ITEM # E12
SUPPLEMENTAL INFORMATION

CONTRACT MKP15-37
ARCHITECTURAL, ENGINEERING AND FINAL DESIGN SERVICES
WEST VALLEY CONNECTOR CORRIDOR

September 2, 2015

CONTRACT AGREEMENT

between

PARSONS TRANSPORTATION GROUP, INC. 3200 East Guasti Road, Ste 200 Ontario, CA 91761 Attn: Gerard Lumabas, P.E. (hereinafter "CONTRACTOR") Telephone: (909) 218-3600 Fax: (909) 218-3605	**CONTRACT DOCUMENTS** **CONTRACT NO. MKP15-37** **ARCHITECTURAL, ENGINEERING AND FINAL DESIGN SERVICES FOR THE WEST VALLEY CONNECTOR CORRIDOR**
And	Contract Amount: $8,000,000
Omnitrans 1700 West Fifth Street San Bernardino, CA 92411 (hereinafter "OMNITRANS")	Omnitrans Project Manager: Name: Anna Jaiswal Title: Development Planning Manager Telephone: (909) 379-7256 Email: andres.ramirez@omnitrans.org Contract Administrator: Name: Joanne Cook Title: Contract Administrator Telephone: (909) 379-7198 Fax: (909) 379-7107 Email: joanne.cook@omnitrans.org

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This Agreement is made and entered into as of this 1st day of October, 2015 by and between Omnitrans (hereinafter referred to as "OMNITRANS") and Parsons Transportation Group, Inc. (hereinafter referred to as "CONTRACTOR").

RECITALS

WHEREAS, OMNITRANS is a joint powers authority organized under Sections 6500 et seq. of the California Government Code and Section 130255 of the California Public Utilities Code with power to contract for services described in Attachment A to this Agreement entitled “Attachment A, Scope of Work” (hereinafter referred to as “Work”);

WHEREAS, CONTRACTOR has indicated it is qualified to perform such services and (1) has reviewed all the available data furnished by OMNITRANS pertinent to the Work to be rendered; (2) has inspected and reviewed the Work to be rendered; (3) will exercise the ordinary care and skill expected of a practitioner in its profession; and (4) is willing to accept responsibility of performing the Work set forth in this Agreement for the compensation and in accordance with the terms, requirements and conditions herein specified;

NOW, THEREFORE, for the consideration hereinafter stated, the parties agree as follows:

1. SCOPE OF WORK

A. CONTRACTOR will perform the Work and related tasks as described in Attachment A, Scope of Work hereto and is incorporated by reference into and made a part of this Agreement.

B. This is a non-exclusive Agreement, whereby OMNITRANS may, at its sole discretion, augment or supplant the Work with its own forces or forces of another contractor or entity. CONTRACTOR will cooperate fully with OMNITRANS’ staff or other contractor or entity that may be providing similar or the same Work for OMNITRANS.

2. PERIOD OF PERFORMANCE

The term of this Agreement shall be from the date of execution of this Agreement and continue in effect through January 31, 2020, unless terminated as specified in Section 8 and 9 of this Agreement. Omnitrans has no obligation to purchase any specified amount of products/services. All applicable indemnification provisions in this Agreement shall remain in effect following the termination of this Agreement.

Omnitrans' election to extend the Agreement beyond the Initial Term shall not diminish its right to terminate the Agreement for Omnitrans' convenience or CONTRACTORS default as provided elsewhere in this Agreement. The "maximum term" of this Agreement shall be the period from October 1, 2015 Through January 31, 2020, which period encompasses the full term of the agreement.

3. COMPENSATION

For CONTRACTOR's full and complete performance of its obligations under this Agreement, OMNITRANS shall pay CONTRACTOR on a LUMP SUM basis as shown in Attachment C, and subject to the maximum cumulative payment obligation.

OMNITRANS' maximum cumulative payment obligation under this Agreement shall not exceed Eight Million Dollars ($8,000,000), including all amounts payable to CONTRACTOR for all costs, including but not limited to direct labor, other direct costs, subcontracts, indirect costs including, but not limited to, leases, materials, taxes, insurance, and profit.

4. INVOICING AND PAYMENT

A. CONTRACTOR shall invoice OMNITRANS on a monthly basis no later than the 15th of each month. CONTRACTOR shall furnish information as may be requested by OMNITRANS to substantiate the validity of an invoice.

CONTRACTOR shall submit invoices in duplicate to:

OMNITRANS
1700 West Fifth Street
San Bernardino, CA 92411
Attn: Accounts Payable

Accountspayable@omnitrans.org

A separate invoice shall be used for each shipment. Each invoice shall include, at minimum, the following information:

- Contract number
- Invoice number
- Description of delivery
- Delivery Date
- Total quantity delivered
- Information as requested by OMNITRANS

B. OMNITRANS shall remit payment within thirty (30) calendar days of approval of the invoices by OMNITRANS' Project Manager.

In the event OMNITRANS should overpay CONTRACTOR, such overpayment shall not be construed as a waiver of OMNITRANS' right to obtain reimbursement for the overpayment. Upon discovering any overpayment, either on its own or upon notice of OMNITRANS, CONTRACTOR shall immediately reimburse OMNITRANS the entire overpayment or, at its sole discretion, OMNITRANS may deduct such overpayment amount from monies due to CONTRACTOR under this Agreement or any other Agreement between OMNITRANS and CONTRACTOR.

5. AUDIT AND INSPECTION OF RECORDS

CONTRACTOR agrees that OMNITRANS or any duly authorized representative shall have access to and the right to examine, audit, excerpt, copy or transcribe any pertinent transaction, activity, time cards, employment records or other records relating to this Agreement. Such material, including all pertinent cost, accounting, financial records, and proprietary data must be kept and maintained by CONTRACTOR for a period of three (3) years after completion of this Agreement unless OMNITRANS' written permission is given to CONTRACTOR to dispose of material prior to this time.

6. NOTIFICATION

All notices hereunder concerning this Agreement and the Work to be performed shall be physically transmitted by courier, overnight, registered or certified mail, return receipt requested, postage prepaid and addressed as follows:

To OMNITRANS:	To CONTRACTOR:
Omnitrans	Parsons Transportation Group, Inc.
1700 West Fifth Street	3200 East Guasti Rd., Ste 200
San Bernardino, CA 92411	Ontario, CA 91761
Attn: Joanne Cook	ATTN: Gerard Lumabas, P.E.
Contract Administrator	Project Manager

7. OMNITRANS' AND CONTRACTOR'S REPRESENTATIVES

A. OMNITRANS' Project Manager

Contracting Officer: OMNITRANS' CEO/General Manager or his authorized designee who has authority to execute contracts on behalf of OMNITRANS.

Project Manager: Andres Ramirez, Program Manager and Anna Jaiswal, Development Planning Manager

a. Except as expressly specified in this Agreement, the Contracting Officer may exercise any powers, rights and/or privileges that have been lawfully delegated by OMNITRANS. Nothing in this Agreement should be construed to bind OMNITRANS for acts of its officers, employees, and/or agents that exceed the delegation of authority specified herein.

b. The Contracting Officer has delegated to the Project Manager certain powers and duties in connection with this Agreement. The Project Manager is the authorized representative of the Contracting Officer for matters related to this Agreement. The Project Manager or his/her designee is empowered to:

1. Have general oversight of the Work and this Agreement, including the power to enforce compliance with this Agreement.

2. Reserve the right to remove any portion of the Work from CONTRACTOR which have not been performed to OMNITRANS' satisfaction.

3. Subject to the review and acceptance by OMNITRANS, negotiate with CONTRACTOR all adjustments pertaining to this Agreement for revision.

c. In addition to the foregoing, the Project Manager shall have those rights and powers expressly set forth in other sections of this Agreement.

B. Contractor's Key Personnel

The following are CONTRACTOR's key personnel and their associated roles in the Work to be provided:

Name	Role
Chris A. Johnson	President
Gerard Lumabas, P.E.	Project Manager

Any propose/substitution or replacement by Contractor of Contractor's key personnel shall ensure that such person possesses the same or better expertise and experience than the key personnel being substituted or replaced. Omnitrans reserves the right to interview such person to ascertain and verify if such proposed substitution or replacement does in deed possess such expertise and experience.

OMNITRANS awarded this Agreement to CONTRACTOR based on OMNITRANS' confidence and reliance on the expertise of CONTRACTOR's key personnel described above. CONTRACTOR shall not reassign key personnel or assign other personnel to key personnel roles until CONTRACTOR obtains prior written approval from OMNITRANS.

8. DISPUTE RESOLUTION

Any disputes between the successful CONTRACTOR and OMNITRANS relating to the implementation or administration of the Contract shall be resolved in accordance with this section.

A. The parties shall first attempt to resolve the dispute informally in meetings or communications between proposer and OMNITRANS.

B. If the dispute remains unresolved fifteen (15) days after it first arises, proposer may request that Omnitrans' CEO/General Manager issue a recommended decision on the matter in dispute. Omnitrans' CEO/General Manager shall issue the recommended decision in writing and provide a copy to proposer.

C. If the dispute remains unresolved after review by Omnitrans' CEO/General Manager, either party may seek judicial resolution of the dispute in an appropriate Court of the State of California.

D. Pending final resolution of a dispute under this section, proposer shall proceed diligently with performance in accordance with the Contract and Omnitrans' CEO/General Manager's recommended decision.

9. TERMINATION FOR CONVENIENCE

OMNITRANS may terminate this Agreement in whole or in part for OMNITRANS' convenience. Omnitrans' CEO/General Manager shall terminate this Agreement by a written Notice of Termination to CONTRACTOR specifying the nature, extent, and effective date of the termination. Upon receipt of the notice of termination, CONTRACTOR shall immediately discontinue all Work affected and deliver all data, drawings, specifications, reports, estimates, summaries, and other information and materials accumulated in performing this Agreement, whether completed or in process, to Omnitrans' CEO/General Manager. OMNITRANS shall make an equitable adjustment in the Agreement for Work already performed, but shall not allow anticipated profit on unperformed services. Force Majeure shall apply.

10. TERMINATION FOR BREACH OF AGREEMENT

A. If CONTRACTOR fails to perform any of the provisions of this Agreement or so fails to make progress as to endanger timely performance of this Agreement, OMNITRANS may give CONTRACTOR written notice of such default. If CONTRACTOR does not cure such default or provide a plan to cure such default which is acceptable to OMNITRANS within the time permitted by OMNITRANS, then OMNITRANS may terminate this Agreement due to CONTRACTOR's breach of this Agreement.

B. If a federal or state proceeding for relief of debtors is undertaken by or against CONTRACTOR, or if CONTRACTOR makes an assignment for the benefit of creditors, then OMNITRANS may immediately terminate this Agreement.

C. If CONTRACTOR violates Section 26, Compliance with Lobbying Policies, of this Agreement, then OMNITRANS may immediately terminate this Agreement.

D. In the event OMNITRANS terminates this Agreement as provided in this Section, OMNITRANS may procure, upon such terms and in such manner as OMNITRANS may deem appropriate, Work similar in scope and level of effort to those so terminated, and CONTRACTOR shall be liable to OMNITRANS for all of its costs and damages, including, but not limited, any excess costs for such Work.

E. All finished or unfinished documents and materials produced or procured under this Agreement shall become OMNITRANS' property upon date of such termination.

F. If, after notice of termination of this Agreement under the provisions of this Section, it is determined for any reason that CONTRACTOR was not in default under the provisions of this Section, or that the default was excusable under the terms of this Agreement, the rights and obligations of

the parties shall be the same as if the notice of termination had been issued pursuant to Section 8, Termination for Convenience.

G. The rights and remedies of OMNITRANS provided in this Article shall not be exclusive and are in addition to any other rights and remedies provided by law or under this Agreement.

11. ASSIGNMENT

This Agreement, any interest herein or claim hereunder, may not be assigned by CONTRACTOR either voluntarily or by operation of law, nor may all or any part of this Agreement be subcontracted by CONTRACTOR, without the prior written consent of OMNITRANS. Consent by OMNITRANS shall not be deemed to relieve CONTRACTOR of its obligations to comply fully with all terms and conditions of this Agreement.

12. SUBCONTRACTING

OMNITRANS hereby consents to CONTRACTOR's subcontracting of portions of the Work to the parties identified below for the functions described in CONTRACTOR's proposal. CONTRACTOR shall include in each subcontract agreement the stipulation that CONTRACTOR, not OMNITRANS, is solely responsible for payment to the subcontractor for all amounts owing and that the subcontractor shall have no claim, and shall take no action against OMNITRANS, Member Agencies or officers, directors, employees or sureties thereof for nonpayment by CONTRACTOR.

Subcontractor's Name and Address	**Work to Be Performed**
Gruen Associates	Station Architecture, Urban Design, Landscape, and PED/Bike Improvements
Iteris	Traffic Engineering
MIG, Inc.	Public Involvement/Stateholder Coordination
Arellano Associates, LLC	Public Involvement
Cambridge Systematics, Inc.	Travel Demand Forecasting and Ridership Projections
Innovative Engineering Group	MEP
Psomas	ROW Base Mapping
David Evans Associates, Inc.	Construction Administration/Management

	and Surveying
Earth Mechanics, Inc.	Geotechnical Engineering
HR&A Advisors	Economic Development and Financial Plan
Terry A. Hayes Associates, Inc.	Air Quality
Elwood Associates	Station Art Program
Group Delta Consultants, Inc.	Hazardous Waste
Overland, Pacific & Cutler, Inc.	ROW Impacts
WRECO	Sanitary Sewer and Water System Design
Butsko Utility Design, Inc.	Dry Utility Relocation Coordination

13. INDEPENDENT CONTRACTOR

CONTRACTOR's relationship to OMNITRANS in the performance of this Agreement is that of an independent Contractor. CONTRACTOR's personnel performing Work under this Agreement shall at all times be under CONTRACTOR's exclusive direction and control and shall be employees of CONTRACTOR and not employees of OMNITRANS. CONTRACTOR shall pay all wages, salaries and other amounts due its employees in connection with this Agreement and shall be responsible for all reports and obligations respecting them, such as social security, income tax withholding, unemployment compensation, workers' compensation and similar matters.

14. INSURANCE

Throughout the duration of this Agreement, CONTRACTOR shall maintain the following minimum insurance coverage, which shall be full-coverage insurance not subject to self-insurance provisions. CONTRACTOR shall not of its own initiative cause such insurance to be canceled or materially changed during the term of this Agreement.

A. **Commercial General Liability including Products/Completed Operations**: $1,000,000 per occurrence for bodily and property damage liability and $2,000,000 aggregate; *Endorsement naming Omnitrans as Additional Insured*.

B. **Automobile Liability:** $1,000,000 combined single limit bodily and property damage liability per accident; *Endorsement naming Omnitrans as Additional Insured*.

C. **Workers' Compensation:** statutory limits or, a State-Approved program in an amount and form that meets all applicable requirements of the Labor Code of the State of California; *waiver of subrogation that includes Omnitrans*.

D. **Employers Liability** Applicable to the work being performed, with a limit no less than $1,000,000 per claim or occurrence and $2,000,000 aggregate;

E. **Environmental Liability:** Applicable to the work being performed, with a limit no less than $1,000,000 per claim or occurrence and $2,000,000 aggregate; *Endorsement naming Omnitrans as additional insured.*

F. All drivers making deliveries of products specified on this RFQ shall have Hazardous Materials Endorsements on their Commercial Driver's License, and such other Endorsements as may be required by relevant laws and/or regulations.

Additional Insured:

Omnitrans, its officers, officials, employees, agents, and volunteers.

15. INDEMNITY

CONTRACTOR shall indemnify, defend and hold harmless OMNITRANS, and its member agencies, and their officers, directors, employees and agents from and against any and all liability, expense (including, but not limited to, defense costs and attorneys' fees), claims, causes of action, and lawsuits for damages of any nature whatsoever, including, but not limited to, bodily injury, death, personal injury or property damage (including property of CONTRACTOR) arising from or connected with any alleged act and/or omission of CONTRACTOR, its officers, directors, employees, agents, Subcontractors or suppliers. This indemnity shall survive termination or expiration of this Agreement and/or final payment thereunder.

16. REVISIONS IN SCOPE OF WORK

By written notice or order, OMNITRANS may, from time to time, order work suspension or make changes to this Agreement. Changes in the Work shall be mutually agreed to and incorporated into an amendment to this Agreement. Upon execution of an amendment, CONTRACTOR shall perform the Work, as amended.

17. RIGHTS IN TECHNICAL DATA

A. No material or technical data prepared by CONTRACTOR under this Agreement is to be released by CONTRACTOR to any other person or entity except as necessary for the performance of the Work. All press releases or information concerning the Work that might appear in any publication or dissemination, including but not limited to, newspapers, magazines, and electronic media, shall first be authorized in writing by OMNITRANS.

B. The originals of all letters, documents, reports and other products and data produced under this Agreement shall become the property of OMNITRANS without restriction or limitation on their use and shall be made available upon request to OMNITRANS at any time. Original copies of such shall be delivered to OMNITRANS upon completion of the Work or termination of the Work. CONTRACTOR shall be permitted to retain copies of such items for the furtherance of its technical proficiency; however, publication of this material is subject to the prior written approval of OMNITRANS. The provisions of this paragraph shall survive termination or expiration of this Agreement and/or final payment thereunder.

18. OWNERSHIP OF REPORTS AND DOCUMENTS

The originals of all letters, documents, reports and other products and data produced under this Agreement shall be delivered to, and become the sole and exclusive property of OMNITRANS. Copies may be made for CONTRACTOR's records, but shall not be furnished to others without prior written authorization from OMNITRANS. Such deliverables shall be deemed works made for hire, and all rights in copyright therein shall be retained by OMNITRANS.

19. OWNERSHIP RIGHTS

A. In the event OMNITRANS rightfully obtains copies of Proprietary Data under the terms of the separate License Agreement and Escrow Agreement that govern rights in Documentation, Software and Intellectual Property created and/or developed by Contractor, its Third Party Software Contractors and its Suppliers as part of the Project, any derivative works and associated documentation created by or on behalf of OMNITRANS by Permitted Programmers (as defined in the License Agreement) shall be the sole and exclusive property of OMNITRANS (collectively, "OMNITRANS Intellectual Property"), and OMNITRANS may use, disclose and exercise dominion and full rights of ownership, in any manner in OMNITRANS Intellectual Property in connection with the use, operation and maintenance of a transportation system administered by OMNITRANS. No use of OMNITRANS Intellectual Property shall be made for any purpose other than in conjunction with a transportation

system administered by CONTRACTOR, and OMNITRANS shall not sell, lease, rent, give away or otherwise disclose any OMNITRANS Intellectual Property to any outside third party other than Permitted Programmers. To the extent there may be any question of rights of ownership or use in any OMNITRANS Intellectual Property, Contractor shall require all of its subcontractors and suppliers (including without limitation its Third Party Software Contractors) to assign to OMNITRANS, all worldwide right, title and interest in and to all OMNITRANS Intellectual Property in a manner consistent with the foregoing terms of this paragraph. Contractor shall execute any documents as OMNITRANS may from time to time reasonably request to effectuate the terms of this paragraph.

B. All documentation and Software which predates this Contract and which otherwise owned by Contractor or its Third Party Software Contractors, and all Documentation and Software which is created by Contractor or its Third Party Software Contractors shall be Licensed Software or Licensed Documentation, as appropriate. All Licensed Software and Licensed Documentation shall be governed by the License Agreement by and between the parties of event date herewith.

20. WORK FOR HIRE

Any work created or produced as a part of this Agreement that may be defined under Section 101, Title 17, USC will be considered “work for hire” as it pertains to ownership rights. CONTRACTOR, by his/her endorsement hereon agrees that all rights to any work(s) created or produced are waived, and that ownership rests with OMNITRANS. CONTRACTOR further agrees to ensure transfer of all rights to such work(s), as defined under federal copyright law, that may be created or produced under this Agreement by its suppliers, contractors or subcontractors.

21. SUBMITTAL OF CLAIMS BY CONTRACTOR

CONTRACTOR shall file any and all claims with OMNITRANS’ Project Manager in writing within thirty (30) days of the event or occurrence giving rise to the claim. The claim shall be in sufficient detail to enable OMNITRANS to ascertain the claim’s basis and amount, and shall describe the date, place and other pertinent circumstances of the event or occurrence giving rise to the claim and the indebtedness, obligation, injury, loss or damages allegedly incurred by CONTRACTOR.

Even though a claim may be filed and/or in review by OMNITRANS, CONTRACTOR shall continue to perform in accordance with this Agreement.

22. EQUAL OPPORTUNITY

CONTRACTOR shall not discriminate against, or grant preferential treatment to, any individual or group, or any employee or applicant for employment because of

race, age, religion, color, ethnicity, sex, national origin, ancestry, physical disability, mental disability, political affiliation, sexual orientation, marital status or other status protected by law. CONTRACTOR shall take action to ensure that applicants and employees are treated without regard to the above.

23. STANDARD OF PERFORMANCE

A. CONTRACTOR shall perform and exercise, and require its subcontractors to perform and exercise due professional care and competence in the performance of the Work in accordance with the requirements of this Agreement. CONTRACTOR shall be responsible for the professional quality, technical accuracy, completeness and coordination of the Work, it being understood that OMNITRANS will be relying upon such professional quality, accuracy, completeness and coordination in utilizing the Work. The foregoing obligations and standards shall constitute the "Standard of Performance" for purposes of this Agreement. The provisions of this paragraph shall survive termination or expiration of this Agreement and/or final payment thereunder.

B. All workers shall have sufficient skill and experience to perform the Work assigned to them. OMNITRANS shall have the right, at its sole discretion, to require the immediate removal of CONTRACTOR's personnel at any level assigned to the performance of the Work at no additional fee or cost to OMNITRANS, if OMNITRANS considers such removal in its best interests and requests such removal in writing and such request is not done for illegal reasons. Further, an employee who is removed from performing Work under this Agreement under this Article shall not be re-assigned to perform Work in any other capacity under this Agreement without OMNITRANS' prior written approval.

24. NOTIFICATION OF EMPLOYMENT OF OMNITRANS BOARD MEMBERS/ALTERNATES AND EMPLOYEES

To ensure compliance with OMNITRANS' Ethics Policy, CONTRACTOR shall provide written notice to OMNITRANS disclosing the identity of any individual who CONTRACTOR desires to employ or retain under a contract, and who (1) presently serves as a Board Member/Alternate or an employee of OMNITRANS, or (2) served as a Board Member/Alternate or an employee of OMNITRANS within the previous 12 months of the date of the proposed employment or retention by CONTRACTOR. CONTRACTOR's written notice shall indicate whether the individual will be an officer, principal or shareholder of the entity and/or will participate in the performance of this Agreement.

25. DISQUALIFYING POLITICAL CONTRIBUTIONS

In the event of a proposed amendment to this Agreement, CONTRACTOR shall provide prior to the execution of such amendment, a written statement disclosing any contribution(s) of $250 or more made by CONTRACTOR or its subcontractor(s) to Omnitrans Board Members/Alternates or employees within the preceding twelve (12) months of the date of the proposed amendment. Applicable contributions include those made by any agent/person/entity on behalf of CONTRACTOR or subcontractor(s).

26. COMPLIANCE WITH LAW

CONTRACTOR shall familiarize itself with and perform the Work required under this Agreement in conformity with requirements and standards of OMNITRANS, municipal and public agencies, public and private utilities, special districts, and railroad agencies whose facilities and work may be affected by Work under this Agreement. CONTRACTOR shall also comply with all Federal, state and local laws and ordinances.

27. COMPLIANCE WITH LOBBYING POLICIES

A. CONTRACTOR agrees that if it is a Lobbyist Employer or if it has retained a Lobbying Firm or Lobbyist, as such terms are defined by OMNITRANS in its Ethics Policy, it shall comply or ensure that its Lobbying Firm and Lobbyist complies with OMNITRANS' Ethics Policy.

B. If CONTRACTOR (Lobbyist Employer) or its Lobbying Firm or Lobbyist fails to comply, in whole or in part, with OMNITRANS' Ethics Policy, such failure shall be considered a material breach of this Agreement and OMNITRANS shall have the right to immediately terminate or suspend this Agreement.

28. PUBLIC RECORDS ACT

A. All records, documents, drawings, plans, specifications and other material relating to conduct of OMNITRANS' business, including materials submitted by CONTRACTOR in its proposal and during the course of performing the Work under this Agreement, shall become the exclusive property of OMNITRANS and may be deemed public records. Said materials may be subject to the provisions of the California Public Records Act. OMNITRANS' use and disclosure of its records are governed by this Act.

B. OMNITRANS will not advise as to the nature or content of documents entitled to protection from disclosure under the California Public Records Act, including interpretations of the Act or the definitions of trade secret, confidential or proprietary. OMNITRANS will accept materials clearly and prominently labeled "TRADE SECRET" or "CONFIDENTIAL" or

"PROPRIETARY" as determined by CONTRACTOR. OMNITRANS will endeavor to notify CONTRACTOR of any request of the disclosure of such materials. Under no circumstances, however, will OMNITRANS be liable or responsible for the disclosure of any labeled materials whether the disclosure is required by law or a court order or occurs through inadvertence, mistake or negligence on the part of OMNITRANS or its officers, employees and/or contractors.

C. In the event of litigation concerning the disclosure of any material submitted by CONTRACTOR, OMNITRANS' sole involvement will be as a stake holder, retaining the material until otherwise ordered by a court. CONTRACTOR, at its sole expense and risk, shall be responsible for prosecuting or defending any action concerning the materials, and shall defend, indemnify and hold OMNITRANS harmless from all costs and expenses, including attorneys' fees, in connection with such action.

29. WAIVER/INVALIDITY

No waiver of a breach of any provision of this Agreement by either party shall constitute a waiver of any other breach of the provision, or of any other breach of the provision of the Agreement. Failure of either party to enforce any provision of this Agreement at any time shall not be construed as a waiver of that provision.

The invalidity in whole or in part of any provision of this Agreement shall not void or affect the validity of any other provision.

30. FORCE MAJEURE

Performance of each and all CONTRACTOR's and OMNITRANS' covenants herein shall be subject to such delays as may occur without CONTRACTOR's or OMNITRANS' fault from acts of God, strikes, riots, or from other similar causes beyond CONTRACTOR's or OMNITRANS' control.

31. CONFIDENTIALITY

CONTRACTOR agrees that for and during the entire term of this Agreement, any information, data, figures, records, findings and the like received or generated by CONTRACTOR in the performance of this Agreement, shall be considered and kept as the private and privileged records of OMNITRANS and will not be divulged to any person, firm, corporation, or other entity except on the direct prior written authorization of OMNITRANS. Further, upon expiration or termination of this Agreement for any reason, CONTRACTOR agrees that it will continue to treat as private and privileged any information, data, figures, records, findings and the like, and will not release any such information to any person, firm, corporation or other entity, either by statement, deposition, or as a witness, except upon direct prior written authority of OMNITRANS.

32. CONTRACTOR'S INTERACTION WITH THE MEDIA AND THE PUBLIC

A. OMNITRANS shall review and approve in writing all OMNITRANS related copy proposed to be used by CONTRACTOR for advertising or public relations purposes prior to publication. CONTRACTOR shall not allow OMNITRANS related copy to be published in its advertisements and public relations programs prior to receiving such approval. CONTRACTOR shall ensure that all published information is factual and that it does not in any way imply that OMNITRANS endorses CONTRACTOR's firm, service, and/or product.

B. CONTRACTOR shall refer all inquiries from the news media to OMNITRANS, and shall comply with the procedures of OMNITRANS' Public Affairs staff regarding statements to the media relating to this Agreement or the Work.

C. If CONTRACTOR receives a complaint from a citizen or the community, CONTRACTOR shall inform OMNITRANS as soon as possible and inform OMNITRANS of any action taken to alleviate the situation.

D. The provisions of this Article shall survive the termination or expiration of this Agreement.

33. GOVERNING LAW

The validity of this Agreement and of any of its terms or provisions, as well as the rights and duties of the parties hereunder, shall be governed by the laws of the State of California, and the proper venue of any action brought hereunder is and shall be the County of San Bernardino, California.

34. MODIFICATIONS TO AGREEMENT

Unless specified otherwise in the Agreement, this Agreement may only be modified by written mutual consent evidenced by signatures of representatives authorized to enter into and modify the Agreement. In order to be effective, amendments may require prior approval by OMNITRANS' Board of Directors, and in all instances require prior signature of an authorized representative of OMNITRANS.

35. LICENSING, PERMITS AND INSPECTION COSTS

A. The FIRM warrants that it has all necessary licenses and permits required by the laws of the United States, State of California, and the County of San Bernardino, the Local Jurisdictions, and all other appropriate governmental agencies, and agrees to maintain these licenses and permits in effect for the duration of the Agreement. Further, FIRM warrants that its employees, agents, and contractors and subcontractors shall conduct themselves in compliance with such laws and licensure

requirements including, without limitation, compliance with laws applicable to nondiscrimination, sexual harassment and ethical behavior throughout the duration of this Agreement. FIRM further warrants that it shall not retain or employ an unlicensed subcontractor to perform work on this Project. FIRM shall notify OMNITRANS immediately and in writing of its employees', agents', contractors' or subcontractors' inability to obtain or maintain, irrespective of the pendency of any appeal, any such licenses, permits, approvals, certificates, waivers, exemptions. Such inability shall be cause for termination of this Agreement.

B. Contractor shall procure all permits and licenses; pay all charges, assessments and fees, as may be required by the ordinances and regulations of the public agencies having jurisdiction over the areas in which the work is located, and shall comply with all the terms and conditions thereof and with all lawful orders and regulations of each such public agency relating to construction operations under the jurisdiction of such agency.

36. PRECEDENCE

Conflicting provisions hereof, if any, shall prevail in the following descending order of precedence: (1) the provisions of this Agreement, (2) Attachment A, Scope of Work, (3) Attachment B, Regulatory Requirements (4) provisions of RFQu-MKP15-37 and (4) CONTRACTOR's proposal dated May 28, 2015.

37. ENTIRE AGREEMENT

This Agreement, and any attachments or documents incorporated herein by inclusion or by reference, constitutes the complete and entire agreement between OMNITRANS and CONTRACTOR and supersedes any prior representations, understandings, communications, commitments, agreements or proposals, oral or written.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed on the date shown below, and effective on the date first hereinabove written.

OMNITRANS	PARSON TRANSPORTATION GROUP, INC.
_____	_____
P. SCOTT GRAHAM CEO/General Manager	CHRIS A. JOHNSON, P.E. Vice President
_____	_____
DATE	

Federal Tax I.D. No. 36-0982270

SCOPE OF WORK
ATTACHMENT A
MKP15-37
ARCHITECTURAL, ENGINEERING AND FINAL DESIGN SERVICES FOR THE WEST VALLEY CONNECTOR CORRIDOR

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1.101 PROJECT BACKGROUND

A) The West Valley Connector Corridor is a Bus Rapid Transit line located primarily on Holt Boulevard/Avenue and Foothill Boulevard in the cities of Fontana, Montclair, Ontario, Pomona, and Rancho Cucamonga. The purpose of the Project is to improve the speed and quality of public transit service along these major arterials.

B) The West Valley Connector Corridor is the second of ten corridors planned in Omnitrans' sbX (San Bernardino Valley Express) bus rapid transit system. The first corridor, the "E Street" sbX Green Line, began operating in the cities of San Bernardino and Loma Linda in April 2014.

C) The corridor system map is shown below. (The system-wide corridors plan will be redrawn under Task 13, and the line color designations are subject to change).

D) The West Valley Connector Corridor alignment (shown below) combines portions of the "Foothill West" corridor and the "Holt / 4th St" corridor identified in Omnitrans' System-wide Transit Corridors Plan for the San Bernardino Valley, produced in 2004 and updated in 2010. This corridor is currently covered by portions of Omnitrans' existing Routes 61 and 66, two of the highest-ridership routes in Omnitrans' system. More detail is provided in the attached West Valley Connector Corridor Alternatives Analysis Report.

E) The Alternatives Analysis Summary Report (attached) completed by Parsons Transportation Group in September 2014 outlined the feasible alternatives studied for the corridor. The recommended alternative includes the 25-mile-long alignment and station locations shown in the exhibit above, as well as the project components discussed below.

i) Pedestrian improvements for access to stations, including concrete boarding area (60' x 12' typical) at each of the 48 stations (+/- 3 stations); bicycle parking racks at each station; and sidewalk repairs, sidewalk replacement/reconstruction, curb ramp replacement, and crosswalk improvements where needed within ½ mile radius of each station including cross streets and side streets;

ii) 48 stations at 27 locations/major intersections (note that during the design process the number of stations may change by +/- 3), consisting of the following station components, as described in the Alternatives Analysis Report:

(a) SbX branded pylon with logo pole and signature light, one per station;

(b) Shelter/canopy with wind screen, similar to Omnitrans sbX canopy design, one per station;

(c) Six-foot bench, one per station;

(d) Stand-alone map/schedule/advertising illuminated display case (two-sided), one per station;

(e) Pedestrian wayfinding signage;

(f) Trash receptacle, one per station;

(g) Variable message sign (e-sign) to display real-time bus arrival information, one per station, and all related communication infrastructure;

(h) Lighting (such as LED up-lighting integrated with each shelter/canopy);

(i) Public art at select stations;

(j) Minimal landscaping at stations, drought-tolerant and consistent with landscaping guidelines or requirements of each jurisdictional agency;

(k) Reinforced concrete bus pads in outside lane pavement (typically 12’ x 60’);

(l) Surveillance cameras and other security systems as needed as decided by Omnitrans, such as emergency telephones and passenger telephones, and public address system;

iii) Center-running dedicated lanes along 3.5 miles of Holt Boulevard in the City of Ontario, including right-of-way acquisition, widening, and utilities, and construction of six 6 center median stations. If this component is constructed in a future phase, a concept will be needed for how these features will be retrofitted in after the remainder of the project is constructed and how the stations will be modified.

(a) Transit signal priority (TSP) system;

(b) Any utility work necessary for all components of the Project;

(c) Concepts for bicycle and pedestrian facilities that may be integrated into the Project or that could be built in the future that could connect or feed into the West Valley Connector line; and,

(d) Branding, including color line name designation, as well as adaptation of station graphic and fleet graphic branded design for 40' and 60' vehicles (based on Omnitrans sbX system branding concept).

iv) In the design of the above project components, Consultant should work with Omnitrans' staff to specify equipment that is compatible with Omnitrans' existing systems, and meets the needs of Omnitrans' departments, customers, and each of the five cities. Everything specified in the project design must be compliant with applicable laws and consistent with the below-listed guidance and regulations

(a) Omnitrans Transit Design Guidelines (2013) - http://www.omnitrans.org/about/reports/

(b) Crime Prevention Through Environmental Design - Crime Prevention Through Environmental Design (CPTED) for Transit Facilities, APTA SS-SIS-RP-007-10, Approved June 24 , 2010, APTA Transit Infrastructure, Security Work Group

(c) Americans with Disabilities Act – current design standards per FTA and State of California

(d) Current FTA Circular 4220.1F, including, Buy America 49 CFR Part 661, NEPA, and Section 5309 Capital Investment Grants (Small Starts) guidance

(e) Current State of California guidance including Caltrans Highway Design Manual, Manual on Uniform Traffic Control Devices, CEQA guidance, and any relevant State legislation

F) The above-listed project scope should be flexible within reason and within the discretion of Omnitrans' Project Manager. Many project stakeholders were involved in the Alternatives Analysis process for the project but will still need to be integrally involved in the project design process, and the design should fit their needs – in particular, the five cities and two counties in which the project is located and the various departments within Omnitrans.

G) Each listed chapter will be issued as a separate task order.

2.101 PROJECT MANAGEMENT (TASK 1)

A) PROJECT MANAGEMENT ROLE

i) The role of Project Management is to ensure the timely and effective delivery of the contract scope. This involves day-to-day management of an adopted

schedule and budget, using processes agreed to and understood by all parties. Key elements include directing and managing the team's activities, ensuring quality control, participating in meetings, providing proper project documentation and communication protocol, and preparing monthly progress reports and invoices.

