

Contractor Performance Assessment Report

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Prepared by:
The Federal Transit Administration
Office of Planning and Environment
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<http://www.fta.dot.gov>

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Alphabetical List of Acronyms

Acronym	Name
AA	Alternatives Analysis
ARC	Access to the Region's Core
BRT	Bus Rapid Transit
BART	Bay Area Rapid Transit
CATS	Charlotte Area Transit System
CBD	Central Business District
CPAR	Contractor Performance Assessment Report
CR	Commuter Rail
CRMF	Commuter Rail Maintenance Facility
DMU	Diesel Multiple Unit
DOT	Department of Transportation
EA	Environmental Assessment
EIS	Environmental Impact Statement
EMU	Electric Multiple Unit
FD	Final Design
FDOT	Florida Department of Transportation
FFGA	Full Funding Grant Agreement
FTA	Federal Transit Administration
FY	Fiscal Year
HR	Heavy Rail
LONP	Letter of No Prejudice
LPA	Locally-Preferred Alternative
LRT	Light Rail Transit
LRV	Light Rail Vehicles
METRO	Metropolitan Transit Authority of Harris County
MBTA	Massachusetts Bay Transportation Authority
MJLRT	Mid-Jordan Light Rail Transit
NEC	Northeast (Rail) Corridor
NEPA	National Environment Policy Act
NJT	New Jersey Transit Corporation
PCGA	Project Construction Grant Agreement
PD	Project Development
Penta-P	Public Private Partnership Pilot Program
PE	Preliminary Engineering
PMOC	Project Management Oversight Contractor
ROD	Record of Decision
RTD	Regional Transportation District
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (2005)
UNCC	University of North Carolina-Charlotte
U.S.C.	United States Code
UTA	Utah Transit Authority
VTA	Santa Clara Valley Transportation Authority
YOE	Year of Expenditure

1. Introduction

Section 5309 of Title 49 of the United States Code (U.S.C.), as amended by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), emphasizes the need to improve the quality of ridership estimates and costs used to determine funding decisions for major transit investments. To help fulfill this goal, the Federal Transit Administration (FTA) is required, by delegation, to prepare an annual report to Congress that documents and analyzes the performance of contractors that develop cost and ridership estimates to support decision-making for New Starts and Small Starts projects. The SAFETEA-LU Conference Report indicates that the Contractor Performance Assessment Report (CPAR) “will provide public transportation agencies with an informational tool, allowing them to better identify contractors able to perform accurate estimates of cost and ridership figures. Additionally, consulting the *CPAR* as a condition of Federal assistance will help ensure the reliability of estimates used in awarding Full Funding Grant Agreements (FFGA).”

The contractor performance report is required in 49 U.S.C. 5309(1)(2), as amended by SAFETEA-LU. The relevant text in the law is as follows:

(2) CONTRACTOR PERFORMANCE ASSESSMENT REPORT.

(A) IN GENERAL. Not later than 180 days after the enactment of the Federal Public Transportation Act of 2005, and each year thereafter, the Secretary shall submit to the committees referred to in subsection (k)(1) a report analyzing the consistency and accuracy of cost and ridership estimates made by each contractor to public transportation agencies developing new fixed guideway capital projects.

(B) CONTENTS. The report submitted under subparagraph (A) shall compare the cost and ridership estimates made at the time projects are approved for entrance into preliminary engineering with:

(i) estimates made at the time projects are approved for entrance into final design;

(ii) costs and ridership when the project commences revenue operation; and

(iii) costs and ridership when the project has been in operation for 2 years.

(C) CONSIDERATIONS. In making comparisons under subparagraph (B), the Secretary shall consider factors having an impact on costs and ridership not under the control of the contractor. The Secretary shall also consider the role taken by each contractor in the development of the project.

2. Approach to the Contractor Performance Assessments

Evaluation of contractor performance in estimating costs and ridership for CPAR reporting cannot occur until after a project is constructed and operational and the final cost and actual ridership are known. At that time, the reasons for any discrepancies between the actual values and the projected values can be determined. This information is obtained as part of the *Before-and-After Study* that each project sponsor must undertake as a condition of receipt of Section

5309 major capital investment funds.¹ Thus, the *CPAR* is closely related to the *Before-and-After Study Report*.

For both the *CPAR* and the *Before-and-After Study Report*, FTA intends to evaluate cost estimates² and ridership forecasts at key decision-making points and compare these estimates to actual results two years after the project opens for revenue service. The decision-points, which correspond to key decision points for FTA and the project sponsors, are:

- Entry into Preliminary Engineering (PE) for New Starts or project development (PD) for Small Starts;
- Entry into Final Design (FD) (for New Starts); and,
- Signing of Full Funding Grant Agreement (FFGA) for New Starts or Project Construction Grant Agreement (PCGA) for Small Starts.

Unlike the *Before-and-After Study Report*, the *CPAR* includes the identification of the entity responsible for a project's cost and ridership information. The FTA will use the information from the *Before-and-After Study* submitted by the project sponsor to attribute, if possible, the causes and responsibility for changes in cost and ridership when preparing *CPARs*.

FTA's approach to the *CPAR* requirement was forward-looking. Projects that were already in PE, FD, or PD as of May 2006, when FTA published policy guidance establishing this requirement, are not subject to these contractor performance reporting requirements. None of the projects approved into PE or PD since the establishment of this requirement has completed construction and opened for revenue service. Thus, the report does not yet contain an evaluation of contractor performance. Instead, the report currently only provides a brief description of each project as it is defined as of the end of May 2010, when this report was prepared. It also includes a table identifying the project scope, cost and ridership estimates at each of the major decision-points that have occurred. If there were changes made to the project scope, cost or ridership estimates between decision points, a brief description of the changes is provided.

The requirement to publish an assessment of contractor performance may change the manner in which contractors and project sponsors relate to each other during planning and project development. Responsibilities for the inputs needed to develop cost estimates and ridership forecasts will likely become more clearly delineated since contractors will want to make certain they are not found responsible for errors or misstatements due to professional negligence or conflicting interests.

The FTA is cognizant of the fact that contractors only play one part in the development of cost estimates and ridership forecasts. Contractors generally make extensive use of information and other forecasts and estimates provided by project sponsors, metropolitan planning organizations, and other local agencies. Therefore, FTA will not focus entirely on contractor performance but on the reliability of the estimates and forecasts from whatever source they are derived.

¹ 49 U.S.C. 5309 (l)(1) requires FTA to submit an annual *Before-and-After Study Report* to Congress, summarizing the results of the *Before-and-After Studies* that project sponsors must provide about the predicted and actual performance of each project.

² FTA provides the finance charges in the cost estimates reported in this report, in keeping with the FTA policy of including them in the FFGA. However, finance charges depend on the funding strategy developed and finalized during preliminary engineering and final design. They are not directly related to the project cost estimation activities performed by the engineering contractors, which are the subject of this report.

3. Contractor Performance Assessment Information

3.1 New Starts Projects

Five New Starts projects (Silicon Valley Berryessa Extension, San Jose; High-Capacity Transit Corridor, Honolulu; Draper Transit Corridor, Salt Lake City; Columbia River Crossing, Vancouver; and University Corridor Light Rail Transit (LRT), Houston) have entered into PE since the publication of the 2009 *CPAR*. Two New Starts projects (North Corridor LRT and Southeast Corridor LRT in Houston) re-entered PE in March 2008 and FD in August 2009 and are also included in this year's report.

