment

The first portion of this segment is approximately 1.25 miles in length, extending from the point where the LRT alignment leaves the Downtown Segment at Division Street. The alignment generally follows the northern edge of BNSF right of way to the east. Just east of Division, the City of Spokane is currently planning for an extension of Riverside Avenue. The City is reserving space for light rail to occupy the median of this future extension of Riverside for some distance east of Division. It is anticipated that the Riverside Extension will be constructed in phases. During preliminary engineering, a plan for coordinated design of light rail with the Riverside Extension will be developed. The trackway will be a single-track, tie and ballast section, except for a passing track at the Riverpoint (Trent) Station area. The alignment requires purchase of new right of way from the railroad and other adjacent property owners. At the easterly end of this segment, the LRT alignment turns into existing Madelia Street and crosses beneath the BNSF Railroad. It then turns east onto existing East Riverside Avenue and continues in the center of this street to the east where it intersects with the UPRR branchline that it will follow to the east. The section of track in this segment that is within existing Madelia and East Riverside roadway rights of way is 0.8 miles.

Two passenger stations are included in this segment: one serving Washington State University's River Point campus (WSU) and the University District, and the other at the intersection of East Riverside and Napa Street serving the East Central Neighborhood. WSU has developed a master plan for future development of their River Point Campus which includes light rail. The campus is envisioned to continue to develop as an urban university with higher densities occurring over time.

UPRR Corridor Segment

At Lacey Street, East Riverside Avenue terminates at the existing right of way of the UPRR. The westerly portion of this right of way serves as the "Yard Lead" for UPRR access from the BNSF right of way to Spokane Yard that is owned by the UPRR just east of Havana Street. East of the Spokane Yard, the UPRR right of way is referred to as the Wallace Branch, a branchline on which UPRR operates freight service between Spokane and Plummer, Idaho. The LRT alignment generally follows the UPRR right of way for a distance of approximately 4.4 miles. The UPRR right-of-way varies in width, generally between 60-100 feet. The LRT alignment is conceptually designed to share trackage with the UPRR through much of this segment. The section of UPRR trackage referred to as the "Yard Lead" may no longer be necessary for use by the UPRR in the future because of a separate project called, "Bridging the Valley". That project intends to combine trackage of the UPRR with the BNSF in that section and relocate the UPRR's Spokane to another location along the BNSF joint use corridor. The Wallace Branch, however would continue in operation from Lake Street to the east, currently with two trains per day. It is intended that any light rail and freight rail operations would be temporally separated to avoid the possibility of conflicts, consistent with the standards of the Federal Transit Administration and the Federal Railway Administration. It is also the intent of the project to minimize joint use operations to the greatest degree that budget allows. The final configuration will be determined during preliminary engineering. In addition, various interfaces with industry spurs will occur, the

disposition of which will be also be addressed in preliminary engineering. The LRT and freight rail tracks will also pass under Interstate 90 beneath an existing interstate highway bridge. Right-of-way acquisition will be required both from the UPRR as well as from some adjacent property owners. There is potential for a small number of business displacements in this section as well. LRT continues to operate within the UPRR right of way until turning out to the east at Dishman Mica Road. In this vicinity, conceptual design shows an at-grade crossing of the intersection of Dishman Mica Road and Appleway Boulevard, placing the LRT alignment on the south side of Appleway east of Dishman Mica. There is a desire to consider a grade separation at this intersection during the preliminary engineering phase, subject to further traffic analysis and budget availability.

This segment may also include the location of the LRT system's operations and maintenance facility at a site in the vicinity of the Spokane County Fair and Expo. Center, to be confirmed during the Preliminary Engineering phase. Roadway crossings in this segment are either at-grade with signal and gate protection or grade separated, and generally consistent with the UPRR's adjacent crossing configuration.

There are four passenger stations in this segment. They provide access to the local community surrounding the alignment and also interface with STA bus service. In particular, the station at the Spokane County Fairgrounds provides access to this major regional attraction, as well as significant opportunity for future transit-oriented development. Park and ride facilities are anticipated at the Fairgrounds as well as the Argonne Station at the east end of this segment.

East Valley Segment

The East Valley Segment diverges away from the operating UPRR branchline and extends eastward to the City of Liberty Lake. The western portion follows the south side of Appleway Boulevard from Dishman Mica Road to University Road, a distance of approximately 0.9 miles. The eastern portion is in former railway right of way that is now owned by Spokane County, extending to the City of Liberty Lake, a distance of approximately 5.6 miles. The County right-of-way varies generally between 60 and 100 feet in width. The City of Spokane Valley is considering the possibility of extending Appleway Boulevard east of University Road in portions of this segment. During preliminary engineering, a process to coordinate the design of light rail with this potential roadway extension will be developed. All crossings of roadways in this segment are anticipated to be at-grade with gated and signalized crossing protection.

There are currently envisioned to be four passenger stations in this segment. The station at University Road will provide an interface to STA's existing bus transit center and park and ride facility. It is anticipated that convenient access between the transit center and the LRT station will be developed. It is desired to locate park and ride facilities at the other stations in this segment as well, subject to suitable sites being made available. There also exists the potential for the City of Spokane Valley to develop a City Center complex in the vicinity of the former shopping center development between Dartmouth Rd. and University Rd. This is a significant opportunity for transit-oriented development to occur, along with the possibility of an additional LRT station. Finally, the recommended site for the location of an LRT operations and maintenance facility is located in this segment, just east of Bowdish Rd. where Spokane Transit

Authority currently has it's Fleck Service Center. This would require conversation of this facility to use for LRT.

Liberty Lake Segment

At the east end of the Project, the alignment enters the City of Liberty Lake. This section continues another 2.0 miles to the eastern terminus at the intersection Signal Rd. This terminus will also be a stub-end configuration. The alignment continues to be located generally within County right-of-way (former railroad right-of-way). At the western end of this segment, a recently constructed interchange of I-90 with Appleway and Country Vista Rd. requires the alignment to diverge away from County-owned right of way. Consideration is also being given to further expansion of this interchange. Coordination with any plans for expansion will also need to occur during preliminary engineering. Toward the east end of this segment, the alignment passes in proximity to commercial and campus industrial developments. A single business (fast-food restaurant) is anticipated to require displacement. There will be some at-grade roadway crossings that will be signalized and protected with gates.

Two stations are included in this segment. One at the Appleway interchange will include a park and ride facility with convenient interchange access to/from I-90 as well as good surface roadway access to Liberty Lake. The size of this facility is to be determined during preliminary engineering. The Liberty Lake Station at the eastern terminus will also include a park and ride, bus transit center. The Liberty Lake station location is subject to coordination with the City regarding a possible interface with their new government center.

Light Rail Vehicles

The project includes purchase of eight (8) diesel light rail vehicles. The vehicles will be similar to the low-floor vehicles operating on the Southern New Jersey Light Rail Project and the Sprinter Diesel Light Rail system in Oceanside, California. The issue of potential use of electrified light rail vehicles will also be revisited during preliminary engineering. Consideration will also be given to increasing the number of vehicles, subject to budgetary constraints and project priorities.

Operations Description

Single-car trains are envisioned to operate at 15 minute headways during peak and mid-day hours and at 30 minute headways during evenings. The frequency of service is limited by the single-track alignment and location of passing tracks. During preliminary engineering, consideration will be given to increasing the extent of double-track alignment and passing tracks to the extent that budget allows.

Travel time between the Plaza station in downtown Spokane and the eastern terminus in Liberty Lake is estimated to be 37 minutes. Typical dwell times at stations are anticipated to be 30 seconds. Average weekday ridership is estimated to generate approximately 3,500 daily boardings for the design year of 2025. Ridership estimates will be revised during the preliminary engineering phase.

1.6 Environmental Clearance History and Status

During development of the Alternatives Analysis for the project, a Draft Environmental Impact Statement (DEIS) was prepared according to the guidelines of the National Environmental Policy Act and the Federal Transit Administration (FTA). The FTA certified the DEIS for publication on December 29, 2005 and the document was published and circulated for a 45-day public review and comment period. The DEIS provides analysis of project alternatives and identifies impacts to the environment, mobility, land use, cultural resources, safety and economic/community development potential. The public comment period extended from January 18 to March 3, 2006. The public was invited to attend four public meetings/open houses to comment on the DEIS during the month of February 2006.

All DEIS comments received during the public comment period were assembled and documented in the report, *South Valley Corridor Project, Public Comment Report, May 2006*. These will be addressed in the Final Environmental Impact Statement, planned for production during the preliminary engineering phase.

2 ORGANIZATION AND STAFFING

2.1 Agency Overview and Statutory Authority

Spokane Transit Authority (STA) is the legislative body of the Spokane County Public Transportation Benefit Area established pursuant to the laws of the State of Washington. The Spokane County Public Transportation Benefit Area (PTBA) was established in 1980 under enabling legislation contained at Chapter 36.57A Revised Code of Washington (RCW), specifically 36.57A.010 through 36.57A.170. Under 36.57A.050, a nine-member Board of Directors was established and exercises the authority granted to a PTBA.

Under RCW 36.57A.080 and 36.57A.090, the PTBA has all powers which are necessary to carry out the purposes of the public transportation benefit area, including but not limited to:

- Contracting with the United States or any agency thereof, any state or agency thereof, any other public transportation benefit area, any county, city, metropolitan municipal corporation, special district, or governmental agency, within or without the state, and any private person, firm or corporation for the purpose of receiving gifts or grants or securing loans or advances for preliminary planning and feasibility studies, or for the design, construction or operation of transportation facilities.

- Contracting with any governmental agency or with any private person, firm or corporation for the use by either contracting party of all or any part of the facilities, structures, lands, interests in lands, air rights over lands and rights of way of all kinds which are owned, leased or held by the other party and for the purpose of planning, constructing or operating any facility or performing any service which the public transportation benefit area may be authorized to operate or perform, on such terms as may be agreed upon by the contracting parties

A public transportation benefit area may sue and be sued in its corporate capacity in all courts and in all proceedings.

2.2 Policy and Governing Board

The governing body of the Spokane Transit Authority is a Board of Directors (the Board), and consists of a Board of nine (9) members, all of whom are elected officials selected by and serving at the pleasure of the governing bodies of the component county and cities within the boundaries of the Corporation.

The current membership of the board consists of nine elected officials selected by and serving at the pleasure of the jurisdictions that comprise the public transportation benefit area (PTBA). The number of representatives the various jurisdictions are allocated is as follows:

Selected from among the "small cities" listed below, on a rotating basis, are two members;

- City of Airway Heights
- City of Cheney
- City of Medical Lake
- Town of Millwood
- City of Liberty Lake

In addition, the Board includes three elected officials selected by and serving at the pleasure of the City of Spokane, two members of the Board of County Commissioners of Spokane County, and two representatives from the City of Spokane Valley.

The Board of Directors sets policy and provides overall direction to the organization through its Chief Executive Officer (CEO). The Board of Directors meets monthly as the public governing body. All Board meetings, except for executive sessions, are open to the public. Selected responsibilities of the Board with respect to this Project include review and approval of:

- Significant route modifications and station locations;
- The project budget;
- The Project Implementation Plan;
- Inter-governmental agreements with political jurisdictions;
- Agreements with railroads; and
- Procurements that require Board approval, according to Board policies, unless otherwise amended by Board action.

Responsibility for Preliminary Engineering of the Spokane Regional Light Rail Project resides with the Light Rail Project Manager, who is an STA staff member, currently reporting to the CEO and who serves as dedicated staff to the Light Rail Steering Committee. As the project progresses into the Preliminary Engineering phase, additional staff will be hired to work directly for the Project Manager. Other STA functional staff will support the project in a matrixed role. This will ensure that STA's collective organization can provide the full resources of other divisions of the agency to the Project as necessary. The Project Manager is ultimately responsible for the successful completion of the Spokane Regional Light Rail Project. The Project organization and its reporting lines are more fully described in Section 2.5, "Organization during Preliminary Engineering".

2.3 Light Rail Steering Committee

STA Board of Directors established a project development and policy oversight committee called the Light Rail Steering Committee. This committee is currently composed of 12 members:

- Three representatives of the STA Board
- Two representatives of the SRTC Board
- Washington State DOT representative
- Six Citizen Members, approved by the STA Board

Alternate Members:

- One STA Board member
- One Washington State DOT representative
- One Citizen alternate, approved by the Steering Committee

The Light Rail Steering Committee's objective is to ensure effective intergovernmental cooperation at the top level of the participating governments. During the Preliminary Engineering phase, the committee will provide overall policy guidance in the establishment of the Project's definition and strategies for implementation. To this end, the Steering Committee will receive ongoing reports on project design, financial planning, environmental clearance and public involvement activities, and provide recommendations to the STA Board on matters of regional policy such as overall project definition, funding and scheduling. The Steering Committee meets formally on a monthly basis, or more often as needed to address specific issues. The Project Manager is responsible for providing administrative support.

2.4 Past Agency Organization

STA currently has two (2) Divisions, comprised as follows:

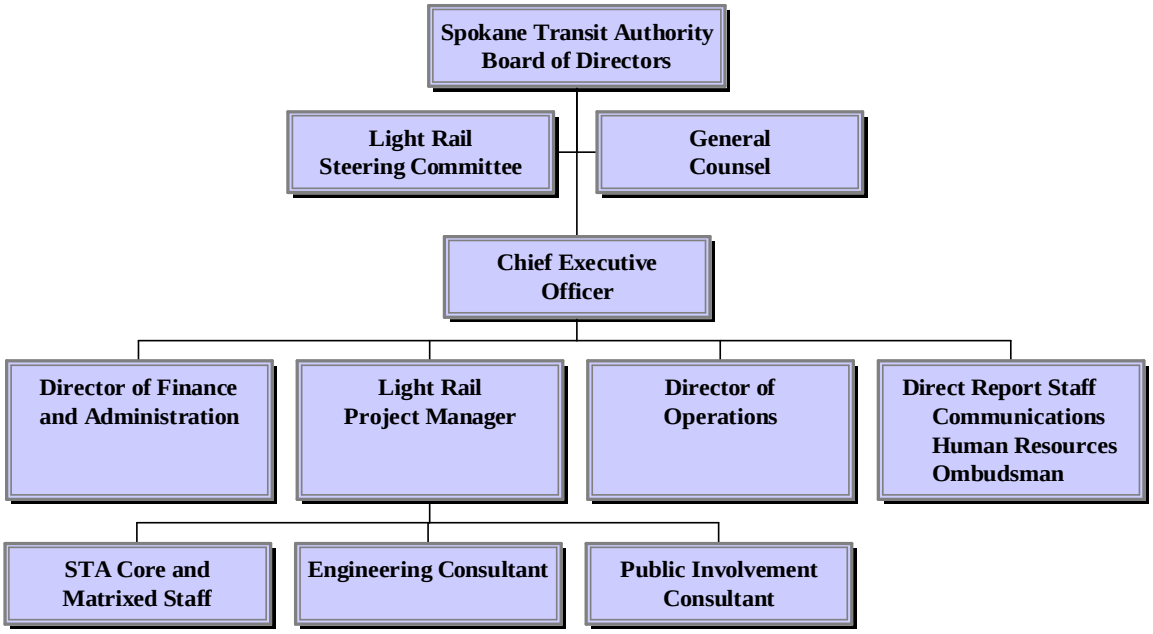
1. Operations – including fixed route transportation (bus operations), maintenance, facilities and grounds, paratransit services, rideshare, and customer service.

2. Finance and Administration – including purchasing/stores, transit monitoring, project management, information systems, budget, payroll, accounting, and planning and grant management.

The Executive Team includes the Chief Executive Officer and the above two Division Directors. The rest of the administrative and management staff reports to the CEO and includes the Light Rail Project Manager, Communications Manager, Human Resources Manager, Community Ombudsman, and Executive Assistant who is also the Clerk of the Authority.

2.5 Project Organization during Preliminary Engineering

Building upon the structure outlined above, following is a suggested organization during the Preliminary Engineering phase of the Spokane Regional Light Rail Project. This organization recognizes the size, importance, and nature of the project, and responds by establishing dedicated resources for the project, supplemented by part-time support from throughout the agency. As this is the first rail transit project to be developed by STA, this organization also recognizes that the dedication of agency staff will be an evolutionary process as the Project progresses through preliminary engineering towards final design, into construction and operation. STA's goal over time is to transition staffing in critical areas from consultant responsibilities to the agency as the progression of the project continues to advance and as needs warrant. However, it is noted here that the organization of the Project may change during and after preliminary engineering to accommodate mechanisms that may be developed to secure funding and oversee project implementation and operation.



Ultimate responsibility for the successful completion of the project rests with STA's Chief Executive Officer through the assigned Project Manager. Day-to-day coordination of all project activities will be the responsibility of this full-time dedicated position.

Assisting with the project will be other groups of professionals from elsewhere within the agency and the consulting team. Financial planning, bond issuance, revenue management, and accounting functions are envisioned at this time to remain in the respective departments within the Finance and Administration Division. This division also will provide assistance in the Information Technology and procurement functions. Light rail operations planning (with respect to rail maintenance and transportation staffing), scheduling, fare inspection, security, support services, and bus service planning will be facilitated during this phase by the Project Manager or as delegated to the General Management Engineering Consultant (GMEC) in cooperation with STA's Operations Division and Planning Department. Close coordination between operations staff, planning staff, and designated project staff will be required to ensure compatibility and integration with the conventional fixed-route bus system, paratransit services, and the light rail project.

The use of internal agency specialists in part-time support of the project is referred to as a "matrix" staffing approach. It facilitates leveraging of existing, unique agency knowledge to the project while minimizing project positions. However, the matrix staffing approach also presents special challenges for staff as well as management, because an individual's focus is not solely on the project, and multiple demands may at times overtax a given resource. To ensure full integration of matrixed staff into the project and promote open discussion of workloads and priorities, the Spokane Regional Light Rail Project will use the following mechanisms:

Performance Measures: Specific performance measures, developed jointly by the Project

Manager and the employee's reporting manager or division Director, will be developed. These measures will provide clear communication of expectations from the Project's perspective. The performance measures will be reviewed at least annually.

Task Teams: Teams of staff members will be assembled on an ad-hoc basis to perform tasks or solve specific issues on the project. Each team will be charged with clear goals and will be responsible as a group for achieving a successful outcome.

Special Events: Special events, organized by the Communications Department with the assistance of the Project Manager and GMEC, will be held periodically and will include all personnel who participate in the project. These events will help promote unity and a sense of "belonging" to the project, creating a greater level of commitment to project success.

Coordination Teams: The Project Manager will establish special teams to periodically review and develop inter-departmental processes as required. The goal of these teams will be to ensure that Spokane Regional Light Rail Project-required processes are fully integrated with the existing processes already in use by the various participating STA departments.

2.6 STA Staffing Levels

The Light Rail Project Team will be comprised of both full-time staff and part-time support staff from STA as well as from the GMEC who will function as an extension of STA staff. The total number of staff engaged in the project at any one time will vary with the phase in progress and the specialties required for that phase. The selected method of construction contract procurement (i.e. traditional design/bid build, design/build, Construction Manager/General Contractor) will also have a bearing on the size of the Project staff during future phases.

The proposed staffing plan for the Light Rail Project is shown in Attachment 1. Staffing levels shown are those proposed for the Preliminary Engineering phase of work.

2.7 Responsibilities and Job Descriptions

Director-level and other selected manager-level job descriptions are briefly summarized in this section. During the course of Preliminary Engineering, detailed job descriptions for each staff position for the Light Rail Project will need to be developed and placed on file with STA's Human Resources Department.

2.7.1 Light Rail Project Manager [STA]

Has primary functional responsibility for successful completion of the Light Rail Project as measured by the project goals and objectives. Prioritizes and obtains authority, as required, to obligate Project resources and coordinates other agency resources needed for successful completion of the project. Manages the General Management and Engineering Consultant (GMEC) and other consultants as may be required. Defines project objectives and monitors work plans for all activities needed for successful completion of the project. Represents the Light Rail Project to outside agencies and interests including the Federal Transit Administration, the U.S.

Department of Transportation, state government, local governments and the public. Serves as the STA representative on and chairs the Project Technical Advisory Committee. Reports to the the STA CEO and acts as dedicated staff to the Light Rail Steering Committee.

2.7.2 Project Manager [GMEC]

Responsible for day-to-day management of GMEC's activities related to the Project. Ensures integration and coordination between dedicated project staff, SRTC, City of Spokane, Spokane County, City of Liberty Lake, City of Spokane Valley and supporting STA personnel. Executes Preliminary Engineering activities according to project objectives established by STA's Project Manager, and monitors work plans for all activities needed for successful completion of the project, including civil and systems engineering, administration, project control, and project clearance activities. Oversees day to day aspects of Preliminary Engineering for the Project. Ensures that all project elements are designed and constructed according to established STA standards and criteria. Establishes policies and standards for engineering work on the project. Expedites resolution of technical, □onstructability, safety, and schedule issues encountered during execution of the Project. Directs the performance of GMEC Team project engineers who have responsibility for specialty areas including street work, structures, trackwork, stations, traffic control, drainage, utilities, light rail vehicle procurement, operations facility, signals, communications, and fare collection. Directs the preparation of operations plans, and coordinates systems engineering and civil engineering activities. Coordinates with STA's Operations Division and with STA's Public Involvement staff. As delegated by the Project Manager, represents the Light Rail Project to external technical interests including local jurisdictions' engineering departments, permitting authorities, railroads, utilities, and landowners. Supports STA to provide project compliance with all outside agency requirements. Reports to the Light Rail Project Manager.

2.7.3 Director of Project Controls [GMEC]

Responsible for master project schedule, budget, cost control, monitoring and reporting, change control and claims administration. Provides oversight for cost estimates. Establishes procedures for schedule adherence and cost control for the project in coordination with other key Project staff and STA personnel. Establishes and tracks data for project status reports. Assists in developing contracts. Implements and monitors independent processes for value engineering, risk assessment and quality assurance. Develops background information on budget and cost. Monitors AA/EEO compliance and DBE compliance. Provides oversight for preparation of monthly Project Reports and other reporting requirements. Coordinates with STA Project Director regarding FTA and PMO participation (if required). Reports to the GMEC Project Manager.

2.7.4 Director of Project Clearances [GMEC]

Directs GMEC staff in the process of identification of Project clearance requirements, including environmental clearance and permits. Provides oversight for the development and preparation of all project intergovernmental agreements, in coordination with STA staff. Directs project real estate support functions, including right-of-way cost estimation. Provides oversight for railroad

interface requirements and development of railroad agreements. Provides support to STA Director of Finance and Administration regarding project financial planning and funding activities. Provides support to STA General Counsel regarding project-related legal services. Provides support to STA Planning and Grants Manager regarding FTA grants compliance activities. Reports to the GMEC Project Manager.

2.7.5 Public Involvement Manager [STA]

Directs the public involvement and community relations activities focused on residents, businesses, and neighborhoods along the South Valley Light Corridor alignment. Develops and maintains the Project Public Involvement Plan. Determines need for and provides communication to affected parties along the line. Manages the development of public art program. Serves as staff to Project's Citizens Advisory Committee (CAC) and Project Steering Committee. Manages participation by special interest groups in Preliminary Engineering studies. Serves as head of STA's internal Communications Team. Provides oversight for the production of project newsletters and informational pieces for circulation to the public and staffs of participating jurisdictions. Oversees development and placement of public information displays, including project information kiosks. Coordinates project media communications through the STA's Communications staff. Maintains library of photographs, slides, and videotapes for the project. Maintains Project contacts lists. Reports to the STA CEO with support to the Project via matrix assignment.

The needs of the Project are anticipated to require the assignment of at least one full-time Public Involvement Coordinator, who will report to the Public Involvement Manager. During the Preliminary Engineering phase, this position may either be provided from the GMEC or as an STA position.

