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Agenda

Grantee: City of Tucson
Project: Tucson Modern Streetcar Project
Subject: Quarterly Review Meeting No. 7
Date: September 27, 8:30AM – 12:30PM
Location: The Riverpark Inn
350 South Freeway
Tucson, AZ 85745

Participants: Federal Transit Administration (FTA)
City of Tucson (COT)
Regional Transportation Authority (RTA)
Arizona State DOT (ADOT)
Project Management Oversight Contractor (PMOC), Atkins
Program Management Consultant (PMC), HDR Inc.
University of Arizona

The call in number is: 866-994-6437
Passcode: 79113985

8:30 AM Introductions
Opening Remarks
- FTA
- City of Tucson
- RTA

9:15 AM Project Status
- Project Organization Update
- TIGER Grant Policies and Procedures
  - ARRA Reporting
  - Grant Agreement with Performance Measures
- Scope
  - Breakdown of Contract Packages for Construction
- Schedule Review
  - Updated Schedule Baseline Reflecting Updated Contract Packaging and Schedule Logic
  - Critical Path Elements
○ Cost Estimate Review
  o Basis of Estimate
  o Results
○ Vehicle Equivalent Facilitation
○ Procurement Update
  o Special Trackwork Status
  o TPSS Equipment Status
  o Construction Package for Line Segment
  o Construction Package for MSF
  o CM/CA Consultant
○ Design Update
  o Line Segments
  o MSF
  o Station Stops
  o Systems and Interface Coordination
  o Constructability Reviews
  o Vehicles
  o Art
○ Documents Update
  o PMP and Sub Plans
  o Resident Engineer’s Manual
  o Project Controls Manual and Progress Reporting
  o Real Estate Acquisition and Management Plan (RAMP)
○ Safety and Security
  o State Rail Safety Standards
  o Safety and Security Management Plan (SSMP) Implementation
  o Safety and Security Certification Plan (SSCP) Implementation
  o PHA and TVA Status
  o Safety and Security Activity Schedule Implementation
○ Third Party Coordination/Agreements
○ QA/QC Program Plan and Implementation
  o Status of Line Segment Plans/Specs QC oversight review
  o Status of COT/PMC quality action schedule
  o Status of corrective action reports
○ Public Involvement

10:45 AM Previous Action Items & New Action Items

11:00 AM Tour of Cushing Street Bridge construction (next door to meeting location)

11:00 AM Lunch will be served

12:30 PM Tour of Alignment (OST & project members)
ARRA 1512 & 1201.C Reporting:

➢ The City of Tucson has been reporting and submitted the following reports
  ● 1512 report submitted April 11, 2011
  ● 1512 report submitted July 13, 2011
  ● The City of Tucson is currently revising all contracts to have ARRA reporting requirements

Grant Agreement with Performance Measures:

➢ The TIGER Grant Agreement requires the City of Tucson (COT) to report on specific performance measures before and after the start of revenue service. To report the “before revenue service” reporting, the TMS team will prepare a draft and final data collection methodology report, obtain FTA concurrence with the methodology, coordinate with SunTran on the most effective way to obtain the required data, collect data as required, and prepare a draft and final report for COT to submit to FTA. The “after” data collection is to occur two years after the start of revenue service. The team will follow the same methodology to collect future data and utilize that data in preparing the “after revenue service” report. The following are tentative dates the team is working toward.
  ● Before Revenue Service Methodology Report anticipated delivery September 1, 2012
  ● Field Data collection and budget adjustment anticipated delivery October 31, 2012

Monthly Project Progress Report

➢ Team submits monthly reporting
Environmental Mitigation

Status Report:

➢ Use well designed flange bearing frogs for the crossover on University Boulevard near 4th Avenue.
  ● Flange bearing frogs have been specified for all diamond crossings and turnouts.

Next Steps:

➢ Complete outstanding mitigation measures for Final Design
  ● Use a resilient layer under the track to reduce vibration levels to below the impact threshold should the detailed vibration analysis during design show that vibration mitigation is needed.
    ▪ No vibration sensitive areas were identified beyond the issues identified by NOAO. Specific mitigation has been identified that does not include design modification.
  ● Discuss with Hitachi how much “guard banding” has been used for the existing Hitachi S4500FE-SEM electron microscope.
    ▪ Confirm with University of Arizona.

● The FTA, City of Tucson, and SHPO have executed a MOA to continue the Section 106 consultation process during final design.
  ▪ Confirm with City of Tucson and SHPO.

● The City of Tucson shall design, construct, operate and maintain the modern streetcar in accordance with the information contained in the letter to NOAO dated December 20, 2010.

  ▪ Additional vibration sensitive areas were identified at NOAO facilities adjacent to the revised Streetcar Alignment along Second Street and Warren Avenue. The City of Tucson conducted a follow up study completed February 28, 2011. Based on study findings the City of Tucson and NOAO mutually agree that the joint purchase of a vibration insensitive interferometer that will allow sensitive optical tests to be conducted while the streetcar is in operation, would be the best mitigation. The City and NOAO are currently working toward an agreement.
Scope Review

Construction Packages

➢ Package A
  ● Early Water Relocation (Plan No: N-2009-001E)

➢ Package B
  ● Cushing Street and Bridge (Plan No: I-2005-0066)

➢ Package C
  ● Line Segments
    ▪ Sub-Package 1: Line Segment 1 (Plan No: N-2009-001)
    ▪ Sub-Package 2: Line Segment 2 (Plan No: N-2009-001B)
    ▪ Sub-Package 3: Line Segment 3
      o Sub-Package i: Line Segment 3 (Plan No: N-2009-001C)
      o Sub-Package II: MSF Site Civil (Plan No: N-2009-001F)
    ▪ Sub-Package 4: Line Segment 4 (Plan No: N-2009-001D)
    ▪ Sub-Package 5: Station Stops (Plan No: N-2009-001H)
    ▪ Sub-Package 6: Systems Installation (Plan No: N-2009-001G)

➢ Package D
  ● Maintenance and Storage Facility (MSF) (Plan No: C-I0-002)

Material Acquisition Packages

➢ Package E
  ● Traction Power Substations and Equipment (TPSS)

➢ Package F
  ● Streetcar Vehicle

➢ Package G
  ● Rail [REMOVED]

➢ Package H
  ● Special Trackwork Rail

CNPA
CONSTRUCTION PACKAGES

- Combination of line segments into one package
- Early water line
- Maintenance facility/storage yard track/8th Street culvert
Master Program Schedule
Update Status

Status Report:

➢ Monthly Updates
• June 2011
  ▪ Status: Submitted
• July 2011
  ▪ Status: Submitted
• August 2011
  ▪ Status: Submitted

➢ Baseline Revision
• Modification of civil construction sequencing to reflect modified contracting approach for a single contract
• Modification of rail procurement to be performed by contractor
• Consideration of interface complexities with systems contractor
• Incorporation of Safety & Security and Parcel Acquisitions activities in sequence to specific construction activities
• Incorporation of proposed work zones sequencing by civil line segment designer
• Evaluation of construction strategies for planned test track availability and interfaces with adjacent projects (e.g. 8th Street Drainage, Cushing Street Bridge, Downtown Links, etc.)
• Incorporation of contracted special track and TPSS manufacturers’ schedules
• Incorporation of proposed testing period before revenue service

• Status: Submittal to PMOC for review and comment made on August 01, 2011

Next Steps:

➢ Monthly Updates
• August 2011
  ▪ Submit update using existing baseline for reporting
    • Anticipated Completion: September 23, 2011
  ▪ Resubmit update using revised baseline
    • Anticipated Completion: September 23, 2011

➢ Baseline Revision
• Complete necessary modifications and submit with progress reflected through September 2011
  • Anticipated Completion: September 23, 2011 (full comment resolution and incorporation of August 2011 progress)
Major Project Milestone Targets

☑ Approval to Enter into Final Design                  September 24, 2009
☑ FTA/PMOC Approves Entry into Final Design           September 30, 2009
☑ COT Issues Notice of Award to OIW for Vehicle Manufacture  June 4, 2010
☑ COT Receives ACE 404 Permit                          November 14, 2010
☑ Tiger Grant Awarded                                  December 27, 2010
☑ FTA Signs Revised FONSI                              January 25, 2011
☑ COT Issues TPSS Contract IFB                        February 1, 2011
☑ COT Issues Special Trackwork RFP                    February 11, 2011
☑ COT Special Trackwork Award                         June 15, 2011
☑ COT Issues NTP for TPSS Manufacture                 June 26, 2011
☐ Car #1 Arrives in COT                                October 22, 2012
☐ Car #7 Arrives in COT                                September 29, 2013
☐ Integrated Testing                                  March 29, 2013
☐ Revenue Service Simulation                          July 5, 2013
☐ Revenue Operations Date                             October 25, 2013
Major Design Milestone Targets

☑ LTK Submits 90% Cost Estimate
   December 16, 2010

☑ URS Submits 90% Design LS #3
   December 20, 2010

☑ LTK Submits 100% TPSS Specs and Plans
   January 3, 2011

☑ URS Submits 90% Cost Estimate LS #3
   January 4, 2011

☑ URS Submits 90% Cost Estimate MSF
   January 4, 2011

☑ URS Completes Special Trackwork Drawings
   January 10, 2011

☑ URS Submits 90% Design LS #2
   January 14, 2011

☑ MSF Track, Utility Layouts and Rough Grading Finalized
   January 14, 2011

☑ URS Submits 90% Cost Estimate LS #2
   February 2, 2011

☑ Systems LTK Submit 90% Plans
   February 4, 2011

☑ MSF - GLHN Submit DD Architecture Documents
   February 24, 2011

☑ URS Submits 90% Design LS #4
   February 15, 2011

☑ URS Submits 90% Cost Estimate LS #4
   March 4, 2011

☑ URS Submits 90% Design LS #1
   March 11, 2011

☑ URS Submits 100% Cost Estimate LS #3
   March 25, 2011

☑ URS Submits 100% Design MSF Water/Track/Sewer
   March 28, 2011

☑ URS Submits 100% Design LS#2
   March 29, 2011

☑ URS Submits 100% Design LS #3
   March 29, 2011
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<td>LTK Submits OCS Line Segment Layouts</td>
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Major Construction Milestone Targets

☑ Early Water Line Relocation Issue NTP  January 14, 2011
☑ Early Water Line Relocation Construction Begins  February 7, 2011
☑ Early Water Line Relocation Complete  May 16, 2011
☑ Cushing Street Bridge NTP  June 20, 2011
☑ 8th Street Drainage NOI  August 31, 2011
☐ Line Segment Civil Construction IFB  October 9, 2011
☐ Maintenance Storage Facility Issues IFB  November 21, 2011
☐ Line Segment Civil Construction NTP  December 15, 2011
☐ Maintenance Storage Facility Issues NTP  January 15, 2012
☐ Cushing Street Bridge Complete  April 3, 2012
☐ Systems – MSF Install and Testing  May 9, 2012
☐ Systems – Line Segment Install and Testing  August 6, 2012

Project Critical Path

The Critical Path to Project Completion and Revenue Operations date is dependant on vehicle deliveries followed by site acceptance and integrated testing, which is forecasted for late 2013. The critical path also runs through Streetcar Vehicle Testing which includes the completion of construction for Line Segment 3 to be used as a test track and the design of Line Segment Civil Construction also rests on the path as critical activities to the Tucson Streetcar project success.
### City of Tucson Procurement

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### Right of Way Acquisition

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### Project Management Consultant

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### Baseline Revision - By Contract Package

- **City of Tucson Procurement**
  - TPSS
  - MSF Building Construction
  - Special Trackwork
  - Special Track Unit #323WB
  - Special Track Unit #304EB
  - Special Track Unit #305EB (Last Component)
  - Special Track Unit #311EB
  - Special Track Unit #334EB
  - Special Track Unit #433WB
  - Special Track Unit #323EB

- **Safety & Security**
  - Committee Activities
  - Documentation
  - Certification Plan
  - Initial Assessments
  - Design Criteria
  - Preliminary Hazard Analysis
  - Threat & Vulnerability Assessment
  - Operational Assessments
  - System Safety Program
  - Security & Emergency Preparedness Program
  - Accident Investigation
  - Operations & Maintenance Manual
  - Reviews

- **Right of Way Acquisition**
  - ROW Parcel #116-20-037E (Tucson West Hotel)
  - ROW Parcel #117-03-321C (Trinity Presbyterian Church)
  - ROW Parcel #117-05-069A (North Sides of 8th St between Stevens and 4th Ave)
  - ROW Parcel #117-05-069F (La Placita Village Investors LLC & Escaula LLC)
  - ROW Parcel #117-20-018A (Pueblo Center Partners, LLC)
  - Temporary Construction Easements (3-ea.)