Eight projects included in last year's *CPAR* are again included. The Mid-Jordan LRT in Salt Lake City received an FFGA in January 2009 and remains under construction. The Access to the Region's Core project in Northern NJ and the Central Florida Commuter Rail Transit project in Orlando, FL remain in FD. The Gold Line and East Corridor projects in Denver, CO and the Central Corridor LRT in St. Paul-Minneapolis, MN have advanced from PE to FD since last year's *CPAR*. The Northeast Corridor LRT in Charlotte, NC and the Portland-Milwaukie LRT in Portland, OR remain in PE. Table 1 includes a list of all of the New Starts projects included in this *CPAR*.

Table 1: New Starts Projects

State	Project	2007 CPAR	2008 CPAR	2009 CPAR	2010 CPAR
CA	Silicon Valley Berryessa Extension, San Jose				PE
HI	High-Capacity Transit Corridor, Honolulu				PE
UT	Draper Transit Corridor, Salt Lake City				PE
WA	Columbia River Crossing, Vancouver				PE
TX	North Corridor LRT, Houston				FD
TX	Southeast Corridor LRT, Houston				FD
TX	University Corridor LRT, Houston				PE
OR	Portland-Milwaukie LRT, Portland			PE	PE
CO	Gold Line, Denver			PE	FD
CO	East Corridor, Denver			PE	FD
NC	Northeast Corridor LRT, Charlotte		PE	PE	PE
UT	Mid-Jordan LRT, Salt Lake City	PE	FD	FFGA	FFGA
NJ	Access to the Region's Core, Northern NJ	PE	PE	FD	FD
MN	Central Corridor LRT, St. Paul-Minneapolis	PE	PE	PE	FD
FL	Central Florida Commuter Rail, Orlando	PE	PE	FD	FD

3.1.1. Silicon Valley Berryessa Extension, San Jose, CA

The Santa Clara Valley Transportation Authority (VTA) proposes to build an extension of the Bay Area Rapid Transit (BART) heavy rail system from Fremont to Berryessa Road in San Jose. As of May 2010, the project is 10.2 miles long, and includes construction of two stations and the purchase of 40 vehicles. Called the Silicon Valley Berryessa Extension (SVBX), the project will be built on former Union Pacific freight railroad right-of-way from the future Warm Springs BART station in Fremont (currently under construction) to two new stations, one in Milpitas adjacent to the existing VTA Montague light rail station and one at Berryessa. The SVBX will be a two-track, third-rail exclusive guideway heavy rail system operating under automatic train control. The project scope includes improvements to the existing BART Hayward rail car storage and maintenance yard.

In September 2002, FTA approved VTA's request for entry of the Silicon Valley Rapid Transit Corridor (SVRTC) project into PE, which was a longer 16-mile extension of BART from Warm Springs to San Jose and Santa Clara. In December 2005, due to FTA concerns about funding and operations of the SVRTC, VTA withdrew the project from PE. On September 2009, VTA resubmitted a request for entry into PE for the SVBX, a shorter, initial segment of the SVRTC.

Reporting Item	Information at Entry to PE
Date Approved by FTA	December 2009
Project Length	10.2 Miles
Number of Stations	2 Stations
Number of Vehicles	40 Vehicles
Opening Year Ridership	23,900 Daily Riders (2018)
Forecast Year Ridership	41,900 Daily Riders (2030)
Responsible Party for Ridership Forecasts	Hexagon Transportation Consultants 40 South Market Street, San Jose, CA 95113
Capital Cost Estimates	\$2,051.03 Million (2009\$) \$2,509.13 Million (\$Year of Expenditure (\$YOE), \$305.78 million in financing charges included)
Responsible Party for Capital Cost Estimates	Hatch Mott MacDonald, Bechtel Infrastructure, Joint Venture 1971 Milmont Drive, Milpitas, CA 95095

3.1.2. High-Capacity Transit Corridor, Honolulu, HI

The City and County of Honolulu (the City) proposes to construct a rail line that will serve the south shore of Oahu from a western terminus in Kapolei, past Pearl Harbor and Honolulu International Airport, through downtown Honolulu, to an eastern terminus at Ala Moana Center. As of May 2010, the project is 20.1 miles long and includes construction of 21 stations and four park and ride facilities with 4,100 spaces, and the purchase of 76 railcars. The electrified (third rail) line will be almost entirely on elevated structure in existing public rights of way – primarily

arterial streets. Rail service will extend over 20 hours each day with automated trains running every three minutes in the weekday peak periods and six minutes during most off-peak hours.

Reporting Item	Information at Entry to PE
Date Approved by FTA	October 2009
Project Length	20.1 Miles
Number of Stations	21 Stations
Number of Vehicles	76 Vehicles
Opening Year Ridership	97,000 Daily Riders (2019)
Forecast Year Ridership	116,000 Daily Riders (2030)
Responsible Party for Ridership Forecasts	Parsons Brinckerhoff 303 Second Street, # 700 N. San Francisco, CA 94107
Capital Cost Estimates	\$4,462.5 Million (2009\$) \$5,347.7 Million (\$YOE, \$290.3 million in financing charges included)
Responsible Party for Capital Cost Estimates	Parsons Brinckerhoff 1003 Bishop St, Ste 2250, Pauahi Tower, Honolulu, HI 96813

3.1.3. Draper Transit Corridor, Salt Lake City, UT

The Utah Transit Authority (UTA) proposes to construct an extension to the existing North-South TRAX LRT line, which will operate primarily in existing and abandoned railroad right-of-way between the City of Sandy and the City of Draper. As of May 2010, the project is 3.8 miles long and includes construction of three stations with park-and-ride lots totaling 1,400 spaces, and the purchase of five light rail vehicles (LRVs). The project will run parallel to Interstate 15 (I-15), the primary transportation link between Salt Lake City, the University of Utah, Murray, Sandy, and Draper.

Reporting Item	Information at Entry to PE
Date Approved by FTA	December 2009
Project Length	3.8 Miles
Number of Stations	3 Stations
Number of Vehicles	5 Vehicles
Opening Year Ridership	2,275 Daily Riders (2013)
Forecast Year Ridership	6,800 Daily Riders (2030)
Responsible Party for Ridership Forecasts	Resource Systems Group, Inc. 55 Railroad Row, White River Junction, VT 05001
Capital Cost Estimates	\$195.68 (2009\$) \$212.21 Million (\$YOE, \$19.3 million in financing charges included)
Responsible Party for Capital Cost Estimates	AECOM Harris 1375 East 9 th Street, Suite 2801, Cleveland, OH 44114

3.1.4. Columbia River Crossing, Vancouver, WA

The Washington State Department of Transportation (WSDOT) proposes to construct the Columbia River Crossing, an approximately \$5 billion multimodal project that includes replacement of Interstate 5 (I-5) bridges, new interchanges, variable electronic tolls across the new bridges, park-and-ride lots, and an extension of the existing light rail system. Partner agencies include the Oregon Department of Transportation, Tri-County Metropolitan Transportation District (TriMet), Southwest Washington Regional Transportation Council (the metropolitan planning organization for Clark County), Portland Metro (the metropolitan planning organization for the Portland region), Clark County Public Transit Benefit Area Authority (C-TRAN), and the cities of Vancouver and Portland. As of May 2010, the transit portion of the project includes a 2.9-mile extension of TriMet’s Yellow Line from the existing Expo Station in north Portland to Clark College in downtown Vancouver. It also includes procurement of 16 LRVs and construction of five stations and approximately 2,900 park-and-ride spaces. In addition, TriMet’s current maintenance facility at Ruby Junction in the City of Gresham will be expanded. TriMet will operate the service under contract to C-TRAN.

The U.S. Department of Transportation designated the multimodal project as a “high priority project” under Executive Order 13274: Environmental Stewardship and Transportation Infrastructure Reviews.