2.7.6 Director of Finance and Administration [STA]

Has overall responsibility for the management of STA's budget related to the project. Manages the preparation of the financial capacity analysis and refinement and execution of the financial plan. This function may also be supplemented by additional staff support from the GMEC team or outside financial advisor. Provides oversight for project procurement and grants. Reports to STA's CEO and provides matrixed support to the Light Rail Project Manager.

2.7.7 General Counsel [STA]

Directs all legal matters related to the project. Manages legal support contracts. Evaluates claims and major change orders for compliance with laws and regulations. Provides guidance on accepted application of federal and state laws and regulations governing performance of the project. Provides oversight of the project contracting and land acquisition functions. Assists in implementation of the project's Disadvantaged Business Enterprise (DBE) program. Provides oversight of project matters requiring Board of Directors approval. Reports to STA Board of Directors.

2.7.8 Purchasing Manager [STA]

Directs all matters related to contracts and procurement. Provides functional oversight on development of Project implementation procurement strategies. Manages agency's oversight of consultant selection and contract compliance. Monitors satisfaction of contractual requirements to satisfy STA's Disadvantaged Business Enterprise program. Reports to STA's Director of Finance and Administration and provides matrixed support to the Light Rail Project Manager.

2.7.9 Manager of Planning and Grants [STA]

Directs STA's activities related to federal and state grants related to the Project. Provides interface with FTA regarding grants compliance and reporting. Reports to STA's Director of Finance and Administration and provides matrixed support to the Light Rail Project Manager.

2.7.10 Director of Systems Engineering [GMEC]

Manages Preliminary Engineering aspects of the operating systems elements of the project. Directs the LRV Design Engineer, providing oversight to the development of specifications for procurement of the LRV. Manages the day-to-day work of the specialists within the GMEC team for systems engineering, including signals and communications engineers and fare collection specialists. Coordinates with the Director of Civil Engineering on technical matters during the Preliminary Engineering phase to ensure that systems integration occurs. Reports to the GMEC Project Manager.

2.7.11 Director of Civil Engineering [GMEC]

Manages Preliminary Engineering aspects of the civil/track elements of the project. Manages the day-to-day work of the GMEC specialists for civil engineering, including track alignment, track design, track materials procurement identification, utilities, drainage, roadway interfaces, traffic engineering, structural engineering, station and building architecture, urban design and landscape architecture, and bus and rail operations planning. Coordinates with the Director of Systems Engineering on technical matters during the Preliminary Engineering phase to ensure that systems integration occurs. Reports to the GMEC Project Manager.

2.7.12 QA/QC Manager [STA]

Responsible for development, implementation and compliance of the Project's QA/QC Program. Ensures project conformance to all project and FTA quality standards as may be required. Performs or directs quality performance audits for compliance checks of Preliminary Engineering activities and special issue resolution. Reports to STA's Light Rail Project Manager.

2.7.13 CADD Manager [GMEC]

Manages electronic drawing files for the Projects Preliminary Engineering documents. Responsible for collection, storage, organization, and retrieval of consultant-prepared drawing files. Maintains drawing management database and drawing management software. Issues

drawing files to task managers and others for use in project design and review activities. Reports to the Director of Civil Engineering.

2.7.14 Miscellaneous Positions [STA]

STA will likely need to augment the project staff as the project workload increases. The following positions should be considered:

Deputy Project Manager
Executive Assistant
Facilities Engineer
Procurement Manager/Specialist
Real Estate Manager

2.8 Use of Consultants

STA has a full complement of staff resources for the continued development and operation of the regional bus and paratransit systems. As light rail is viewed to be an emerging new mode for the agency, STA should plan to incrementally develop its agency staff as the project progresses. As noted elsewhere, the development of agency staff depends on further consideration of program organizational changes and governance as may evolve during or after the preliminary engineering phase. This process will result in a higher degree of dependence on consultants for Project staffing during initial phases of effort, with more direct agency-employed staff positions occurring over time as project development activities progress.

For the Preliminary Engineering phase of the Project, STA will rely on consultant personnel as an extension of staff to provide support to the project in the following circumstances:

- For specialized expertise that is not available in STA's internal staff;
- For short-term staff augmentation to assist STA staff during peak work periods;
- For long-term services in support of major Project elements which can be more efficiently performed by outside services; and
- For independent assessment of project events and conditions where STA may benefit from outside perspective and objectivity.

Major consulting contracts related to Preliminary Engineering will be managed by the Light Rail Project Manager.

On the basis of decisions reached during preliminary engineering regarding program organization and governance as well as the approach to procurement of final design and construction activities, STA will ultimately determine the overall number and nature of consulting contracts that will be required. The specific nature and number of consultants will be affected by the construction procurement method selected. Technical resource needs may be very different in the case of design/build, for example, than that for traditional design-bid-build.

2.9 General Management and Engineering Consultant (GMEC)

STA has previously procured the services of a General Management and Engineering Consultant (GMEC) for the alternatives analysis phase of effort. It is anticipated that STA will again competitively solicit via a request for qualifications and proposal (RFQ/P) the services of a GMEC to provide a large share of the consultant support necessary for the Preliminary Engineering phase of the Project. In addition, this Consultant may, at STA's option, continue in the general consulting role into later phases of the project, including design, construction and operations start-up. The benefits of the GMEC approach include:

- Provides long-term consistency in management team;
- Project Manager is completely accountable for entire team's performance;
- STA gets direct contact with technical team through the project manager;
- Provides greatest flexibility for STA to most effectively procure needed services;
- Provides greatest degree of control for STA in managing performance and cost of professional services;
- Eliminates duplication of management services;
- Avoids inefficiencies of multi-tiered organizational structures;
- Streamlines procurement processes;
- Quickly provides needed technical expertise;
- Allows for technical experts to be used "as needed" avoiding over-commitments of STA staff when they are not needed;
- Focuses on immediate priorities while providing long-term flexibility; and
- Allows for quick start-up of top priority activities.

The GMEC Consultant's services during Preliminary Engineering will focus on the five following categories where the consultant will provide extension of staff for:

- Project Management
- Project Controls
- Project Clearance
- Civil Engineering
- Systems Engineering

In addition, the GMEC will provide support services for Public Education activities undertaken separately by STA and supported by other consultants. Chapter 11 further describes the scope of services for Preliminary Engineering activities contained in each of these areas.

2.10 Technical Advisory Committee and Interface with Other Local Jurisdictions

Interface by STA and its consultants with other agencies will be accomplished through three mutually supportive mechanisms. First, jurisdictions involved in the project locally will be represented on the Project Technical Advisory Committee (TAC). The TAC is the key external advisory committee for the project. Its membership includes technical representatives from:

- City of Spokane
- City of Spokane Valley
- Spokane County
- Washington State DOT
- City of Liberty Lake
- Spokane Regional Transportation Council – SRTC

Ad hoc membership will also include other affected agencies such as the Riverpoint Higher Education complex, local utilities, Downtown Spokane Partnership (DSP), etc.
The TAC serves as the forum for informing high-level local staff about important project issues and progress. It will also assist in resolving inter-jurisdictional issues, and identifying important issues that may have impacts on the project. The TAC will ensure that coordination exists between the Project and other ongoing projects, including Bridging the Valley, the Riverside Extension, possible extension of Appleway Boulevard in Spokane Valley, development of the Spokane Valley City Center, and possible expansion of the Appleway interchange in Liberty Lake. On issues of regional significance, it will present recommendations to the Project Steering Committee. Beginning with Preliminary Engineering and continuing into final design and construction, the TAC should meet monthly with the agenda being prepared by the Light Rail Project Manager.

At the appropriate time, STA will execute formal agreements with each of the affected jurisdictions. These agreements will list roles and responsibilities, requirements, day-to-day management concerns, limits of authority, and compensation (if any) between STA and each jurisdiction for direct design services, permits, etc. as required. These agreements are discussed in more detail in Chapter 8, "Agreements".

STA will interface with other public agencies including local, regional, State, and Federal, as required by law and administration procedure. Such agencies include: FTA for any potential transit funding and grant matters; the Department of the Interior for potential 4(f) and 106 considerations; the U.S. Army Corps of Engineers for water permit concerns (such as 404 permits); the State Department of Environmental Quality (DEQ) for various environmental matters; and various other regulatory agencies.

Project interface with these jurisdictions will be provided by the Light Rail Project Manager as STA's representative on the Project Committee. Interface on Project agreements and administrative matters will be coordinated by the Director of Project Clearances, in coordination with STA's General Counsel.

3 MANAGEMENT AND ADMINISTRATION

Management and administration developed for the Spokane Regional Light Rail Project will comply with the requirements of all federal, state and local regulations and programs. Management and administration procedures are based on those already in use at Spokane Transit Authority with new or revised procedures developed as required specifically for the Light Rail Project. Procedures are designed to meet the following criteria:

- Be compatible with the framework of the Project Implementation Plan;
- Provide accountability necessary for effective project management and control;
- Utilize clear, concise, and easy-to-use content; and
- Identify distinctions between general STA procedures and Project procedures.

A Project Procedures Manual will be developed upon initiation of PE for managing work performed by the Light Rail Project Team. This manual will serve as the procedural guide for the Project. It will provide detailed procedures for project communications, protocol, document format and for a variety of administrative processes. It will focus on issues of interest to the project staff, as well as other agency staff who may be working part time on the Project.

In addition to the Procedures Manual, the Project must also be consistent with requirements of external programs and authorities including affirmative action, disadvantaged business participation, STA's organized labor contract, and federal grants. Each of these has reporting requirements that must be followed. This section describes how the Project will administer this compliance.

3.1 Management Approach

The Organizational approach to the project is described in Section 2 of the Implementation Plan. This section describes the management approach established for the Project on the basis of the intended organization. As previously indicated, STA's staffing for the project will evolve along with the project. Initially, the number of dedicated staff employed by STA for the project will remain relatively low, with a high reliance on Consultant staff functioning as an extension of STA staff. As time goes on, and the project passes milestones enabling it to proceed into later phases, i.e. final design and construction, STA's dedicated staff will grow in a responsible fashion, relying more and more on STA employees in key management positions.

The Spokane Regional Light Rail Project is under the direction of the Light Rail Project Manager. The Project Manager reports to the STA CEO and serves as dedicated staff for the Light Rail Steering Committee.

The Project Manager is responsible for the successful completion of Preliminary Engineering, environmental clearance, final design, management and control of construction, and final testing and start-up of the Project. Through the General Management and Engineering Consultant leading various function-focused departments, the Project Manager will direct teams of professional and support staff exclusively dedicated to accomplishing the goals and objectives of

the Spokane Regional Light Rail Project, supplemented by additional supporting resources from throughout Spokane Transit Authority.

The overall approach to the Project organization uses the expertise of its Project Manager and GMEC team, drawing on their experience with other successful projects as a reference point upon which to build and improve. While STA intends to draw upon this experience and success, there are new technologies, procedures, and organizational features which affect the way the Project will be managed.

Listed below are the organizational principles for the Spokane Regional Light Rail Project:

- STA staff will have total management involvement and retain direct control over all aspects and phases of the work.
- Engineering work will be divided primarily along the lines of civil and systems elements but will be joined in a single effort under the management of the GMEC.
- Major engineering or consulting contracts will be managed by the Light Rail Project Manager.
- Day-to-day decision-making authority and single-point contact for each major contract will reside with the Project Manager.
- STA generally will not perform design in-house, but instead will manage the Preliminary Engineering and later final design efforts via consulting or design/build contract(s).
- The General Management and Engineering Consultant (GMEC) and other consultants will act as an extension of STA staff.
- Management and administration of Preliminary Engineering activities will be organized by geographic line segments.
- Formal arrangements will be made with individual jurisdictions through intergovernmental agreements to identify personnel participation, design responsibilities, permit requirements, and cooperative financial arrangements.
- Regular staff meetings will be held with required attendance for designated project staff and principal consultants. Heavy reliance will be placed on computer tools and systems for design and project management.
- The Project Controls group within the GMEC, in association with key STA staff, will be responsible for developing and maintaining all scheduling, cost estimating, budgeting, cost tracking, reporting, and forecasting systems. Work progress, schedule, and budget status will be reported on a monthly basis to the STA Project Manager.
- STA will maintain a centralized library of consultant-generated drawings and other deliverable products. Initially it is anticipated that these will be as hard copies and in .pdf electronic format. As the project progresses, it is anticipated that STA will add Computer Aided Design (CAD) capabilities such that it will be able to maintain and archive design drawings in their original format.
- All consultants will be required to follow applicable document control procedures. All correspondence relating to the project will be assigned file codes and placed in the filing system.

- The success of STA's overall management approach will depend upon the input, support, and approval of three key advisory groups: the Project Steering Committee, the Technical Advisory Committee, and the Light Rail Project Citizens Advisory Committee. These Committees are described elsewhere in this Project Implementation Plan.

3.2 Project Procedures Manual

The Project Procedures Manual (to be developed as referenced earlier in this section) describes procedures as separate entries, facilitating additions and updates. Topics in this manual will include:

- Administration
- Procurement
- Finance
- Community Relations
- Program Management, including Project Control

3.3 Grants Administration

The main responsibility for grant administration for the Spokane Regional Light Rail Project is assigned to STA's Finance and Administration Division with support from the GMEC. STA administers federal grants in accordance with FTA Circular 5010.1B Grant Management Guidelines. Descriptions of the primary grant-related administrative functions are provided below.

Grant Analysis and Administration

STA's Planning and Grants Manager is the primary point of contact with FTA for FTA grant-related aspects of the project. Other participating staff include the Accounting Specialist, the Budget and Accounting Manager and secretarial support. Areas of responsibility include the following:

- Coordination of the development of grant applications and amendments.
- Coordination of grant application-related required activities (e.g. intergovernmental review; programming in the region's Transportation Improvement Program and State Transportation Improvement Program, notice/public hearing/Board approval process).
- Coordination of response to FTA application review comments.
- Facilitation and execution of grant agreements, and notification of approval to project management staff and the Accounting Department,
- Maintenance of grant files that include all grant applications, grant agreements, grant-related correspondence, quarterly reports, grant budgets, and revisions.
- Coordination of FTA quarterly report submittals and budget revisions.
- Distribution of monthly Grant Status Reports and Labor Distribution Reports to project staff.
- Provision of information to appropriate project staff about new or changing federal grant-related requirements or regulations.

- Guidance to project staff on grant eligibility issues, budget management, and most appropriate use of grant resources.

Grant Accounting

The Accounting Department performs the following accounting functions for grant management:

- Setting up and maintaining all grants accounting information for the project within STA's general ledger system.
- Processing grant-funded project invoices and charges.
- Producing monthly grant status reports and labor distribution reports.
- Preparing financial status reports for quarterly reports.
- Processing grant drawdown transactions.

Grants Closeout

Upon completion of the Preliminary Engineering Phase of the Spokane Regional Light Rail Project, the STA Director of Finance and Administration, supported by Project staff will prepare any necessary reports stating the actual expenditures on the project broken down by contract. The reports will also identify FTA-approved variations (if any) from any potential FTA Grant Agreements as originally executed. The report will be as needed, in accordance with applicable FTA regulations and grant requirements.

3.4 Human Resources and Labor Relations

Labor Relations

The majority of STA's Operations Division employees are represented by the Amalgamated Transit Union, Local 1015, under a working and wage agreement. When a new light rail system is constructed, STA and the appropriate bargaining units will discuss and resolve issues associated with the transition of the new light rail service from a construction project to revenue producing, operational status. These resolutions are commonly memorialized in written agreements.

The Human Resources Manager or his/her designee is responsible for assuring that the Union leadership is kept informed and involved concerning the progress of the light rail design and future construction phases such that productive discussions can be held prior to start-up of revenue service.

The current labor agreement(s) will be reviewed during the Preliminary Engineering phase. Opinions on operational impacts will be obtained by canvassing Operations, Finance and Administration, and other affected STA departments. From these opinions, it will be determined whether differences in operating characteristics call for changes in management techniques and modifications of the labor agreement.

With these determinations made, decisions will be necessary regarding the need and appropriate timing for negotiations with the union, currently not anticipated to take place until the Project progresses beyond the preliminary engineering phase. Under any circumstances, the union leadership will be kept informed about the progress of the Light Rail Project such that productive discussions can be held as appropriate. The Human Resources Manager or his/her designee is responsible for this function.

Human Resources

The STA Manager of Human Resources directs all of the agency's Human Resources functions and Human Resources staff. The Human Resources Manager manages recruitment and selection, compensation and benefits, performance management activities, and associated staff. Responsibilities also include training, new employee orientation, employee communications, recognition programs and associated staff. The Human Resources Manager assists with labor union relations and grievance processes, employee- relations, and associated staff.

For the Light Rail Project, Human Resources support can be provided by the Human Resources Department via a matrixed staff assignment. A Human Resource representative should be available to coordinate project Human Resource activities and to provide on-site support as necessary for the project office.

3.5 Affirmative Action Program

STA must remain committed to ensuring that the Project's work force reflects the diversity of the local area, and that Spokane area businesses, disadvantaged business enterprises, and emerging small businesses are able to participate in the project to the greatest extent feasible. Each contractor on the Project will be expected to share in this commitment.

STA and all of the consultants and future contractors and suppliers on the Project will comply with federal regulations dealing with equal employment opportunities, prevailing wages, and other elements of affirmative action. Project participants must also comply with applicable State of Washington laws.

The Spokane metropolitan area has a diverse and active minority and ethnic business community. The Light Rail Project will facilitate participation from this community through EEO/Affirmative Action and DBE plans. During the performance of any future construction or consulting work in connection with the Project, contractors will not discriminate against any employees or applicant for employment because of race, religion, color, gender, age, physical handicap, or national origin. Contractors will take affirmative action to ensure that employees are treated equally during employment without regard to their race, color, religion, gender, age, physical handicap, or national origin. Such action will include, but not be limited to, employment, upgrading, demotion, or transfer, recruitment or recruitment advertising, lay-off or termination, rates of pay or other forms of compensation, and selection for training including apprenticeship.

During future Project construction phases, contractors will adhere to special work force training and hiring provisions that require a commitment to train individuals as apprentices in the construction trades.

3.5.1 Compliance with Regulations

Contractors will comply with the regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation presented in Title 49, Code of Federal Regulations, Part 40, 49 and other applicable sections.

3.5.2 Solicitations for Subcontractors

In all solicitations made by a contractor, either by competitive bidding or negotiation, and including procurement of materials or leases of equipment, each potential subcontractor or supplier will be notified of the contractor's obligations under the contract relative to nondiscrimination on the grounds of race, color, religion, gender, age, physical handicap, or national origin.

3.5.3 Information and Reports

Contractors will provide all information and reports required by the regulations, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by STA to be pertinent to ascertain compliance with regulations. If a subcontractor fails or refuses to furnish such information, the contractor will so certify to STA as appropriate, and will set forth whatever efforts it has made to obtain the information.

3.5.4 Sanctions for Noncompliance

In the event of a contractor's noncompliance with the nondiscrimination provisions of a contract, STA will impose such contract sanctions as the Authority may determine appropriate, including, but not limited to the following:

- Withholding of payments to the contractor under the contract until the contractor complies
- Termination or suspension of the contract in whole or in part

3.6 Disadvantaged Business Enterprise (DBE) Program

STA has established a Disadvantaged Business Enterprise (DBE) program in accordance with regulations of the U.S. Department of Transportation (DOT), 49 CFR Part 26. STA has received federal financial assistance from the U.S. DOT, and as a condition of receiving this assistance, STA has signed an assurance that it will comply with 49 CFR Part 26. STA is responsible for coordinating with the local community of DBE firms to achieve maximum participation of eligible DBE firms in accordance with STA's DBE Plan.

The STA Board of Directors, by resolution, annually updates the Disadvantaged Business Enterprise (DBE) Policy and establishes the goals for the ensuing calendar year. STA staff then circulates the policy throughout the Spokane Transit Authority organization and to minority, female, and non-minority community and business organizations in the Spokane area. The following information is a summary of the STA DBE Program for 2006 as stipulated by STA Board Resolution 604-05, dated October 13, 2005.

It is the intention of STA that all businesses have equal access to Spokane Transit's contracts without discrimination and regardless of race, color, national origin or gender. Disadvantaged Business Enterprises (DBEs), as defined in part 26, shall have the maximum practicable opportunity to participate in the performance of work relating to all of STA's activities. To this end, STA shall take all necessary steps in accordance with 49 CFR, Part 26, and as amended, to ensure Disadvantaged Business Enterprises an equal opportunity to receive and participate in DOT-assisted contracts. It is STA's policy to:

1. Ensure nondiscrimination in the award and administration of DOT assisted contracts;
2. Create a level playing field on which DBEs can compete fairly for DOT assisted contracts;
3. Ensure that the DBE Program is narrowly tailored in accordance with applicable law;
4. Ensure that only firms that fully meet 49 CFR Part 26 eligibility standards are permitted to participate as DBEs; and
5. Help remove barriers to the participation of DBEs in DOT assisted contracts.

In order to ensure equal participation, Spokane Transit Authority has established, and will review on an annual basis, an overall goal for participation by firms who are, in accordance with 49 CFR Part 26, socially or economically disadvantaged. Spokane Transit Authority will require that prime contractors make good faith efforts to utilize disadvantaged business enterprises and to remove obstacles to DBE participation on all procurement, construction, and consultant contracts for which federal funds are received.

The Disadvantaged Business Enterprise Program has been established for STA and is adopted by the STA Board of Directors. The program is reviewed and updated on an annual basis. The program outlines the overall goals established by STA for the contracting year, the review and update process, and how the program is administered. To assist in administration of the program, STA has designated a Disadvantaged Business Enterprise Liaison. The Disadvantaged Business Enterprise Liaison is responsible for provision of technical assistance to Disadvantaged Business Enterprise firms and will assist STA staff in their efforts to comply with STA's Disadvantaged Business Enterprise Program. Implementation of the DBE program is accorded the same priority

as compliance with all other legal obligations incurred by the Spokane Transit Authority in its financial assistance agreements with the Department of Transportation.

DBE Liaison

The Disadvantaged Business Enterprise Program shall be administered by STA's DBE Liaison or such other person as designated by the Chief Executive Officer. In that capacity, the DBE Liaison is responsible for implementing all aspects of the DBE program and ensuring that STA complies with all provisions of 49 CFR Part 26. The DBE Liaison has direct, independent access to STA's Chief Executive Officer concerning DBE program matters. Other STA personnel responsible for execution of DBE guidelines shall include the Director of Finance and Administration, the Director of Operations, the Planning and Grants Manager, the Purchasing Manager, and other staff responsible for monitoring and administration of grants and construction projects. The Director of Finance and Administration will further facilitate DBE participation by providing assistance in areas of financial matters to include the setting of appropriate and reasonable insurance and bonding requirements and the development and enforcement of prompt payment procedures. The DBE Liaison shall report progress of the DBE Program to the STA Board of Directors.

The DBE Liaison shall develop a referral system on managerial and technical assistance for interested DBEs as well as disseminate information on available business opportunities to the minority business community to facilitate DBE bidding on, and participation in, STA projects. In addition, the liaison shall be responsible for determining "good faith efforts" by contractors in FTA-assisted contracts where goals for DBE participation were not achieved.

STA's Chief Executive Officer shall act as the Reconsideration Officer if a contractor's "good faith efforts" documentation has been rejected as insufficient by the DBE Liaison. Said officer shall be an individual who is neutral and who was not part of the original "good faith effort" determination. The officer shall review the information available, ask for additional information and shall be responsible for making the final determination of "good faith effort."