- **Project Management Consultant**
  - PMC HDR Project Management
  - PMC Public Relations (Kaneen)
  - PMC Design Evaluation, Reports (OPT Study)
  - GLHN - Final Design of MSF
### Baseline Revision - By Contract Package

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**Summary Page 2 of 4**

**12-Sep-11, HDR Architecture - Final Design of Streetcar Stops**

**15-Sep-11, LTK - Final Design of Systems**

**19-Sep-11, Final Design**

**28-Jan-13, Construction**

**Construction Contract Administration**

**Establishment of Construction Administration - TMS**

**Girder Rail Procurement (was Package "L")**

**Special Trackwork Procurement (was Package "M")**

**Adjacent Projects**

**Early Water Relocations**

**Cushing Street Bridge**

**Downtown Links / 8th Street Drainage**

**Uni of Arizona 2nd Street Tunnel**

**Combined Sections**

**West of I-10**

**Advance Utility Relocations**

**Avenida Del Convento - Congress St. and Linda Ave. to I-10 EBFR**

**Track Demonstration Section**

**Cushing St. - I-10 EBFR (was Package "S")**

**EB 1/2 Cushing St. - I-10 WBFR to Granite**

**WB 1/2 Cushing St. - I-10 EBFR to Granite**

**EB 1/2 Granada Ave. - Cushing St. to Calle Carlos Arruza**

**WB 1/2 Granada Ave. - Cushing St. to Calle Carlos Arruza**

**Combined Sections**

**Advance Utility Relocations**

**Broadway**

**Congress Ave**

**H 1-2 Broadway Blvd - Granada Ave. to 5th Ave.**

**S 1-2 Broadway Blvd - Granada Ave. to 5th Ave.**

**Congress St. - Church Ave. to Stone Ave.**

**Congress St. - Scott to 5th Ave.**

**West of I-10**

**Advance Utility Relocations**

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**S 1-2 Broadway Blvd - Granada Ave. to 5th Ave.**

**Congress St. - Church Ave. to Stone Ave.**

**Congress St. - Scott to 5th Ave.**
### Activity Log

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<tr>
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<th>Activity Name</th>
<th>Original Start</th>
<th>Duration</th>
<th>Finish</th>
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<td>110</td>
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### Timeline

- **Activity Name**: Vehicle Design
  - **Start**: 04-Jun-10 A
  - **Finish**: 27-Feb-12
  - **Duration**: 273

- **Activity Name**: Vehicle Assembly
  - **Start**: 01-Sep-11 O
  - **Finish**: 27-Feb-12
  - **Duration**: 14

- **Activity Name**: Vehicle Design
  - **Start**: 01-Sep-11 O
  - **Finish**: 27-Feb-12
  - **Duration**: 14

---

### Summary

- **Actual Work**
- **Critical Remaining Work**
- **Remaining Level of Effort**
- **Actual Level of Effort**
- **Remaining Work**

---

**Note**: The diagram and additional details are not displayed in the text format.
### Contract / Work Package Duration

<table>
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Cost Estimate Review
Cost Per Major Contract Package
All Budgeted Dollar Values Based on Month Ending August 31, 2011
(Work in Progress)

Project Budget – $196,531,000

- Expenditure to Date
- Budget Remaining
= Major Contract Package Completed

Line Segments
Construction and Design

- Cushing Street
- H2O Main
- MSF
- Streetcar Stops
- Special Rail Procurement
- Engineering Services Project Consultant
- Communication Systems: TPSS, Overhead
- Engineering Vehicles
- Engineering Services
- Engineering Contingency; Finance Charge
- Allocated Engineering Services

Totals
$54,828,244 $11,895,108 $11,383,891 $10,723,133 $3,555,203 $1,622,800 $12,599,110 $38,221,032 $25,460,732 $850,000 $35,427,638
Funding Sources vs. Expenditures to Date
Source document FTA-Approved Finance Plan
as of August 31, 2011
(Work in Progress)

Original Funding Amount

- $75,000,000 – RTA
- $63,000,000 – FTA TIGER Grant
- $5,980,000 – FTA
- $14,984,000 – Cushing Street Bridge
- $3,200,000 – Gadsden Contribution
- $8,379,000 – Tucson Water
- $23,089,000 – Local
- $3,000,000 – Local TIP (Secured)
- $190,000 – Pima Sewer

Expenditures to Date *

- $26,416,521 – RTA
- $7,687,910 – FTA
- $439,554 – FTA TIGER
- $293,346 – Cushing
- $1,406,352 – TW
- $1,233,058 – Local

* The total includes costs incurred in advance of preliminary engineering.
Vehicle Equivalent Facilitation

A separate Vehicle Equivalent Facilitation report is being produced and will be provided at the Quarterly Review meeting.
Procurement Update

Status Report:

➢ Special Trackwork Procurement
  ● The Specialty Track contract was awarded to VAE Nortrak North America, Inc. on July 6, 2011 for the purchase of 7 sections of specialty track.

➢ TPSS Procurement
  ● The Traction Power contract was awarded to Balfour Beatty Rail, INC (BBRI) on July 12th, 2011 for the production and delivery of 5 Traction Power Substations (TPSS) and TPSS components for the Maintenance Facility.

➢ Construction Package for Line Segment
  ● Design complete and undergoing final reviews. Bid package projected to reach Procurement for issuance in mid-October 2011.

➢ Construction Package for MSF
  ● Design complete and undergoing reviews. Bid package projected to reach Procurement for issuance in mid-October 2011.

➢ CM/CA Consultant
  ● Draft solicitation completed and RFP issued. Discussions taking place with PMOC and FTA as to whether or not solicitation has to be issued as an RFQ based upon the percentage of “technically judgmental” work being scoped under the contract (approx 25%) will require selection based upon qualifications only.
  ● Contract award projected for December 2011.

➢ Transit Management Services
  ● Solicitation draft being finalized and RFP to be issued by end of September 2011.
  ● Contract award projected for January 2012.

Next Steps:

● Issue MSF and Line Segment Construction packages during next quarter
● Obtain decision from FTA on CM/CA Consultant contract and proceed with solicitation and award during next quarter
● Issue and possibly award Transit Management Services solicitation
Design Update

Status Report:

➢ Line Segments
  ● All line segments submitted PS&E on September 12, 2011
  ● Special Trackwork NTP was issued on July 18, 2011
  ● Cushing Street Bridge contract was awarded May 19, 2011

➢ Maintenance and Storage Facility
  ● Submitted MSF Building Plans for permitting on August 26, 2011
  ● Submitted MSF Building PS&E on August 29, 2011
  ● Submitted MSF Site Civil PS&E plans on September 13, 2011

➢ Systems
  ● Balfour Beatty Rail Inc (BBRI) has been selected as the traction power substation manufacturer and NTP was issued on July 11, 2011. BBRI is in the process of submitting shop drawings of the proposed substations for approval by the COT, PMC, and LTK Engineering. Preliminary design conference was held in Goldsboro, N.C. on September 14, 2011-September 16, 2011.
    ▪ Certified footprint delivered on August 30, 2011
  ● Systems Plans (OCS, Signals, TES installation, and cabling) are being prepared by LTK Engineering. Final Systems Plans will be complete by September 30, 2011.