Reporting Item	Information at Entry to PE
Date Approved by FTA	December 2009
Project Length	2.9 Miles
Number of Stations	5 Stations
Number of Vehicles	16 Vehicles
Opening Year Ridership	13,800 Daily Riders (2018)
Forecast Year Ridership	19,700 Daily Riders (2030)
Responsible Party for Ridership Forecasts	Portland Metro—Developed Internally 600 NE Grand Avenue, Portland, OR 97232
Capital Cost Estimates	\$755.62 Million (2008\$) \$945.71 Million (YOES, \$116.0 million in financing charges included)
Responsible Party for Capital Cost Estimates	Siegel Consulting 3787 Lyle Ct., Portland, OR 97221

3.1.5. North Corridor LRT, Houston, TX

The Metropolitan Transit Authority of Harris County (METRO) proposes to construct an LRT line from the existing University of Houston-Downtown station in the Houston central business district (CBD) to North line Commons. The LRT line will operate in an exclusive guideway with limited mixed traffic operations. As of May 2010, the project is 5.3 miles long and includes the construction of eight stations, the purchase of 22 LRVs, and an expansion of the existing Rail Operations Center. Based on an operational capacity analysis performed after FD approval, METRO determined that a five-minute peak period frequency was not viable and decreased the

frequency to six minutes. As a result, METRO found that only 22 LRVs are needed instead of the 24 thought to be needed at entry into PE and FD. No parking spaces will be built as part of the project. The project will be the first operable segment of an LRT line that METRO plans to eventually extend to George Bush Intercontinental Airport.

METRO completed an alternatives analysis (AA) on the North Corridor in November 2003. In April 2005, FTA approved the North Corridor LRT project into PE. In August 2005, METRO notified FTA that it was redirecting the PE effort from LRT to bus rapid transit (BRT). In October 2006, FTA approved the BRT project into PE. However, in October 2007, METRO's Board voted to implement LRT in the North Corridor.

In April 2008, the North Corridor LRT was accepted into FTA's Public Private Partnership Pilot Program (Penta-P). METRO contracted with a Facility Provider for services to begin work on a proposal to design, build, operate, maintain, and finance implementation of the North Corridor LRT. METRO approved the final contract with the Facility Provider on April 21, 2009. Total estimated capital costs for the North Corridor LRT project changed from PE to FD as a result of more detailed engineering including input from the Facility Provider, higher estimated finance charges, and in response to the findings from FTA's risk analysis on the projects that recommended higher contingencies. The project ridership forecasts changed slightly due to minor shifts in the project's alignments during the environmental review phase that was done as part of PE and prior to FD.

Reporting Item	Information at Entry to PE	Information at Entry to FD
Date Approved by FTA	March 2008	August 2009
Project Length	5.3 Miles	5.3 Miles
Number of Stations	8 Stations	8 Stations
Number of Vehicles	24 Vehicles	24 Vehicles
Opening Year Ridership	17,400 Daily Riders (2012)	19,950 Daily Riders (2015)
Forecast Year Ridership	29,000 Daily Riders (2030)	28,200 Daily Riders (2030)
Responsible Party for Ridership Forecasts	HDR Inc. 1900 Main, PO Box 61429, Houston, TX 77208-1429	HDR Inc. 1900 Main, PO Box 61429, Houston, TX 77208-1429
Capital Cost Estimates	\$615.84 Million (2007\$) \$677.03 Million (YOES)	\$678.61 Million (2008\$) \$756.00 Million (YOES, \$45.82 million in financing charges included)
Responsible Party for Capital Cost Estimates	Granite Construction Company 1900 Main, PO Box 61429, Houston, TX 77208-1429	Granite Construction Company 1900 Main, PO Box 61429, Houston, TX 77208-1429

3.1.6. Southeast Corridor LRT, Houston, TX

METRO proposes to construct an LRT line from the Houston CBD to the Palm Center in the vicinity of Martin Luther King, Jr. Boulevard/Griggs Road. The proposed LRT line will operate in an exclusive guideway with limited mixed traffic operations. As of May 2010, the project is 6.5 miles long, includes the purchase of 29 LRVs, and construction of 10 stations and a vehicle storage and wash-facility. Service will operate every six minutes during peak and off peak

periods, and will provide a transfer to the current METRO Rail Red Line via the existing Main Street Square station in the CBD. No parking spaces will be built as part of the project. The proposed Palm Center terminus will be adjacent to METRO's current Southeast Transit Center that includes a 1,100-space park-and-ride lot. The project will be the first operable segment of an LRT line that METRO plans to eventually extend to Hobby Airport.

METRO completed an AA on the Southeast-Universities-Hobby Corridor in November 2003. In April 2005, FTA approved the Southeast Corridor LRT project into PE. In August 2005, METRO notified FTA that it was redirecting the PE effort from LRT to BRT. In October 2006, FTA approved the BRT project into PE. However, in October 2007, METRO's Board voted to implement LRT in the Southeast Corridor.

In April 2008, the Southeast Corridor LRT was accepted into FTA's Penta-P. METRO contracted with a Facility Provider for services to begin work on a proposal to design, build, operate, maintain, and finance implementation of the Southeast Corridor LRT. METRO approved the final contract with the Facility Provider on April 21, 2009. Total estimated capital costs changed from PE to final design as a result of more detailed engineering including input from the Facility Provider, higher estimated finance charges, and in response to the findings from FTA's risk analysis on the projects that recommended higher contingencies. The project ridership forecasts changed slightly due to minor shifts in the project's alignments during the environmental review phase that was done as part of PE and prior to FD.

Reporting Item	Information at Entry to PE	Information at Entry to FD
Date Approved by FTA	March 2008	August 2009
Project Length	6.5 Miles	6.5 Miles
Number of Stations	10 Stations	10 Stations
Number of Vehicles	29 Vehicles	29 Vehicles
Opening Year Ridership	17,250 Daily Riders (2012)	19,500 Daily Riders (2015)
Forecast Year Ridership	28,750 Daily Riders (2030)	28,300 Daily Riders (2030)
Responsible Party for Ridership Forecasts	HDR Inc. 1900 Main, PO Box 61429, Houston, TX 77208-1429	HDR Inc. 1900 Main, PO Box 61429, Houston, TX 77208-1429
Capital Cost Estimates	\$604.72 Million (2008\$) \$680.60 Million (YOES\$)	\$744.09 Million (2008\$) \$822.91 Million (YOES\$, \$55.6 million in financing charges included)
Responsible Party for Capital Cost Estimates	Granite Construction Company 1900 Main, PO Box 61429, Houston, TX 77208-1429	Granite Construction Company 1900 Main, PO Box 61429, Houston, TX 77208-1429

3.1.7. University Corridor LRT, Houston, TX

METRO proposes to construct an LRT line from the Hillcroft Transit Center to the Eastwood Transit Center. The LRT line will operate in an exclusive guideway with limited mixed traffic operations. The majority of the LRT line will operate at-grade, although a small portion will be elevated to avoid Union Pacific Railroad's tracks (between the proposed Newcastle and

Wesleyan stations) and US 59 near the proposed Cummins Station. As of May 2010, the project is 11.4 miles long and includes the construction of 19 stations and 3,000 park and ride spaces and the purchase of 32 LRVs. Service will operate every six minutes during peak and off peak periods, including weekends, and will provide a transfer to the current METRO Rail Red Line for trips to downtown Houston and the Texas Medical Center.