The specific responsibilities of the DBE Liaison shall include, but not be limited to, the following:

1. Gather and report statistical data and other information as required by DOT, including preparation of quarterly reports and updates to this program.
2. Develop, monitor, and evaluate the DBE Program.
3. Assist in securing management and technical assistance for the establishment, expansion, and overall development of DBEs
4. Provide DBEs with information and assistance in sufficient time to prepare bids and quotations.
5. Attend pre-bid conferences to explain DBE program and respond to questions.
6. Participate in bid and proposal review panels.
7. Follow DBE criteria set by DOT and act as liaison to the Uniform Certification Process in Washington.
8. Work with other interested agencies, public and private, to further the objectives of STA's DBE Program.
9. (This entry not used)

10. Provide assistance to contractors in identifying DBE firms.
11. Monitor contractors' overall compliance with DBE commitments and good faith efforts through life of the contracts.
12. Maintain a bidders list, consisting of information about all DBE and non-DBE firms that bid or quote on DOT-assisted contracts.

The DBE Liaison shall offer additional support services to DBEs including referral to financial institutions, insurance and bonding companies. He/she shall work closely with prime contractors in an effort to alleviate potential financial barriers to program participants, encouraging prime contractors to provide bonding for disadvantaged and women-owned subcontractors and suggesting alternatives such as stage bonding, which is bonding carried over from one project stage to the next, or wrap-up insurance.

The specific responsibilities for other STA staff, such as the Planning and Grants Manager and Purchasing Manager who are in daily contact with contracts involving DBEs or those eligible for DBE participation, shall include working with the DBE Liaison to ensure DBE involvement and provision of assistance to contractors in meeting DBE obligations under this program. Planning assistance will be provided to the DBE by the STA Transit Planner.

The DBE Liaison will work closely with the Purchasing Manager to ensure maximum feasible achievement of overall goal through race neutral measures by facilitating participation as listed below:

1. Arrange solicitations, time of bids, quantities and specifications to facilitate DBE and other small business participation.
2. Offer assistance, as specified above, for bonding, financing and surety costs.
3. Offer technical assistance and other services to DBEs.
4. Provide DBEs information on contract opportunities.
5. Implement a DBE and small business Supportive Services program.
6. Offer services to help DBEs expand and achieve self-sufficiency.
7. Assist DBE start up firms in areas with low participation.

DBE Directory

STA will utilize the Directory of Certified Minority, Women and Disadvantaged Business Enterprises produced by the Washington State Office of Minority and Women's Business Enterprises, as long as the certifications are performed in accordance with 49 CFR Part 26, and as amended. STA has been placed on the mailing list for the State directory and receives twice yearly updates.

The directory will be made available to all bidders and proposers for use in their efforts to meet DBE requirements and will be utilized by STA staff for development of bid lists, requests for proposal and purchasing functions.

DBE Goals

STA has adopted an overall annual goal for FY2006 of 4.21% disadvantaged business participation in federally-assisted contracting opportunities, exclusive of FTA funds allocated for rolling stock. Given the amount of eligible DOT-assisted contracts STA expects to let during FY2006, which is $2,659,742 STA anticipates expending $111,975 with DBEs during the fiscal year.

The DBE program does not use quotas. An overall program, consistent with both Federal requirements and recently enacted Washington State Law, has been established for soliciting DBE participation in contracts and procurements involving federal funds. The following, more detailed, categories are established to better reflect the functional categories of project activity and to facilitate reporting.

Professional Services
Construction
Materials, Supplies & Equipment

Most of the bidders competing for STA contracts are from Spokane County or are within close proximity to Spokane County; therefore, the goal was established by comparing overall business availability for the Spokane area from the U.S. Census Bureau database with area DBEs, certified and capable of performing STA contracts. DBE information is obtained by NAICS code from the DBE catalog issued by the Washington State Office of Minority and Women Business Enterprises.

Future goals will be established by taking into consideration information gathered through the development of a bidder's list in compliance with 49 CFR part 26. Goals will be established annually by the DBE Liaison for relevant categories of professional services, construction, materials, supplies and equipment, based on the goal setting process as stated. These goals will be reviewed and revised as appropriate, but no less frequently than annually. Revised goals and updates resulting from annual reviews will be provided to the U.S. Department of Transportation, Federal Transit Administration (FTA) on August 1 of each year.

To achieve the objective of a narrowly tailored program, STA plans to meet its entire overall goal through race-neutral means. STA will set reasonable and appropriate goals, on a contract-by-contract basis, to meet any portion of the overall goal the agency is not projected to meet using race-neutral means. These may be different for each contract or different than the overall annual goal. STA will establish contract goals only on those DOT-assisted contracts that have subcontracting possibilities. To determine which procurement projects lend themselves to the setting of contract goals, the following will be considered: size of project, the extent of subcontracting opportunities included and availability of DBEs for type of work required. If contract goals are necessary, they will be expressed as a percentage of the total amount of a FTA-assisted contract.

STA will not use DBE quotas or set-asides to achieve the overall annual goal for DBE participation. Participation will be achieved by race-neutral means or by the use of contract goals and good faith efforts. Contractors will not be penalized for failing to achieve contract goals as long as good faith efforts to achieve such goals have been made and documented.

STA will report the status of its DBE program to the FTA on a quarterly basis, using DOT Form 4630 or an update thereof. This will be reported in two ways: one, DBE participation achieved through race-neutral means and through contract goals and two, the total percentage of DBE participation achieved. The report shall show DBE goal commitments and participation actually achieved through payments to DBEs..

3.7 Office Space, Furniture, Equipment and Supplies

The GMEC Consultant will be responsible for maintaining the work environment for the Light Rail Project Team. Specific responsibilities in this regard are:

- Procurement of necessary office space;
- Remodeling/renovation of office space;
- Purchase of furnishings and equipment;
- Maintenance of the telephone system;

Procurement of consumable supplies needed for daily office functions; and
Other tasks as necessary to ensure a smooth running, highly efficient office environment.

Any physical property that may be paid for by STA will be incorporated into STA's fixed assets inventory system. As the project staff increases, additional office space will be secured for STA Light Rail staff.

3.8 Project Management Oversight (PMO)

For projects funded by the FTA New Starts Program, the FTA utilizes transit industry consultants to assist the FTA in monitoring grantee compliance with all applicable federal requirements. The services are provided pursuant to the Project Management Oversight (PMO) program. STA has a great respect for the value of this function and looks forward to developing a good relationship and in securing added benefits from PMO involvement in these projects. However, it is not anticipated at this time that the Project will initially utilize FTA New Starts Funding. As such, it is uncertain whether the FTA will assign a PMO to this Project.

If a PMO consultant is assigned by FTA to provide oversight of STA's management of the Spokane Regional Light Rail Project, STA and it's project team will provide full cooperation. The PMO consultant may review STA policies and procedures, the Project Implementation Plan, Preliminary Engineering documents, the QA/QC program, and proposed implementation approaches including construction, testing and start-up plan to assure adherence to Federal guidelines and industry practice. If assigned by the FTA, the PMO would report directly to the FTA on project progress and problems including cost, schedule, and quality issues.

The Light Rail Project Manager, with support from the GMEC Project Controls Group will be responsible for coordinating the activities of the PMO consultant with the project participants. PMO reviews would be expected to occur as deemed appropriate. The PMO consultant would also participate in Quarterly Review Meetings held with FTA.

3.9 Maintenance and Updating of the Project Implementation Plan

The Project Implementation Plan may be revised at the initiative of STA or as otherwise required. The Project Manager is authorized to implement changes to the Implementation Plan provided they are administrative or procedural in nature. In the event the Chair of the Light Rail Steering Committee determines that proposed changes will affect Board policy, the Board must approve the changes prior to implementation.

4 CONTRACTS AND PROCUREMENT

The Spokane Transit Authority (STA), which is responsible for administering the program and funds for the Spokane Regional Light Rail Project during the preliminary engineering phase, is fully capable of procuring the necessary services and products to implement the Project. STA has in place adequate policies, procedures, and approval authority to handle such procurements, as described herein.

4.1 Federal Procurement Guidelines

To the extent that they involve the Federal Transit Administration, all procurement transactions are to be conducted in accordance with the latest revisions of the FTA's Circular 4220.1D, *Third Party Contracting Guidelines*; the Code of Federal Regulations (49 CFR 18), *Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments*; and in a manner that provides full and open competition between contractors and suppliers.

4.2 Contracting Authority

RCW 36.57A.080 grants authority to the STA to determine and prescribe requirements of notice, bidder qualification and bid conditions for all purchases of goods and services required for continued operations. This authority is confirmed and further delineated in Resolution No. 595-05 by the STA Board of Directors on February 24, 2005.

All procurement transactions, regardless of whether by verbal or written quote, by sealed bid or by competitive negotiation, shall be conducted in a manner that provides, to the fullest extent possible, maximum full and open competition in accordance with this Resolution. Competition in procurement is defined as a condition where two or more sources are able to compete for a requirement in price and/or technical skills. Furthermore, procurements in conjunction with Federal grants and assistance programs shall be in compliance with regulations established by the FTA.

4.2.1 Procurement Methods

At the present time, the STA uses the following methods of procurement:

a. Small purchase (less than $50,000);
b. Competitive sealed bid (Information for Bids, IFB);
c. Competitive sealed proposal, including competitive negotiation (Request for Proposals, RFP, and Request for Qualifications, RFQ);
d. Non-competitive negotiation (sole-source) as provided by RCW 39.04.280 or other applicable laws; and
e. Emergency procurement.

4.2.2 Contracting Provisions

The following listing denotes some of the salient provisions of the STA's current contracting authority as they may apply to the implementation of a light rail transit project. All provisions conform to the requirements of FTA Circular 4220.1D.

- When contracting for professional services, the contract shall limit the total of the base and option time periods to not more than five years, unless approved by the STA Board.
- Board of Directors approval is needed for all purchases over $50,000. Furthermore, specifications for purchases exceeding $100,000 shall be approved by the appropriate standing committee prior to bid solicitation.
- Sole source procurement in a noncompetitively negotiated situation shall be used only when the award of a contract is infeasible under small purchase, sealed bids, or competitive proposal procedures and when certain circumstances, identified in STA Board Resolution 595-05, are applicable.
- The STA CEO is authorized to amend contracts in an amount not to exceed the lesser amount of 15% of the original contract amount or his/her purchasing limit, provided that the amended total does not exceed the amount budgeted for the project.
- The CEO is authorized to enter into intergovernmental purchase agreements between STA and state and other political subdivisions.

The STA self-certifies that its procurement system and procedures comply with the provisions in the FTA's Circular 4220.1E, dated May 5, 1988, as amended or superseded. The CEO shall self-certify the STA's procurement system in the FTA Annual Certification/Assurance Process or as otherwise required by FTA.

4.3 Procurement Approach

4.3.1 Contracting Strategy

The Spokane Regional Light Rail Project requires a contracting strategy that accommodates the project schedule, ensures an integrated system, anticipates the capabilities and limitations of the local contracting community, and satisfies federal, state and local codes as well as requirements for DBE participation. Design, construction and other procurements will be packaged into contracts that are best suited to satisfy these objectives.

4.3.2 Contracting Methods

There are several contracting methods that STA may employ to obtain the necessary services and products for designing, building, and administering the Spokane Regional Light Rail Project. They represent the current industry practices from the perspective of the public agency-owner, and include contracts resulting from proposals, competitive bids, and sole-sources.

A. Proposals

Competitive proposal procurements are used for negotiated contracts, including professional and personal service contracts. “Requests for Proposals” (RFPs) are advertised to maximize competition. Professional consulting services, such as the General Management and Engineering Consulting services contract, are obtained through a qualifications-based procurement where negotiations are subject to fair and reasonable compensation and limited only to the most technically qualified firm.

Construction services and specialized equipment also may be procured through a process where price is not the only consideration. This type of procurement may be handled through an RFP process where technical qualifications are determined by ranking responses against published criteria, along with cost as another, but not sole, consideration.

B. Bids

A sealed-bid procurement is obtained through an Invitation for Bid (IFB) process. This requires advertising with complete and explicit contract documentation for the services and materials desired, such as plans and specifications for furnishing materials and/or construction services. Contract award is typically made to the lowest responsive, responsible bidder.

Where it is not possible to fully detail the scope or quantity of the services or goods to be obtained, competitive proposals are typically requested, as discussed in Section A above.

C. Sole-Source

Non-competitive procurement contracts may be awarded for goods and services, but only on an exceptional and fully documented basis. More specifically, non-competitive procurements are permitted when:

1. Only one responsible source and no other supplier or services will satisfy the STA’s project requirements;

2. There is unusual and compelling urgency caused by other than lack of advance planning;

3. There is inadequate competition after solicitation of competitive proposals; and

4. A capital maintenance item or compatibility with an existing system investment can only be obtained directly from the original equipment manufacturer.

D. Future Procurement Policies and Procedures

STA intends to evaluate its policies and procedures, and augment staff capacity to procure and to administer various contracts, purchase orders, leases, third-party agreements, and the like as the Spokane Regional Light Rail Project evolves. The STA's procurement policies and procedures must address the types of procurement that are anticipated for the Project and must provide a foundation for a Project Procurement Plan, as described below.

In particular, STA may need to negotiate agreements with the railroad(s) for the design and construction of freight rail track relocation, signals and train control improvements and acquisition of rights-of-way within the railroad corridor. Contractual terms and conditions for implementing those elements of the Spokane Regional Light Rail Project will likely fall outside the typical, established procurement procedures of STA.

4.4 Project Packaging

The Spokane Regional Light Rail Project consists of a number of components that could be implemented discretely, collectively, or in combination, and in accordance with the best contract "packaging" strategy. Packages may be configured to include light rail project elements that are common to the implementation process: design and other professional services, construction of fixed facilities, furnishing and installation, or fabricating and furnishing. These are described in more detail as follows.

4.4.1 Professional Services

Contracts may be let for professional services consisting of one or more of the following; general management and engineering consultant (GMEC), discrete engineering and architectural design, environmental, financing, transit operations consulting, real property acquisition, legal, risk management and insurance.

4.4.2 Trackwork and Civil Improvements

This work consists of the demolition and construction of fixed elements within the alignment corridor, including earthwork, grading, drainage, utilities, the track structural section, the ductbanks and appurtenances for the LRT systems. Due to the linear nature of the project, the trackway improvements may be divided into and contracted for construction by "line sections" or collectively on a program-wide basis.

4.4.3 Station Areas

Passenger stations for the light rail line may include platforms, passenger amenities, parking and bus transfer areas, landscaping, access points, and any necessary improvements to the adjacent public right-of-way. There are up to 14 stations anticipated for the project; they may all be constructed under one contract, or grouped by geography into several packages. They may also be included as a part of civil line section contracts (see Section 4.4.2).

4.4.4 Structures

Project structures may include bridges, retaining walls, and large drainage facilities. They may be contracted for construction collectively, individually, or combined with other components in the same contract, e.g., retaining walls as a part of civil improvements.

4.4.5 Light Rail Systems

This category refers to the systemwide components unique to light rail transit lines; signals and communications. The work is generally performed by contractors with particular expertise and experience in these specialized elements.

4.4.6 Maintenance Facility

This facility typically consists of a building(s) for servicing and repairing light rail vehicles (LRV), with offices for administrative and maintenance personnel and yard tracks for storing the fleet of LRVs. The facility often may house the central control from which train operations originate as well as maintenance-of-way equipment. The various types of service and repair equipment, central control components, employee and visitor parking, site improvements and landscaping may be a part of the building facility contract or be dealt with separately.

4.4.7 Rolling Stock

New light rail vehicles will be procured in quantities sufficient to provide for the intended revenue service as well as spare vehicles for backup.

4.4.8 Fare Collection Equipment

The light rail line will employ a self-service proof-of-payment system, consisting of ticket vending machines and validators to be installed at all stations.

4.5 Procurement Plan for Design and Construction

A plan for procurement of design and construction services will be developed during the preliminary engineering phase. This will specify and suggest packaging arrangements to be utilized, including the possibility of traditional design/bid/build contracts, design/build contracts, construction management/general contractor (CM/GC) types of contracts and other possible methods that may include project financing and operations.

5 RISK MANAGEMENT

The Spokane Transit Authority's (STA) Risk Management activity interacts with all STA departments and will be responsible for evaluation and administration of risk management for the Spokane Regional Light Rail Project. The Manager of Risk Management (e.g. Safety and Loss Control Manager) heads the Department, and reports to the Human Resources Manager. The Risk Management Manager is not a dedicated project position, but would need to coordinate closely with the Light Rail Project Manager and staff Legal Counsel who will serve as the Project liaisons for risk management matters.

5.1 Responsibilities

The principal functions of the Risk Management Department for the Spokane Regional Light Rail Project are:

- Identify STA's risk exposures due to the Spokane Regional Light Rail Project;
- Evaluate the best methods to mitigate STA's exposures. An Owner-Controlled Insurance Program (OCIP) is a viable mechanism for insuring major construction projects, with a number of advantages;
- Determine the appropriate amounts of insurance to adequately protect the project, including both the liability and property exposure areas;
- Prepare and present fiscal year budget requirements for risk management for the Spokane Regional Light Rail Project;
- Implement a program to track the project's loss experience in the areas of workers' compensation, general liability, and builder risk;
- Assist in implementation of a safety program to reduce the ultimate costs and liabilities associated with the project;
- Establish insurance standards for contractors and suppliers providing services to STA. Monitor coverage presented by such contractors, and correct deficiencies when STA's standards are not in compliance;
- Coordinate pre-construction and post-construction surveys;
- Manage STA's existing self-insurance liability program for possible implementation with light rail construction and operation;
- Oversee user safety and security features including Crime Prevention through Environmental Design (CPTED) during design and construction;
- Risk Manager will be responsible for overall site security and would coordinate requirements with project contractors to ensure adequate provisions are in place;
- Risk Manager will develop an approved light rail system security plan; and
- The Risk Management department will inspect the light rail construction sites for WISHA and OSHA compliance.

It is the primary responsibility of the Risk Manager to identify those areas of exposure that place STA at risk during the Spokane Regional Light Rail Project, and work with Project staff to take the necessary action to protect against that risk in a fiscally responsible manner.

Sound risk management, including both risk control and risk financing, strives to minimize the costs associated with pure risks and accidental losses, and adds to the predictability of the costs. Risk control (safety) pursues this objective by reducing the frequency or severity of accidental losses; risk financing (insurance) pursues this objective by providing funds for financing recovery from those losses that cannot be wholly prevented.

5.2 Insurance

Two basic alternatives will be evaluated to provide risk financing (i.e., insurance) for the Spokane Regional Light Rail Project; conventional insurance and an Owner-Controlled Insurance Program (OCIP). Under an OCIP, coverage is provided for the owner, designers, general contractors, subcontractors, and other parties to the construction contract, rather than having each design and construction entity purchase its own insurance. This insurance arrangement is paid for, provided by, and controlled by the owner. Through this tool, substantial premium reductions may be realized on large construction projects.

In addition to the OCIP, each designer, construction contractor or supplier will also be responsible for its own insurance outside the project site. The scope of work for each contract will be reviewed by Risk Management to determine any special coverage required above the usual requirements.

5.2.1 Conventional Coverage

Prior to commencing work the contractors shall furnish certificates of insurance. The certificates of insurance shall name STA as an additional insured for any work performed on behalf of STA. The certificates of insurance must show the following minimum limits of insurance coverage:

WORKERS' COMPENSATION	STATUTORY REQUIREMENT
Employer's Liability	$1,000,000
Automobile Liability (Bodily injury and property damage, combined single limit)	$5,000,000
Comprehensive General Liability (Bodily injury and property damage, combined single limit)	$5,000,000

Liability policies may be arranged under individual policies for the full limits required, or by a combination of underlying policies with the balance provided by an umbrella liability policy. The above described liability insurance is generally written on an occurrence basis under standard insurance form language. Claims-made-basis coverage will be allowed.

Comprehensive General Liability coverage shall include Premise/Operations, Independent contractors, Products/Completed Operations, and Perils of Explosion, Collapse and Underground Liability, Personal Injury, Broad Form Property Damage including Completed Operations.

All insurance companies providing the required coverage must be at least "A" rated by A.M. Best, and must be licensed to transact business in Washington. Additionally, all certificates furnished must contain a statement that STA's Risk Manager will receive a 60-day advance notice of any policy cancellation.

5.2.2 Railroad Protective Liability

Railroad Protective Liability Insurance covering the work to be performed on the Spokane Regional Light Rail Project on, or adjacent to, the Union Pacific Railroad (UPRR) and/or the Burlington Northern Santa Fe (BNSF) will be required. The policy form should include coverage for physical damage to property and coverage for pollution arising out of fuels or lubricants brought to the job site. If a claims-made policy form is used, the extended claims-made date shall be a minimum of two years past the expiration date of the policy.

The following limits will be required for the contractors on the Project:

- $2,000,000 combined single limit per occurrence for bodily injury, personal injury, and property damage; and

- $6,000,000 annual aggregate (or $2,000,000 if the aggregate applies only to claims and legal expenses that arise out of the activities under an individual contract).

5.2.3 OCIP Coverage

The OCIP concept is also referred to as a "wrap-up" or Owner Controlled Insurance Program. It offers the potential of significant cost savings with respect to the total insurance or risk financing costs of a large construction project.

One party (generally the owner) purchases most of the insurance coverage for a project on a blanket basis. This project coverage is then available for the benefit of all the contractors and subcontractors, as well as for the benefit of the owner and the project management. The following coverage is typically included in an OCIP:

- Builders' Risk;
- General Liability;
- Workers' Compensation and Employers Liability;
- Umbrella or Excess Liability; and
- Other coverage that may be considered, such as Professional Liability, Environmental Liability, and cost Cap Insurance for Pollution Liability Clean Up.

An OCIP generally does not include automobile liability, contractor's equipment, or surety bonds.

Railroad Protective Liability insurance, which may be required for the Spokane Regional Light Rail Project, can also often be purchased on a blanket basis.

5.3 Safety

As the Project progresses into the final design stage, STA will establish a comprehensive safety program for the construction, operation and patron use of the Spokane Regional Light Rail Project. Details of this plan and its relationship to the Spokane Regional Light Rail Project will be fully described in a future Safety and Security section of this Implementation Plan. The primary facets anticipated to be included are summarized here because of the close linkage between risk control and risk financing.

5.3.1 Operational Safety

STA anticipates the development of a program for operational safety of the light rail system which will be documented in STA's "System Safety Program Plan." The plan will establish technical and managerial safety strategies for the identification, assessment, prevention, and control of hazards to passengers, employees, and those who may come in contact with the light rail system. The plan will include activities related to safety certification of the Spokane Regional Light Rail System prior to its opening for revenue service.

5.3.2 Construction Safety

Safety requirements during Spokane Regional Light Rail construction will be pursuant to a future STA "Construction Safety Manual." This will be drafted upon □gnition of Final Design and Construction. Each contractor will be required to initiate, maintain, and supervise all safety precautions and programs in connection with their work.

5.3.3 Emergency Preparedness Planning

STA will develop emergency management plan(s) specific to the Spokane Regional Light Rail Project. The plan will provide a comprehensive approach for the management of emergencies. Its scope will include prevention, preparedness, response, and recovery from events such as terrorist attack, fire, earthquakes, storms, surface and subsurface flooding, failure or collapse of structures, power failures, civil disturbances, and accidental release of hazardous substances. The Spokane Regional Light Rail Project prime contractors will be responsible for developing and implementing the plan related to their work.

5.4 Hazardous Materials

STA will establish a hazard communication program to ensure that all employees are trained in the safe handling of hazardous substances and wastes that they may be exposed to in the work place, either by their use and/or unintentional release. Each contractor on the Spokane Regional Light Rail Project will be required to develop a hazard communication program specific to its work in compliance with STA's program prior to the commencement of any contract work.