Next Steps:

➢ Civil/Track Construction Contract
  ● All civil line segments, systems, yard, and streetcar stop specifications are being reviewed by TDOT to be combined into a single bid package. The plans will be packaged together as separate volumes. This effort is expected to conclude on September 30, 2011.
  ● TDOT will prepare bid documents and issue an Invitation for Bid currently scheduled for October of 2011.

➢ Maintenance and Storage Facility
  ● Plans are being reviewed for permitting. Once permits are received, bid documents are tentatively scheduled to be created and let out for bid in the end October or early November 2011.
Station Stops

Status Report:

➢ Ongoing coordination with the Program Management Consultant team and Stop Architecture team
  ● Stop architecture coordination and review.
  ● Ongoing coordination for utility conflicts and canopy footing design.
  ● Site placement of stops.

➢ Compose issues/comments list for coordination between architecture and civil with final engineering team.

➢ Formal 95% Construction Document submittal
  ● Review and submittal comment/review period.

➢ Compile all comments received for the Architecture team to incorporate into design.

➢ System branding (signage and text) coordination for stops.

➢ Stop/art public meeting preparation and attendance.

➢ Review and respond to all comments received from 95% plan submittal.
  ● Incorporate relevant design comments into final 100% Construction Document.

➢ Rolling Program Management Consultant team review of interim 100% Construction Document set.

➢ Document draft preparation for revised Congress/Stone stop design and memorandum to City of Tucson Historic Preservation Officer.

➢ Incorporate relevant 95% design comments into final 100% Construction Document set.

➢ Incorporate/respond to internal team comments from interim 100% Construction Document review.

➢ Ongoing coordination with the Program Management Consultant team and Stop Architecture team.

➢ 100% Construction Document set due September 16, 2011.
Interface Coordination and Planning

Status Report:

➢ OCS Pole Locations

- The PMC has been coordinating efforts between the Systems Design Team and Civil Design Team to ensure pole placement agrees with the overhead design and civil design. This task is complete.
- OCS pole grounding design for the regular support poles and specialty poles has been completed. This design has been approved by LTK Engineering and is part of the URS and GLHN PS&E submittal.

➢ Traction Power Substation Civil Site Design

- Prior to URS issuing PS&E, the prefabricated substation manufacturer (BBRI) submitted a preliminary footprint design to URS in order to correctly design the foundation.
- Traction Power Substation (TPSS) Civil Site Design is complete with the URS PS&E Submittal. All sites were reviewed by the PMC, COT, and COT Development Services. The civil site designs are complete with fencing, any necessary junction boxes, foundation integration, and necessary civil site improvements.
- Traction Power Substation (TPSS) Civil Site Design is complete for the MSF site with the GLHN PS&E Submittal.
- The conduit designs from the TPSS sites to the main line are also complete. This design includes the positive feeders, negative feeders, and blue light conduits. LTK Engineering and URS coordinated efforts to design the conduits to match cabling requirements in the proposed systems package.
- Tucson Electric Power (TEP) has been working with URS and LTK Engineering to determine the utility feeders for the TPSS sites. URS has completed the AC conduit design to the TPSS sites. TEP will review the final PS&E plans as a back check.
- Tyndall Avenue Streetscape project has completed the partial installation of the traction power conduits along a section of Tyndall Avenue. This section is identified in the URS PS&E submittal.
- For the Cushing Street Bridge area a single traction power feeder (positive) was identified in advance. It will be constructed as part of the Cushing Street Bridge Construction Project. Work has not started for this section; it is identified in the URS PS&E Plans. This feeder conduit will ultimately originate from TPSS site A1.
- LTK Engineering has provided URS the preliminary ground mat design for consideration for each site. The ground mat will be designed and constructed by the contractor to meet a performance specification. LTK Engineering has provided the locations of the cross bonding locations (for negative return current) between rails and between guideways. These locations have been incorporated in the final URS plans (rail and electrical sheets).
➢ Signal Design

- LTK Engineering has provided URS the 95% signal design. Conduit needs for the signals have been given to URS to complete the final design.
- Utility power for each signal has been identified by Tucson Electric Power. This information has been provided to URS to complete the AC conduit design.
- 100% URS PS&E plans have the conduits for the signal system shown. Insulated joints and bonding at rail is also complete and shown in the 100% PS&E.

➢ Corrosion Design

- LTK Engineering worked closely with the Cushing Street Bridge Design Team to identify corrosion needs. All corrosion designs have been provided to the Cushing Street Bridge Team and this task is complete.
- Warren Avenue Underpass Corrosion Design is underway.

➢ Systems Install Package

- LTK Engineering is starting to put together a Systems Install Package for the City of Tucson based upon the final systems design and the final civil streetcar design.

➢ Streetcar Stops

- HDR Architecture has completed the final stop designs.

Next Steps:

➢ OCS Pole Locations

- With the pole locations complete LTK Engineering will then revise the Systems Design for the Systems Package. No further action required.

➢ Traction Power Substation (TPSS) Civil Site Design

- Design task is complete.

➢ Signal Design

- Design task is complete.

➢ Corrosion Design

- The corrosion design team (LTK Engineering) is awaiting the VE recommendation for the final reconstruction of the Warren Avenue Underpass. Once this information is provided the corrosion design effort will commence.

➢ Systems Install Package

- LTK Engineering is actively putting together the Systems Install Package. This package will reference the final URS and GLHN PS&E submittal.

➢ Streetcar Stops

- Design task is complete.
Constructability Reviews and Construction Planning Status

Status Report:

- Constructability reviews to date as noted below.