Reporting Item	Information at Entry to PE
Date Approved by FTA	December 2009
Project Length	11.4 miles
Number of Stations	19 Stations
Number of Vehicles	32 Vehicles
Opening Year Ridership	32,100 Daily Riders (2014)
Forecast Year Ridership	49,000 Daily Riders (2030)
Responsible Party for Ridership Forecasts	HDR Inc. 1900 Main, PO Box 61429, Houston, TX 77208-1429
Capital Cost Estimates	\$1,304 (2008\$) \$1,496.94 Million (YOES, \$170.2 million in financing charges included)
Responsible Party for Capital Cost Estimates	Granite Construction Company 1900 Main, PO Box 61429, Houston, TX 77208-1429

3.1.8. Portland-Milwaukie LRT, Portland, OR

The Tri-County Metropolitan Transportation District of Oregon (TriMet) proposes to construct a double-track LRT extension of its existing Yellow Line from the downtown Portland transit mall to the city of Milwaukie. As of May 2010, the project is 7.3 miles long and includes a new multimodal bridge across the Willamette River (a 1.3-mile segment that will include joint operations for buses, LRVs, and streetcars), construction of ten new stations and two 1,000-space structured park-and-ride facilities, and the acquisition of 21 LRVs. The majority of the LRT extension will be at grade (5.5 miles) with 1.8 miles below grade along an existing Union Pacific Railroad right-of-way. TriMet will expand an existing maintenance facility to store and maintain the additional LRVs.

Reporting Item	Information at Entry to PE
Date Approved by FTA	March 2009
Project Length	7.3 Miles
Number of Stations	10 Stations
Number of Vehicles	21 Vehicles
Opening Year Ridership	22,000 Daily Riders (2016)
Forecast Year Ridership	27,400 Daily Riders (2030)
Responsible Party for Ridership Forecasts	Portland Metro—Developed Internally 600 Grand Avenue Portland, OR 97232
Capital Cost Estimates	\$1,235.6 Million (2008\$) \$1,471.7 Million Year of Expenditure (\$257.1 million in financing charges included)
Responsible Party for Capital Cost Estimates	TriMet—Developed Internally 710 NE Holladay Street Portland, OR 97232

3.1.9. Gold Line, Denver, CO

The Denver Regional Transportation District (RTD) is planning a commuter rail line using electric multiple unit (EMU) vehicles from downtown Denver westward to Ward Road in Wheat Ridge. As of May 2010, the project is 10.8 miles long and includes construction of seven new stations and 2,300 park-and-ride spaces and the purchase of 12 EMU vehicles. When completed, the Gold Line will provide a continuous commuter rail service, connecting the communities of Wheat Ridge, Arvada, and Adams to downtown Denver. Service will operate at 15-minute frequencies during peak and off-peak periods. The project is part of FTA's Penta-P.

After entry into PE, RTD collected transit rider survey data, recalibrated its travel forecasting model, and updated its ridership forecasts. In addition, the operating plan during the peak-period was changed from every 7.5 minutes to every 15 minutes, resulting in fewer vehicles needed for the project and lower average daily ridership numbers. In addition, the cost estimates of several items were reduced between PE and FD. The cost of electrification was shifted from the Gold Line to the Northwest Rail Corridor Project. The size of the commuter rail maintenance facility (CRMF) was reduced to accommodate the lesser number of vehicles. Unit cost estimates and escalation costs were also reduced to reflect the current economic climate.

Reporting Item	Information at Entry to PE	Information at Entry to FD
Date Approved by FTA	April 2009	April 2010
Project Length	10.8 Miles	10.8 Miles
Number of Stations	7 Stations	7 Stations
Number of Vehicles	22 Vehicles	12 Vehicles
Opening Year Ridership	13,000 Daily Riders (2015)	10,063 Daily Riders (2017)
Forecast Year Ridership	16,800 Daily Riders (2030)	14,000 Daily Riders (2030)
Responsible Party for Ridership Forecasts	DMJM Harris (formerly AECOM Consult) 3101 Wilson Blvd., 4 th Floor	DMJM Harris (formerly AECOM Consult) 3101 Wilson Blvd., 4 th Floor

Reporting Item	Information at Entry to PE	Information at Entry to FD
	Arlington, VA 22201	Arlington, VA 22201
Capital Cost Estimates	\$606.7 Million (2008\$) \$859.5 Million (Year of Expenditure\$ [YOE]) (\$19.2 million in financing charges included)	\$529.1 Million (2009\$) \$715.5 Million (\$YOE) (\$87.9 million in financing charges included)
Responsible Party for Capital Cost Estimates	CH2M-Hill 535 16th St., Suite 800 Denver, CO 80202	CH2M-Hill 535 16th St., Suite 800 Denver, CO 80202

3.1.10. East Corridor, Denver, CO

RTD is planning a commuter rail line using EMU vehicles from downtown Denver through the communities of Denver, Globerville/Swansea/Elyria, North Park Hill, Stapleton, Aurora/Fitzsimons, Montebello, and Gateway to Denver International Airport. As of May 2010, the project is 22.8 miles long and includes construction of six new stations and approximately 3,500 park-and-ride spaces and the purchase of 16 EMU vehicles. Service will operate at 15-minute frequencies during peak and off-peak periods. The project is part of FTA's Penta-P.

After entry into PE, RTD collected transit rider survey data, recalibrated its travel forecasting model, and updated its ridership forecasts, resulting in higher average daily ridership forecasts in both the opening and forecasts year. In addition, the cost estimates of several items were reduced between PE and FD. The size of the CRMF was reduced to accommodate current vehicle projection requirements. Unit cost estimates and escalation costs were also reduced to reflect the current economic climate.

Reporting Item	Information at Entry to PE	Information at Entry to FD
Date Approved by FTA	April 2009	April 2010
Project Length	22.8 Miles	22.8 Miles
Number of Stations	6 Stations	6 Stations
Number of Vehicles	30 Vehicles	16 Vehicles
Opening Year Ridership	22,900 Daily Riders (2015)	27,514 Daily Riders (2017)
Forecast Year Ridership	37,900 Daily Riders (2030)	43,400 Daily Riders (2030)
Responsible Party for Ridership Forecasts	DMJM Harris (formerly AECOM Consult) 3101 Wilson Blvd., 4 th Floor Arlington, VA 22201	DMJM Harris (formerly AECOM Consult) 3101 Wilson Blvd., 4 th Floor Arlington, VA 22201
Capital Cost Estimates	\$1,459.4 Million (2008\$) \$2,043.8 Million (YOE\$) (\$36.6 million in financing charges included)	\$1,402.8 Million (2009\$) \$1,765.0 Million (YOE\$) (\$46.1 million in financing charges included)
Responsible Party for Capital Cost Estimates	PBS&J 4601 DTC Blvd., Suite 700 Denver, CO 80237	P BS&J 4601 DTC Blvd., Suite 700 Denver, CO 80237

3.1.11. Northeast Corridor LRT, Charlotte, NC

The Charlotte Area Transit System (CATS) is proposing to construct an LRT line that will extend from Uptown Charlotte, the region's CBD, northeast to the US 29 interchange of Interstate 485 (I-485) near the University of North Carolina-Charlotte (UNCC). The inner segment of the proposed line follows active Norfolk Southern and North Carolina Railroad right-of-way, while the outer part follows US 29 before leaving the US 29 right-of-way to proceed through the campus of UNCC. The project will be an extension of the existing South Corridor LRT, which is the first major rapid transit project to be constructed in Charlotte.

As of May 2010, the Northeast Corridor LRT project is 10.6 miles long and includes construction of 13 stations and seven park-and-ride lots that will provide a total of 4,500 spaces, and the purchase of 26 railcars. Peak period light rail service along the Northeast Corridor is planned to operate at 7.5-minute headways in the forecast year.

After approval into PE, CATS collected transit rider survey data, recalibrated its forecasting model, and updated its ridership forecasts. The ridership projections increased substantially from 10,500 to 23,800 average daily riders in forecast year 2030. The estimated cost of the project increased due to design changes aimed to accommodate the higher ridership projections, including increasing the number of railcars, increasing the length of station platforms, adding a new parking garage, and adding several grade separations.