5.5 Pre-Construction Surveys

A pre-construction survey is the examination of buildings, utilities, underground structures, or other structural improvements within an area that may be influenced by heavy construction activities. The pre-construction survey is used to record any existing cracks or other damage, and to provide a baseline in the event any damage is perceived due to construction. Construction activities for the Spokane Regional Light Rail Project will include heavy equipment activities and compaction that may cause ground vibration. Additionally, traffic changes during Spokane Regional Light Rail construction may bring vehicles closer to people's homes and businesses.

A pre-construction survey coordinated by Risk Management will be planned for selected locations on the Spokane Regional Light Rail alignment. Areas where vibration will be evident to neighbors will be especially targeted. It is not anticipated that any structural damage to existing facilities will be caused; however, surveys will assist in issue resolution should damage claims be filed.

STA will prioritize and schedule pre-construction surveys during the final design process. The use of "bellwether" sites for establishing vibration and cracking trends will be considered in lieu of comprehensive surveys. If any deep excavations adjacent to existing structures are required, ground movement monitoring instrumentation will be provided under the applicable construction contract. The need for any such instrumentation will be determined during final design.

Post construction surveys may also be conducted once construction has been completed if there is reason to believe damage may have occurred or a claim filing is imminent.

6 PROJECT FINANCE

A sound financial plan for construction and operation of LRT must be in place prior to project implementation. During the Conceptual Engineering Phase the project team developed a model plan that provides adequate resources prior to completion of construction in 2014.

6.1 Guidance for Finance Plan Definition

The Steering Committee has previously concluded that the financial plan should have the following characteristics:

- Maximum local control
- Diversified funding sources that include the cities along the alignment and the State of Washington
- Participation from property owners and business that have the most to gain from the construction of light rail.
- Use of additional sources of revenue beyond those currently being used to fund transit

There are two other criteria that STA should consider in making its decision on a financial plan. The first is that a major portion of the funding should come from a single reliable source. The project will be financed through borrowing. A large reliable source of funding will reduce risk and reduce borrowing costs

The second criterion is that the funding sources must be viewed by the public as balanced and fair. A financing plan that is viewed this way is a matter of judgement for the decision makers. There isn't a formula for creating the perception of balance and fairness. Taxing business and property owners who directly benefit will be part of convincing the public that the financing plan is fair. Re-allocating existing resources would be another signal. Being creative in the identification of revenue sources would demonstrate "out of the box" thinking that could reinforce positive perceptions.

6.2 Cash Flow Requirements

A cash flow analysis has been completed for the project as defined herein, with a start-up date of 2014. The cost estimates used were those generated from base cost estimates developed during conceptual engineering and analyzed during the risk characterization workshop.

Cost Breakdown

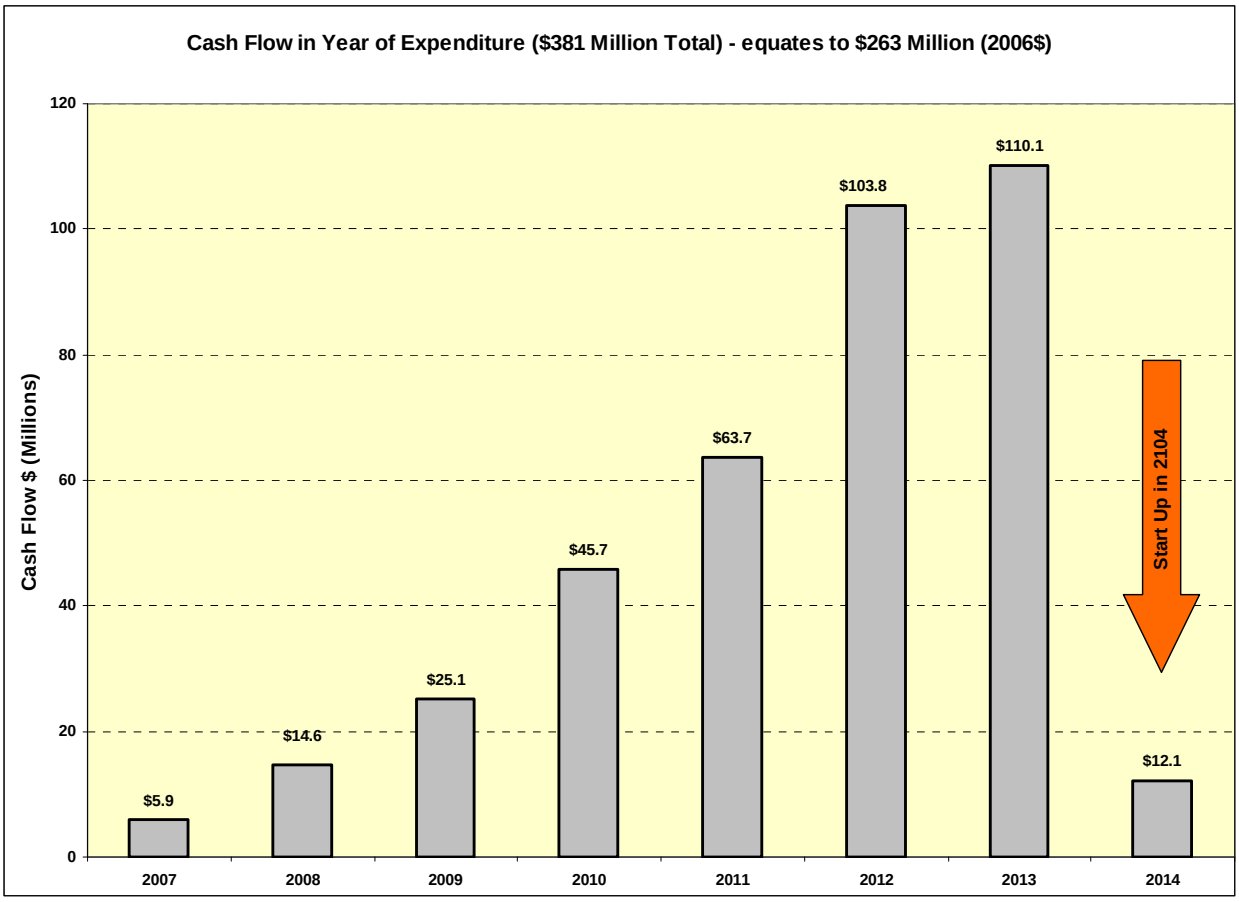
A risk characterization workshop was held on May 30 through June 2, 2006. At the workshop, each sub-component from the original cost estimate was given a realistic escalation rate to 2006 costs, based on nationally published industry data. The contingency was removed from the cost data. A risk model was applied during the workshop (*@Risk for MS Excel)*. It estimates the combined impacts of project risks using a *Monte Carlo* simulation method. After processing the data using the risk model, the total project cost, with 80% probability of underrun, was determined to be $263.4 million in 2006$. This number was below the "cap" on total project cost of $300 million (in 2006$), as recommended by the Light Rail Steering Committee. Using

the same model, the escalated dollars were determined to be $381.0 million in mid-point 'year of expenditure' dollars, again with 80% probability of underrun.

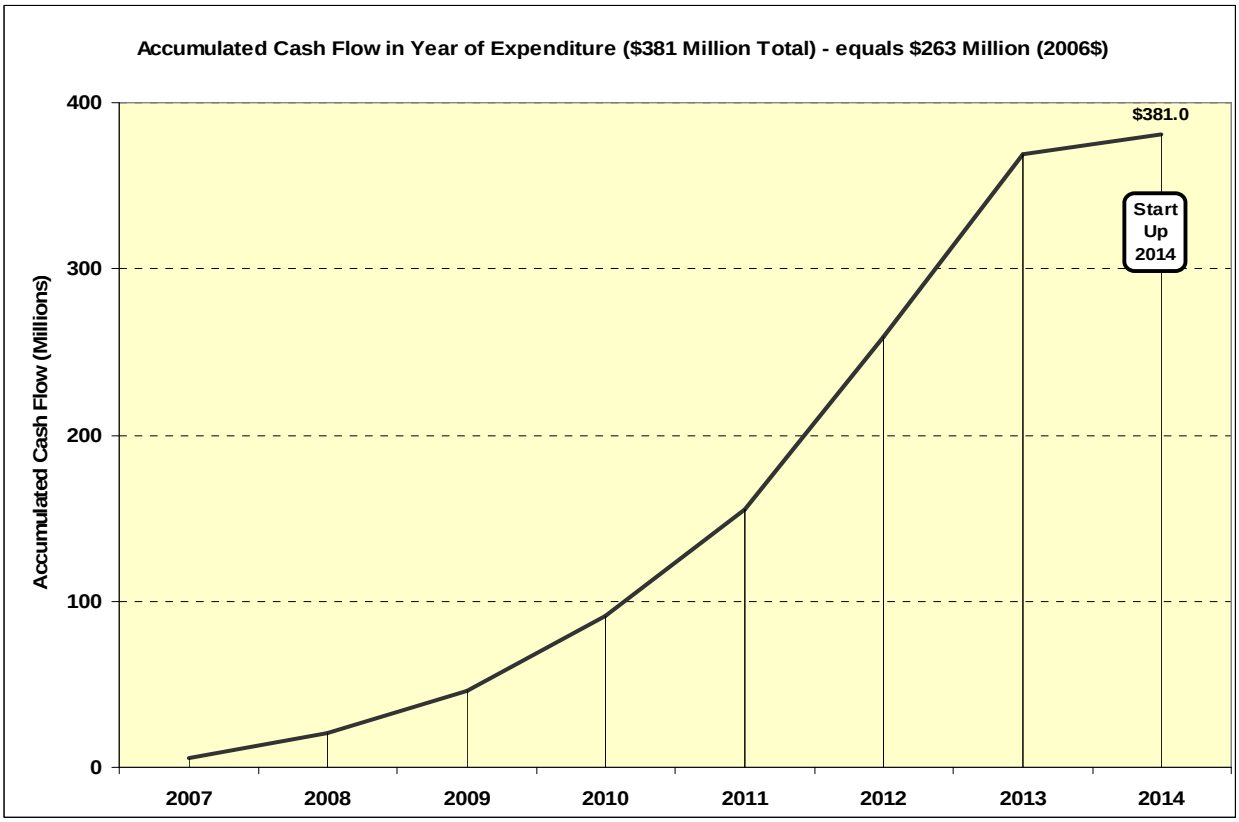
Cash Flow

The distribution of expenditure, by component, by year, is based on the year of start-up together with the anticipated percentage of each component expended in each project year. This is based on experience from other similar projects, and includes recommended procurement lead times on vehicles, etc. All projected dollars are shown for each component in actual year of expenditure. The same annual escalation rate was assumed for all the individual components. The cumulative dollars, in any component, amounts to the total dollars by year, each in the year of expenditure with a grand total cost of $381 million, as determined by the risk model. The following exhibits outline the projected cash flow over the life of the project with 2014 start up:

- Cash Flow by year



- Accumulated Cash Flow



- Component Cost Breakdown (with in 2006$)

Project Component	Escalated to 2006 % at Risk Characterization Workshop on 060106 No Contingency	Escalated to 2006$ for $263.3 Total (based on Risk Analysis = 80% Probability of Underrun) NO Contingency (All in $ Millions)
Civil Construction	$46,233,054	**55.6**
Utilities	$14,924,400	**18.0**
Structures	$577,306	**0.7**
Stations	$3,157,614	**3.8**
Park & Rides	$3,632,488	**4.4**
Operations/Maintenance Facility	$3,642,904	**4.4**
Traction Power System		**0.0**
Signal System	$24,678,053	**29.7**
Communications	$2,136,628	**2.6**
Fare Collection	$1,016,400	**1.2**
Right of Way	$27,170,000	**32.7**
Vehicles	$44,784,000	**53.9**
Engineering & Administration	$37,238,797	**44.8**
Contingencies		**0.0**
WA State Sales Tax	$9,696,141	**11.7**
Subtotal (2006 $ Millions)	**$218,887,785**	**263.3**

- Component Cost by Year – with 80% probability (in Year of Expenditure $)

Project Component	Preferred Option Total = $263.3 Million (in 2006 $ (Millions)	2007	2008	2009	2010	2011	2012	2013	2014	TOTAL
Civil Construction	55.6	-	-	-	3.7	14.8	29.3	31.3	5.7	
Utilities	18.0	-	-	-	5.9	10.1	7.8	1.7	-	
Structures	0.7	-	-	-	0.1	0.4	0.4	0.1	-	
Stations	3.8	-	-	-	-	0.8	2.6	2.4	-	
Park & Rides	4.4	-	-	-	-	-	1.6	3.9	1.5	
Operations/Maintenance Facility	4.4	-	-	-	0.9	2.5	3.0	-	-	
Traction Power System	0.0	-	-	-	-	-	-	-	-	
Signal System	29.7	-	-	-	-	10.4	15.6	19.1	-	
Communications	2.6	-	-	-	-	0.9	1.4	1.7	-	
Fare Collection	1.2	-	-	-	-	-	0.7	1.2	-	
Right of Way	32.7	3.5	12.0	15.2	8.6	-	-	-	-	
Vehicles	53.9	-	-	-	14.1	7.6	24.3	34.7	-	
Engineering & Administration	44.8	2.4	2.6	9.9	11.8	12.6	12.1	6.5	3.9	
Contingencies	0.0	-	-	-	-	-	-	-	-	
WA State Sales Tax	11.7	-	-	-	0.8	3.6	4.9	7.5	1.0	
TOTAL ($ Millions)	263.3	5.9	14.6	25.1	45.7	63.7	103.8	110.1	12.1	381.0

- Assumed Percentage of Component by Year

Project Component	2007	2008	2009	2010	2011	2112	2013	2014
Civil Construction				5%	19%	35%	35%	6%
Utilities				25%	40%	29%	6%	
Structures				10%	40%	40%	10%	
Stations					15%	45%	40%	
Park & Rides						25%	55%	20%
Operations/Maintenance Facility				15%	40%	45%		
Traction Power System N/A								
Signal System					25%	35%	40%	
Communications					25%	35%	40%	
Fare Collection						40%	60%	
Right of Way	10%	32%	38%	20%				
Vehicles				20%	10%	30%	40%	
Engineering & Administration	5%	5%	18%	20%	20%	18%	9%	5%
Contingencies				15%	35%	35%	15%	
WA State Sales Tax				5%	22%	28%	40%	5%

6.3 Illustrative Capital Finance Plan

The Finance Plan developed by the Project Team relies upon 9 separate funding sources. In developing this plan, the primary considerations were the Steering Committee Criteria, the adequacy of the funding source, the timing of its availability during the construction period and the likelihood for community support. The plan does not address which entity would impose the required taxes. In all likelihood the combined action of a number of jurisdictions would be needed. The preparation of a Finance Plan at this stage of project development is more art than science. There is no formula for the type and amount of funding; the Project Team used its best judgment to create a plan that was reasonable and achievable, based upon today's circumstances. Voter approval would be required for several of the funding sources, so future communications with the public about the project could lead to changes in the funding sources and amounts.

Based on the cash flow requirements documented in the previous section, the capital requirement for the project is $263 million in 2006 dollars or $381 million in year of expenditure dollars. Therefore the Finance Plan must be adequate to fund the capital cost of the project as well as provide a positive cash flow in each year of project development.

The following table summarizes an Illustrative Finance Plan.

Suggested Capital Resources

Resource	***Amount (Millions of Year of Expenditure Dollars)***
STA Savings	10
Sales Tax @ 0.2%	
Cash in Excess of Debt Services	64.8
Bond Receipts	195.4
Tax Increment Financing	10
Local Improvement Districts	10
FTA Section 5307 Funding (or Equivalent)	
Cash in Excess of Debt Services	36.8
GARVEE Bonds	31
Interest on Annual Cash Balances	5
Other Federal Funds	18
Total Resources	***$381 Million***

The sources and amounts are as follows:

Sales Tax: The majority of funding would be derived from a sales tax of 0.2%. This would generate adequate funding for a $195 million in bonds and 65 million in direct cash contributions.

Section 5307 Formula Funds: This is the next most significant component with $31 million in GARVEE bonds and 36.8 million in direct cash contribution.

STA Savings: STA is currently experiencing higher than anticipated revenues from sales tax. Some of this money is accumulating and could be used to support the project in the early years of development

Tax Increment Financing: This is a tool that is relied upon in other states. Washington State has not had this tool available, but recent legislative changes have opened the door to its use in limited circumstances. A contribution of $10 million is assumed at the end of construction to provide time for the legislature and local governments to make the program available and workable.

Local Improvement District: The investment in LRT and LRT stations will create development opportunities and enhance property values for adjacent property owners. A local improvement district is a mechanism for benefited property owners to support a portion of the cost of the capital investment. The Project Team assumed a $10 million contribution based upon an analysis of each station area's potential benefits.

Other Federal Funds: The Spokane region is well positioned for additional support from its Congress for this project. The Team assumed that a total of $18 million was reasonably achievable over the 7 year construction period.

6.4 Operating Requirements

The following table summarizes the operating requirements and sources in year of expenditure dollars. The operating requirement of $9.3 million is based on a current year estimate escalated to year 2014, the year the system is planned to open. This amount would be supported by farebox revenue, sales tax revenues and STA revenues that become available at the conclusion of construction.

Operations Cost Requirements

Operations Cost Resources	***Amount (Millions of year 2014 dollars)***
Fare Box Revenues	1.8
Sales Tax	5.0
Other	2.5
Totals	***$9.3 Million***

6.5 Next Steps in Development of the Financial Plan

The finance plan set forth in this report illustrates the combination of resources that is reasonably achievable, given what is known today about the project and the authorized financial resources. This plan must be refined as the project moves forward.

A primary objective of STA at this point is to create a strong foundation for financing the project. The following actions should be undertaken to accomplish that objective:

Community Support: STA must continue and, if possible, accelerate its community outreach program. In particular, it is important to communicate with the Spokane Business Community about the benefits of light rail both to their businesses and the community at large. In other communities, the support of the business community has been essential for a successful financial strategy. The Public Involvement program is discussed in Chapter 10 of this document.

Build Case for Development Benefits: A local improvement district and or tax increment financing may be a part of the financing strategy. In other communities light rail systems have helped raise property values and stimulate development near station areas. Spokane does not have this experience. In addition, tax increment financing and local improvement districts are not widely used financial tools. Together these circumstances suggest that businesses will need to be educated about how they will directly benefit from the project. Otherwise there is a danger that they will not support the use of these two financial tools when the need arises. Again, this should take place through the Public Involvement program.

State Legislative Changes: Some of the financial tools suggested in this report will require modest legislative changes in order to be usable for this project. For example, Tax Benefit Districts are currently limited to 10 years on the length of a sales tax. This is too short a time to be able to use it effectively for project financing. STA should work with its attorneys and state legislators to develop a proposal for necessary changes in advance of the time that funding needs to be in place.

Congressional Support: Developing support for the project must also include the Washington State Congressional Delegation. Congressional authorizations and appropriations can provide financial resources for the project. Getting these resources requires careful and persistent work with the delegation and the community. The state's Congressman and Senators will want to know that there is support from elected officials, the business community and citizen groups. They will also want to know that there is a viable financial plan in place. It is not too early to start communicating with the delegation about the project and keeping them continuously informed of the progress being made by STA.

During the preliminary engineering phase of development, the financial plan should evolve to a final form and efforts must be undertaken to confirm and enable the major sources of funding. A detailed work program for this effort should be developed as an initial activity.

7 PROJECT CONTROL

Project Control refers to the collection of established processes employed to manage cost, schedule, and quality goals for the project. For the Spokane Regional Light Rail Project, the development, implementation, and enforcement of project control activities are the responsibility of the Project Controls Manager.

Project Control provides accurate and timely project cost and schedule information for management, as well as regular analyses and review of projections and variances. Project Control will also develop and employ procedures to uniformly document changes made during the project design and construction phases. This information facilitates on-going review of individual contract performance as well as analyses of overall project trends. Project Control will also facilitate the Project Quality Assurance/Quality Control (QA/QC) Program. The goal is to assure that all scope, schedule, cost and quality goals are met.

7.1 Project Schedule

Schedule management is the responsibility of the Project Management Team, under the direction of the Light Rail Project Manager and with input from all participants of the Spokane Regional Light Rail Project. It is accomplished through the use of several levels of schedules, a strict schedule change control process, and a comprehensive monitoring and reporting system.

Primary responsibility for schedule management will be vested in the Project Controls Manager. The incumbent in this position will maintain the project master schedule and supervise schedulers assigned to specific contracts. Assigned schedulers will provide technical support to contract managers.

7.1.1 Scheduling Procedures

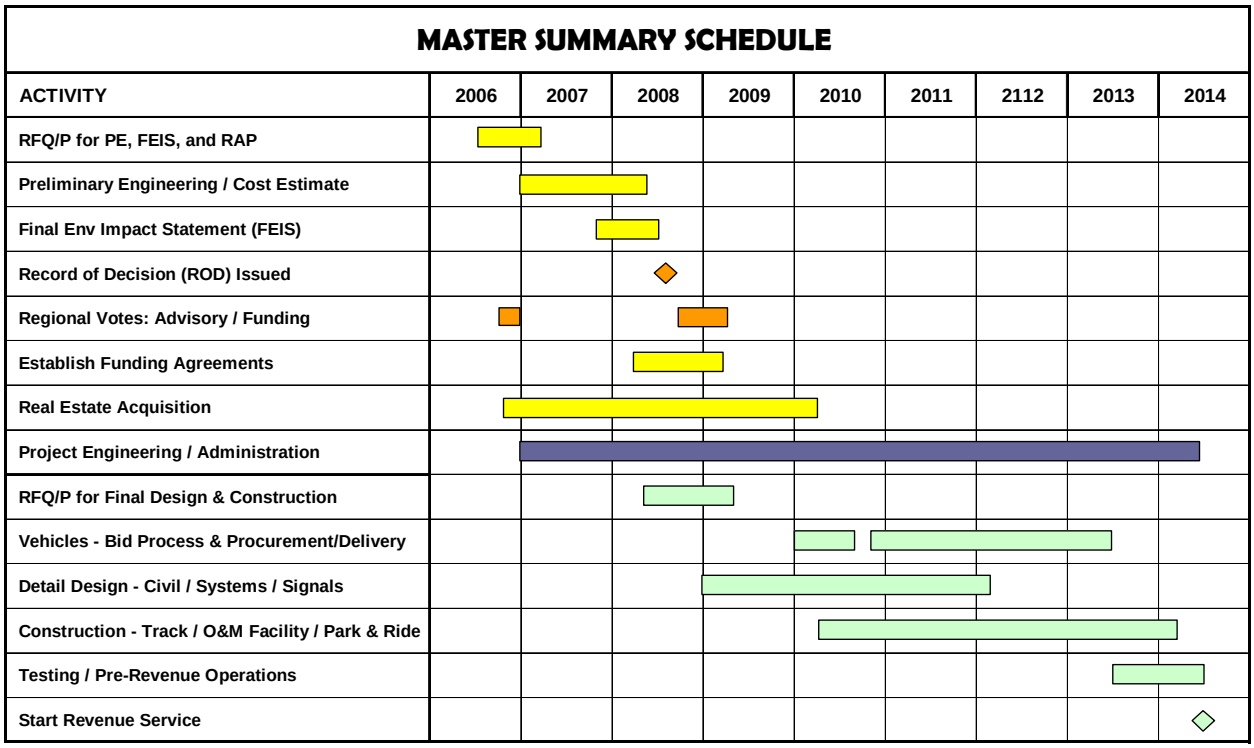
Procedures have been established as outlined in this section to provide efficient, timely, and accurate methods of schedule control, monitoring, and reporting. Scheduling provides a planning framework not only for the Spokane Transit staff, but for federal, state, and local agencies, as well as public and private utility companies, railroads, local community groups, businesses, consultants, suppliers, and contractors. Project scheduling staff will use Critical Path Method (CPM) scheduling techniques and the appropriate scheduling software.