<table>
<thead>
<tr>
<th>Meeting Number</th>
<th>Meeting Date</th>
<th>Meeting Topic</th>
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<td>1</td>
<td>March 2, 2011</td>
<td>Constructability Review Process Kickoff Meeting</td>
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<td>2</td>
<td>March 8, 2011</td>
<td>Construction Admin / Project Design Teams Introduction</td>
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<td>3</td>
<td>March 23, 2011</td>
<td>Constructability Workshop #1</td>
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<td>May 11, 2011</td>
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<td>June 17, 2011</td>
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<td>June 24, 2011</td>
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<td>September 1 &amp; 2, 2011</td>
<td>Line Segment Comments Resolution Meeting w/ Design Team</td>
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<td>15</td>
<td>September 13, 2011</td>
<td>PMOC Meeting – Review Constructability Process, Schedule, Means &amp; Methods</td>
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Construction Planning:

- Construction administration teams established - Org charts are complete.
- Resident Engineer Manual final draft: PMOC to submit comments for incorporation into Manual.
- Advanced utility relocation work on – going throughout project limits.
- Unisource JOC issued: Work continues to progress in conjunction with the Unisource contractor.
Cushing Street Bridge Project

- The abutment 1 drill shafts 3, 1, 2 and 4 were installed and poured on August 17th, 19th, 23rd, and 25th, 2011, respectively. The gamma-gamma and hole-cross sonic test results for all the four shafts had no anomalies.

- Abutment 1 reinforcing steel and forms had been placed as of September 9, 2011.

- The pier 1 drill shaft 6 was installed and poured on Friday, September 2, 2011. The gamma-gamma and hole-cross test results were provided on September 13, 2011 showing a few anomalies and requesting additional information. We are in the process of submitting requested information and waiting for a recommendation from the bridge engineer.

- The pier 2 drill shaft 5 (DS5) was originally scheduled to be installed and poured on Friday, September 9, 2011, but was rescheduled due to the inability to secure the crane. The rescheduled plan for the DS5 was to drill down to 120’ on Thursday, September 8, 2011 and complete the additional 35’ to 40’ on Monday September 12, 2011 installing and pouring DS5 on Tuesday, September 13, 2011. The drilling operation for exit 2 DS5 was placed on hold due to a significant amount of rain and the rising waters levels of the Santa Cruz River.

- Girder drawings should be submitted no later than Friday, September 23, 2011.

- Utilities:
  - The utility trench was completed on August 26, 2011.
  - TEP removed a portion of the overhead and disconnected power from the Theresa Lee Clinic. Wire was installed on the new conduit last week and completed on September 9, 2011.
  - Still waiting on QWEST to disconnect services at the Theresa Lee Clinic.

- Asbestos Removal:
  - Asbestos removal from the Theresa Lee Clinic was completed on Friday, September 2, 2011.
● Floodwall:
  ▪ Floodwall work started on August 29, 2011 and the placement of reinforcement steel started on September 13, 2011.
  ▪ The first concrete pour is scheduled for September 21, 2011.

● Drainage Pipe:
  ▪ The installation of the drainage pipe on the Westside of the river bank started on August 30, 2011. Estimated completion of work is September 16, 2011 if weather permits.
  ▪ The drainage pipe on the Eastside of the river bank along the multi-path was completed on August 18, 2011.

● Pedestrian Bridge:
  ▪ The pedestrian bridge plans are expected to be submitted by Friday, September 23, 2011.

● Events:
  ▪ There is a scheduled event for Saturday, September 17, 2011 at 9:00 am with approximately 20 civil engineer students from the University of Arizona to visit the project site. Dave Zaleski from Pima Country and Mo El-Ali from City of Tucson are coordinating the event. Contractor Ashton Company is aware of the tour.

➢ Line Segments
  ● Anticipate beginning Line Segment contract in December 2011.

Next Steps:

● Constructability reviews:
  ▪ Comment resolution meeting on 100% design for Line Segments completed September 1.
  ▪ Constructability team conducting review of all line segment/systems/station/MSF special provisions in an effort to consolidate and eliminate redundancy and/or contradictory language. Focus includes Division 1 specifications, technical specifications, and final bid estimate. Goal is to complete review and incorporate revisions by September 30 to meet bid advertisement schedule.
  ▪ 8th Street Drainage Project: Interface reviews conducted in conjunction with Line Segment reviews.

● Project Quality Plan: Draft plan incorporating systems, MSF, and Stations QA requirements.
Vehicle Procurement Status

Status Report:

➢ Completed Activities
  ● Progress review meeting
  ● Body shell FEA report review with Kolt Engineering
  ● PHL PHA status review
  ● Change order review
  ● Communication status review
  ● Cab mock-up review
  ● Master controller, FAI – Elin/Gessmann
  ● Doors – Bode, FAI
  ● Auxiliary power supply (APS) – SMA, Kassel, FAI
  ● Brakes – Knorr, FAI

➢ Current Activities at OIW include:
  ● Body shell non-structural design and engineering
  ● Body shell pre-fabrication and sub-assembly work with the suppliers
  ● Bogie frame production fabrication
  ● HVAC during system design
  ● Front module and roof modules design
  ● Interior trim components final design and preparation for releases
  ● Driver’s area re-design
  ● Final packaging studies and design interfaces and integration of the electrical with the body shell and mechanical components

➢ Integration of the major components with the (electrical) vehicle control system
➢ Electrical design (Elin) and traction system design and interfaces (Elin)

Next Steps:

➢ Currently OIW is reviewing ARRA language to be incorporated into the contract that OIW is expected to provide response to Procurement in September.

➢ Activities that are scheduled for September include:
  ● Completion (design/manufacturing) of the body shell fixtures for production
  ● Complete release of the body shell drawings/documentation for non-structural metallic parts
  ● Body shell structural testing
  ● HVAC during design completion
  ● Interior trim design
  ● Electrical design

➢ Risk – Trapeze who is the provider of the Automated Vehicle Location (AVL) equipment has not passed several of EN tests. Elin and OIW are currently evaluating the potential impacts of the failed tests to determine how they will be addressed.
Status Report:

- Coordination meeting between Planning Artists – Simon Donovan, Ben Olmsted and HDR Architecture.
- Coordinate, comment/review and attendance for Susan Wink presentation to the Tucson Pima Arts Council Art Panel.
- Ongoing stop design parameters, circulation and clearance review, and coordination with simple stop and unique stop artists for design concepts.
- Meetings with Risk Manager for unique stop artists for design feedback.
- Coordination with Maintenance and Storage Facility Architect for artwork at facility.
- Meeting with Gadsden for artwork coordination on Avenida del Convento and Congress.
- Coordinate, comment/review and attendance for Rafe Ropek, Mary Lucking/Pete Goldlust and Joe Tyler presentation to the Art Panel.
- Coordinate, comment/review and attendance for Eric Powell, Cristina Cardenas/Xochitl Gil presentation to the Art Panel.
- Safety and Security Committee/PHA workshop meetings.

