



Eagle P3 Project Procurement Lessons Learned





August 31, 2011

As the Regional Transportation District (RTD) implements one of the largest transit Public-Private Partnership (P3) in the nation, we wish to share our experience with the transportation industry. The idea is for the industry to gain knowledge from our "lessons learned" in implementing the Eagle P3 Project as part of RTD's FasTracks transit expansion program, and use them as a guide in the building and rebuilding of our nation's transportation infrastructure.

The key lessons learned from the Eagle P3 procurement are:

- RTD created a tremendously competitive environment and engaged the private sector in such a way that resulted in the winning bid coming in \$300 million below internal budget estimates.
- Though a long term, well-funded surface transportation reauthorization bill is needed, RTD proved that the "Three-legged Financing Stool"—private sector financing (in our case - \$486 million), local investment in the form of dedicated sales tax, and federal funding (\$1.03 billion Full Funding Grant Agreement)—could very well be the financing model to build mega infrastructure projects in the future.
- Empowering your team, holding them accountable, and making the work enjoyable can lead to favorable project results.

This lessons learned document is an agency-initiated undertaking to be open and transparent about what has gone well and should be repeated and also to identify things that we would do differently next time. We choose to continue to be forward looking in our approach and to share our experiences as we continue to implement this great regional investment that, after complete build out, will endure and continue to give back for the next 100 years and beyond. As we move forward our objectives for the FasTracks program are:

- Complete the FasTracks investment sooner rather than later
- Help create huge, region-wide economic benefits
- Create jobs and opportunities for individuals and small businesses
- Provide a quality program and develop a world class transit system
- Ensure public and transit system safety
- Minimize impacts during construction
- Provide timely, accurate, clear, consistent information to the public
- Listen, lead, and follow up effectively

Finally, we thank the Colorado Congressional delegation, our Governor John Hickenlooper, FTA Administrator Peter Rogoff and his staff, our metro mayors and other regional elected officials, the RTD Board, and the immensely talented RTD staff and consultant team without whose cooperation and support we would not be successful. We look forward to working hard and smart to complete the long-term investment called FasTracks.

A handwritten signature in black ink, appearing to read "Phillip A. Washington". The signature is written in a cursive, flowing style with a long horizontal stroke extending to the right.

Phillip A. Washington
General Manager

Acronym List

AGM.....	Assistant General Manager
APTA.....	American Public Transportation Association
AREMA	American Railway Engineering and Maintenance of Right-of-Way Association
ATC.....	Alternate Technical Concept
BE	Basic Engineering
BNSF	Burlington Northern Santa Fe (Railroad)
CCD	City and County of Denver
CCTV	Closed Circuit Television
CDOT.....	Colorado Department of Transportation
CDRL	Contract Data Requirements List
CEI	Cost Effectiveness Index
CM/GC.....	Construction Manager/General Contractor
Concessionaire	The selected private sector partner - Denver Transit Partners
CRMF.....	Commuter Rail Maintenance Facility
D-B.....	Design Build
DBE.....	Disadvantaged Business Enterprise
DBFOM	Design-Build-Finance-Operate-Maintain
DBOM	Design-Build-Operate-Maintain
DIA.....	Denver International Airport
DRCOG.....	Denver Regional Council of Governments
DTP.....	Denver Transit Partners
DUS	Denver Union Station
EA	Environmental Assessment
Eagle.....	East and Gold Line Enterprise
Eagle P3 Project	East and Gold Line Enterprise P3 Projects
EIS	Environmental Impact Statement
EMU	Electric Multiple Unit
FasTracks	The Denver Metro area program of light and commuter rail, bus and maintenance facility projects
FFGA	Full-Funding Grant Agreement
FRA.....	Federal Railroad Administration
FTA	Federal Transit Administration
GM	General Manager
IGA.....	Intergovernmental Agreement
IT.....	Information Technology
MSC.....	Management Steering Committee
MTP	Mountain-Air Transit Partners
O&M.....	Operations and Maintenance
NTP.....	Notice to Proceed
NWES	Northwest Electrified Segment
NWR	Northwest Rail
P3.....	Public-Private Partnership
Penta-P	Public-Private Partnership Pilot Program
PE	Preliminary Engineering
PI.....	Public Information
PM.....	Project Manager
PMP	Project Management Plan

PTC.....	Positive Train Control
PUC	Public Utilities Commission
Q&A	Question and Answer
RFP.....	Request for Proposals
RFQ	Request for Qualifications
ROD	Record of Decision
ROW	Right-of-Way
RTD.....	Regional Transportation District
SBE	Small Business Enterprise
TABOR.....	Taxpayer Bill of Rights (Colorado)
T-REX	Transportation Expansion Project
UP	Union Pacific (Railroad)
VE	Value Engineering

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Executive Summary

FasTracks is the Regional Transportation District's (RTD) voter-approved transit program to expand rail and bus service throughout the RTD service area. FasTracks will build 122 miles of commuter rail and light rail, provide 18 miles of bus rapid transit service, add 21,000 new parking spaces, redevelop Denver Union Station, and redirect bus service to better connect the eight-county District. The FasTracks investment initiative is projected to create more than 10,000 construction-related jobs at the height of construction and pump billions of dollars into the regional economy.

The East and Gold Line Enterprise (Eagle) Public-Private Partnership (P3) Project will construct two complete commuter rail segments—the **East Corridor** and the **Gold Line, a Commuter Rail Maintenance Facility (CRMF)**, and an electrified portion of the **Northwest Rail Line (NWR)** referred to as the **Northwest Electrified Segment (NWES)**—all key elements of the overall FasTracks program of projects.

The key to our successful procurement of the Eagle P3 Project are:

- *Developing performance specifications* rather than detailed level that has been the norm for our past transit projects.
- *Maximizing proposer flexibility* through the use of performance level specifications
- *Implementing Alternative Technical Concepts (ATC)* rather than a Value Engineering (VE) approach to enable proposers to effectively manage their anticipated project costs.
- *Establishing, and rigorously adhering to, a Request for Proposal (RFP) schedule.*
- *Providing for a stipend to the proposers* to defray some of the costs of proposal preparation and at the same time ensure we own the approach and ATCs created by both the winning and unsuccessful proposers.
- *Ensuring affordability* by building and operating the Eagle P3 Project within RTD's financial capacity while realizing efficiencies and savings in capital and operations and maintenance costs and maximizing federal support through its Public-Private Partnership Pilot Program (Penta-P).

This procurement is the first of its type in the U.S. to be successfully completed as a 100 percent P3. We took advantage of the lessons learned from earlier P3 projects both here and overseas. Select management and key staff positions have been filled with highly experienced professionals with direct experience on successful overseas P3 projects—projects that are structured similarly to the Eagle P3 Project along with staff experienced in the delivery of major transportation projects.

The Regional Transportation District (RTD) will retain overall ownership and control over key aspects of the completed Project, including:

- Ownership of all assets at all times.
- Revenues generated by the Project.
- The fare policy and structure and the operating plan.
- The performance criteria and resulting availability payments for the Project; these will be based on performance against established metrics.

We have focused this Lessons Learned Report on five major areas:

- Delivery Strategy
- Delivery Implementation
- Communications
- Eagle P3 Project Unique Challenges
- Additional Perspectives

Delivery Strategy

RTD recognized very early in the procurement process that adoption of the P3 approach would allocate much of the responsibility for how things were done to the private sector. This meant that it was imperative RTD focus clearly on the desired outcomes, rather than the how, of the Project.

The Eagle P3 Project team sat down with senior RTD managers to define the issues of paramount concern. After extensive discussion with the senior leadership team the following were identified as the five key goals for the Eagle P3 Project:

- *Quality* – deliver the Project as a safe, high quality, fully operational system that offers a high-quality customer experience for RTD's patrons and promotes sustainable design and operation.
- *Affordability* – build and operate the Eagle Project within RTD's financial capacity while realizing efficiencies and savings in capital and Operations and Maintenance (O&M) costs and maximizing federal support through Penta-P.
- *Competitive Environment* – demonstrate best value through an open competitive selection process.
- *Control* – maintain appropriate oversight, controls, remedies, and incentives without being overly prescriptive. At the same time, permit the private sector to perform and innovate within the parameters of RTD's policies, including meeting small and disadvantaged business enterprise (SBE/DBE) goals.
- *Schedule* – deliver the Eagle P3 Project within or ahead of the FasTracks planned schedule.

Delivery Implementation

The implementation of the Eagle P3 Project delivery approach involved three steps:

- Structuring the Request for Qualifications (RFQ) and draft and final Request for Proposals (RFP).
- The process and schedule of the procurement.
- Evaluation of the actual proposals.

The RFQ set out RTD's expectations of the proposing teams and their team members. The proposing teams were required to be formed as a concessionaire, wholly owned by the entities providing equity to the Project. Core contractors with responsibility for Design-Build (D-B), and

O&M services had to be identified in the responses. Identification of the rolling stock providers was encouraged, but not required.

Requiring leadership by equity providers ensured that the course was set early to maintain focus on a long-term solution that provided both efficiency in capital cost and reliability in service performance.

The structure of the RFP was developed to clearly set RTD's expectations from the concessionaire in all aspects of the Eagle P3 Project, from procurement, through design and construction, and then through the operating concession. Since the intent is to hold the concessionaire to a level-of-service performance, RTD chose to restrict the agency level development of design specifications to performance requirements and availability standards rather than proceeding to the detailed design level.

A draft RFP was provided to qualified teams for review and comment. This was very helpful since we received feedback as to how each commercial clause or technical requirement could be interpreted, particularly when the proposers saw limitations to their preferred approach

The ATC process replaced the VE process. This approach encouraged innovation and was accepted by FTA as a viable substitute for VE. RTD has already submitted a report to FTA on specific results and lessons learned in this area.

A P3 procurement process can only be successful if:

- There are multiple (two or more, but fewer than five) teams capable of delivering the project.
- The proposers remain engaged and participate through to bid submittal.
- The proposers (and their lenders/equity partners) are comfortable with the commercial financing terms

Schedule compliance is vital for a P3 procurement, so maintaining the procurement schedule was one of our top priorities. Maintaining the integrity of the proposing teams, in particular their financing entities, was a big challenge in the financial market that we faced at the beginning of the procurement. Schedule compliance gave the teams and their lenders confidence that we knew what we were doing and we understood that time was money.

The model for the Eagle P3 Project proposal evaluation process was the highly successful one used with the T-REX Project. The key elements of proposal evaluation were:

- Using a well-structured, best value evaluation approach.
- Having well-trained teams review the technical portion of the proposal and apply the evaluation factors.
- Including Project stakeholders in the technical proposal review.
- Insisting on meeting the schedule—sticking to the procurement dates.
- Maintaining strict confidentiality of the proposal, process and results.

Communications

Internal RTD communications were a critical element in managing the procurement and ensuring schedule adherence. We recognized the need for international P3 experts to develop the relevant sections of the RFP. A key requirement was to assure that each section was coherent and developed in a consistent style that resulted in each section complementing the

others rather than duplicating or contradicting them. We supplemented RTD staff with experience in major project delivery by assembling an internationally experienced development team to develop the draft and final RFPs.

A P3 procurement requires major policy decisions throughout the process. Without the full support of our Board of Directors the procurement process would have been seriously delayed, if not actually canceled. We engaged the Board early in the procurement process, starting with the presentation of the RFQ. Upon receiving approval of the recommendation to qualify the three potential proposing teams, we went to the Board with the draft RFP and subsequent changes, making the process of getting Board approval of the final RFP much simpler.

RTD recognized the importance of communicating with industry early and often. We had various forums and forms of communication where critical issues were discussed in a way that allowed issues to be fully and completely explored and understood by both the proposers and RTD.

We actively sought stakeholder input during the Project development and RFP development process as well as during the evaluation of the proposals. RTD also decided that third party and industry reviews were important approaches to allow us to learn from the experiences of other P3 projects.

Eagle P3 Project Unique Challenges

The Eagle P3 Project procurement provided us with some interesting challenges since this was RTD's first direct experience with this methodology. The previous projects in the U.S. were limited in the parallels and lessons learned we could apply. We counterbalanced some of the challenges by carefully recruiting an internationally experienced group of managers and technical experts, but some challenges remained unavoidable or unforeseeable. The most critical of these challenges were:

- Procuring the Eagle P3 Project with only two, and possibly one, teams.
- Finding and applying relevant lessons learned from similar procurements.
- Operating within the constraints of Colorado's Taxpayer Bill of Rights (TABOR) legislation.
- Maintaining an ambitious schedule.
- Accommodating the many unique considerations of a Design, Build, Finance, Operate, and Maintain (DBFOM)/P3 procurement.
- The Eagle P3 Project procurement started with three potential concessionaire teams following the RFQ phase. One proposing team dropped out shortly after the draft RFP was issued. They and we had concerns about the team structure and its ability to manage a project of this size—valued at over \$2.0 billion with nearly 50 years of O&M responsibilities.
- RTD has completed two related Lessons Learned reports in the past three years—one for the completed T-REX Project and one for the first five years of the FasTracks Program of projects. Both of these reports were used as references for this Lessons Learned Report. Many of the T-REX Project processes were used in the Eagle P3 procurement.
- TABOR is a constitutional amendment adopted in 1992. It limits the growth of state and local revenues to a highly restrictive formula: inflation plus the annual change in population and puts restrictions on the issuance of any multi-year fiscal obligation. The

element of Full-Funding Grant Agreement (FFGA) funding became an important consideration for the proposing teams since TABOR does not apply to federal funds.

- Maintaining the Eagle P3 Project procurement schedule was one of our top priorities. It is very easy to let the schedule on such a complex procurement slip, but we did not allow this to happen. Our team and the proposers worked extremely hard to ensure we would meet our published date—June 15, 2010—for recommending the Eagle P3 Project Concessionaire Agreement to the RTD Board of Directors.
- Since the proposal preparation process was going to be lengthy, complicated, and expensive we felt that providing the proposers that actually responded to the final RFP with a multi-million dollar stipend would help offset their costs and help keep them in the process.

Additional Perspectives

RTD went through a change of General Manager (GM), including having an acting GM and conducting a worldwide search for a replacement GM, during the Eagle P3 Project procurement process. At the end of the search process continuity was maintained since the unanimous choice for the position of GM was Phil Washington, the acting GM.

“My role as GM was to keep a high operations tempo, setting the schedule and milestones and holding our management accountable, keeping things moving, and making decisions related to the railroads, TABOR, and other key issues—and ensuring the RFP was released on September 30, 2009, as scheduled.”