During the Preliminary Engineering Phase, appropriate project scheduling software will be determined for use on this Project. It will be used for the project master schedule.

CPM schedules will be developed for the project. During Preliminary Engineering, these schedules will establish activity definitions, durations, key milestones, and major task interfaces between Management, Controls, Public Involvement, Project Clearances, Civil Engineering and Systems Engineering. Schedules will be developed at several levels of hierarchy for different user requirements, as noted below.

7.1.2 Master Summary Schedule

The first and highest schedule level is the Master Summary Schedule. This level is an overview of the project for use by the STA Board, Project Steering Committee, Project Manager, and executive level management of outside agencies, the FTA, and community leaders. The development and maintenance of this schedule is the responsibility of the Project Controls Manager. A draft Master Summary Schedule is shown below

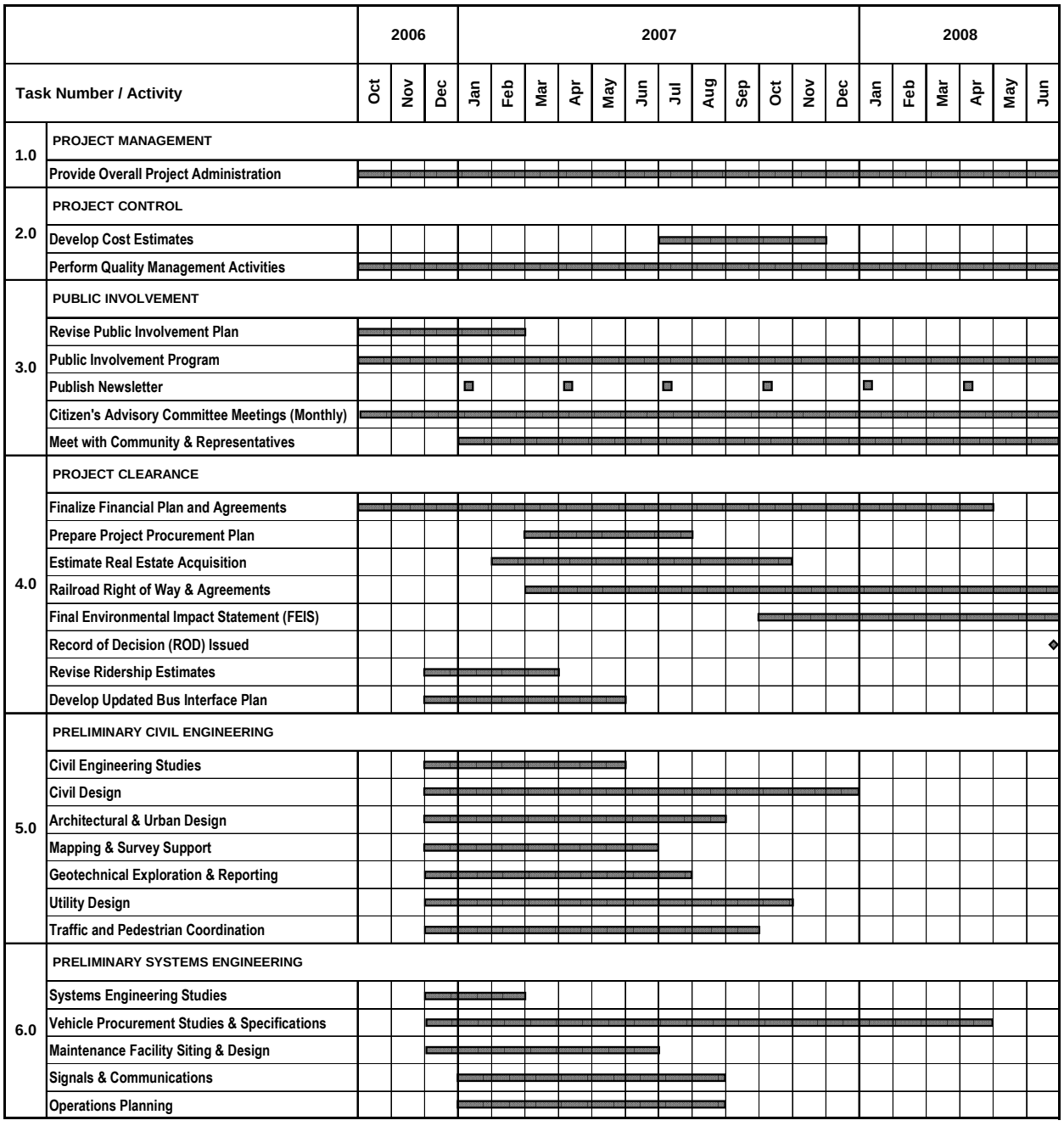


7.1.3 Preliminary Engineering Schedule

The second scheduling level is the Master Program Schedule. During Preliminary Engineering, this level includes design, study and major coordination activities for each major Preliminary Engineering task. It also includes activities for interfaces with various parties who may be involved in the resolution of utility identification and relocation planning, right-of-way acquisition identification, operations planning, and future planning for final design, construction, testing, start-up, pre-revenue training, and certification up to the date of revenue operation. This schedule will be the primary tool used by project management to track the schedule performance of the entire project. The development and maintenance of this schedule is the responsibility of the Project Controls Manager.

A draft Preliminary Engineering Schedule is shown on the next page.
During other project phases, the Master Program Schedule will be expanded to address selected contract packaging and other relevant activities.

PRELIMINARY ENGINEERING SCHEDULE



7.1.4 Detail Schedules

Lower level schedules are termed Detail Schedules. They outline the detailed activities that represent the work under each contract. These are the working schedules that facilitate planning and implementation contract package determination. These will be initially developed during the Preliminary Engineering phase of the project, and continued into future implementation phases.

7.1.5 Design Schedule

Design schedules will be developed to coordinate all design activities during the Preliminary Engineering and Final Design Phases of the project.

7.1.6 Construction, Equipment Procurement and Installation Schedules

Preliminary schedules will be developed during the Preliminary Engineering Phase of the project initially in consultation with the principal task managers. These will be expanded and detailed to assist in management of these activities throughout the implementation process.

7.1.7 Utility Schedules

These schedules will be initially developed during the Preliminary Engineering Phase of the project for public and private utility work. These schedules will be built into preliminary relocation agreements that will be developed and monitored closely throughout implementation.

7.1.8 Third Party Jurisdictions

Schedules will be developed for the work of other public jurisdictions (i.e., the Cities of Spokane, Spokane Valley, and Liberty Lake, Spokane County, Washington State DOT) to address needs for project coordination and design support during preliminary engineering and beyond. Preliminary schedules for future construction activities, and for restrictions in and around the project alignment will also be developed during the Preliminary Engineering Phase of the project.

7.1.9 Systems Integration and Start Up

During Preliminary Engineering, an initial systems integration and start-up schedule will be developed. It will detail the various steps necessary to bring the completed phases of the project on line in an orderly and timely fashion. Activities in this schedule will include: vehicle testing, final integrated testing, operations training, maintenance training, start-up preparation, operations staffing, customer information efforts, signage, and simulated revenue operations.
These schedules will be developed in detail during the Final Design Phase of the project.

7.1.10 Baseline Master Program Schedule

A Baseline Master Program Schedule for project implementation will be agreed upon. This should be scheduled within six months of the start of final design.

7.1.11 Schedule Updates and Revisions

Detailed procedures for schedule updates and revisions will be developed during the Preliminary Engineering Phase.

7.2 Cost Management and Change Control

STA will establish an overall budget for Preliminary Engineering and related activities for this phase of the project. The budget will include costs for agency staff, consultants, and services of others involved in the Project.

7.2.1 Cost Control Procedures

Cost control procedures will be established during Preliminary Engineering and carry over into later phases of effort.

7.2.1.1 Preliminary Engineering Phase

In order to manage all activities within the budget, monthly project reports will be prepared to track all costs against approved budgets. Design activities will closely track design changes against the baseline cost estimate for the project established during the Conceptual Design Phase, allowing for status to be monitored, actions to be taken, and assumptions to be adjusted as the design progresses. The purpose of this monitoring is to identify early those project elements that have cost variances from the baseline budget.

7.2.1.2 Final Design and Construction Phase

The formal budget for the project will be established by STA. In order to manage construction bids within the budget, construction cost estimates will be monitored and adjusted as the design progresses. The purpose of this monitoring is to identify early those project elements that have cost variances from the established budget.
A cost monitoring system, organized by WBS numbers, will be used during the construction phase. Any change orders that arise will be added to the contract and the cost-tracking system. This will be developed during Preliminary Engineering and Final Design phases of the project. It is also noted that the Risk Analysis process will be used to assist with cost control and risk mitigation as described in a later section.

7.2.2 Cost Tracking System

The purpose of the cost tracking system is to track budget, contract commitments, expenditures and project funding sources. The cost tracking system will provide timely information of

sufficient level of detail to accurately assess contract status, forecast budget impacts, and measure overall financial performance. It will also provide a means for tracking contract change orders, bid item adjustments, estimates to complete, remaining contingency, progress payments, and budget variances. This will be developed during Preliminary Engineering and Final Design phases of the project. The cost tracking system will record costs by Work Breakdown Structure (WBS) element (contract-focused) as well as other criteria.

7.2.3 Budget

Budget information will be entered by Work Breakdown Structure (WBS) category. Information stored for each WBS will include the baseline-engineering estimate and changes of scope or budget transfer which occur throughout the project. This will be further developed during the Preliminary Engineering and Final Design phases of the project.

7.2.4 Total Costs to Complete

Estimated total of all expenditures at the completion of the project is termed "cost to complete". It includes all contracted expenses, known change orders, anticipated changes, and planned contingency amounts. Cost-to-complete data, reported by WBS, will be included in the cost database and used to provide interim cost reports. The data may also be reported by contract and by other factors. It will be developed during Preliminary Engineering and Final Design phases.

7.2.5 Variance/Budget Revision Procedures/Contingency Planning

Variance is the difference between the budgeted cost and cost-to-complete. Details to report and manage variance will be developed during Preliminary Engineering and Final Design phases of the project.

7.2.6 Change Order Procedures

Procedures for initiating and processing contract change orders for construction and equipment installation contracts will be developed during Preliminary Engineering and Final Design phases.

7.2.7 Cost Allocation Plan

A cost allocation plan will be developed during Preliminary Engineering and Final Design phases of the project to distribute project management and administration costs.

7.2.8 Invoice Processing and Accounting

Procedures for construction contract invoice processing and accounting will be further developed during Preliminary Engineering and Final Design phases of the project.

7.2.9 Federal Funding Grant Reporting

To the extent that federal funds may be used for implementation of this project, an additional element of grant reporting is an audit verification of expenditures by outside independent and Federal auditors which may be conducted annually. This issue will be addressed during Preliminary Engineering and Final Design phases of the project.

7.3 Risk Assessment

This project will be implemented using a *risk management* approach. In this approach, events and other uncertain factors that may influence the implementation of a project are identified and evaluated through a rigorous process of risk assessment. The impacts of the risks presented by project uncertainties are quantified and strategies are developed to mitigate the cost and schedule impacts of project risks. The Washington State Department of Transportation (WSDOT) uses a risk management approach to establish project costs and schedules for all major projects in the state. The Federal Transit Administration now requires that a risk management approach be used on the implementation of its New Starts projects.

7.3.1 Initial Risk Characterization Study

In May and June of 2006 the GMEC conducted an initial risk characterization study. The purpose of the study was to provide a systematic assessment of events and other factors that potentially could affect the cost of the Spokane Regional Light Rail Project. Early evaluation and identification of the most important risks, means that the impact of these risks can be managed, limiting the potential for unanticipated cost increases during project implementation. Mitigation strategies that could guide future efforts to manage project costs were also presented in the report documenting this study.

The risk characterization process includes the following major activities:

- Review and update of project information regarding design, scope and cost
- Risk identification and quantification
- Modeling of risk impacts to project cost
- Prioritization of risks for mitigation
- Identification of initial risk mitigation strategies
- Documentation

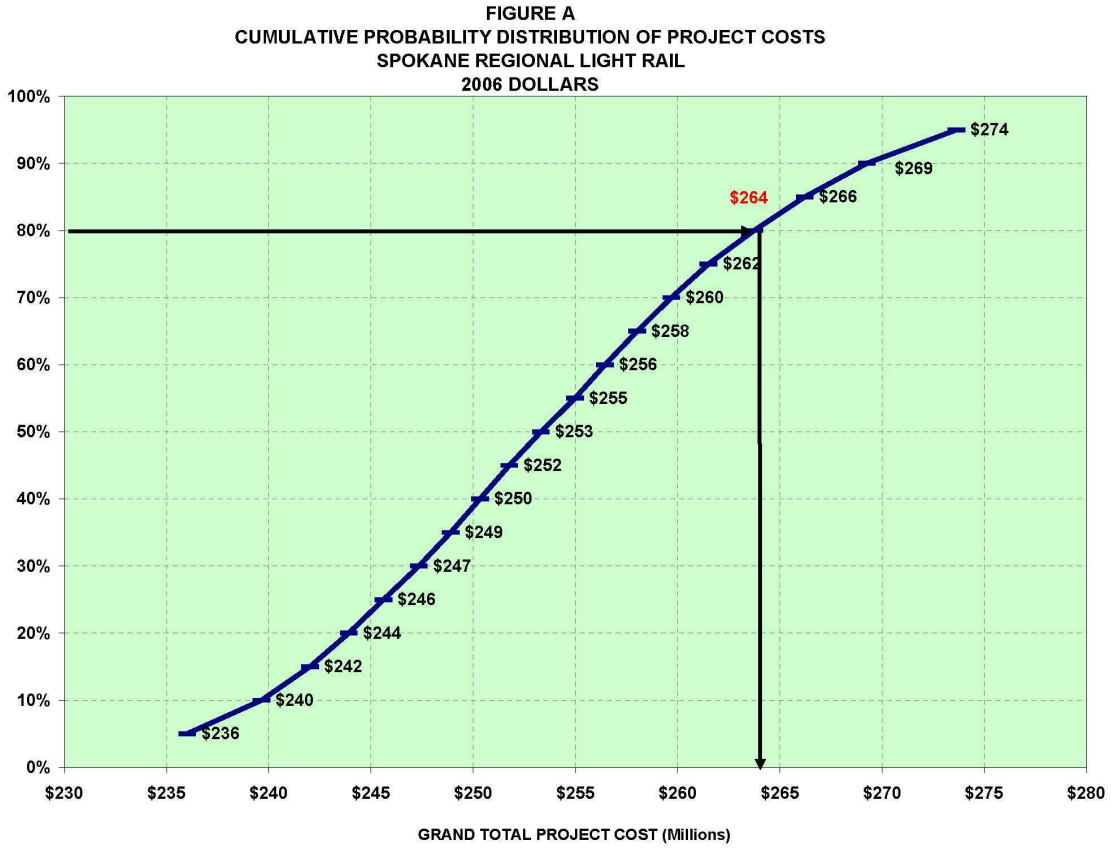
Cost estimates for the project were prepared initially prepared in November 2004. An initial step in the process was to update this cost to reflect 2006 market conditions, recognizing that very significant escalation in the construction industry had occurred between 2004 and 2006, beyond the escalation assumptions made in the initial estimate. The Workshop focused on identifying and quantifying risks that could impact project costs. Risks were identified for the following project elements:

- Quantity variations for the identified construction items due to uncertainties inherent at the conceptual design stage of project development

- Unit price variations for construction costs due to short-term market fluctuations affecting pricing at the time of construction bidding
- Risks that the scope of work would need to be modified or expanded
- Escalation risks related to uncertainty regarding long-term trends in construction cost between 2006 and the completion of the project
- Event risks that could lead to increased project costs

The project risks were documented in risk registers to record the range of possible costs. Special software, *@Risk for MS Excel*, was then used to estimate or model the combined impacts on project cost of multiple risk events. This software estimates the combined impacts of project risks using a *Monte Carlo* simulation method. Monte Carlo simulation involves running a simulation multiple times and gathering statistical information about each run. The individual model runs are called iterations and 5,000 iterations were used in the Spokane modeling process. During each iteration, the risk impact for each individual risk was randomly selected using a probability distribution that was based on the probability of the risk occurring and the range of cost impact if the risk did occur. The combined impact of the randomly selected impacts for all risks is added up, for each iteration, to determine a total project cost given that specific combination of risk events and impacts. The total project cost for each of the 5,000 model runs is recorded and the model reports statistics for the total cost, including a cumulative probability density distribution. This distribution shows what project cost has a given percentage chance of not being exceeded (implying that a project budget of that amount would have a given percentage chance of being adequate). Numerical project costs for each 10 percentage points of probability that the project budget would be adequate are reported and can be plotted in a chart.

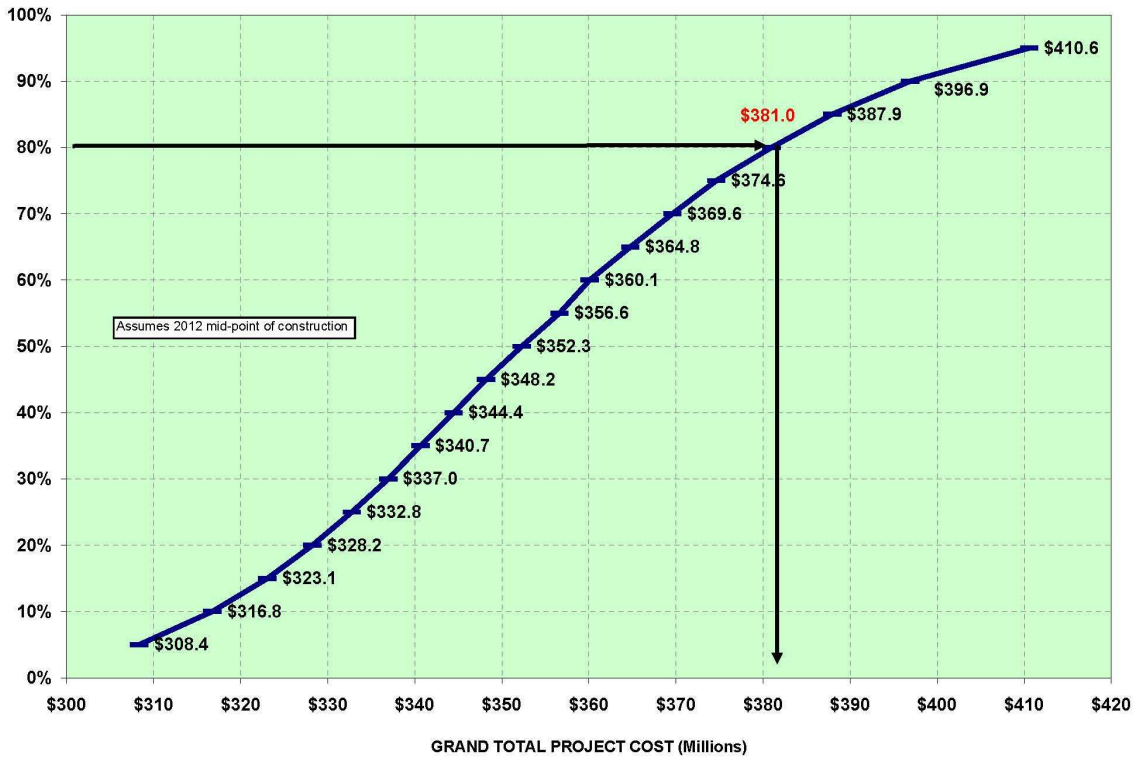
Figure A (below) shows the cumulative probability distribution for project costs expressed in year 2006 dollars. Each point on the probability density curve shows the project cost that has a given percentage probability of not being exceeded.



There is a 50% probability that the project cost will not exceed $253 million in 2006 dollars and there is an 80% chance that the project will not exceed $264 million in 2006 dollars.

Figure B (below) shows the cumulative probability distribution of project costs in YOE dollars, assuming a range of 3.8% to 7.7% per year escalation and a midpoint of construction in 2012. There is a 50% probability that the project will cost no more than $352 million in Year Of Expenditure (YOE) dollars and there is an 80% probability that the project will cost no more than $381 million in YOE dollars.

FIGURE B
CUMULATIVE DISTRIBTION OF PROJECT COSTS
SPOKANE REGIONAL LIGHT RAIL PROJECT
YEAR OF EXPENDITURE DOLLARS



Comparing Figures A and B reveals that the introduction of escalation risks results in a significant widening of the range of probable project costs. The spread between the P10 cost (the cost with a 10% probability of not being exceeded) and the P80 cost is $24 million in 2006 dollars. The spread from the P10 to the P80 cost in YOE dollars is $64.2 million. The escalation risk is magnified if the possibility for variations in the delivery schedule for the project is included. For example, the P80 YOE cost of the project is $357 million for a construction midpoint in 2011, $381 million for a construction midpoint of 2012, and $405 million for a construction midpoint of 2013.

The results also indicated that the major risks impacting the cost of the project are the rates at which construction costs will escalate over the life of the project and the time required to implement the project. If the project is delayed, the impact of escalation risks on project costs will be multiplied.

Other key risks impacting the project are:

- Potential for added bridge
- Signal system costs
- Real estate costs
- Railroad corridor interfaces
- Utility interface costs

- Maintenance facility site location
- Roadway interfaces
- Hazardous materials discovery

The impacts of the risks identified for the Spokane Regional Light Rail project can be managed through the development and implementation of risk mitigation strategies. Risk mitigation efforts should be undertaken throughout the project development process, with specific strategies being tailored to the status of the project and the specific kinds of risk facing the project. An initial list of risk mitigation strategies was identified during the risk characterization workshop. These strategies represent a starting point for a risk management plan that should be developed at the outset of Preliminary Engineering and updated as the project development process proceeds. New risks are likely to be identified during the design process and additional cost-saving opportunities may also be uncovered. The risk management plan should be revised as required to afford the best opportunity to anticipate risks and reduce their impacts on the project's cost and schedule.

7.3.2 Risk Re-baselining

At the completion of preliminary engineering the next update of the original risk assessment (called re-baselining) should be completed. This generates updated probability distributions for the cost and schedule on the project. The risk assessment re-baseline reflects the status of the project at the time it is completed. Risk re-baselining should also be completed near the end of final design and whenever other major changes in project definition occur.

One of the major objectives of the risk re-baselining is to validate the design contingency and mark-up amounts in the revised preliminary engineering cost estimate, recognizing the specific challenges and uncertainties associated with the project. The risk re-baseline results indicate how much cost should be added to or subtracted from the original baseline to adequately cover the potential impacts of project risks.

The risk assessment re-baseline is anticipated to produce a revised list of potential risk events for the project and the likely ranges for the costs of major elements of the work, and considers the design status at the time the re-baselining is completed. Probabilities of individual risk events' occurrence are assigned and consequences of risk events are estimated in terms of both cost and schedule delays. The team selected to perform the risk re-baseline would include individuals, familiar with risk analysis techniques and with extensive experience in the design and construction of similar type projects.

The risk components for the project will then be entered into a computer software model, such as, *@Risk for Excel* (cost risk) and *@Risk for Project* (schedule risk), or similar risk models. The distributions for probable project costs and project time schedules will be calculated for the project using adopted risk assessment procedures.

Risk mini-workshops may be conducted by the project team as desired. These workshops may be used to review the project scope, cost and schedule; to understand the basis for the cost estimates and schedule; to develop a list of project event risks; and to identify likely ranges around the estimated quantities and unit prices within each major element of the project cost estimate. Initial estimates of the probability and potential cost and schedule impacts of the event risks may also be developed during these workshops.

7.3.3 Risk Updates

On a regular basis, information about project risks should be updated. This does not required a complete re-baseline, but just a quick assessment of the risk register to see if any identified risk has changed or any risks have been added or eliminated. These updates do not require that the risk model be rebuilt, but only that adjustments are made and the model rerun. A short report documenting the update and explaining any changes should be prepared.