B) PROJECT MANAGER AND PROJECT STAFF

i) Provide a Project Manager and such other Project-dedicated technical and administrative personnel as are warranted, given the scope and status of the Project, and the general level of effort required to meet the performance commitments. The Consultant's Project Manager shall work directly with Omnitrans' Project Manager on a day-to-day basis. The Project Manager's responsibilities include managing deliverables, cost, and schedule, including the following:

ii) Prepare a Project Implementation Plan (PIP) for the Project (see following section);

(a) Develop a milestone timeline for the Project;

(b) Assist Omnitrans with establishing design criteria and assess and address project risks;

(c) Perform technical studies, develop engineering criteria, and risk assessment;

(d) Estimate capital cost and construction schedule and update capital cost estimates and construction schedule throughout the design process (at each major Project milestone as well as each time a major Project change occurs);

(e) Monitor and control the cost and progress of design against the baseline budget and schedule to ensure that no work to be billed is accomplished without proper Omnitrans authorization;

(f) Prepare final design drawings and specifications and coordinate design submissions and reviews;

(g) Develop and apply internal Quality Assurance and Quality Control criteria for review of deliverables;

(h) Assist Omnitrans with a Project Delivery Method;

(i) Manage Project design, technical specifications and plans for contract

documents, procurement planning assistance services, bid period services and if authorized, and services after award of construction contract(s);

(j) Assist Omnitrans with outside agency liaison, as outlined in below sections;

(k) Maintain design control registers;

(l) Develop technical work scopes, budget and schedules for work orders and for subcontracts;

(m) Update Omnitrans Project Manager regularly on Project progress; and

(n) Verify that regular and detailed progress updates / work reviews are performed for the Project.

iii) Where design work has been subcontracted, direct and monitor the Sub-consultant's work activities with regard to conformance with established contract criteria and design directives and design/control quality program requirements; ensure adherence to established budget; monitor progress and costs and prepare monthly progress reports on these matters; and conduct progress and coordination meetings weekly, or as may be requested by Omnitrans.

C) PROJECT IMPLEMENTATION PLAN (PIP)

i) If authorized, submit the PIP to Omnitrans within 14 calendar days of Notice-To-Proceed for review and acceptance. The Project will comprise Preliminary Engineering and Final Design, bid services, and design support during construction. The Consultant shall prepare a detailed Project Implementation Plan (PIP), including the following elements:

(a) Organization & Staffing (by position),

(b) Project Management responsibilities by position relative to managing cost and project completion dates;

(c) Project Work Breakdown Structure (WBS);

(d) Description of the computer systems to be utilized;

(e) Proposed reports and other outputs to be produced;

(f) Frequency or cycle of reporting;

(g) Methods of data accumulation and all other pertinent information;

(h) Scope of services;

(i) Schedule;

(j) Document Control Log;

(k) Closeout of documentation; and

(l) Plan for ensuring compliance with Buy America, ADA, CEQA, NEPA, and other applicable regulations.

ii) The PIP shall set forth a Scope of Work reflecting a fully detailed baseline design effort to be performed, including the number of drawings per major work package, the design hours associated with each drawing and major work package, the design budgets for Sub-consultants, and any other quantification of the Project baseline scope that will control design cost escalation. A schedule for review of all work products will be prepared and included in the Project Implementation Plan. This schedule will include dates for completion of each scope/task, internal review, and sign-off by Project Manager prior to submittal to Omnitrans.

iii) The PIP will be a working document that is used to manage and communicate contract requirements. It is also a dynamic document that needs to be maintained throughout the execution period of the contract and updated when there is a major change in scope or when lessons learned from experience dictate.

iv) *Deliverable:*

(a) Project Implementation Plan that includes consideration of the below-listed elements

D) PROJECT ADMINISTRATION

i) The Consultant shall provide the management and staff needed to plan, organize, direct, supervise, control and coordinate the administrative aspects of the Project including contract and Subcontract administration, accounting, purchasing, office services, personnel administration, EEO assurance and reporting, DBE utilization and reporting, publications support, document and drawing control administration, budget, and scheduling.

E) CONTRACT ADMINISTRATION

i) During the life of each subcontract, administrative service should be provided including, issuance of new or amended work orders and their negotiation, obtaining of periodic reports on costs expended and progress made, development of amendments, receipt and certification of invoices, payment of invoices, adjustment of provisional rates of indirect costs, compliance with all contract terms and conditions, receipt and routing of contract deliverables, overview of DBE participation and subcontract close-out. Establish and implement an administrative and financial audit and reporting process to assure sub-consultant compliance with Contract terms. Provide Omnitrans copies of all subcontracts upon execution and all subsequent amendments or change orders.

ii) Review and assign actions for Contractor Change Notices (CCNs) and Design Change Notices (DCNs). Coordinate completion of actions with the appropriate team members.

iii) *Deliverables:*
(a) Contract, Subcontracts, Design Change Notices.

F) ACCOUNTING/INVOICING

i) Applying the terms of the Contract and appropriate Omnitrans procedures, establish and maintain a system of cost accounts pertaining to Consultant's costs under the contract. Assure that the cost accounting and related invoicing conform to the Project's Work Breakdown Structures (WBS) and provide detailed billing of hours worked and references to the Monthly Status Report for tasks accomplished. Process sub-consultant and vendor invoices and assemble these for monthly billing to Omnitrans (to be sent to Omnitrans by the 15th of each month and paid in the first full week of the next month). Provide reports with the level of detail and summary that are adequate for proactive management control and project management by Omnitrans and Consultant. Acquire Omnitrans' written acceptance of the accounting report format and content. Provide inputs to the project control systems pertaining to Consultant's costs. Accommodate audits by Omnitrans or other authorized agencies. Prepare quarterly financial reports of activities under the Contract.

ii) *Deliverables:*
(a) Monthly invoices and quarterly reports

G) PURCHASING

i) All purchasing procedures shall be in accordance with FTA Best Practices Procurement Manual and FTA Circular C 4220.1F r latest revision.

H) CADD SERVICES

i) Establish, maintain, and upgrade an integrated computer-aided system for architecture, engineering, design, and drafting (CAE/CADD) capability based on the most current, relevant, and universally compatible software technology.

ii) Develop design information, database, and library cells into a common database system so that all Project participants can share and exchange data to complement and extend their benefits. Through the integration process, provide the opportunity to optimize the design by sharing or providing electronic data, design information, and configurations; and to allow for immediate adjustments of the design.

iii) Provide 3-D CADD capabilities for all drawings. Provide clash detection studies/reports.

iv) Define the performance specifications, technical specifications, and formats for the design work, in-progress submittals, final submittals, signed and sealed contract drawings and electronic data delivery. Unless specifically exempted, require that all such drawings be produced electronically using the approved CAE/CADD system and standards. Develop and transmit CADD record files to Omnitrans for archival on Omnitrans accepted media for the Contract documents.

v) The electronic CADD files to be delivered under the Contract contain information to be used for the construction as-built plans and documents for the Project. The official Contract documents of record are those documents produced by the Consultant that bear the company seal and signatures.

I) PUBLICATIONS SUPPORT

i) Provide staff, materials and equipment to support publication of the Project reports and documents, including technical writing, editing, graphics art, desktop publishing and printing. As needed, evaluate "make or buy" alternatives for producing finished work.

J) PROJECT PROCEDURES

i) The Consultant shall develop a list of current standard procedures and review with Omnitrans to refine the list, to establish priorities for enhancement of

existing procedures. The Consultant shall submit to Omnitrans for acceptance a list of all procedures required by the work scope. Issue each procedure as it becomes accepted and maintain it over the period of the Contract. The plans and procedures shall be consistent with Omnitrans' policies and procedures and allow the Consultant to effectively execute the work scope.

K) CONFIGURATION MANAGEMENT

i) Submit within 14 calendar days of Notice to Proceed, for review and acceptance, a Configuration Management Plan that defines the Consultant's responsibilities, interfaces, and processes for performing Document Control, Change Control, and Document Close-out. Propose the levels of review within the Consultant's organization for requests to Omnitrans to approve changes, exemptions, deviations or waivers from adopted design criteria and standards, and revisions in such criteria and standards.

ii) Coordinate the Configuration Management Plan development with Omnitrans and reflect the document and change control support scope described below.

iii) *Deliverable:*

(a) Configuration Management Plan (part of Project Implementation Plan)

L) SCHEDULE

i) The CMP network schedule shall reflect the major tasks, interrelationships, third party constraints, reviews, and other items required in performance of the work. Provide a framework that allows the schedule to be presented by criticality, by performing discipline, by near term milestones, or other pertinent layouts that expedite schedule analysis at the Contract activity or task level.

ii) The Project Development schedule shall be accompanied by a complete schedule basis and assumptions document that will describe the general approach used to develop logic and duration, assumptions regarding the action of parties that cannot be controlled by the Consultant, and assumptions regarding the basis of scope execution when adequate details are not available to render a definitive path forward for a deliverable. Submit this schedule for Omnitrans review and acceptance within 14 calendar days following the Notice to Proceed. This schedule shall comply with all contractually required deliverable dates.

iii) The schedule shall be maintained and updated monthly with progress and forecast completion dates. The monthly updated schedule (current schedule)

shall be measured against the approved baseline schedule. The monthly updated schedule shall be submitted to Omnitrans no later than seven calendar days following the close of the month, as well as at each Project milestone.

iv) *Deliverables:*

(a) Schedule

M) REVISIONS OF THE SCHEDULE

i) The schedule shall be updated on a monthly basis. Updated schedules once approved by Omnitrans will be considered "Current Schedules." They will be compared to the accepted baseline schedule. No changes are permitted to this baseline schedule unless prior acceptance is received from Omnitrans. The Consultant shall maintain the original accepted baseline schedule as a basis of comparison and progress measurement. Proposed revisions to the baseline schedule shall include a narrative description of the changes proposed, together with the justification for the proposed change and an update of the schedule basis and assumptions.

ii) *Deliverables:*

(a) Monthly schedule updates

N) DESIGN/CONSTRUCTION DRAWING/DOCUMENT CONTROL

i) Maintain complete files of all records and documents pertaining to Consultant’s contract, Project design drawings/documents, baseline changes, and related documents, electronic data (CADD), and correspondence organized according to Omnitrans procedures. Print and distribute design documents and revisions thereto throughout the Project Development phase. Support audits, claims and litigation requirements with document retrieval. Provide reproduction of retrieved documents.

O) PROJECT DATA DISSEMINATION

i) The Consultant is required to utilize an Internet Collaboration System, which will be used to assist in the communication and management of the Project and to make available key project data and reports to all authorized project participants via the Internet from any location. Upon starting work on the Project, the Consultant shall present Omnitrans Project Manager with three options for Internet Collaboration System software and obtain Omnitrans staff’s input on which to use.

ii) The Consultant shall submit all printed correspondence and other contractually required documentation (including data Submittals and Requests for Information (RFI) or Change Notices (CN)) in electronic format to Omnitrans in addition to normal hard copy distribution.

iii) Project data to be submitted electronically in the following formats:

(a) Drawing files in editable format (such as AutoCAD) and in PDF (in 11" x 17" page format).

(b) E-mail, Letters, Spreadsheets, and Charts in Microsoft Office format (Outlook, Word, Excel, Power Point)

(c) Other Documents, Pictures, Graphs, etc. in PDF format (TIFF or JPEG as an alternative)

iv) *Deliverable:*

(a) Internet Collaboration System

P) BASELINE DRAWING/DOCUMENT CONTROL

i) Control and protect original baseline documents including Contract drawings, Contract technical and performance specifications, and design criteria and standards throughout Project Development phase.

ii) Maintain historical files of baseline documents during the design phase until turnover of files to Omnitrans.

iii) *Deliverable:*

(a) Baseline documents

Q) RECORD STORAGE AND RETENTION

i) Process records for Omnitrans record storage and retention in accordance with industry-accepted procedures and retention schedules. Provide for routine turnover of records, design review packages, solicitation packages, and specifications and remaining Project documents to Omnitrans for long-term for archiving and retention as requested by Omnitrans.

ii) *Deliverable:*

(a) Record management system

R) CHANGE CONTROL

i) Coordination and management of changes to the design baseline, including change document preparation and processing using computer system tools throughout the project. Establish a system for effective coordination and ensure that baseline design changes are consistently applied to every affected contract.

S) CONSULTANT CONTRACT CHANGES

i) Include in the Configuration Management Plan the internal processes necessary to ensure timely written notice to Omnitrans of any requirement, directed by Omnitrans or initiated by the Consultant that is believed by the Consultant to be out of the scope of the contract or may otherwise require revision to the Consultant's Contract. Include notice of scope changes associated with incorporating design changes, preparation and submittal of Requests-for-Change, preparation of cost proposals in response to Omnitrans notices or requests, and methods for identifying and tracking work costs associated with authorized Consultant's contract changes.

ii) *Deliverable:*

(a) Design change notices

T) DESIGN CHANGES

i) Include in the Configuration Management Plan, the internal processes necessary to ensure timely identification, documentation, approval processing, revision incorporation, and release of changes to all design baseline documents, including but not limited to:

(a) System wide Baseline Documents including Design Criteria, Standards, baseline contracts and any other document or record identified by Omnitrans as requiring system-wide baseline control.

U) QUALITY ASSURANCE

i) Develop and submit for Omnitrans' acceptance a Quality Assurance Program covering all of Consultant's activities for: general tasks; system integration; intra-discipline and inter-discipline review; design workshops; preliminary engineering design; Omnitrans design review process; procurement and Services for systems contracts. The Quality Assurance Program must describe the controls to be implemented by the Consultant to verify compliance with the project procedural requirements. The Quality Assurance Program must satisfy the Omnitrans Quality Policy and meet the applicable requirements.

ii) The Consultant shall establish and maintain procedures to control and verify the design of the transit systems in order to ensure that the design criteria, owner specified requirements, and requirements of the relevant regulatory agencies are met. Design control includes ensuring that design requirements are identified and met, planning of design interfaces are complete including design verification activities, and design changes are controlled through Project completion. The requirements of the Consultant's QA Program and supporting procedures shall apply to other Sub-consultants.

iii) *Deliverable:*

(a) Quality Assurance Program (part of Project Implementation Plan)

V) REVIEWS OF DESIGN WORK

i) As a part of the Consultant's QA Program implement a specific set of review procedures for design work; procedures applicable to both Consultant's own efforts and to the work of Sub-consultants. Design should be reviewed by key stakeholders within Omnitrans, jurisdictional agencies, PDT members, and other key stakeholders at each major milestone in the Project. Their input and responses to their questions/comments should be recorded and disseminated to the Omnitrans Project Manager and PDT members.

ii) The Consultant will perform four formal QA/QC reviews & back checks at milestones (Phase 1 & 2 PE 30%, Phase 1 & 2 Final Design 65%, Phase 1 &2 Final Design 90%, and Phase 1 & 2 Final Design 100%). Work in this section is for the formal, third party QC check and back check. This assumes that Phase 1 and Phase 2 work will be completed on concurrent schedules in a combined package. Work by the team to pick-up and respond to comments, as well as the other QA design reviews by the team are included in the tasks below.

iii) Design control procedures shall be documented in an appropriate Design Procedures Manual and shall include, but not be limited to, provisions for:

(a) Reviewing, identifying and documenting design inputs (e.g., design bases, technical requirements, codes, and standards);

(b) Establishing the selection of design methods for ensuring that these design inputs are correctly selected and translated into design documents (e.g., drawings, procedures, specifications, and calculations);

(c) Establishing the selection and review for suitability of application of materials, parts, equipment and processes that are essential to the function of the system;

(d) Verifying that design inputs, applicable city, county, state, and Caltrans codes and standards and other quality and technical requirements are correctly translated into design work products with detail necessary for making decisions, accomplishing design verification measures, and evaluating design changes;

(e) Requirements that drawings, sketches, specifications, data sheets, and design calculations are reviewed, checked, and approved in accordance with Consultant's Design Control Procedures prior to release for Omnitrans and third-party review, procurement or construction;

(f) Design interfaces with Omnitrans Project Team - Project Manager, other Omnitrans departments, third party agencies and utilities, and sub-consultants are identified and controlled;

(g) Design changes are governed by control measures commensurate with those applied to the original design, including identification of reasons for, and impacts of, the change.

(h) Design documents are reviewed by the Consultant's QA to ensure that appropriate quality standards have been identified and documented.

(i) Design analyses are performed in a planned, controlled, and documented manner and design analysis documents are legible and in a form suitable for reproduction, filing, and retrieval, and are sufficiently detailed as to purpose, method, assumptions, design input, references, and units such that a person technically qualified in the subject can review and understand the analyses and verify the adequacy of the results without recourse to the originator of the analysis.

(j) Design control measures are applied to verify the adequacy of design, such as by one or more of the following: the performance of design verification reviews, the use of alternate calculations, or the performance of design qualification tests.

(k) Calculations are identifiable by subject (including structure, utility, system, or component to which the calculation applies), originator, reviewer, and date; or by other data such that the calculations are retrievable. Engineering Calculations are to be signed and stamped by an Engineer Registered in the State of California of the involved discipline. Have calculations, required by specifications Sections, prepared on 8-1/2 inches by 11 inches sheets. When calculations accompany drawings in a submittal, the body of the calculations must contain cross-referencing to the individual drawing to which the page of the calculations pertain.

(l) Computer programs used for design calculations are verified to show that the program produces valid solutions for the encoded mathematical model within defined limits for each parameter employed; and the encoded mathematical model has been shown to produce a valid solution to the physical problem associated with the particular application. Evidence of verification shall be maintained.

(m) Computer programs are controlled to assure that changes are documented and approved by authorized personnel when required. Where changes to previously verified computer programs are made, verification is required for the changes, including evaluation of the effects of these changes on (l) above.

(n) Clash detection studies must be provided to ensure that design is internally consistent.

(o) Review must be done to ensure that all components of project design are available from Buy America-compliant manufacturers so that the design can be constructed in compliance with Buy America and all other applicable regulations.

(p) Review must be done to ensure compliance with ADA as well as any other applicable regulations.

(q) Consultant is responsible for budget reconciliation at each major milestone in the Project or when any change, such as design change, is made that affects the Project budget.

iv) The review procedures will establish the responsibilities and techniques for administrative, quality assurance, and technical reviews, for each milestone point in the design process, to ensure the accuracy and completeness of design before the submittals are processed to Omnitrans for review. Reflect in such procedures formal submittals and reviews at critical milestones in the design process, to include:

(a) Design Development Submittal

(b) Engineering Design Submittal

(c) Construction Contract Documents Submittal

(d) Contractor Support during the Construction contract procurement and execution.

v) These milestone reviews pertain to both facility design/specification work and systems design/specification. These milestones apply to the respective levels

of contract document preparation. The percentages given are for overall completion of each Contract Unit. The appropriate level of completion for each review point varies by the type of contract drawing and will be identified in the drawings listed in the Design Control Document Log of each Contract Unit.

vi) Deliverable

(a) Register of comments and responses at each milestone

vii) Other Governmental Units and Agencies - Support Omnitrans in establishment and maintenance of positive collaborative relationships with other government agencies or departments, special districts, or agencies implementing projects that intersect or relate to this project. Assist Omnitrans in making presentations to affected agencies and facilitating resolutions of potential conflicts.

W) MAINTENANCE AND OPERATING AGREEMENTS

i) The Consultant team shall provide support to Omnitrans staff regarding any inter-jurisdictional agreements needed for the project. This includes drafting the agreements and advising Omnitrans on agreements that may be needed for the project and the language that should be addressed in the agreements. Omnitrans staff will channel the agreements through the approval process including legal counsel and Board of Directors review. The agreements should be based heavily on the previous agreements used for Omnitrans' E Street sbX project. As in the E Street sBX project, it is anticipated that the five cities will delegate utility franchise agreements to Omnitrans for relocations.

(a) Early in the design process, the Consultant should provide draft project agreements for Omnitrans to implement with each of the five cities (Fontana, Montclair, Ontario, Pomona, and Rancho Cucamonga) and the County of San Bernardino if needed, which address the jurisdictional agencies' contributions throughout the design process for the Project, including the potential of waiving plan check and permitting fees for the Project.

(b) Also early in the design process, the Consultant should provide draft operational and maintenance agreements for Omnitrans to implement with each of the five cities, Ontario Mills, and Ontario Airport (Los Angeles World Airports), and the County of San Bernardino if needed, which address ongoing maintenance responsibilities for all components being built as part of the project, including transit signal priority infrastructure, sidewalk/curb/gutter, landscaping, passenger shelters and amenities, signage, electronic communication systems, security systems, etc.

(c) The Consultant should also provide draft encroachment permits and/or easements with the local agencies, Caltrans, railroads, flood control districts, Ontario Mills, Ontario Airport controlling authority, or any other entities with jurisdictional authority as needed.

ii) *Deliverables:*

(a) Draft agreements

iii) MASTER AGREEMENTS AND PERMITS

iv) Consultant shall provide technical assistance to Omnitrans in the development and implementation of master cooperative agreements between Omnitrans and other public or private entities, including utilities, jurisdictional agencies, and other stakeholder agencies impacted by the project. As work progresses, identify what conflicts potentially exist by owner, requiring either a new master cooperative agreement or a revision of a standing agreement. In addition, support Omnitrans by identifying what permits, licenses and special or specific agreements are required to implement the Project (other than routine construction permits). Where such need is identified, define the purpose, regulation, timing and issuing agency and what application procedures pertain. Prepare graphic exhibits to support the agreement documents and permits. Prepare and submit a preliminary report for the Project during the first ninety (90) days of the preliminary engineering design phase outlining what master cooperative agreements, specific agreements, permits, licenses and other institutional clearances are required and the circumstances of each.

v) All project agreements, where applicable, must include a flow-down of federal requirements or other funding requirements on the project that partner agencies must comply with.

vi) Deliverable:

(a) Master agreements list

X) JURISDICTIONAL REVIEW AND APPROVAL PROCESS

i) The Consultant team will be responsible for coordinating the plan review/plan check and permitting process with each of the five (5) cities, San Bernardino County (part of the project falls within unincorporated area of the County), Ontario Mills (property owner), Ontario Airport (Los Angeles World Airports – property owner), and any other applicable permitting agencies. This includes the following tasks:

(a) Determine the plan checking process and submittal requirements for

each agency that will be approving the final plans.

(b) Presenting the project at preliminary development review meetings or other required meetings with jurisdictional agencies in order to inform them of the project and gain preliminary approval;

(c) Providing each jurisdictional agency with any requested materials to describe the proposed project design;

(d) Following up on comments and questions from the jurisdictional agencies and, if agreed upon by Omnitrans' Project Manager, incorporating them into the project plans;

(e) Providing presentations on the project to Planning Commissions, Public Works Commissions, City Councils, workshops, or in other forums as requested by the jurisdictional agency (assume a maximum of 15 total presentations);

(f) Providing final plans for each jurisdictional agency's signature and any other deliverables required by the jurisdictional agency's for project approval.

ii) Deliverables:

(a) Maximum fifteen (15) presentations

(b) Hard copy plan sets as required for submittal to nine (9) jurisdictional agencies

Y) QUANTITIES

i) For each submittal, provide four (4) hard copies to Omnitrans Project Manager of drawings, specifications and technical reports, and other submittals. In addition, provide electronic files for each submittal as follows:

(a) Drawings: editable file (such as AutoCAD), including narrative description of the file organization and a drawing list including file name, drawing number, sheet number;

(b) Schedules: Using Microsoft Project, Primavera P6, or comparable software (with prior approval from Omnitrans staff of which software package it will be prepared in);

(c) Document Images: PDF, TIFF or JPEG (as required by Omnitrans or affected agency).

Z) OTHER SPECIFIC TASKS

i) Other specific tasks include, but are not limited to:

(a) Perform planned and periodic internal QA audits and surveillance to verify implementation and effectiveness of Project procedures, including work performed by sub-consultants under control of the Consultant.

(b) Review of sub-consultant's quality

(c) Maintenance of quality records

(d) Develop and implement appropriate configuration management and document control procedures

(e) Review and sign off on Nonconformance Reports during construction phase

ii) *Deliverable:*

(a) Nonconformance Reports and QA audits

AA) QUALITY DATA

i) Gather and track Quality Assurance audit/surveillance and discrepancy data for use in the analysis of deficiency trends and evaluation of corrective action effectiveness. Accomplish this activity by utilizing computer software and electronic transmission.

ii) Data collection and transmission to Omnitrans shall not relieve the Consultant from the requirement to perform independent surveillance/management of the sub-consultant.

BB) REGISTER OF DELIVERABLES AND QUANTITY OF SUBMITTALS

i) Within 14 calendar days of Notice to Proceed, prepare a register of all deliverables required by the Scope of Work that shows the schedule, approval process and status of each item. The register shall include the Document Control Log (DCL), Submittal Log, Warranty Log, Training Log, Operating and Maintenance Log, monthly status reports, design schedule, and bid documents for construction contracts. Submit the deliverable register for Omnitrans' review and acceptance. Maintain deliverable register for the duration of the Scope of Work and submit a monthly update, within seven days of the month closing, to Omnitrans.

ii) *Deliverables:* Register of deliverables, including the following:

(a) Document Control Log;

(b) Submittal Log;

(c) Warranty Log;

(d) Training Log;

(e) Operating and Maintenance Log;

(f) Monthly status reports;

(g) Design schedule;

CC) BUDGET

i) Develop budgets for each deliverable identified in the register and including the Document Control Log (DCL). Budgets shall be established at the detailed level including all drawings and deliverables, calculations, pertinent submittals per each design discipline.

ii) Maintain the approved overall Project budget by application of Omnitrans procedures that require specific written approval of Omnitrans for each Project Budget Change Request (PBCR). Maintain complete documentation of Project budget including PBCRs, and forecast changes (trends).

iii) *Deliverables:*

(a) Budget and Project Budget Change Requests

DD) PROJECT CONTROL

i) The Consultant shall establish and operate systems and provide project control services for the control of the Project with respect to cost and schedule. The overall control system to be established shall provide a standard framework for defining work, assigning work responsibility, establishing budgets, controlling and forecasting costs and summarizing the monthly Project status.

EE) SOFTWARE

i) During Design Services, utilize Microsoft Project, Primavera P6, or comparable software (with prior approval from Omnitrans staff of which software package it will be prepared in) for production of schedule. Use Microsoft Office Products and or related Integration Software for reporting and administration.

FF) WORK BREAKDOWN STRUCTURE

i) The Work Breakdown Structure (WBS) shall conform to industry standards

and shall identify, generically, major end products that are to result from the authorized Work. Upon commencement of the Work, prepare a detailed WBS for use during the Project. The WBS shall clearly identify and correlate to the tasks and subtasks established by the Scope of Work and in the PIP, and shall be the basis for all Project Control and related reporting activities. Within seven (7) calendar days of Notice to Proceed, submit the proposed WBS, to Omnitrans for review and acceptance. Subdivide work tasks into refined components and sub-components until the lowest elements represent manageable work packages assignable for control to a single operating unit for the Consultant. Coverage by WBS shall include packages of work to be performed by the Consultant, Omnitrans staff, other Contractors of Omnitrans and all third parties who may become involved in any Project as directed by Omnitrans.

ii) The Work Breakdown Structure is to be defined and described in a Project-level "WBS Dictionary" to be prepared by the Consultant and submitted to Omnitrans. Include hierarchical diagrams as well as narrative scope descriptions for each component level of the WBS and also a WBS organizational matrix. At a minimum, the WBS shall include the Project Work Packages, Discipline Level, original Scope and out-of-scope work.

iii) *Deliverable:*

(a) Work Breakdown Structure

GG) PROGRESS STATUS REPORTING

i) The Consultant will be responsible for progress status reporting through the Design and Bid phases. Track and report the cost of all Consultant charges related to the authorized work and determine the physical progress of such work for each monthly status report. Each month, provide status and analysis of the contractual and cost control baseline and project milestone dates for progress achieved to ensure the work can be completed within the authorized budget and Project completion dates, and indicate trends of any variance from the budget and schedule. Provide a reconciliation of Project budget and notify Omnitrans where there is a potential for exceeding the authorized budget dollar value and Project completion dates.

ii) Monthly progress reports shall describe progress of the work, forecast task completion dates, problems and proposed corrective action and work status. All Project reporting including cost and progress and analysis to support such reporting shall be based on the current approved Project completion dates and cost. Report variances and comparisons against accepted Project cost/schedule baseline as defined in the accepted PIP. Monthly Progress Reports are due to Omnitrans prior to the 15th day of each month, along with the monthly invoice, and should be provided electronically and via mail to the Omnitrans Project Manager.

iii) The Monthly Progress Reports are to clearly identify areas of concern, the Consultant's best estimate of the true and full cost picture for the Project; summarized information to assess the risk differences that exist within the contract; exception and variances to the approved budget and accepted schedule; and identify trends to anticipate problems and to develop information to assist in decision making.

iv) Once potential problems have been identified, an action plan shall be developed by the Consultant, in coordination with Omnitrans staff that proposes solution options and assigns action steps and timetable requirements to specific individuals. The reporting shall provide a means for monitoring the performance of the action steps and their effectiveness.

v) *Deliverables:*

(a) Monthly progress reports and budget reconciliations

HH) COST/PROJECT COMPLETION FORECASTS

i) Prepare cost estimates and forecasts of the cost expenditures required to complete the authorized work. Prepare Project updates incorporating current progress, resources, and constraints in order to forecast completion of tasks and milestones. Provide support in the review of the Contract status with respect to matters of cost control, performance, and Project completion date adherence and assist in the analyses of available information toward development and evaluation of alternative courses of remedial action. Provide a recovery plan identifying measures to complete tasks within the authorized budget and/or completion date. Implement industry accepted Trending and Cost Forecasting to provide early warning of potential cost deviations in time to allow remedial actions to eliminate or minimize any adverse cost impacts and/or Project completion dates. The Consultant is informed that it takes two (2) to three (3) months for approval of Project/Contract changes in excess of $25,000.

ii) Provide certified Cost Estimate at each Design Milestone. Update the cost estimate and provide the updated certified cost estimates with the submittal of the construction documents for final Omnitrans review and comments. Update the estimate and provide the Engineer's Estimate at bid opening of construction contract(s). Provide estimating services as necessary for development of preliminary design including estimates for feasibility studies.

iii) Provide estimating services as necessary to support Value Engineering and cost reduction proposals. Conduct reconciliation of Project Cost Estimate each time there is a change to Project design.

iv) *Deliverables:*

(a) Cost estimates at each major milestone and updates as needed

II) PROJECT STATUS BRIEFINGS

i) Prepare and present both weekly informal status briefings and monthly formal status updates of the Project to Omnitrans Project Manager, with Consultant preparing agenda and furnishing minutes/notes from meetings within ten (10) days after each meeting, and prior to issuance of the Project Monthly status report, which is to be prepared in a format and content acceptable to Omnitrans. At such status briefings, the Consultant's Project Manager shall present a concise overview of the Project, highlighting problem areas, trends and recommendations for corrective actions, when necessary.

ii) Deliverables:

(a) Meeting agendas and minutes/notes

(b) Monthly DCL updates and performance earnings criteria

3.101 P U B L I C RELATIONS (TASK 2)

A) PUBLIC OUTREACH & COMMUNITY PARTICIPATION

i) It is very important to Omnitrans to include the community in the design process for this Project. The Consultant team will be responsible for leading a multifaceted outreach program to ensure community inclusion in the design process, with the goal of working toward broad consensus on the project design and components, in partnership with Omnitrans staff.

B) PROJECT DEVELOPMENT TEAM (PDT) MEETINGS

i) One of the most critical forms of project communication is the regular reporting of progress and discussion of critical issues that occurs within the Project Development Team meetings. PDT meetings were held monthly during the Alternatives Analysis process, and it is expected that the PDT members will continue on throughout the design process. The Consultant shall hold 16 monthly PDT meetings for progressing the Project to construction.

ii) *Deliverables:*

(a) Meeting agendas
(b) Sign-in sheets
(c) Meeting minutes
(d) All above deliverables, including minutes/notes of previous meetings and handouts/technical materials as appropriate, Consultant shall distribute electronically prior to each meeting and in paper form at each meeting.

C) OMNITRANS STAFF MEETINGS

i) The Consultant team will present the preliminary design and final design to Omnitrans staff representing several Omnitrans departments, including three (3) in-person meetings with additional follow-up discussions via phone or conference call if needed.

ii) *Deliverables:*

(a) Meeting agendas
(b) Sign-in sheets
(c) Meeting minutes
(d) All above deliverables, including minutes/notes of previous meetings and handouts/technical materials as appropriate, Consultant shall distribute electronically prior to each meeting and in paper form at each meeting.

D) PUBLIC OUTREACH

i) Public Involvement for this project should focus on education and feedback to the design team. This activity should result in Omnitrans not only hearing the community preferences, but responding by incorporation into the alignment design and construction if feasible.

ii) The Consultant shall include clear guidelines for public outreach in the Project Implementation Plan (PIP), which will provide the basis for which all outreach efforts are undertaken and completed.

iii) The Consultant team will develop and maintain a list of stakeholders throughout the project. The Consultant will be responsible for development of marketing materials for use in stakeholder meetings and other outreach efforts. The Consultant will also be responsible for developing and utilizing any other public outreach tools necessary to the success of the design process, such as surveys, web-based or social media tools, etc.

The Consultant will begin the stakeholder compilation with existing lists from the previous project phase. The database will be maintained in Microsoft Access and updated after public meetings and refined throughout the project using information gained from meeting sign-in sheets, public inquiries, and webpage feedback and registration requests.

iv) The Consultant team will present the preliminary project design to stakeholders and general public in at least three (3) rounds of five (5) public outreach meetings, for a total of fifteen (15) meetings, one to be held in each of the five cities along the project corridor. The Consultant will develop a master meeting schedule that correlates all public engagement activities.

The first round of public meetings will be held during the Refinement of Routing and Station locations phase and will also count as the scoping meeting for the environmental phase; another round will be held during the Environmental clearance phase; and a third round will be held during Final Design. Input received at the meetings and other input received throughout the project shall be compiled by the Consultant, and a brief response should be prepared addressing the comments and whether or not the comments have been incorporated into the design.

The Consultant's services in support of the various meetings will include coordination of meeting times and locations, organization of facility details (including equipment and insurance, if applicable), meeting set-up and clean-up, photography, and refreshments. Meeting materials, including notices and meeting notifications, eblasts, handouts, sign-in sheets, comment cards and directional signage will be prepared.

(a) Notification - The Consultant is well versed in notification techniques used to reach a broad base of stakeholders. The tools utilized may include:

1. Hard copy notification materials via direct mail
2. Newspaper Advertisements – Display ads placed in local weekly papers. Ads will also be placed in minority publications if deemed necessary.
3. Public Access Venues – Hard copy notification materials can also be disseminated via City Halls, Chambers of Commerce, local schools, libraries, churches, and businesses.
4. Social media – The project webpage and Facebook Fan page will be utilized to post meeting notification.
5. E-Blasts – Extremely cost effective method to reach the project database.

During the meetings, the Consultant will record key discussion points using "facilitation graphics" on large wall-sized paper. Up to two weeks after each meeting, the Consultant will provide electronic versions of photo-reductions

of the wallgraphics.

(a) Deliverables:

1. Facilitate and graphically record 15 public outreach meetings
2. Photo-reduced wallgraphics from 15 public outreach meetings

At the conclusion of the project, the Consultant will prepare a report documenting the full public involvement and communication process and how it was used to support the project development process. This report will summarize the online engagement tools and results, project database, project meetings, public questions, comments, and conclusions reached at these meetings, samples of collateral material that were employed throughout the process, and feedback received through the project webpage.

v) The Consultant team should also be available for other public outreach efforts where appropriate, such as speaking about the project at community events, making presentations to community groups, etc. – at a maximum of six (6) events throughout the duration of the design process.

vi) *Deliverables:* For each of the three (3) rounds of public meetings, produce the following:

(a) Ten (10) display boards (available as pdf and as physical foam core-mounted boards);

(b) One (1) take-one informational flyer to be posted on-board the buses as a pdf (English and Spanish); printing to be handled by Omnitrans;

(c) One (1) meeting invitation/flyer as a pdf (English and Spanish);

(d) Other take-home informational handouts as needed to distribute at the public meetings, with physical copies as needed for attendees;

(e) Maintain a stakeholder address list (building off of the previously created Excel spreadsheet) and distribute meeting invitations electronically or in hard copy to the stakeholders.

vii) All informational materials for the public must use language appropriate for a range of audiences, and must be approved by Omnitrans staff before being disseminated. All materials are designed to be used in conjunction with the full scope of community outreach activities, including for marketing, social media and internet project tools using QR codes that link directly to the sites. All collateral materials will be created with a uniformed branding to help create a project identity within the community. A materials distribution plan will be developed to ensure the materials are being utilized effectively and the

proper quantities are printed.

viii) Social media and digital engagement tools will supplement the core outreach activities. The following social media strategies and digital engagement tools are recommended:

(a) *Facebook* – The Consultant will coordinate with Omnitrans to utilize the existing Facebook page to post project updates and meeting notices and announcements.
(b) *Website Coordination* - A dynamic project webpage will serve as a public portal to all project information, including but not limited to: background documents, collateral materials, meeting schedules and presentations, maps, social media connections/links, contact information, etc. The Consultant will develop and maintain the content, graphics and materials needed to support the project webpage.