The key considerations from the GM’s perspective were:

- Providing quality presentations to the Board.
- Providing significant, ongoing education to the Board to aid them in the decision-making process.
- Organizing teams of speakers to meet with regional mayors, elected officials, and other groups.
- Having direct GM and senior RTD staff/consultant involvement throughout the procurement process.
- Actively involving FTA and keeping them informed throughout the process.
- Establishing and sticking to a schedule—the proposing teams really appreciated that.
- Managing expectations.

We held information gathering sessions with both proposing teams to obtain their inputs to the Eagle P3 Project Lessons Learned. A comment from the unsuccessful team was quite telling: “We can’t afford to get it wrong on a 30 to 50 year project.”—MTP team

When comparing the Eagle P3 Project procurement to other U.S. P3 projects, several aspects stood out:

- The political support from the RTD Board was very good. The fact that the Board was unified in support of the Eagle P3 Project was a definite plus. The proposers were very impressed with the conduct and professionalism of the RTD Board of Directors.
- Including the City and County of Denver’s support under political support was very valuable since Denver International Airport (DIA) is a critical component of the East

Corridor. The Mayor's office and Public Works Department was highly supportive and obviously committed to the Project.

- RTD was very confident of getting its portion of the funding.
- The quality of the RTD advisor team—having a legal advisor that brought commercial experience but did not provide “commercial advice” and financial advisors whose assessment of RTD's long term financial mode and payment capacity was credible.
- The advisor team was transparent. The perception on the part of the proposing teams was that the advisors were all RTD staff rather than consultants. They provided inputs that appeared to be from RTD's perspective rather than a consulting one.

A P3 procurement requires major policy decisions throughout the process. Without the full support of our GM and our Board of Directors the procurement process would have been seriously delayed, if not actually cancelled. The DBFOM, P3, Penta-P, and agency roles and responsibilities made the procurement incredibly complex and required major policy commitments and rapid decisions and responses.

The Lessons—Summary

- A successful P3 procurement is heavily dependent on buy-in from, and support of, a broad base of entities including procuring agency personnel, agency management, and board members.
- Develop and insist upon decisive leadership at all levels. Decentralize decision making, empower your leaders, and push your troops beyond their perceived limitations. (One's reach should always exceed their grasp).
- Involving internal (and external) legal counsel and financial managers and advisors at the start of the procurement process is critical for a P3 since it is at the core a business deal rather than a traditional construction contract.
- It is essential to provide P3 project proposers with maximum design flexibility. Allowing this level of design freedom was a significant learning experience for RTD. We saved significant money (approximately \$300 million) without compromising our ability to meet operational requirements.
- Incorporating ATC provisions was a key element in providing both RTD and the proposers the confidence that the Eagle P3 Project could be designed, delivered, operated, maintained, and financed at an acceptable cost.
- The provision of a stipend is very important to demonstrate RTD's commitment and to partially offset the costs associated with the complex and expensive P3 proposal process—from the proposers' perspectives—and was key in corporate decision-making at different stages of the procurement.
- Keep the procuring agency's focus on performance standards rather than design or infrastructure aspects of the procurement.
- Develop the performance standards and availability parameters so the proposed system allows applying quantitative metrics to the evaluation process.
- Allowing the future concessionaire to develop detailed specifications, combined with ATCs, can result in greater confidence a P3 Project can be delivered at the most favorable cost and in the minimum time.

- Risk transfer and ownership considerations are keys to determining which party develops design specifications.
- Qualify teams early so that they can be involved in the development process and understand the agency's goals and expectations.
- Allow teams to organize to their strengths, but always be led by their equity participants to maintain life-cycle focus.
- The use of performance specifications and availability criteria reduces the agency workload and provides the proposers with freedom to propose a project that they feel is feasible and cost-effective to deliver under DBFOM. The availability component is particularly important for obtaining financing and favorable ratings from the rating agencies.
- Keeping to the established schedule was very valuable in establishing and maintaining our credibility with the proposing teams and their financing partners.
- Using the best value approach is a good way to ensure quality technical proposals.
- Involve all levels of management, including legal counsel, at all stages of the procurement process.
- Ensure all parties—stakeholders, Board members, agency staff, and area residents are kept fully informed of the process and decisions and provide them appropriate venues for expressing their views and opinions.
- Bring potential proposers—primes/major subcontractors and SBE/DBE firms—into the RFQ/RFP development process as early as possible.
- Take full advantage of the experience and lessons learned offered by the potential proposers.
- The agency's Board must be "on board" from the outset of the procurement process if a DBFOM/P3 approach is to work. Their unequivocal support is essential.
- The industry forum was a valuable way to provide consistent information to all potential proposers.
- Stakeholder involvement is critical to the overall success of a project. Obtaining their concurrence with project requirements is essential. Their insights benefit the project.
- Regular communication with all stakeholders is essential to obtaining community support of any project.
- Peer review is essential given the limited number of current and past P3 projects in the U.S.
- Be prepared to go forward with only one qualified proposing team, but work hard to maintain competition with more than one team.
- Provide for a stipend for the teams that respond to the final RFP.
- Schedule adherence is critical to meet the unique aspects of the DBFOM project delivery and establish/maintain agency credibility. Staying on schedule is very important to the financing entity on each proposing team.
- Provide the proposers with clear understandings of where they scored well and where they scored poorly.

- Strike a balance between the information provided by the agency in top level performance specifications and the level of design detail required of the proposers in their technical proposals.
- Develop a risk allocation model that reassures the proposers as to which entity will assume crucial risks, thereby reducing the proposers' need to reserve for all possible risks.
- Having strong public sector support reduced the financing costs by five to eight basis points. In addition, TABOR-like restrictions can be “backstopped” by strong agency and financing entity guarantees.
- Motivate and inform the Board, stakeholders, and public throughout the procurement process.
- Actively involve the FTA—P3 is new to them, too.

Introduction

This lessons learned report was prepared based on insight from many of the key participants including the most senior management of RTD, RTD staff, stakeholders, the proposing teams, both successful and unsuccessful and some of the peer reviewers involved in the process.

FasTracks Project Background

FasTracks is the Regional Transportation District's (RTD) voter-approved transit program to expand rail and bus service throughout the RTD service area. FasTracks will build 122 miles of commuter rail and light rail, provide 18 miles of bus rapid transit service, add 21,000 new parking spaces, redevelop Denver Union Station (DUS), and redirect bus service to better connect the eight-county District. The FasTracks investment initiative is projected to create more than 10,000 construction-related jobs at the height of construction and pump billions of dollars into the regional economy. **Figure 1** shows the planned FasTracks system.

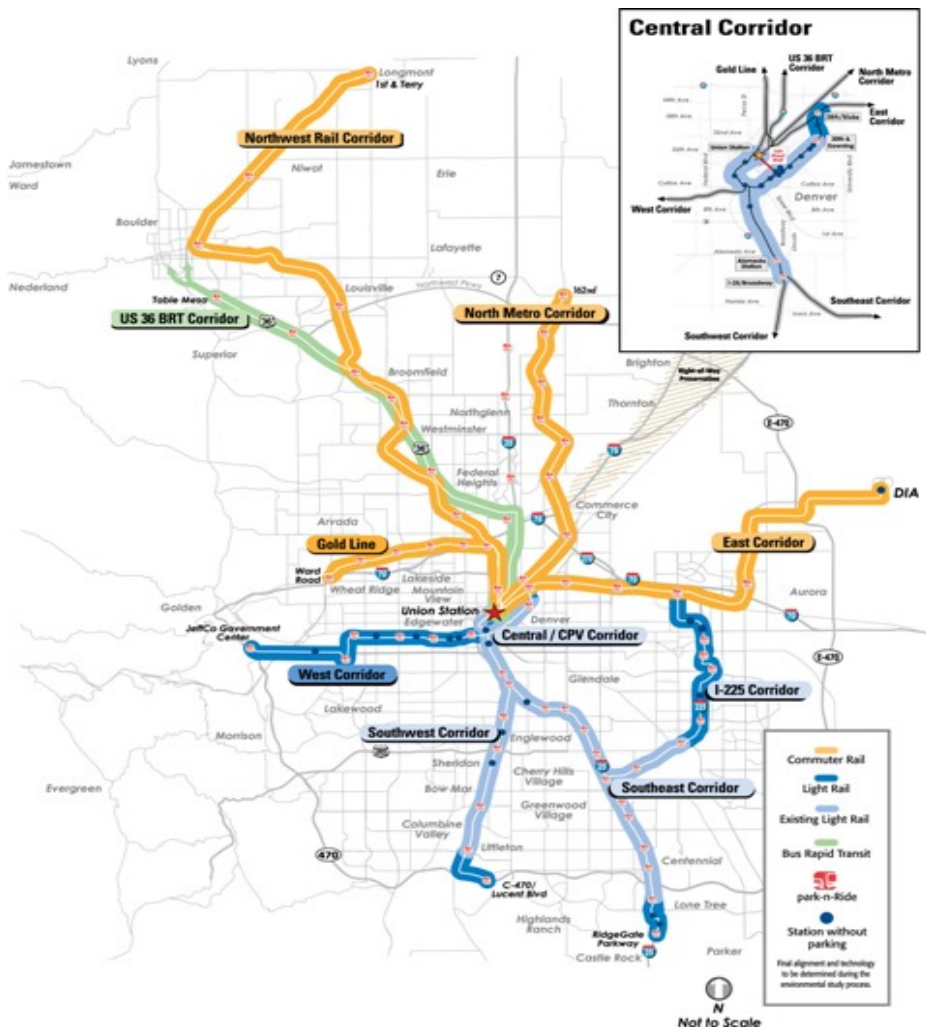


Figure 1: The Planned FasTracks System

Eagle P3 Project Background

The East and Gold Line Enterprise (Eagle) Public-Private Partnership (P3) Project will construct two complete commuter rail segments—the **East Corridor** and the **Gold Line**, a **Commuter Rail Maintenance Facility** (CRMF), and an electrified portion of the **Northwest Rail Line** (NWR) referred to as the **Northwest Electrified Segment** (NWES)—all key elements of the overall FasTracks program of projects.

The key Eagle P3 Project considerations are:

- The concession period will be longer than the expected life of most components.
- RTD retains ownership of all assets at all times.
- All revenues generated by the Project remain with RTD.
- The fare policy and structure and the operating plan will be established by RTD's Board of Directors.
- The performance criteria and resulting availability payments for the Project will be based on performance against established metrics.
- The **East Corridor** will provide commuter rail service along 22.8 miles of dedicated rail corridor, running from DUS east to Denver International Airport (DIA). The East Corridor will serve as a connection between these two important areas and travel through the adjacent employment, neighborhood, and new development areas.
- The **Gold Line** will provide commuter rail service along an 11.2 mile corridor with approximately 7.5 miles of dedicated track in a shared rail corridor from the divergence point at the NWES at Pecos Junction west to Arvada and Wheat Ridge. The first 3.7 miles of track—from DUS to Pecos Junction—will be shared with the NWES.
- The **CRMF** will provide maintenance for the Eagle P3 Project rail cars as well as rail cars being procured for the remaining projects in the FasTracks program.
- The **NWES** will provide commuter rail service along approximately 5.3 miles of dedicated track in a shared rail corridor running north from DUS to south Westminster.

The East Corridor

The East Corridor was approved by the Federal Transit Administration (FTA) on November 6, 2009, when the FTA issued a Record of Decision (ROD). The East Corridor will encompass 22.8 miles of electrified commuter rail extending from DUS in downtown Denver to the end-of-line station at DIA. The East Corridor has five intermediate stations, located at 38th/Blake, Colorado, Central Park, Peoria, and 40th/Airport. The East Corridor is scheduled to begin operations in 2016.

Figure 2 depicts the *East Corridor*.

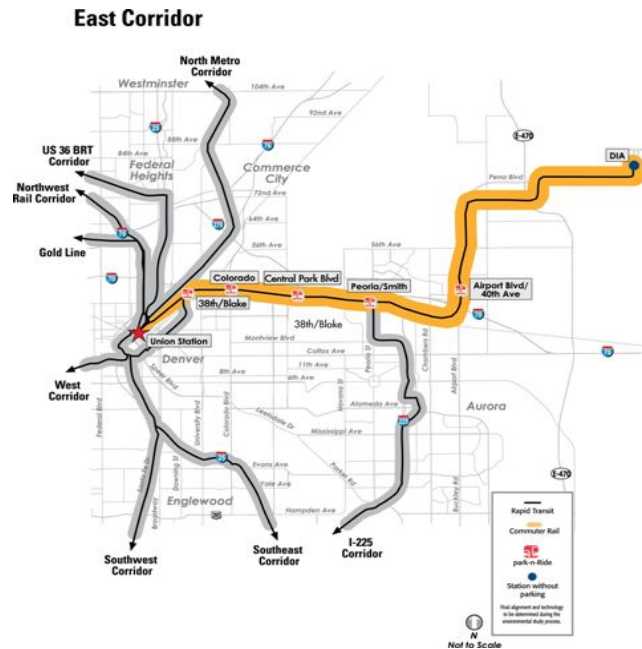


Figure 2: East Corridor Map

The Gold Line

The Gold Line was approved by the FTA in a ROD issued on November 2, 2009. The Gold Line is an 11.2-mile electric commuter rail corridor that will run along the existing Burlington Northern Santa Fe (BNSF)/Union Pacific (UP) Railroad route from DUS to Wheat Ridge. The Gold Line will pass through northwest Denver, Adams County, and Arvada. The Gold Line will have seven stations, located at 41st Avenue, Pecos, Federal, Sheridan, Olde Town, Arvada Ridge, and Ward Road. The Gold Line will provide high quality, reliable transit service for the area while improving travel times and enhancing access to jobs, recreation, and entertainment. The Gold Line is scheduled to begin operations in 2016.

Figure 3 depicts the *Gold Line Corridor*.



Figure 3: Gold Line Corridor Map

The Northwest Electrified Segment

The NWES is the first segment of the 41 mile Northwest Rail line from DUS to Longmont via Boulder. A portion of the NWES is shared with the Gold Line from DUS to Pecos. The NWES then continues to the South Westminster Station at 72nd Avenue. The remainder of the NWR Line is still in preliminary design, this latter portion will share track with the BNSF.

Figure 4 depicts the *Northwest Electrified Segment*.