7.4 Independent Audits

Independent audits may be performed to review overhead rates, invoices, accounting procedures, recommendation on FAR eligibility issues and other issues on selected contracts. They may also address overall Project financial plans. These services will help ensure that the project has adequate control and documentation to verify strict adherence to federal cost eligibility requirements. All Project audit functions related to contracts will be performed independently of the contract by STA personnel or independent contractors supporting STA's staff. It is also recognized that, if involved in any form of project funding, FTA and/or other federal agencies may employ outside auditors to review Project financial documentation.

7.5 Document Control

The purpose of document control is to maintain accurate Project records for the Spokane Regional Light Rail Project. The documents will serve as a historical record of the Project, and also as the basis for resolving future disagreements and claims.

A document control system was established for the Conceptual Engineering Phase of the Project. This system will be further developed during the Preliminary Engineering and Final Design Phases.

7.5.1 Document Distribution

STA headquarters and a Spokane Regional Light Rail Project office are assumed to be in different locations. Consequently, a considerable amount of information will necessarily be exchanged between these offices as well as other agency and consultant office locations. Future modifications to the document control system will include the development of a computerized log system to monitor dates of receipt, transmittal, and final disposition of documents.

7.5.2 Central Document Filing

All contract documents, correspondence, invoice payments, legal agreements, and cost-tracking reports will be maintained in a central file located in the designated Project office. The central files will be indexed to the computerized document control system. In addition to entering a numerical tracking code, the staff will enter cross-reference WBS numbers and subjects. During later stages, this will include a brief narrative to facilitate later retrieval. The document control system will ultimately allow users to identify documents by author, recipient, contract, subject, date, sequence number, or key words.

As the project enters the Final Design Phase, incoming correspondence will be stamped with a document control number and logged. The original, with a document control routing form, will then be forwarded to the recipient. The recipient will complete the routing form, and after copies are made for further distribution, as necessary, the recipient will return the original to the document control administrator for filing and processing of the routing form.

The document control administrator will be copied on all outgoing correspondence. For electronic documents (e-mails and attachments), control mechanisms will be established to ensure their inclusion in the document control system. Administrative staff will determine which items should be included in the document control system. Electronic files will also be attached to their record within the document control software.

7.5.3 Original Documents

During the Preliminary Engineering Phase, original contracts, agreements, amendments, modifications, and change orders will be filed in the appropriate central filing location for each contractor. Original day-to-day correspondence will be filed by the document control administrator.

7.5.4 Controlled Documents

Certain key project documents will be classified as "controlled documents." Controlled documents will be managed and tracked on an individual copy basis. Generally, documents that will be designated as controlled documents include Project procedural guides, such as the Project Implementation Plan, Project Procedures Manual, Design Criteria, Quality Management Plan, etc. These documents will undergo periodic changes and updates. The use of a controlled document procedure will ensure that all Project participants will be using the latest, approved information. Procedures for controlled documents will be addressed in detail in both the Preliminary Engineering and Final Design Phases of the project.

7.6 Quality Assurance/Quality Control

STA, as supported by its consultants, will develop a Quality Management Plan (QMP) for the Spokane Regional Light Rail Project. The purpose of the QMP is to ensure that structures, components, systems, and facilities are designed, procured, constructed, tested, and commissioned in accordance with the defined project configuration, established engineering criteria and agency/industry standards. The individual elements that make up the QMP are comprised of those methods and procedures necessary to achieve the targeted quality goals.

The QMP encompasses organization and responsibility, management, and Project documentation by establishing quality assurance guidelines and quality control procedures. These elements will be addressed and incorporated in the preparation of the evolving QMP so as to be specifically pertinent to each phase of the project.

In discussing quality management, two terms are frequently used. As defined below, they describe both the overall approach to quality and the specific tools for controlling and reviewing work products.

Quality Assurance (QA): Those planned and systematic actions necessary to provide adequate confidence that an item is in conformance with established requirements and will satisfy given needs; the activity of providing the evidence needed to establish a level of confidence that quality functions are being performed adequately. QA is a management tool.

Quality Control (QC): The operational techniques and activities used to ensure that a product fulfills requirements. Generally, QC refers to the preparation and checking of work products or documents such as reports, drawings and computations. QC is a production tool.

7.6.1 Federal Transit Administration Requirements

To the extent that FTA funding is used for the project, FTA regulations may also apply. FTA regulations require that a QA/QC policy be included in the Project Management Plan for a federally funded project. The FTA has established fifteen elements for developing quality policies in its *Quality Assurance and Quality Control Guidelines* (FTA-MA-06-0189-92-1, dated March 1992).

7.6.1.1 Applicable Guidelines

As a *Best Practice* for transit projects and because of the potential for federal funding, FTA guidelines for Quality Management will be used for this project. The primary goal of the Quality Management Plan (QMP) for the Preliminary Engineering Phase of the Project is to provide a planned and systematic approach to ensure that planning and design activities, including contracted services, are delivered as specified and the expected level of quality is achieved. To that end, a number of the fifteen elements in the FTA *Guidelines* are germane to Preliminary Engineering services and will be specifically addressed by the QMP. These include the following:

1. Management Responsibility
2. Documented Quality Program
3. Design Control
4. Document Control
5. Quality Records
6. Quality Audits

7.6.1.2 Deferred Guidelines

The following elements from the FTA *Guidelines* are not applicable to the project scope for Preliminary Engineering at this time and will be deferred.

1. Purchasing
2. Product Identification and Traceability

3. Process Control
4. Inspection and Testing
5. Inspection, Measuring and Test Equipment
6. Inspection and Test Status
7. Non-conformance
8. Corrective Action
9. Training

However, if Project Management anticipates that any of these elements will become pertinent to the project, then quality management guidelines will be developed prior to the initiation of any related work activities.

7.6.2 Elements of Quality Management

The following policy statements, in accordance with the six applicable FTA *Guidelines*, pertain to the work under the Preliminary Engineering Phase. The statements may be revised as necessary to reflect actual work efforts throughout the development of the Project.

7.6.2.1 Management Responsibility

Using the resources and expertise of its consultants, STA is ultimately responsible for implementing the project Quality Management Plan. The consultant team's Project Manager (PM), or a designee, will be responsible for administering the specifics of the program, consisting of QA and QC components. The Consultant team members, involved in the project, are responsible for the quality of all work under their control and for conformance with the quality elements outlined in the QMP. For the Preliminary Engineering Phase, the Consultant will provide the services of an experienced QA/QC Manager who will be responsible for monitoring and auditing the quality assurance and quality control activities of the team. This manager will report directly to the STA Project Manager, independently of the Consultant team. It is anticipated that STA will employ a QA/QC manager directly during future phases of the program.

7.6.2.2 Documented Quality Program

The Project QMP covers all aspects of planning, conceptual design, and Preliminary Engineering. As the Project progresses from Preliminary Engineering to advanced stages of development, the QMP will be expanded to cover the additional aspects of design, equipment procurement, manufacturing, installation, construction, testing, and operation start-up. Written procedures applicable to quality-related activities will be prepared for task groups, which will include provisions for such activities as design review, document control, and maintenance of records.

7.6.2.3 Design Control

The members of the Consultant team who provide professional services, including but not limited to, engineering design and environmental services, will be asked to submit, as required, a

QA/QC plan covering their respective work activities, in a format acceptable to STA. The QA/QC plan will identify the interfaces between different task groups and design disciplines as well as the responsibilities for both design production and QA/QC. Quality-related design activities will be controlled in accordance with the QA/QC plan.

On the Spokane Regional Light Rail Project, quality assurance (QA) is the collaborative responsibility of the Light Rail Project Manager, Consultant Project Manager, the QA/QC Manager, and task managers. First-level responsibility for quality control (QC) rests with those personnel most immediate to design activities - the individual designers and technicians. Second-level quality control may be exercised by the task managers. Applicable criteria, codes, standards, and regulatory requirements will be identified and complied with as a part of quality control. Designs will then be checked for adequacy and verified by an independent review, as applicable, under the quality assurance process. Design changes will be subject to the same quality control measures as applied to the original design.

7.6.2.4 Document Control

Procedures for control and maintenance of project documents and data will be established in a central location to ensure that relevant documents are current and available. All project participants will be informed of the procedures.

Control of project documents includes distribution and storage, elimination of obsolete documents, and control of document changes where appropriate. Document formats will be standardized as necessary to produce a consistent product for Project Management and a Project filing system will be established and indexed to facilitate storage and retrieval. In general, planning documents and engineering products from the Project will not be released to any outside agency, organization or person without prior authorization from STA. Document requests are to be coordinated through the Consultant Project Manager.

7.6.2.5 Quality Records

Written records providing objectives for QA/QC activities (quality records) will be prepared, compiled, and stored in a retrievable manner. Attention will be given to accuracy, completeness, legibility, final disposition, and security. Typical quality records may include documentation of plan reviews, filed verification reports, and audit reports.

7.6.2.6 Quality Audits

A program for periodic audits will be established to ensure that each aspect of the QMP has been developed, implemented, and documented in accordance with specified requirements. Audit findings will be reviewed with the personnel having responsibility in the area being audited. Records of auditing activities will be maintained. The QA/QC Manager will conduct quality audits at the direction of STA.

7.6.2.7 Non-Conformance

Non-conforming conditions during the performance of Preliminary Engineering will be identified, maintained, and documented as quality records in the form of QC check prints and/or QA audit reports (see 7.6.2.6 above). The documented non-conformance record includes accounts of deliberations, retesting (i.e., back–checking and reviewing), and resolution activities. The final determination may require enactment of corrective and/or preventive actions.

7.6.2.8 Corrective Action

Preliminary Engineering of the Project may require the enactment of corrective action in a number of areas. Corrective action procedures are integral to final design activities and can be initiated in the following situations:

- Design – As part of the checking and review process, corrective action is initiated in response to design review comments or in the back checking, correcting, and verifying process.
- Quality Improvement Process – Corrective action is undertaken at the initiation of organizational or functional change within the design team, the client team, or the project itself.
- Quality Audits – Corrective action is undertaken as a result of the issuing and response to an audit finding / recommendation documented in the report.

7.6.3 Quality Assurance Approach

Each member of STA and Consultant staff is responsible for the quality and consistency of the work he/she produces. The Consultant Project Manager (PM) will be responsible for providing overall direction to task managers on project approach and assumptions, and for ensuring consistency among project tasks and studies. Task managers are then responsible for producing work products that meet that direction, as well as adhering to budget and schedule requirements. In addition, task managers are responsible for ensuring that adequate time and budget are allocated for thorough product review. QC checking will be an integral part of document production.

To ensure ongoing adherence to QA guidelines, the Consultant Project Manager will be responsible for maintaining standards and reviewing schedules, and for identifying personnel appropriate for carrying out document QC checking. If necessary, the PM may request assistance on this QA task from the QA/QC Manager. It is important that the QA/QC Manager performs his/her work independently of the production team and reports directly to the Light Rail Project Manager. A Peer Advisory Group of senior staff may also be assembled to resolve conflicts, and to review and approve submittals as requested by the PM, task managers or QA/QC Manager.

To assist both the Project Manager and the QA/QC Manager and to provide overall guidance to the Project, the Peer Advisory Group may meet periodically to review project progress and assess overall project adherence to the QMP. The Group's findings will be reported to the Light Rail Project Manager as needed.

Work products will undergo a QA review by the PM, the QA/QC Manager or a team of independent reviewers. The reviewer(s) will possess the necessary technical expertise to conduct a competent review of the product. Generally, it is anticipated that this reviewer will be a senior level professional with experience and expertise in the subject area.

To ensure a consistency of look for project documents, the PM, or his/her designee, will establish formatting standards for reports and drawings at the inception of document preparation.

7.6.4 Procedures

7.6.4.1 General Documents

Quality Control (QC) checking will be conducted on all deliverables. The process involves a thorough checking of each document by personnel not directly associated with the production of that document, and may require several iterations of checking, revising, and back-checking before the document is deemed acceptable for release by the task manager. Documentation of the checking and review process shall be maintained in the Project files for each deliverable document.

7.6.4.2 Engineering Drawings

For formal checking of engineering drawings, to ensure a complete, documented review, comments and corrections by the task manager or designated checker will be made in red. A yellow marker will be used to highlight those sections or pages that are correct, to indicate that those areas have been checked. (These should be critical elements, in the checker's opinion, that are germane to the individual section or page, and not necessarily every item on the document).

Upon completion of the initial review, the task manager will direct the necessary revisions. Where the Task Manager disagrees with comments, those disputes will be discussed with the checker for further consideration. Should those two fail to reach a resolution, then the matter will be referred to the PM or senior staff member for final resolution.

If revisions are determined to be minor, then the task manager will have the needed revisions made and resubmit the document to the QC checker for concurrence. In revising the document, the technician will acknowledge that corrections have been made by highlighting the redlined mark-ups in yellow. Once corrections have been confirmed, the task manager will forward the document to the PM, indicating that the document is approved for client submittal.

Engineering design reports which will form the basis for future design work or which will be relied upon in the decision making process will be reviewed in the same manner as described above for project documents. The review may include the following: compliance with established technical procedures, use of appropriate design criteria, and accuracy and completeness. In the same manner as the checking of report text or graphics, QC checking and revising of engineering drawings will be made in accordance with the color-coded legend described above. Depending upon the sophistication of the drawings, additional colors may be

used to differentiate the levels of checking. A copy of marked-up check prints and revised drawings will be retained in the project files as evidence of a "paper trail" in the QC process.

7.6.5 QMP Revisions

The QMP, as well as the overall Project Management Plan, are working documents. As the Spokane Regional Light Rail Project advances, revisions to the QMP may be developed to better govern or guide the performance of the Project team. Revision control is a major factor in the orderly management of the project. The QA/QC Manager will be responsible for maintaining the QMP, assessing and incorporating any changes in concert with the Light Rail Project Manager and the Consultant Project Manager, and distributing the approved revisions to the Project team.

7.7 Project Reporting

The following reports will be prepared on a monthly basis:

7.7.1 Monthly Progress Report

The progress report for the reporting period will contain an executive summary, the Consultant contract cost status summary, which will summarize the project cost status at the time of the report submittal, a list if issues of potential concern from the Consultant point of view for management reference, and a detailed outline on activities by task and sub-task for the reporting period involved which will outline recently completed and future planned activities for each sub-task pertinent to the ongoing project movements.

7.7.2 Monthly Invoice

The monthly invoice will provide the detailed breakdown on hours and dollars for activities undertaken during the period along with travel and other allowable expenses incurred during the period.

7.7.3 Monthly Cost Status Report

The cost status report will provide a summary breakdown on budget and amount spent to date. It is intended to be a single page summary for monthly management updates.

7.7.4 Monthly Project Schedule Update

The project schedule update will provide schedule status on preliminary engineering activities projected over the duration of this phase of the project.

8 AGREEMENTS

A host of special agreements among and between jurisdictions, special districts, and finance partners will be required for the Spokane Regional Light Rail Project. This section provides an overview on the agreements that are anticipated to be required. These will be addressed in detail over the course of Preliminary Engineering. Examples of the special project agreements necessary include:

- Agreements for delivery of project funds;
- Agreements for design review services from jurisdictions;
- Agreements/permits from Federal and State agencies (land use, environmental matters, historic preservation, etc.);
- Agreements/permits from multiple local special districts (i.e. water, sewer, parks);
- Agreements/permits related to utility rights-of-way;
- Agreements with affected railroads;
- Agreements for the coordination of transit station area development (between-jurisdictions, SRTC, Spokane County, Cities of Spokane, Spokane Valley and Liberty Lake, STA, etc.); and
- Agreements for continuing control of city streets on which the system operates.

Various project personnel will be responsible for establishing agreements. The Light Rail Project Manager will have overall responsibility to obtain the necessary agreements with state and local jurisdictions, assisted by the Director of Project Clearances. They will also collaborate with others to obtain Federal agreements if required. The Director of Project Clearances will be the lead for railroad agreements and utility agreements. Staff from other STA Divisions will provide support within their areas of expertise. It is anticipated that members of the Light Rail Steering Committee will be instrumental in coordinating with staff within the various jurisdictions they represent to facilitate the development of intergovernmental agreements.

Funding Agreements

Federal funding participation in the Spokane Regional Light Rail Project is not currently anticipated to include funding from the FTA New Starts Process. However, other federal funds may be utilized as addressed in the Chapter 6 of this document. The specific requirements of each individual federal funding source will dictate the needs for individual agreements. This will be the responsibility of STA to determine as the Project's financial plan is finalized during the preliminary engineering phase.

Local funding will be documented under a regional compact agreement to be signed by each of the local funding partners. Signatory agencies to the compact may include STA, the City of Spokane, the City of Spokane Valley, the City of Liberty Lake, Spokane County, and SRTC (for regional funds). All of these agencies will be required to have taken the necessary Board of Directors, Council or Commission actions to commit the funds. The regional compact will define the delivery and administration of local funds committed to the project. In addition, individual

agreements with each local agency that participates in the project will be required as described below.

Mitigation Coordination

It is anticipated that a Final Environmental Impact Statement will be completed and certified by the FTA during the preliminary engineering phase. The FTA will then issue a project Record of Decision (ROD) that describes necessary impact mitigation measures that are agreed to occur as part of project implementation. The mitigation measures' physical improvements will be described and included in project plans and specifications developed as products of the final design phase of the project.

Mitigation plans may require close coordination with responsible Federal, State, and local regulatory agencies. During final design and construction, it will be STA's responsibility to ensure that the mitigation activities established are completed in coordination with the responsible affected agencies, and that, where required, permits are issued in a timely manner. An environmental specialist will be assigned to the Project to accomplish the coordination of required mitigation activities. The specialist will act as a liaison between designers and regulatory agencies, identifying early-on issues for resolution. A report on compliance with all identified mitigation measures will be prepared at the conclusion of the implementation effort.

8.1 Anticipated Permits

8.1.1 Federal Permits and Approvals

Agreements and permits with various Federal agencies will be required. These agreements will be put in place during the Final Design phase. Anticipated agreements include:

Environmental - Through the ROD based on the Final Environmental Impact Statement;
Federal Railway Administration – With respect to interfaces between the Light Rail Project and freight railway operations in the corridor; and
Others – To be determined.

8.1.2 State Agency Permits

Several permits from state regulatory agencies will be required regarding issues under their respective jurisdictions. Permits are expected to be negotiated with:

- Washington Utilities and Transportation Commission (WUTC) - For Light Rail grade crossings of streets;
- Department of Ecology- For park and ride lot permits, indirect source permit, any hazardous waste remediation efforts that may be required and wetlands mitigation, if required;
- State Historic Preservation Office - Review process for design impacts on designated historic properties;

- Department of Commerce, Building Codes Division - For System Electrical inspections, subject to new framework in pending regulations; and
- Washington State Department of Transportation Encroachment Permit

8.1.3 Other Permits

Other permits to be obtained from local jurisdictions (Cities & County) include:

- Commercial Building Permits
- Grading Permits
- Water and Sewer Connection Permits
- Street Vacation Permits

8.2 Intergovernmental Agreements

As part of the real estate acquisition process, STA will establish continuing control agreements with the jurisdictions that provide public services, use of public rights of way, and maintenance of the adjacent roadways. These agreements will establish the respective responsibilities for the jurisdiction and STA as to maintenance and emergency response. Continuing control agreements will be required with the City of Spokane, the City of Spokane Valley, the City of Liberty Lake, and potentially with Spokane County.

8.3 Railroad Agreements

Acquisition agreements will be required to be negotiated between STA and both major railroads whose partial rights of way will be required for the Project. BNSF and UPRR both have operating facilities in segments of the South Valley Corridor. The agreements with the railroads will be negotiated through the Project's real estate acquisition process. These agreements will establish:

- Property to be acquired by the Project and associated compensation;
- Maintenance responsibilities of both STA and the respective railroads with respect to joint use of facilities such as grade crossing controls;
- Construction requirements and responsibilities for improvements to railroad-related facilities; and
- Operations and Safety practices associated with co-location of the light rail and heavy rail facilities in the corridor.

It is noted that the Federal Railway Administration (FRA) has requirements that will be addressed with respect to the railway segments of the project.

8.4 Utility Agreements

Several private utility companies maintain facilities in the area of the Project that will be affected by construction activities or permanent facilities. Some of the private utility providers identified during conceptual engineering include:

- Qwest (telephone);
- AT&T (cable);
- XO Communications (fiber optics);
- Avista Utilities (gas & electric);
- Modern Electric & Power (electric & water);
- PG&E (natural gas); and
- Yellowstone Pipeline (fuel transmission lines).

During preliminary design, specific details establishing the impacts to the utilities' facilities will be determined, and draft agreements for revisions and reconstruction thereto will be prepared.

8.5 Services Agreements

Negotiations between STA and several local jurisdictions will be undertaken to define the process and fee structure for obtaining permits and services related to utility relocations and reconstruction, land use, construction management, inspections, street lighting, traffic engineering, parks, street trees, planning and plan reviews, fire permits, and all other permits/procedures required by the respective jurisdictions.

Separate agreements will be negotiated with the following jurisdictions:

- City of Spokane
- City of Spokane Valley
- City of Liberty Lake

In general, the design service agreements establish a single project manager in each jurisdiction who will act as the "point of contact" for STA's Light Rail Project Manager. The agreements also establish the mechanisms by which local jurisdictions will accept improvements in their rights-of-way for local maintenance, generally involving a joint STA/local agency inspection effort.

The Project's large civil construction contract(s) afford the opportunity for other jurisdictions to have adjacent work performed economically and efficiently in conjunction with project work. Such work, termed "betterments", may include utility upgrades, street reconstruction, signal improvements or other improvements in the immediate vicinity of project work. These related work items and their costs may be included in STA's construction contracts but should be funded from the requesting agency's funds. Reimbursement by the jurisdictions for these costs will be defined in the Design Services Agreements or in modifications to those agreements.

9 REAL ESTATE ACQUISITION

This section describes the process for estimation of value of property that may be required for the Project, as well as future acquisition, management, and land development functions for the Spokane Regional Light Rail Project. These topics include all activities related to identification and purchase of properties, future interim property management, and disposition of excess property. The relocation function includes all services provided for potential residential and business displacements. The GMEC Real Estate Manager is responsible for estimation of property values and acquisition costs necessary for development of the Preliminary Engineering cost estimate. He is also responsible for advising STA on the future implementation of the real estate acquisition and property management portion of this program.

The acquisition, management, and relocation functions of the program achieve four objectives:

- Accurate estimation of real estate and associated acquisition cost portions of the Preliminary Engineering cost estimate;
- Timely availability of property for future project construction;
- Appropriate handling of property after acquisition; and
- Uniform and equitable treatment of those who may be displaced from their homes or businesses as a result of future implementation of the project.

9.1 Acquisition Authority

STA's right-of-way program, including appraisal, acquisition, and relocation, will comply with the requirements of the Uniform Act, 49 CFR, and Washington State Law. The Spokane Transit Authority (STA) possesses the right to use eminent domain, and will utilize that right when necessary to acquire real property for the Project. The above statutes spell out how the right is to be applied and the rights of the affected property owners and tenants.

9.2 Guidelines for Real Estate Acquisition

As an FTA certified contracting agency, STA conducts all real estate acquisition, relocation activities, and transit joint development consistent with applicable federal regulations, contracting procedures and OMB Circulars. The following specific federal regulations apply to the Spokane Regional Light Rail Project property acquisition program:

- Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 Pub. L91-646, as revised by the Surface Transportation and Uniform Relocation Assistance Act of 1987, Title IV of Pub. L 100-17, ("Uniform Act");
- 49 CFR Part 24, dated March 2, 1989, titled Uniform Relocation Assistance and Real Property Acquisition Regulation for Federal and Federally Assisted Programs, Final Rule and Notice;
- FTA Circular C 5010. IC dated October 1, 1998, as revised, titled Grant Management Guidelines;
- FTA Policy on Joint Development, Federal Register, March 14, 1997 (Volume G2, Number 50); and

- FTA Circular C 93 00. 1 A, dated October 1, 1998, Appendix B titled "Joint Development Projects."