Next Steps:

- A Public Art Open House was held on August 25, 2011 to showcase the artists and the art that will be displayed at the Modern Streetcar stops and facilities.
Status Report:

➢ Unchanged Sections
  ● Risk Management Plan
  ● Concurrent Non-Project Activities (CNPA) Plan

➢ Incorporation of Existing Program Documents
  ● Document Control Plan
  ● Status: Planned pending review of required modifications, if necessary

➢ Incorporation of References to Program Documents Under Development
  ● Resident Engineer Manual
  ● Status: Planned pending coordination with Manual authors upon completion

➢ Modification of Existing Sections
  ● Invoice Review & Processing Procedures
    ◦ Modified Title to “Cost Control, Payment Processing & Reporting”
    ◦ Includes budget and actual cost reconciliation process between City accounting and PMC cost controls
    ◦ Includes report format definition, quality review process, and stakeholder transmittal process and frequency establishment
    ◦ Status: In Progress

➢ Change Order Control Process
  ▪ Includes updates and revisions to TRAC approval process
  ▪ Includes modifications deriving from PMOC comments on the Change Control Process and Change Control Process Flowchart.
  ▪ Includes contingency management process to evaluate preliminary cost impacts for specifically identified events, e.g. field changes, owner-initiated changes, etc., or cost pressures, e.g. commodity prices, bidding environment, etc. to proactively measure trends as either threats or opportunities to the program budget
  ▪ Includes report formal definition, quality review process, and stakeholder transmittal process and frequency establishment
  ▪ Status: In Progress

➢ Development of New Sections
  ● Schedule Management Plan
    ▪ Includes baseline schedule revision, program progress / contractual submittal solicitation, monthly updating, change order incorporation, quality review, and progress reporting processes
    ▪ Status: In Progress
Next Steps:

➢ Unchanged Sections
  ● Monitor program for required changes, and submit revisions when necessary

➢ Incorporation of Existing Program Document
  ● Monitor program for required changes, and submit revisions when necessary

➢ Incorporation of References to Program Documents Under Development
  ● Review accepted Resident Engineer Manual and incorporate references accordingly

➢ Modification of Existing Sections
  ● Invoice Review & Processing Procedures
    ▪ Anticipated Completion: September 2011
  ● Change Order Control Process
    ▪ Anticipated Completion: September 2011

➢ Development of New Sections
  ● Schedule Management Plan
    ▪ Anticipated Completion: September 2011 (initial draft); October 2011 (full comment resolution and incorporation of PMOC comments)
Safety and Security

Status Report:

➢ PHA Status
  • 7 Design Elements Completed and reviewed by management
  • 3 Design Elements in management review
  • Vehicle PHA underway
  • Select items referred back to Design Team for consideration of further mitigation

➢ Safety and Security Design Criteria
  • SSDC submitted to PMOC
  • Safety and security items incorporated into remaining chapters of Design Criteria Manual, and submitted to PMOC

➢ Construction Safety
  • Contractor provided safety manual is being reviewed by Safety and Security Officer and staff toward finalization.
  • Daily safety reports are being generated, distributed and maintained.
  • Meeting and discussions among construction contractor inspector, construction safety oversight personnel and project safety and security team members are held regularly.

➢ Design Certification
  • Certification of the Cushing Street Bridge specifications and plans scheduled for review by SSRC at its September meeting.
  • Design certification initiated for upcoming project elements.

➢ Threat Vulnerability Assessment
  • Threat and Vulnerability onsite assessment completed this quarter and document was completed for SSRC review. The revised document was submitted to the PMOC and the SSO.

➢ Safety and Security Activities Schedule Status
  • Safety and security activities have been incorporated into the Master Schedule. Currently, these are being updated to indicate level of completion.

Next Steps:

➢ PHA Status
  • Additional PHA workshop is planned for the Vehicle. The PHA process will continue until completed and submitted to the SSRC.

➢ Safety and Security Activities Schedule Status
  • Updates will be continual throughout project.
Certification

- Design certification for the track line segments to be completed.
- Certification of the specifications and plans for other design elements to continue.

Ongoing Training and Industry Networking

- ADOT/SSO and project safety and security officer are expected to participate in the FTA’s annual SSO meeting in November 2011.
- ADOT/SSO, project safety and security officer and other project safety and/or security staff continue to receive recommended safety and security training.

ADOT/SSO

SSRC:

- ADOT attends all Tucson Modern Streetcar meetings and is a committee member of the Safety & Security Review Committee and the Tucson Safety Security Review Committee Working Group to Review PHA’s and TVA’s.

ADOT/SSO and Tucson Modern Streetcar Training:

- ADOT/SSO and project safety and security officer, and team members participated in Transit System Security training conducted by the Transportation Safety Institute.

ADOT/SSO Participation with Tucson Modern Streetcar:

- Tucson Modern Streetcar Bi-Weekly phone call with PMOC.
- ADOT/SSO participated in on-site Construction Safety Meeting for the Cushing Street Bridge.

ADOT/SSO facilitates ongoing peer networking between the Tucson Modern Streetcar and Phoenix Metro light rail system safety and security personnel.

ADOT & Tucson Program Management

- ADOT/SSO and Tucson met with ADOT Construction to review crossing of Tucson Streetcar at I-10 and to answer questions from ADOT and Tucson Permit Department.
- ADOT/SSO reviewing Threat and Vulnerability assessment completed this quarter.
ADOT/SSO and Tucson Streetcar conducting ongoing peer review and communication with METRO Staff.

Rail Transit Security Working Group (RTSWG) in Phoenix awarded $52,000 for Training and Exercise under the TSGP. ADOT/SSO is a group member and is working on bringing Mary McLain into the group.

ADOT/SSO attending Tucson Streetcar Safety & Security meetings with construction contractor inspector, construction safety oversight personnel and project safety and security team members. Meetings are held on a monthly basis.

ADOT/SSO copied on daily safety reports being generated, distributed, and maintained.

ADOT/SSO reviewing Tucson Streetcar Construction Safety Plan.