Northwest Rail Corridor

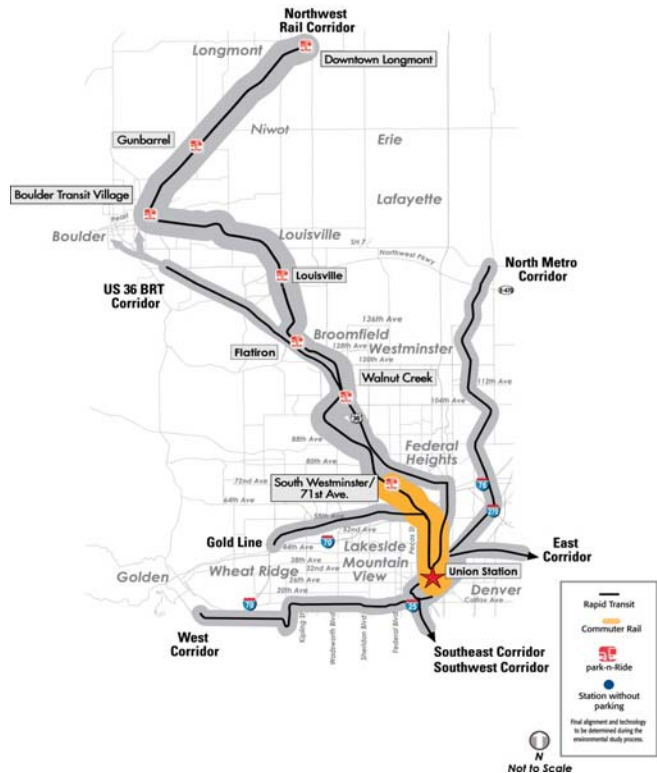


Figure 4: Northwest Rail Corridor with Electrified Segment Map

The Commuter Rail Maintenance Facility

The CRMF will service the trains for all FasTracks commuter rail projects (East Corridor, Gold Line, North Metro, and Northwest Rail). The CRMF will be sited adjacent to the Gold Line and NWR alignments and connect to the East and North Metro corridor lines at DUS on a 30-acre site immediately north of 48th Avenue (referred to as the Fox North Site). The CRMF will include a central control center, a maintenance shop, a rail storage yard, employee facilities, administrative offices, employee parking facilities, and other maintenance facilities.

Key Eagle P3 Procurement Milestones

The key activities and decisions to date for the Eagle P3 Project have been:

- March 2007: The RTD Board authorized the initial application for Public-Private Partnership Pilot Project (Penta-P) funding.
- June 2007: The RTD Board authorized submittal of the final application to enter the FTA's Penta-P program.
- June 2007: RTD hired Goldman Sachs/JP Morgan as financial advisors and began meetings with potential concessionaires.
- October 2007: RTD hired experienced P3 experts through Jacobs Engineering, the Program Support Consultant.
- January 2008: The recommendation for outside legal counsel was made to the RTD Board (Freshfields Bruckhaus Deringer)
- February 2008: The RTD Board approved the P3 goals and schedule milestones.
- July 31, 2008: An industry forum was held to kick-off the formal procurement phase.
- August 4, 2008: RTD issued the Request for Qualifications (RFQ) to identify core teams capable of delivering the Project.
- November 2008: The three teams deemed qualified to participate in the procurement were determined.
- December 31, 2008: RTD released a Draft Request for Proposals (RFP)
- September 30, 2009: RTD released the final RFP.
- November 2009: The RODs for the East Corridor and Gold Line were issued.
- February 2010: Key Intergovernmental Agreements (IGA) were approved by the RTD Board.
- March 31, 2010: Acquisition of right of way and finalizing relocation agreements with BNSF for portions of Gold Line and for Northwest Electrified segment
- June 15, 2010: Selection of the Eagle P3 Project concessionaire team.
- August 4, 2010: Purchase and Sale and Relocation Agreements for UP right of way for East Corridor and portions of Gold Line
- August 12, 2010: Financial Close achieved and Notice to Proceed (NTP) for Phase 1 issued by RTD.

The Way Ahead

Design and construction of the Eagle P3 Project commenced immediately following the NTP. Phase 2, which includes construction of the NWES and Gold Line, will be given a NTP following receipt of a Full-Funded Grant Agreement (FFGA).

The chosen implementation approach combines Design-Build (D-B), Financing, and Operations and Maintenance (DBFOM) within a P3 model. In many respects the initial implementation methodology is similar to the D-B approach used by RTD and the Colorado Department of Transportation (CDOT) to implement the Transportation Expansion (T-REX) Project light rail

and highway project; it is worthwhile to note that the T-REX Project was completed under budget and ahead of schedule in late 2006.

At the same time, the DBFOM P3 procurement approach is relatively new in the United States and the Eagle P3 Project is unique in the transit environment in the U.S. RTD has sought expertise from across the country and around the world, particularly from Europe, to understand and incorporate best practices and lessons learned from the recent experiences of other procurement authorities and experts.

Examples of the projects from which experience has been drawn include:

- New Jersey Transit's Hudson-Bergen and RiverLine Design Build Operate Maintain (DBOM) projects. These were the first U.S. transit projects delivered using the DBOM approach.
- Houston Metro's Light Rail and BART's Oakland Connector P3 projects. These projects were also included in the Penta-P program.
- Sweden's Arlanda Rail Link project that connected Stockholm with Arlanda international airport. This was Sweden's first P3 transit project.
- Manchester Metrolink light rail project. This was the first P3 transit project in the United Kingdom.
- The RTD/CDOT T-REX project. Although not a full public-private partnership it provided RTD with significant experience in the procurement and management of a large design-build project. In addition, RTD contracts out a significant portion of its bus operations, which provides experience with contracted service aspects.

1. Delivery Strategy

Overview

In 2007 RTD began experiencing financial challenges to the FasTracks program. These challenges were the result of skyrocketing costs of materials as a result of an extraordinary worldwide demand for construction materials. At the same time, RTD was experiencing declining sales tax revenues as a result of the U.S. economy slipping into recession.

At the same time, FTA initiated a P3 pilot program (Penta-P) with a number of objectives, including testing whether FTA could rely on the private sector's due diligence to reduce the burden on the FTA to review the project. The Penta-P rules also allowed discounting the value of private equity against the cost used in calculation of the FTA's cost effectiveness index (CEI). RTD saw benefits in the program and applied to have the Eagle P3 Project to be part of Penta-P. The application was accepted by FTA in 2007.

Based on FTA's acceptance of this Project into the Penta-P program, RTD was able to move quickly forward with development of the Eagle P3 Project.

The P3 project delivery approach for transit projects is relatively untried in the U.S. While previous highly successful projects such as the T-REX Project were implemented using a D-B approach and NJ Transit's Hudson-Bergen LRT was implemented as part of FTA's DBOM demonstration program, adding the financing responsibilities to the concessionaire's role was new.

Background

Having made the determination that a P3 approach would be beneficial to the successful and speedy delivery of the candidate Project, RTD developed a strategic approach to procurement and delivery based on three questions:

- What were the key goals to be met by the project?
- What was the best way to structure the project so that funding and financing options were maximized?
- What approach would capture and retain private sector interest?

1.1 Developing and Achieving the Key Project Goals

RTD recognized very early in the procurement process that adoption of the P3 approach would allocate much of the responsibility for how things were done to the private sector. This meant that it was imperative RTD focus clearly on the desired outcomes, rather than the how, of the Project.

The Eagle P3 Project team sat down with senior RTD managers to define the issues of paramount concern. After extensive discussion with the senior leadership team the following were identified as the five key goals for the Eagle P3 Project:

- *Quality* – deliver the Project as a safe, high quality, fully operational system that offers a high-quality customer experience for RTD's patrons and promotes sustainable design and operation.

- *Affordability* – build and operate the Eagle Project within RTD's financial capacity while realizing efficiencies and savings in capital and operations and maintenance costs and maximizing federal support through Penta-P.
- *Competitive Environment* – demonstrate best value through an open competitive selection process.
- *Control* – maintain appropriate oversight, controls, remedies, and incentives without being overly prescriptive. At the same time, permit the private sector to perform and innovate within the parameters of RTD's policies, including meeting small and disadvantaged business enterprise (SBE/DBE) goals.
- *Schedule* – deliver the Eagle P3 Project within or ahead of the FasTracks planned schedule.

These five key goals were included in the Instructions to Proposers that formed part of the RFP.

Having established our key goals, we developed procurement and management approaches that would allow each of these, sometimes competing, goals to be achieved.

The Project team developed an organization (see Figure 5) that facilitated technical experts leading the specialist areas while assuring that senior leadership maintained visibility and provided direction as the Project evolved. The nature of the P3 project resulted in a strong need for a cross-disciplinary, inter-departmental team with the ability to capture all perspectives, while still being able to make quick, effective decisions.

A senior Project Manager (PM) was assigned to provide day-to-day leadership and served as the primary leader of the Eagle P3 Project RFP development team. The PM's duties included:

- Coordinating with the teams performing on-going basic engineering and environmental analyses.
- Guiding and coordinating four task forces
- Assuring the strategic support groups developed and provided the necessary supporting documentation.

To support the PM we hired other staff with experience in preparing and executing P3 projects. This staff included:

- A technical manager who was able to ensure the structure of the technical requirements was performance-based and avoid some of the pitfalls of over-specifying.
- An operations lead who defined the metrics against which the concessionaire would be measured.
- Financial and legal advisors who helped assure that the RFP attracted proposers and secured RTD's interests over the long term.

As issues arose on the Eagle P3 Project, the team implemented a systematic approach to resolve them. The process involved:

- Performing an analysis of the issue.
- Developing alternative solutions.
- Conducting a "pros and cons" review.
- Making a recommendation of the best way to address the issue.

The analysis and recommendation process was documented in a short white paper including, where necessary, a discussion of how the achievement of Project goals was affected. Each white paper was reviewed and discussed by the P3 Management Steering Committee (MSC). This process assured that each department was able to bring their perspective to the table. This helped avoid unanticipated consequences being discovered later in the process and extensive rework of the procurement. Following consensus of the appropriate approach the white paper was signed off by the General Manager (GM) and, where appropriate, policy decisions were made by the RTD Board. The *Procurement Development Team* is depicted in **Figure 5**.

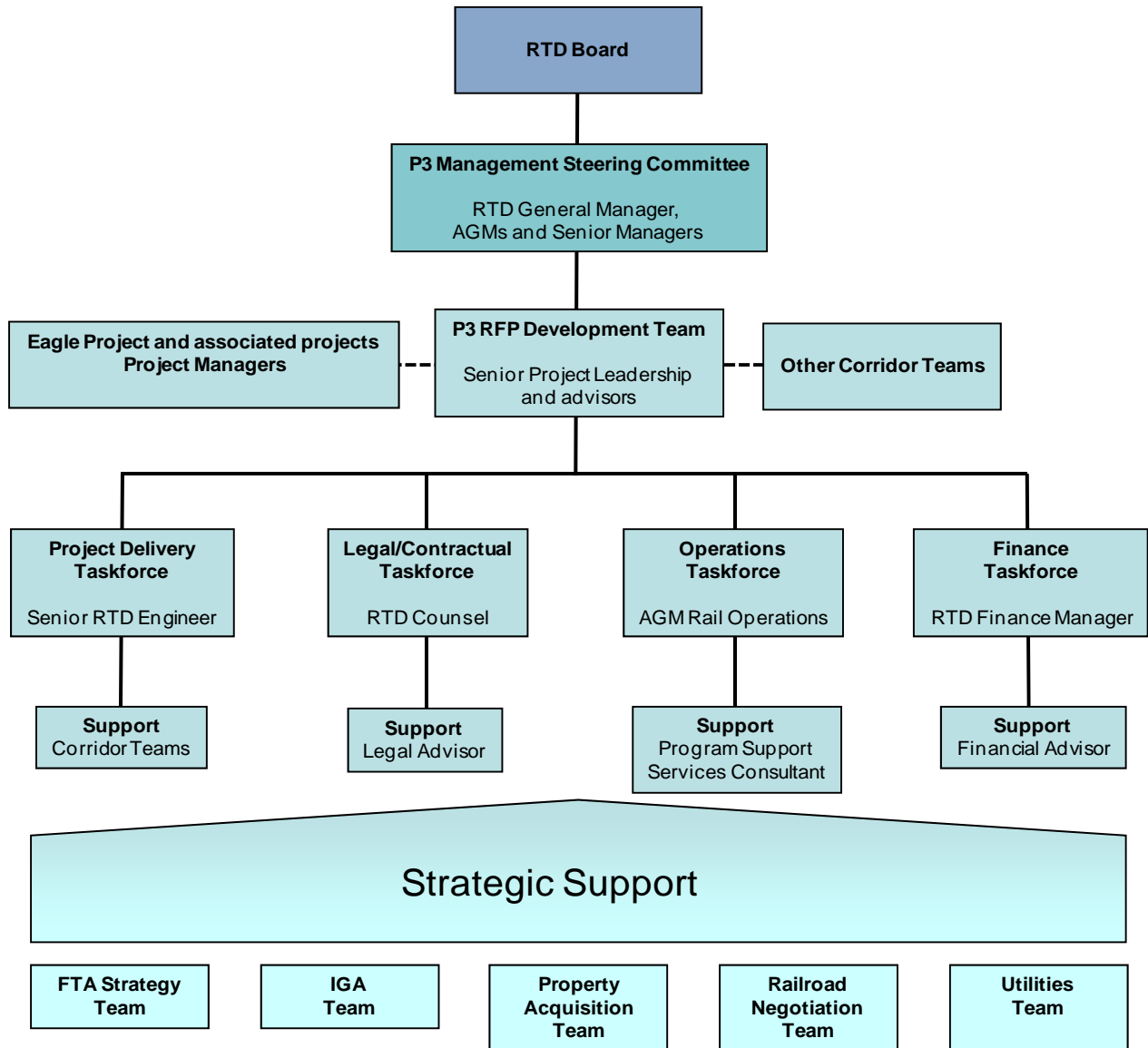


Figure 5: Procurement Development Team

1.2 Maximizing Funding and Financing Opportunities

A key driver for RTD’s adoption of a P3 approach was the desire to maximize federal funding opportunities—particularly those arising from the Penta-P. At the same time, it was critical to a successful Project that the financing structure be optimized to reduce the overall cost of the

Project, thereby achieving the affordability goal: *Affordability* – build and operate the Eagle P3 Project within RTD's financial capacity while realizing efficiencies and savings in capital and O&M costs and maximizing federal support through Penta-P.