4.101 R E F I N E M E N T OF ROUTING ALIGNMENT AND STATION LOCATIONS (TASK 3)

A) REFINE ROUTING ALIGNMENT

i) The first major task of the Consultant will be to refine the West Valley Connector Corridor routing alignment. This will involve analysis of up to 6 routing options, including the following:

(a) The current proposed option;

(b) At least one option that uses Haven Avenue but not Milliken Avenue in Rancho Cucamonga;

(c) At least one option that uses both Haven Avenue and Milliken Avenue in Rancho Cucamonga; and,

(d) Other possible options suggested by stakeholders (this phase will include one of the rounds of public outreach meetings mentioned in the above section).

ii) The Consultant will prepare up to six (6) options for the Rancho Cucamonga alignment on aerial photographs. Consultant will identify on aerial photographs several options for an alignment using Haven Avenue and several options for an alignment using both Milliken Avenue and Haven Avenue. The team will make a site visit to review options and meet with the City of Rancho Cucamonga's management and City staff to review these and identify other potential options. These options will be refined and presented to the PDT at the first round of public meetings.

The Consultant will evaluate these options related to land use plans, proposed TODs, ridership potential, and pedestrian/bicycle accessibility. The team is aware of numerous recent proposals and studies underway in Rancho Cucamonga including the ARRIVE Corridor, the Empire Lakes Specific Plan Update which proposes a mixed-use community on the Empire Lakes Golf Course, a city RFQ to potential developers for a mixed-use community on the City-owned park-and-ride lots, and a SCAG/City study which will evaluate an additional Metrolink station at Haven Avenue. The team will coordinate with Omnitrans and City staff how to address these plans and studies in preparing the options as some will not be approved or completed until after PE is completed for the West Valley Connector.

B) REFINE STATION LOCATIONS

i) This phase involves the refinement of station locations, including the existing and proposed station locations, but also including the options of removing or adding stations (including consideration of options proposed by stakeholders). The analysis should identify station spacing, ranging from 1/2-mile to 1 mile apart, depending on the conditions in each specific location.

ii) The Consultant will meet with the city staff of each jurisdiction to discuss feasibility of the station locations proposed in the Alternatives Analysis Report and determine existing and proposed land uses and site information in this report needing updating. For Rancho Cucamonga, potential station locations for each option proposed in Task A above will be identified. An assessment of current and future bus stations will be provided to help the PDT make informed decisions based on projected ridership, projected travel times, and proximity to activity centers.

At these City meetings, station design concepts outlined in the Alternatives Analysis Report will be reviewed with cities to determine which cities will likely have new stations and shelters and which cities or locations may need to share shelters with local buses. As a part of Task B, once the site surveys are obtained, the station locations/stops will be applied to these base survey drawings to determine if any changes in station locations need to be made due to right-of-way or other constraints. Initial station locations will be reviewed at a PDT meeting and at the first round of community meetings as described in Task 2.

C) EVALUATION OF ROUTING OPTIONS AND STATION LOCATIONS

i) The decision of final routing and station locations will be vetted by the PDT at one or more PDT meetings. Information must be presented to help

evaluate the decision based on projected ridership, projected travel times, walking distances, existing or planned activity centers (i.e., job centers, high-density housing, education institutions, etc.). Existing demographic information can be provided to the Consultant; however, the Consultant will be expected to conduct analyses of projected ridership at proposed station locations, and to suggest spacing of stops based on expected walking distance that passengers will be willing to walk.

ii) The Consultant will prepare evaluation matrices of routing options and station locations. One matrix will address the options for routing for Rancho Cucamonga. Another matrix will evaluate station locations in the Alternative Analysis Report and alternative station locations identified through the stakeholder outreach and PDT process discussed in Task 2. The Consultant will assist in evaluating walking distances, existing and planned activity centers, and existing and planned transit-supportive development. The Alternatives Analysis Report shows stations west of Ontario Mills and along Sierra Avenue at ½- to 1-mile spacing. Along Foothill Boulevard, spacing is approximately 1-mile apart. The focus of this task will be to provide access within 1/2 mile or less, a 10-minute walking distance, which would be a station spacing of 1 mile or less. This analysis will coordinate with Task 4, which is aimed at removing pedestrian barriers to the stations. The Consultant will review the land use analysis prepared for the Alternatives Analysis Report and update as appropriate in the matrix, using relevant new information obtained from the City in this evaluation.

iii) Deliverables:

(a) Digital aerial photographs of Rancho Cucamonga routing options
(b) Digital aerial maps with station locations for the above Phase 1 options
(c) Digital aerial maps of 5 alternative station locations for Phase 1 in a format similar to the Alternatives Analysis Report (see Task 8 for alternative station locations applied to survey base map).

D) PRESENTATION OF ROUTING AND STATION LOCATIONS TO PDT

i) The presentation to the PDT should rank the recommended options for routing and station locations and provide the Consultant's recommendations based on available data and factors of consideration that are important to the PDT.

E) PRESENTATION TO CITIES

i) This phase will include one (1) special presentation to elected officials from all cities along the corridor (to be coordinated by Omnitrans staff), in order to gain consensus on the routing alignment and station locations

recommended by the PDT. The Consultant will help to facilitate a political consensus on routing, based on the expected benefits, pros, and cons, of the routing and station location alternatives.

F) Deliverables:

i) Ridership projections by stop

ii) Presentation of routing alignment and station locations to PDT and accompanying materials

iii) Presentation of routing alignment and station locations to applicable jurisdictions and accompanying materials

5.101 P E D E S T R I A N AND BICYCLE CONNECTIONS TO STATIONS (ACTIVE TRANSPORTATION GRANT) (TASK 4)

A) FHWA GRANT

i) A federal FHWA grant was awarded to Omnitrans through Caltrans' Active Transportation Program for the design and construction of pedestrian improvements within ½ mile of all stations (48 stations at 27 locations) along the West Valley Connector Corridor (including cross streets and side streets), as well as installation of bicycle parking at the stations. The pedestrian improvements include ADA-compliant boarding areas (12' by 60' recommended), as well as repair/reconstruction of sidewalk, curb ramp replacements, and crosswalk improvements within ½ mile of stations. The scope of work at the Ontario Mills location in particular includes removal of fence and landscaping and widening of sidewalk in addition to pouring concrete boarding area / shelter pad.

B) PEDESTRIAN ACCESS IMPROVEMENTS

i) The design of the pedestrian access improvements is a separate project that will be designed by the Consultant simultaneously with the design of the overall transit Project, because it is dependent on the locations of the stations for the transit Project.

C) PEDESTRIAN AND BICYCLE DESIGN

i) Scope of work for this phase involves design of the above-listed pedestrian and bicycle improvements based on the station locations decided on during the Refinement of Routing Alignment and Station Locations task, plus the Ontario Mills location. Preliminary conceptual design work will be provided by Omnitrans staff. Preliminary engineering,

final engineering, cost estimate, bid package, bid services, and design services during construction are needed from the Consultant for this phase. This phase of work may be put out to bid for construction earlier than the remainder of the transit project.

D) DESIGN REQUIREMENTS

i) Assistance will be needed from the Consultant with complying with all permitting requirements, requirements of the FHWA funds/Caltrans process (including obligation deadlines), and categorical exemption/exception under NEPA and CEQA. All of the locations are anticipated to be within existing public street right-of-way, with the exception of the Ontario Mills location and the Ontario Airport location. The Consultant will assist in working with these private property owners to draft any agreements needed, apply for an easement, or any other permitting needed to construct the improvements on private property (with the agreement of the property owner).

E) Deliverables:

i) Preliminary plans (in compliance with requirements of each of five cities), cost estimate, and specifications

ii) Final bid package, with approval of each of five cities

iii) Agreements and any other needed permitting for work on private property

iv) Bid-period services (answering Requests For Information from bidders)

v) Design Services During Construction

F) ***Note:*** This task may be cancelled if specific grant funding for this task should for any reason be withdrawn.

6.101 PHASING PLAN AND FINANCING PLAN (TASK 5)

A) PHASING

i) Currently the construction of the Project is proposed in phases due to funding constraints. However, based on funding availability and funding strategy, the phases may be able to be developed simultaneously as one project. The Consultant will be needed to assist Omnitrans with developing a comprehensive strategy for the phasing and funding of the Project. This contract will include environmental clearance and engineering (preliminary and final design) for the entire project, including all of the following phases.

(a) Phase 1

1. Rapid or “BRT Lite” line with enhanced stations and transit

signal priority

2. 40’ buses with sbX branding

(b) Phase 2

1. 3.5 Miles of dedicated BRT center lanes in Ontario and related streetscape improvements

2. Additional right-of-way and road widening, site work/utilities

3. Construction of six median stations

(c) Phase 3

1. Purchase of 60’ articulated vehicles

B) PHASING AND FUNDING PLAN

i) The Consultant will be responsible for producing a phasing and funding plan, which will include the following subtasks:

(a) Create a financing plan for the overall Project, including Phases 1, 2, and 3. Refine cost estimates for the phases based upon available information (including conceptual design of Phase 2), and program potential funding sources in fiscal years when expected to be available (based on meetings and conversations with Omnitrans staff, SANBAG staff, and other potential funding agencies).

(b) Evaluate funding sources: Starting with funding sources identified in the Alternatives Analysis, the Consultant will evaluate the scale of potential funding sources for each phase of development. Through meetings with Omnitrans staff, SANBAG staff, individual cities and other funding agencies, the Consultant will evaluate the availability of funding sources in terms of availability as well as scale. Federal transportation funding, local, regional and state grants, new funding sources, and value capture opportunities through private development and public-private partnership will be evaluated.

ii) Provide support with compiling available information for use in grant applications when needed.

iv) Based on funding expected to be available, provide recommendations for how to phase construction of Project, if at all. Create a timeline chart with years for major milestones of Project including all three phases.

v) Assist with answering concerns from city officials, stakeholders, and others in regards to phasing plan, including but not limited to, the following:

(a) How can construction impacts to service be minimized while constructing Phase 2?

(b) How can private development potential be encouraged and work hand in hand with this Project? Will phasing the project cause additional delays in private development along the corridor?

(c) How will project costs be affected by phasing the project (due to escalation, or splitting the project into multiple construction contracts)?

(d) How will phasing impact design (such as design of stations for left-side boarding or right-side boarding depending on vehicles planned to be used, and design of 6 stations in Ontario to be moveable/reusable from Phase 1 to Phase 2 if the project is constructed in phases?)

C) REVISIONS

i) The Consultant shall revise the financing plan / phasing plan 2-3 times throughout the duration of the project, based on review and discussion by Omnitrans staff and PDT members, and based on newly available information.

D) Deliverable:

i) Financing plan / phasing strategy document

7.101 S M A L L STARTS PROCESS (TASK 6)

A) SMALL STARTS FUNDING SUBMISSION

In the financing plan task above, FTA Section 5309 Capital Investments (Small Starts) grants are likely to be selected as a potential funding source for the Project. The Consultant shall assist Omnitrans in navigating through the Small Starts funding process. This will include putting together a letter requesting entry into Project Development, as well as submitting additional required materials for a Small Starts funding submission. This task will be guided by the most current guidance available from FTA, as well as frequent consultation with FTA staff. According to the current guidance (Major Capital Investments Final Rule, April 2013; and New and Small Starts Evaluation and Rating Process Final Policy Guidance, August 2013), the following information will be needed for a Small Starts funding submission. The Consultant will be responsible for compiling this information.

i) Number of transit trips using the project – The Consultant will prepare ridership forecasts using a pivot point model, based on the forecasting methodology from the Alternatives Analysis (AA). Appendix 3 of the AA covers the travel demand forecasting methodology. Should Omnitrans or FTA

prefer that the Consultant use the FTA STOPS model (or another methodology), that can be substituted for the pivot-point model. The consultant will provide information regarding the project's congestion relief benefits for inclusion in submission to FTA.

ii) Number of Trips by Transit Dependents Using the Project – The Consultant will provide this using the most recent available Census data for household income and household auto ownership.

iii) Transit supportive plans and policies – The Consultant will update the existing information provided in the *Alternatives Analysis* document (2014) with any new information obtained from staff of the five cities on the corridor.

(a) The Consultant will update the economic study provided during the Alternatives Analysis phase, to estimate the projected economic impact of the project on surrounding land uses, as well as the estimated VMT attributable to the estimated changes in land use patterns, population, and employment. Land use information will include: station area population densities, total employment served by the project, the proportion of "legally binding affordability restricted" housing within ½ mile of stations areas to the proportion of "legally binding affordability restricted" housing in the counties through which the project travels; pedestrian accessibility; presence of high trip generators; and availability of parking near stations.

The Consultant will update land use and pedestrian accessibility information in the Alternatives Analysis Report. Information will be refined to address changes in the project description identified in Task 3 and the PE task and include any recently approved City land use or specific plans and proposed development projects identified in city conversations.

(b) The Consultant will estimate potential land use changes projected on surrounding land uses. The Consultants' analysis will provide advice through conversations with staff of the five cities along the corridor as to how development can be planned that complements the Project.

iv) Environmental benefits expected to result from the project – The Consultant will calculate environmental benefits, including change in air quality criteria pollutants, change in energy use, change in greenhouse gas emissions, and change in safety, using the methodology and tools provided by the FTA. The Consultant will provide travel model inputs to greenhouse gas, air toxics, noise, and traffic analyses. Informed by development growth analyses, the Consultant will provide advice to staff of the five cities.

v) Cost-effectiveness – The Consultant will calculate cost-effectiveness of the

Project as the annualized capital federal share of the project per trip on the project (using total number of estimated trips), based upon the Consultant's cost estimate for the Project, and excluding the cost of "enrichments."

vi) Land use - The Consultant will compile needed land use information from sources including the *Alternatives Analysis* report, conversations with staff of the five cities along the corridor and local housing authorities, and other available information sources. The information needed includes: station area population densities, total employment served by the project, the proportion of "legally binding affordability restricted" housing within ½ mile of stations areas to the proportion of "legally binding affordability restricted" housing in the counties through which the project travels; pedestrian accessibility; presence of high trip generators; and availability of parking near stations.

vii) Congestion relief – This may need to be calculated if FTA provides guidance on the methodology by which it should be calculated.

viii) Local financial commitment – The Consultant will compile requested information based on the financing plan developed in the previous section, as well as information on Omnitrans' operating budget and projected operating funding sources for the Project.

ix) Deliverables:

(a) Ridership forecasts, as well as other calculations mentioned above

(b) Letter requesting entry into project development

(c) Preliminary and final Small Starts grant submittal package, including all information mentioned above

x) *Note:* This task may be cancelled if Omnitrans decides not to pursue Small Starts funds.

8.101 E N V I R O N M E N T A L CLEARANCE (TASK 7)

A) ENVIRONMENTAL IMPACT REPORT

Because Phase 2 of the Project involves widening Holt Boulevard (including right-of-way acquisition) to construct dedicated lanes and median stations, it is anticipated that this task will involve the completion of an Environmental Impact Report (EIR), pursuant to CEQA, and Finding of No Significant Impact (FONSI), pursuant to NEPA. It is assumed that both CEQA and NEPA impact discussions can be combined and discussed together within each topical section of the environmental document (EA/EIR). The Consultant will conduct the required public scoping and outreach, prepare an EA/EIR and supporting technical studies for the Project as identified in the subsequent discussion below.

B) ENVIRONMENTAL ANALYSIS NEEDED

Consultant will prepare all environmental clearance tasks in compliance with applicable regulations and standards, and any changes to environmental rules, regulations, and standards during the EA/EIR process will be adhered to. Applicable standards include the following:

i) The National Environmental Policy Act (NEPA), Regulations for Implementation and Final Amendment to 40 CFR 1500-1508; as of July 1, 1986.

ii) Guidance Manual for Transit Noise and Vibration Impact Assessment, U.S. Department of Transportation, Federal Transit Administration, April 1995.

iii) Clean Air Act Regulations, 40 CFR, Parts 51 and 93, Air Quality: Transportation Plans, Programs, and Projects; Federal or State Implementation Plan Conformity; (with updates to August 15, 1997)

iv) FTA Regulations for Environmental Impact Statements and Related Procedures (23 CFR Part 771-777)

v) Executive Order 11514, Protection and Enhancement of Environmental Quality

vi) 40 CFR 51 & 93—Transportation Conformity Rule Amendments: Flexibility and Streamlining: Final Rule August 15, 1997.

vii) CEQA Guidelines, California Environmental Quality Act (CEQA), as amended.

C) SCOPING DOCUMENT

The Consultant will prepare a scoping document. One round of five scoping meetings (one in each community) will be coordinated by the Consultant (as described in the Public Outreach chapter above). Following the scoping meetings, a Draft Scoping Summary Report shall be prepared to summarize all comments received during the environmental scoping period. Upon Omnitrans review and comment, the document will be revised into a Final Scoping Information Document. Individual contacts will be made with appropriate resource agencies, as necessary.

i) Deliverables:

(a) Conduct five (5) scoping meetings

(b) Draft scoping summary report

(c) Final scoping information document

E) PROJECT ALTERNATIVES

The EA/EIR will evaluate a range of alternatives, including but not limited to, the following:

i) No Build alternative;

ii) Transportation Systems Management alternative;

iii) Rapid line with no dedicated lanes;

iv) Full BRT with 3.5 miles of dedicated lanes (including widening Holt Boulevard in Ontario for two mixed-flow lanes plus one transit lane in each direction);

v) Full BRT with 3.5 miles of dedicated lanes (assuming converting one traffic lane of Holt Boulevard in Ontario to a transit lane and keeping one mixed-flow traffic lane in each direction); and

vi) One or more options that incorporate an on-street bicycle lane or cycle track.

F) ALTERNATIVES ANALYSIS REPORT

The completed Alternatives Analysis report will serve as a basis for evaluating these alternatives. The alternatives analysis component of the EA/EIR may also include the options for routing alignment and station locations mentioned in the previous section; the Refinement of Routing and Station Locations phase and Environmental phase may be approached simultaneously.

i) Deliverable:

(a) Alternatives Analysis Report

G) EXPECTED YEARS OF COMPLETION

The EA/EIR should also take into account the proposed phasing of the project and the expected baseline years of (expected years of completion of) each phase when considering the impacts.

i) Deliverable:

(a) Include Phasing Analysis in EA/EIR and supporting technical studies

H) PROJECT DESCRIPTION OF EA/EIR

The Project Description of the EA/EIR shall be developed to include a thorough description of the physical improvements, operating characteristics and construction details associated with each of the alternatives being examined in the environmental document. Examples of such details would include roadway geometry, structure plan and profile, right-of-way requirements, aesthetic treatment of the route, station designs and layouts, vehicle composition and fleet size estimates, maintenance requirements and associated facilities, and other such details.

i) Deliverable:

(a) Include project description in EA/EIR

I) CONSTRUCTION TIMELINE

The Consultant will also develop a construction scenario that lays out the construction sequence and timeline and provides sufficient quantitative information to permit an adequate assessment of impacts likely to be experienced during the construction process.

i) Deliverable:

(a) Include construction sequence and timeline in EA/EIR

J) UPDATE EXISTING CONDITIONS

The Consultant will update the existing conditions documented during the Alternatives Analysis, including existing and planned land uses along the corridor. The Consultant will update this by researching Census data and other available data, reaching out to staff of the five cities, and conducting field surveys if needed.

i) Deliverable:

(a) Provide updated existing conditions in EA/EIR

K) UPDATE RIGHT OF WAY

The Consultant will update the right-of-way acquisition / property impact information that was provided in the City of Ontario's Holt Boulevard Mobility and Streetscape Strategic Plan (2013) and the West Valley Connector Alternatives Analysis (2014).

i) Deliverable:

(a) Property Acquisition/Property Impact Report

L) ENVIRONMENTAL JUSTICE ANALYSIS

The Consultant must conduct an Environmental Justice analysis, pursuant to FTA guidelines, as a part of the EA/EIR.

i) Deliverable:

(a) Community Impact Report with Environmental Justice Analysis

M) ANALYSIS OF IMPACTS

The EA/EIR will include analysis of the following potential impacts, along with any additional impacts requiring analysis under CEQA and NEPA (per the guidance and statutes listed above):

i) Soils, Geology, and Seismicity – Consultant will review standard references to determine pertinent geotechnical characteristics of the corridor. Using the results of the geotechnical analysis conducted as part of the engineering activities, Consultant will evaluate the potential effects of the project on the environment (e.g., soil settlement) and also the potential effects of environmental conditions on the project (e.g., seismic events).

(a) Deliverable:

1. Include results of the geotechnical analysis results in the EA/EIR

ii) Ecosystems – The U.S. Fish & Wildlife Service (USFWS) and California Department of Fish & Game shall be queried by Consultant regarding federal- and state-listed protected species. Consultant will undertake a field reconnaissance to determine conditions conducive to presence of listed species and determine if follow-on focused surveys for one or more listed species are warranted. Such focused surveys are not included in this scope of work. In addition to the above reconnaissance, the study area shall be reviewed and described in terms of its ecological communities. The potential effects of the project alternatives shall be assessed against the biological conditions noted in the field and an assessment as to the potential significance of such impacts will be provided. To the extent that avoidance of significant impacts can be obtained by project modifications, such modifications will be recommended. If this is not possible, minimization of the extent and/or severity of the impact will be recommended, followed by mitigation.

(a) Deliverables:

1. Complete biological surveys
2. Biological Assessment Report

3. Include results of the Biological Assessment Report in EA/EIR

iii) Hydrology and Water Quality – Consultant will inventory existing hydrologic and floodplain conditions within the project corridor. Based upon a preliminary assessment of potential impacts associated with the proposed project, Consultant will recommend the level of documentation appropriate for the project. Such documentation would include, at a minimum, a Technical Memorandum, describing study area conditions, potential impacts, and appropriate mitigation, or, at a maximum, a Floodplain Evaluation Report shall be prepared, as required by Executive Order 11988. Consultant shall coordinate with the five cities on the corridor, County of San Bernardino, the San Bernardino Flood Control District, Caltrans and FEMA, as necessary, to obtain flood limits, hydrology and flow rates for affected "Waters of the U.S." An assessment of pre- and post-project hydraulic conditions, where construction within the federal waters may occur, and any proposed flood control improvements needed to mitigate water surface increases, will be provided, as appropriate to the project circumstances.

The need for use of hydraulic models will be investigated. If necessary, the models used at this stage shall at a minimum consider a distance of 500 feet upstream and 500 feet downstream of proposed Project. Streams designated as flood hazard zones should be considered.

(a) Deliverable:

1. Floodplain Evaluation Report

iv) A Water Quality Analysis will be prepared describing potential impacts of Project construction and operation to surface and ground water quality. Water quality data will be compiled from existing available documents and handbooks.

(a) Deliverable:

1. Water Quality Report

v) Pollutants of concern shall be identified and impacts shall be evaluated with regard to both groundwater and surface water resources. Potential mitigation measures shall then be identified, including design pollution prevention best management practices (BMPs), treatment BMPs (e.g. detention basins, bioswales, infiltration basins, etc.), construction BMPs, and source control BMPs.

vi) Noise and Vibration – Consultant will collect and review available project reports, documents, and design drawings. A site visit will be conducted to identify noise-sensitive land use and finalize the noise monitoring sites. Three

sets of noise measurements will be conducted, which will include short-term noise measurements, long-term noise measurements, and single bus passby noise measurements. The purpose of the short-term and long-term noise monitoring is to determine existing ambient noise levels along the proposed project alignment and identify any major noise sources, such as freeway traffic and aircraft flyovers. Background noise levels are required for evaluating noise impacts using FTA procedures.

Long-term noise monitoring, for at least 24 hours, will be conducted at up to 10 selected sites, and short-term noise monitoring, for at least 20 minutes, will be conducted at up to 24 additional selected sites. Long-term noise measurements will be used to establish the noise profile at a given neighborhood. Short-term noise measurements at the sites with similar characteristics will be used to develop the noise profiles for the short-term measurement sites. Measured background data will be analyzed and compiled. Graphs will be prepared to show the long-term noise measurement results. Short-term measured background noise levels will be tabulated. The background noise will be estimated for all of the sensitive areas based on the measured noise data.

Passby noise measurements will be conducted using Omnitrans' sbX articulated buses similar to the ones that will be used for this project. Even though there are default noise emission levels for different types of transit sources in the FTA noise model, it is recommended by FTA to use a measured data from a similar source when it is possible.

Noise measurements will be conducted in accordance to the appropriate standards. All noise monitoring instruments will meet ANSI noise standards, and they will be calibrated and operated according to the respective manufacturers' specifications.

Criteria and procedures specified by FTA, along with the measured background noise levels and operational parameters, will be used to evaluate impacts. Field observations and aerial photos will be used to define the noise propagation characteristics of areas along the project route. A screening procedure will be used to identify segments of the proposed route that need to be considered for the impact analysis. Relocation of traffic lanes closer to the noise-sensitive receptors due to the proposed project will also be considered in the analysis.

Day night average noise levels (Ldn) will be used for the residential areas, and average hourly noise levels (Leq) will be used for nonresidential areas. Tables will be prepared to document the results of the noise assessment. Impact and severe impact noise contours will be developed to graphically illustrate impacted areas. Appropriate and effective mitigation measures will be outlined to eliminate or minimize noise impacts.

Construction noise and vibration impacts will be evaluated along the proposed project routes. Special attention will be given to areas along the dedicated bus routes where the existing background noise and vibration levels would be low. Practical and feasible noise and vibration mitigation measures will be recommended to eliminate or minimize noise and vibration impacts.

A technical report will be prepared to summarize the results of the studies. The report will show the project limits, explain the methodology, discuss the results, summarize the findings, and provide abatement/mitigation measures.

(a) Deliverable:

1. Noise Study Report

vii) Air Quality – Consultant will survey the project study area for sensitive receptor locations. Existing conditions pertaining to current local emissions will be obtained from the nearest air quality monitoring station(s) and documented for the last three calendar years, noting the number and severity of National or California Ambient Air Quality Standards violations. The regulatory setting will be described, including the jurisdictional and planning status of air quality planning governing the study area. The pertinent criteria pollutants will be identified and described and the Clean Air Act attainment status of such pollutants.

The effects of the project will be evaluated in terms of localized carbon monoxide (CO) "hot spots" analysis and daily burden calculations. Predictive modeling will be used to estimate the CO values for existing conditions, future no build and future build scenarios, at each of a representative number of sensitive receptor sites. It is not expected that new or more severe violations of the CO standards will be found, and the conclusion should be reached that daily burden amounts are improved to some degree from a shift to increased transit usage from reduced automobile usage. Clean Air Act conformity will be documented for purposes of the EA. The results shall be documented in an Air Quality Technical Report.

The air quality analysis will focus on three key issues. First, the air quality analysis will establish the benefits of the project based on the changes in vehicle miles of travel reflected in the Omnitrans transportation model. It is anticipated that the shift from automobile to transit use from the No Build to the BRT Alternative will marginally decrease regional vehicle miles traveled and associated air pollutant emissions. Second, the air quality analysis will address localized pollutant concentrations. The localized analysis will analyze the displacement of street traffic on to parallel routes or adjacent intersections, as well as hot spots that may be created in the vicinity of station areas, including park-and-ride lots. Third, the air quality analysis will discuss greenhouse gas (GHG) emissions. The carbon dioxide equivalent emissions will be quantified, and consideration will be given to the emissions

characteristics of the proposed bus fleet. From a GHG perspective, it is possible that increased bus vehicle miles of travel may offset automobile emissions reductions of GHG because buses emit more GHG than smaller vehicles. This issue will be closely examined to ensure that the GHG benefits of the project are accurately portrayed and presented.

(a) Deliverable:

1. Air Quality Report

viii) Hazardous Waste – Currently available published databases shall be queried using a commercial vendor to determine the presence, location, site characteristics, and potential exposure or impact hazard associated with any known and documented hazardous waste sites identified in the literature. Sites of relevance to the project will be mapped and their characteristics made know to the engineering staff, for design purposes.

A "windshield survey" will be conducted to identify any obvious hazardous waste sources not listed but displaying evidence in the field (i.e. above ground storage tanks; 55-gallon drums; evidence of remediation activity). The potential for impacts related to the project (e.g., exposure of the public to hazards) will be noted and referred to geotechnical staff for recommended mitigation measures. The results of the above effort will be documented in a technical appendix to the environmental document.

(a) Deliverable:

1. Initial Site Assessment and ADL Report

ix) Historic and Archaeological Resources – Consultant will prepare an Area of Potential Effects (APE) map and seek FTA and SHPO approval. Two subareas will be defined. For archaeological resources, the area subject to ground disturbance will constitute the APE. For historic resources, the area encompassing likely environmental effects (i.e., noise, visual, physical takings) will constitute the APE. The APE map will be used to create the inventory of cultural resources to be documented and analyzed for potential impacts.

Section 106 of the National Historic Preservation Act requires an affirmative search for properties on, eligible, or potentially eligible for listing on the National Register of Historic Places. Such affirmative search will be conducted within the APE, for both historic and archaeological resources. This will be done by querying the National and California Registers, and also County and local lists of landmarks and locally significant resources. A detailed field investigation will be conducted by qualified personnel to identify potential additional historic and/or archaeological resources (based on criteria provided in 36CFR800) qualifying for listing on the National Register

(NR).

Consultant will conduct a query of known or reported studies and sites. The query will yield known or identified resources in the study area. A field "walk over" will be conducted by a qualified archaeologist from the contractor's sub-consultant to identify any potential NR-eligible resources noted in the field.

Both the archaeological and historic resources will be documented on California Department of Parks & Recreation (DPR) 523 forms, and housed in a Determination of Eligibility (DOE) Report, which will be reviewed and approved by FTA and subsequently the California State Historic Preservation Officer (SHPO). The resources documented in the DOE Report will constitute the cultural resources environment for purposes of impact analysis.

The resources identified in the DOE Report will be placed in the context of the proposed project and potential effects analyzed. Such effects may include direct takings from properties (partial or full), or effects contributing to the alteration of historic settings (i.e., noise, visual obstruction, loss of access, etc.). With regard to archaeological resources, the effects are normally associated with disturbance or destruction during the construction period. The effects will be evaluated in the context of 36 CFR 800 and a determination made as to whether an "adverse effect" (in the context of 36 CFR 800) exists. If this is the case, avoidance will first be pursued, followed by mitigation pursuant to a Memorandum of Agreement (MOA) among Omnitrans, FTA, SHPO, Advisory Council on Historic Preservation (invited) and interested parties. The MOA will govern resolution of adverse effects pursuant to Section106. A Finding of Effects (FOE) Report will be prepared and approved by the FTA and the SHPO as part of the environmental process, as would any MOAs that are required.

(a) Deliverables:

1. APE Mapping
2. Conduct NRHP Database Search and Site Specific Surveys
3. FOE Report (if required)

x) Parklands and Recreation - Consultant shall inventory the project study area for the presence of public parks, parklands and recreation facilities. The inventory will be documented in mapping, tabulations, and descriptions of the sites/facilities and their attributes and usage. The Project will be placed in the context of the parkland and recreation facilities and potential impacts analyzed. Such impacts may include direct takings (partial or full), loss or impairment of access, noise intrusion, visual obstruction, etc. Should such adverse effects be found, they are considered a "use" and must be addressed in

the context of Section 4(f) of the U.S. Department of Transportation Act. The protection offered under Section 4(f) extends to NR-eligible cultural resources and also to wildlife refuges. A Section 4(f) Evaluation will need to be included in the environmental document. Should an unavoidable use of a Section 4(f)-protected resource be found as a result of the analysis, FTA could require the NEPA document to be elevated to an EIS, for which additional scope and budget would be required.

(a) Deliverable:

1. Complete Section 4(f) analysis as part of EA/EIR

xi) Traffic and Transportation - Consultant will conduct a Traffic Impact Assessment (TIA) in conjunction with the travel demand modeling and traffic simulation tasks. Both vehicular transportation and parking will be evaluated. Results of travel demand estimation model runs will be imposed upon the study area street network and both lane volumes and intersection through and turning movements will be analyzed. The analysis, which will be conducted using industry-accepted impact analysis methodologies, will consider sbX operations, including "queue jumpers" and other signal priority advantages given to the sbX operation. Resulting volumes and intersection performance will be evaluated using FTA-accepted analysis methodologies and such other metrics as may be appropriate to typically-required local jurisdiction traffic analyses. Impact analyses will be performed for existing conditions and project opening year (for each phase of project), for each alternative. Level of service and vehicle miles traveled will both have to be forecasted/estimated.

The TIA, consistent with local traffic study guidelines, in support of the EA/EIR, will determine the level of traffic-related impacts associated with implementation of the proposed project. It is expected that the TIA will include the analysis of up to 94 signalized intersections along the route and up to 30 intersections along parallel corridors throughout the study area. Traffic operations would be assessed during the weekday a.m. and p.m. peak hours for existing and project opening year conditions for each project alternative. This scope of work assumes new intersection traffic counts would be collected at each study intersection to establish existing conditions.

Using the roadway link volumes, the Consultant will “post-process” to develop intersection turning movement volumes for traffic operations analysis. It is assumed that all Vehicle Miles Traveled (VMT) or Vehicle Hours Traveled (VHT) calculations will utilize the travel-demand model.

In addition to traffic operations, an assessment of parking impacts as a result of the new bus lanes will be included. Where on-street parking would be affected by the project, current on-street parking counts would be collected on an hourly

basis (10 hours) during a typical weekday.

Transportation mitigation measures will be identified to reduce significant intersection traffic impacts to a level considered less than significant. Improvements necessary to bring the levels of service to within acceptable levels by the construction of this project may include additional lanes, transportation systems management, transportation demand management, and/or changes in roadway functional classifications.
The Consultant will prepare a "Response to Comments" memorandum, responding to public and/or agency comments received during circulation of the Draft EA/EIR. If additional analyses are required due to these comments and responses, the Consultant will identify these analyses.

Upon completion of the comment responses, the Consultant will work with the PDT to provide a final TIA for inclusion into the final EA/EIR.

Mitigation, if necessary, will be recommended, including traffic signal modifications, ITS techniques, and intersection geometric changes, if appropriate and necessary to achieve acceptable levels of service.

Existing on- and off-street parking spaces will be inventoried along the corridor. Changes in either inventory associated with the project will be identified and characterized as to significance of the loss. Mitigation, in the form of replacement or other suitable techniques, will be recommended, as necessary.

(a) Deliverable:

1. Traffic/Parking Study

xii) Public Services and Utilities - Project study area shall be inventoried by Consultant for the presence of public services (i.e., schools, parks, libraries, health care facilities, religious institutions, fire, police, etc.). The inventory will be mapped, tabulated and described. The proposed project will be examined in the context of the public facilities and potential impacts (i.e., loss or impairment of access, noise, taking, etc.) identified, if any. To the extent that mitigation can be provided, such will be recommended.

The project study area shall also be inventoried for major utilities potentially subject to impact. Major utilities include storm drains, large water supply conveyances, waste water conveyances, and significant end-user utilities such as electrical, gas, telephone, fiber optic lines, etc. Potential disturbances to utilities

(a) Deliverable:

1. Complete Public Services and Utilities analysis as part of EA/EIR

xiii) Visual and Aesthetics – This task will assess how the proposed project and alternatives would change the visual and aesthetic nature of the adjacent built environment. Although the proposed project would be primarily at-grade on existing streets, there are some aspects and elements of the project that would create contrasting new visual elements, including construction of the stations, construction of parking lots and structures, and introduction of and removal of existing landscaping. The visual impact analysis will address the overall change in visual character, as well as effects on specific views and vistas. Photographs of existing conditions, plus sketches and illustrations analyzing the change in the visual environment, and mitigation measures, such as restoring the affected landscape, will be included.