METRO Meetings and Committees ADOT/SSO Attends:

- Tucson Modern Streetcar call with PMOC (Bi-Weekly)
- Peer review between Tucson and METRO (On Going)
- Tucson Modern Streetcar Safety & Security Review Committee meeting (Monthly)
- Emergency Training METRO (Twice Yearly, Tucson Staff Attending)
- Tucson Modern Streetcar Safety & Security Contractor meeting (Monthly)
- Tucson Safety Security Review Committee Working Sessions to Review PHA’s and TVA’s (As Needed)

Tucson Safety Security Art Review Committee Working Sessions for PHA’s and TVA’s (As Needed)

Tucson Streetcar Review in Portland Preliminary Hazard Analysis of Streetcar (As Needed)

Tucson Modern Streetcar Project Main Street Business Workshop

Tucson Modern Streetcar Project Modern Streetcar Public Art Open House

Training Tucson Staff Attended with ADOT SSO:

Transportation Safety Institute (TSI)

- Transit Rail System Safety
- Transit System Safety
- Transit System Security

National Transportation Safety Board (NTSB)

- Accident Investigation Orientation for Rail Professionals

Conferences Tucson Staff Attended with ADOT/SSO:

- FTA Safety and Security Roundtable
Future Training for ADOT/SSO and Tucson Staff:
- FTA annual SSO meeting in November, 2011
- National Transportation Safety Board (NTSB) Investigating Human Fatigue Factors & Cognitive Interviewing Series in November, 2011
- T4 Training at Valley Metro December, 2011

ADOT/SSO Reviewing System Safety Program Standard for any changes needed

ADOT SSO Training Completed:
- Transportation Safety Institute (TSI)
  - Transit Rail System Safety
  - Transit System Safety
  - Fundamentals of Bus Collision investigation
  - Transit System Security
  - Transit Bus System Safety
  - Effectively Managing Transit Emergencies
  - Rail Incident Investigation
- Transportation Technology Center (TTC)
  - Security and Emergency Response Training
- Federal Emergency Management Agency (FEMA)
  - Introduction to Incident Command System IS-100
  - Introduction to NIMS IS-700
  - Continuity of Operations Awareness IS-546

National Transportation Safety Board (NTSB)
- Introduction to Incident Command System IS-100

National Transportation Institute (NTI)
- Management of Transit Construction Projects

Certifications ADOT SSO Received:
- World Safety Organization (WSO) Rail Transportation Certificate
- Transportation Safety Institute (TSI) & U.S. Department of Transportation (USDOT) Safety and Security Certification
- World Safety Organization (WSO) Bus Transportation Certificate

Conferences Attended by ADOT SSO:
- FTA Safety and Security Roundtable
- FTA Yearly SSO meeting Colorado Springs, Colorado
- All-Hazards/All-Stakeholders Summit

Future Training for ADOT/SSO:
- FTA annual SSO meeting in November, 2011
- National Transportation Safety Board (NTSB) Investigating Human Fatigue Factors & Cognitive Interviewing Series in November, 2011
- T4 Training at Valley Metro, December, 2011
There’s so much to be said for rail transit – the future of this efficient mode of transportation is pretty exciting.

In Arizona steps are being taken toward that future with the operation of METRO Light Rail and the anticipated launch of Tucson’s modern streetcar project.

While ADOT is not responsible for rail transit in the state, the agency does play an important role …

Back in the early 1990s, work began on a federal level to establish a method of ensuring the safety and security of rail transit. That led to the Federal Transit Administration’s creation of the State Safety Oversight Rule in 1995. It sets forth requirements to improve rail transit safety and security and gives the states the authority to take on oversight.

That’s where ADOT comes in.

ADOT’s Herman Bernal is the state safety oversight manager for transit (that doesn’t include buses, by the way). He works with METRO Light Rail to make sure the ride is safe and secure for all passengers.

His duties are spelled out by the federal rule, and include:

- Developing a system safety program standard
- Reviewing, approving and monitoring the implementation of that plan
- Requiring each rail transit system to report the occurrence of accidents and unacceptable hazardous conditions
- Conducting onsite visits
- Requiring the rail transit system to conduct safety audits

His job also includes lots of training, workshops and conferences, which help make him aware of the potential safety and security threats faced by rail transit. The FTA conducts training for him and his counterparts twice a year.

ADOT serves as safety oversight for rail transit

Firefighters and other emergency crews participated in a mock emergency near Tempe Town Lake. The drill was conducted by METRO.

Participants acted injured and confused so emergency crews could practice what it would be like to evacuate a METRO Light Rail car.
There have been two recent training scenarios that METRO has conducted and Bernal was on hand for. One scenario was conducted near on the Tempe Town Lake Bridge and let local emergency responders practice how they would react if a METRO Light Rail passenger car was on fire and needed to be evacuated (see photos in this post).

Volunteers acted as passengers who were injured and confused. Bernal said there were many different scenarios thrown at the responders – including crowd control and the possibility of live electricity in the cars.

An earlier training exercise focused on what to do in case of a derailment.

“We had three shifts of firefighters going through the mock derailment,” said Bernal, adding 911 dispatchers, ambulance companies and police from Mesa, Tempe, Scottsdale and Phoenix were involved, too.

Jay Harper, METRO’s chief of safety and security, says the scenarios are beneficial and two are required each year.

“It’s a very collaborative relationship I think,” Harper said of ADOT’s safety oversight role.

“We both understand what we need to do and we understand how important it is that we do it correctly.”

Bernal agrees and says METRO has done a phenomenal job and that the growing system is important to Arizona’s future.

“In 10 to 20 years our population could double,” he said. “If we don’t look at light rail and street cars, we’re going to miss the boat.”

Additional information on the state oversight program is available on the Federal Transit Administration’s webpage. More on ADOT’s role is available on the Light Rail State Safety Oversight Program webpage.
University of Arizona:

- Team typically meets the last Tuesday of every month to discuss project related issues (June 23, July 26, and August 30). Recently the focus of the coordination meetings has been related to advance utility relocation and upcoming construction.
- The June 23, 2011 meeting with the University also included a discussion to review property transfers, construction coordination, and the draft maintenance and operations agreements.
- July 28, met with The University of Arizona to coordinate utility relocations, specifically with Qwest and Southwest Gas, to be relocated in advance of the Modern Streetcar Project. Additionally discussed other issues related to the project.
- August 11, met with The University of Arizona to discuss utility issues
- August 18 met with The University of Arizona to discuss utility issues
- August 30, met to review IGA protocol and responsibilities. Also discussed that three distinct IGAs will be developed with the University of Arizona
  - Design and Construction
  - Use Agreement
  - Operations and Maintenance

Arizona Department of Transportation:

➢ Safety and Security
  - HB2209 was signed into law April 13, 2011. ADOT and the City of Tucson are in final negotiations regarding the costs for Safety and Security oversight.