The process for developing the Eagle P3 Project so it was cost-effective and affordable is discussed in lesson 2.1. The structure for funding and financing was developed using thorough financial planning and taking into account RTD's fiscal situation at the time. It is noteworthy that the Eagle P3 Project was procured during one of the worst financial crises to ever hit the world economy and yet the end result was a competitive proposal process and an affordable outcome that presented good value to RTD and its constituents.

RTD recognized the complexity of the financial structuring, taking into account the federal requirements and opportunities present at the time of procurement. As part of RTD's planning process we hired a financial advisor with deep international experience in structuring and modeling P3 projects. The selected advisor was a team composed of Goldman Sachs and JPMorgan Chase. The Project team thoroughly analyzed RTD's revenue stream, our expenses including existing financial commitments, and potential sources of funds. This analysis led to a financial capacity that reassured the potential concessionaire.

Key elements in the analysis of what could be achieved included the amount of financial risk that the concessionaire would be prepared to accept without incurring undue costs. For this analysis RTD sought the assistance of outside counsel with worldwide experience in the legal structuring of P3 contracts. The selected firm was Freshfields Bruckhaus Deringer. The Project team and the advisors worked closely with the proposers to assure that the financial and legal structure incorporated into the RFP was attractive and bankable since a failure to do so could have resulted in the failure of the procurement.

While private sector financing was important, funds from the FTA—through a New Starts application—were critical to the financial health of the entire FasTracks program. At each stage of planning, the needs and requirements of the FTA were carefully analyzed and met. RTD benefited from the flexibility of the Penta-P and enjoyed tremendous cooperation from FTA staff as we worked through the New Starts process and how it could be adapted under Penta-P. An FFGA was awarded to the Eagle P3 Project in August 2011. This allowed construction to begin on the entire Eagle P3 Project.

1.3 Capturing and Retaining Private Sector Interest

A P3 procurement typically takes significant time and effort on the part of senior staff on the proposing teams. These procurements are also quite expensive. This combination results in a great deal of scrutiny by participants' boards and senior management to make sure the investment they will make is worthwhile.

Proposers look for the procuring agency to address a number of key items when considering proposing on a P3 project:

- Does the agency have a revenue stream sufficient to support the project?
- Is there political and public support for the project?
- Is there a need for the project?
- Does the agency have a team capable of procuring and managing the project?

For the Eagle P3 Project RTD was able to demonstrate that we could meet each of these requirements:

- The ballot measure in 2004 that authorized a sales and use tax dedicated to FasTracks was sufficient to support the anticipated level of financing and costs.
- The ballot also showed both political support – all of the regions’ mayors approved of the ballot measure; and public support – it passed.
- The need is demonstrated through both the ballot measure that showed the FasTracks Plan and that particularly the East Corridor that connects downtown Denver with Denver International Airport has a vital function as both air and road traffic increase over the years.
- As described in more detail in lesson 1.2, RTD organized an experienced team to manage the process and built on previous experience with both D-B projects and private operation of transit services.

Specific issues RTD addressed as part of the procurement included:

- The criticality of the procurement schedule: RTD recognizes that time is money. In order to enable proposers to budget for the proposal process we needed to establish and keep to a schedule. In August 2008 we held an industry forum during which over 500 large and small businesses were provided with a detailed description of the anticipated Project, the procurement process, and the schedule for the procurement. The first question during the forum was whether RTD was committed to the schedule we had presented and we confirmed we were. Subsequently we amended details along the way, but the schedule we laid out during the industry forum showed an NTP in mid-2010 and we selected Denver Transit Partners in June 2010.
- The need for extensive, open, and confidential communication with proposers: RTD initiated outreach to potential proposers well in advance of the RFQ and draft RFP:
 - We held a series of one-on-one meetings with firms interested in learning more about the Eagle P3 Project and in sharing their experiences with P3 projects.
 - We held meetings with potential teams as they evolved to discuss why they were forming and what they expected from the Project.
 - We held the forum described previously to start connecting businesses that would need to team together.
 - We issued an RFQ to establish the core teams with which we would hold detailed discussions and qualified three teams during these discussions.
 - We established a process to review and discuss the draft RFP with those qualified teams to refine and improve the RFP prior to formal issuance. These discussions resulted in substantial and substantive revisions to the details without affecting the underlying Project. The communications became more formal after the issuance of the final RFP but continued to be substantive and led to 16 addenda being issued during the proposal process.
 - We included the formal request for clarifications that were shared with all proposers, but we also held confidential one-on-one meetings throughout the proposal period. These discussions were invaluable to both the proposers and RTD to optimize the procurement and to assure the very best proposals would be prepared.

- We truly listened to the proposers while maintaining RTD's role. One example was the role of the independent engineer (IE). The IE was originally proposed by external counsel based on their experience as the final arbiter for determining the acceptability of construction payments, resolving technical disputes and determining if revenue service and final completion had been satisfactorily achieved. RTD was uncomfortable with this wide ranging role that left us in a subordinate role. It was discussed with the proposers and agreed that the IE would only resolve disputes over construction payment and determine if revenue service and final completion had been satisfactorily achieved. Technical disputes were to be subject to a dispute resolution panel. This approach left RTD in a position to manage the construction payments and saved money by reducing the level of effort required from the IE.
- The need to provide real opportunities for proposers to bring forward the best ideas in a way that provided them a competitive advantage and therefore a reason to provide the idea: RTD recognized that if all ideas brought forward by the proposers were shared with the other proposers there was no real incentive for a team to offer the idea. This would be detrimental to the overall Project. RTD therefore developed a process we called the Alternative Technical Concept (ATC) process, described in more detail in lesson 2.1. This process allowed proposers to offer variances to the specific requirements of the RFP. If these variances were accepted by RTD the proposal would be considered fully compliant.
- The need to demonstrate RTD's commitment to the Eagle P3 Project: RTD recognized the monetary and time commitment the proposing teams were making and wished to demonstrate our commitment. We did this not only through our words and actions but also by our willingness to make a substantial financial commitment to the teams. We did this in two ways:
 - We offered a stipend available to any team that submitted a proposal compliant with the requirements of the RFP and the ATC process, payable if that team was unsuccessful.
 - When the procurement was delayed RTD increased the stipend offered to \$2.5 million per team in recognition of the need for the teams to be engaged for a longer period.
 - We also offered a compensation agreement worth up to \$20 million for a team that was selected but then not awarded a contract due to RTD deciding not to or being unable to proceed with the Project. The compensation agreement was in reaction to a number of P3 projects around the country not moving forward after conclusion of the procurement. Since we have issued an NTP, there is no cost to RTD for this agreement.

1.4 Design Flexibility/Specifications

Overview

RTD chose to restrict the level of specifications to the performance rather than the detailed design level. The 30 percent plans were provided to the proposing teams solely for reference to allow maximum proposal and final design flexibility. Providing performance specifications and availability standards to the proposer teams enabled them to propose ATCs that would achieve the purpose of transporting people within the parameters set forth by RTD in terms of:

- Safety.

- Operational performance standards.
- Dependability.
- Reliability.
- Cost effectiveness.
- User considerations (station layout, facilities maintenance, access, and so forth).

Since RTD did *not* develop detailed design specifications the proposers had significant flexibility in the designs they proposed. The 30 percent design documents were not part of the contract—they were reference materials for the proposers.

The proposers were still subject to certain performance and availability criteria. All ATCs were subject to RTD approval whenever they modified the performance criteria. Most of the ATCs presented had a primary objective of reducing the cost of the Eagle P3 Project. Some of the ATCs were considered to be value-added but for the most part did not add to the overall Project cost in any substantial way.

Background

At the outset of the RFP development process RTD staff and consultants had created an 800-page design specification just for the rolling stock—with similarly lengthy specifications for the other Project elements. Based on the experience of several staff members and consultants on other P3 worldwide projects it was determined that detailed design specifications would restrict the ability of the proposers to manage and lower costs and possibly result in a less-than-optimal Eagle P3 Project design.

We went through several major revisions of the design specifications, resulting in approximately 200 pages of performance-based specifications rather than detailed design specifications. Of the 200 pages, 46 pages were the condensed version of the rolling stock specification. The goal was to create a set of performance specifications that consisted primarily of industry standard specifications and guidelines, such as the American Railway Engineering and Maintenance of Right-of-Way Association (AREMA) and the American Public Transportation Association (APTA).

Traditionally, RTD has developed detailed design specifications since under the D-B and CM/GC contract delivery approaches the contractor builds the project and RTD must perform the O&M aspects. Under the P3 approach the concessionaire retains the O&M responsibilities for many decades, providing the incentive to construct a quality system that they will be able to maintain. This allocation of responsibilities enabled us to greatly relax our design criteria and, additionally, accept a variety of ATCs.

The ATCs replaced the Value Engineering (VE) process. This approach encouraged innovation and is considered by the FTA to be a desirable substitute for VE. RTD submitted a report to the FTA on specific results and lessons learned in this area (July 2010). Using ATCs gave the proposers the ability to be “non-compliant” with the provisions of the RFP’s functional requirements so long as the risks, costs, and performance characteristics of the proposed change still met the overall Eagle P3 Project performance and availability requirements.

The ATC process allowed proposing team-specific (confidential) variances to our stated requirements. The use of ATCs made the submitted proposals sufficiently different that we were able to get a good feel for the risk profile of each proposal and the proposer’s comfort level with the P3 concept and process. The ATCs served as a risk-transfer mechanism and demonstrated the differences in risk tolerance between the proposing teams.

By holding the proposers responsible for both O&M and meeting our specified performance and availability standards, the risk of higher maintenance costs was transferred to the future concessionaire. We provided the proposers with the minimum performance requirements the Eagle P3 Project had to meet. How they would achieve those standards was left up to the proposers as long as they provided a safe and dependable system. The O&M risk was transferred to the concessionaire.

We also provided the proposers with a stipend, ensuring RTD would own all designs, ATCs, and other information in the proposals that might otherwise have been deemed confidential.

The Lessons

Developing and Achieving the Key Project Goals

- A successful P3 procurement is heavily dependent on buy-in from, and support of, a broad base of entities including procuring agency personnel, agency management, and elected board members.
- Project goals must be set early and each issue and decision must be aligned with these goals.
- P3 procurements are complex and must be led by a strong and experienced PM to keep the process focused and on schedule. The PM must be supported by staff experienced in P3 in key roles including technical, O&M, financial, and legal. Private financing requires an extended payback term; that gives real ownership responsibility to the concessionaire.

Maximizing Funding and Financing Opportunities

- Involving internal (and external) legal counsel and financial managers and advisors at the start of the procurement process is critical for a P3 since it is at the core a business deal rather than a traditional construction contract.
- The legal counsel can help look out for the agency's interests since the agency owns the final Project but is not the operator or maintainer for many years into the future.
- A successful P3 procurement is heavily dependent on buy-in and support from the financial parties in the proposers/future concessionaire.
- It is essential to provide P3 project proposers with maximum design flexibility. Allowing this level of design freedom was a significant learning experience for RTD. We saved significant money (approximately \$300 million) without compromising our ability to meet operational requirements.

Capturing and Retaining Private Sector Interest

- Incorporating ATC provisions was a key element in providing both RTD and the proposers the confidence that the Eagle P3 Project could be designed, delivered, operated, maintained, and financed at an acceptable cost. The ATCs are very valuable to both the proposer and the agency. The proposers gain flexibility and a potential competitive edge since the information was not shared with other proposers. RTD got a better, lower-cost design and RTD owns the ATCs from all proposers without incurring the design costs or associated risks.
- The provision of a stipend is very important to demonstrate RTD's commitment and to partially offset the costs associated with the complex and expensive P3 proposal process—from the proposers' perspectives—and was key in corporate decision-making

at different stages of the procurement. The payment of the stipend ensured RTD owned all concepts and designs delivered by each proposer, and these ATCs and design elements are available for use in the actual P3 Eagle Project. This is similar to the results of VE without the potential delay and cost of performing VE.

- The provision of a compensation agreement that would cover at least the majority of the proposal costs in the event of a decision by RTD not to proceed after selection of a preferred team was important to the proposers as a further demonstration of commitment to the Project on the part of RTD.

Design Flexibility / Specifications

- Keep the procuring agency's focus on performance standards rather than design or infrastructure aspects of the procurement. For example, write the performance standard as "the system must provide this level of service" or "must provide this functionality" rather than stating "a five-position switch" or "25 light poles per platform." This provides the proposers the flexibility they need to develop and incorporate designs and ATCs that will greatly reduce costs and minimize schedule impacts.
- It is essential that the procuring agency and its stakeholders keep in mind the need for flexibility in the design criteria. Unlike with traditional infrastructure projects, the detailed design and ultimate operation is the responsibility of the future concessionaire. The agency should restrict its specifications to those related to safety, performance, user experience (e.g. station access), cost-effectiveness, and reliability.
 - Significant time and effort can be saved if the procuring agency determines the level of detail to be in the specifications before developing the specifications.
 - The use of performance specifications and availability criteria reduces the agency's workload and provides the proposers with freedom to propose a Project that they feel is feasible and cost-effective to delivery under DBFOM. The availability component is particularly important for obtaining financing and favorable ratings from the rating agencies.
 - The use of performance specifications and availability criteria gave the proposers the ability to be innovative, using ATCs and industry best practices, and reduced the capital costs associated with the Eagle P3 Project while still ensuring the performance standards RTD required would be met.
 - Allowing the future concessionaire to develop detailed specifications, combined with ATCs, can result in greater confidence a P3 Project can be delivered at the most favorable cost and in the minimum time. The concessionaire team has an equity stake and a long-term commitment to the P3 Project, so they have a vested interest in creating a quality Project that meets procuring agency performance specifications.
- Reviewing the way each proposing team handled ATCs is a viable way to assess the risk tolerances/risk retention and comfort level with the P3 process.
- Ensure the proposing teams are kept fully informed and aware of the procuring agency's expectations from the outset, particularly in terms of on-time parameters and performance monitoring.
- Ensure sufficient system data and/or desired outcomes are provided to the proposing teams so they can adequately design rail service, customer amenities, and stations. Be

sure to provide the level of detail and/or desired outcomes so the proposers can provide ATCs and adequately design the system and meet performance/availability standards.