The following State Law applies or may apply to the Spokane Regional Light Rail Project property acquisition program: Chapter 36.57A RCW; Chapter 8.12 RCW; Chapter 8.25 RCW; Chapter 8.26 RCW; Chapter 81.75 RCW; RCW 35.5F.272-.2796 and Chapter 81.104 RCW.

Final authority for all real estate actions involving purchase of property or property rights rests with the STA Board of Directors. The Board must authorize by resolution any condemnation action, regardless of the value of the property in question.

FTA encourages transit systems to undertake joint development projects at and around transit stations where such projects are physically or functionally related to the provision of transit service, and where they increase transit revenues through proceeds from the joint development. STA may undertake such development within the limits of state law.

9.2.1 Preliminary Engineering Estimate of Real Estate and Acquisition Costs

The Preliminary Design cost estimates for the impact on affected properties, and the subsequent appraisal and acquisition of property, will be based on the application of previously noted statutes. In summary, these statutes require that property owners be paid fair market value for all property acquired and for any loss of value ("damages") to property remaining. The amount paid to the owner is offset by any estimated increase in value ("special benefits") to the remaining property. The value of all land and improvements is based on what a willing buyer and seller would agree on, without influence of the proposed project.

Fair market value is estimated by a qualified appraiser and reported in an appraisal. Appraisals will utilize the formats of Washington State Department of Transportation (WSDOT). Appraisals will conform to the requirements of Uniform Standards of Professional Appraisal Practice (USPAP). USPAP provides the standards for appraisals and appraisal reporting. All project appraisers shall be experienced in public acquisition appraising and be licensed as Certified General Real Estate Appraisers in Washington.

The Uniform Act requires that businesses and persons displaced as a result of the acquisition of all or part of any real property are entitled to relocation benefits and state law authorizes public agencies to pay relocation benefits. The benefits assist displaced residential owners and tenants to find and afford replacement housing. These benefits also offset costs incurred by businesses to find and relocate to replacement sites

STA through the GMEC Real Estate Manager will assure conformance with all aspects of Uniform Act and state law applicable to the appraisal, acquisition of real property and relocation of displaced persons and businesses for this project. The GMEC's real estate specialists and appraisers must have the experience and qualifications to administer the right of way program for this project.

For this portion of the project, the GMEC will estimate all costs to appraise, acquire the necessary interests, relocate eligible displacees, and administer the program to accomplish these processes. The costs will be broken down into five items for each property:

- Land: The estimated value of the land without any improvements;
- Improvements: The value that the existing buildings, landscaping, and site improvements add to the value of the land;
- Damages/Special Benefits: Any decrease or increase of value to the remaining property caused by the acquisition of a part of that property;
- Relocation: All costs to comply with relocation requirements; and
- Administration: The cost to manage the right-of-way program, appraise properties, negotiate agreements, and relocate displacees.

Real estate appraisers will obtain Preliminary design plans. The plans will have sufficient detail to identify entire acquisitions and partial acquisitions. For partial acquisitions, the plans will identify approximate location of the proposed right-of-way line and the existing improvements.

An appraiser will view each property to estimate the impact of the acquisition on the property. The appraiser will not generally contact owners at this stage. For partial acquisitions, the impact may include damages to improvements not acquired, and possible changes in highest and best use. Some improvements that are not within the acquisition area may lose all value and need to be acquired.

Appraisers will research recent sales of similar properties in the Spokane area and view those properties. The sales data will be organized by property type for ease of reference throughout the project. This data will be used later for appraisals as the project progresses.

Appraisers will consider several contingency factors in estimating overall costs. It is possible that STA will negotiate some administrative settlements in excess of appraised value. Property owners may contest the valuation of complex or high value properties. STA may make concessions above appraised value to avoid greater cost in litigation. Property owners may seek alterations to existing structures paid by the project. Some alterations are justified to reduce the impact of the project on the value to that structure. Negotiated alterations, however, may exceed the actual estimated impact and increase project cost. In addition to specific contingencies, an overall contingency for the cost of litigation will be added to the total estimated cost.

Appraisers will compile the estimated costs for each property into a spreadsheet. The data will be totaled and combined with other project costs.

Significant involvement in the acquisition and relocation program will be required from STA's General Counsel, support legal services, and project engineering staff. It is anticipated that

during project implementation, STA will employ a staff person in the position of Real Property Acquisition Manager to administer the implementation of the program.

Extensive coordination with the Community Relations Specialist in STA's Communications Department will also be required during Preliminary Engineering, in order to provide adequate communications regarding potential impacts to individual property owners and tenants along the alignment. The Community Relations Specialist will generally make the first contact when property-related issues arise. Real Estate staff and Community Relations will share a common database of contacts so that all communications with residents are tracked. Community Relations will also assist with written communications to the residents.

9.2.2 Property Interests to be Acquired

For the Spokane Regional Light Rail Project, the requirements for real estate acquisition will be identified during the Preliminary Engineering effort. Currently, it is anticipated that acquisitions will primarily involve bare land and slivers of land from adjacent parcels along the corridor. Relatively few acquisitions are anticipated to involve displacements of businesses. No acquisitions are currently anticipated that will involve displacements of residences.

The specific type of property interest for each parcel is determined in conjunction with engineering staff. In general, most ordinary acquisitions will be acquired in fee simple, unless a lesser interest is in STA's best interest. If a lesser interest is sought, there must be adequate control to assure the safe construction, operation, and maintenance of rail facilities on an ongoing basis. A brief description of each type of property interest is discussed below.

9.2.2.1 Fee Simple

In general, all land acquired for transit right-of-way, stations, maintenance yards and related facilities will be purchased in fee simple by a deed or other appropriate document accurately describing the area being acquired. These properties will remain permanently in STA ownership unless determined to be excess property, in which case they may be sold in accordance with applicable laws and regulations. Properties acquired in fee may be partial or full takes of parcels. Some partial acquisitions may become public street right-of-way and will be dedicated to the appropriate jurisdiction. Exceptions to fee simple acquisition may involve active railroad right-of-way to avoid STA's status from becoming that of a railroad freight common carrier under Federal Law.

9.2.2.2 Permanent Easements

It may be necessary to purchase permanent easements for certain slopes, drainage ditches, utilities, irrigation ditches, or other facilities wherein STA does not require the full rights, as with property acquired in fee simple. If the placement of the facility on the land within a permanent easement continues to provide the property owner a degree of utility in the land without jeopardizing the facility, then a permanent easement is warranted.

9.2.2.3 Temporary Construction Easements

A temporary easement may be required in cases where land is needed temporarily, usually for construction purposes. This type of easement will carry a time limit and specify the use for which the area is needed. Upon termination of the temporary easement right, STA's right to use the area ceases with complete use restored to the fee owner. The instrument will specify the condition to which the property is to be restored at the termination of the easement. As a matter of practice, temporary easements are recorded only if the term exceeds one year. Whether or not it is recorded, the temporary easement conditions become contractual obligations when an option is accepted.

9.2.2.4 Permits of Entry

A permit of entry allows STA to enter upon a property owner's land for a specific purpose and period of time to facilitate Preliminary Engineering functions such as geological testing, inspection, or construction in advance of completing acquisition negotiations. In such cases, property owners would be contacted by STA, and a permit of entry agreement executed stating the purpose, duration and any conditions for access to a particular property.

9.2.2.5 Special Permits

Certain special permits, such as noise or parking mitigation permits may also be required. These permits are usually specific to the needs and habits of each property owner.

9.2.3 Right-of-Way Engineering

The major elements of Right-of-Way Engineering follow.

Determination of Right-of-Way Requirements: General requirements for right-of-way for all project facilities are determined during the Preliminary Engineering phase. Boundaries of the proposed right-of-way are established and mapped based upon the engineering design including the placement of tracks, location of traction power substations, station platforms, park and ride lots, maintenance facilities, access roads, etc. In addition, any temporary or construction easements are identified and mapped. Where appropriate, a review of alternative sites or locations is conducted to identify parcels that could minimize impact or cost. In the final design phase of the project, the specific dimensions of parcels to be acquired will be confirmed or finalized.

Survey and Mapping: The boundaries of all required right-of-way are mapped on plan and profile maps during Preliminary Engineering. Some surveys of the required right-of-way will also be required. During final design, surveys will be completed, and individual parcel descriptions will be prepared which identify type of take (full, partial, easement), the specific dimensions of the proposed take, the purpose, and other relevant information.

Identification of Ownership and Preliminary Contacts: Preliminary information on the ownership of properties proposed for acquisition is determined using assessor’s rolls and Title reports.

During Preliminary Engineering, initial contacts are made with property owners to notify them of the intended acquisition and to obtain any information on the configuration or use of the property that may be relevant to the engineering effort.

Preparation of Legal Descriptions: A legal description will be prepared for each parcel to be acquired prior to initiation of the acquisition process. It is anticipated that all legal descriptions will have been completed during the initial stages of final design activities.

During the initial stages of Preliminary Engineering, STA will further update the Implementation Plan to describe further real estate activities required during the implementation phase, including:

- Establishment of just compensation;
- Offer, negotiation, and securing of property interests;
- Acceptance of offers;
- Administrative settlement;
- Taking possession of property;
- Condemnation; and
- Demolition

Every effort will be made to acquire real property by negotiated purchase, donation, or by dedication. No property owner will be required to surrender possession of real property without receiving the fair market value and just compensation to which they may be entitled. In the event that an agreement cannot be reached through negotiation, STA may initiate eminent domain proceedings in accordance with Washington law.

9.2.4 Scheduling, Reporting and Record-keeping

9.2.4.1 Scheduling

The Real Estate Manager is responsible for developing and maintaining a schedule of property acquisitions based on the need dates for various parcels as determined by analysis of implementation methodologies during the Preliminary Engineering phase. The schedule will identify projected dates for various stages of the acquisition process, and will be updated regularly. This schedule information will also be coordinated with legal, fiscal, and project controls staff to determine the timing for anticipated future expenditures for financial control and reporting purposes.

9.2.4.2 Reporting

Periodic reports summarizing the status of real estate definition activities will be prepared for internal use. Summary reports for Board review or other management review will be prepared as required. Other reports may also be required depending on the specifics of funding agreements made for project implementation.

9.2.4.3 Record Keeping

The Real Estate Manager will maintain working files for each anticipated acquisition, including the basis of need, type of acquisition, amount of land, and other property records.

9.3 Relocation

Very few relocations are expected for the Spokane Regional Light Rail Project and relocations required will be conducted in compliance with the federal regulations cited previously. Planning for relocation will take into account specialized needs of businesses, hardship cases, and individual situations in order to provide the appropriate assistance to displacees. Elements of the relocation program, such as assisting in locating replacement sites for businesses and utilizing financial or technical assistance programs, which may require the cooperation of local agencies, will be coordinated through the Real Estate Manager. The major aspects of the relocation program are summarized in the following paragraphs:

9.3.1 Notification to Property Owners and Tenants

It is anticipated that all of the affected property owners will have been contacted during the Preliminary Engineering phase of the project. Some tenants will also be informed of STA's intent to acquire properties. Concurrent with the initiation of appraisals on parcels, business and residential owners and tenants will be formally notified of the planned acquisition, and will receive written information on the relocation benefits, eligibility criteria, and services offered. Relocation agents will meet with affected owners and tenants to ascertain specific needs and explain the relocation program as part of the acquisition procedure.

9.3.2 Payment of Relocation Benefits

The Real Estate staff will prepare relocation assistance claims and process them according to existing state and federal guidelines. Payment of relocation benefits will be made directly by STA.

9.3.3 Notice to Vacate

Each owner and tenant will be provided a written 90-day notice to vacate the property, in conjunction with the offer to purchase property or the offer of relocation benefits.

9.4 Property Management

Properties acquired for the Project will be managed by the Real Property Acquisition Staff in coordination with engineering, construction management and legal staff. Upon acquisition all properties will be insured by STA in accordance with risk management policies and procedures.

Property management activities may include:

- Interim or short-term leases for continued use of a building until it is needed for construction;
- Fencing and securing of vacant parcels or structures;
- Maintenance of land or structures per health, safety and local code requirements;
- Coordination with contractors who might use acquired properties and structures as field offices or materials storage sites; and
- Oversight of property disposition after completion of construction.

When each property is vacated, it will be inspected and arrangements will be made to disconnect utilities and secure the property. STA may use contracted services for some property management functions. Some independent contracts for fencing, hauling, weed abatement, security patrols, and related services may also be, required. STA staff will be responsible for coordinating all aspects of property management until such time as it is turned over to the contractor for construction.

The security of any equipment, facilities, or any other structure on STA property that is being leased will be the sole responsibility of the lessee until such time as the lease termination becomes effective. Future construction contractors will be responsible for security of all materials, equipment, supplies and construction sites.

9.4.1 Easement, Lease and License Agreements

Existing utilities or other facilities which cross STA property will be documented in engineering drawings. Easements or other crossing rights will be identified during the appraisal and title search phase of acquisition, and any agencies or companies with facilities on property to be acquired by STA will be contacted to inform them of the change of ownership. Upon acquisition, easement, lease, or license agreements specifying rights and responsibilities for those facilities will be executed and maintained as part of STA's permanent real estate records.

9.4.2 Disposal of Excess Property

When real property is no longer needed it will be disposed of in accordance with STA property disposition policies. Use and disposal of acquired properties will be examined in conjunction with the station area development and joint development efforts on the project to determine whether there are opportunities for utilization of STA property in a development project.

Options for disposal of property follow:

- Acquire clear title by compensating any applicable funding partner for its share in the property. If FTA is involved, FTA's share is calculated by applying the Federal Percentage of Participation in the cost of the approved project to the appraised fair market value of the property at the time of the disposal.

- Market and competitively sell the property and pay any applicable funding partner its share of the fair market value of the property.

- Transfer the property to another agency for use in a different public project without reimbursement of funds. This involves acquisition by the transferee of the transferor's proportional interest in the appraised fair market value of the property, and assumption of liability for any continuing funding partner's interest therein.

- Transfer of property for other public use, consistent with the provisions of Section 12K of the Federal Transit Act.

Recorded survey maps of STA-owned properties will be maintained as part of the permanent project records. An inventory listing pertinent information on each property will be prepared and reviewed periodically to determine whether properties should be sold. The Real Estate staff, in cooperation with the General Counsel and Project Director, will coordinate transactions regarding sale of STA property.

9.5 Hazardous Materials

STA's Preliminary Engineering Work Program includes activity to accomplish a multi-phase approach for assessing environmental conditions and liabilities at sites along the proposed Light Rail corridor. This effort will be closely coordinated with the real estate process. Generally speaking, the risk for potential contamination of land required for the Project is legally the responsibility of the current landowner (seller). As described in the Washington State DOT Right of Way Manual M26-01, (p 4-7) cleanup costs are considered by the appraiser in the appraisal. If the site is conveyed with contamination, those costs reduce the fair market value paid to the seller. STA's responsibility will be to protect the public's interests relative to this issue, by adequately assessing the potential for contamination and appropriately ensuring that mitigation occurs as may be required. It is recognized that STA may inherit the responsibility to perform remediation activities on some portion of the property that it may acquire for this project.

9.6 Station Area Planning and Development

The goal of station area planning program is to promote transit supportive development in the vicinity of rail transit stations. "Transit supportive" is defined as higher density, pedestrian-friendly development that encourages use of transit as an alternative to the auto. Achieving transit supportive development along the South Valley LRT corridor will involve partnerships among STA, City of Spokane, City of Spokane Valley, Spokane County, Spokane Regional Transportation Council, City of Liberty Lake, Washington State University Riverpoint Campus, neighborhood and business associations, developers, financial institutions, and other public and private interests.

STA and its consultants conducted station area planning work as part of the conceptual engineering studies during 2003 and 2004. These plans established the framework for future development at the light rail stations. The Project will focus on updating these plans during the

Preliminary Engineering phase to determine the appropriate approach to implementation. This will include the identification of barriers to achieving transit supportive development, securing resources and laying the foundation for joint development projects at the stations.

Some work within this program may be determined to relate specifically to the design and construction of the rail project while other elements fall within the planning and development purviews of the other involved jurisdictions. In addition, other jurisdiction's resources and other potential funding sources may be available to encourage transit supportive development along the corridor.

There are three primary components of the Station Area Planning and Development Program, which are briefly described below.

9.6.1 Siting and Design of Transit Facilities

These tasks are intended to ensure the optimal location, orientation and sizing of the transit facilities in order to complement existing or future development adjacent to rail stations. Examples include:

- Assess joint development potential on STA property;
- Assess potential for alternative station locations; and
- Develop design standards.

In order to be eligible for funding as part of the project, work elements must be directly related to the engineering of station platforms, park and ride lots and related facilities. This area of work is anticipated to be led by the Project architecture staff with support of a station area economic development-planning consultant.

9.6.2 Station Area Development Strategy

Previous station area plans may have been reinforced to some extent by the comprehensive plans of the local jurisdictions along the corridor. These plans have anticipated the light rail project through the South Valley Corridor, and steps are being taken to develop specific zoning changes to reflect this change in the infrastructure of the area.

9.6.3 Station Area Development Projects

STA will work in partnership with the other involved jurisdictions to produce transit supportive development projects in support of the the Project’s Station Area Development Strategy. Complementary efforts will include joint development funding, technical assistance, and community outreach.

10 PUBLIC INVOLVEMENT/EDUCATION

The Spokane Regional Light Rail Project will be a highly visible public works project and has already generated considerable interest among the public and the media. To ensure consistent information and to facilitate dependable lines of communication with the public, STA will utilize an extensive public involvement and public education function for the project.

10.1 Purpose of Public Involvement

The purpose of the Public Involvement Program for the Project is to provide the citizens of the Spokane region with information about the project's activities and assistance when coordinating with the Project's staff. Its goal is to ensure that the Project realizes the public's vision of its role in serving community needs and avoiding disruptive or harmful effects on the neighborhoods and businesses along the route.

This will be accomplished through a multitude of public involvement activities designed to:

- Build broad public awareness of, and understanding of, the project as a transportation alternative that may enhance the region's economy and livability;
- Establish regular communications with neighborhood organizations throughout the region, with particular emphasis on those within the project area, leading to mutual trust;
- Work directly with residents, businesses, and property owners along the route to resolve problems; and
- Obtain information during Preliminary Engineering to identify a mechanism such that future construction could minimize the amount of inconvenience, experienced and perceived by the transportation system users and adjacent properties.

10.2 Approach to Public Involvement

Overall direction for public involvement activities would be provided by the Public Involvement / Communications Manager, who reports to the STA CEO with staff support of the Light Rail Project through matrix assignment. Additional staffing support for the Project, above that is required to support STA on a regular basis, may be necessary and could be provided by a Public Involvement Consultant to augment the Public Involvement / Communications Manager. To that end, STA should consider providing a Community Relations Specialist to coordinate administrative tasks associated with the public involvement effort. The Public Involvement staff will also provide coordination between the project and STA's Customer Relations Department in the areas of patron notices and outreach. They will also staff the Project Citizens Advisory Committee.

10.3 Public Education Plan

Public Involvement activities for the Spokane Regional Light Rail Project can be categorized into two main groups:

- Activities that focus on individual residents, property owners, and businesses directly affected by the design of the project, its location or the future process of construction; and
- Activities that build understanding of the project within broader, community-wide audiences.

Public Involvement activities for the Project will be guided by the procedures contained in the Project Procedures Manual. Procedures contained therein outline requirements for such program facets as media relations, public contact protocol, complaints and general project communications. The procedures will be supplemented with more detailed processes specific to the Project where appropriate.

The activities outlined below are representative examples of public education activities anticipated to be undertaken by the Project staff and consultant team for major components of the Public Involvement and Education program.

Public Education Awareness

Citizens Advisory Committee	✓ Develop meeting schedules and agendas ✓ Organize meeting logistics ✓ Maintain records
Neighborhood, business, and special interest associations	✓ Written communications ✓ Attend meetings ✓ Coordinate presentations of Light Rail Project information ✓ Keep records
Advisory Groups organized around specific issue areas	✓ Assist in organizing as appropriate (may include station area advisory committees) ✓ Attend meetings ✓ Coordinate Project presentations ✓ Keep records
Community briefings	✓ Develop and implement plan for keeping key audiences informed about the development of Preliminary Engineering for the Project, including government leaders, government agencies and staff, major service clubs and other community organizations
Public hearings and workshops	✓ Assist in organizing as appropriate ✓ Attend meetings ✓ Coordinate Project presentations ✓ Keep records

One-on-one contacts with property owners, residents, businesses	✓ Direct mail communications including general information, notices of meetings ✓ Telephone communications, including 24-hour information hotline
Newsletters	✓ Draft outline and copy, coordinate production
Media information support	✓ Present as needed ✓ Draft outline and copy
Media communications	✓ Answer inquiries about newsworthy events ✓ Provide guide service to media ✓ Coordinate media contacts with Project staff
Written communications	✓ Draft and distribute press releases ✓ Plan and organize press conferences and media events ✓ Maintain informal contact with press representatives
Speakers bureau	✓ Schedule and respond to requests for speakers ✓ Provide list of frequently asked questions (FAQs) ✓ Attend meetings, take and distribute notes ✓ Advise design team of input received
Other support	✓ Organize and assist in conducting project corridor tours ✓ Serve as speaker before community organizations ✓ Coordinate ROW activities with the Real Estate Manager

10.4 Citizens Advisory Committee

STA has established a Light Rail Project Citizen Advisory Committee as an independent, centralized forum for public involvement associated with the Project. The Committee will essentially be a public "sounding board" whereby the project staff and consultant team can solicit public input and disseminate project information. The Committee will be made up of citizen volunteers, including some appointed by the following organizations:

- City of Spokane
- City of Liberty Lake
- City of Spokane Valley
- Spokane County
- Spokane Area Chamber of Commerce

- Spokane Valley Chamber of Commerce
- Downtown Partnership
- Coalition of Responsible Disabled
- Aging and Long Term Care of Eastern Washington (ALTCEW)
- Chase Youth Commission
- State Transportation Commission

Qualifications for membership include:

- Having an interest in the project;
- Available to act as a focal point for public input;
- Generally familiar with the private and public needs of the area;
- Not currently serving in any formal capacity with the Light Rail Project; and
- Must not have any potential conflict of interest associated with the Project.

It is anticipated that throughout the course of Preliminary Engineering, the CAC will meet at least once a month, with the possibility of additional special meetings as issues develop. Members will be asked to review and comment on various aspects of the Light Rail Project. They will not, however, be expected to represent any jurisdiction, specific neighborhood or business interest in the vicinity of the Light Rail Project.

The CAC will be asked to concur with various aspects of the Project's definition, and will make recommendations to the Project Manager and independently to the Project Steering Committee. The Manager of Public Involvement and other STA staff as appropriate will support the CAC.

11 PRELIMINARY ENGINEERING WORK PLAN

11.1 Approach to Preliminary Engineering

Following is the set of guiding principles which the Project Team will follow during the development of Preliminary Engineering for the Spokane Regional Light Rail Project, established to guide the overall performance of services.

Keep It Simple – The Light Rail Steering Committee has championed a low-cost, "no frills" definition for this project. It is incumbent on the team to foster this philosophy in every aspect of the project's development to maintain the budget for the program. The team will identify areas where hidden costs may lie, and apply known and "off-the-shelf" solutions as appropriate.

Develop a partnership with the community – In order to achieve adequate project definition, the project must be community based. We view the public involvement program as an integral part of the project, necessary for its definition. The community will own the project and it must fit and function according to community needs. To be successful, the public process must be open, honest and fair.