The analysis will include discussions of the existing built environment along the project corridor, natural features, existing views, significant visual resources and glare in the project area. Consultant shall identify the prominent views and vistas with unique or special design characteristics in the project area. Photographic tools (before-and-after imagery) will be used to illustrate visual and aesthetic impacts. The analysis will determine the extent to which an alternative would: (a) obstruct or substantially change a sensitive view, (b) result in the degradation of the streetscape character along a major street such as the loss of a substantial number of trees which cannot be replaced, (c) create new views that would result in a loss of privacy to residents along the corridor, or (d) create major new sources of light and glare that could adversely affect adjacent sensitive uses.

(a) Deliverable:

1. Visual and Aesthetics Impact Study

xiv) Energy Consumption – Consultant will conduct an inventory of contributors to the current energy environment and make numerical calculations to estimate daily and annual consumption of energy by the range of mobile sources potentially affected by the project. Such sources would include autos, trucks and buses. Estimates of daily and annual energy consumption will be made and tabulated for the existing condition. Projections of energy usage, under a no build scenario, will be made for the determined future horizon year. Changes in mode share resulting from the proposed project will be reviewed and post-project energy calculations will be done to document the changes. The results will be tabulated and differences discussed.

(a) Deliverable:

1. Energy Consumption Study

xv) Impacts During Construction – Consultant will develop a construction

scenario upon which will be based a construction impact analysis. Quantitative impacts (e.g., noise, air quality) will be estimated, where possible; qualitative estimations will be used elsewhere. This task will involve the development of typical construction techniques, equipment and timing, and likely construction staging areas that may be used. Graphics will be used to assist in the description of project construction activities and impacts. Appropriate state and local guidelines will be used to assist in the preparation of these sections, (e.g., significance thresholds for traffic levels of service, South Coast Air Quality Management District guidelines and criteria).

(a) Deliverable:

1. Complete Construction Impact Analysis as part of the EA/EIR

xvi) Subregion Emissions Burden Assessment – To provide an overall assessment of the potential in air quality conditions within the study area, a burden-type air quality analysis shall be prepared. This analysis will address all criteria pollutants (ROG, CO, NOX, SOX, PM10). For study area transportation network, it will identify the daily or peak-hour emissions under existing conditions as well as future conditions with and without the proposed transit improvement alternatives. The air quality burden assessment will be based on modeled vehicle miles of travel within the study area. Emissions will be based on the currently adopted EMFAC mobile emission factor series. It is anticipated that a geographically specific code can be given to the network street segments within the study to allow output from the Countywide Travel Model to be summarized specifically for the study area. The basic concern of this analysis will be to determine (1) whether the emissions forecast is consistent with emissions forecast in the AQMP, and (2) what level of overall emissions reductions result from the proposed Project alternatives.

(a) Deliverable:

1. Complete Subregion Emissions Burden Assessment as part of the EA/EIR

xvii) Safety and Security Burden Assessment - Consultant shall analyze all proposed railroad grade crossings to ensure safe surface or grade separated sbX operation. Security, defined as unlawful or criminal acts intended to bring harm to another person or loss/damage to property, shall be evaluated using existing Omnitrans experience. Consultant will meet with Omnitrans Security personnel and review literature related to security issues on Omnitrans and other transit systems. Crime statistics, if available, shall be cited to provide an estimate of the degree of security that is offered to the transit patron in relation to general background criminal activity levels. Design mitigations to reduce the likelihood of criminal activity will be identified. Factors such as station layouts and equipment (e.g., lighting, direct line of sight, video cameras, PA

systems, etc.) are major contributors to actual and perceived personal security. Consultant will identify the security impact of each alternative based on technology-dependent factors and based on other factors such as station conceptual layouts. Mitigation measures, as appropriate, will be recommended, if necessary.

(a) Deliverable:

1. Complete Safety and Security Burden Assessment as part of the EA/EIR

N) REVIEW

i) Consultant will draft the EA/EIR document and circulate it to all required parties for review. Omnitrans staff will forward to FTA staff, who will review and then coordinate publishing the Notice of Availability in the Federal Register. The required Notice of Availability will be prepared by Consultant and shall indicate the 45-day comment period dates, the dates and times for public hearing opportunities, and agency contacts. Local notices will be prepared to announce the availability of the document and public hearing dates. Public hearings will be scheduled and attended. Written and spoken comments will be assembled and summarized.

(a) Deliverables:

1. Draft EA/EIR
2. Circulate Draft EA/EIR
3. Prepare and circulate Notices
4. Schedule and attend up to two (2) public meetings/hearings

ii) Consultant, in consultation with Omnitrans staff and PDT members if needed, shall respond to comments presented during the circulation of the Draft EA/EIR, identify additional analyses that will be required to adequately respond to public comment or resolve issues in the Draft EA/EIR (if any), identify mitigation measures and develop a mitigation monitoring program.

(a) Deliverable:

1. Respond to public comments

iii) Additional environmental analyses may or may not be required as a result of unresolved issues related to the alignment, service and maintenance facility locations, and station locations adopted and defined for the Draft EA/EIR. These issues, if any, will be identified in a memorandum that will identify

these additional analyses and the level of effort required. Should additional analyses be required, an extension of the established schedule will be necessary.

(a) Deliverable:

1. Develop additional technical analysis to address public comments (if required)

iv) Mitigation measures for adverse impacts will be finalized and formatted into a CEQA Mitigation Monitoring & Reporting Program (MMRP) that will be continued during the final design and construction stages of the project. These mitigation measures will represent Omnitrans and FTA commitments necessary to respond to the impacts associated with the Project.

(a) Deliverable:

1. Mitigation Monitoring & Reporting Program (MMRP)

v) Following the completion of necessary analyses and identification of acceptable mitigation measures, a draft Final EA/EIR will be prepared for review by Omnitrans. Following incorporation of Omnitrans' comments, a revised draft Final EA/EIR will be prepared and forwarded to FTA for review and approval consideration.

(a) Deliverable:

1. Draft Final EA/EIR

vi) Consultant shall prepare the Final EA/EIR, incorporating FTA comments provided upon review of the draft Final EA/EIR. The Final EA/EIR document will be prepared, finalizing all text, graphics, tables, and other features. A camera-ready document will be prepared for printing and binding. Consultant shall assist in final EA/EIR printing and binding. Omnitrans will be responsible for the distribution of the Final EA/EIR.

(a) Deliverable:

1. Final EA/EIR

vii) After the Final EA/EIR is made available to the public for 30 days, FTA may issue a Finding of No Significant Impact (FONSI). Consultant shall assist Omnitrans to certify the CEQA document as adequate, adopt the project, adopt Findings of Fact and the Mitigation Monitoring & Reporting Program, and file a Notice of Determination to that effect.

(a) Deliverable:

1. CEQA/NEPA Approval Documents

O) LOCALLY PREFERRED ALTERNATIVE

i) Once the environmental clearance process is completed, the Consultant will assist Omnitrans with identifying the Locally Preferred Alternative and help to facilitate adoption by Omnitrans' Board of Directors and adoption by SANBAG's Board of Directors. The Consultant will also help Omnitrans to navigate the process of getting the Locally Preferred Alternative included in SCAG's Regional Transportation Plan as well as any of SCAG's or SANBAG's other regional planning documents, as needed.

P) Deliverables:

i) Scoping meetings / public hearings (can be combined with public meetings mentioned under Public Involvement task)

ii) EIR public comment hearings if needed (can be combined with public meetings mentioned under Public Involvement task)

iii) Final, approved EA/EIR

iv) Presentation to Omnitrans' Board of Directors

v) Presentation to SANBAG's Board of Directors

9.101 PRELIMINARY ENGINEERING (TASK 8)

A) PRELIMINARY ENGINEERING

Parallel to the completion of the Environmental Clearance task, the Consultant will be responsible for preliminary engineering (30% conceptual design) for the entire project, including Phase 2 (dedicated lanes).

B) AGENCY COMMENT REVIEW AND QUALITY REVIEW

The Consultant shall allow sufficient duration for normal agency review, respond to all written comments, and reflect in the final version of the construction contracts technical plans and specifications the resolution of each comment. Prior to the submission of drawings, specifications and other technical documents, the Consultant shall complete a quality review of system integration of all facilities and systems, including inter-disciplinary and intra-disciplinary reviews in accordance with Omnitrans approved Consultant's quality control program and procedures. The Consultant shall have a qualified individual or individuals, not directly involved in

the design or drafting of the plans, verify correctness and accuracy.

C) COMMENT REVIEW MATRIX

For re-submittals, the Consultant shall include a comment review matrix and the reviewer shall initial each comment as a verification that each comment has been taken care of. Re-submittals to Omnitrans and appropriate stakeholders shall include the new drawings, specifications and other technical documents, as required, and the comments (either on the plans or summarized in a comment log with responses and actions noted), initialed by the Consultant reviewer.

D) COMPATIBILITY REVIEW

The Consultant shall review design for compatibility with the existing systems affected by the project, and from the perspective of minimizing operating and maintenance costs, minimizing impacts to the environment and community, constructability (the consideration of construction methods and being sure that what is proposed can be built using common construction methods, especially considering the need to maintain street/roadway traffic and provide a safe working environment for contractors), compliance with state and local design requirements (for example, the Americans with Disabilities Act (ADA) and Buy America), cost-effectiveness, and consistency with design criteria. This task shall result in 30% Geometric Approval Drawings, which are to be approved and signed by all applicable jurisdictions. All plans shall be produced using CADD and Digital Terrain Modeling (DTM), and submitted to Omnitrans during project development in the current version at the time of delivery in AutoCAD or Microstation format in electronic format. Plans shall be prepared and formatted as agreed by Omnitrans.

i) The review will include the following:

(a) Construction sequence, traffic maintenance, and private property access
(b) Construction equipment and access
(c) Temporary construction easement and right-of-way requirements
(d) Limits and type of materials to be removed or rehabilitated
(e) Roadway horizontal alignment and vertical profile
(f) Proposed dedicated lane structural section
(g) Depth of existing utilities
(h) Materials, size, and depth of existing utility vaults and manholes
(i) Existing and proposed tree locations
(j) Preliminary traffic signal plans
(k) Structural canopy and traffic signal footing locations

ii) Deliverables:

(a) The Consultant will provide redline comments on the preliminary plans

as well as a comment matrix and will attend (1) constructability review meeting with the design team.

E) Deliverables:

Hard copy plans sets to be submitted to Omnitrans (4 copies) as well as each permitting agency, including cities of Fontana, Montclair, Ontario, Pomona, and Rancho Cucamonga, Ontario Mills, Ontario Airport, and County of San Bernardino, as per each agency's requirements.

F) APPLICABLE STANDARDS

i) The engineering design for this project will be done in accordance with all local, state, national, and industry standards, rules and regulations as applicable and with the following specific design standards:

(a) *A Policy on Geometric Design of Highways and Streets,* AASHTO

(b) *Highway Design Manual*, Caltrans

(c) *Highway Capacity Manual*, ITE

(d) *Manual on Uniform Traffic Control Devices* (MUTCD)

(e) *Transit Capacity and Quality of Service Manual* (TCQSM by TCRP)

(f) *Traffic Manual*, Caltrans

(g) Public Works – Standard Drawings, Cities of Fontana, Montclair, Ontario, Pomona, and Rancho Cucamonga

(h) Standard Specifications and Plans, County of San Bernardino and County of Los Angeles

(i) *Greenbook Standard Specifications for Public Works*, American Public Works Association

(j) *West Valley Connector Corridor/Route 61 Alternatives Analysis Summary Report*, 2014

(k) *Omnitrans Transit Design Guidelines*, 2013

(l) *FTA Construction Project Management Handbook*

(m) FTA Master Agreement and applicable FTA circulars

(n) Buy America and other relevant legislation

(o) Americans with Disabilities Act (ADA)

(p) Lessons learned from Omnitrans' E Street sbX Corridor Project (document available from Omnitrans) and any other applicable lessons learned posted by the FTA from other regions.

ii) The current standards of IEEE, ASHRAE, ASTM, ACI, AISC, NEC, FTA, FHWA, Corps of Engineers, SANBAG, LACMTA, City of Fontana, City of Montclair, City of Ontario, City of Pomona, City of Rancho Cucamonga, San Bernardino County, Los Angeles County, utility companies, and other local entities may be applicable.

G) DESIGN VARIANCES

i) At the beginning of Preliminary Engineering, the Consultant shall develop a Design Standards document for the Project, which is based on the design standards of the five cities, two counties, Omnitrans' Transit Design Guidelines document (2013), and other applicable standards from the above list of Applicable Standards. The Consultant shall notify Omnitrans' Project Manager if the above standards or guidelines are in conflict and shall work with Omnitrans staff and any relevant parties to resolve the conflicts into one unified standards document.

ii) The project Preliminary Engineering phase should strive to meet full design standards as much as possible with all the agencies. The Consultant will identify any variances to design standards throughout the design process. The Consultant will document the request for a design variance by providing Omnitrans with information as to which variance cannot be met and why, the proposed alternative, and other alternative that were looked at if any. If the variance requires approvals from other agencies, the Consultant will apply for the variance from that agency through Omnitrans with the required documentation of that agency.

iii) The PE portion of the total design effort must permit the Project to move rapidly through Final Design with a minimum of design changes, disruptions, or delays. The goal of PE is to complete the design to a point where there is consensus among stakeholders in the scope of the project, so that the scope can be "frozen" and not changed during Final Design.

iv) The Consultant shall perform system planning and preliminary engineering design to a level and extent necessary to satisfy the following:

(a) Resolves all substantial design issues; environmental impacts and mitigations; third party impacts and mitigations;

(b) Defines the Project scope and construction sequences;

(c) Provides more precise estimates of cost and schedule;

(d) Defines functional and operating characteristics;

(e) Responds to public comments received;

H) BASELINE DOCUMENT

i) Establish and maintain the baselines for Project scope, budget and schedule. Recognize that design shall be advanced to Final Design level of overall design completion and that by that level all baseline control data shall be based on the planned contract packaging and Contract Unit Descriptions.

ii) Deliverables:

(a) Baseline scope, budget, and schedule

I) DESIGN POLICIES

i) The Consultant shall develop design policy statements for the project as policy statements are completed and submitted to Omnitrans for review, comment and acceptance. Maintain the Design Policies and Procedures throughout development of the project. Considerations should include, but not be limited to, the following:

(a) System branding (adaptation of Omnitrans sbX branding);

(b) Station design – protection from wind, sun, and rain;

(c) Safety and security – Crime Prevention Through Environmental Design;

(d) Pedestrian and bicycle connectivity;

(e) Landscaping, public art, and other unique community components of design;

(f) Traffic impacts;

(g) Fleet vehicle options;

(h) Adaptability of design to accommodate future phases (i.e., which stations should be movable and which should be fixed, dependent upon future phase plans for roadway expansion; can side-running station shelters be adapted to become center-running median stations in the future, etc.?);

(i) Co-location of West Valley Connector stations with local Route 61 or

66 bus stops, as well as consideration of space needs for local bus stops adjacent to stations, including Routes 61 and 66 and other intersecting local routes; and

(j) ADA compliance.

(k) Deliverable:

1. Design policy statement with Basis of Design document

J) PRELIMINARY PROJECT DEVELOPMENT (SYSTEM) PLANNING

i) The Consultant shall coordinate with the owners of the public facilities within the Project limits and develop Basis of Design and various Plans, Reports and Procedures, which will facilitate the control of Project scope, provide for quality of the design and documents being produced, and establish the operational and performance requirements for system design. The Basis of Design document should borrow heavily from that prepared for the E Street sbX Green Line Corridor. Note that the term "system" is used interchangeably with the term "project", and the term "systems" is used to describe various mechanical, electrical and electronic equipment and elements.

ii) The Consultant shall coordinate facilities engineering, architectural engineering and systems engineering design requirements and interfaces to assure an integrated design.

iii) Deliverables:

(a) These interfaces may include: equipment product data sheets, equipment location, arrangement, installation, traffic control requirements for construction and operations; space requirements input into facilities and architect engineering preliminary design plans and drawings; interfaces with mechanical, electrical, communications, emergency identification and response, control, monitoring, passenger; and personnel safety systems interface.

K) PRELIMINARY BASIS OF DESIGN REPORT (BOD)

i) Early on during the preliminary engineering phase and, based on the conceptual engineering work completed to date, the Consultant shall advance the Initial Engineering Design Feasibility Report and prepare for Omnitrans' approval a Preliminary Basis of Design (BOD) Report that will establish the general Basis of Design of facilities and systems. The Consultant shall develop a BOD Report for the alternative(s) advancing into PE. Where any design concepts or location issues are still unresolved, provide for the comparative analyses of alternatives. This report shall be the basis for developing alignment geometry, structure selection, station design,

operational control systems, and cost estimates. The Preliminary BOD Report shall be used as a starting point for PE and basis for comparison between alternatives and of an alternative's ability to perform to the project objectives and criteria. It is not anticipated that the PE design would meet every BOD assumption or objective. Where the PE design fails to meet an assumption, objective, or design criteria, the specific deviation, cause, and impact shall be identified and discussed in the Preliminary Engineering Report.

ii) The Preliminary BOD Report shall include a section listing operational assumptions including: vehicle type(s); vehicle storage and maintenance requirements; maximum operating speed, average operating speed, and headways; projected patron loads and passenger through-put capacity; service and spare vehicle requirements; station parking requirements (if any); vehicle location, communication, and tracking requirements; central control and monitoring provisions, security and information systems, and security access; and other requirements determined by Omnitrans. This list shall be used to ensure that these operational elements are included in the preliminary design plans and cost estimates.

iii) The Preliminary BOD Report shall include a section listing major technical design assumptions including: basic alignment grade and geometry requirements; pavement requirements; what commonality and consistency with other Omnitrans Projects or lines must be reflected; what service standards and quality of facilities and equipment apply; what trade-off and life-cycle cost studies are needed; what provisions for growth, expansion, extension and interconnection are intended; and other requirements determined by Omnitrans. This list shall be used to guide layout and design of the alternative and the development of cost estimates.

iv) Particular attention shall be given to all impacts and requirements, including interface and modifications to existing systems.

v) The Preliminary BOD Report shall be brief and cover the major operational and technical assumptions and requirements to develop preliminary designs and compare alternatives. The report shall be generally tabular. The Consultant shall develop an acceptable format for approval by Omnitrans.

vi) The following policy decisions shall be considered:

(a) Operational service standards, desirable/normal and minimal, including:

1. Overall trip times;

2. Wait times;

3. Minimum policy headway;

4. Vehicle loading densities;

5. Fare schedule and collection method;

(b) Patronage estimates, by time of day and by direction;

(c) General alignment and structural configuration (alignment should consider safe operation of buses, difficulty of turns, etc. as well as travel times and access to key transit ridership generators);

(d) General station locations and major feeders;

(e) Bus Operation and Maintenance facility (O&M facility) requirements and location;

(f) Other precautions pertaining to this Project; and,

(g) Integration with existing traffic signal systems at crossings.

vii) Where there are basic design issues to be resolved, the Consultant team should perform trade-off studies under this subtask. Produce a BOD Report within 60 calendar days after authorization of project development phase.

viii) Deliverable:

(a) Basis of Design report and trade-off studies

L) VALUE ENGINEERING (VE) AND COST REDUCTION PROPOSALS

i) Bring to the attention of Omnitrans potential candidate changes in the bases of design or other constraints which should be considered as design-phase value engineering proposals, cost reduction measures, cost-effectiveness enhancements or cost elimination or deferrals. Where Omnitrans has engaged a value engineering Contractor, cooperate with such Contractor and participate as requested in specific VE meetings. The Consultant shall provide technical support, including performing technical and cost/benefit analysis. As directed by Omnitrans, the Consultant shall incorporate the recommendations of VE changes.

M) PRELIMINARY ENGINEERING (PE) REPORT

i) As the Project passes through the preliminary engineering development phase, update the Preliminary BOD Report and produce a Preliminary Engineering Report which will summarize the work performed beginning with the completed planning work, CADD standards, and preliminary facility and systems design work and ending with the various deliverables to date. The

Report should include the preliminary design drawings, specifications and technical reports by reference and be in a report format suitable to Omnitrans. The report shall complement the Project documents and provide background information, qualifications, and other data as needed to document the design and serve as an aid in the future phases of project development. Provide the analysis of elements or systems that are potential candidates for value engineering, cost reduction or elimination from the Project.

ii) The PE Report shall include recommendations for design assumptions, deficiencies in known information, changes in design criteria, and additional investigations needed to complete final design. The PE Report shall include recommended criteria for final design taking into account the analysis completed in PE including: geotechnical, hazardous or contaminated materials, hydraulics, structural, operational, constructability, operations, systems, safety/security, cost-effectiveness, community acceptance, or other pertinent data. Assumptions should include the proposed operational plan for the Omnitrans system after the Project is completed, including regular service and special event service, and through coordination with the proposed operating plans for feeder bus, passenger rail, or other planned transit services. The PE Report shall identify all requirements for the final design, including codes, criteria, and design standards that must be met.

PRELIMINARY GEOTECHNICAL ENGINEERING

(a) Site Visit and Review of As-Built Information - The Consultant will locate and review As-built Log of Test Borings (LOTB) sheets for the I-10/Archibald Ave and I-15/Foothill Blvd Interchanges, and any other useful bridge crossing near the corridor provided by the team. The Consultant will research and review available literature and any soils reports provided by Omnitrans on regional geology, seismicity, and geotechnical data. Consultant will also perform site reconnaissance visits to inspect existing ground conditions along the entire corridor.

(b) Soil Profile and Strength Parameters - From the available soil data, the Consultant will interpret soil and groundwater conditions along the corridor and develop approximate soil profiles and soil strength parameters for pavement design and foundation analysis.

(c) Seismic Design Criteria - The Consultant will determine causative fault, site distance and estimate the Peak Bedrock Accelerations and ARS design spectra using Caltrans Seismic Design Criteria and California Building Code.

(d) Geotechnical Engineering Analyses - The Consultant will conduct preliminary geotechnical evaluation and engineering analyses for foundation design based on collected data. Analyses include an estimation

of soil liquefaction potential, preliminary foundation analysis and provide feasible foundation types and preliminary foundation design data for spread footings or piles if required. For spread footings, we will provide allowable and ultimate soil bearing capacities, frictional coefficients and passive soil resistance. For pile foundations, we will estimate the required pile length based on preliminary axial demands.

(e) Report Preparation - The Consultant will prepare a draft Preliminary Geotechnical Report for the entire project summarizing the site geology, soil conditions, seismic design parameters, and estimated pavement and structure foundation design parameters based on existing reviewed information. The Draft Geotechnical Report will be distributed to reviewing agencies. We understand this report may be reviewed by the cities of Pomona, Montclair, Rancho Cucamonga, Fontana, and Ontario. The project crosses Caltrans right of way and therefore Caltrans review is possible. Comments related to geotechnical issues will be addressed by the Consultant. The Consultant will incorporate responses and comments into a final preliminary Geotechnical Report which will be submitted and distributed.

iii) *Deliverable*:

(a) Preliminary Engineering Report
(b) Preliminary Geotechnical Report

N) SYSTEM RELIABILITY / AVAILABILITY / MAINTAINABILITY / DEPENDABILITY (RAMD) PLAN

i) Using objectives established by Omnitrans that relate to system reliability, service availability, maintainability of equipment and fixed facilities and system dependability, prepare a System Reliability/Availability/Maintainability/Dependability (RAMD) Plan that establishes the allocation of reliability, availability, maintainability and dependability requirements to the various system elements. Also establish the methodology to be used to confirm at various stages in the design, fabrication and testing of the system that overall system requirements are being met. The System RAMD Plan should borrow heavily from that prepared for the E Street sbX Green Line Corridor Project.

ii) Perform studies and analyses, to determine the appropriate RAMD requirements.

iii) Deliverables:

(a) System Reliability/Availability/Maintainability/Dependability (RAMD) Plan

O) SYSTEM ASSURANCE PLAN

i) Develop and implement the System Assurance Plan (borrowing heavily from that prepared for the E Street sbX Green Line Corridor Project), including review of those analyses required to verify that the system design, as it progresses, will meet the overall system assurance requirements.

ii) *Deliverable:*

(a) System Assurance Plan

P) OPERATIONS AND MAINTENANCE (O & M) PLAN

i) Consultant shall develop a System Operations and Maintenance Plan based heavily on (and consistent with) the Operations and Management Plan for the E Street sbX Green Line, and consistent with FTA guidelines.

ii) The plan should be based on (1) ridership forecasts (2) service goals, and (3) spares requirements. Refine vehicle fleet size calculations from earlier phases of planning.

iii) Develop operating schedules indicating service levels throughout the day. Develop dispatch and pull-in schedules and schemes for midday operator changes, if necessary. Operations plans should be coordinated with other inter connected systems operations.

iv) Develop for each end-of-line station, turnback, and convergence, an operations plan section and identify the functional facilities and equipment requirements.

v) Reflect the detailed requirements of the Project including the projected operating patterns and schedules; operations and maintenance (O&M) facility; interline connections and how they will be used; non-revenue route between end-of-line station and O&M facility; turn-around loops; functional facilities and equipment; station operations; central control ties; fault responses and other operational coverage. Cite operational problems that are foreseen or may occur and related safeguards and mitigation measures for each. Discuss the interaction between operating and maintenance functions and provide a general overview of normal and degraded operations with related rules and procedures.

vi) Assist Omnitrans in the development of preliminary operating schedules, and dispatch and pull-in schedules. Provide support for coordination and negotiation of operations and maintenance issues.

vii) The O&M Plan should include operating cost estimates for the West Valley

Connector Rapid bus service, as well as recommendations on how to alter existing local bus routes to better feed into and complement the new service. These recommendations shall include an analysis of the Environmental Justice and Title VI impacts of the recommendations, based upon the prevailing FTA guidance.

viii) The O&M Plan should also include the following components:

(a) Spare parts requirements and inventory list for facilities and vehicles necessary for the Project;

(b) Systems and Facilities Integration Coordination and Testing Plan; and

(c) Test Procedures.

ix) Develop the draft Operations and Maintenance Plan for the Project within 45 calendar days after authorization of preliminary engineering phase. Finalize the O & M Plan and use as input to the design tasks.

x) *Deliverable:*

(a) Operations and Maintenance/Management Plan

Q) OPERATIONS AND MAINTENANCE (O&M) FACILITY NEEDS ASSESSMENT

i) Conduct a needs assessment and cost-benefit analysis for O&M needs for operation of the BRT line, including the alternative of using a new O&M facility and the alternative of using the existing East Valley O&M facility. The needs assessment must include consideration of the needs for fuel and washing facility, service and inspection shops, repair shops, storage yard and related operational dispatch, administrative and parking facilities required for the Project. Based on input from Omnitrans staff and initial research, develop a list of needs and criteria for a vehicle O&M facility resultant from the West Valley Connector Corridor project (assuming purchase of all new 60' articulated vehicles). The needs assessment should result in a report detailing the space needs and the criteria that should be taken into consideration when selecting a site and designing the facility.

ii) Based on meetings and interviews (maximum 2 days of in-person meetings and facility tours) with Omnitrans staff, the Needs Assessment Report should take the following factors into consideration:

(a) Understanding of the facility staffing;

(b) Understanding of staff office/personnel requirements;

(c) Understanding operational practices;

(d) Understanding shop and shop support functions;

(e) Understanding yard functions; and

(f) Understanding policies and procedures that may affect building configuration and/or work practices.

iii) Deliverable:

(a) O& M Facility Needs Assessment Report

R) FAILURE RECOVERY ANALYSIS

i) Analyze the effect of potential failures of the system or particular system elements on bus operations. Develop alternative failure management strategies and system recovery scenarios. Identify operationally suitable locations and configurations. Provide operational input to emergency preparedness planning effort.

ii) *Deliverable:*

(a) Failure Recovery Analysis Report (based heavily on that prepared for the E Street sbX Green Line Corridor Project)

S) OPERATIONS AND MAINTENANCE COST ESTIMATES

i) Based on the operations and maintenance (O&M) staffing projections, as well as information on design life, reliability and maintainability, develop estimates of annual operating and maintenance costs.

ii) Address and evaluate the trade-offs between capital investment and lifetime operating and maintenance costs. The O & M cost estimates should be based heavily on those prepared during the Alternatives Analysis phase as well as the E Street sbX Green Line Corridor Project.

iii) Deliverable:

(a) O& M cost estimates

T) SYSTEM SAFETY PROGRAM PLAN

i) Develop a System Safety Program Plan for the Project (based heavily on that prepared for the E Street sbX Green Line Corridor Project) including details on roles, responsibilities and activities. These activities shall include: general tasks, design and procurement.

ii) The System Safety Program Plan shall describe the mechanism to be implemented to assist in attainment of, and compliance with, established System Safety, Fire/Life Safety, Safety Certification, Americans with

Disabilities Act (ADA), Elderly and Handicapped and Human Factors Engineering Criteria, Plans and Procedures.

iii) The System Safety Program Plan shall satisfy Omnitrans' System Safety Policy and be compatible with the applicable guidelines of the CPUC and prevailing industry standards and practices. The System Safety Plan shall address but not be limited to: the management of single point failures; the resolution, identification and timely feed-back of solutions to identified hazards such as at- grade crossings for pedestrians, patrons, bicycles and vehicles, and fuel system into design and operations procedures; the methods taken to finalize safety certification checklists; controls to be implemented to verify compliance to codes, regulations, ordinances and standards for fire/life safety requirements; the development of emergency response procedures; participation in the test Programs; review of operations and maintenance manuals and procedures which relate to safety and the establishment of proactive methodology and requirements.

iv) Provide technical assistance and advice to Omnitrans. Perform technical analysis of Intersections Crossing-Safety. Develop Project requirements and an implementation plan for identified safety measures and input into the overall design.

(a) System Safety Program tasks will include, but are not limited to:

1. Provide technical assistance, advice and counsel to Omnitrans;

2. Review all relevant sections of design criteria, standard and directive drawings, design review packages, change requests, and other Project documentation for compliance with safety criteria;

3. Develop safety-related documents;

4. Perform planned and periodic internal audits to verify proper program and procedures;

5. Establish and maintain a safety data management system;

6. Establish and maintain an effective hazard identification and resolution program;

7. Establish and maintain a safety library;

8. Review O&M manuals and procedures that relate to safety and attend training courses;

9. Review test procedures and participate in testing; and

10. Verify that tests results meet specified criteria.

v) Produce draft System Safety Program Plan for the Project within 45 calendar days after authorization of preliminary engineering phase. Finalize the System Safety Program Plan and use as input to the design tasks.

(a) Provide a Safety and Security Certification Plan and conduct the following related tasks:

1. Provide administrative and technical support to the Safety Certification Review Team;

2. Develop criteria and specification conformance checklists for certifiable contracts;

3. Verify and complete criteria conformance checklist packages;

4. Provide support to the certification process of testing activities and other field activities;

5. Participate in certification status meetings with Omnitrans; and

6. Provide support to on-going certification efforts in the resolution of safety issues.

vi) The resulting safety certificates and Safety Certification Plan will also be used through the design, construction, testing, and operational-readiness phases of the project and shall be designed to reduce all incidents that harm passengers and employees, whether these incidents are the result of unintentional occurrences (safety) or intentional acts (security). Also, the Safety Certification Plan should encompass Crime Prevention Through Environmental Design (CPTED). It must be prepared during PE and updated as needed.

vii) *Deliverable:* System Safety Program Plan and the following related documents:

(a) Safety and Security Management Plan;

(b) Safety and Security Certification Plan;

(c) Certifiable Items List;

(d) Systems to be Tested List;

(e) Preliminary Hazard Analysis;

(f) Threat and Vulnerability Analysis;

(g) Operation Hazard Analysis; and

(h) Safety and Security Organization Review.

U) EMERGENCY PREPAREDNESS

i) Finalize the Emergency Preparedness Plan (based heavily on that prepared for the E Street/sbX Green Line Corridor) for Omnitrans' submission to California Public Utilities Commission (CPUC). Develop a list of emergency simulations and prepare preliminary procedures to be used during pre-revenue test operations. If requested, coordinate simulations schedules with Omnitrans.

ii) Review test procedures. Develop emergency scenarios and prepare emergency readiness drills to be used during revenue and pre-revenue Services. Review current Omnitrans Operations & Maintenance training programs and make recommendations for revising or developing new ones.

iii) Assist Omnitrans in coordinating resolution of operations and maintenance issues with Omnitrans Operations, third party agencies and Contractor disciplines.

iv) *Deliverable:*

(a) Emergency Preparedness Plan for Project

V) SYSTEM SECURITY PLAN

i) Review the existing Security Plan for Omnitrans, and update the System Security Plan (based heavily on that prepared for the E Street/sbX Green Line Corridor), including details on roles, responsibilities and activities. These activities shall include study of the Project system designs and operations as defined to date and identification of potentially significant problem areas related to the security of patrons, of transit employees and of the property, equipment and structures of Omnitrans. Describe each security problem area and indicate what measures must be taken in the design-specification process or in the operations/maintenance period to avoid or mitigate the indicated security problem.

ii) Review all relevant sections of design criteria, standard and directive drawings, change requests and other Project documentation during the preliminary engineering phase for compliance with System Security Design Criteria. Give particular attention to areas identified as carrying the highest risk for patrons, transit employees or transit equipment. Support Omnitrans in soliciting comments from the Security Committee to overall design activity

through presentations, meetings and special studies.

iii) *Deliverable:*

(a) Produce draft System Security Plan for the Project within 45 calendar days after authorization of preliminary engineering phase. Finalize the System Security Plan and use as input to the design tasks.

W) SECURITY RISK ANALYSIS

i) Conduct a Security Risk Analysis (based heavily on that prepared for the E Street/sbX Green Line Corridor) to identify potential security problems related to the various elements of the Project. The analysis will present the identified risks, possible causes, the potential effects to the system and potential solutions or mitigation of risks. The analysis will be used as input in completing design.

ii) Deliverable:

(a) Security Risk Analysis

X) SECURITY OPERATIONS PLAN

i) Develop a Security Operations Plan (based heavily on that prepared for the E Street/sbX Green Line Corridor) describing proposed security-related functions for the operating systems, based on assumed staffing/contract levels used to develop the O&M cost estimates. The Plan will describe security-related functions to be carried out by the planned levels of security personnel, CCTV monitoring personnel, fare inspectors, fare collection equipment service technicians and revenue collection staff or sub-Consultants.

ii) Analyze the Security Operations Plan and assumptions for adequacy, conduct required capital versus operating cost tradeoff studies and recommend solutions to Omnitrans. Provide results as input to continuing O&M cost estimating activity.

iii) Deliverable:

(a) Security Operations Plan

Y) SITE INVESTIGATIONS AND DATA GATHERING

i) The Consultant shall assemble and review existing available site investigations data from previous work performed by Omnitrans, cities, county, Caltrans and from adjacent and nearby construction projects and determine the additional site investigations work necessary for completion of preliminary engineering design. Advise Omnitrans in writing within 30

calendar days after authorization of preliminary engineering phase, the results of the review. Perform additional site investigations work as required for the Project.

ii) Deliverable:

(a) Site Investigation Report

AA) ASSEMBLY OF REFERENCE DATA

i) Recognizing that physical changes occur and that data collected during the planning phase of the Project may require updating, including the projected changes of developers, update Omnitrans' file material on existing and projected conditions potentially affected by or causing influence on the design or construction of Project facilities. Maintain current knowledge of existing and projected conditions. Add to and maintain reference files as a living document.

ii) The Consultant shall identify projects that may impact the design of the Omnitrans Project. The Consultant must identify the design interfaces between the Omnitrans Project and the projects of agencies and utilities external to Omnitrans. The Consultant must develop an interface plan that identifies the external project, the agency/utility, contact person(s), and the referenced documents that must be considered in conjunction with the design of the Omnitrans Project. The Consultant must coordinate with external agency/utility and reflect the coordinated design in the Omnitrans Project. The Consultant is required to obtain a copy of the documents(s) that will influence the design of the Omnitrans Project and maintain said documents as part of the reference data utilized in the design of the Omnitrans Project.

iii) *Deliverable:*

(a) Reference data file

BB) HORIZONTAL AND VERTICAL CONTROL SURVEYS

i) Establish horizontal and vertical control nets and a baseline for the extent of the Project adequate to provide the basis for the Project coordinate system of horizontal control and control of elevation for purposes of final engineering design and construction. Place permanent survey markers along the route of the Project at appropriate intervals. GPS stations shall be incorporated into the horizontal traverse to tie the baseline control to the San Bernardino County and Caltrans horizontal control network. Base the vertical control on the nearest appropriate current vertical control benchmarks established by the City, County, or Caltrans. Produce all survey field notes and a baseline control map in CADD format, with details of all control stations shown on the map. Also furnish control station data sheets for each control station showing the position of the monument, reference ties, description of its location, horizontal coordinates and elevation. The project will assume NAD83

Horizontal and NAVD88 Vertical Datums.

ii) Existing Records: The Consultant will conduct research of relevant land and survey records to locate necessary survey and land ownership records required to complete preliminary Right-of-Way mapping. This task does not include title report review for all parcels along the corridor.

iii) Control Surveys: Based on the primary control established by others, the Consultant will field locate adequate cadastral monuments in the project area to establish record centerline.

iv) Deliverables:

(a) Control surveys
(b) One PDF copy of survey field notes and sketches
(c) Microstation format file with survey control

CC) PHOTOGRAMMETRIC MAPPING

i) Define the needs for final design quality map sheets and their layout at a scale of 1" = 40' unless otherwise required by each jurisdictional agency. Make use of the established horizontal and vertical control surveys to control the aerial mapping. Temper this work with the need for topographic surveys and coordinate the two methods such as they are complementary and accurate such that engineering base maps can be prepared and the information can be utilized to develop final engineering design, plans and profiles. As needed, produce sets of contact prints and photo index maps. All additional photogrammetric mapping shall be digitized and geo-coordinated. The Consultant will prepare aerial photogrammetric mapping 400 feet wide, 200 feet each side of centerline alignment along the 25-mile-long project length, in digital terrain mapping (DTM) format and aerial photogrammetric mapping in digital format.