- Develop the performance standards and availability parameters so the proposed system allows applying quantitative metrics to the evaluation process.
- Provide the proposing teams with a stipend to both offset some of their proposal preparation costs and ensure agency ownership of all designs, concepts, ATCs, and other information in the proposals.
- Risk transfer and ownership considerations are keys to determining which party develops design specifications.

2. Delivery Implementation

Background

The implementation of the Eagle P3 Project delivery approach involved three steps:

- Structuring the RFQ and RFP.
- The process and schedule of the procurement.
- Evaluation of the actual proposals.

Each step was critical in regard to the successful implementation of the contracting strategy and each provided a number of valuable lessons.

2.1 RFQ/RFP Structure

Request for Qualifications

The RFQ set out RTD's expectations of the proposing teams and their team members. The proposing teams were required to be formed as a concessionaire, wholly owned by the entities providing equity to the Project. Core contractors with responsibility for D-B, and O&M services had to be identified in the responses. Identification of the rolling stock providers was encouraged but not required.

Requiring leadership by equity providers ensured that the course was set early to maintain focus on a long-term solution that provided both efficiency in capital cost and reliability in service performance. Nevertheless, the structure within the teams was not specified, allowing the proposers to organize according to their unique strengths and capabilities.

Request for Proposals

The structure of the RFP was developed to clearly set RTD's expectations from the concessionaire in all aspects of the Eagle P3 Project, from procurement, through design and construction, and then through the operating concession. Guidance in establishing this structure came from legal, financial, and technical advisors experienced in delivery of previous P3 projects.

Traditionally RTD has developed detailed design specifications. This is the standard approach under D-B and Construction Manager/General Contractor (CM/GC) contract delivery approaches where the contractor builds the project and RTD must perform the O&M aspects. Using the P3 approach the concessionaire retains the O&M responsibilities for many decades, providing the incentive to construct a quality system that they will be able to maintain.

Since the intent was to hold the concessionaire to a level-of-service performance, RTD chose to restrict the agency level development of design specifications to performance requirements and availability standards rather than proceeding to the detailed design level. Based on the experience of several staff members and consultants on other P3 projects worldwide it was determined that detailed design specifications would restrict the ability of the proposers to manage and lower costs and possibly result in a less-than-optimal Eagle P3 Project design.

The 30 percent engineering plans, developed for environmental permitting needs, were provided to the proposing teams solely as reference materials similarly, a draft 800-page rolling stock design specification, and other detailed specifications developed over the years were provided as reference documents. 200 pages of performance-based specification were established as the contractual technical requirements. The goal was to create a set of

performance specifications that consisted primarily of industry standard specifications and guidelines, such as those published by AREMA and APTA. A similar approach was taken for other elements of the requirements including the requirements for operations and maintenance where metrics for satisfactory performance were established and linked to adjustments to the payment regime, and for project management where minimum requirements were established but details were to be proposed by the proposers.

2.2 Procurement Process and Schedule

A P3 procurement process can only be successful if:

- There are multiple (two or more, but fewer than five) teams capable of delivering the project.
- The proposers remain engaged and participate through to bid submittal.
- The proposers (and their lenders/equity partners) are comfortable with the commercial financing terms.

In order to achieve success RTD engaged likely participants early, allowed proposing teams to form, and allowed qualified teams to participate in the development of the RFP.

Schedule Management

Schedule compliance is vital for a P3 procurement, so maintaining the procurement schedule was one of our top priorities. It is very easy to let the schedule on such a complex procurement slip, but we did not allow this to happen. Our team and the proposers worked extremely hard to ensure we would meet our published date—June 15, 2010—for recommending the Eagle P3 Project Concessionaire Agreement to the RTD Board of Directors.

Maintaining the integrity of the proposing teams, in particular their financing entities, was a major challenge in the financial market that we faced at the beginning of the procurement. Schedule compliance gave the teams and their lenders confidence that we knew what we were doing and we understood that time was money to them, due to the major costs of pursuing P3 contracts.

During the RFQ/draft RFP process there were several instances of potential schedule slippage—most notably in mid- to late 2009. By working closely with both our staff and the proposing teams we were able to absorb several months of delays in the RFP cycle and still hold to the evaluation and award announcement timeline.

Only twice during the process were milestone dates allowed to slip. In each case this was done in consultation with, and at the request of, the proposers. In both cases the remaining schedule was revised to maintain the intended date for recommending the concessionaire to the RTD Board. The first delay was due to a specific financial deal point that required resolution prior to the release of the formal RFP. That release slipped four months, but the time was made up by shortening the final proposal preparation period. The second delay was just two weeks, to allow the proposing teams to reflect the final RFP addenda in their proposals. Again, the time was recovered, this time by removing float from the evaluation period. This collaborative approach increased the proposers' confidence in the partnering approach RTD was trying to project.

Qualification of Teams

Teams were qualified based on evaluation of their technical ability and experience, management approach, and financial capacity. This ensured a competitive field was established with teams that were fully capable of delivering all key aspects of the Project. We recognized

that at the beginning of a complex process each team would not necessarily have comprehensively gathered all the required skill sets and technical functions on the team.

Recognizing the duration of the procurement process, teams were allowed to replace participants up until submittal of proposals. In each case, the replacement participant was subject to the same level of qualification scrutiny as in the RFQ process.

Review of the Draft RFP

A draft RFP was provided to qualified teams for review and comment. All input from each team was completely confidential, allowing the team to openly discuss their views and their possible bidding approaches. It was very helpful to hear how each commercial clause or technical requirement could be interpreted, particularly when the proposers saw limitations to their preferred approach—limitations that were not intended and would perhaps prevent proposing the best solution. RTD was also able to explain its intent for each requirement and allow proposers to offer alternative ways the intent could be met.

The proposing teams were very open in their questions, helping ensure the best possible RFP. RTD was able to entertain questions and requests for clarifications during the majority of the RFP development without compromising confidentiality—RTD's or the proposers'.

The review of the draft RFP lasted five months, with multiple meetings held with each proposing team on a wide range of subjects. There was so much direct contact with the proposing teams it was like "negotiating the contract early." We received valuable inputs as to areas that might impact Eagle P3 Project costs.

Formal Procurement Period

By the time the final RFP was issued, the proposing teams had been together for almost a year and had been reviewing the draft RFP and preparing their proposal approach for nine months. This meant that the formal procurement period could be shortened. Teams agreed to remove a draft proposal submission step, but include a confidential technical presentation prior to submittal of the technical proposal.

Despite the discussions and modifications of the draft RFP, we still received over 800 comments during the nine-month bid process. These became increasingly detailed, demonstrating the level of development to the proposals.

In addition to the early confidential presentation of proposals, we also allowed the teams to make a second presentation after proposal submittal that was open to the community at-large as well as stakeholders and other interested parties. The confidential presentations gave RTD an understanding of the direction of each proposal and allowed for feedback of concerns in time for them to be addressed in the final proposal.

2.3 Evaluation of Proposals

The model for the Eagle P3 Project proposal evaluation process was the highly successful one used with the T-REX Project. The key elements of proposal evaluation were:

- Using a well-structured, best value evaluation approach.
- Having well-trained teams review the technical portion of the proposal and apply the evaluation factors.
- Including Project stakeholders in the technical proposal review.
- Insisting on meeting the schedule—sticking to the procurement dates.

Evaluation Structure

We employed a *Multilevel Evaluation Structure*, shown in **Figure 6**, which reported through the evaluation organization. This enabled us to maintain coordination and control across the many interest groups and subject matter experts assisting with the technical evaluation. The final scoring and selection was the responsibility of the evaluation committee. This structure also assisted in maintaining confidentiality since very few people were privy to more than one area or set of evaluations.

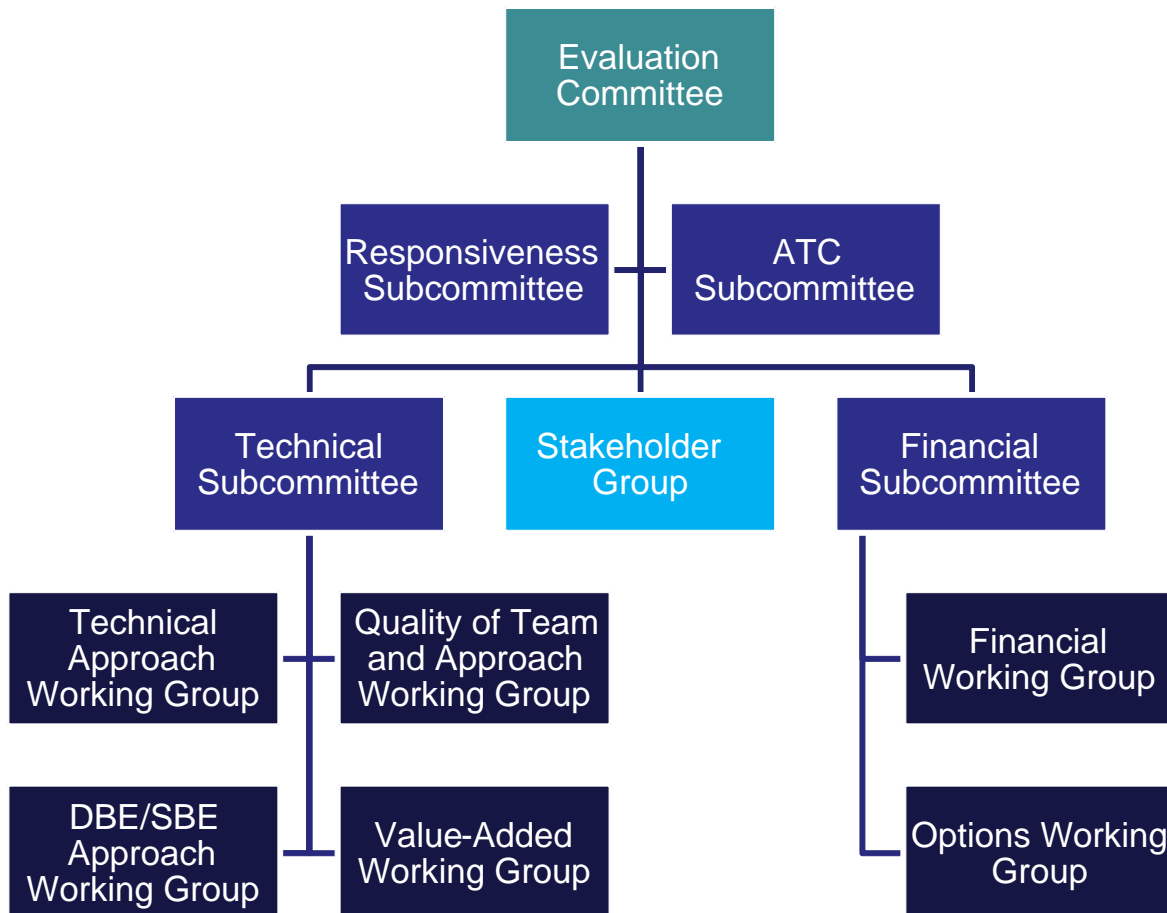


Figure 6: Multilevel Evaluation Structure

We gave stakeholders the opportunity to review the technical proposal and comment to the evaluation committee. This gave them real involvement and made them more comfortable about what to expect from the concessionaire.

A very large group of proposal evaluators was necessary due to the complexity of the proposals and the diversity of the stakeholders, as well as the many areas of responsibility within RTD. We could have started our proposal evaluation preparation and evaluator training a little earlier, but we were ready by the time we received the proposals. Holding mandatory training sessions worked well.

While we were prepared to deal with a single proposer, it is RTD policy to do competitive bids for almost every contract—no negotiated contracts. This strengthens our ability to perform

accurate cost estimating and reduces the likelihood of any bids that are significantly above our anticipated price.

The Technical Evaluation Process

The Technical Evaluation Subcommittee shown in Figure 6 was further broken down, under the Technical Approach Working Group, into eight teams. These teams reviewed and rated specific elements of the technical proposal. The teams were:

- Civil/Structural.
- Systems.
- Safety.
- Operations and Maintenance.
- Stations.
- Rolling Stock.
- Commuter Rail Maintenance Facility.
- Sustainability.

Between them these eight teams reviewed approximately 200 evaluation criteria. Approximately 120 people participated in the technical proposal review.

Evaluation Schedule

Schedule for the evaluation process is also critical to the pricing of a P3 proposal. Financing proposals have a much shorter shelf-life than construction proposals. If the evaluation takes longer than the lenders are willing to hold a fixed price, it is necessary to allow for price adjustment mechanisms between bid date and contract execution. By committing to a short and disciplined evaluation process, in part by receiving financial proposals just one month after the technical proposals, we were able to get fully-committed financial proposals that gave the most competitive pricing and avoided cost adjustment risks though some adjustments for financing were allowed.

To meet the requirement for schedule compliance and accommodate recovery of the various schedule delays earlier in the process, the proposal evaluation window was shortened. This abbreviated timeline made for a very arduous evaluation process.

The evaluation process worked very well. Absolute secrecy was maintained until the actual RTD Board presentation on June 15, 2010.

The Lessons

RFQ/RFP Preparation Process

- Qualify teams early so that they can be involved in the development process and understand the agency's goals and expectations.
- Allow teams to organize to their strengths, but always be led by their equity participants to maintain life-cycle focus.
- It is essential that the procuring agency and its stakeholders keep in mind the need for flexibility in the design criteria. Unlike with traditional infrastructure projects, the detailed design is the responsibility of the future concessionaire. The agency should restrict its

specifications to those related to safety, performance, user experience (e.g. station access), cost-effectiveness, and reliability.

- Keep the procuring agency's focus on performance standards rather than detailed design aspects of the procurement to provide proposers the flexibility they need to develop and incorporate their own innovative designs. For example, write the performance standard as "the system must provide this level of service" or "must provide this functionality" rather than stating "a five-position switch" or "25 light poles per platform."
- Provide a process for ATCs since this approach greatly reduces costs and minimizes schedule impacts while maintaining performance standards.
- The use of performance specifications and availability criteria reduces the agency workload and provides the proposers with freedom to propose a Project that they feel is feasible and cost-effective to deliver under DBFOM. The availability component is particularly important for obtaining financing and favorable ratings from the rating agencies.
- Allowing the future concessionaire to develop detailed specifications, combined with ATCs, can result in greater confidence a P3 project can be delivered at the most favorable cost and in the minimum possible time. The concessionaire team has an equity stake and a long-term commitment to the Project, so they have a vested interest in creating a quality Project that meets procuring agency performance specifications.
- Reviewing the way each proposing team handled ATCs is a viable way to assess their risk tolerances and risk retention and comfort level with the overall P3 process.
- Ensure the proposing teams are kept fully informed and aware of the procuring agency's expectations from the outset, particularly in terms of on-time parameters and performance monitoring.
- Ensure sufficient system data and/or desired outcomes are provided to the proposing teams so they can adequately design rail service, customer amenities, and stations. Be sure to provide the level of detail needed and/or desired outcomes so proposers can develop ATCs, adequately design the system, and meet performance and/or availability standards.
- Develop performance standards and availability parameters so the proposed system allows applying quantitative metrics to the evaluation process.
- Provide the proposing teams with a stipend to both offset some of their proposal preparation costs and ensure agency ownership of all designs, concepts, ATCs, and other information in the proposals.