Reporting Item	Information at Entry to PE
Date Approved by FTA	November 2007
Project Length	10.6 Miles
Number of Stations	14 Stations
Number of Vehicles	12 Vehicles
Opening Year Ridership	8,100 Daily Riders (2012)
Forecast Year Ridership	10,500 Daily Riders (2030)
Responsible Party for Ridership Forecasts	DMJM Harris (formerly AECOM Consult) 3101 Wilson Blvd, 4th floor Arlington, VA 22201
Capital Cost Estimates	\$619.78 Million (2007\$) \$748.96 Million (YOES, no finance charges)
Responsible Party for Capital Cost Estimates	Parsons Corporation (Parsons Transportation Group) 4701 Hedgemore Drive Charlotte, NC 28209 (not retained under contract)

3.1.12. Mid-Jordan LRT, Salt Lake City, UT

The Mid-Jordan LRT, currently under construction, is a 10.6-mile double-track extension of the existing Utah Transit Authority (UTA) LRT Sandy/Salt Lake TRAX Line that will serve nine new stations. The project includes the purchase of 28 new LRVs and additional storage tracks at the Midvale Maintenance Facility. The project will interline with existing Sandy/Salt Lake

TRAX service to downtown Salt Lake City and terminate at the Intermodal Hub. Construction began on May 15, 2008. Revenue operations are scheduled to begin in December 2010.

Reporting Item	Information at Entry to PE	Information at Entry to FD	Information at Entry to FFGA
Date Approved by FTA	May 2007	April 2008	January 2009
Project Length	10.6 Miles	10.6 Miles	10.6 Miles
Number of Stations	9 Stations	9 Stations	9 Stations
Number of Vehicles	28 Vehicles	28 Vehicles	28 Vehicles
Opening Year Ridership	5,300 Average Daily Boardings (2010)	5,300 Average Daily Boardings (2010)	5,300 Average Daily Boardings (2010)
Forecast Year Ridership	9,500 Average Daily Boardings (2030)	9,500 Average Daily Boardings (2030)	9,500 Average Daily Boardings (2030)
Responsible Party for Ridership Forecasts	UTA—Developed Internally 3600 South 700 West P.O. Box 30810 Salt Lake City, UT 84130-0810	UTA—Developed Internally 3600 South 700 West P.O. Box 30810 Salt Lake City, UT 84130-0810	UTA—Developed Internally 3600 South 700 West P.O. Box 30810 Salt Lake City, UT 84130-0810
Capital Cost Estimates	\$452.71 Million (2006\$) \$521.82 Million (YOES) (\$.48.44 million in financing charges included)	\$477.64 Million (2007\$) \$535.37 Million (YOES) (\$46.00 million in financing charges included)	\$477.64 Million (2007\$) \$535.37 Million (YOES) (\$46.00 million in financing charges included)
Responsible Party for Capital Cost Estimates	Parsons Corporation 406 W. South Jordan Parkway S. Jordan, UT 84095	Parsons Corporation 406 W. South Jordan Parkway S. Jordan, UT 84095	Parsons Corporation 406 W. South Jordan Parkway S. Jordan, UT 84095

3.1.13. Access to the Region's Core, Northern New Jersey

The New Jersey Transit Corporation (NJT) is proposing to construct a new commuter rail line adjacent to the existing Northeast (Rail) Corridor (NEC) between Secaucus, New Jersey, and Manhattan. As of May 2010, the Trans Hudson Express Tunnel, also known as Access to the Region's Core (ARC), is 9.0 miles long and includes the construction of two new tunnels under the Hudson River; new rail tracks between Secaucus Junction and New York Penn Station (PSNY); a new rail station underneath 34th Street in midtown Manhattan (with pedestrian linkages to PSNY); a storage yard in Kearny, New Jersey; and the purchase of 10 specialized dual-powered rail locomotives and 100 bi-level coaches.

The project was awarded two Early Systems Work Agreements (ESWA) in August 2009 and April 2010 to obligate available budget authority specified in law and provide for reimbursement of preliminary costs of carrying out the project. The following activities are included in these ESWAs: Manhattan Tunnels contract, Tonnelles Avenue Underpass, Palisades Tunnels contract,

Amtrak Tower Relocation, Kearny Yard Earthwork, property acquisition, professional services, and contingency.

Project information has changed as the project development has evolved. Between PE and FD approval the cost increased from \$7.2 billion to \$8.7 billion, primarily as a result of recommendations made during FTA's risk assessment process during spring and summer 2008. FTA identified a range of risks, with the highest cost estimate corresponding to a low degree of risk mitigation and the lowest cost estimate corresponding to a high degree of risk mitigation. In September 2008, FTA and NJT agreed to a cost estimate of \$9.1 billion because NJT indicated it will undertake a high degree of risk mitigation.

The \$9.1 billion capital cost estimate was based on the following changes to the cost estimate developed for entry into PE:

- Revising the estimated rate of escalation through the project's construction period using an annual rate of 4.25 percent, versus the 3.0 rate initially assumed;
- Increasing the base construction cost by \$250 million for technical risk;
- Increasing the allocated contingency amounts to reflect a total project contingency of 22.6 percent compared to 17 percent initially assumed;
- Increasing the real estate acquisition cost estimates by approximately \$73 million; and
- Including an unallocated contingency of \$1.68 billion, with the inclusion of \$500 million for differing site conditions.

After agreement on the \$9.1 billion capital cost estimate, it was determined that the option on an existing railcar contract that NJT had hoped to use could not be used for the ARC project. The contract was not consistent with FTA procurement requirements since it exceeded a term of five years in length. The cost of the multilevel coaches under a new procurement was estimated to increase from \$447 million to \$836 million. As a result, the total project cost estimate for the ARC project was changed from \$9.1 billion to \$9.23 billion.

The NJT then decided the project scope that would ultimately be covered by an FFGA would include only the vehicles needed for the 2017 opening year service plan (100 multilevel coaches and 10 dual power locomotives) rather than the full number of vehicles needed for the 2030 forecast year service plan (an additional 74 coaches and 12 dual power locomotives). Thus, the capital cost of the project was revised downward from \$9.23 billion to \$8.7 billion, reflecting the lower number of vehicles. NJT is planning on purchasing the required rolling stock for the ARC project well before the 2017 opening year. Therefore, a straight line depreciation method was assumed to calculate the value of the vehicles for purposes of estimating the capital cost, after accounting for the time the vehicles will be used in non-ARC service.

Ridership estimates changed between entry into PE and entry into FD to reflect revised population and employment forecasts for the New Jersey portion of the region, special events, and automobile operating costs to reflect more current gasoline prices.

Reporting Item	Information at Entry to PE	Information at Entry to FD
Date Approved by FTA	August 2006	January 2009
Project Length	9.3 Miles	9.0 Miles
Number of Stations	2 Stations	2 Stations
Number of Vehicles	20 Locomotives 200 Bilevel Coaches	10 Locomotives 100 Bilevel Coaches
Opening Year	230,300 Daily Riders (2015)	203,100 Daily Riders (2017)
Ridership Forecast Year	268,400 Daily Riders (2030)	254,200 Daily Riders (2030)
Responsible Party for Ridership Forecasts	NJT—Developed Internally One Penn Plaza East Newark, NJ 07105	NJT—Developed Internally One Penn Plaza East Newark, NJ 07105
Ridership Forecasting Consulting Support	AECOM Consult 3101 Wilson Blvd, 4th floor Arlington, VA 22031	DMJM Harris (formerly AECOM Consult) 3101 Wilson Blvd, 4th floor Arlington, VA 22031
Capital Cost Estimates	\$6.1095 billion (2005\$) \$7.176 billion (YOES) (no finance charges)	\$7.329 billion (2008\$) \$8.700 billion (YOES) (no finance charges)
Responsible Party for Capital Cost Estimates	Transit Link Consultants (joint venture of Parsons Brinckerhoff and SYSTRA Consulting) 2 Gateway Center #18 Newark, NJ 07102	THE Partnership (joint venture of PB Americas, STV, and DMJM Harris) 2 Gateway, 17th Floor Newark, NJ 07102

3.1.14. Central Corridor LRT, St. Paul-Minneapolis, MN

The Metropolitan Council (Met Council), in cooperation with the Ramsey and Hennepin Counties Regional Rail Authorities (RCRRA and HCRRA), is proposing a double-tracked LRT line that will connect the downtowns of St. Paul and Minneapolis while serving a number of other significant activity centers, such as the University of Minnesota, the State Capitol, and major event venues including the Target Center and the Metrodome. As of May 2010, the project is 10.9 miles long and includes construction of 18 stations and purchase of 31 LRVs. At this time, no park-and-ride facilities are planned to be built. The project will operate at 7.5-minute peak period headways in the forecast year.