Design and construct to budget – A baseline budget for the program recommended by the Light Rail Steering Committee has been established and confirmed by the initial risk assessment process that was undertaken at the end of the conceptual engineering phase. This budget is consistent with what the Project's financial plan is anticipated to achieve. Over the course of Preliminary Engineering, one of the most important tasks for the team will be to maintain the cost of the project within budget as more detailed definition takes place and the project progresses through the public and agency review process. The team will implement practices to provide cost assurance throughout the program.

Risk assessment and mitigation – The team will continue to assess the risks to the project budget and schedule using analytical risk management processes. Whenever the project scope is changed or a new cost estimate is completed, the project team will review risks, update risk registers and provide a risk report listing the major project risks and a mitigation plan. Risks will be discussed with the project team and action plans for mitigation will be developed.

Consultants perform as extension of staff – As stated elsewhere, the consultant team will become an extension of STA's staff for the performance of preliminary engineering and environmental clearance activities of this project.

Follow the "road-map" but also be flexible– The Project Implementation Plan provides a "road map" to follow over the course of each phase of the project. This is a working document that doesn't just sit on the shelves of the project team. Complex programs of this type tend to breed diversions that can make achieving the project's objectives more difficult. The Project Team must guard against being unnecessarily diverted, but must also maintain the recognition that when issues arise they must be addressed. When a detour is necessary, it must be taken in the context of reference to the "road map" in order to determine and adjust for its impact to the program.

Have procedures in place and understood by the participants – Project operating procedures are useful tools for the way we behave at every stage of project completion. Without overburdening the team with voluminous documents, STA will develop quick reference guides that make clear the processes required for day-to-day operations, protocol, quality management, document management, real estate access, public communications, reporting, etc. These reference guides will be updated when changes occur.

Provide appropriate assignment of staff and specialist resources – STA's management approach recognizes the need to balance resources to address issues while avoiding the cost of over-assignment of staff. The consultant team should also be prepared to mentor less experienced agency staff into future positions of responsibility as the project progresses.

Seek best-value engineering solutions – STA's design philosophy will seek out solutions which provide the greatest value to the public. This will require a balance of long term operating and maintenance considerations with construction cost implications to develop solutions based on life-cycle cost. We recognize the benefit of having independent perspectives applied to projects, to stand back and consider alternatives that may not have been considered, and embrace value engineering to be regularly applied to our efforts.

11.2 Design Criteria

STA and its GMEC have prepared a draft Design Criteria manual. At the outset of the Preliminary Engineering (PE) phase, this manual shall be updated to reflect resolution of configuration issues from alternative studies that were conducted during conceptual engineering. The manual establishes basic criteria to be used in the design of the light rail transit system and facilities. In addition, CAD drafting standards and procedures were prepared early during conceptual engineering. These must also be updated at the outset of PE. STA's Design Criteria will take precedence over all other standards that may have been used on previous phases of the Project. It is also anticipated that Preliminary Engineering will produce some standard and directive drawings that would guide future final design efforts.

The Design Criteria relates to the following elements of Project facilities:

- Civil and Structural Engineering
- Track Geometry and Trackwork
- Utilities
- Landscaping
- Stations
- Light Rail Vehicle
- Operations and Maintenance Facility
- Traction Electrification System (Not Required with anticipated use of DMUs)
- Signal System
- Communications and Central Control
- Stray Current/Corrosion Control
- Safety

The updated Design Criteria document shall be reviewed and approved by STA's Light Rail Project Manager. Thereafter, deviations may be made within the framework of the Design Criteria to meet the requirements of a particular situation only with the approval of STA's Light Rail Project Manager. It is the responsibility of the consultant to identify, explain, and justify any deviation from the established criteria and to secure the necessary approvals from STA prior to proceeding with design work that does not conform to the Design Criteria.

11.3 Preliminary Engineering Work Program

Following is an outline of the anticipated work program for Preliminary Engineering. References to a number of these activities are made elsewhere in this Project Management Plan. It is noted that the responsibility for accomplishment of these activities may be that of the consultant, STA staff or a shared responsibility. Specific responsibilities will be assigned through negotiation of contract arrangements between STA and the consultant.

Project Management

- Provide ongoing staff support for the Light Rail Steering Committee
- Mobilize additional staff resources as required
- Procure additional consultant support as may be required
- Facilitate agency decision process
- Hold weekly team coordination meetings
- Hold regular technical advisory committee meetings
- Continue to refine construction procurement approach
    - Review construction options
    - Develop pros and cons for each option
    - Confirm recommended procurement approach
    - Provide plan for real estate acquisition
    - Provide plan for vehicle procurement
    - Provide plan for advanced procurement of materials as required
    - Develop plan and work programs for final design, CM/GC and/or design-build contract(s)
- Update project management plan for next stage of project
- Manage FTA and/or other federal grant compliance activities

Project Controls

- Develop cost estimates at intermediate and completion stages
- Provide control mechanisms to manage design activities to stay within planned cost limits
- Perform regular review of project risk analysis in comparison to current project status
- Perform re-baselining of risk assessment at the conclusion of the PE process and/or upon the determination that such substantive changes have taken place that warrant this activity
- Develop design coordination procedures
- Develop construction packaging and staging plan (Contract Implementation Plan)
- Develop and implement property acquisition tracking and control system

- Develop program for cash flow tracking and forecasting process
- Monitor design activities to stay within planned cost limits
- Prepare monthly progress reports for Project
- Monitor and update design schedule on a monthly basis
- Monitor master schedule and update quarterly
- Facilitate Systems integration during preliminary design
- Develop project safety certification program, including system, passenger, crossings and other alignment interfaces
- Facilitate industry peer review
- Perform formal value engineering process

Public Involvement and Education

- Facilitate public involvement program, including:
    - General workshops
    - Business community workshops with representatives from other LRT systems
    - Other system tours for government, business, and community representatives
    - Citizen's Advisory Committee meetings
    - Neighborhood meetings
    - Management of a speaker's bureau
    - Regular mailings
    - Public awareness research program
- Provide public information materials including:
    - Newsletters
    - Newspaper inserts
    - Information brochures on individual project subjects
    - Website (updated monthly)
    - Videos
    - Updates of STA's interactive kiosks
    - Visual simulations
    - Architectural renderings
    - Animations
    - Displays
- Execute strategy to educate general public on project
- Respond to information requests

Project Clearance

- Develop Final Project Financial Plan, to confirm private sector participation, local, state and federal funding sources and confirm funding strategy
- Review and update previous estimates of LRT and bus ridership estimates, and refine for current project definition
- Provide materials to support preparation of grant applications to secure specific funding grants as required
- Prepare intergovernmental agreements to secure cooperation for use of public right-of-way (Cities, County, WSDOT)

- Prepare the Final Environmental Impact Statement (FEIS) to address changes in project definition occurring during PE and responding to comments received from public review of the DEIS.
- Hazardous Materials Investigations
    - Assess level of risk for site contamination
    - Perform level one assessments on all high-risk properties
    - Recommend level two assessments
    - Recommend likely remediation requirements
- Noise and Vibration Mitigation
    - Review project DEIS analysis and confirm potential noise and vibration impact areas
    - Establish locations for mitigation treatments, if required
    - Perform preliminary design of mitigation treatments
- Perform updated estimate of real estate acquisition requirements and costs
- Prioritize and schedule real estate acquisition on the basis of available STA resources and cost effective management of the process
- Facilitate the negotiations for right-of-way agreements with railroads (BNSF and UPRR)
- Facilitate all approvals from FRA relative to sharing of railroad rights-of-way
- Identify and begin to secure all permits from other agencies as may be required for project implementation
- Identify critical start-up issues/checklist

Civil Engineering

- Perform civil engineering studies to resolve open issues from conceptual design phase. Major studies include:
    - Location and configuration of the terminus in downtown Spokane
    - Work with the City of Spokane to confirm the configuration of the LRT and the extent of work on Riverside Avenue from the downtown terminus to Division Street
    - Confirmation of likely alignment extension to the west of the downtown terminus
    - Cooperative development of alignment with City of Spokane's Riverside Avenue extension project east of Division
    - Interface with WSU on the location of the Riverpoint (Trent) Station and access
    - Interface with new development occurring on former site of Brown's Building Supply
    - Assess the structural condition of the BNSF overpass at Madelia
    - Staging the development of alignment in East Riverside Avenue from Madelia to Lacey
    - Confirm configurations of alignments in existing freight railroad corridors
    - Perform study to confirm alignment (at-grade or grade separation) at Dishman-Mica / Appleway Boulevard Crossing
    - Confirm alignment and right-of-way mitigation requirements along the segment of Appleway Boulevard from Dishman-Mica to University Road

- Confirm interface with the University City Shopping Center site and possible future station serving the Spokane Valley City Center
- Cooperative development of alignment with the City of Spokane Valley from University Road to the City of Liberty Lake
- Confirm the location of stations in the corridor from University to the Appleway Interchange, including park and ride size and locations
- Review and confirm alignment at Appleway Interchange to consider optimization with respect to development and potential for expanded DOT interchange
- Confirm eastern terminus location and interface with STA Liberty Lake park and ride facility
- Corporative development of alignment with the City of Liberty Lake from the Appleway Interchange to the terminus at Liberty Lake
- In conjunction with the City of Liberty Lake, develop a plan for the future extension of the LRT system beyond the terminus planned at Liberty Lake

- Track design
  - Optimize and freeze LRT track alignment plan and profile
  - Confirm track types for all project applications
  - Determine extent of track replacement / upgrading required where existing freight rail alignment can be used for LRT
  - Define typical track drainage details
  - Develop typical sections
  - Provide computerized cross sections throughout project
  - Establish procurement list for track materials
  - Develop track geometry data
- Surveying and Mapping
  - Supplement current base mapping to update as needed for PE to identify changes that have occurred since previous aerial mapping was developed (2001)
  - Perform utility location to support development of utility composite plans
  - Confirm previously provided control and provide survey control plan
  - Perform right-of-way location and verification as required to confirm adequacy and identify necessary acquisition parcels
  - Provide on-call surveying for special design issues
  - Develop Project right-of-way plans, with ownership and acquisition needs
- Utilities Engineering
  - Develop utilities composite plans
  - Develop recommendations for relocation/modification of utilities affected by the project
  - Coordinate with utility owners (public and private) to achieve agreement on disposition of affected utilities
- Roadway Design
  - Develop intersection plans for each at-grade crossing
  - Develop roadway plans along Riverside Avenue in downtown Spokane
  - Develop roadway plans for Madelia and East Riverside in-street segments

- Develop typical sections for each roadway segment that is impacted
- Develop preliminary roadway plans for miscellaneous roadway modifications
- Develop typical drainage details

- Site Engineering
  - Develop station vicinity plans
  - Develop park and ride configuration plans
  - Develop park and ride site grading and drainage plans
  - Develop maintenance facility site modifications / grading and drainage plan
  - Develop drainage and water quality typical details
- Structural Engineering
  - Prepare type, size and location study for the bridge, if required, at Dishman-Mica / Appleway Boulevard crossing
  - Prepare type, typical section and profile for each wall over 4' height
  - Prepare typical track slab details
  - Prepare typical noise wall sections (if required)
- Traffic Engineering
  - Prepare preliminary plans for all traffic signal modifications
  - Prepare preliminary signing and striping plans for modified intersections
  - Perform capacity analysis for all LRT crossing locations
  - Provide traffic signal progression analysis of Riverside in downtown Spokane
  - Prepare visual/animations for traffic analysis simulations at Dishman-Mica / Appleway Boulevard and other selected locations
  - Provide preliminary safety plan for all crossings
  - Perform updated traffic impact analysis at park and ride stations
  - Develop preliminary plan for traffic control during construction
- Geotechnical Engineering
  - Establish a soils exploration plan based on the current conceptual engineering design
  - Perform soils explorations at bridge locations (if required)
  - Provide recommendations for work adjacent to the railroad right-of-way east of Riverpoint (Trent) Station
  - Perform other explorations as established in exploration plan
  - Provide project soils report
  - Provide pavement designs for bus transit-ways, roadways, park and ride facilities
  - Recommend excavation and slope stabilization techniques
- Architectural and Urban Design
  - Establish theme for station architecture
  - Update special station area Transit Oriented Development plans
  - Confirm station locations through public process
  - For each station develop
    - site plan
    - platform plan
    - typical sections
    - shelter elevation
    - furnishing/amenities list

        - preliminary landscape plan
        - bicycle/pedestrian access plan
    - For LRT maintenance facility develop
        - schematic plans
        - building floor plans
        - building elevations
        - preliminary landscape plan
    - For systems equipment buildings (enclosures) develop
        - typical site plans
        - typical elevations and sections
    - Develop typical illumination plans
    - Develop project information signage examples and typicals
    - Develop selected alignment urban design/landscape plans (if required)
- Operations Planning
    - Develop an issues paper of potential options for LRT operations in coordination with planning for the project's financing and governance
    - Develop LRT Operations Plan, including operations simulations
    - Develop sizing requirements for stations and park and rides
    - Develop plan for coordinated transit bus network
    - Provide Operations and Maintenance cost estimates for Bus and LRT system

Systems Engineering

- Light Rail Vehicles
    - Confirm light DMU decision as preferred vehicle for use on this project
    - Develop design decision matrix to specify desired vehicle
    - Perform industry search of prospective vehicle availability, including the prospect of procurement of used vehicles or combining purchase with other transit agencies
    - Select procurement approach
    - Develop procurement specifications
- Operations and Maintenance facility
    - Develop maintenance philosophy
    - Confirm availability and suitability of Fleck Facility, including useful life and its potential role in a system that is expanded in the future
    - Confirm minimum and desired functional facility requirements
    - Perform assessment of alternative sites
    - Recommend / select maintenance facility site location
    - Determine equipment required
    - Assess activities to be housed in the facility
    - Assess ability to contract for needs not housed in the facility
    - Provide preliminary yard and shop layout
    - Develop yard and yard-lead track configuration
- Traction Electrification System
    - Confirm initial use of light DMU vehicles (in Vehicle task)

    - Determine whether system should be planned for eventual conversion to OCS system
    - Recommend provisions for potential future electrification
- Train Signal Systems
    - Perform signal system technology review
    - Confirm protection system to be used at each crossing, and extent of train signal system vs. traffic signal system control
    - Confirm suitability of all crossing control schemes with appropriate Washington state jurisdiction
    - Provide preliminary design for each roadway grade crossing design, including protection and coordination with traffic control systems
    - Provide signal block layout calculations
    - Provide single line diagrams
    - Resolve signal system technology
    - Outline Specifications
- Communications
    - Survey existing communications systems in use by others
    - Conduct Needs Analysis for and Definition of:
        - Radio
        - Train-to-wayside communications
        - Telephone/telecommunications
        - Station public address
        - Closed circuit television (CCTV) surveillance
        - Operations control center
        - Communications trunk line
    - Outline specifications
    - Provide single line diagrams
- Fare Collection
    - In conjunction with STA, the community and local jurisdictions, develop fare policy definitions and assumptions
    - Perform fare collection alternatives analysis
    - Define fare collection equipment list
    - Develop outline specifications

11.4 Design Review

Design reviews will be conducted by STA's Project Manager, other STA staff and department managers, consultant staff, representatives of local jurisdictions, and others who have technical input or coordination interests as appropriate. The types of reviews discussed in this section may be initiated during preliminary engineering, however some may be more appropriate to the later phases of project implementation. The design reviews allow all parties to:

- Evaluate the design products (i.e., plans, specifications, and estimates) as they progress;
- Measure them against the applicable design standards and criteria; and
- Reassess the design requirements and solutions as the design evolves.

Outside agencies will review the design from the perspective of future permit compliance and compatibility with existing facilities or planned development. STA will pay special attention to design comments from outside agencies, which may indicate potential problems in maintaining the project schedule or budget. Intergovernmental cooperative agreements will be developed that specify the required time frames for submitting comments to STA. STA and the consultant staff will work with local jurisdictions to insure project understanding, coordination and review schedule.

Special Reviews may be undertaken as described below and as warranted:

Design Review Workshops - Formal design review workshops may be conducted on major submittals of Preliminary Engineering documents.

Design Coordination Meetings - In addition to the formal workshops, regular design coordination meetings will be held. These meetings will include the same participants and have the same goals as stated above. However, they will be less-comprehensive, focusing on only those design aspects undergoing development at that time. These coordination meetings will ensure efficiency in the design effort by facilitating continuous communications between the stakeholders, thereby reducing time spent on design options and variables.

Quality Assurance Reviews - In addition to the formal design reviews, STA may conduct formal Quality Assurance audits after each major progress submittal is made. These audits will assess compliance with the Quality Assurance Program. (See Section 7.6, Quality Assurance and Quality Control for details).

Safety Reviews – During final design, STA's operations and safety staff assisted by light rail industry experts as appropriate, will conduct formal safety reviews of the design including written reports of findings. These reviews will be conducted in accordance with a future "System Safety Program Plan" that will be prepared. During the Preliminary Engineering phase, special workshops will be held to begin the process for the agency to address rail safety issues in the design program. Contracted traffic safety specialists are anticipated to be an integral part of the reviews depending on the special features of the design under study.

ADA Reviews – Prior to the completion of preliminary design documents, STA will conduct a design review to ensure compliance with the requirements of the Americans with Disabilities Act (ADA) and the Washington State Law Against Discrimination. Qualified specialists from the consultant team who have been independent of the design will lead this review. STA will also coordinate participation by local disability groups such as Spokane area's Coalition of Responsible Disabled.

11.5 Operations and Maintenance Review

It will be extremely important to the overall success of the Project that it be well coordinated with STA's existing and future bus system. To this end, STA will involve its Operations and Maintenance personnel from the outset of the Preliminary Engineering process in order to develop a mutual understanding and respect for both bus and rail operations and maintenance

needs. The reviews will take past agency lessons learned into consideration and will focus on the need to mesh future Light Rail facilities and equipment with those already in place to support coordinated light rail and bus operation.

STA operating and maintenance staff will review and provide input to the Spokane Regional Light Rail Project preliminary design process in the following ways:

- Participate in reviews of all designs to determine operability, maintainability, safety and convenience;
- Review all designs for compatibility of bus-rail passenger transfer facilities;
- Participate in anticipating future operations plans and test requirements;
- Assist in estimation of STA staffing requirements for future rail operations; and
- Actively participate in the planning for future implementation programs.

11.6 Constructability Review and Consultation

The constructibility of a project is a matter of continual evaluation beginning with the preliminary design process and continuing through final design. Near the completion of the preliminary design phase, a formal constructibility review covering each major civil and systems component of the Project will be conducted. For each major component of the Project, the constructibility review is intended to provide a preliminary assessment of methods, sequence and phasing, and contractor interfaces with other Project work, and general conditions language specific to each contract.

Preliminary design documents will be reviewed for:

- Completeness
- Practicability of design
- Feasibility of potential field methodology
- Sufficient clarity of design intent
- Correctness of cross references from drawing to drawing
- Agreement of intent between drawings and written documentation

The Director of Project Controls will organize appropriate independent industry experts to conduct the constructibility review and may use any member of the design team, outside professional consultants, agency representatives and construction contractors depending on expertise required.

The review group will look at the documents and drawings with sensitivity to construction problems and any issues that would be potential causes for the design team to reassess the design. Review comments will be coordinated and assembled for action or response by the design team.

11.7 Peer Reviews

Peer review involves the focused review of selected project elements by a group of specialists or professionals experienced in the affected type of work. During preliminary design, this review generally entails a comprehensive study of the overall project definition, but may also focus on a particularly challenging matter, subject or problem of the Project.

The Spokane Regional Light Rail Project will use peer reviews to provide guidance to the Project team where appropriate. Some Project elements that are candidates for peer review include: Downtown Riverside cross-section, Dishman-Mica crossing, location of park and rides, utility relocation issues, work on the UPRR right-of-way, maintenance assumptions and the resulting facility design, operations and maintenance plan, anticipated systems technologies, etc.

Project staff will establish the requirements and schedule for peer reviews during the Preliminary Engineering phase. The appropriate time for a peer review will be when there is sufficient definition of the design such that outside specialists can clearly understand its scope and intent.

Peer review panels will be composed of experienced design team personnel and experienced managers or operators from a transit system similar to that proposed by STA. Peer reviewers will be selected based upon several general guidelines:

- Experience in the specific areas under review
- Experience in the design and construction of other light rail systems
- Experienced with the start-up and actual operation of a similar system

Daily agendas for meetings and briefing packets will be established and provided to peer review members prior to any meetings so they can develop a familiarity with the purpose of the meetings, the subject matter, and the Spokane Regional Light Rail Project.

11.8 Value Engineering

Value engineering (VE) is an organized and rigorous analysis of the project's cost/functionality relationship. It is concentrated, in the Preliminary Engineering and Final Design phases, but continues throughout the construction phase through the participation of the contractors. Value engineering ensures that essential functions are procured at the lowest capital and life cycle cost, and that the costs are consistent with needed performance, quality, reliability, aesthetics, safety, and operation.

The initial value engineering effort on the Spokane Regional Light Rail Project will be performed during the Preliminary Engineering phase. This VE study will be conducted by an independent, professional Value Engineering Consultant team hired by STA or arranged through the consultant contract specifically for this purpose. A Value Engineering workshop will be held to review and discuss potential value engineering ideas suggested by the VE consultant. The workshop may result in numerous proposals that can be accepted and subsequently incorporated into the final design. The Project Controls Director will be responsible for organizing the VE workshop.

During future final design, the Project engineers will be responsible to ensure that all agreed upon VE proposals are incorporated into the design documents. In addition, Project engineers may initiate additional VE studies as needed at the design submittal stages. Project engineers will document and implement the results of the studies with appropriate notification to Program Controls on scope and budget revisions that may be required.

The Program Controls Director will coordinate the continuing VE program during final design in the form of technical consultation and VE workshops regarding system usage, materials, products, operations, maintenance, and construction techniques. The VE sessions will include the designer, STA and consultant staff, Operations and Maintenance staff, and other specialists.

11.9 Systems Integration

The purpose of this management function is to ensure compatibility among the various light rail systems. An equally important purpose is to ensure compatibility between the individual systems, and the facilities provided for those systems. Project Controls will take the lead in the review of compatibility and integration of the various systems.

During Preliminary Engineering, the system integration functions consist of three review steps:

1. Verify that the documents under review fulfill the functional requirements of the design criteria, and are consistent with preliminary operating plans

2. Verify that the train signaling, traffic signaling, vehicle traction power (as applicable), fare collection equipment, and communication system documents are mutually compatible. At the same time, verify that the right-of-way, trackwork, stations and storage, maintenance, and other permanent facilities defined in the documents under review will accommodate the system elements

3. Verify that the planned partitioning of the work in the documents under review matches the partitioning of work in the documents for adjacent and underlying work

The system integration review shall be performed at the principal design review stage during Preliminary Engineering. System integration review on specific features may be performed at earlier stages in the design process, in cases where such review would be helpful in design decision making. In addition, bi-weekly design coordination meetings will include an agenda item for systems integration to identify and resolve system conflicts as they emerge during the design process.

Systems integration activities must consider and ensure that proposed Light Rail facilities and systems are compatible with their counterparts on the existing system. Future design plans and specifications for the civil line sections, system-wide elements, and the LRVs must share certain characteristics with the existing equipment and facilities.

11.10 Art Program

The Spokane Region generally promotes a policy to include public art in its major capital projects that directly benefit the general public. STA anticipates development of a public art program over the course of Preliminary Engineering to encourage increased transit usage and community pride by integrating art works into the transit system, thereby celebrating the contributions of public transportation and recognizing the cultural richness in the region.

The magnitude and extent of the public art program will be subject to Board policy that will be developed early in Preliminary Engineering.