Procurement Process and Schedule Management

- Keeping to the established schedule was very valuable in establishing and maintaining our credibility with the proposing teams and their financing partners.
- Working closely with the proposing teams was essential to gain and maintain their confidence in the integrity of our process and in our published procurement schedule.
- Making schedule adherence a top-level management goal and internal performance measure was indicative of our intent and ability to follow through.

- Understanding and respecting the time and financial commitments of each proposing team is critical in gaining and keeping their cooperation and willingness to adapt to minor modifications in the schedule.
- Allowing substantial review, discussions, and modification of the details of the draft RFP gave teams ownership in the process and created further confidence in RTD's commitment to the partnership aspect of the Eagle P3 Project, as well as enabling them to propose their best and most efficient approach to Project delivery.
- Technical proposal presentations prior to submission provided insight into the proposers' approaches and allowed feedback about concerns so they could be addressed in the final proposals.

The Proposal Evaluation Process

- Using the best value approach is a good way to ensure quality technical proposals.
- Develop, use, and enforce confidentiality documents and requirements.
- Make training for evaluators mandatory. Allow at least 30 days for the training process prior to actually beginning proposal evaluations.
- Having a multilevel structure that reported up through the evaluation team structure worked well to filter out less significant comments.
- Keep the technical and financial evaluators away from each other—something we believe we did very well since no evaluation details leaked out.
- Give stakeholders the opportunity to review the technical proposal and comment to the evaluation committee—their input is valuable and they will gain early familiarity with the chosen concessionaire.
- A short, disciplined evaluation process allows teams to bid committed financing. This reduces the agency's cost risk and allows for the most competitive pricing.
- The two proposing teams felt that the ATC approach was more valuable than the more typical VE process. At the same time, they would have preferred more clarity in the scoring process as it related to ATCs.

3. Communications

Background

P3 procurements are complex and multifaceted and must be fully integrated to result in a successful procurement and project. The best way to assure that a fully integrated set of documents is developed is to communicate early, thoroughly, openly, and often with all parties involved.

Lesson 3.1 Internal Communications

Internal RTD communications were a critical element in managing the procurement and ensuring schedule adherence. As described in lesson 1.1, we recognized the need for experts to develop the relevant sections of the RFP. A key requirement was to assure that each section was coherent and developed in a consistent style. This resulted in each section complementing the others rather than duplicating or contradicting them.

We assembled an experienced *Development Team*, led by internationally experienced P3 experts and RTD management experienced in major project delivery and contracted services depicted in **Figure 7**, to develop the draft and final RFPs.

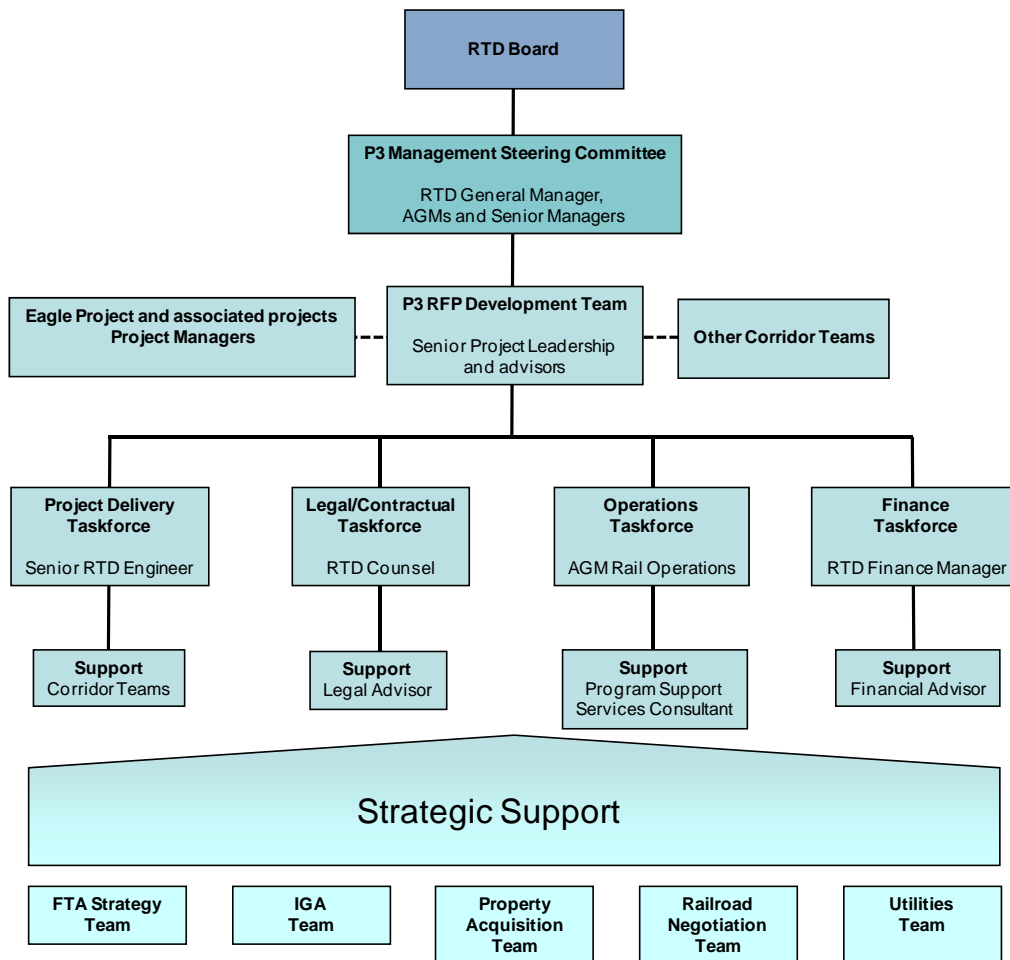


Figure 7: RFP Development Team

Our approach to assuring good communication within the RFP development team was to hold regular meetings of each of the task forces and strategic support teams and to cross-link these teams as common issues arose. For example, when property requirements from a city or county arose that needed to be addressed in an IGA, the IGA Team and the Property Acquisition Team would meet to discuss and agree how to present that in the RFP.

As the document production progressed we had independent review meetings to assess and agree to any amendments so issues could be resolved. As the RFP neared completion a senior review group comprising RTD staff, consultants, and advisors went through the entire RFP to identify omissions, duplications, and errors.

As described in lesson 1.2, we held weekly MSC meetings to make sure the GM and all Assistant General Managers (AGM) were fully aware of the Eagle P3 Project strategic developments and key decisions and activities.

Lesson 3.2 Communications with the Board of Directors

A P3 procurement requires major policy decisions throughout the process. Without the full support of our Board of Directors the procurement process would have been seriously delayed, if not actually canceled.

We quickly recognized the need to get our Board of Directors heavily involved in the P3 procurement process. Completing the Eagle P3 Project procurement required a full commitment of the available Taxpayer's Bill of Rights (TABOR) capacity for the FasTracks program. This resulted in other projects being delayed. This meant that some parts of the District would not get funding for the projects they had anticipated in the timeframe they had expected. To ensure we were able to move smoothly through the process RTD Board support was essential.

We engaged the Board early in the process starting with presentation of the RFQ. Upon receiving approval of the recommendation to qualify the three potential proposing teams, we went to the Board with the draft RFP and subsequent changes, making the process of getting Board approval of the final RFP much simpler than we anticipated.

We had substantially more discussions with the RTD Board of Directors on the Eagle P3 Project than on any other procurement we have conducted. While the Board was generally supportive of the Eagle P3 Project and the DBFOM/P3 approach, they had many relevant questions. These insightful questions were an important element in the success of the procurement process and our ability to stay on schedule.

As the procurement moved towards a conclusion our management met with the Board at least once each month during the final six months. During these meetings management provided in depth briefings on key issues, the details of the teams, the primary points in the proposals, and on-going negotiation points. We also provided detailed and confidential briefing packages as the evaluation process proceeded. As a result there were few surprises when we made our concessionaire selection recommendation at the June 15, 2010 Board meeting.

Lesson 3.3: Communications with Industry

RTD recognizes the importance of communicating with industry early and often. As described in lessons 1.3 and 2.2 we had various forums and forms of communication where critical issues were discussed in a way that issues could be fully and completely explored and understood by both the proposers and RTD. Both sides, proposers and RTD, considered these candid and confidential discussions to be critical to the success of the Project procurement and an integral part of the overall communications on the Eagle P3 Project.

Lesson 3.4: Communications with Stakeholders and Third Parties

Ultimately the Eagle P3 Project impacts the cities and counties it serves. Those entities were an important part of the Project development. Other key stakeholders included the FTA, Federal Railroad Administration (FRA), and Public Utilities Commission (PUC) since they are providing funding and have regulatory oversight responsibilities. We also decided that third party and industry reviews were important approaches to allow us to learn from the experiences of other P3 projects.

We actively sought stakeholder input during the project development and RFP development process as well as during the evaluation of the proposals. Representative stakeholders were:

- Adams County
- City of Arvada
- City of Aurora
- City and County of Denver
- City and County of Denver, Department of Aviation
- Colorado Department of Transportation
- City of Westminster
- City of Wheat Ridge

These entities were consulted regularly on issues pertinent to their jurisdictions to assure their concerns and issues were fully addressed in the RFP. As discussed in lesson 2.3, during the evaluation process their input was provided directly to the evaluation committee that made the recommendation for award.

At an early stage in the procurement process RTD sought input from the Canada Line and Bay Area Rapid Transit (BART) project teams to learn lessons from their P3 projects. As the RFP was being finalized additional review and input was sought from Houston Metro management who were actively pursuing their own P3 project and two P3 consultants, each with extensive international and U.S. experience with P3 projects.

In addition, as part of the RFP development process the draft and final RFPs were reviewed by Pricewaterhouse Coopers on behalf of the FTA and by the consultant Urban Engineers on behalf of the Denver Regional Council of Governments (DRCOG).

The Lessons

Overall

- Involve all levels of management, including legal counsel, at all stages of the procurement process.
- Ensure all parties—stakeholders, Board members, agency staff, and area residents are kept fully informed of the process and decisions and provide them appropriate venues for expressing their views and opinions.
- Bring potential proposers—primes/major subcontractors and SBE/DBE firms—into the RFQ/RFP development process as early as possible.

- Take full advantage of the experience and lessons learned offered by the potential proposers.
- Be very clear what things may have been “promised” to various stakeholders along the way—these promised items may not have been required of the concessionaire and so may not be delivered (or be required later as changes to Project scope).
- Keep an open door policy until the final RFP is issued.

Internal Communications

- Experts must do what experts do best—write the various technical requirements and legal language—but they must be guided and coordinated.
- A senior manager and support team must be directly responsible for execution of the RFP process.

Communications with the Board of Directors

- The agency’s Board must be “on board” from the outset of the procurement process if a DBFOM/P3 approach is to work. Their unequivocal support is essential.
- Involving the Board and keeping them fully informed was integral to maintaining and meeting our ambitious RFP issuance and review schedule.

Communications with Industry

- The industry form was a valuable way to provide consistent information to all potential proposers.
- Ongoing, frequent and candid discussions assures “no surprises” between the agency and proposers.

Communications with Stakeholders and Third Parties

- Stakeholder involvement is critical to the overall success of a project. Obtaining their concurrence with project requirements is essential. Their insights benefit the project.
- Peer review is essential given the limited number of current and past P3 projects in the U.S. Many of the projects have had to overcome significant issues and in a number of cases the agency/owner has had to take over the project as a D-B or CM/GC-delivered system. Incorporating the experiences of our peers proved to be invaluable in the development of the Eagle P3 procurement RFP.

4. Eagle P3 Project Unique Challenges

Background

The Eagle P3 Project procurement provided us with some interesting challenges since this was our first direct experience with this methodology. The previous projects in the U.S. were limited in the parallels and lessons learned we could apply. We counterbalanced some of the challenges by carefully recruiting an internationally experience group of managers and technical experts, but some challenges remained unavoidable or unforeseeable. The most critical of these challenges were:

- Procuring the Eagle P3 Project with only two, and possibly one, teams.
- Finding and applying relevant lessons learned from similar procurements.
- Operating within the constraints of Colorado's TABOR legislation.
- Maintaining an ambitious schedule.
- Accommodating the many unique considerations of a DBFOM/P3 procurement.

4.1 Two Teams

Background

The Eagle P3 Project procurement started with three potential concessionaire teams following the RFQ phase. Once we identified the qualified teams we began a series of industry reviews in order to explain our P3 procurement process. We ensured the potential proposers understood the need for long-term involvement by a bank or similar financial entity. We also emphasized that the majority, if not all, of the team members needed to be equity participants in the Project.

One proposing team dropped out shortly after the draft RFP was issued. They and we had concerns about the team structure and its ability to manage a project of this size—valued at over \$2.0 billion with nearly 50 years of O&M responsibilities. We didn't lose a team due to contract or other terms, Project issues or concerns, or the P3 procurement process. We provided for several levels of stipend—\$2.5 million to a non-selected team and \$20 million to the selected team if the Project was terminated before NTP—to ensure the costs of the proposal were not a factor that could lead to a team dropping out.

Overview

The biggest challenge with only having two teams was the risk of losing one and being left with a sole-source procurement. Many of the legal and financial issues discussed could have been threshold issues that might have been enough to cause a proposer to walk if they did not like the answer. It is likely that each team recognized this and made more out of issues they could have lived with – it gave them some leverage. With three teams we would have been in a position to say “the other two teams have not raised this so we do not intend to consider a change.”

While there were internal and external concerns about procuring a project of this size with only two proposing teams, both remaining teams were deemed extremely strong and well-qualified to design, construct, finance, operate, and maintain the Eagle P3 Project. We were prepared, if necessary, to go forward with a single team; this approach is currently being used to construct the DUS FasTracks hub.