During 2008, local officials analyzed several scope changes, including an option to replace the tunnel portion and one below-grade LRT station, of the alignment near the University of Minnesota's East Bank campus, with an at-grade option. In August 2008, the Met Council adopted a modified locally preferred alternative that replaced the tunnel portion of the alignment on Washington Avenue at the University of Minnesota with an at-grade LRT route, including a pedestrian / transit mall at the University. At that time, the project's scope was revised to include only 15 proposed stations (a decrease of one station to reflect the alignment change at the University of Minnesota). In August 2009, the budget rose to \$941.3 million due to the additional cost for vibration and electric-magnetic interference mitigation at the University of

Minnesota; façade improvements to the planned operations and maintenance facility; and right-of-way acquisition. In January 2010, the total budget rose to \$956.9 million due to the addition of three new stations to the project's scope, which also increased the transit travel times along the corridor. As a result, the average daily ridership forecasts decreased slightly in both the opening and forecast years.

Reporting Item	Information at Entry to PE	Information at Entry to FD
Date Approved by FTA	December 2006	May 2010
Project Length	11 Miles	11 Miles
Number of Stations	16 Stations	18 Stations
Number of Vehicles	31 Vehicles	31 Vehicles
Opening Year Ridership	34,300 Daily Riders (2014)	32,390 Daily Riders (2014)
Forecast Year Ridership	43,300 Daily Riders (2030)	40,940 Daily Riders (2030)
Responsible Party for Ridership Forecasts	DMJM Harris (formerly AECOM Consult) 3101 Wilson Blvd, 4th floor Arlington, VA 22031	DMJM Harris (formerly AECOM Consult) 3101 Wilson Blvd, 4th floor Arlington, VA 22031
Capital Cost Estimates	\$817.7 Million (2006\$) \$932.2 Million (YOES, no finance charges)	\$890.50 Million (2009\$) \$956.90 Million (YOES, \$19.84 million in financing charges included)
Responsible Party for Capital Cost Estimates	URS Corporation Thresher House 700 Third Street South Minneapolis, MN 55415-1199	AECOM 540 Fairview Avenue N, #200 St. Paul, MN 55104

3.1.15. Central Florida Commuter Rail Transit , Orlando, FL

The Florida Department of Transportation (FDOT) is proposing to construct a new commuter rail system along the existing CSX "A" line Corridor from Volusia County, through Lake County and Seminole County, to Orange County and downtown Orlando. Central Florida Commuter Rail Transit will operate entirely at-grade, sharing track with existing freight and Amtrak services. As of May 2010, the project is 32 miles long and includes the construction of 12 stations and approximately 2,100 parking spaces and the purchase of 10 vehicles. In the opening year, service will operate every 30 minutes in the peak period and every 120 minutes during the off-peak, with no weekend service. By the forecast year of 2030, service will operate every 15 minutes in the peak period and every 30 minutes during the off-peak, with service every 60 minutes in the evenings and weekends.

The project originally entered PE as a 54-mile project including construction of 15 stations, 4,100 park and ride spaces, and a vehicle and maintenance storage facility, and the purchase of 34 vehicles. During PE, FDOT decided to pursue entry into final design for only an initial operating segment which is the current project described above. Due to the change in project scope, ridership estimates were revised. After entry into FD, the proposed vehicle type changed from low-floor, FRA-compliant Diesel Multiple Unit (DMU) vehicles to traditional push-pull

commuter rail vehicles because the selected vendor for the DMUs ceased production. In addition, the footprint of several stations locations changed slightly.

Reporting Item	Information at Entry to PE	Information at Entry to FD
Date Approved by FTA	March 2007	August 2008
Project Length	54 Miles	32 Miles
Number of Stations	15 Stations	12 Stations
Number of Vehicles	34 Vehicles	10 Vehicles
Opening Year Ridership	6,580 ³ Daily Riders (2009)	4,300 Daily Riders (2012)
Forecast Year Ridership	10,676 Daily Riders (2030)	7,400 Daily Riders (2030)
Responsible Party for Ridership Forecasts	AECOM Consult 3101 Wilson Blvd, 4th floor Arlington, VA 22031	DMJM Harris (AECOM Consult) 3101 Wilson Blvd, 4th floor Arlington, VA 22031
Capital Cost Estimates	\$542.4 Million (2006\$) \$602.1 Million (YOES, \$0.69 million in financing charges included)	\$335.4 Million (2008\$) \$357.2 Million (YOES, \$0.90 million in financing charges included)
Responsible Party for Capital Cost Estimates	Earthtech 30 Keller Road, Suite 500 Orlando, FL 32810	Earthtech 30 Keller Road, Suite 500 Orlando, FL 32810

3.2 Small Starts Projects

Small Starts projects are a subcategory of New Starts projects that have a total capital cost less than \$250 million and a Small Starts funding share of \$75 million or less. Small Starts have only a single project development phase and will only be covered in this report at three points: entry into project development, when a PCGA is executed, and two years after the start of revenue service. Very Small Starts will not be covered in this report because these projects are justified based on existing ridership rather than forecasts and the costs of these projects include mostly “off-the-shelf” components whose costs are largely known.

The 2010 *CPAR* does not include any new Small Starts projects. One Small Starts project included in the 2009 *CPAR* as being in PD, the Streetcar Loop, Portland, OR, was awarded a PCGA. The Pioneer Parkway EmX BRT in Springfield, OR remains in PCGA with revenue operations scheduled for December 2010.

The remaining seven Small Starts projects included in the 2009 *CPAR* (Eastbay BRT in Oakland; Nostrand Avenue BRT in New York; E Street Corridor sBX BRT in San Bernardino; Mason Corridor BRT in Fort Collins; Fitchburg CR Improvements in Fitchburg; Van Ness Avenue BRT in San Francisco; and Perris Valley CR in Riverside) have not yet been awarded a PCGA, so their information remains unchanged. Table 2 includes a list of all of the Small Starts projects included in this *CPAR*.

³ The original opening year ridership forecast (3,619) for the Orlando Commuter Rail project was factored down by 55 percent to account for the effect of lower population and employment in the opening year. This external reduction was contrary to FTA policy and the factor was subsequently removed to derive the opening year forecast for the Orlando project.