The Consultant will set aerial control targets along the corridor at predetermined locations. Targets will be tied to the control surveys established and positioned under Task 2. Aerial mapping will meet national map accuracy standards. Mapping swath will be 400 feet centered on the planned corridor alignment. 1"= 40' mapping scale with 1' contours will be prepared to Caltrans CADD standards. A Digital Terrain Model (DTM) will be prepared to Caltrans CADD standards

ii) Deliverable:

(a) Photogrammetric mapping
(b) One PDF copy of survey field notes and sketches
(c) Microstation DGN format file containing Aerial Mapping

(d) InRoads format file containing DTM
(e) Color Ortho-Rectified Imagery

DD) TOPOGRAPHIC SITE SURVEYS

Assumptions:

- Right of way staking of Temporary Construction Easements, Permanent Easement and Fee takes and engineering support is included as Optional Tasks.
- Due to limited capital funds, it is anticipated that the selected alternative will not require multiple right of way fee acquisitions.

i) To the extent mapping by photogrammetric means is not adequate in terms of detail or other requirements, conduct topographic site surveys of the areas of interest, producing topographic mapping showing terrain features, contours, spot elevations, and the like. This work includes, but is not limited to, determination of details such as location of trees, curb cuts, street lighting, adjacent building and parking, curb joint elevations, back of sidewalk elevations, pavement join elevations, grading limits, modifications to existing slopes, drainage system, O&M facilities, limits of construction, critical building and other structure offsets; sub-sidewalk structures affected by the Project; and cross sections of existing street, Caltrans, water courses and railroad rights-of-way.

ii) Deliverable:

(a) Topographic site surveys 200'x50' (25' intervals) at side stations and cross sections (50' intervals) at centerline dedicated lanes.

EE) UTILITY SURVEYS, SUPPLEMENTAL DESIGN SURVEYS, AND COMPILATION MAPS

i) Apply topographic surveying techniques to record the presence of existing utility lines and structures. The Consultant shall collect pertinent record drawings from city, county, and utility owner's maps and records, conduct field surveys to locate and verify existing underground and overhead utilities. Recognize existing utilities that might impact the design of the Project, including storm drainage (pipes and channels), sanitary sewers, gas lines and valve boxes, petroleum product pipelines, water mains and valves, power lines, poles, duct banks and vaults, steam pipelines and communications systems both underground and overhead (telephone, telegraph, alarm systems, cable transmission systems, fiber optics.) Locate such utility facilities by standard field survey methods.

The Consultant will contact the sanitary sewer providers and water districts to request as-built mapping of their facilities that are within the construction limits

of the Project. Upon receipt of the As-built data, the Consultant will coordinate to identify the limits of the necessary ground surveys to be performed by others. Upon receipt of survey data, the Consultant will verify the existing sanitary sewer and water lines within the Project area.

The Consultant will input the existing sanitary sewer and water line information into a CADD file, which can then be referenced into the Utility Compilation Mapping.

ii) Supplemental Design Surveys - Once the final bus stop locations have been determined by the design team, the Consultant will proceed with the field surveys. Supplemental topographic surveys will be used to augment the aerial mapping and for areas needing precise positions and elevations at the 47 planned bus stop locations. Conventional and 3D Laser scan methods will be used at the 47 identified bus stop areas and surrounding curb and pavement.

Cross sections, if needed, will be collected at 25' intervals at bus stop locations and at 50' intervals along the centerline dedicated lanes. Drainage and other surface utilities not easily ascertainable from the aerial mapping will be collected during this task. Drainage and utilities will be limited to the planned bus stop areas. Other underground utility locating and mapping will be performed under a different task. Storm and Sewer pipe inverts will be collected along the dedicated bus lanes route and planned bus stop locations.

Deliverables:

(a) Microstation DGN topographic map prepared at the same scale as the aerial mapping
(b) Supplemental ground mapping and DTM for those areas as described above
(c) Survey field notes - PDF
(d) Survey Report - PDF

Assumptions:

(a) The consultant will collect the needed site utility locating data in one mobilization based upon the pre-field collection and mapping meeting with the design team. Any further visits to the site will be considered additional time and require additional fees.
(b) It is assumed that supplemental surveys will cover the 47 bus stop locations identified in the PDF file provided by the client. Should additional locations be necessary to survey beyond the 47, the consultant will require additional fees to meet the request.
(c) It is assumed that monument preservation will be conducted by the contractor's surveyor.

iii) Deliverable:

(a) Utility surveys and compilation maps

FF) BASE MAP DEVELOPMENT

i) Produce final design quality base maps using an appropriate blending of control surveys, photogrammetric mapping and topographic surveys and plotting. These design base maps shall be at a scale of 1" = 40' unless otherwise required by jurisdictional agency and will evolve using a standard CAE/CADD format. Where details require it, base map insets or site development plans shall be at scales of 1" = 10' or 1" = 20'. Base maps should include existing right-of-way lines. The Right of Way Base map will be developed from relevant land and survey records to locate necessary survey and land ownership records required to complete preliminary Right-of-Way mapping.

ii) Deliverables:

(d) Base maps

GG) ALTERNATIVE DESIGN STUDIES

i) As part of preliminary engineering or as may be specifically directed by Omnitrans, conduct technical studies and comparative evaluations of alternative preliminary design solutions to any facility or system element of the Project. Include, as appropriate, trade-off studies, life cycle cost analyses, cost-effectiveness comparisons, aesthetic evaluations, environmental impact assessments and other sets of decision factors. For each such study, develop a technical report describing the issues, the alternatives, the comparisons made, the decision matrix, the conclusions and any recommendations.

HH) FACILITIES/SYSTEMS INTERFACE COORDINATION

i) Coordinate the work of preliminary engineering design of civil/structural facilities and preliminary design, functional definition and specification of various systems elements. During the preliminary engineering phase when the scope of facilities and systems are evolving as design studies are conducted, becoming more detailed and less generic, the need to monitor configuration and interfaces is greatest. Recognize that one objective of such review is to avoid inconsistencies among the various systems and between systems and fixed facilities and to prevent such inconsistencies from being carried into

Final Design. As the many design decisions are made, and as inputs from Omnitrans and various third parties are recognized, provide close overview of the evolving design to ensure it proceeds on a compatible basis. Recognize that historically the most demanding care pertains to conduit runs, including size, numbers and embedment space; structural block-outs, sleeves and chases for electrical/mechanical systems; sizing of equipment space with proper clearances for access and maintenance of equipment units of unknown manufacturer; functions of and remote read-out requirements for alarm systems. The plans and procedures for configuration management, change control and interface control shall prevent any prolonged inconsistent design work.

II) PRELIMINARY FACILITIES ENGINEERING/URBAN DESIGN

i) Under this task, the Consultant shall advance the level of design from conceptual engineering to completed preliminary engineering design package. It is the objective of Omnitrans to resolve all substantial design issues to develop capital cost estimates by Contract Unit as a part of preliminary design completion. The Consultant shall provide such engineering services required to satisfy the City requirements for all work within the City right of way. The Consultant should draw from previously completed work.

ii) The Consultant should show examples of how the Project will be successfully integrated with the adjacent community. This integration must be applied to all components of the Project (station architecture, hardscape and landscape, art program components, etc.). The Urban Design Integration and Station Architecture are to be coordinated with Omnitrans departments.

JJ) STRUCTURE TYPE, SIZE AND LOCATION

i) The Subtasks defined here are intended to produce the most advantageous configuration of the Project or system structure components in terms of cost, aesthetics, environmental impact and constructability, including the evaluation of alternative materials and the selection of a preferred choice for the Project site conditions. This scope statement encompasses any type of station and drainage structures.

ii) In determining the station locations, the Consultant shall give thorough consideration to pedestrian connections (locating stations where high concentrations of pedestrian activity exist) as well safety of the location.

KK) PRELIMINARY ALIGNMENT DESIGN

i) At the completion of the preliminary engineering design phase, the horizontal and vertical alignment of the Project must be more than "preliminary". It must be near final and fully mathematized, subject to only adjustments engendered by the final design of structures and systems. Given the Project

location as concluded through the Alternatives Analysis phase, the Consultant shall refine the Project control lines which have been selected to define alignment by applying the geometric design criteria and recognizing the constraints and controls on location presented by the site.

ii) Consideration shall also be given to constraints on final vertical alignment (profile) including minimum overhead clearances at crossings of streets, highways, water courses, railroads, buildings and overhead utilities, criteria limitations on maximum and minimum profile grades and vertical curve standards. As portions of the Project alignment in graphical form become less variable and essentially final, compute the alignment and tie its control points into the State coordinate system and the Project control baselines and benchmarks.

LL) PLAN, CROSS SECTIONS AND PROFILE DRAWINGS

i) Given the conceptual engineering work completed, including drawings, the Consultant shall develop PE drawings, which includes, but are not be limited to, a set of plan, cross sections, and profile drawings based on the final design base mapping at the selected final design scale, screened to accent proposed features. The Consultant shall submit a layout of the proposed plans and profiles for the Project to Omnitrans and coordinate with the PDT before proceeding with the preliminary design drafting.

ii) Prepare plans and cross-sections of the existing and proposed construction and existing development (streets, freeways, railroads, buildings, water courses, utilities, significant property boundaries and the like). Plans should show the following:

(a) Street roadways, structures, earthwork, grading, paving, drainage system (including culverts, and pipes), bikeways, landscaped areas, erosion controls, security/safety fence, lighting, striping, traffic signaling, vehicle control system, and location of proposed utility connection points for services.

(b) Planimetrics – existing structures, roads, walls, facilities, vegetation, etc., location of existing utilities and structures from record information (including assumed depths or cover where applicable).

(c) Existing railroad tracks and structures and proposed relocation or other adjustments.

(d) Stations locations and design concepts.

(e) Existing right of way and property lines and easements.

(f) Street improvements and proposed modifications to existing

conditions in the corridor, if applicable, such as utility modifications or relocations, street relocations and other street modifications/improvements, grading, modifications to existing retaining walls, grade separation structures, grade crossings and drainage systems.

(g) Connections to the main line, portion of the adjacent storage yard and shops, bus access, circulation and storage, and non-revenue operating segment of the line at sites of proposed maintenance facilities.

(h) The plan and profile drawings shall show a strip of the linear plan view above a vertical profile grid such that the stationing of each corresponds as much as possible.

(i) Existing grade line, major overhead and underground utilities, and significant subsurface geologic conditions.

(j) Mathematized horizontal and vertical geometry, control point coordinates and elevations, bearings, horizontal and vertical curve data, grades in tabular form, major dimensions, critical vertical and horizontal clearance dimensions, major existing finished floor elevations, and other parameters of design on the drawings. Include details and sections for any areas that will be particularly challenging or have non-standard elements or construction challenges along with notes stating the Consultant's assumptions for how it can be handled.

iii) Deliverables:

(a) Produce a set of 30% preliminary design drawings including, plans, profiles, and sections. Also, produce a set of composite plans at 1":80' scale. These drawings shall be in the standard CAE/CADD format and reproduced in standard Mylar drawing sheets. Geometric approval of these plans should be acquired by all applicable jurisdictions.

MM) STATION AND STATION SITE DEVELOPMENT

i) The Consultant shall develop standard station plan layouts, canopy, amenities, and equipment and perform modifications to make it site specific for each station. Concurrent with the work of other tasks, coordinate with Omnitrans departments and PDT to obtain input/consensus regarding functional requirements and scope of each station, and develop for each passenger station in the Project under design an individual Program which will assemble on one or two pages the basic functional requirements and scope of each station. The Consultant shall provide to the station design sub-consultant the projected passenger loadings to be accommodated in terms of "off's" and "on's" by peak and base period, the maximum buses by vehicle type, the quantified

requirements for parking and map cases, station pylon markers and other informational/way finding structures, and other equipment space and other features to be accommodated in the design.

ii) For each station, advance the design to a level of completion resolving the station configuration, its major dimensions; vertical circulation elements; parking facilities; lighting system; access and circulation roadways; the location of each with respect to a stationed centerline of Project, and the following:

(a) Auxiliary rooms if needed for stations, including for electrical, mechanical, and systems requirements shall be included.

(b) Parking if needed for stations based on parking demand projects to be provided by Consultant. Include accessible and van accessible spaces, taxi stands, drop-off, pick-up, including auto circulation within the site and local street access.

(c) Bus bays, bus stops, and bus circulation roadways, for transit buses (e.g. bus interface amenities such as bus benches and shelters).

1. Consideration of the Station Kit of Parts developed as part of the Alternatives Analysis study, Omnitrans' *Transit Design Guidelines* document, Crime Prevention through Environmental Design principles, and consideration of protection from the weather (especially summer heat) when selecting materials for benches, shelters, and other amenities.

2. Develop three concept options for side-running stations and three concept options for center-running stations, to be presented to jurisdictional agencies and project development team.

(d) Features to assure compliance with the latest requirements of the Americans with Disabilities Act and state Title 24, such as curb ramps, directional bars, international symbol of accessibility, clear zone for wheelchair lift deployment, accessible signs, etc.

(e) Artwork locations as approved by Omnitrans.

(f) Signage (based off of signage standards from Omnitrans' E Street sbX Green Line project).

(g) Consideration for where operator shift changes will happen on route, as well as breaks and bus change-outs.

(h) Electrical and communications for lighting, public address system,

variable message signs, public pay phones, passenger assistance telephones, emergency telephones, maintenance telephones, closed-circuit television (CCTV) for security cameras (with pan, tilt and zoom capacity), maintenance equipment, intrusion detection systems, fire and emergency management systems and related racks, conduits and cable trays; etc.

(i) Irrigation and planting, including hose bibs for maintenance.

(j) Architectural features and finishes, including paint specifications and colors.

(k) Clear lines of sight to all areas for security in accordance with CPTED (Crime Prevention through Environmental Design) principals.

iii) Develop economical Project station features, utilizing uniform features where appropriate, and reflecting the unique character of the neighborhood in which it exists and the joint development opportunities of the site. Produce a set of preliminary station and station site development design drawings including plans, sections, elevations, and details, at scales to be agreed with Omnitrans, to support the plan and profile drawings and for approval prior to commencement of final design, and to form bases for preliminary capital cost estimates and construction contract documents.

iv) Reflect all proposed features which will occupy the station site development, including adjacent transit line sections, parking (if needed), intermodal transfer facilities, plazas, bicycle racks/lockers; bikeways; signage; traffic control devices; lighting; and landscaped areas.

v) The stations are to be designed in a modular fashion. Standardized elements shall be incorporated to provide unity and minimize costs. Coordinate with PDT and other Consultants involved in the station area community linkage designs to ensure coordination of the station design with any ongoing station area planning.

vi) Consultant shall analyze the connections to surrounding intermodal transit connections that might include city and municipal bus stops, passenger rail, bike paths, bus benches and shelters, bike racks and lockers.

vii)The Consultant may be asked to consider “smart growth” joint development opportunities at some or all of the station sites in cooperation with the PDT. Investigating these joint development opportunities would expand the scope of work to include a larger station footprint with residential and/or commercial designs.

(a) *Deliverable:*

1. Six (6) professional renderings for Phase 1 work.

NN) CENTER-RUNNING BUS LANES AND MEDIAN STATIONS

i) The scope of the Project includes two segments of center-running bus lanes on Holt Boulevard in the City of Ontario, which adds up to a total of 3.5 miles of dedicated bus lanes, with six median stations. Depending on the outcome of the phasing/financing plan, the final design of the dedicated bus lanes and median stations (which is part of this contract) will be provided by the Consultant either in the full plan set for the Project, or as a separate plan set for Phase 2 of the Project.

ii) The design of the dedicated bus lanes and stations must include the following considerations:

(a) Street cross-section widths, and a plan with right-of-way lines that shows which properties are impacted. (Right-of-way acquisition will be handled outside of this contract.)

(b) All components of design for widening Holt Boulevard along the 3.5 miles planned for dedicated bus lanes, including the following:

1. Curb and gutter reconstruction;

2. Repaving of any needed lanes;

3. Reinforced concrete bus pads within the pavement where the buses stop;

4. Intersection work, including relocation or replacement, as needed, of traffic signal equipment, and pedestrian crossings.

5. All utility relocation needed as a result of Project, as well as utilities needed to stations, such as electrical and fiber lines.

(c) Dedicated bus lanes, including the following:

1. Pavement markings;
2. Barriers for separation from mixed-flow lanes (such as concrete curbs);

3. Safe and efficient transitions where dedicated bus lanes end (using sbX Green Line and other BRT projects from around the country as examples).

(d) Six median stations, including the following:

1. Pedestrian safety barriers at stations;

2. Shelters and all passenger amenities included in Station Kit of Parts;

3. Landscaping;

4. ADA-accessible pedestrian pathways from public sidewalk and crosswalk to access station.

iii) Deliverable:

(a) One (1) professional rendering for Phase 2 work

OO) STATION DEFINITION-REFINE STATION DESIGN AND URBAN DESIGN CONCEPTS

i) Review and evaluate station locations recommended in Alternatives Analysis phase.

ii) Transit stations are places where users interact with the transit system. Not only do transit stations need to be functional, but they also need to brand the system by announcing that a new form of transit is available in the community. Individual site design concepts will be prepared for each station, and the Consultant team will also confirm the sbX name and branding. The station plans should be refined based on new information. They should be heavily based on the sbX station kit-of-parts, as updated and refined during the West Valley Connector Corridor Alternatives Analysis.

iii) The Consultant team shall review the station locations illustrated in the Alternatives Analysis Summary Report to determine any concerns with the location of stations and to identify other special conditions along the corridor. The branded design and the current kit-of-parts concept, with its capability to adjust to varying sidewalk widths, will be discussed. Using the newly updated base information, design criteria, and field visits by the Team, each station site will be reviewed. This review will consider existing and future sidewalk widths, existing utilities, and linkages to adjoining existing and proposed future developments. The Consultant team will meet with Omnitrans and the City to define station passenger amenities, their locations, and any betterments that the cities may be anticipating.

iv) Updated station plans will be produced by the Consultant using available new aerial photography and digital and hard copy detailed field surveys on base sheets which show right-of-way, pavement widths, sidewalks, and footprints of adjacent buildings, adjacent parking, existing trees, street lighting, curb cuts, and other major features along the alignment.

v) Deliverables:

(a) Station plans;

(b) Exhibit-type graphical representations and architectural renderings including 3-d renderings of stations in multiple lights and angles;

(c) Material sample boards; and

(d) One (1) finished scale model of a typical station.

PP) BRANDING DESIGN

i) The Consultant will be responsible for adapting existing sbX graphics (from sbX graphic design standards developed during the E Street sbX Green Line project) to work for 40' vehicles, 60' vehicles, and to be integrated with station design.

ii) The station branding will also include the line's color line name designation. The Holt/4th line was originally designated as purple, but the final color line name needs to be confirmed with Omnitrans, the PDT members, and Omnitrans' Board of Directors.

iii) Deliverables:

(a) Bus fleet graphic design (for 40' and 60' vehicles), and station design with integrated system branding using the sbX logo.

QQ) STATION ART PROGRAM

i) The Consultant will provide an art coordinator who will manage an art program working with members of the community and the sbX PDT. The art coordinator should propose an art program for the Project that involves local youth and/or community members, is community-based, low-cost, and can be maintained within Omnitrans' ongoing station maintenance budget. The Consultant shall coordinate with Omnitrans Project Manager to incorporate artwork and artist ideas into the overall design. The program should draw lessons learned from the E Street sbX project public art program.

ii) The art coordinator will be responsible for drafting legal agreements related to implementation of art program, along with coordination with local community organizations, artists, Omnitrans Project Manager, and PDT members.

iii) *Deliverables:*

(a) Art program proposal

(b) Meeting agendas and minutes/notes

(c) Draft agreements

(d) Outreach/informational materials related to art program

(e) Project art policy

iv) Art Program Proposal – The Consultant will prepare for and facilitate a meeting with the project design team to:

(a) Define a vision for public art for the West Valley Connector Corridor project

(b) Identify opportunities for public art within system

(c) Review art process and results from sbx E Street project

(d) Identify appropriate staff members who oversee public art projects within stakeholder cities

(e) Define methods for artist and artwork selection for a range of project opportunities with consideration of local artists

(f) Discuss and determine method of procurement for artist design and fabrication services

(g) Establish art program proposal budget

(h) Establish contracting requirements for artists to streamline art fabrication, delivery and installation

(i) Consider special project initiatives that may include temporary art, artists in signage, landscape and functional object designs

(j) Deliverables:

1. Draft public art program proposal for Omnitrans review and comment.
2. Finalize art program proposal.
3. Present final art program proposal to Omnitrans Board for final acceptance if necessary.
4. Provide status reports on art program for Omnitrans as needed

v) Implement Approved Artist Selection Process - The Consultant will provide services to coordinate the review and selection of artists for the project. This shall include:

(a) Meet with staff to finalize RFQ for artist application to project

(b) Assist in the development of outreach effort to encourage local artist participation

(c) Organize station art selection committee

(d) Coordinate outreach effort with team

(e) Coordinate review of artist qualifications with station artist selection panel members

(f) Coordinate with design team art options for development of preliminary design concepts

(g) Provide Omnitrans staff with draft agreements for artist services per approved artist selection plan

(h) Coordinate final review of artist presentations for final artist selection

(i) Inform all artists of final selection process results

(j) Deliverables:

1. Draft boilerplate artist agreements.
2. Provide meeting minutes and presentations as needed for outreach or stakeholder meetings.
3. Provide status reports on art program for Omnitrans as needed.

vi) Integration of Artist Design Concepts - To facilitate the integration of artwork into the construction document, the Consultant shall provide the following services:

(a) Work with Omnitrans to initiate final design services agreement for project artists
(b) Meet with project architect to discuss artwork integration into construction documents
(c) Develop and conduct conservation review process for materials and methods of art fabrication
(d) Check references for proposed fabricators, coordinate inspection and materials testing as needed
(e) Monitor artist deliverables to integrate artwork into construction documents
(f) Discuss and develop proposed maintenance criteria for artwork
(g) Provide status reports on art program for Omnitrans as needed
(h) Conduct review of construction schedule and artist fabrication schedule
(i) Work with project architect to develop specifications for artwork as needed for construction documents

(j) Deliverables:

1. Report to Omnitrans regarding conservation review of materials and methods for fabrication and maintenance of artwork.
2. Artist submittals for integration of artwork into construction documents.
3. Specifications in construction documents for artwork as needed.
4. Provide status reports on art program for Omnitrans as needed

RR) TRAFFIC ANALYSIS

i) The Consultant shall perform all necessary work to determine the traffic impact of the transit signal priority infrastructure as part of the project.

ii) Develop preliminary plans for improvements to intersections and crossings for bicycle, pedestrian and vehicular traffic through, across or along the Project corridor. The Consultant's team will be responsible for determining urban design concepts for pedestrian access to each station.

SS) PRELIMINARY TRAFFIC ENGINEERING DESIGN

i) In support of the preliminary design of transit facilities, study and resolve traffic-engineering issues resulting from development of Project facilities in coordination with Third Party Representatives, including:

(a) Street traffic conflicts with transit operations, requiring street closings, frontage road development, cul-de-sac development, grade-level crossings, grade separations, street widening, parking lane removal, median break closures, mixed traffic operations and other methods of conflict resolution.

(b) Coordinated bus control and traffic control systems including transit preemption of "green time" and addition of bus segments to the traffic control cycles.

(c) Other traffic control signals and signing to facilitate traffic movement.

(d) Patron access to stations and station sites by all modes and traffic control at station site entrances.

(e) Grade crossing protection.

(f) Surface treatments to discourage vehicular encroachment.

(g) Alternative public parking provisions.

(h) Traffic maintenance during construction of proposed transit facilities.

(i) Construction truck access to construction sites.

(j) Secondary analysis including signal coordination and timing sheets.

ii) Evaluate these issues where they occur and develop preliminary designs of changes to existing streets, facilities and traffic control devices and input the results into the plan and profile drawings and preliminary design drawings. Coordinate all work involving traffic jurisdictions of the State, County and City with the designated representatives of such agencies and Omnitrans' Representative. Produce a detailed report on resolution of traffic conflicts, the "before" and "after" traffic conditions and allocation of responsibilities affecting modifications (design and construction) and maintaining and operating new devices including interface between bus control and traffic control. Coordinate with cities and other affected agencies who will provide guidelines and review and approve the completed design and drawings for traffic signals, signs, striping, and worksite traffic control plans and specifications for work within the City right-of-way. Perform traffic-engineering design to a level that identifies and resolves all issues relating to traffic signal modifications, improvements and new signal requirements to the satisfaction of Omnitrans, Cities, and other affected agencies. Prepare plans and details of traffic signals, signs, striping and worksite traffic control plans for the Project and obtain approval from the applicable jurisdiction authorities.

Deliverables:

(a) Three preliminary schematic traffic signal plans, one each for the Cities of Pomona, Rancho Cucamonga and Fontana.
(b) Preliminary signs, striping and worksite traffic control plans.

iii) Field Review and Final Field Element Locations

(a) Existing information pertaining to the project will be collected and reviewed to assess the accuracy of field conditions and to identify potential utility conflicts. The Consultant will conduct a field review to verify and inspect the existing sanitary sewer and water line facilities. Video inspection is not anticipated. Information may include existing applicable plans, such as highway and roadway improvements, utility plans, traffic signals, signal interconnects, and highway lighting as-builts. A detailed field review will also be conducted. The following information at all approaches and corners for each location where improvements are recommended will be collected:

1. Existing cabinets

2. Cabinet equipment, including controller type and firmware
3. Existing services
4. Traffic signal standards
5. Mast-arms
6. Push buttons
7. Size and type of signal heads
8. Existing loops
9. ITS elements, such as closed-circuit television (CCTV) cameras and video detection cameras
10. Existing pull boxes
11. Existing vaults
12. Driveways
13. Storm drains
14. Utility manholes/vaults
15. Existing ADA compliance

iv) Finalize Queue Jump Locations

(a) Determine whether queue jump locations are feasible within existing right-of-way and work with local jurisdiction and Omnitrans Project Manager to determine locations and criteria for queue jump locations.

v) TSP and Queue Jump System Architecture Design

(a) The technology to be used for the provision of signal priority for the vehicles will be key in the development of the final design elements. As part of the activities for this task, the technology and approach for TSP and queue jump will be identified and reviewed with each involved agency.

vi) Identify Transit Signal Priority Technology

(a) As part of this task, TSP system requirements will need to be developed. In essence, when a vehicle passes an imaginary trip-wire location that is established a user-defined distance before the intersection, the vehicle's TSP call is first received at the intersection controller. This is conceptually known as a "Check-In" type of detection. Once the check-in TSP call has been received, the controller begins to make its own calculations and/or adjustments to signal timing, as needed, to better match that approach's green signal display with the anticipated arrival of the vehicle.

(b) The "Check-Out" action also needs to be accomplished by the TSP call system so that the controller knows when the vehicle has reached the intersection and no longer needs the controller to provide priority service for that approach. The combination of check-in/check-out can be achieved technologically in many different ways, including the following:

1. Optical, continuous active command directed to intersection (such as Opticom) – A strobe beacon that is attached to the front of the bus emits precisely timed light flashes of a relatively uniform intensity. The detector at the intersection continuously 'watches' down an approach to the intersection for this optical energy. When the system's "signature" flashing sequence is recognized (meaning that a valid emitter-equipped bus is approaching), and the intensity of the energy signal received exceeds a certain user-set threshold, then the presence of the bus is active. Since the amount of energy received from a light source is directly proportional to its distance, the user- set threshold energy level corresponds to a specific distance from the intersection. Beyond that point, buses may be "seen" by the detector, but they do not create a TSP call. From that point, all the way to the intersection, there is a continuous TSP call produced. A filter is used with the emitter on transit vehicles so that only invisible infrared light is produced.

2. Radio frequency tag passage detection at a trigger point – A radio-frequency (RF) device is mounted on the bus. This device is called an RF tag, and it would be similar in size and capability to a toll tag transponder. An RF tag reader is constructed or installed at a location in advance of the intersection where it has been determined that a TSP call should be initiated. From that location, the TSP call is forwarded (by either wireless or wired means) to the targeted intersection's controller. The data message size capability of an

3. RF tag-to-reader system is much larger than that required to

produce a TSP call, and some systems use this data capacity to extract status or other information from the bus.

4. Infrared tag passage detection at a trigger point – This setup is virtually identical to the RF tag installation described above. Instead of wireless energy in the radio frequency spectrum, the data are transmitted in the infrared light spectrum.

5. Loop detection at a trigger point – A traditional detector loop is installed in the street at the point where it has been determined that a TSP call should be initiated. A device is mounted on the bus undercarriage that continuously transmits RF energy of a particular "signature." The loop detector unit is specially tuned to "listen" for this signature and is triggered when it detects the bus over the loop. From its roadside location, the TSP call is forwarded (by either wireless or wired means) to the targeted intersection's controller.

6. Real-time, continuous location tracking by centralized system – Automated Vehicle Location (AVL) tracking devices are becoming more commonplace on many transit systems for active monitoring purposes. Most of the newer implementations utilize the national GPS to triangulate locations from three or more of the geosynchronous satellites in earth's orbit. Use of the same GPS tracking system to provide reliable and accurate vehicle locations for transit priority purposes may or may not be possible because of the frequency of data sent and the speed/position of the bus. Some transit agencies have had to install more than one GPS tracking system on their buses because the first system installed was not designed to allow for multiple uses of the GPS location information. In some transit districts, where a preponderance of close, tall buildings or other impediments restrict the available sky view, GPS-based systems can exhibit problems in determining a correct location. In such cases, the GPS system can be augmented or totally replaced by a the dead reckoning (DR)-based system. A DR system counts wheel revolutions and thus knows how far along the route that particular bus has traveled. For use in AVL systems, the bus location information must be transmitted wirelessly to some external TSP component that makes TSP decisions. A limitation of many AVL systems is the time interval between routine AVL transmissions, which may play a significant role in whether AVL alone can be effectively used for TSP purposes. Many transit properties' AVL systems get location reports from buses only once every minute or two. If the reporting rate were one minute, then the worst-case condition would be that the

vehicle location report was received 61 seconds prior to the arrival of a bus. Estimating the arrival time of the bus from that great a distance (approximately 0.25- to 0.33-mile in advance) may not be accurate enough for TSP. One solution to overcome this lag problem would be to reduce the time interval for transmitting location, typically to less than 30 seconds, but this may also encounter problems due to limitations on the wireless radio system's bandwidth capacity.

(c) Design a uniform platform that is proven and will be accepted by all agencies involved.

vii) Develop TSP and Queue Jump Operation Standards

(a) In a normal cycle for a signalized intersection operating under coordinated control, the cycle length is common for all of the intersections within the same coordination area or zone. This must be true so that the progressive traffic flow that is set up in the timing pattern for a major road is repeatable, cycle after cycle.

(b) Typical signal coordination patterns have been developed to benefit a hypothetical platoon of moving vehicles that do not stop unless required to by a red signal. The typical transit vehicle does not or cannot stay within this hypothetical platoon due to passenger stops. The arrival of a transit bus to an intersection is totally disassociated with how the controller is serving the various movements. Sometimes, the bus may arrive during the green "window" for that approach, but more often than not, the bus will arrive at some time when the signal is red. The concept of TSP is that the signal controller is able to recognize when a bus is arriving in relation to its green window, and make instantaneous adjustments to the signal timing to shift the traffic signal's green window(s) on the approach of the bus to the intersection to better match the arrival of the bus.

(c) Three signal cycle strategies are currently being implemented in TSP systems. In all three, the traffic signal controller modifies its regular timing to provide a priority service to the approaching bus. The shift can be implemented in the following three basic ways:

1. Green is "held" for the approaching bus, but no extension of the normal phase split is required. The phase green is held, but since the bus is arriving during the normal green window for that phase, no extended time is required. While the signal cycle is not changed, the signal is not allowed to shift from green even though it senses no other traffic at the approach. This type of priority action can also be utilized for any approach that is not the arterial green phase in a coordinated system operation;

therefore, it could be applied to a side street approach or a left-turn phase for the bus. It is also applicable to any phase during those times when the intersection is not under coordination timing control (e.g., late night and/or weekend), where each phase is actuated and responding to the absence of approach vehicles for some gapout time.

2. Green Extension – The green phase for an approaching bus is held for a few seconds longer than "normal" to allow it through. A time extension of approximately 10 seconds (or in some cases, 10 percent of the cycle length) has been used by many cities as an acceptable extension time. This timing shift would be in response to a bus that is expected to arrive just a short time (usually a few seconds) after the signal would have otherwise turned yellow. Successful implementation of this scenario means that the bus (and the vehicles traveling alongside of the bus) would be spared a long wait at a red signal.

3. Early Green – In this scheme, the bus is due to arrive some amount of time before the approach phase's normal green window. To reduce the time spent waiting in the queue, or perhaps eliminate the stop-and-go action entirely, the preceding phase green times are reduced somewhat so that the green for the bus can commence sooner. Again, many agencies set the threshold at approximately 10 seconds. This priority action results in saving just a few seconds for transit vehicles, far less than that saved by the successful extended green priority mentioned above. Some cities refer to this as "Red Truncation," because phases preceding the transit movement are cut off early, producing an earlier end of the red light for the bus.

(d) TSP is a feature that *attempts* to modify normal signal timing in response to a special TSP call. It should not be confused with pre-emption, which is provided only for special vehicles (i.e., trains, emergency vehicles) approaching the intersection where their through passage *must* be provided. Pre-emption functions take precedence over TSP, even if TSP service is in progress. The controller will always service a pre-emption call and begin serving it immediately upon its receipt.

(e) As part of this analysis, provide the following services:

1. Technical memorandum describing the state of the practice in TSP. This will include typical operational parameters and settings used, such as TSP services per cycle, amount of time allocated to TSP, use of early green service, and use of extended

green service. This will be specific to the needs of each individual agency.

2. Technical memorandum of the TSP functionalities available with each City's existing traffic controller firmware and system (both currently running 170 controllers with Bi-Tran firmware). If a need for upgrades is found, then those will be identified and detailed out. Upgrade alternatives will also be identified along with cost information.

(f) Based on the TSP objectives and parameters that are identified and the capabilities of each controller firmware/system that will ultimately be in operation, develop a technical memorandum (draft and final version) that will describe the details of the proposed operational parameters of TSP for the targeted intersections. This will include typical operational parameters and settings used, such as TSP services per cycle, amount of time allocated to TSP, use of early green service, and use of extended green service.

viii) Identification of Upgrade Needs

ix) The first step prior to developing the PS&E package is to prepare a preliminary design report (PDR) that qualifies and quantifies the project elements. Under this task, the Consultant shall detail the design of the intersection improvements (i.e., signing and striping, pole replacement, detection upgrades, operational enhancements, controller hardware/firmware replacement, and cabinet change-outs), signal system upgrade requirements, and communication infrastructure needs to support the signal operations.