➢ Right of Way
  - Agreed to utilize the existing ADOT permit process to handle right-of-way issues, September 23, 2010.
    - Executed Permit No. 1206811, dated December 15, 2010 for early water package, construction complete.
    - Executed Permit dated May 19, 2011 for the Cushing Street Bridge, Construction started June 20, 2011.
    - Met with ADOT Permits Group and Design Team to discuss permit application for Line Segment Construction, Permit Application filed on June 17, 2011.
    - Comments received on the permit package on June 30, 2011 and were referred to the design teams to incorporate comments into the Final PS&E Package.
    - Design Team responded in August 26, 2011 and awaiting response from ADOT.
➢ Maintenance and Operations

● Meet with ADOT and Design team June 6, 2011 to review proposed project improvements and to discuss adjustments to exiting Master Maintenance and Operations IGA. All proposed infrastructure for the Tucson Modern Streetcar will be incorporated as an amendment to IGA with the exception of Traffic Signal equipment, which will be handled with a new region wide Master Traffic Signal Maintenance and Operations IGA. The development of this IGA is being lead by ADOT’s Deputy District Engineer from ADOT’s side and by the City’s Project Manager.

➢ Old Pueblo Trolley

● The City and RTA met with Old Pueblo Trolley to outline issues related to their continued operation. This meeting was held on June 30, 2011. Based on the meeting OPT representatives requested a meeting with the Systems design team to discuss several issues.

● The City, RTA, and the Systems Design team met to specific design issues on July 29, 2011.

● OPT asked to see the final design plans, which were provided for their information.

➢ Utilities

● Currently all of utilities are under existing franchise agreements and proceeding accordingly.

Next Steps:

➢ Start of 8th Street Drainage Project work will halt current OPT operations

➢ COT is working with OPT on design criteria requirements
QA/QC Program Plan and Implementation

Status Report:

➢ Line Segments
  ● All design submittals have gone through an internal QC process by the designer and undergone a technical review by QA by TDOT, PMC, and project stakeholders. Interface reviews between disciplines and over-the-shoulder reviews and backchecks have occurred as part of the QA process prior to final submittals. The Constructability team is undergoing an intensive interface review of all special provisions for the Line Segment contract.

➢ Maintenance and Storage Facility
  ● MSF 95% submittals were reviewed by TDOT, COT, PMC, and project stakeholders. PMC conducted a backcheck that all previous comments have been addressed, compiled comments from all reviewers, and provided back to the MSF Design Consultant. Interface reviews between disciplines and over-the-shoulder reviews and backchecks have occurred as part of the QA process to final submittals.

➢ Systems
  ● 90% OCS was reviewed by TDOT, PMC, and project stakeholders. PMC conducted a backcheck that all previous comments have been addressed, compiled comments from all reviewers, and provided back to the Systems Design Consultant. Interface reviews between disciplines and over-the-shoulder reviews and backchecks have occurred as part of the QA process prior to final submittals.

➢ Streetcar Stops
  ● An interface QA between Line Segments and Streetcar Stops was performed prior to final submittal of both in September 2011.

Next Steps:

➢ Line Segments
  ● Submittals of the Final PS&E for Line Segments, Streetcar, MSF building, MSF site civil, and systems packages (TES, S&C) occur during the month of September. TDOT, PMC, the Constructability Team, and project stakeholders are coordinating the preparation for bid and ensuring any outstanding issues are resolved via an addendums prior to bid.
  ● TDOT, PMC, the Constructability Team, and project stakeholders are participating in the interface review of all special provisions for the two construction contracts.
  ● PMC is closing out all past review comments for all disciplines. The close-out documentation will be held in the project file.
Public Involvement

Status Report:

➢ Coordinated on-going outreach to area stakeholders, residents and merchants as construction start approaches.

➢ Revised communication plan as it relates to the 8th Street Drainage project and the bidding process for construction of the line segments and Maintenance and Storage Facility

➢ Participate in on-going Communications Subcommittee meetings to coordinate messaging with the Regional Transportation Authority (RTA), the City of Tucson, Sun Tran and the RTA’s MainStreet program.

➢ Construction coordination as it relates to advanced utility work and relocation, and Cushing Street Bridge construction.

➢ Project website, media coordination and revisions to overall project schedule and funding graphics.

➢ Ongoing coordination with representatives from the University of Arizona (UA) and Arizona Health Sciences Center to prepare students and faculty for the construction phase. Draft all-campus memo and fact sheet for use by UA.

➢ Ongoing coordination with the Tucson Mayor and City Council members to provide project updates and information.
➢ Routine social media posts on Twitter and Facebook Group page to provide project updates and meeting updates. Create online 'photo albums' for general public to view on Facebook Group page.

➢ Cushing Street Bridge Groundbreaking Ceremony - held on July 14, 2011, with more than 150 residents, elected officials, and dignitaries in attendance.

➢ Public Art Open House - held on August 25, 2011 to showcase the public artists who will be developing the artwork for the streetcar stops and facilities. Attended by more than 120 people.

➢ Wrote an article and provided graphics featuring the Modern Streetcar project for RAIL Magazine’s September issue, both online and print.

➢ Scheduled three Speaker Bureau presentations for Streetcar Team members:
  - Rail-Volution, October 16-18, 2011, Washington, D.C.

Next Steps:

➢ Construction Awareness Elements
  - Develop construction outreach materials: detour maps, posters, flyers, on-site signage, and online content. Schedule open houses, tours, and one-on-one meetings with property owners, tenants, businesses, and residents to explain ‘what’s next’.
  - Continued collaboration with the RTA’s MainStreet Business Assistance Program to provide support as needed, and to align tactics, materials and messaging for a complete construction awareness campaign.
● Timely construction information and alerts delivered via press release and electronic and social media.

➢ Public Education
● Develop traditional and ‘non-traditional’ collateral project materials to reach a diverse audience.
● Develop a visual campaign, customized to our community’s multi-cultural audiences: brochures, fact sheets, project updates, mapsDisplays, YouTube/streaming videos, Facebook Group page and Twitter posts, simulations, tours, Public Service Announcements.

➢ Advocacy and Grassroots Outreach
● Continue to coordinate with the Community Liaison Group, project advocates and area stakeholders to build community “buzz” about the streetcar.

➢ Media Communications
● Media coordination to support milestone events, open houses, and construction groundbreakings.

➢ Safety Campaign
● Develop materials to address ADA, pedestrian, vehicular, bicycle and streetcar interaction: Such as streetcar boarding and exiting, track safety, overhead lines, etc.