Table 2: Small Starts Projects

State	Project	2007 CPAR	2008 CPAR	2009 CPAR	2010 CPAR
CA	Eastbay BRT, Oakland			PD	PD
NY	Nostrand Ave BRT, New York			PD	PD
CA	E Street Corridor sBX BRT, San Bernardino			PD	PD
CO	Mason Corridor BRT, Fort Collins		PD	PD	PD
MA	Fitchburg CR Improvements, Fitchburg		PD	PD	PD
CA	Van Ness Avenue BRT, San Francisco		PD	PD	PD
CA	Perris Valley CR, Riverside		PD	PD	PD
OR	Pioneer Parkway EmX BRT, Springfield	PD	PD	PCGA	PCGA
OR	Streetcar Loop Project, Portland	PD	PD	PD	PCGA

3.2.1. East Bay BRT, Oakland, CA

The Alameda-Contra Costa Transit District (AC Transit) is planning the East Bay BRT line from Downtown Berkeley, through Downtown Oakland, to San Leandro, terminating at the San Leandro BART station on the southern end of the alignment. As of May 2010, the project is 16.9 miles long and includes 49 new stations. The project's operating plan requires 31 new buses, all of which are being procured outside of the scope of the project. When completed, the East Bay BRT will provide a continuous 16.9-mile BRT system connecting the heavily transit-dependent communities of Berkeley, Oakland, and San Leandro. Service will operate with 6-minute headways during peak periods and 10-minute headways during off-peak periods.

Reporting Item	Information at Entry to PD
Date Approved by FTA	December 2008
Project Length	16.9 Miles
Number of Stations	49 Stations
Number of Vehicles	31 Buses procured outside of BRT Project.
Opening Year Ridership	42,600 Daily Riders (2016)
Responsible Party for Ridership Forecasts	Dowling Associates, Inc. 180 Grand Avenue, Suite 250, Oakland, CA 94612
Capital Cost Estimates	\$199.0 Million (2008\$) \$234.6 Million (YOES\$, no finance charges)
Responsible Party for Capital Cost Estimates	Parsons Transportation Group 50 Fremont Street, Suite 1500 San Francisco, CA 94105

3.2.2. Nostrand Avenue BRT, New York, NY

The New York City Department of Transportation (NYCDOT), in cooperation with the Metropolitan Transportation Authority—New York City Transit (MTA-NYCT), is proposing to construct the Nostrand Avenue BRT line from Sheepshead Bay to the Williamsburg Bridge in Brooklyn. As of May 2010, the project is 9.3 miles long and includes construction of 15 BRT

stations and 4.6 miles of exclusive, solid red painted BRT lanes along Nostrand, Rogers, and Bedford Avenues, which are one-way streets. The project involves the use of 50 low-floor, low-emission, hybrid-electric, articulated and specially branded buses to be operated by MTA-NYCT; transit signal priority; off-vehicle fare collection; and construction of bus lane “bulbs” allowing the stations to extend into the curb lane so buses do not have to pull to the curb. However, the 50 buses required have been removed from the project scope and will be acquired outside the project budget as part of a broader, MTC-NYCT agency-wide procurement. In addition, the station design refinement has resulted in a \$10 million cost increase. Service will operate from 5:30 AM to 10:00 PM on weekdays, with 3-minute headways during peak periods and 7-minute headways during off-peak periods.

Reporting Item	Information at Entry to PD
Date Approved by FTA	February 2009
Project Length	9.3 Miles
Number of Stations	15 Stations (per direction)
Number of Vehicles	50 Buses procured outside of BRT Project
Opening Year Ridership	17,000 Daily Riders (2011)
Responsible Party for Ridership Forecasts	NYC Transit—Developed Internally 2 Broadway, New York, NY 10004
Capital Cost Estimates	\$81.7 Million (2008\$) \$88.3 Million (YOES, \$4.1 million in financing charges included)
Responsible Party for Capital Cost Estimates	NYC Department of Transportation—Developed Internally 40 Worth Street, New York, NY 10013

3.2.3. E Street Corridor sBX BRT, San Bernardino, California

Omnitrans, the transit provider in San Bernardino County, is proposing to construct a BRT line along E Street in San Bernardino. The proposed BRT project will provide a dedicated bus travel lane through the majority of the corridor from north of California State University at San Bernardino, generally following Kendall Drive south to E Street, through downtown San Bernardino, the city of Loma Linda, and through the Loma Linda University Medical Center to the VA Hospital, where the project will terminate. As a result of public comment during the NEPA process, as of May 2010, the project is 15.7 miles long and includes 16 new stations, improvements to E Street to accommodate exclusive BRT operations, and 14 new low-floor buses. Service will operate at 10-minute headways during weekday peak periods and 15-minute off-peak headways in the opening year of 2011.

Reporting Item	Information at Entry to PD
Date Approved by FTA	December 2007
Project Length	16.5 Miles
Number of Stations	17 Stations
Number of Vehicles	14 Low-Floor Buses
First Year of Construction	2008
Responsible Party for Ridership Forecasts	Parsons Transportation Group 100 West Walnut Street Pasadena, California, 91124
Capital Cost Estimates	\$134.7 Million (2006\$) \$163.4 Million (YOES, no finance charges)
Responsible Party for Capital Cost Estimates	Parsons Transportation Group 100 West Walnut Street, Pasadena, California, 91124

3.2.4. Mason Corridor BRT, Fort Collins, CO

The City of Fort Collins, Colorado, is proposing to construct a BRT system from downtown Fort Collins to Harmony Road. The “Mason Express” or “MAX” right-of-way is parallel to, and a few hundred feet west of, College Avenue (US 287), the city’s primary north-south arterial, and adjacent to Burlington Northern Santa Fe railway tracks, which currently accommodate six to eight freight trains per day. As of May 2010, the MAX BRT is 5.0 miles long and will operate at-grade in mixed traffic from the existing North Transit Center to the northern edge of Colorado State University and continue in a 3.8-mile exclusive right-of-way to the proposed South Transit Center. Service will operate at 10-minute peak frequencies in the opening year. The project scope includes construction of 10 stations (including two transit centers), eight enhanced bus stops, traffic signal priority in general purpose lanes, a bus guideway facility, 250 park-and-ride spaces, unique MAX project branding, enhancements to the existing maintenance facility, and five new low-floor vehicles.

Reporting Item	Information at Entry to PD
Date Approved by FTA	November 2007
Project Length	5.0 Miles
Number of Stations	10 Stations (including two transit centers) and 8 on-street stops
Number of Vehicles	5 Buses
Opening Year Ridership	3,900 Daily Riders (2010)
Responsible Party for Ridership Forecasts	City of Fort Collins—Developed Internally 250 N. Mason Street, Fort Collins, CO 80524
Capital Cost Estimates	\$69.4 Million (2007\$) \$74.2 Million (YOES, no finance charges)
Responsible Party for Capital Cost Estimates	Felsburg Holt & Ullevig 6300 South Syracuse Way, Suite 600 Centennial, CO 80111

3.2.5. Fitchburg CR Improvements, Fitchburg, MA

The Massachusetts Regional Transit Authority of the Fitchburg/Leominster, Massachusetts, metropolitan area, in conjunction with the Massachusetts Bay Transportation Authority (MBTA), proposes to modernize an existing commuter rail line to provide improved service and reliability for riders at 18 urban and suburban stations over a 49.5-mile corridor extending from Fitchburg to Boston's North Station. As of May 2010, the improvements to the Fitchburg Line include: (a) installation of approximately 8.5 miles of double track from Ayer to South Acton, and through Waltham Station, resulting in double track operations throughout the line; (b) upgrade of horizontal and vertical track alignment to achieve a maximum 80-mile-per-hour operation compared with the current 60-mile-per-hour maximum speed; (c) construction of three stations with high-level platforms to replace three mini-high platforms displaced by double tracking; (d) replacement of an outdated wayside signal control system with cab signal control; (e) improvement of four highway grade crossings; (f) installation of fiber-optic cable along the route; (g) installation of additional storage track at the Willows Freight Rail Yard to permit higher operating speed in the vicinity of the yard; and (h) other minor improvements.