(a) Upon completion of the field surveys and the development of the queue jump and TSP architecture, we will prepare a draft and final PDR, which will serve as a basis for design.

TT) PRELIMINARY DESIGN OF UTILITY RELOCATIONS

i) Utilizing the recorded and checked locations of utility lines and facilities in or near the Project, determine under this subtask the methods by which conflicts between such existing utility lines and structures and Omnitrans' proposed construction and facilities may be resolved. The Consultant, working with Omnitrans and utility owners, shall identify the utility segments requiring relocations. At least one field visit shall be scheduled with each affected utility company to review all conflicts and discuss resolution of the conflicts. Where conflicts are proposed to be resolved by reconfiguring utility networks, capacity studies shall be performed. Corrosion control shall be considered for any metallic utility crossings. Relocated utilities shall provide service equal to the existing installations; upgrades shall not be considered without Omnitrans' approval. The Consultant shall evaluate the viable options for each alternative

for permanent and temporary relocation, and assist Omnitrans to conclude, with the utility owner, a course of action.

ii) For each utility relocation to be performed prior to the award of the design-bid-build contract, the Consultant shall identify and recommend critical utilities whose locations should be precisely located. Upon approval by Omnitrans and the utility owners, the Consultant shall arrange to have potholing performed. Where feasible, the potholing shall consist of actually digging a hole to expose the subject utility and getting it surveyed. Potholing requirements are contingent upon the preferred alternative selected for design. Costs for potholing will be obtained from Optional Services. Vacuum extraction or other methods can be proposed in areas where exposing the utility would cause too great an impact.

iii) For utility owners who design and construct relocations to their facilities (i.e., natural gas, electric, telephone, fiber-optic, and oil pipelines), the Consultant shall identify conflicts and coordinate with the utility owners. The PE plans shall include the utilities in both their existing and relocated configurations. The cost estimate shall include these third-party relocation costs.

iv) The Consultant shall identify all utility services required for the project (e.g., power, communications, etc.). The Consultant shall verify that services are located nearby and shall include proposed service points on the PE plans. If services are not available, the Consultant shall reconsider their design or show the necessary utility connections on the PE Plans and include these costs in the cost estimate. The PE utility plans shall demonstrate how maintenance access to manholes, vaults, cabinets, or other key facilities, new or existing, is maintained. In some instances, it may be necessary for the Consultant to design maintenance roads and/or crossings and include them in the cost estimate.

v) Develop preliminary designs of the agreed relocations or other work and assist Omnitrans with coordination of this effort with the owner. Where Omnitrans and a utility owner have agreed, the owner will design the utility relocation and review such third-party design work to verify its conformance with Omnitrans' needs and to identify any betterments which may be included. Prepare preliminary utility drawings, including street lighting, at the base map scale. The drawings shall include composite plans of existing utilities, sections, rearrangement concepts and profiles and details of major utility rearrangements. These will include preliminary sanitary sewer and water line plans for those that are in conflict with the proposed project improvements. Approval of the preliminary design shall be obtained from the utility owners.

Deliverables:
Schematic Relocation Exhibits of proposed utility relocations at each project

location (27 sites and the 3 mile widening of Holt Blvd).

Service point exhibits identifying existing electric and phone or fiber infrastructure and determine potential service point locations for the new electric and phone or fiber services to the OmniTrans.

Preliminary Sanitary Sewer Design Report, which will document the basis of design for the proposed sanitary sewer relocations. The report will also discuss the proposed method for addressing sanitary sewer laterals that might be impacted by the Project improvements.

UU) PRELIMINARY LANDSCAPE DESIGN

i) For the Project, develop a preliminary landscape master plan based on the concept of minimal landscaping and entirely drought-tolerant landscaping. The landscaping elements selected must be consistent with each City or jurisdictional agency's landscape guidelines and/or requirements.

ii) Preliminary landscape master plan must define where landscaping is needed, the type of landscaping required, and anticipated needs to repair and restore existing planting after completion of facility construction. Review the proposed facility locations, the planned rights-of-way and the adjacent development, land uses and remainders. Develop a preliminary landscape design for each station site, along the corridor, and at parking and O&M facilities.

iii) Coordinate the landscaping plans with Cities, PDT and Omnitrans. Plans shall include palette of recommended trees, plants and shrubs for each community area. The landscape palette is to utilize drought tolerant plants, preferable those native to Southern California/Inland Empire or other plant materials approved by each city in their ROW. Consider continuity of design and intent.

iv) Recognize need to control erosion of slopes using vegetation and to create physical and visual barriers within the right-of -way. Produce a landscape master plan to include introductory comments, key sketches and a description of proposed landscape treatment. Produce landscaping drawings and details at the base map scale. Also select the applicable directive drawings or, if appropriate, prepare new drawing sheets detailing the landscape design elements for the Project. Develop budget estimate for the landscaping work defined.

VV) PRELIMINARY DESIGN OF SIGNAGE, STRIPING, AND GRAPHICS

i) Based heavily off of signage design standards from the E Street sbX Green Line project, Consultant will support the architectural and systems design

work to establish spatial requirements for signage, striping, and graphics, including station identification, pylons, directional signs, site and system maps and their cases, fire equipment related signage, fire/life and safety signage, traffic control signs, pavement delineation, milepost signs, vehicle clearance markers, and station site directional signage for various intermodal transfer movements. Make sure all signage adheres to ADA requirements and that handicapped accessible routes are clearly marked. Prepare preliminary drawings showing the siting of each sign and graphic element and the standard or special text intended for each, and pavement delineation plan showing striping. Ensure review and approval by Omnitrans Marketing & Planning Department prior to finalization of preliminary design.

WW) CONSTRUCTABILITY REVIEW SUPPORT

i) Provide engineering support to Omnitrans and its Contractors conducting constructability reviews. This will include responding to questions and providing additional information as necessary. Identify needs for other contractors' worksite and materials storage space and develop preliminary capital costs with advice on schedule impacts on construction due to site access, traffic maintenance options, inclement weather, interface relationships, material and equipment procurement lead times, and availability of utilities connections. This support may include:

(a) Define a noise/vibration-monitoring Program for implementation during construction to identify and mitigate potential impacts created by the Project.

(b) Identification of construction easements.

(c) Identification and timing of any required permits and easements.

(d) Potential interface problems with other adjoining Contractors and options for resolution.

(e) Emergency access for fire, police, and emergency medical services.

(f) Operational access for building tenants, customers, delivery service and trash removal.

(g) Mobility through or across corridor.

(h) Disruption due to noise, vibration, dust and silting.

(i) Conformance with noise ordinances.

(j) Truck haulage and railroad operations disruption.

(k) Access to construction work areas and storage areas.

(l) Reduced street parking.

(m) Disruption of marquees, sub-sidewalk spaces and signs.

(n) Visibilities of storefront show windows.

(o) Bus stop and route disruption.

(p) Access to parking garages, driveways, and auto service centers.

(q) Work hours per day, workdays per week, impact on commuter hours, and special holiday considerations for traditional parade routes and the holiday shopping season.

(r) Traffic disruptions at intersections for grade-crossing construction.

(s) Practicality of traffic maintenance.

(t) Impacts on traffic on other streets from construction detours and activities.

(u) Utilities disruption.

(v) Safety to general public.

(w) Coordination with other Projects.

ii) For the Project, develop a report on construction period issues as foreseen at the preliminary design level and define construction area control requirements which must be addressed in the drawings and specifications, including the requirements of the local traffic jurisdiction for maintenance of traffic at reduced levels, varying by hours of the day and days of the week, hours of construction operations; spoil disposition; truck routing; noise, dust and erosion control; temporary fencing, lighting, striping, and signing and other constraints of other Contractors.

iii) In addition to matters of constructability that are due to site and institutional constraints, review the facilities design work in progress to determine that there is at least one practical way of constructing the facility under current design. Monitor the evolving details especially of structures, the joining of structures, the drainage of structures, the mounting and attachment of architectural features, the anchorages of equipment, the maintainability of the resulting structures, the sequence of construction and assembly, the difficulty of forming and making field connections and other challenges to reasonably, economic and overall construction capability.

iv) PDF and CADD files depicting the existing sanitary sewer and water line facilities as well as the conceptual relocations of these facilities within the Project limits will be provided. A hard copy and a PDF camera-ready file of the Preliminary Sanitary Sewer Design Report will also be provided.

XX) FIRE/LIFE SAFETY REVIEWS

i) Coordinate with Omnitrans Safety & Security Manager or staff on issues relating to fire/life safety and code compliance. Provide support at selected meetings on issues relating to the Project. Submit appropriate documentation to justify issuance of a Certificate of Occupancy from the Safety & Security Manager for the Project.

ii) Develop the System Safety Plan applicable to the Project and accommodate the reviews by local jurisdictions of design work in progress, including the review of any proposed exceptions to criteria. Recognize the goals of such design review are: (1) to identify fire and life safety issues impacting the design early in the design process so that cost effective alternative solutions can be developed during this phase of the Project, and (2) to verify that the design of the Project is responsive to the fire and life safety design and performance criteria.

YY) ELECTRICAL DESIGN

i) Develop and identify Electrical design characteristics required as input for civil engineering and systems preliminary engineering efforts including functional description and operating philosophy; incoming electric power service and its characteristics from service providers along the corridor. Using architectural plans as a base, the space requirement shall be verified for all electrical rooms. Enlarged plans of auxiliary power room, if needed, shall be prepared showing all equipment sizing and layout to verify working spaces inside electrical rooms.

Electrical engineering includes:

a. Establish space requirements for electrical equipment.
b. Establish project scope for the following systems to establish criteria for power and lighting system, approximate sizes and capacities of major components, preliminary equipment layout and space for equipment, and required chases and clearances.
    1. Lighting (station lights and station related street lights)
    2. Power Distribution
    3. Emergency lighting
    4. Electrical engineering for support equipment such as ticket vending machines, ticket validators, variable message signs, maintenance equipment, fire and emergency management systems, etc.

c. Prepare Preliminary Engineering (Basis of Design) Report
d. Prepare Preliminary Engineering design drawings and specifications
e. Infrastructure for communications and security equipment will be referred to but not shown within the drawings.
f. Coordination with the local utility to bring power and site utilities to the stations will be provided by others.

Plumbing/mechanical engineering is to include:

a) Establish sizing requirements for drainage of canopy structures
b) Provide plumbing engineering for station drinking fountains
c) Provide cooling/ventilation for communication cabinets
d) Prepare Preliminary Engineering (Basis of Design) Report
e) Prepare Preliminary Engineering design drawings and specifications

ii) Prepare electrical layout plans, elevations, one-line diagrams, details at the base map scale, and calculations. Electrical requirements, including stations and streets, shall be incorporated in the electrical design and plans.

ZZ) PRELIMINARY DESIGN OF SYSTEMS EQUIPMENT

i) Under this task, the Consultant shall advance the level of Systems Design from concept to completed preliminary designs in preliminary engineering phase documents including performance specifications of various systems elements required for the Project in the construction and or Final Design phase. This task will establish the functional requirements for all the system components. Coordinate Project integration and interface requirements. When this design milestone is completed, all design issues and performance parameters shall have been resolved except where specific options have been earmarked for advancement into the final design/construction phase for resolution or for presentation to bidders as formal options or alternatives. The preliminary level specifications include block functional schematics, interface diagrams and text outlining the significant performance requirements. Completion of this work will find the systems elements defined as to methods of procurement and installation and as to the scope of each Omnitrans contract. Consultant shall develop capital cost estimates. Develop and submit for approval the required deliverables.

ii) For each of the systems listed herein, periodically review the in-progress results with Omnitrans and participate with Omnitrans to obtain approval for the evolving design concept. Work closely with Omnitrans on planning the scope and method of procurement. For each of the systems listed, produce the following:

(a) A performance or procurement specification which resolves the

interfacing and principal performance requirements;

(b) Drawings by station of installation layouts;

(c) A report on trade-off analyses;

AAA) VEHICLES

i) The Consultant shall provide support as needed to Omnitrans in procurement of vehicles. Work will include development of guidelines or performance specifications and principal performance requirements for the vehicle procurement.

BBB) SIGNALING AND VEHICLE CONTROL AND COMMUNICATIONS

i) Identify and develop Signaling/Vehicle Control and Communications specifications required as input for facilities and systems preliminary engineering efforts. The scope of this subtask includes preliminary engineering of all concepts as required toward development of an adaptable modular concept.

ii) In establishing the performance parameters of the signaling/vehicle control and communication systems, consider the functional description and operating philosophy; compatibility and interface philosophy with existing signaling/vehicle control and communication systems (Central Control Center, bus, streets, Police Departments, Fire Department, Sheriff Department) and

future extensions; the near term operations and any foreseeable changes in the future which might argue for a concept which could be later modified as circumstances dictate; advances in the state of the technology since the previous procurement, changes in the industry and marketplace, lessons learned by other US public transit agencies and new or differing functional requirements of the immediate Project.

iii) The wayside signaling system must be industry proven for transit operations. Work with City Traffic Departments to develop wayside requirements such as signals, special signaling necessary for at grade areas where street crossings occur for transit vehicles and other vehicles; input power requirements; equipment space and access requirements, and coordination with traffic signaling in the local jurisdictions. Verify the existing vehicle specifications and incorporate these into workable interfacing bus control equipment design.

iv) Evaluate fiber optic system and provide recommendations and solutions on the best use. Coordinate with Omnitrans IT Department on development and/or improvements of communication, existing and or new as it relates to transit communications integration. Communication systems such as surveillance camera system should be compatible with Omnitrans' existing

systems to the extent possible.

v) Coordinate with Omnitrans and PDT members and perform sufficient design to identify station and wayside requirements such as conduits, cabling, and antennas; develop expansion plan of Central Control including equipment layout and space requirements; develop block diagram of overall system; and identify requirements for the signaling/vehicle control and communication systems, which should be added to the cost estimate, and includes: Closed Circuit Television (CCTV), Variable Message Sign (VMS), Omnitrans network Telephone system along with public telephones, Public Address, transit vehicle on-board equipment, cable communication system, electrical clearance (based on operating voltages and NEC, CPUC, and NEMA codes), intrusion detection systems; fire alarms, high water, or other incident warnings tied to the signaling system; Bus location and centralized control at Montclair; providing a fiber-optic trunk line; security cameras; and communications compatible with Omnitrans security, and the appropriate police and fire agencies; and other unique related issues. These unique issues include, but are not limited to, specific control systems and line-of-sight operation sections shall be identified. The Consultant shall submit product information on which the design is based.

CCC) CENTRAL/SATELLITE CONTROL FACILITY FUNCTIONAL PLAN

i) Evaluate existing Control Center(s) and recommend if the Project can be connected to an existing Control Center. Where a Project includes development of a new central or satellite control facility, define the functional requirements based on the O&M Plan. Where a Project is to be connected to an existing Control Center, define the expanded or added functional requirements to be accommodated at such existing or programmed facility. Develop design guidance in preliminary design of both new and revised control center offices or buildings, as deemed necessary during this PE.

DDD) OTHER RECOMMENDED EQUIPMENT

i) The Project philosophy is to specify the simplest, most cost effective, safe and reliable equipment that easily interfaces with existing vehicles. Therefore, recommend other equipment that may be required for complete system operation. These systems may or may not include: Signs, Transit Automatic Controls, Fire and Emergency Management System, Fiber Optic and Cable Transmission system, Gas monitoring, or Seismic Detection. Assure that the recommended system interfaces with existing communication systems (Central Control Center, bus, Police Department, Fire Department), future extensions; station/wayside equipment; Central Control and the overall system block diagram.

EEE) SYSTEM TESTING AND CUT OVER PLAN

i) Develop and identify the System Testing and Cut Over Plan (based heavily on that prepared for the E Street sbX/Green Line Corridor Project). Identify the interface philosophy with existing facilities and systems (Central Control Center, bus, Police Department, Fire Department) and operational lines, stations and wayside. Show the requirements for testing of each subsystem.

ii) Deliverable:

(a) System Testing and Cut Over Plan

10.101 FINAL DESIGN OF PHASE I (TASK 9)

FINAL DESIGN ASSUMPTIONS:
The Consultant will submit four Plans, Specifications and Estimates (PS&E) packages at 65%, 90%, 100% and Final. The consultant will deliver Phase 1 and 2 work on current schedules, in a combined package.

A) FINAL DESIGN PURPOSE AND INTENT

iii) Upon written authorization from Omnitrans to proceed, the Consultant shall continue to progress and perform all required work to finalize all design tasks and advance the level of Final Design from completed preliminary engineering design to completed technical portions of the bid documents required to procure construction contracts. This task will encompass the design of the Phase I of the Project, which is the Rapid line on the entire 25-mile corridor, with the exception of the 3.5 miles of dedicated lanes in Ontario, as referenced in Chapter 5 – Phasing Plan.

iv) The Consultant shall provide the services necessary to fix and describe the size and character of the entire Project including civil, architectural, structural, landscaping, art, utilities, mechanical, electrical, systems design, equipment, construction sequencing and scheduling, economic analysis of construction and operations, user safety and maintenance requirements. Final Design (FD) provides for each discipline, a description of the economic factors influencing the choice of basic materials, equipment or systems, and an economic analysis considering estimated initial costs and projected costs over the life of the facility. It provides sufficient information to demonstrate that the functional needs and space requirements can be met within the programmed budget and scope of work. FD establishes the design of the basic civil, structural, mechanical, electrical, communication systems, fare collection, vehicles and other system wide interfaces. At the completion of Final Design, the Consultant shall produce contract specifications and plans, and performance requirements at large for the project for the procurement of the facilities and systems construction. In general, the services performed in the Final Design Services are:

(a) Architectural Design/Documentation services consisting of continued development and expansion of architectural design documents to establish the final scope, relationships, forms, appearance, and development of outline specifications or material lists to establish special design features, materials, finish and colors, and landscaping of the Project.

(b) Civil Design/Documentation services consisting of continued development and expansion of civil design documents and development of outline specifications or material lists.

Assumptions: For Phase 1 & 2, Drainage design consists of pipe extensions to adjusted inlet locations and conveyance of flows contributed by proposed project improvements. Potential impacts to the flood channel along Holt Boulevard are included in Optional Services.

Deliverables:

a. Prepare title sheet, keymap, sheet index & general notes, survey control sheets , typical cross sections, layouts, removal plans, construction details, profile sheets, drainage plan & profiles, traffic handling plans, signing & striping plans, traffic signal plans, street lighting plans, communications systems, architectural plan sheets and landscape & irrigation sheets

(c) Structural Design/Documentation services consisting of continued development of specific structural systems in sufficient detail to establish basic structural systems and dimensions, preliminary sizing of major structural components, including associated foundations and outline specifications or material lists.

Deliverables:

a. Prepare station structural sheets.

(d) Utilities Design/Documentation consisting of continued development of specific utilities systems in sufficient details to identify any required relocation of existing utilities.

Assumptions: For Phase 1, it is assumed that existing sanitary sewer and water line facilities will remain in their existing locations and will not require relocation. It is also assumed that existing laterals will not require replacement or modification as a result of the Project improvements and that work within the Phase 1 limits will only consist of vertical adjustment of manholes and cleanouts or vertical adjustments of valves and meter boxes. The Consultant will prepare the layouts and details for the sanitary sewer facilities that will require modifications. Sanitary Sewer Relocation Layout Plans will only be prepared for areas where Sanitary Sewer modifications are required.

Deliverables:

a. Prepare utility relocation sheets.
b. Prepare sewer and water relocation sheets.

(e) Mechanical/Electrical Design/Documentation services consisting of continued development and expansion of electrical Preliminary design Documents and development of outline specifications or material lists to establish criteria for power and lighting systems, approximate sizes and capacities of major components, preliminary equipment layout and space for equipment, and required chases and clearances.

Deliverables:

a. Prepare electrical layout plans, elevations, one-line diagrams, details at the base map scale, and calculations.

b. Prepare plumbing/mechanical layout plans, elevations, one-line diagrams, details at the base map scale, and calculations.

(f) Systems Design/Documentation services consisting of continued development and expansion of systems design documents and development of outline specifications for various sub-systems or equipment lists to establish criteria, approximate sizes and capacities for major components, equipment layout and space for equipment. Systems design shall be brought to the level necessary for the construction contract.

Deliverables:

a. Systems Design Documents

(g) The Consultant will attend two constructability review meetings of the Phase 1 final engineering design after the 65% and 90% submittals. This review will consider the following:

1. Biddability of contract documents
2. Construction schedule including restrictions for hours of work, holidays, events, etc.
3. Required construction staking and survey information
4. Construction staging, traffic maintenance, vehicular and pedestrian access for residents and businesses
5. Access for services including bus, fire, mail, etc.
6. Confirm means and methods for construction equipment and access
7. Vertical and aerial clearance for construction equipment such as boom trucks and cranes
8. Confirm temporary construction easement and right-of-way limits
9. Confirm limits and type of materials to be removed or rehabilitated
10. Precise grading for stations and handicap ramps
11. Private property improvements
12. Construction materials and alternatives
13. Confirm method for relocation/adjustment of existing utilities, vaults, and manholes
14. Requirements for utility shutdowns
15. Confirm existing and proposed tree locations
16. Confirm structural canopy and traffic signal footing locations

(h) Consultant will respond to redline comments on the 65% and 90% Phase 1 plans as well as a comment matrix and will attend (2) meetings to review the comments with the design team.

Deliverables:

a. Responses to redline comments of 65% and 90% Phase 1 plans
b. Comment matrix of redline comments

B) TECHNICAL AND PERFORMANCE SPECIFICATIONS

i) Produce Standard Specifications for the Project. Produce technical and performance specifications part of civil construction contracts to furnish and install facilities and equipment related to the Project. Include coverage of civil, utility, structural, architectural, mechanical and electrical work and work related to systems procurements/installations (bus vehicle, fare collection system, traffic signal, and bus control system, communication system, central control system, pumps, fans and dampers, signage and graphics, and the like).

ii) Prepare specifications for the furnishing and installation of structures construction contract(s) for the Project. These specifications shall be based on Caltrans Standard Specifications, using Caltrans Standard Special Provisions (SSPs) where possible, the Greenbook Standard Specifications for Public Works Construction for items of work that are not covered in the Caltrans standard Specifications or as required to meet Local Agency requirements. The specifications shall clearly define work to be included in each bid item, unit of measurement, and unit price. Also, the specifications shall clearly make reference to all appropriate sections of standard specifications to define the performance and quality requirements for the construction contractor's work, including all major material testing and acceptance criteria. The special provisions should identify any restrictions or other special requirements placed on the contractor.

iii) Prior to the submission of any contract specification submittals, the Consultant shall complete a quality assurance verification of the specifications. The Consultant shall have a qualified individual or individuals, not directly involved in the preparation of the specifications verify correctness and accuracy. The reviewer shall verify that measurement and payment provisions are consistent with the description of the work on the plans and the bid list and are consistent with any construction notes or written directions. The reviewer shall verify and initial that previous comments on the specifications have been resolved.

iv) Index facilities specs to the master list of section numbers in the format of CSI divisions 1 through 50.

v) Produce technical and performance specifications for the Systems construction contracts to furnish and install communications, vehicles, signaling, fare collection and other systems elements determined during PE.

vi) Deliverable:

(a) Complete specifications for construction contractor

C) CONSTRUCTION AND PROCUREMENT PACKAGING

i) Implementation of the Project may be affected by a series of contracts and other agreements by which the required design services, construction work, equipment procurement and installation and other Services are procured by Omnitrans. There are many alternative methods of procurement within the constraints of applicable codes and regulations and there are many ways of subdividing the procurements into discrete contracts. Omnitrans will select the delivery option that minimizes project risks and provides the greatest likelihood of implementation success while minimizing cost overruns and schedule slippages. The work of this task is to assist Omnitrans in planning the most advantageous methods of contracting and contract scoping for the

Project.

ii) As soon as the project scope is well defined and at least six months prior to the request to enter Construction, a formal Risk Assessment shall be performed on the Project. The Consultant shall be a member of a multi-disciplinary Risk Management Group that will include the PDT and Omnitrans. Risk Assessment includes identification of risks, evaluation/measurement of risks, analysis of risk treatment alternatives (i.e., avoidance, prevention, mitigation, cost control, and insurance), assignment of risk and monitoring/evaluating the performance of measures implemented.

iii) Omnitrans will consider the following project delivery options within the context of project risk analysis and procurement planning: Design-Build (D/B), Design-Bid-Build (D/B/B), and Construction Manager/General Contractor (CM/GC). The Project could be implemented with a combination of contracting approaches.

iv) During the preliminary engineering design, assist Omnitrans in determining how the Project work will be subdivided for final design, for construction by other Omnitrans Contractors, for construction by third parties' Contractors or third-party force accounts, for procurement of materials and equipment items and their installation by other Contractors, and procurement of equipment systems.

v) In the planning of Omnitrans procurements of construction and equipment, the Contract documents prepared by the Consultant shall reflect California Public Contracts Code Section 3400, which states, among other stipulations, that the specifications are to be prepared so as to not limit the bidding, directly or indirectly, to any one specific supplier and, further, that the specifications shall not designate a material, product, thing or service by specific brand or trade name unless at least two brands or trade names of comparable quality or utility are cited, followed by the words "or equal'.

vi) Assist Omnitrans by evaluating the following:

(a) Final Design Packaging:

1. Development of final designs and bid documents for a given construction Contract Unit (i.e., final design package interfaces should coincide with construction contract interfaces, although a final design subcontract may cover more than one construction Contract Unit).

2. If not already governed by the types of construction that make up the Contracts ready for final design, final design packages should contain one dominant type of line and station structure or

building structures so that design A&E firms with that particular experience may focus on competing for selection.

3. Construction Contract Packaging

4. Within the statutory and policy constraints that apply to Omnitrans, evaluate on special case bases alternative methods of procurement of and contracting for final design, construction, third-party conflict removals and procurement. Among the contracting methods to be considered are:

   (i) Competitive single-step, low-bid, lump-sum contract. Competitive single-step, low-bid, unit-price contract.

   (ii) Negotiated competitive procurement contract.

   (iii) Competitive two-step contracting process with pre-qualification of bidders (technical evaluation followed by low bid).

5. Evaluate the advantages and risks to Omnitrans of the following scopes of contracts:

   (i) Final design and preparation of bidding contract documents, followed by public advertising and award of a separate construction or procurement contract (Conventional U.S. public works practice).

   (ii) Design-build contracting wherein bids are solicited and taken on the basis of preliminary designs and all detailed design and construction are parts of the contractor's scope.

   (iii) Turnkey contracting wherein the scope includes the design-bid-build aspects but is more comprehensive and includes integrated testing and commissioning of a major segment of a Project.

   (iv) Turnkey of a discrete fixed facility such as a maintenance facility.

   (v) Turnkey of a combination of system-wide elements.

   (vi) Turnkey of all elements of a Project such as an extension of an operating line.

6. Also included in this subtask are evaluations of contract inclusions and options and of terms where choices are viable,

including:

(i) Provision of insurance coverage and limits and related liability terms.

(ii) Use of standard contract specifications versus guideline specifications.

(iii) Accommodation of some level of installation contractor financing.

(iv) Liquidated damages terms and conditions.

(v) Dispute resolution provisions.

(vi) Construction contract interfaces should be defined to minimize control across such interfaces.

vii) Packaging should minimize Project/contract cost and time of completion.

viii) Packaging must reflect logical and cost effective sequencing and phasing of work and the overall schedule of completion.

v) Size of contracts in terms of dollar value should encourage competition among qualified bidding contractors.

vi) The mix of contracts should include smaller contracts of less complex scope to permit smaller and more local contractors to compete, considering among other factors ability to obtain bid and performance bonds.

vii) Greatly dissimilar work should not be included in one contract.

viii) Problems with third-party clearances and acquisition of right-of-ways may influence scoping of contracts, allowing "clean site" contracts to be let earlier.

v) Packaging should reflect industry and marketing conditions.

7. Procurement Contract Packaging

(i) System-wide elements of a Project are usually packaged for fabrication, furnishing and installation on a basis of a

given system over the Project extent, in order to obtain the same proprietary equipment and workmanship for the entire Project.

(ii) Procurement contracts are more susceptible to constraints on phasing and sequencing of facilities and systems work and must be scoped with the overall schedule in mind.

(iii) There may be cost, schedule and interface control advantages to certain logical combinations of different systems into fewer, larger contracts. Among the combinations which may prove cost-effective is fiber optics with PA/VMS/CCTV.

(iv) Lead times for procurements should also be considered in overall project schedule.

vii) There may be advantages to Omnitrans' direct procurement of equipment items and materials by contract followed by separate contracts for installation. In such cases, Omnitrans may receive and take title to the procured items and then issue them as Omnitrans' furnished material to an installation contractor, or Omnitrans may procure items and require the supplier to furnish them directly to installation contractors.

D) CONTRACT UNIT DESCRIPTIONS

i) Once Omnitrans determines the methods of contracting and work, apply the WBS and assign Contract Unit nomenclature to the proposed Contract Units.

ii) Prepare a set of Contract Unit Descriptions (CUD) which will detail each design, construction and procurement contract and define its type of contract, its limits, its scope, it length, major quantities or size and the estimated duration under normal construction conditions. Add the new CUD to the Project CUD book, or form such book, as appropriate. Over the course of preliminary engineering design, maintain the CUDs as changes in interfaces and scopes are decided.

iii) Deliverable:

(a) Contract Unit Descriptions

E) COST ESTIMATES

i) Update existing and prepare new capital and operating cost estimates for the Project. The Consultant shall perform and submit a price analysis to support the unit costs developed for the cost estimate and shall provide quantity estimates to support the cost estimates, to be reviewed by Omnitrans staff.

Since the delivery method has not yet been selected, Omnitrans may request the cost estimate certified and in a format suitable for bidding.

ii) The Consultant shall prepare a detailed Engineer's Cost Estimate at each major design milestone of the Project. Prior to the submittal of any cost estimate, the Consultant shall complete a quality assurance verification of the estimate. The Consultant shall have a qualified individual or individuals, not directly involved in the preparation of the estimate, verify correctness and accuracy. The reviewer shall verify the methods of quantity calculation and spot-check quantity calculations; verify that quantity calculations match the information depicted on the plans; verify that quantity and unit cost extensions are correct and accurate; and verify the unit prices were reasonably derived and correctly applied. Omnitrans may have an independent third-party review of the cost estimate.

iii) The Consultant shall reconcile any differences greater than ten percent on any item resulting from any cost estimate reviews. The cost estimate should be reconciled with any major change in design of the Project.

v) Deliverable:

(a) Updated cost estimate at each milestone

F) CONSTRUCTION SCHEDULE REVIEW

i) The Consultant shall prepare an estimate of the construction schedule, including the number of working days required for each of the construction contracts, along with key milestone dates. This estimate of working days shall be supported by a construction schedule and narrative describing anticipated construction methods, assumptions, and key milestones and interfaces with adjacent contractors.

G) PREPARATION OF CONSTRUCTION CONTRACT DOCUMENTS

i) The Consultant shall prepare Project Definition Documents for a construction contract(s) not to exceed 8 contracts to completely define the scope of work of, and establishes the budget and schedule for, and advertising of each construction contract. Following design documents shall be included in the Project Definition Documents:

(a) Volume I - General Requirements

(b) Volume II - Statement of Work (including or reference to all applicable specifications)

(c) Volume IV - Drawings

(d) Volume V - Technical Reports and Other Mandatory Requirements

(e) Volume VI - Mandatory Requirements and Non-Mandatory Reference Information

ii) Also, the Consultant shall produce all calculations and other documents that provides basis and supports the Consultant's design work. The Consultant shall submit signed and sealed certification of all Consultant developed mandatory requirements included in the construction contract documents.

iii) Note that Omnitrans will develop the Front End documents (General Conditions, Special Provisions and other commercial requirements). The Consultant shall review the General Conditions and Special Provisions to identify any duplications and/or conflicting technical requirements, and to ensure that all contract documents developed by the Consultant are consistent, complementary and complete.

H) FINAL GEOTECHNICAL DESIGN (PHASE 1)

i) Field Investigation: The Consultant will conduct a geotechnical investigation along the roadways with 1 borehole (up to 15' depth) at or near each individual station, bus lot, and/or bus pad. This scope of work (SOW) assumes a total of up to 30 boreholes and 7 drill days. The station borings double for pavement borings. The SOW is based on a minimized number of borings. One (1) boring is to be drilled for a group of 2 or 3 stations that are located 500 ft or closer to each other.

All boring locations are in traveled right of way. Dry auger boreholes using rubber-tired truck mounted drill rigs are proposed to reduce drilling and lane closure time. Cone Penetration Testing (CPT) can be considered to supplement the soil borings in special situations when borings are not possible. CPT provides stratigraphic and correlated strength information but does not allow for soil sampling for laboratory testing. The Consultant will arrange for underground utility clearance prior to drilling. A professional moving traffic control service will be used where required on travelled roadway using a standard plan for an exterior temporary lane closure.
Boreholes may be terminated above target depth if refusal is encountered. If chemically impacted soil is observed, it will be noted on the log of test borings. If hazardous materials are encountered, we will terminate the boring and notify the controlling agency. This scope includes a small budget for a hazardous waste hauler contractor to dispose of the materials encountered. Environmental sampling is not included although the geologists and technicians carry handheld monitoring devices to detect volatile gas emissions for worker's safety. Soil cuttings from those borings will be drummed, tested and disposed of by State

certified waste hauler services.

(a) Laboratory Testing

The field boring logs will be analyzed to select bulk and undisturbed samples for laboratory testing. Results of the laboratory tests, together with the field boring data, will be used for engineering analyses. The following laboratory tests are envisioned:

1. In-place moisture and density (for earthwork)
2. Plasticity (plasticity of cohesive soils)
3. Grain size distribution (soil classification and earthwork)
4. Direct shear and unconsolidated undrained compression tests (soil strength)
5. Consolidation (settlement)
6. Soil corrosivity (foundations)
7. Maximum density (earthwork)
8. R-Value (pavement design)

All tests will be conducted in general accordance with Caltrans Test Methods or American Standard Test Methods (ASTM).

ii) Geotechnical Engineering Analyses: Using the findings from the field investigation and laboratory testing program, the Consultant will address the following:

(a) Fault rupture potential - The corridor crosses a fault. A lineament analysis may need to be conducted to evaluate any geologic features in or crossing the project corridor area that indicate the presence of active earthquake faults capable of producing a ground fault rupture. This evaluation will be conducted using dated stereographic aerial photographs which theoretically allows for observation of natural conditions before modification by urban development and agriculture. However, the project area is within areas already altered by urban development and this type of analysis could be highly interpretive. The reports will include one of the following recommendations: (1) fault rupture is not an issue, or (2) fault rupture appears to be an issue and additional work is required to decide on design criteria. The fee estimate does not include item (2).

(b) Roadway - The Consultant will analyze flexible on rigid concrete pavement structural sections for the roadway widenings/modifications and bus lanes using the results of the laboratory test results, and Traffic Indexes provided by Parsons, per Caltrans Highway Design Manual procedures pavements meeting local section requirements. We can also provide geogrid-reinforced alternatives to improve weak subgrade and/or thin the structural section and save construction cost.

(c) Foundations - The Consultant will perform engineering analyses to develop soil profiles, foundation design parameters and design recommendations for station structure foundations. This includes seismic design criteria (causative fault, site distance, Peak Bedrock Acceleration and ARS design spectra using Caltrans Seismic Design Criteria and California Building Code).

(d) Utilities/Culverts - The Consultant will provide soil corrosivity test results from 10 station borings (i.e., 1 out of every 3 stations) that can be used for utility/culvert design.

iii) Report Preparation - The Consultant will prepare a single Draft Geotechnical Report that will combine the content of a materials report and a foundation report providing the following:

(a) Site geology including fault rupture potential
(b) Soil and groundwater conditions determined by field investigation
(c) Log of Test Borings Sheets
(d) Laboratory testing
(e) Engineering analyses
(f) Summary of existing pavement sections
(g) New pavement structural sections for all new lanes, roadway widenings and modifications
(h) Design recommendations for structure foundations (seismic design criteria: causative fault, site distance, Peak Bedrock Acceleration and ARS design spectra using Caltrans Seismic Design Criteria)
(i) Soil corrosivity and recommendations for utility/culvert design
(j) Recommendations for construction for earthwork, roadway, and foundation construction

The Draft Report will be submitted to the same reviewing agencies as the draft Preliminary Foundation Report. Caltrans review is not anticipated. Review comments related to geotechnical issues will be addressed by the Consultant. Upon approval of the responses, the Consultant will incorporate the responses and comments into a Final Geotechnical Report which will be submitted for distribution.