Communicating with the teams—particularly in terms of what questions they were comfortable asking and when to cut-off the question period—was somewhat problematic, but overall the teams indicated they did not have a problem asking questions. There were some confidentiality issues and issues as to when to finally stop taking questions.

4.2 Previous Lessons Learned

Background

RTD has completed two related Lessons Learned reports in the past three years—one for the completed T-REX Project and one for the first five years of the FasTracks Program of projects. Both of these reports were used as references for this Lessons Learned Report. Many of the T-REX Project processes were used in the Eagle P3 procurement.

Overview

There were times that specific T-REX Project experiences were revisited to help clarify how to draft Eagle P3 Project requirements, such as with the approach to quality audits. It was important that we considered how the Eagle P3 Project would differ from, or be similar to, the T-REX Project, given the DBFOM versus D-B delivery models.

T-REX

We used the T-REX Project best value selection approach. We had large teams reviewing the proposals and applying the evaluation criteria and/or factors. We insisted on meeting the established schedule and not allowing the procurement dates to slip.

As with the D-B project delivery on the T-REX Project, adhering to the published schedule is critical for building and maintaining credibility. In the case of the Eagle P3 Project schedule adherence went beyond credibility and impacted the viability of the financing approaches.

The T-REX Project Lessons Learned (2007) document contains some valuable insights about meeting or beating cost and schedule goals.

FasTracks

The FasTracks Lessons Learned (2009) addressed some key areas, particularly going forward, in terms of Management, Policies and Procedures, Project Delivery, and Communications.

It is RTD's policy to do competitive bids for all FasTracks (and other) projects—not negotiated contracts.

The lessons learned on both T-REX and FasTracks strengthened our ability to do cost estimating for the Eagle P3 Project.

4.3 Taxpayer Bill of Rights (TABOR)

TABOR is a constitutional amendment adopted in 1992. It limits the growth of state and local revenues to a highly restrictive formula: inflation plus the annual change in population. It places restrictions on the issuance of multi-year fiscal obligations. In 2005 the voters approved a five-year suspension of the restriction against retaining “excess” revenues. This allowed Colorado to retain the revenue it collects regardless of what the TABOR limit would have been. At the same

time, the suspension left in place the restrictions on raising, approving, or imposing additional taxes. As a political subdivision of the State, the TABOR restrictions apply to RTD.

At the start of the procurement process it was considered by outside counsel that a deal could be done without the use of TABOR to provide a legally enforceable commitment to proposers. This type of deal had been done on a number of occasions prior to the financial collapse. This principle was rejected by each of the proposing teams to the point they notified RTD that the RFP would not be picked up if structured in that manner. RTD was thus required to use 2004 voter approved debt amounts for the Eagle P3 contract to comply with TABOR and contractual requirements.

The element of FFGA funding became an important consideration for the proposing teams since TABOR commitments do not apply to federal funds.

4.4 Schedule Management

Overview

Maintaining the Eagle P3 procurement schedule was our top priority. It is very easy to let the schedule on such a complex procurement slip, but we did not allow this to happen. Our team and the proposers worked extremely hard to ensure we would meet our published date—June 15, 2010—for recommending the Eagle P3 concessionaire agreement to the RTD Board of Directors.

Background

Schedule compliance was vital. Maintaining the integrity of the proposing teams, in particular their financing entities, was a big challenge in the financial market that we faced at the beginning of the procurement. Schedule compliance gave the teams and their lenders confidence that we knew what we were doing and we understood that time was money to them, due to the major costs of pursuing P3 contracts.

When we did have to delay the RFP release schedule it was done in consultation with the proposers because the issue that needed resolving was too big to rush. We then jointly agreed on a new schedule that recovered most of the delay; this increased the proposers' confidence in the partnering approach we were trying to implement.

During the procurement process we had a changeover in our GM. When Phil Washington became the acting GM, schedule compliance took on a different importance. He took on the theme of adhering to the planned schedule and made it his primary performance measure. We did allow a two-week delay in receiving proposals (again for good reason and at the request of the proposers) but again with a schedule recovery approach that did not delay the selection process and contract award.

During the RFQ/draft RFP process there were several instances of potential schedule slippage—most notably in mid- to late 2009. By working closely with both our staff and the proposing teams we were able to absorb several months of delay in the RFP cycle and hold to the evaluation and award announcement timeline.

4.5 Unique Aspects of a DBFOM/P3 Procurement

Overview

The Eagle P3 Project procurement was our first experience with a DBFOM RFP. Past projects, specifically the T-REX Project, were very successfully completed using the D-B approach. We applied many of the processes used during the T-REX Project procurement for the Eagle P3 procurement.

Since the proposal preparation process was going to be lengthy, complicated, and expensive we felt that providing the proposers that actually responded to the final RFP with a multi-million dollar stipend would help offset their costs.

We emphasized schedule compliance, both internally and on the part of the proposing teams. Given the unique financing requirements and the need to minimize the uncertainty in the financing aspects for the teams' financial/equity partner(s), schedule adherence was even more critical than in traditional procurements. In addition, since producing a proposal for a \$2.0 billion P3 project was a very expensive process for the proposers, the RTD Board authorized the payment of a stipend to both teams, along with an additional payment to the selected team should the Project be terminated.

Background

We had some formal processes in place that helped in the P3 procurement process even if we did not necessarily follow them rigidly. For example, our *White Papers* process helped get decisions made.

Our *Evaluation Procedure* kept a large team focused on their role in a unique evaluation approach.

The approaches for reviewing ATCs were not well documented and not always followed consistently. For example, a batch of ATCs came over a holiday period and some people were not available to respond. In other instances the ATCs came late in the day and needed very quick response. Whenever reasonable, we did step back and see if RTD had an existing process from the T-REX or West Corridor Projects and if it was applicable or not.

The Lessons

Two Teams

- Be prepared to go forward with only one qualified proposing team.
- Provide for a stipend for the teams that respond to the final RFP.
- Look for teams with a strong financing partner and significant equity participation among the other team members.
- Ensure the teams that are qualified during the RFQ process have experience with successful DBFOM projects.
- Lay down the ground rules for asking questions and communicating with agency personnel during the RFP process. The proposers tended to ignore the rules and keep asking for more information or clarifications—this was helpful most of the time, but could be distracting.
- Maintain absolute confidentiality with proposers' sensitive and proprietary information.

Previous Lessons Learned

- Regular communications with all stakeholders is essential to obtaining community support of any project.
- The D-B and DBFOM project delivery methods effective ways to manage and shift cost and schedule risks to the party best able to handle these risks. The T-REX Project was a valuable lesson in how cost-effective and schedule-efficient a D-B project could be.
- These two project delivery methods bring a significant private sector component into the management of projects. This maximizes contractor innovation and participation.
- Negotiated contract prices (for example CM/GC project delivery) are extremely challenging to implement and should be avoided in the future.
- Staffing resources must be at a sufficient level to adequately address the demands of a project—and the staff should have relevant project delivery method experience.
- Schedule adherence is critical to meet the unique aspects of the DBFOM project delivery and establish/maintain agency credibility.

Taxpayer Bill of Rights

- Many states have been considering TABOR-like restrictions on taxes and resulting revenues and revenue retention. The presence of TABOR and its restrictions was a potential major stumbling block for the financing and equity partners on the P3 Team.

Schedule Management

- Keeping to the established schedule was very valuable in establishing and maintaining our credibility with the proposing teams and their financing partners.
- Working closely with the proposing teams was essential to gain and maintain their confidence that we would keep to our published procurement schedule. Our insistence on meeting the established schedule and not letting the procurement dates slip was appreciated by both proposing teams.
- Staying on schedule is very important to the financing entity on each proposing team.
- Making schedule adherence a top-level management goal and internal performance measure is indicative of our intent and ability to follow through.
- Understanding and respecting the time and financial commitments of each proposing team is critical in gaining and keeping their cooperation and willingness to adapt to minor modifications in the schedule (primarily delays not offset by additional response time in other areas).

Unique Aspects of a DBFOM Procurement

- The process of preparing the RFP and resulting proposals is very complicated, lengthy, and expensive. It is important to be sensitive to the proposers' costs in the process. Page limits may be useful.
- Providing a stipend to the proposers is a valuable way to offset a portion of their proposal preparation costs and potentially increase the number of proposing teams.
- Allow for the difficulties of complying with unique legal issues—in our case, the limitations of the TABOR (see Appendix A).

5. Additional Perspectives

5.1 The RTD General Manager

RTD went through a change of GM, including having an acting GM and conducting a worldwide search for a replacement GM, during the Eagle P3 Project procurement process. At the end of the search process continuity was maintained since the unanimous choice for the position of GM was Phil Washington, the acting GM.

“My role as GM was to keep a high operations tempo, setting the schedule and milestones and holding our management accountable, keeping things moving, and making decisions related to the railroads, TABOR, and other key issues—and ensuring the RFP was released on September 30, 2009, as scheduled.”

The key considerations from the GM’s perspective were:

- Providing quality presentations to the Board. The presentations the proposing teams made to the RTD Board were essential to obtaining Board understanding of the DBFOM/P3 process and ultimate buy-in and acceptance of RTD’s recommended DBFOM/P3 concessionaire. The material in and frequency of the presentations by RTD staff and the proposing teams prepped the Board to make a decision on June 15, 2010, ensuring the schedule was adhered to.
- Having RTD staff and the GM provide significant, ongoing encouragement to the Board to aid them in the decision-making process and avoid “fear of commitment” for such a big, important, regional Project. Also, RTD’s senior management effectively “led from the front” to streamline the Board’s decision-making process.
- In addition to the various briefings and presentations made to the Board, stakeholders, and RTD management, there were also very valuable one-on-one and small group meetings.
- Organizing teams of speakers to meet with regional mayors, elected officials, and other groups and educate/inform these stakeholders on the procurement process.
- Having direct GM and senior RTD staff/consultant involvement throughout the procurement process.
- Creating and using a Management Steering Committee (MSC) to work through issues. The MSC started working in January 2008—well ahead of the release of the RFP.
- Actively involving the FTA and keeping them informed throughout the process.
- Establishing and sticking to a schedule—the proposing teams really appreciated that.
- Managing expectations—the community had high expectations that RTD had to manage to avoid future disappointments.

5.2 The Proposing Teams

“We can’t afford to get it wrong on a 30 to 50 year project.”—MTP team

When comparing the Eagle P3 Project procurement to other U.S. P3 projects, several aspects stood out:

- The political support from the RTD Board was very good. The fact that the Board was unified in support of the Eagle P3 Project was a definite plus. The proposers were very impressed with the conduct and professionalism of the RTD Board of Directors.
- Including the City and County of Denver (CCD) support under political support was very valuable since DIA is a critical component of the East Corridor. The Mayor's office was highly supportive and obviously committed to the Project.
- RTD was very confident of getting its portion of the funding.
- The quality of the RTD advisor team—having a legal advisor that brought commercial experience but did not provide “commercial advice.”
- The advisor team was transparent. The perception on the part of the proposing teams was that the advisors were all RTD staff rather than consultants. They provided inputs that appeared to be from RTD's perspective rather than a consulting one.

RTD laid the foundation for a successful procurement—an important consideration when prospective proposers are deciding to bid/no bid on a project. There were effective processes in place to keep other stakeholders, proposers, and entities informed so they supported RTD's activities and approaches.

Railroad Concerns

A major area of concern during the procurement process was the uncertainty concerning the requirements associated with the railroads (BNSF and UP). The uncertainty was reflected in the pricing and in the risks and concerns in the proposals.

The major concern was the potential effects of railroad requirements on work rules for Project personnel. Two of the major concerns were crossings and flagging. Both were sources of “anxiety” for the proposers.

Communications

The perception was that of open, transparent communications with RTD and its advisors and stakeholders. In the proposers' previous experience this has not been the case on P3 projects.

The access to RTD and its consultants and advisors to discuss issues and concerns on an informal basis was very welcome. Other projects imposed a stultified, rigid process. A suggestion was offered that the process must be carefully managed—if access is too free it may create a perception of bias in favor of one proposer over others.

The ability to provide technical comments and inputs, especially the ATCs, was greatly appreciated by the proposers. The proposers felt they were “listened to” by RTD. The depth of experience of RTD staff and consultants and advisors supported keeping the lines of communication open throughout the procurement process.

Having the foresight to involve the RTD Board of Directors, the CCD, and the metro area mayors showed the regional commitment to the success of the Eagle P3 Project procurement.

Schedule Delays

The delays that occurred between May and September 2009 were a potentially major issue, but the proposers had confidence RTD would still meet the schedule for making the award recommendation to the Board. This concern about potential delays was particularly disturbing to outside bankers since the costs of financing were so time sensitive. The bankers outside the procurement process believed the deal would fall through as a result of the delays.

The proposers felt that RTD did very well keeping to the published schedule despite the issues that arose during the May to September 2009 period. This engendered confidence in RTD, especially on the part of the financing and equity partners. RTD's upping of the stipend as a result of these issues was very welcome. The provision of a stipend indicated that RTD was serious about keeping to the published schedule.

Industry Forum/Industry Review/Draft RFP Process

Having an "industry day" is traditional before issuing any draft RFP.

There was a reluctance to ask anything of substance in front of other potential proposers. It was good to see the competition, but the venue didn't really provide any advantage to RTD. It is possible this approach may have "scared away" some potential team members or proposers.

The one-on-one meetings and industry forum were helpful, but not without issues, as mentioned in the previous paragraph.

The ability to make comments on the draft RFP and have them incorporated into the final RFP was very welcome. Keep the draft proposal process short. The review process took five months—two to three months is more typical and reasonable.

TABOR Issues

TABOR risks don't exist for any other P3 procurement (anywhere). The proposers were concerned about appropriations and enforceability; the courts could strike these down and affect any termination payment. The financial market is comfortable with the termination process but not the constitutionality. Ultimately, voter approved debt had to be committed to the Eagle P-3 contract.

Bringing the TABOR issue out into the open was good although the way TABOR "unraveled" was not in RTD's favor. The proposers were glad to be made aware of potential TABOR impacts so they could factor it into their financial discussions and planning.

Change in RTD's General Manager

The change of GM concerned the proposers; in particular the time gap between the departure of the previous GM and the official appointment of Phil Washington as actual, rather than acting, GM. The proposers' corporate management had severe doubts about the Project during RTD's search for a new GM. The team members and managers actually preparing the proposals had confidence RTD would stay on track.