Reporting Item	Information at Entry to PD
Date Approved by FTA	December 2007
Project Length	49.5 Miles Upgraded
Number of Stations	3 Stations Constructed
Number of Vehicles	None
Opening Year Ridership	10,800 Daily Riders (2012)
Responsible Party for Ridership Forecasts	Central Transportation Planning Staff (based on existing ridership and developed internally) Ten Park Plaza, Suite 2150, Boston, MA 02116
Capital Cost Estimates	\$135.1 Million (2007\$) \$150.0 Million (YOES, 0.2 million in financing charges included)
Responsible Party for Capital Cost Estimates	McMahon Associates, Inc. 180 Canal Street, Suite 500, Boston, MA 02114

3.2.6. Van Ness Avenue BRT, San Francisco, CA

The San Francisco County Transportation Authority (SFCTA) proposes to implement an exclusive guideway BRT on Van Ness Avenue. The system will be operated by the San Francisco Municipal Transportation Agency (SFMTA). The dedicated transit lane originates at the intersection of Van Ness Avenue and Mission Street and extends north to Union Street near Fort Mason and the Fisherman's Wharf area. As of May 2010, the project is two miles long and includes traffic signal pre-emption, pedestrian crossings, and construction of 11 stations. The project's operating plan requires 35 new vehicles, all of which are being procured outside of the scope of the proposed Small Starts project. Service will operate at five-minute headways during weekday peak periods in the opening year of 2011.

Reporting Item	Information at Entry to PD
Date Approved by FTA	December 2007
Project Length	2 Miles
Number of Stations	11 Stations
Number of Vehicles	35 Buses Procured Outside of BRT Project
First Year of Construction	2010
Responsible Party for Ridership Forecasts	SFCTA—Developed Internally 100 Van Ness Avenue, 26th Floor San Francisco, CA 94102
Capital Cost Estimates	\$74.1 Million (2007\$) \$87.6 Million (YOES, \$9 million in financing charges included)
Responsible Party for Capital Cost Estimates	ARUP 901 Market Street Suite 260 San Francisco, CA 94103

3.2.7. Perris Valley CR, Riverside, CA

The Riverside County Transportation Commission (RCTC), in conjunction with the Southern California Regional Rail Authority, proposes to construct an extension to the Metrolink regional commuter rail system. The Perris Valley Line project will result in an extension of the existing Route 91 commuter rail line between Los Angeles and Downtown Riverside southeast in an alignment parallel to the Ramona Expressway (I-215), serving the communities of Alessandro, Moreno Valley, and Perris, terminating at South Perris. As of May 2010, the project is 24.4 miles long and includes four new stations and park-and-ride lots to accommodate 1,810 vehicles, as well as the acquisition of three bi-level coaches. The proposed project will operate with 30-minute headways during the morning and evening peak period, as well as a single mid-day train, in the anticipated opening year of 2012.

The capital cost of the project has increased from \$168.88 million to \$232.69 million after entry into PD. RCTC made several changes to the project as a result of public comments and agency coordination during the environmental review process including removing two stations and shortening the alignment. In addition, the cost estimate was updated to reflect a higher level of engineering, more defined project scope, and additional safety elements required by the Southern California Regional Rail Authority.

Reporting Item	Information at Entry to PD
Date Approved by FTA	December 2007
Project Length	22.7 Miles
Number of Stations	6 Stations
Number of Vehicles	3 Bilevel Coaches
Opening Year Ridership	3,400 Daily Riders (2011)
Responsible Party for Ridership Forecasts	Parsons Brinckerhoff 303 Second Street, Suite 700N San Francisco, CA 94107
Capital Cost Estimates	\$156.4 Million (2007\$) \$168.3 Million (YOES\$, no finance charges)
Responsible Party for Capital Cost Estimates	STV Incorporated 1055 W Seventh St, Suite 3150 Los Angeles, CA 90017

3.2.8. Pioneer Parkway EmX BRT, Springfield, OR

The Lane Transit District (LTD) proposes to extend the Franklin corridor BRT “Green Line” currently operating in Eugene, Oregon. The proposed Pioneer Parkway EmX BRT will extend service from the eastern terminus of the Franklin corridor route north along the Pioneer Parkway to existing and new residential and employment areas in Springfield. As of May 2010, the 7.8-mile extension includes 14 new stations, traffic signal priority, and the purchase of five low-floor, branded, hybrid-electric vehicles. The proposed service will operate at-grade with 10-minute headways during weekday peak-and off-peak periods in the opening year.

The project’s capital cost estimate increased from 2007 to 2008 because of inflation, the addition of a bus, increased contingency, and additional costs for right-of-way and traffic signal pre-emption. Revenue operations are scheduled to begin in November 2010.

Reporting Item	Information at Entry to PD	Information at PCGA
Date Approved by FTA	November 2006	December 2008
Project Length	7.8 Miles	7.8 Miles
Number of Stations	14 Stations	14 Stations
Number of Vehicles	4 Buses	5 Buses
Opening Year Ridership	3,700 Daily Riders (2010)	3,700 Daily Riders (2010)
Responsible Party for Ridership Forecasts	Ms. Jennifer John (private consultant) 7694 SW Barnard Dr Beaverton, OR 97007	Ms. Jennifer John John Parker Consulting, LLC 6950 SW Hampton Street Suite 318, Tigard, OR 97223
Capital Cost Estimates	\$33.4 Million (2005\$) \$37.0 Million (YOES\$, no finance charges)	\$40.1 Million (2007\$) \$41.3 Million (YOES\$, no finance charges)
Responsible Party for Capital Cost Estimates	Parsons Brinckerhoff 400 SW Sixth Ave., Suite 802 Portland, OR 97204	Parsons Brinckerhoff 400 SW Sixth Ave., Suite 802 Portland, OR 97204

3.2.9. Streetcar Loop Project, Portland, OR

The Tri-County Metropolitan Transportation District of Oregon (TriMet) proposes to construct the Portland Streetcar Loop Project (the Loop) in Portland, Oregon, an extension of the existing Portland Streetcar line. The project will originate at the existing streetcar station at 10th Street and Lovejoy in the Pearl District northwest of downtown Portland, east across the Willamette River to the City's Lloyd District, and then south along Martin Luther King (MLK) Jr. Boulevard and Grand Avenue, terminating near the Oregon Museum of Science and Industry (OMSI). As of May 2010, the project is 3.3 miles long and includes purchase of seven new streetcars, and will serve 28 station stops. Later, as a separate project, the Loop will be completed via a new bridge at the south end, allowing continuous connections around the entire loop.

The project's capital cost estimate increased from 2007 to 2009 mainly because of inflation. The year of expenditure cost estimate changed as the design progressed and a more realistic scope was determined. The number of vehicles changed from PD to the PCGA because the bridge over the Willamette River will not be completed until 2014, which is after the beginning of revenue operations. Revenue operations are scheduled to begin in April 2012.

Reporting Item	Information at Entry to PD	Information at PCGA
Date Approved by FTA	April 2007	October 2009
Project Length	3.3 Miles	3.3 Miles
Number of Stations	28 Stations	28 Station Stops
Number of Vehicles	9 Modern Streetcars	7 Modern Streetcars
Opening Year Ridership	8,700 Daily Riders (2011)	8,700 Daily Riders (2012)
Responsible Party for Ridership Forecasts	TriMet—Developed Internally 4012 SE 17th Ave. Portland, OR 97202	TriMet—Developed Internally 4012 SE 17th Ave. Portland, OR 97202
Capital Cost Estimates	\$113.7 Million (2007\$) \$126.9 Million (YOES) (\$5 million in financing charges included)	\$124.2 Million (2008\$) \$128.3 Million (YOES, \$1.85 million in financing charges included)
Responsible Party for Capital Cost Estimates	URS Corporation 111 SW Columbia, Suite 1400 Portland, OR 97201-5814	URS Corporation 111 SW Columbia, Suite 1400 Portland, OR 97201-5814