I) ARTWORK

i) To facilitate the timely fabrication and delivery of artwork for the project, the Consultant shall provide the following services:

(a) Work with Omnitrans and contractor to finalize the fabrication agreement for artwork
(b) Develop art fabrication schedule in cooperation with project schedule
(c) Provide assistance to artists in coordination of submittals to general contractor for approval.
(d) Perform periodic review of art fabrication progress

(e) Monitor schedule, deliverables and payments to project artists
(f) Assist in coordination of artist sub-contractors as needed
(g) Meet with contractor to review installation procedures and conservation review recommendations
(h) Document artwork delivery protocol and protection of artwork if needed
(i) Provide onsite services with contractor during installation
(j) Review final art installation with contractor
(k) Deliverables:
1. Artwork delivery schedules
2. Documentation of art fabrication progress
3. Provide Omnitrans with signage guidelines and samples for artwork
4. Provide status reports on art program for Omnitrans as needed

ii) Final Project Documentation – To facilitate the long term maintenance of artwork and assist Omnitrans in the promotion of artwork for new projects, the Consultant shall provide the following services:

(a) Work with Omnitrans staff to develop materials for art project promotion
(b) Coordinate the delivery of electronic files for art replacement as needed
(c) Monitor schedule, deliverables and payments to project artists

(d) Deliverables:

1. Develop maintenance handbook for Omnitrans maintenance staff
2. Assist in the development of press and promotional materials relevant to the project art program
3. Provide status reports on art program for Omnitrans as needed

11.101 FINAL DESIGN OF PHASE 2 (TASK 10)

A) This task will include the final design of Phase 2 of the Project, which encompasses the 3.5 miles of dedicated lanes and six median stations on Holt Boulevard in the City of Ontario (as described in Chapter 5 – Phasing Plan). The subtasks and deliverables are the same as described in the above chapter. Depending upon the Phasing Plan developed under Task 5, the construction of Phase 1 and Phase 2 may be bid separately. The final design for Phase 2 will be put out to bid when funding is available for construction of Phase 2.

FINAL GEOTECHNICAL DESIGN (PHASE 2)

The Phase 2 Alternative includes the same elements as Phase 1 but replaces 6 side stations on exterior lanes on Holt Boulevard in Ontario with approximately 3 median (in-line) stations and adds 3.5 miles of dedicated center lanes. This adds up to 12 exploratory boreholes (generally 5’depth) spaced about 1,200 ft apart on exterior lanes, for roadway modifications and pavement design.

The general scope of work is the same as Phase 1 (Task 9), except that the field investigation adds these 12 pavement borings and drill days increase by 2 days.

B) This task order may be cancelled if funding is not available for this task.

12.101 BID PERIOD SERVICES (TASK 11)

A) Prepare addenda to an advertised Contract Unit for issuance by Omnitrans, including such additional design work, drawings, specification writing and contract document revisions as are required.

B) Develop Engineer's Estimates consistent with the Project Definition Documents and other Invitation for Bid documents issued to bidders.

C) Provide material for Omnitrans to present at pre-bid conference(s). Attend one (1) pre-bid conference. Respond to bidders questions.

D) Assist Omnitrans in responding to technical questions posed by plan-holders. Participate in pre-bid meetings, issuance of addenda and re-packaging of rejected bids. Assist Omnitrans in the evaluation of bids during any competitive negotiated procurement process and in conforming the contract documents prior to Notice-to-Proceed.

13.101 DESIGN SERVICES DURING CONSTRUCTION (TASK 12)

A) Consultant shall provide a full-time on-site representative at the construction trailer for the majority of the construction phase, or as designated as needed by Omnitrans.

B) The Consultant shall attend Pre-construction Meeting.

C) The Consultant shall attend Partnering Meetings.

D) The Consultant shall attend weekly, monthly and quarterly Project Review Meetings (estimated 50 meetings).

E) Review and evaluate the design drawings and specifications submitted by the construction contractor(s) for conformance with the preliminary engineering and Final Design.

F) Respond to requests for information and other technical issue resolution posed by construction contractor(s).

G) Review and approve submittals, such as product and material submittals, and change notices received from construction contractor(s).

H) Update the contract drawings to reflect revisions to the design during the construction

process.

I) Review and approve As-Built drawings.

J) Attend meetings, perform site tours, witness factory acceptance tests and performance, and develop certification plans and procedure for revenue operations.

K) The Consultant shall provide updates to Safety and Security Management Plan (SSMP) and related documents requested by Omnitrans.

L) The Consultant shall provide other miscellaneous engineering design and consulting services during construction as requested by Omnitrans.

M) Other direct costs associated with construction.

N) Project management and/or administration.

O) Field visits as requested by Omnitrans.

P) Provide specialty sub-consultant services as requested by Omnitrans. This will include providing technicians and engineers for foundation construction inspection and soil testing. Inspections and testing may be performed during any of the following stages of construction:

i) Grading operations, including excavations and placement of compacted fill
ii) Shoring installation
iii) Removal or support of buried utilities or structures
iv) Excavations for foundations
v) Backdrain installation and backfilling of (culvert) walls, if any
vi) Removal or installation of support of buried utilities or structures when any unusual subsurface conditions are encountered.

The Consultant can monitor excavations and placement of backfill during construction. A technician can perform field and laboratory soil density testing to verify that backfill is being placed to the minimum required relative compaction. If density testing is performed, a letter report summarizing the soil compaction test results will be prepared by the Consultant upon completion of earthwork activities.

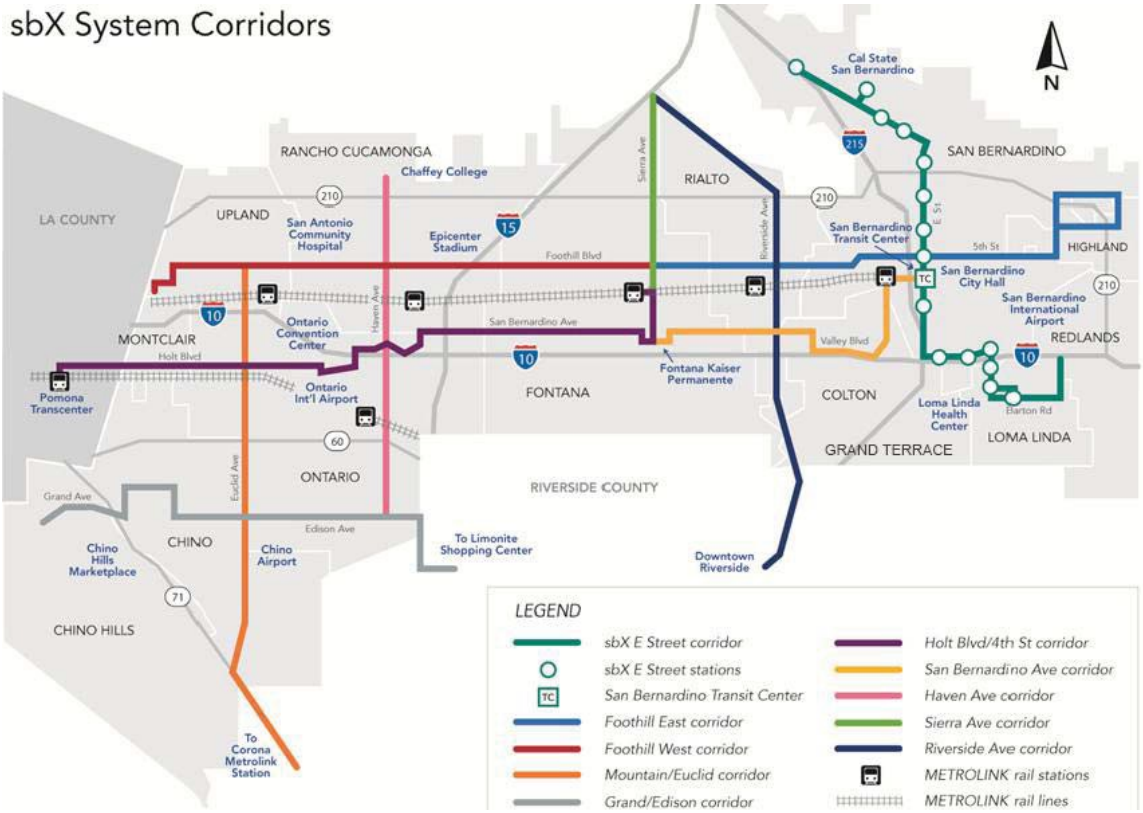
Q) The Consultant shall provide any additional engineering services during construction, start-up and close-out phase as requested by Omnitrans.

R) Consultant shall provide final Mylar As-Built/Record Drawings for each local agency.

14.101 TRANSIT PLANNING SUPPORT (TASK 13)

A) PRODUCE AN UPDATED OMNITRANS SYSTEM-WIDE TRANSIT CORRIDORS PLAN

i) An initial sbX BRT System-wide Plan for Omnitrans was prepared at the beginning of the Alternative Analysis Phase (2004) and was adopted by the Omnitrans Board of Directors. The System-Wide Plan was updated in 2009 and adopted by the Board of Directors in 2010, and reflects ten (10) potential corridors with proposed alignments and station locations (as shown in the figure below).



ii) The Contractor shall provide an update of this plan, which will reflect the change in the Holt/4th and Foothill West corridors due to the West Valley Connector Corridor (which combines the two corridors). The plan update will include a map update that assigns new colors and names to the corridors based on the aforementioned changes.

iii) The plan update should include recommendations for implementing the remaining corridors, including a prioritized order based on ridership productivity, potential benefits (ridership increase, time savings, congestion reduction, connections to jobs), and ease of implementation (including ability to capture potential funding). The recommendations

should include how to capitalize on the E Street and West Valley Connector corridors to create extensions or connections with future corridors, as well as capacity expansions or future phases of improvements that may be needed on the E Street or West Valley Connector corridors. The plan should include a recommended implementation strategy, including timeline, action items/steps to implementation, and potential funding sources for all corridors. The plan may also make suggestions of other planning considerations that could augment or improve the premium transit corridor system (such as how to connect with other planned regional projects, etc.)

iv) The Consultant will provide ridership forecasts for the changes to the Holt/4th and Foothill West corridors due to the West Valley Connector Corridor. The Consultant will develop recommendations using the following criteria: productivity, potential benefits (ridership increase, time savings, congestion reduction, connections to jobs), and ease of implementation (including ability to capture potential funding).

The Consultant can also provide data (as available) to support analysis of other planning considerations that could augment or improve the premium transit corridor system (such as how to connect with other planned regional projects, etc.).

v) The Consultant will reference recently completed plans along the corridors, such as SANBAG's Foothill/5th Street Transit and Land Use Study (2014), the City of Ontario's Holt Boulevard Mobility & Streetscape Strategic Plan (2013), the City of Fontana's Sierra and Valley Land Use Study (2013), the City of Rancho Cucamonga's Foothill BRT Strategic Plan (2013), and the City of Highland's Baseline VMT to BRT Plan (2012).

vi) All ridership forecasting activities will be consistent with Federal Transit Administration requirements regarding Small/New Starts Criteria.

B) ASSIST WITH REGIONAL PLAN UPDATES

i) The Consultant team shall assist Omnitrans, as needed, with providing information needed to update regional partner agencies' plans to include the West Valley Connector Corridor project. The Consultant shall provide guidance to Omnitrans on which regional plans may need to be updated for consistency with the West Valley Connector project (particularly because it alters the Holt/4th and Foothill West corridors originally reflected in the regional system-wide plans). The Consultant team shall provide any plan language and data needed to Omnitrans for the plan updates.

C) TRAFFIC SIMULATIONS

i) Upon completion of final design on the preferred alternative, the Consultant will prepare traffic simulations at two critical intersections per City (excluding Montclair) along the corridor (total of eight intersections) to demonstrate how the TSP system will function. Simulations would be prepared for a "No Build" condition without TSP and a "Preferred Alternative Build" condition with TSP as determined by the PDT. It is assumed that traffic count data and model data would be utilized from the work effort on the TIA, and any current signal timing data would be obtained from each respective agency.

Deliverables:
Simulation of TSP operations at eight (8) intersections

D) PEDESTRIAN AND BICYCLE COUNTS

i) The Consultant team shall conduct bicycle and pedestrian counts at the 27 major intersections along the corridor during the design process. The counts should be conducted on two different days of the week, and the results should include two-hour peak counts and daily average estimates. This data will be used for before-and-after comparisons for future reporting. As an optional task order, the Consultant team shall conduct the "after" counts after the service begins operation (upon the request of the Omnitrans Project Manager).

15.101 OPTIONAL TASKS (TASK 14)

A) SUBSURFACE UTILITY SCANNING/POTHOLING

i) Subsurface and surface utilities will be located along 3.5 miles of Holt Blvd and will cover a 50' swath along the planned centerline and dedicated bus way lanes and stations.

Subsurface and surface utilities will be located along the planned 27 bus stop locations. Utilities will be located at each planned stop within a 200'x30 swath.

Utility locating and mapping will be based upon the ASCE guidelines for Subsurface Utility Engineering. Upon completion of the surface and subsurface utility locating, a 3D utility map will be prepared depicting those utilities located. Inverts for Storm and Sewer manholes identified by the client will be surveyed.

Utility budget included under this task will be used for potholing or a combination of potholing and subsurface scanning.

ii) Deliverables:

(a) 3D Utility Mapping File based on field scan
(b) Utility potholing data

B) SURVEYED RIGHT OF WAY MAPPING

i) Surveyed Right of Way mapping will be developed for the impacted parcels identified upon completion of the Preliminary Engineering phase.

Legal descriptions and exhibits for partial acquisitions, permanent easements, and/or temporary construction easements to support the Appraisal and acquisition process will be provided. Up to 200 legal descriptions are estimated.

ii) Deliverables:

(a) Optional Surveyed Right of Way Base Mapping
(b) Optional Legal Descriptions & Plat Exhibits

C) ADDITIONAL TRAFFIC SIGNAL MODIFICATIONS

i) Based on results of the Preliminary Engineering analysis, additional Traffic Signal Modifications plans for up to 30 signalized intersections can be developed.

ii) *Deliverables:* 65%, 90%, 100% and Final Traffic Signal Plans, specifications and estimates for up to 30 additional signalized intersections.

D) FLOOD CHANNEL IMPACT REQUIREMENTS

An existing San Bernardino County flood channel runs north-south under Holt Boulevard and is located between N. Grove Avenue and N. Imperial Avenue. Alternatives will be evaluated to avoid impact to the channel. However, should impacts require modification to the channel the following optional tasks will be required to obtain approval from the necessary stakeholders.

i) SURVEYING/MAPPING
Consultant shall perform additional Survey of existing box culvert within the West Cucamonga Channel.

ii) GEOTECHNICAL ENGINEERING
Consultant shall perform one deep boring for the box culvert extension designs.

iii) PRELIMINARY STRUCTURAL DESIGN

The structural work on this project consists of the extension of the box culvert on E. Holt Boulevard. The General Plan for the box culvert extension shall meet the requirements of the City of Ontario and the San Bernardino County Flood Control District.

Structure General Plans

The General plan for the drainage structure shall be prepared. The General Plan shows the layout, structure type, approach railing, dimensions of existing culvert and widening, water surface elevations, foundation type, slope protection, temporary construction easements, wingwalls, headwalls, retaining walls, channel slopes and roadway slopes, construction staging, and detours. The structure shall be reviewed with the City and the San Bernardino County Flood Control District.

A complete set of structural plans shall be prepared for all structures. A total of 2 structure plan sheets are anticipated for the proposed project.

Deliverable:

(a) Structure General Plans

iv) PERMITS

Section 404 USACE Permit - The proposed project qualifies for the following Section 404 Army Corps of Engineers Nationwide Permit 14 for Linear Transportation Projects, as the project is anticipated to have less than 0.5 acre of permanent impacts to jurisdictional waters. This permit is required for the construction, expansion, modification, or improvement of linear transportation projects in waters of the United States. To initiate permit process, Consultant shall submit the permit application along with all necessary engineering and environmental support information so that the ACOE may authorize use of the Nationwide 14 Permit. Two Section 404 USACE permits shall be prepared. The first set shall be for construction of project drainage. The second shall encompass the road widening.

Deliverable:

(a) Section 404 Permit

Section 1602 CDFW Permit

Consultant shall coordinate with the California Department of Fish and Wildlife (CDFW) to obtain a Section 1602 Streambed Alteration Agreement. The culvert extension beneath E. Holt Boulevard, between N. Grove Avenue and N. Imperial Avenue, shall require notification of proposed streambed alterations to the CDFW. Consultant shall delineate boundaries of CDFW jurisdiction, assess project impacts, prepare a Notification of Streambed Alteration, and enter into a

Streambed Alteration Agreement with CDFW.

Deliverable:

(a) Section 1602 Permit

San Bernardino County Flood Board Permit
Consultant shall coordinate with the San Bernardino County Flood Control District (SBCFCD) to obtain a permit for culvert extension into the West Cucamonga Channel. An application package shall be prepared to include design plans and supporting documentation.

Consultant shall prepare the storm drain extension application package for submittal to the San Bernardino County Flood Control District. Consultant shall coordinate with the Flood Control District prior to submittal of the application to ensure all needed materials are included, and shall conduct any necessary follow up coordination and permit application revisions to make sure the City receives the final permit required for construction. The application package will include all items listed on the SBCFCD's permit application checklist. The hydraulic calculations will be submitted in a memo format to provide the conclusions and results of the analyzed headwater elevations. This will be performed using CulvertMaster software. It is assumed that no Location Hydraulic Study will be required by SBCFCD to issue the permit.

Deliverable:

(a) San Bernardino County Flood Control District Permit

E) MAJOR SEWER/WATER UTILITY RELOCATIONS

If it impacts to sewer/water utilities are unavoidable through design measures, the following optional tasks will be performed to design plans for relocation of the facilities.

i) Video Inspection of Existing Facilities – The Consultant will conduct Closed Circuit Televisions (CCTV) inspections of existing sanitary sewer manholes and pipe. The pipe condition will be assessed and rated according to the National Association of Sanitary Sewer Companies (NASSCO) Pipeline Assessment & Certification Program (PACP). This task allows for up to 7 days of CCTV inspections and assumes that the existing pipes will be sufficiently clean to be able to perform the CCTV inspections. Any cleaning of pipes is assumed to be done by others.

ii) Preliminary Design of Utility Relocations – The Consultant will develop preliminary sanitary sewer and water line plans that will depict the conceptual relocations for facilities that are in conflict with the proposed project improvements. The plans will be prepared at a scale of 1"=40'.

The Preliminary Sanitary Sewer Design Report prepared by the Consultant will include those sanitary sewer systems that are required to be relocated to clear the project improvements.

(b) Deliverables:

- CADD files and PDF version of the conceptual relocation plans of the sanitary sewer and water line facilities
- 1 hard copy and 1 PDF camera-ready file of the Preliminary Sanitary Sewer Design Report

iii) Preparation of Construction Contract Documents (Phase 1 and Phase 2)

(b) Sanitary Sewer Plans, Profiles, and Details - The Consultant will prepare the layouts, profiles, and details for the sanitary sewer facilities that will require relocation or modifications. Plans will be prepared at a scale of 1"=40'.

(c) Sanitary Sewer Technical Specifications – The Consultant will provide the necessary technical specifications for the construction of the sanitary sewer relocation work within the project area. The technical specifications will be provided in Microsoft Word format to be incorporated into the Project specifications.

(d) Sanitary Sewer Plans Quantity Estimates – The Consultant will provide the quantity estimates for the sanitary sewer relocation work.

(e) Water Line Plans – The Consultant will prepare the layouts plans for the water line facilities and will be prepared at a scale of 1" = 40".

(f) Water Line Details – The Consultant will prepare details for the water line facilities that will require relocation.

(g) Water Line Technical Specifications – The Consultant will provide necessary technical specifications for the construction of the water relocation work within the project area. The technical specifications will be provided in Microsoft Word format to be incorporated into the Project specifications.

(h) Water Line Plans Quantity Estimates – The Consultant will provide the quantity estimates for the water line relocation work.

(i) Sanitary Sewer Design Report – The Consultant will prepare a Sanitary Sewer Design Report for Phase 1 and Phase 2 of the project. The reports will document the existing system and design standards used during the

development of the plans. The reports will also include the required analysis of the proposed system.

Assumptions:

- The Final Design of Phase 1 and Phase 2 will each include the 65%, 90%, 100% and Final submittals
- One (1) set of Contract Plans, Specifications, and Estimates will be prepared for the entire Phase 1 limits regardless of the jurisdiction of the improvements.
- One (1) set of Contract Plans, Specifications, and Estimates will be prepared for the entire Phase 2 limits regardless of the jurisdiction of the improvements.
- The Sanitary Sewer Design Report will be submitted with the 100% submittal
- CADD files and PDF version of the sanitary sewer and water line relocation plans, profiles, and details
- MS Word document of the sanitary sewer and water line relocation technical specifications
- MS Excel document of the sanitary sewer and water line relocation quantity estimates

F) ADDITIONAL PRESENTATION BOARDS AND RENDERINGS

i) Should it be needed, up to five additional display boards will be prepared for presentations.

Deliverables:

Five (5) display boards could be provided.

G) PEDESTRIAN AND BICYCLE COUNTS (AFTER)

The Consultant team will conduct bicycle and pedestrian counts at the 27 major intersections along the corridor after construction. The counts will be conducted on two different days of the week, and the results should include two-hour peak counts and daily average estimates. This data will be used for before-and-after comparisons for future reporting.

H) ACTIVE TRANSPORTATION GRANT ENVIRONMENTAL DOCUMENT

Parsons will prepare a Categorical Exemption/Categorical Exclusion (CE/CE) environmental documentation to provide environmental clearance for the ATP-funded non-motorized project features. It is our understanding that the project has obtained ATP funding from FHWA and approval of the NEPA environmental document (Categorical Exclusion) is delegated to Caltrans' Local Assistance by FHWA. The scope and fee provided in our estimate is based on our assumption that

the non-motorized project features does not require the preparation of noise and air quality studies, and would not require right-of-way acquisitions.

I) SURVEY/ENGINEERING SUPPORT OF RIGHT OF WAY ACQUISTION ACTIVITIES

Assumptions: It is anticipated that Right of Way Appraisal and Acquisition Activities will be performed by a separate agency. These activities include ordering of Preliminary Title Reports (PTRs), appraisal preparation, appraisal review, property owner negotiations, escrow coordination and title clearance. The following tasks support the Right of Way Acquisition activities.

i) Survey Staking of Partial Acquisition and/or Easement Parcel Limits

Field crews will stake the limits of partial acquisitions, permanent and/or temporary construction easements, so that property owners can visualize the fee take and easement line locations affecting their properties. Related office services will be needed to prepare field packages and calculate the acquisition lines. It is assumed that these services will be performed for up to 200 parcels.

ii) Engineering Support of Right of Way Acquisition

Engineering staff will provide support to Right of Way Acquisition activities for up to 200 parcels. Support efforts include field reconnaissance prior to survey staking of parcels, coordination with Right of Way and Survey staff, and field meetings with right of way staff, surveyor and owners. Engineering staff will develop individual property owner exhibits to support field meeting activities. The exhibits will illustrate project specific improvements to property owners. Cost to Cure Estimates will be developed for inclusion into the Right of Way Agreements. Property Owners will be monetarily compensated for impacts.

LIST OF ACRONYMS

AA – Alternatives Analysis

AASHTO – American Association of State Highway and Transportation Officials

ACI – American Concrete Institute

ADA – Americans with Disabilities Act

A&E – Architectural and Engineering (design)

AISC - American Institute of Steel Construction

ANSI - American National Standards Institute

APE – Area of Potential Effects

AQMD (or SCAQMD) – South Coast Air Quality Management District

AQMP – Air Quality Management Plan

ASHRAE - American Society of Heating, Refrigerating, and Air-Conditioning Engineers

ASTM - American Society for Testing and Materials

AVL – Automatic Vehicle Location

BMPs – Best Management Practices

BOD – Basis of Design (also Board of Directors)

BRT – Bus Rapid Transit

CAE/CADD – Computer Aided Engineering / Computer Aided Design and Drafting

Caltrans – California Department of Transportation

CN – Change Notice

CCN – Contractor Change Notice

CCTV – Closed-circuit television (surveillance system)

CEQA – California Environmental Quality Act

CFR – Code of Federal Regulations

CMP – Configuration Management Plan

CPTED – Crime Prevention Through Environmental Design

CPUC – California Public Utilities Commission

CSI - Construction Specifications Institute

CUD – Contract Unit Descriptions

D/B, D/B/B, and CM/GC – Design/Build, Design/Bid/Build, and Construction Manager/General Contractor (construction procurement approaches)

DBE – Disadvantaged Business Enterprise

DCL – Document Control Log

DCN – Design Change Notice

DOE – Determination of Eligibility Report

DPR – California Department of Parks and Recreation

DR – The Dead Reckoning (or Deduced Reckoning) Navigation

System DTM – Digital Terrain Modeling

EA – Environmental Analysis (pursuant to NEPA)

EEO – Equal Employment Opportunity

EIR – Environmental Impact Report (pursuant to CEQA)

EMFAC – Emissions Factors model used by California Air Resources Board

FD – Final Design

FHWA – Federal Highway Administration

FOE – Finding of Effects Report

FONSI – Finding of No Significant Impact (pursuant to NEPA)

FTA – Federal Transit Administration

GHG – Greenhouse Gas Emissions

GPS – Global Positioning System

IEEE - Institute of Electrical and Electronics

Engineers ITE – Institute of Transportation Engineers

IT – Information Technology (Omnitrans department)

ITS – Intelligent Transportation Systems

LACMTA – Los Angeles County Metropolitan Transportation Authority (LA

Metro) Ldn (or DNL) – Day-night average sound level

Leq (or LAeq) – Equivalent sound level

LPA – Locally Preferred Alternative

MMRP – Mitigation Monitoring and Reporting Program

MOA – Memorandum of Agreement

MUTCD – Manual on Uniform Traffic Control Devices

NEC – National Electrical Code

NEPA – National Environmental Protection

Act NR – National Register

O&M – Operations and Maintenance

PA – public address system

PBCR – Project Budget Change

Request PDT – Project Development

Team

PE – Preliminary Engineering phase

PIP – Project Implementation Plan

PS&E – Plans Specifications and Estimates (phase of design)

QA/QC – Quality Assurance and Quality Control

RAMD – System Reliability/Availability/Maintainability/Dependability Plan

RF – Radio-Frequency

RFI – Request for Information

SANBAG – San Bernardino Associated Governments

sbX – Omnitrans' planned system of ten bus rapid transit corridors (San Bernardino Valley Express)

SCAG – Southern California Association of Governments

SOW – Scope of Work

Governments SHPO – State Historic Preservation Officer

SSP – Caltrans Standard Special Provisions

TCQSM – Transit Capacity and Quality of Service

Manual TCRP – Transit Cooperative Research Program

TIGER - Transportation Investment Generating Economic Recovery (US Department of Transportation grant program)

TSP – Transit Signal Priority

USFWS – U.S. Fish and Wildlife

Service VE – Value Engineering

VMS – Variable Message Sign (real-time bus arrival information electronic signage)

VMT – Vehicle Miles Traveled

WBS – Work Breakdown Structure

WVC or WVCC – West Valley Connector Corridor ("Project")

Contents

REGULATORY REQUIREMENTS

*** Marks Required Subcontract Provisions that must flow down to all subcontracts as defined in the Article entitled SUBCONTRACTORS AND SUPPLIERS herein.**

RR-01
ADMINISTRATIVE CODE *

A. **Applicability**

This Article applies to all contracts.

B. **Compliance with §§1090 et. seq. and §§87100 et. seq. of the California Government Code**

Contractor shall comply with all applicable provisions of §§1090 et. seq. and §§87100 et. seq. of the California Government Code. Without reducing or affecting its obligation to comply with any and all of said provisions, Contractor specifically covenants:

1. Contractor shall not cause or permit any member, officer, or employee of Omnitrans to have any financial interest in the Contract;

2. Contractor shall not enter into any Subcontract involving services or property with a person or business prohibited from transacting such business with Omnitrans;

3. Contractor warrants and represents that to its knowledge no Board member, officer, or employee of Omnitrans has any interest, whether contractual, non-contractual, financial or otherwise, in this Contract, or in the business or any other contract or transaction of the Contractor or any Subcontractor and that if any such interest comes to Contractor's knowledge at any time, Contractor shall make a full and complete disclosure of all such information in writing to Omnitrans.

C. **Campaign Contributions**
Neither Contractor nor its Agents shall give or offer to give any campaign contribution to any member of Omnitrans Board of Directors in violation of the California Government Code §§84300 et seq., or of the Administrative Code. Contractor shall submit a Certification of Campaign Contributions with all COs of two hundred thousand dollars ($200,000) or more.

RR-02
DISCRIMINATION *

A. **Applicability**

This Article applies to all contracts.

B. In connection with the performance of Work provided for under this Contract, Contractor agrees that it will not, on the grounds of race, religious creed, color, national origin, ancestry, physical disability, medical condition, marital status, sex, sexual orientation, or age, discriminate or permit discrimination against any person or group of persons in any manner prohibited by Federal, State or local laws.

RR-03
WHISTLEBLOWER REQUIREMENTS *

A. **Applicability**

This Article applies to all contracts.

B. Contractor shall not adopt any rule, regulation, or policy preventing an employee from disclosing information to a government or law enforcement agency, where the employee believes the information discloses violation or noncompliance with a state or Federal regulation; nor shall Contractor retaliate against an employee for taking such actions as set forth in the t. seq.

RR-04
PUBLIC RECORDS ACT *

A. **Applicability**

This Article applies to all contracts.

B. Except as otherwise provided herein, all records, documents, drawings, plans, specifications, and all other information relating to the conduct of Omnitrans business, including all information and documents submitted by Contractor ("Records"), shall become the exclusive property of Omnitrans and shall be deemed public records. Said Records are subject to the provisions of the California Public Records Act (Government Code §6250 et. seq.). Omnitrans use and disclosure of its records are governed by this Act. Omnitrans will use its best efforts to inform the Contractor of any request for any financial records or documents marked "Trade Secret", "Confidential" or "Proprietary" provided by Contractor to Omnitrans. Omnitrans will not advise as to the nature or content of documents entitled to protection from disclosure under the California Public Records Act.

C. In the event of litigation concerning the disclosure of any Records, Omnitrans sole involvement will be as a stakeholder, retaining the Records until otherwise ordered by a court. The submitting party, at its sole expense and risk, shall be fully responsible for any and all fees for prosecuting or defending any action concerning the Records and shall indemnify and hold Omnitrans harmless from all costs and expenses including attorney's fees in connection with any such action.

RR-05
ACCESS TO RECORDS *

A. **Applicability**

This Article applies to all federally funded contracts.

B. Contractor agrees to provide Omnitrans, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of the Contractor which are directly pertinent to this Contract for the purposes of making audits, examinations, excerpts and transcriptions. Contractor also agrees, pursuant to 49 C. F. R. 633.17 to provide the FTA Administrator or the FTA's authorized representatives, including any FTA Project Management Oversight Contractor, access to Contractor's records and construction sites pertaining to a major capital project, defined at 49 U.S.C. 5302(a) 1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311.

C. If this Contract is for a capital project or improvement (defined at 49 U.S.C. 5302(a) 1) and was entered in to through other than competitive bidding, the Contractor shall make records related to this Contract available to Omnitrans, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.

D. Contractor shall permit any of the foregoing parties to reproduce without any cost by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

E. Contractor shall maintain all books, records, accounts and reports required under this Contract for a period of not less than three years after the date of termination or expiration of this Contract, except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case Contractor agrees to maintain same until Omnitrans, the FTA Administrator, the Comptroller General, or any of their duly authorized representatives, have disposed of all such litigation, appeals, claims or exceptions related thereto.

RR-06
FEDERAL FUNDING, INCORPORATION OF FEDERAL TRANSIT ADMINISTRATION (FTA) TERMS, AND FEDERAL CHANGES*

A. Applicability

This Article applies to all federally funded contracts.

B. This Contract includes, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the Contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F, dated November 1, 2008 and

revised March 18, 2013 (including any changes), and are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Contract. Contractor shall not perform any act, fail to perform any act, or refuse to comply with any Omnitrans requests which would cause Omnitrans to be in violation of the FTA terms and conditions.

This Contract is subject to a financial assistance agreement between Omnitrans and the Federal Transit Administration of the US Department of Transportation and all laws, regulations, guidelines, and provisions of the financial assistance agreement apply to this Contract and are incorporated by reference as if fully set forth herein.

C. Contractor shall at all times comply with all applicable federal laws and regulations, including without limitation FTA regulations, policies, procedures and directives, including those listed directly or by reference in Applicable Grant Agreements between Omnitrans and FTA, as they may be amended or promulgated from time to time during the term of this Contract collectively "Federal Requirements". These Federal Requirements may change and the changed Federal Requirements will apply to this Contract as required unless the Federal Government determines otherwise. Contractor's failure to so comply with the Federal Requirements shall constitute a material breach of this Contract.

RR-07
ENERGY CONSERVATION REQUIREMENTS

A. **Applicability**

This Article applies to all federally funded contracts.

B. Contractor shall comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act 42 USC §6321 et seq.

RR-08
CIVIL RIGHTS REQUIREMENTS *

A. **Applicability**

This Article applies to all federally funded contracts.

B. Nondiscrimination - In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, Contractor shall not discriminate against any employee or applicant for employment because of race, color, creed, national

origin, sex, age, or disability. In addition, Contractor shall comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

C. Equal Employment Opportunity

(a) Race, Color, Creed, National Origin, Sex - In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, Contractor shall comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq. , (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect activities undertaken in the course of the Contract. Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, Contractor shall comply with any implementing requirements FTA may issue.

(b) Age - In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. § 623 and Federal transit law at 49 U.S.C. § 5332, Contractor shall refrain from discrimination against present and prospective employees for reason of age. In addition, Contractor shall comply with any implementing requirements FTA may issue.

(c) Disabilities - In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, Contractor shall comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, Contractor shall comply with any implementing requirements FTA may issue.

(d) Contractor shall include these requirements in each subcontract, modified only if necessary to identify parties, as required by Federal regulations.

RR-09
NO GOVERNMENT OBLIGATION TO THIRD PARTIES *

A. Applicability

This Article applies to all federally funded contracts.

B. Notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award this Contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this Contract and shall not be subject to any obligations or liabilities to Omnitrans, Contractor, or any other party (whether or not a party to that Contract) pertaining to any matter resulting from this Contract.

Contractor shall include this Article in each Subcontract and shall not modify the Article, except to identify the Subcontractor who will be subject to its provisions.

RR-10
PROGRAM FRAUD AND FALSE OR FRAUDULENT STATEMENTS OR RELATED ACTS *

A. **Applicability**

This Article applies to all federally funded contracts.

B. The provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, shall apply to actions pertaining to this Contract. Upon execution of this Contract, Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining this Contract or the FTA assisted project for which this Contract work is being performed. In addition to other penalties that may be applicable, Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on Contractor to the extent the Federal Government deems appropriate.

C. Contractor also acknowledges that this Contract is connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307 and if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on Contractor, to the extent the Federal Government deems appropriate.

D. Contractor shall include this Article in each subcontract financed in whole or in part with Federal assistance provided by FTA. Contractor shall not modify the Article, except to identify the Subcontractor who will be subject to the provisions.

RR-11
SUSPENSION AND DEBARMENT*

A. Applicability

This article applies to federally funded contracts and subcontracts at any level expected to equal or exceed $25,000 as well as any contract or subcontract (at any level) for Federally required auditing services.

B. This Contract is a covered transaction for purposes of 49 CFR Part 29. As such, Contractor shall verify that none of the Contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

Contractor shall comply with 49 CFR 29, Subpart C and shall include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

C. By entering into this Contract, Contractor certifies that it shall comply with the requirements of 49 CFR 29, Subpart C throughout the period of this Contract. This certification is a material representation of fact relied upon by Omnitrans. If it is later determined that Contractor knowingly rendered an erroneous certification, in addition to remedies available to Omnitrans, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment.