Pricing Considerations

Many of the proposing teams' members were accustomed to proposing five to seven year O&M contracts. Even with experience proposing DBFOM or DBOM and P3 projects, it is difficult to price for long-term variables such as Information Technology (IT), software, and similar costs for a 30 to 50 year timeframe.

The key driver to stay in over a long proposal process—RTD had a real incentive to award a concessionaire contract—the \$1.0 billion carrot of the Penta-P. The future FFGA is tied to the P3 process. This was a major benefit and incentive from the proposers' perspective.

Presentations

There were a number of presentations to the RTD Board, stakeholders, and committees.

The January 2010 technical presentation to the RTD Board was mentioned by proposers as a specific example of one that took many hours to prepare and might have been done away with.

RTD still feels that this presentation was very valuable for the Board and would be considered again in the future.

Proposers felt the May 2010 full-blown technical proposal presentation could have been skipped. RTD believes this level and type of presentation was invaluable in gaining Board support and understanding and making the approval of the chosen concessionaire a more straightforward process but will consider ways of limiting the preparation time and effort in the future.

There was concern from proposers about a lack of clarity from the design submission side. Design decisions and/or changes may have been an issue. Some of the reviewers may not have liked the changes.

Preparing for the presentations necessitated the proposers “dropping everything” in the midst of proposal preparation. There were concerns expressed that the presentations emphasized form over content.

The suggestions offered by the proposers include:

- Consider a question and answer session in lieu of some presentations.
- Consider limiting the number of slides allowed in presentations.
- Consider setting parameters for the allowed slides.
- When proposers drop out, consider dividing their share of the stipend to the remaining proposers.

Page Count Limitations

The proposers felt RTD wanted too much information. One suggestion was to limit the sections—for example, 100 pages (total) plus appendices for plans. If page count limitations had been imposed the proposers would have structured the proposals differently, based on their perceptions of what was needed for a best value procurement. At the same time, the proposers indicated that there would have been “push-back” if the page counts were too low.

Numbers of Proposing Teams

The proposers did not feel that there was an advantage to having more, rather than fewer, proposing teams. The proposers need to recoup their costs—it is easier to do so if there are fewer variables (proposing teams) to consider during the proposal process. It is very expensive to bid.

If the shortlist resulting from the RFQ process is more than three or four teams the potential proposers may consider the risks too high and choose not to bid.

There were concerns about going forward with two proposers—what if one fell through? The fact that RTD was willing and able to go forward with one proposer—to make a sole source award—and that this was acceptable to FTA, was very important. The sole source contract for DUS gave the two actual proposal teams confidence that RTD could do sole source if necessary

Other Concerns/Issues

- The proposers liked the systems perspective and the use of top level performance specifications.

- There is the potential for materials perceived as company-sensitive getting to other proposing teams. Maintaining confidentiality around submitted ATCs during the final RFP process is essential.
- The scoring approach was not clear enough; weighting would have helped. Other P3 procurements have used pass-fail on the technical proposal. At the same time, the openness of the process was very helpful in providing information as to how proposals would be weighted and/or scored.
- The forms and letters of intent for DBE participation were “challenging” and onerous. Both the forms and the process could have been streamlined.
- A workshop on the forms and reporting package would have been very helpful.
- Don’t include a cost-loaded schedule with the technical proposal.
- The use of ATCs was confusing at first, but they worked. The timing of ATC approval adversely affected the proposal production schedule.
- The T-REX Project Lessons Learned document was valuable.
- RTD assembled a credible group of advisors and consultants and listened to them. This provided the proposers reassurance about risk sharing and balanced commercial aspects. The legal documents, in particular, were good from the beginning of the procurement process.
- The risk sharing process was clear and equitable. This made the financial and equity partners more comfortable with the entire procurement process. For example, issues such as potential environmental hazards or changes in laws were dealt with clearly. Any time the private sector has to assume “first dollar risk” they are going to reserve accordingly, adding to the cost of the project.
- Having an agency “champion” (in the person of the GM) was very valuable.

From RTD’s Perspective

- Presentations: The Board was evenly split as to which of the May 2010 presentations was “best.”
- Page count limitations: Since the proposers were only given high level performance specifications there was a need for the proposers to provide detailed specifications in the proposals. This is the rationale for not imposing page count limitations.

At the same time, since this was a new procurement approach at RTD there was some internal reluctance to let go of the detailed design role. This probably resulted in wanting more detail in the proposals than was actually necessary.
- Plans: With page count limits the various plans (such as O&M) would have been in outline form—insufficient detail given that only performance specifications were provided.
- Scoring: Technical proposals were scored on a 100-point scale; then weightings were applied. There were areas of 40 percent difference between the proposers based on one reviewing subcommittee’s evaluation—however another subcommittee would perform its review of a different area and the results were “flipped.” This comprehensive and intentionally segregated approach assured each area was evaluated on its own merits and the quality of teams RTD had as proposers was reflected in almost no overall difference in technical score at the end.

5.3 RTD Management Involvement

Overview

A P3 procurement requires major policy decisions throughout the process. Without the full support of our GM and our Board of Directors the procurement process would have been seriously delayed, if not actually cancelled.

The DBFOM, P3, Penta-P, and agency roles and responsibilities made the procurement incredibly complex and required major policy commitments and rapid decisions and responses.

Background

We quickly learned to get our Board of Directors heavily involved in the P3 procurement process. Each RTD District had to give up TABOR funds so Board support was essential.

We presented the RFQ and terms to the Board, then went to them with the draft RFP and subsequent changes, making the process of getting Board approval of the final RFP much simpler than we foresaw.

We held weekly MSC meetings to make sure the GM and all AGMs were fully aware of the Eagle P3 Project strategic development and key decisions and activities. The Eagle P3 team also held weekly meetings. Initially the team meetings were held in “silos”—then progressively the different projects’ activities and decisions were combined into a coherent whole. Items requiring direction were presented as *White Papers* which described the issue, offered alternative approaches (with pros and cons) and recommended the way forward. The MSC discussed and decided by consensus and there was a permanent record of the decision and why it was made.

We had more discussions with the RTD Board of Directors than on any other procurement. While the Board was generally supportive of the Eagle P3 Project and the DBFOM/P3 approach they have many relevant questions. These insightful questions were an important element in the success of the procurement process and our ability to stay on schedule.

Our management met with the Board at least once each month during the final six months of the procurement. As a result there were few surprises when we made our concessionaire selection recommendation at the June 15, 2010 Board meeting.

5.4 Industry and Third Party Reviews

Overview

Third party and industry reviews were important approaches to allow RTD to learn from the experiences of other P3 projects and incorporate the perspectives of potential proposers into the Eagle P3 Project draft and final RFPs.

The peer review included input from the Canada Line and BART. Two P3 consultants and a senior manager from Houston Metro provided additional input and final review of the RFP.

All interested potential proposers were afforded the opportunity to review the draft RFP and respond to the RFQ.

Third party reviewers included:

- FTA/PricewaterhouseCoopers review of the draft and final RFPs

- DRCOG/Urban Engineers review of the draft and final RFPs

We actively sought stakeholder input during the RFP development process. Representative stakeholders included:

- Adams County
- City of Arvada
- City of Aurora
- City and County of Denver
- City and County of Denver Department of Aviation
- Colorado Department of Transportation
- City of Westminster
- City of Wheat Ridge

Background

Availability-based P3 procurements are relatively new in the U.S. A few projects—most notably the Las Vegas monorail systems—have been built using the P3 approach with availability criteria driving concessionaire payments. The Seattle monorail was to be a P3 procurement. It was bid out but not built due to a loss of public support prior to contract initiation. Other transit systems such as BART and the Houston Metro and many international systems have been bid using a P3 approach, but not necessarily availability performance standards.

Since the P3 approach was new to RTD and the DBFOM delivery method not widely used in the U.S., we considered obtaining peer, third party, and potential/actual proposer input to be essential in the development of an RFP that would deliver the desired Eagle P3 Project on schedule at the most favorable cost.

Early on in the process we invited representatives from CanadaLine and BART to visit RTD and provide some lessons learned from their processes. This input was valuable as it helped identify certain items that they felt they would not do again, items that would not have been immediately apparent from a review of their documents for example. Further input was obtained from both agencies as their and our process developed and they presented issues to the RTD Board, an early step in educating them on the overall P3 experience.

RTD worked with each of the affected local jurisdictions to make sure we understood their concerns and requirements. This involvement assured that local issues were not overlooked in the RFP and therefore ultimately in the project.

The FTA retained PricewaterhouseCoopers as a consultant to review RTD's RFQ and RFP documents to provide FTA assurance that FTA would not be exposed to unacceptable risks. The results of these reviews, carried out at three points in the development process, were shared with us by FTA and the insights from such an experienced consultant were instrumental in making some improvements to the approach and details of the documents.

Our Metropolitan Planning Organization (MPO) the Denver Regional Council of Governments (DRCOG) hired Urban Engineers to review the RFP documents and cost estimates as part of their oversight process. Feedback was very positive and few amendments were made as a result, however this review built confidence that the documents were well developed.

As a final step in the RFP development process, RTD retained the services of three P3 experts from across the country and from the UK. These three individuals reviewed the RFP against best practices and made a small number of key recommendations that were incorporated into the RFP.

The Lessons

Industry and Third Party Reviews

- Peer review is essential given the limited number of current and past P3 projects in the U.S. Many of the projects have had to overcome significant issues and in a number of cases the agency/owner has had to take over the project as a D-B or CM/GC-delivered system. Incorporating the experiences of our peers proved to be invaluable in the development of the Eagle P3 Project procurement RFP.
- Initiating peer reviews at an early stage and continuing it helped guide the process and build confidence in the documents for all stakeholders including the RTD Board, FTA, local MPO and local jurisdictions.
- Involvement of 3rd party stakeholders provided insights into local issues and assured their buy-in to the process.

Conclusions and Recommendations

- The DBFOM project delivery approach has been used with great success in many countries around the world: for infrastructure projects of all types including transportation projects such as tolling projects, highway projects, monorail projects, and increasing for commuter/light rail projects. While DBFOM is being used more and more, in the U.S. its track record has not been as successful as in Canada and overseas.
- The structure for funding and financing was developed using thorough financial planning and taking into account RTD's fiscal situation at the time. It is noteworthy that the Eagle P3 Project was procured during one of the worst financial crises to ever hit the world economy and yet the end result was a competitive proposal process and an affordable outcome that presented good value to RTD and its constituents.
- P3 procurements are complex and must be led by a strong and experienced PM to keep the process focused and on schedule. The PM must be supported by staff experienced in P3 in key roles including technical, O&M, financial, and legal. Private financing requires an extended payback term; that gives real ownership responsibility to the concessionaire.
- It is essential to provide P3 project proposers with maximum design flexibility. Allowing this level of design freedom was a significant learning experience for RTD. We saved significant money (approximately \$300 million) without compromising our ability to meet operational requirements.
- It is critical to keep the procuring agency's focus on performance standards rather than design or infrastructure aspects of the procurement. The agency should restrict its specifications to those related to safety, performance, user experience (e.g. station access), cost-effectiveness, and reliability.
- The ATCs are very valuable to both the proposer and the agency. The proposers gain flexibility and a potential competitive edge since the information was not shared with other proposers. RTD got a better, lower-cost design and RTD owns the ATCs from all proposers without incurring the design costs or associated risks. This is similar to the results of VE without the potential delay and cost of performing VE.
- The use of performance specifications and availability criteria reduces the agency's workload and provides the proposers with freedom to propose a Project that they feel is feasible and cost-effective to delivery under DBFOM. The availability component is particularly important for obtaining financing and favorable ratings from the rating agencies. The use of performance specifications and availability criteria gave the proposers the ability to be innovative, using ATCs and industry best practices, and reduced the capital costs associated with the Eagle P3 Project while still ensuring the performance standards RTD required would be met.
- Allowing the future concessionaire to develop detailed specifications, combined with ATCs, can result in greater confidence a P3 Project can be delivered at the most favorable cost and in the minimum time. The concessionaire team has an equity stake and a long-term commitment to the P3 Project, so they have a vested interest in creating a quality Project that meets procuring agency performance specifications.

The Concluding Lessons

- The D-B, DBOM and DBFOM delivery methods bring a significant private sector component into the management of these projects. The DBFOM approach maximizes contractor innovation and participation. Negotiated contract prices are extremely challenging to implement and should be avoided in the future.
- Include an “availability” performance measure for progress and other payments. It will increase the financial markets’ and proposing teams’ lenders comfort with the viability of their potential investments in a P3 project.
- It is critical that the key members of the concessionaire team have a significant equity stake in the project, along with previous experience with P3 procurements.
- Have a plan and follow it.
- Involve the proposing community early and often, and truly listen to their concerns and driving issues.
- Engage qualified advisors and listen to their advice.
- Engage stakeholders and listen to their opinions.
- Be unyielding on schedule (if it is achievable) except when issues are too big to force resolution in the time available; then be willing to accept a delay but do whatever you can to work around the issue(s) and recover lost time.
- Early coordination with affected railroads and other key stakeholders is essential to ensure ROW and corridor issues are identified, mitigated, and/or resolved as early and cost-effectively as possible.
- Right-of-Way (ROW) identification and acquisition need to begin as early in the procurement process as feasible.
- Successful P3s embrace the partnership ideal from day one, neither party can be successful without the other.

Appendix A: Notes on the Taxpayer Bill of Rights

TABOR's relevant provisions:

- Require a public vote on all tax increases and new government debt.
- Limit the amount of tax revenue raised by state and local governments in Colorado; year-to-year increases in revenue amid economic growth may not exceed the combined rates of population growth and inflation.
- Apply the revenue limits to almost all revenue sources, ranging from income tax and sales tax to college tuition.
- Refund to taxpayers any excess revenue collected above TABOR's limits unless they vote to let government keep the surplus.
- There was a five-year voter-approved suspension, beginning in 2005, that allowed the state to keep "excess" revenues but not raise, approve, or otherwise increase taxes. This moratorium ended in 2010.

For additional information on the provisions of TABOR, with differing perspectives, here are some websites to consider:

<http://www.cbpp.org/cms/?fa=view&id=753>

<http://www.scribd.com/doc/23685932/The-TABOR-Amendment-Learning-to-Live-Within-Colorado-s-Tax-and-Spending-Limit>

Appendix B: Eagle P3 Procurement Lessons Learned—Master Contact List

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