RR-12
RECYCLED PRODUCTS

A. **Applicability**

This Article applies to federally funded operations/management, construction, or materials & supplies contracts for items designated by the Environmental Protection Agency, when procuring $10,000 or more per year.

B. To the extent practicable and economically feasible, a competitive preference shall be given for products and services that conserve natural resources and protect the environment and are energy efficient.

C. The Contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

RR-13
CLEAN WATER AND CLEAN AIR REQUIREMENTS*

A. Applicability

This Article applies to all federally funded contracts over $100,000.

B. CLEAN WATER REQUIREMENTS

Contractor shall comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq., and all applicable clean water standards of the State of California and any state or local agency having jurisdiction. Contractor shall report each violation to Omnitrans. Omnitrans will, in turn, report each violation as required to FTA and the appropriate EPA Regional Office, and all other agencies having jurisdiction.

C. CLEAN AIR

Contractor shall comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq. and all applicable Clean Air Standards of the State of California or any state or local agency having jurisdiction. Contractor shall report each violation to Omnitrans. Omnitrans will, in turn, report each violation as required to FTA, the appropriate EPA Regional Office and all other agencies having jurisdiction.

C. Contractor shall include this Article in each subcontract exceeding $100,000 financed in whole or in part with Federal assistance provided by FTA.

RR-14
COMPLIANCE WITH FEDERAL LOBBYING POLICY *

A. **Applicability**

The following Article applies to federally funded contracts over $100,000.

B. The Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, requires that Contractors who apply or bid for an award of $100,000 or more shall file the certification required by 49 CFR Part 20, “New Restrictions on Lobbying,” attached hereto as the certification entitled, "Certification of Compliance with Federal Lobbying Requirements." As set forth in the certifications, each tier of subcontractors shall certify to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with

non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures shall be forwarded from tier to tier up to Omnitrans.

RR-15
BUY AMERICA *

A. **Applicability**

The following Article applies to federally funded rolling stock purchase and construction contracts over $100,000 and to contracts over $100,000 for materials & supplies for steel, iron, or manufactured products.

B. Contractor shall comply with 49 U.S.C. 5323(j) and 49 CFR Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. General waivers are listed in 49 C.F.R. 661.7, and include final assembly in the United States for 15 passenger vans and 15 passenger wagons produced by Chrysler Corporation, and microcomputer equipment and software. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 60 percent domestic content.

Omnitrans may investigate Contractor's, any Subcontractor's, and any Supplier's compliance with this Article. If an investigation is initiated, Contractor, Subcontractor, or Supplier shall document its compliance, in accordance with 49 CFR 661.15, and cooperate with the investigation. Contractor shall incorporate the Buy America conditions set forth in this Article in every subcontract or purchase order and shall enforce such conditions.

C. FTA requires a Buy America certification to be submitted with the proposal, or the proposal shall be considered non-responsive.

RR-16
CARGO PREFERENCE*

A. **Applicability**

The following Article applies to federally funded contracts involving equipment, materials, or commodities which may be transported by ocean vessels

B. **USE OF UNITED STATES FLAG VESSELS**

Contractor shall use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or

commodities pursuant to this Contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels.

Contractor shall furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of leading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of -lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the Omnitrans (through Contractor in the case of a subcontractor's bill-of-lading.)

Contractor shall include these requirements in all subcontracts issued pursuant to this Contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

RR-17
FLY AMERICA

A. **Applicability**

This Article applies to federally funded contracts if the contract or subcontracts may involve the international transportation of goods, equipment, or personnel by air.

B. Contractor agrees to comply with 49 U.S.C. 40118 (the “Fly America” Act) in accordance with the General Services Administration’s regulations at 41 CFR Part 301-10, which provide that recipients and sub recipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

RR-18
CONTRACT WORK HOURS AND SAFETY STANDARDS ACT *

A. Applicability

This Article applies to federally funded construction contracts over $2,000 (including ferry vessels), rolling stock purchases over $2,500 and to operations/management contracts over $2,500 (except transportation services)

B. Pursuant to the Labor Standards Provisions Applicable to Non-construction Contracts subject to the Federal Contract Work Hours and Safety Standards Act, 40 U.S.C.A. § 327 through 332 as implemented by U.S. Department of Labor regulations, 29 CFR 5.5 (b) and (c) Contractor and Subcontractor's contracting for any part of the Contract work shall comply with the following:

1. **Overtime requirements** – Neither Contractor nor any Subcontractor contracting for any part of the Contract work that requires or involves the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

2. **Violation; liability for unpaid wages; liquidated damages** – In the event of any violation of the Article set forth in paragraph (1) of this Article Contractor and any Subcontractor responsible therefore shall be liable for the unpaid wages. In addition, Contractor and Subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (1) of this Article, in the sum of ten dollars ($10) for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (1) of this Article.

3. Withholding for unpaid wages and liquidated damages – Omnitrans shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any monies payable on account of work performed by Contractor or Subcontractor under the Contract or any other Federal contract with Contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by Contractor, such sums as may be determined to be necessary to satisfy any liabilities of Contractor or Subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (2) of this Article.

4. Subcontracts – Contractor or Subcontractor shall insert this Article in any Subcontracts and also an Article requiring the Subcontractors to include this Article in any lower tier Subcontracts. Contractor shall be responsible for compliance by any Subcontractor or lower tier Subcontractor with this Article.

5. Payrolls and basic records – The records to be maintained hereinabove shall be made available by Contractor or Subcontractor for inspection, copying, or transcription by Omnitrans and U.S. Dept. of Labor. Contractor and Subcontractor shall maintain payrolls and basic records during the course of the work and shall preserve them for a period of three (3) years from the completion of the Contract

for all laborers and mechanics, including guards and watchmen, working on the Contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates of wages paid, daily and weekly number of hours worked, deductions made and actual wages paid.

RR-19
DISADVANTAGED BUSINESS ENTERPRISE (DBE) 49 CFR Part 26

Disadvantaged Business Enterprises

A. This Contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, *Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs.* The national goal for participation of Disadvantaged Business Enterprises (DBE) is 10%. The agency's overall goal for DBE participation is 8.4**%.**

B. Contractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of this DOT-assisted Contract. Failure by Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy as Omnitrans deems appropriate. Each subcontract Contractor signs with a subcontractor must include the assurance in this paragraph (*see* 49 CFR 26.13(b)).

C. Bidders are required to document sufficient DBE participation to meet these goals or, alternatively, document adequate good faith efforts to do so, as provided for in 49 CFR 26.53. Award of this contract is conditioned on submission of the following concurrent with and accompanying sealed bid concurrent with and accompanying an initial proposal prior to award:

1. The names and addresses of DBE firms that will participate in this contract;
2. A description of the work each DBE will perform;
3. The dollar amount of the participation of each DBE firm participating;
4. Written documentation of the bidder's commitment to use a DBE subcontractor whose participation it submits to meet the contract goal;
5. Written confirmation from the DBE that it is participating in the contract as provided in the prime contractor's commitment; and
6. If the contract goal is not met, evidence of good faith efforts to do so.

Bidders must present the information required above as a matter of responsiveness with initial proposals prior to contract award] (*see* 49 CFR 26.53(3)).

The successful bidder will be required to report its DBE participation obtained through race-neutral means throughout the period of performance.

D. Contractor is required to pay its subcontractors performing work related to this contract for satisfactory performance of that work no later than 7 days after the contractor's receipt of payment for that work from the Omnitrans. In addition, Contractor is required to return any retainage payments to those subcontractors within 30 days after the subcontractor's work related to his contract is satisfactorily completed.

E. Contractor must promptly notify Omnitrans whenever a DBE subcontractor performing work related to this contract is terminated or fails to complete its work, and must make good faith efforts to engage another DBE subcontractor to perform at least the same amount of work. Contractor may not terminate any DBE subcontractor and perform that work through its own forces or those of an affiliate without prior written consent of Omnitrans.

RR-20
ADA ACCESS

A. **Applicability**

This Article applies to federally funded Architect & Engineer, Operations/Management, Rolling Stock Purchase, and Construction contracts

B. **Access Requirements for Persons with Disabilities**

Contractor shall comply with:

1. The requirements of 49 U.S.C. § 5301(d), which states the Federal policy that elderly persons and persons with disabilities have the same right as other persons to use mass transportation service and facilities, and that special efforts shall be made in planning and designing those services and facilities to implement that policy;

2. All applicable requirements of section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, which prohibits discrimination on the basis of handicaps;

3. The Americans with Disabilities Act of 1990 (ADA), as amended, 42 U.S.C. § 12101 et seq., which requires that accessible facilities and services be made available to persons with disabilities, including any subsequent amendments to that Act;

4. The Architectural Barriers Act of 1968, as amended, 42 U.S.C. §§ 4151 et seq., which requires that buildings and public accommodations be accessible to persons with disabilities, including any subsequent amendments to that Act; and

5. All applicable requirements of the following regulations and any subsequent amendments thereto:

(1) U.S. DOT regulations, "Transportation Services for Individuals with Disabilities (ADA)," 49 C.F.R. Part 37;

(2) U.S. DOT regulations, "Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance," 49 C.F.R. Part 27;

(3) Joint U.S. Architectural and Transportation Barriers Compliance Board (U.S. ATBCB)/U.S. DOT regulations, "Americans With Disabilities (ADA) Accessibility Specifications for Transportation Vehicles," 36 C.F.R. Part 1192 and 49 C.F.R. Part 38;

(4) U.S. DOJ regulations, "Nondiscrimination on the Basis of Disability in State and Local Government Services," 28 C.F.R. Part 35;

(5) U.S. DOJ regulations, "Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities," 28 C.F.R. Part 36;

(6) U.S. General Services Administration (U.S. GSA) regulations, "Accommodations for the Physically Handicapped," 41 C.F.R. Subpart 101-19;

(7) U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630;

(8) U.S. Federal Communications Commission regulations, "Telecommunications Relay Services and Related Customer Premises Equipment for the Hearing and Speech Disabled," 47 C.F.R. Part 64, Subpart F; and

(9) U.S. ATBCB regulations, "Electronic and Information Technology Accessibility Standards," 36 C.F.R. Part 1194; and

(10) FTA regulations, "Transportation for Elderly and Handicapped Persons," 49 C.F.R. Part 609;

(11) Any implementing requirements FTA may issue.

RR-21
ALCOHOL AND DRUG-FREE WORKPLACE PROGRAM *

A. **Applicability**

This Article applies to federally funded contracts for transit operations.

B. **FTA Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations Regulations**

Contractor and its Subcontractors shall comply with the FTA anti-drug and alcohol misuse regulations (49 CFR Part 655) and the U.S. Department of Transportation (DOT) Procedures for Transportation Workplace Drug and Alcohol Testing Programs (49 CFR Part 40) to the full extent that they are, by their terms, applicable to Contractor and its Subcontractors. The regulations apply to all "contractors" that have "covered employees" that perform "safety sensitive functions" as those terms are defined in the regulations.

C. **Certificate of Compliance**

The CERTIFICATE OF COMPLIANCE WITH 49 CFR PARTS 655, PREVENTION OF ALCOHOL MISUSE AND PROHIBITED DRUG USE IN TRANSIT, submitted by Contractor prior to award, is incorporated as part of the Contract Documents.

D. **Drug and Alcohol Testing Program**

In the event that any part of the Work under this Contract falls within the scope of 49 CFR Part 655, Contractor, and its Subcontractors (as applicable), shall establish and implement a drug and alcohol testing program that complies with 49 CFR Parts 653 and 654, produce any documentation necessary to establish its compliance with Parts 653 and 654, and permit any authorized representative of the United States Department of Transportation or its operating administrations, the State Oversight Agency of California, or Omnitrans, to inspect the facilities and records associated with the implementation of the drug and alcohol testing program as required under 49 CFR Parts 653 and 654 and review the testing process. Contractor shall annually certify its compliance with Parts 653 and 65. To certify compliance the contractor shall use the "Substance Abuse Certifications" in the "Annual List of Certifications and Assurances for Federal Transit Administration Grants and Cooperative Agreements," which is published annually in the Federal Register.

E. **Alcohol and Drug Free Workplace Program**

In addition to the above, for Work performed on Omnitrans property, Contractor shall provide an Alcohol and Drug-free Workplace Program in accordance with FTA requirements found at http://transit-safety.fta.dot.gov/DrugAndAlcohol/default.asp

RR-22
TRANSIT EMPLOYEE PROTECTIVE ARRANGEMENTS *

A. **Applicability**

Subject to the limitations in Sections B, C, and D, this Article applies if this Contract involves transit operations to be performed by employees of a Contractor recognized by FTA to be a transit operator, and if FTA has determined that it is financed in whole or in part with Federal assistance.

B. **General Transit Employee Protective Requirements**

If FTA has determined that this Contract involves transit operations financed in whole or in part with Federal assistance (other than Federal assistance authorized by 49 U.S.C. § 5310(a)(2) or 49 U.S.C. § 5311), and if the U.S. Secretary of Transportation has determined that the employee protective requirements of 49 U.S.C. § 5333(b) are necessary or appropriate for Omnitrans under this Contract, then Contractor shall perform the transit operations work under the Contract in compliance with terms and conditions, (a) determined by the U.S. Secretary of Labor to meet the employee protective requirements of 49 U.S.C. A 5333(b), and U.S. Department of Labor ("U. S. DOL") guidelines at 29 C.F.R. Part 215, and any amendments thereto, and (b) stated in a U. S. DOL letter of certification to FTA, the date of which is set forth in the applicable Grant Agreement or Cooperative Agreement with Omnitrans, and which is incorporated in the Form of Contract as a Contract Document entitled "U. S. DOL Certification".

C. **Transit Employee Protective Requirements for Projects Authorized by 49 U.S.C. § 5310(a) (2) for Elderly Individuals and Individuals with Disabilities**

If FTA has determined that this Contract involves transit operations financed in whole or in part with Federal assistance authorized by 49 U.S.C. § 5310(a)(2), and if the U.S. Secretary of Transportation has determined or determines in the future that the employee protective requirements of 49 U.S.C. § 5333(b) are necessary or appropriate for Omnitrans under the Contract, Contractor shall perform the Work in compliance with the terms and conditions determined, (a) by the U.S. Secretary of Labor to meet the requirements of 49 U.S.C. § 5333(b), U.S. DOL guidelines at 29 C.F.R. Part 215, and any amendments thereto, and (b) stated in the U.S. DOL's letter of certification to FTA, the date of which is set forth in the applicable Grant Agreement or Cooperative Agreement with Omnitrans, and which is incorporated in the Form of Contract as a Contract Document entitled "U. S. DOL Certification".

D. **Transit Employee Protective Requirements for Projects Authorized by 49 U.S.C. § 5311 in Nonurbanized Areas**

If FTA has determined that this Contract involves transit operations financed in whole or in part with Federal assistance authorized by 49 U.S.C. § 5311, Contractor shall comply with the terms and conditions of the Special Warranty for the Nonurbanized Area

Program agreed to by the U.S. Secretaries of Transportation and Labor, dated May 31, 1979, and the procedures implemented by U.S. DOL or any revision thereto.

E. **Indemnity**

Contractor shall defend, indemnify and hold harmless Omnitrans, and its Board Members, employees and agents from and against all liability, claims, demands actions, costs, judgments, penalties, damages, losses and expenses arising out of or in connection with Contractor's failure to comply with or failure to carry out its responsibilities under all applicable provisions of Sections B, C and D of this Article.

RR-23
BONDING REQUIREMENTS

Applicability to Contracts
For those construction or facility improvement contracts or subcontracts exceeding $100,000, FTA may accept the bonding policy and requirements of the recipient, provided that they meet the minimum requirements for construction contracts as follows:

A. A bid guarantee from each bidder equivalent to ten (10) percent of the bid price. The "bid guarantees" shall consist of a firm commitment and may be in any of the following forms: (a) cash; (b) cashier's check payment to Omnitrans; (c) a certified check payable to the city; or (d) a bidder's bond executed by an admitted surety insurer. Such as a bid bond, certifies check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.

B. A performance bond on the part of the Contractor for 100 percent of the contract price. A "performance bond" is one executed in connection with a contract to secure fulfillment of all the contractor's obligations under such contract.

C. A payment bond on the part of the Contractor for 100 percent of the contract price. A "payment bond" is one executed in connection with a contract to assure payment, as required by law, of all persons supplying labor and material in the execution of the work provided for in the contract.

RR-24
DAVIS-BACON AND COPELAND ANTI-KICKBACK ACTS

Background and Application
The Davis-Bacon and Copeland Acts are codified at 40 USC 3141, *et seq.* and 18 USC 874. The Acts apply to grantee construction contracts and subcontracts that "at least partly are financed by a loan or grant from the Federal Government." 40 USC 3145(a), 29 CFR 5.2(h), 49 CFR 18.36(i) (5). The Acts apply to any construction contract over $2,000. 40 USC 3142(a), 29 CFR 5.5(a). 'Construction,' for purposes of the Acts, includes "actual construction, alteration and/or repair, including painting and decorating." 29 CFR 5.5(a). The requirements of both Acts are

incorporated into a single clause (*see* 29 CFR 3.11) enumerated at 29 CFR 5.5(a) and reproduced below.

The clause language is drawn directly from 29 CFR 5.5(a) and any deviation from the model clause below should be coordinated with counsel to ensure the Acts' requirements are satisfied.

Clause Language
Davis-Bacon and Copeland Anti-Kickback Acts

(1) **Minimum wages** - (i) All laborers and mechanics employed or working upon the site of the work (or under the United States Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment computed at rates not less than those contained in the wage determination of the Secretary of Labor which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR Part 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein: Provided that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classifications and wage rates conformed under paragraph (1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

(1) Except with respect to helpers as defined as 29 CFR 5.2(n)(4), the work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and

(4) With respect to helpers as defined in 29 CFR 5.2(n)(4), such a classification prevails in the area in which the work is performed.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the contractor does not make payments to a trustee or other third person, the contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, Provided, That the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(v)(A) The contracting officer shall require that any class of laborers or mechanics which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits only when the following criteria have been met:

(1) The work to be performed by the classification requested is not performed by a classification in the wage determination; and

(2) The classification is utilized in the area by the construction industry; and

(3) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination with 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a) (1) (v) (B) or (C) of this section, shall be paid to all workers performing work in the Classification under this contract from the first day on which work is performed in the classification.

(2) **Withholding** - Omnitrans shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the contractor under this contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work (or under the United States

Housing Act of 1937 or under the Housing Act of 1949 in the construction or development of the project), all or part of the wages required by the contract, Omnitrans may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

(3) **Payrolls and basic records** - (i) Payrolls and basic records relating thereto shall be maintained by the contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work (or under the United States Housing Act of 1937, or under the Housing Act of 1949, in the construction or development of the project). Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b) (2) (B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The contractor shall submit weekly for each week in which any contract work is performed a copy of all payrolls to the Omnitrans for transmission to the Federal Transit Administration. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under section 5.5(a) (3) (i) of Regulations, 29 CFR part 5. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal Stock Number 029-005-00014-1), U.S. Government Printing Office, Washington, DC 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be maintained under section 5.5(a)(3)(i) of Regulations, 29 CFR part 5 and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or

indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the Federal Transit Administration or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) **Apprentices and trainees** - (i) Apprentices - Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State Apprenticeship Agency recognized by the Bureau, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the contractor's or subcontractors registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a

percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division of the U.S. Department of Labor determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Bureau of Apprenticeship and Training, or a State Apprenticeship Agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) Trainees - Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate that is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) Equal employment opportunity - The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended and 29 CFR part 30.

(5) **Compliance with Copeland Act requirements** - The contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this contract.

(6) **Subcontracts** - The contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the Federal Transit Administration may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall

be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) **Contract termination: debarment** - A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) **Compliance with Davis-Bacon and Related Act requirements** - All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this contract.

(9) **Disputes concerning labor standards** - Disputes arising out of the labor standards provisions of this contract shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) **Certification of eligibility** - (i) By entering into this contract, the contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

RR-25
PRIVACY ACT - 5 U.S.C. 552

Applicability to Contracts

When a grantee maintains files on drug and alcohol enforcement activities for FTA, and those files are organized so that information could be retrieved by personal identifier, the Privacy Act requirements apply to all contracts.

Flow Down
The Federal Privacy Act requirements flow down to each third party contractor and their contracts at every tier.

Model Clause/Language
The text of the following clause has not been mandated by statute or specific regulation, but has been developed by FTA.

Contracts Involving Federal Privacy Act Requirements - The following requirements apply to the Contractor and its employees that administer any system of records on behalf of the Federal Government under any contract:

(1) The Contractor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974,

5 U.S.C. § 552a. Among other things, the Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Federal Government. The Contractor understands that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract.

(2) The Contractor also agrees to include these requirements in each subcontract to administer any system of records on behalf of the Federal Government financed in whole or in part with Federal assistance provided by FTA.

RR- 26
TERMINATION 49 U.S.C. Part 18 FTA Circular 4220.1F

Applicability to Contracts
All contracts (with the exception of contracts with nonprofit organizations and institutions of higher education,) in excess of $10,000 shall contain suitable provisions for termination by the grantee including the manner by which it will be effected and the basis for settlement. (For contracts with nonprofit organizations and institutions of higher education the threshold is $100,000.) In addition, such contracts shall describe conditions under which the contract may be terminated for default as well as conditions where the contract may be terminated because of circumstances beyond the control of the contractor.

Flow Down
The termination requirements flow down to all contracts in excess of $10,000, with the exception of contracts with nonprofit organizations and institutions of higher learning.

a. **Termination for Convenience (General Provision)** Omnitrans may terminate this contract, in whole or in part, at any time by written notice to the Contractor when it is in the Government's best interest. The Contractor shall be paid its costs, including contract close-out costs, and profit on work performed up to the time of termination. The Contractor shall promptly submit its termination claim to Omnitrans to be paid the Contractor. If the Contractor has any property in its possession belonging to the Omnitrans, the Contractor will account for the same, and dispose of it in the manner the Omnitrans directs.

b. **Opportunity to Cure (General Provision)** Omnitrans in its sole discretion may, in the case of a termination for breach or default, allow the Contractor an appropriately short period of time in which to cure the defect. In such case, the

notice of termination will state the time period in which cure is permitted and other appropriate conditions

If Contractor fails to remedy to Omnitrans' satisfaction the breach or default of any of the terms, covenants, or conditions of this Contract within ten (10) days after receipt by Contractor of written notice from Omnitrans setting forth the nature of said breach or default, Omnitrans shall have the right to terminate the Contract without any further obligation to Contractor. Any such termination for default shall not in any way operate to preclude Omnitrans from also pursuing all available remedies against Contractor and its sureties for said breach or default.

c. **Waiver of Remedies for any Breach** In the event that Omnitrans elects to waive its remedies for any breach by Contractor of any covenant, term or condition of this Contract, such waiver by Omnitrans shall not limit Omnitrans remedies for any succeeding breach of that or of any other term, covenant, or condition of this Contract.

d. **Termination for Default (Construction)** If the Contractor refuses or fails to prosecute the work or any separable part, with the diligence that will insure its completion within the time specified in this contract or any extension or fails to complete the work within this time, or if the Contractor fails to comply with any other provisions of this contract, Omnitrans may terminate this contract for default. Omnitrans shall terminate by delivering to the Contractor a Notice of Termination specifying the nature of the default. In this event, Omnitrans may take over the work and compete it by contract or otherwise, and may take possession of and use any materials, appliances, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to Omnitrans resulting from the Contractor's refusal or failure to complete the work within specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the Omnitrans in completing the work.

The Contractor's right to proceed shall not be terminated nor the Contractor charged with damages under this clause if-

1. The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include: acts of God, acts of the Recipient, acts of another Contractor in the performance of a contract with the Recipient, epidemics, quarantine restrictions, strikes, freight embargoes; and

2. The contractor, within [10] days from the beginning of any delay, notifies Omnitrans in writing of the causes of delay. If in the judgment of Omnitrans, the delay is excusable, the time for completing the work shall be extended. The judgment of Omnitrans shall be final and conclusive on the parties, but subject to appeal under the Disputes clauses.

If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been issued for the convenience of Omnitrans.

RR – 27
SEISMIC SAFETY REQUIREMENTS 42 U.S.C. 7701 et seq. 49 CFR Part 41

Applicability to Contracts

The Seismic Safety requirements apply only to contracts for the construction of new buildings or additions to existing buildings.

Flow Down
The Seismic Safety requirements flow down from FTA recipients and subrecipients to first tier contractors to assure compliance, with the applicable building standards for Seismic Safety, including the work performed by all subcontractors.

Model Clauses/Language
The regulations do not provide suggested language for third-party contract clauses. The following language has been developed by FTA.

Seismic Safety - The contractor agrees that any new building or addition to an existing building will be designed and constructed in accordance with the standards for Seismic Safety required in Department of Transportation Seismic Safety Regulations 49 CFR Part 41 and will certify to compliance to the extent required by the regulation. The contractor also agrees to ensure that all work performed under this contract including work performed by a subcontractor is in compliance with the standards required by the Seismic Safety Regulations and the certification of compliance issued on the project.

RR-28
BREACHES AND DISPUTE RESOLUTION 49 CFR Part 18 FTA Circular 4220.1F

Applicability to Contracts
All contracts in excess of $100,000 shall contain provisions or conditions which will allow for administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as may be appropriate. This may include provisions for bonding, penalties for late or inadequate performance, retained earnings, liquidated damages or other appropriate measures.

Flow Down
The Breaches and Dispute Resolutions requirements flow down to all tiers.

Disputes - Disputes arising in the performance of this Contract which are not resolved by agreement of the parties shall be decided in writing by the Omnitrans Construction Manager.

This decision shall be final and conclusive unless within ten (10) days from the date of receipt of its copy, the Contractor mails or otherwise furnishes a written appeal to Omnitrans Construction Manager. In connection with any such appeal, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of Omnitrans Project Manager shall be binding upon the Contractor and the Contractor shall abide be the decision.

Performance During Dispute - Unless otherwise directed by Omnitrans, Contractor shall continue performance under this Contract while matters in dispute are being resolved.

Claims for Damages - Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the party or of any of his employees, agents or others for whose acts he is legally liable, a claim for damages therefore shall be made in writing to such other party within a reasonable time after the first observance of such injury of damage.

Remedies - Unless this contract provides otherwise, all claims, counterclaims, disputes and other matters in question between Omnitrans and the Contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State in which Omnitrans is located.

Rights and Remedies - The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by Omnitrans, or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

RR-29
VETERANS PREFERENCE

Veterans Employment. Contractors working on a capital project funded using FTA assistance shall give a hiring preference, to the extent practicable, to veterans (as defined in section 2108 of title 5) who have the requisite skills and abilities to perform the construction work required under the contract. This subsection shall not be understood, construed or enforced in any manner that would require an employer to give preference to any veteran over any equally qualified applicant who is a member of any racial or ethnic minority, female, an individual with a disability, or former employee.

END OF REGULATORY REQUIREMENTS

ATTACHMENT C
PRICING SUMMARY
MKP15-37
ARCHITECTURAL, ENGINEERING AND FINAL DESIGN SERVICES FOR THE WEST VALLEY CORRIDOR

	DESCRIPTION	TOTALS
Project Management		
1	Project Management	$385,457
	SUBTOTAL	**$385,457**
Project Approval/Environmental Document (PA/ED)		
2	Project Outreach & Community Participation	$332,350
3,5,6,7	Environmental Clearance and Planning	$1,273,965
13	Transit Planning Support	$135,428
8	Preliminary Engineering	$1,359,829
	SUBTOTAL	**$3,101,573**
Plans, Specifications & Estimate (PS&E)		
9, 10	Final Design	$3,495,022
	SUBTOTAL	**$3,495,022**
Design Support During Construction		
11, 12	Bid Serv. & Design Construction Support	$1,017,948
	SUBTOTAL	**$1,017,948**
	TOTAL PRIOR TO OPTIONS	**$8,000,000**
OPTIONAL TASKS		
14A	Subsurface Utility Scanning	$288,000
14B1	Surveyed Row Base Mapping	$$133,319
14B2	Legal Descr for Acquisitions & TCE's	$260,023
14C	Additional TSP Signals	$299,650
14D	Flood Channel Impact Requirements	$57,273
14E	Major Sewer/Water Utility Relocations	$240,215
14F	Additional Presentation Boards	$28,835
14G	Pedestrian and Bike Counts (After)	$27,889
14H	Active Transportation Grant Environmental Doc.	$49,951
14I	Survey/Engineering Support R/W Acquisition	$639,472
	OPTIONAL TASKS SUBTOTAL	**$2,024,627**
	Initial Budget	**$8,000,000**
	Optional Tasks	**$2,024,627**
	TOTAL	**$10,024,627**

ATTACHMENT C

Tasks/Hours Breakdown	Total	Parsons																	
		Project Manager	QA/QC Manager	Engineering Lead	Roadway Design Engineer	Drainage Design Engineer	Utilities Coordinator/Design	Structural Engineer	Transit Systems / Communications Lead	Capital Cost Estimator	Construction Administration / Management Lead	Transportation Planning Lead	Transit Operations Analysis	GIS Mapping	Engineer II	Engineer I	Associate Engineer	Senior Manager (Communication Design)	Senior Systems Engineer	Intermediate Systems Engineer
Task 1.0 PROJECT MANAGEMENT																				
ODC - Task 1	$33,637.50																			
TOTAL COST - TASK 1	$385,457	$90,586	$56,036	$60,844	$16,175	$2,686	$17,592	$6,837	$0	$0	$0	$24,359	$0	$5,175	$2,950	$2,964	$7,396	$0	$0	$0
Task 2.0 PUBLIC RELATIONS																				
ODC - Task 2	$30,000.00																			
TOTAL COST - TASK 2	$332,350	$26,934	$0	$41,264	$8,715	$0	$0	$0	$0	$0	$0	$19,654	$0	$0	$0	$0	$0	$0	$0	$0
Task 3.0 REFINEMENT OF ROUTING & STATION LOCATIONS																				
ODC - Task 3	$0.00																			
TOTAL COST - TASK 3	$125,341	$6,837	$0	$0	$0	$0	$0	$0	$0	$0	$0	$25,467	$13,955	$10,351	$0	$0	$0	$0	$0	$0
Task 4.0 PEDESTRIAN & BICYCLE CONNECTIONS																				
ODC - Task 4	$0.00																			
TOTAL COST - TASK 4	$393,887	$35,893	$20,754	$14,125	$44,316	$29,544	$0	$0	$0	$0	$0	$24,913	$0	$9,316	$39,067	$36,749	$49,810	$0	$0	$0
Task 5.0 PHASING & FINANCING PLAN																				
ODC - Task 5	$0.00																			
TOTAL COST - TASK 5	$199,985	$11,964	$0	$0	$0	$0	$0	$0	$0	$3,946	$0	$20,484	$24,944	$0	$0	$0	$0	$0	$0	$0
Task 6.0 SMALL STARTS PROCESS																				
ODC - Task 6	$318.00																			
TOTAL COST - TASK 6	$207,973	$6,837	$0	$0	$0	$0	$0	$0	$0	$0	$0	$13,841	$38,911	$7,763	$0	$0	$0	$0	$0	$0
Task 7.0 ENVIRONMENTAL CLEARANCE																				
ODC - Task 7	$29,010.00																			
TOTAL COST - TASK 7	$740,666	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 8.0 PRELIMINARY ENGINEERING																				
ODC - Task 8	$288,675.25																			
TOTAL COST - TASK 8	$1,369,829	$30,765	$4,151	$39,677	$8,058	$2,536	$26,858	$5,126	$8,494	$0	$8,962	$28,851	$6,584	$0	$13,869	$24,793	$8,799	$19,497	$15,390	$9,640
Task 9.0 FINAL DESIGN OF PHASE 1																				
ODC - Task 9	$37,092.45																			
TOTAL COST - TASK 9	$1,082,241	$35,893	$49,910	$54,592	$59,626	$28,201	$37,467	$32,474	$48,711	$28,458	$70,285	$4,152	$7,453	$0	$42,094	$82,128	$46,880	$7,221	$10,260	$9,938
Task 10.0 FINAL DESIGN OF PHASE 2																				
ODC - Task 10	$37,092.45																			
TOTAL COST - TASK 10	$2,108,894	$51,275	$47,735	$226,540	$174,579	$131,808	$174,579	$152,116	$99,869	$9,869	$35,860	$4,152	$7,453	$0	$198,284	$240,822	$222,534	$7,656	$26,350	$23,975
Task 11.0 BID PERIOD SERVICES																				
ODC - Task 11	$0.00																			
TOTAL COST - TASK 11	$50,033	$4,444	$0	$10,475	$0	$0	$0	$1,538	$0	$0	$7,325	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 12.0 DESIGN SERVICES DURING CONSTRUCTION																				
ODC - Task 12	$0.00																			
TOTAL COST - TASK 12	$967,316	$52,984	$0	$101,268	$80,431	$40,288	$0	$135,193	$0	$0	$80,575	$0	$0	$0	$19,533	$42,729	$56,625	$0	$0	$0
Task 13.0 TRANSIT PLANNING SUPPORT																				
ODC - Task 13	$0.00																			
TOTAL COST - TASK 13	$135,428	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$17,993	$22,450	$7,763	$0	$0	$0	$0	$0	$0
Task 14.0 OPTIONAL SERVICES																				
A. Subsurface Utility Scanning/Potholing (see OEA ODCs)	288,000																			
B1. Surveyed Right of Way Base Mapping	133,319																			
B2. Legal Descriptions for Acquisitions & TCE's	260,023																			
C. Additional TSP Signals (10 intersections)	299,650																			
D. Flood Channel Impact Requirements	57,273					143		117												
E. Major Sewer/Water Utility relocation	240,215																			
F. Additional Presentation Boards and Renderings (see ODCs)	26,835																			
G. Ped and Bike Counts (after)	27,999																			
H. Active Transportation Grant Environmental Document	48,951																			
I. Survey/Engineering support of RW Acquisition	939,472	100		850	990	100	400								400	931	1101			
ODC - Task 14	$321,845.00																			
TOTAL COST - TASK 14	$2,024,827	$17,092	$0	$34,982	$120,863	$33,437	$53,717	$19,997	$0	$0	$0	$0	$0	$0	$39,067	$79,562	$80,843	$0	$0	$0
TOTAL PROJECT HOURS	73,463	2173	880	4510	3647	1999	2310	2057	836	384	776	857	518	312	3633	5719	6180	157	400	394
TOTAL DIRECT LABOR	$3,716,940	$152,110.00	$73,100.00	$293,150.00	$200,565.00	$109,945.00	$127,050.00	$144,690.00	$92,700.00	$17,280.00	$48,500.00	$74,484.00	$52,918.86	$16,592.85	$145,320.00	$200,165.00	$185,400.00	$10,551.97	$22,115.00	$17,426.82
TOTAL MULTIPLIERS	$4,669,122	$185,526.57	$92,160.07	$357,565.05	$244,653.52	$134,099.92	$154,962.89	$176,478.39	$76,475.19	$21,076.42	$56,935.60	$90,848.24	$64,545.16	$20,185.15	$177,240.80	$244,141.25	$226,152.36	$12,870.24	$26,974.89	$21,255.23
FEES	$820,795	$33,763.96	$16,228.01	$65,070.51	$44,523.65	$24,404.48	$28,201.28	$32,116.84	$13,917.52	$3,835.64	$10,361.56	$16,533.23	$11,746.40	$3,668.80	$32,256.65	$44,430.63	$41,153.24	$2,342.22	$4,908.09	$3,868.16
Check	$10,024,627																			
ODCs - From Summary Sheets	$817,770																			
ODCs	$817,770																			
TOTAL PROJECT COST	$10,024,627	$371,402	$176,488	$715,778	$489,782	$268,449	$310,214	$353,285	$183,093	$42,192	$113,977	$181,866	$129,210	$40,368	$354,823	$488,737	$452,686	$25,764	$54,000	$42,550

Tasks/Hours Breakdown	Parsons (Environmental)															
	Environmental Lead	Senior Environmental Planner	Environmental Planner	Associate Planner	Noise and Vibration Specialist	Master Planner - Historical / Archaeological	Associate Planner - Historical / Archaeological	Senior Landscape Architect	Biologist - Ecosystems / Biological Resources / Wetlands	Community / Environmental Justice Specialist	Project Planner - Permitting / Constructions Impacts	Energy Consumption Specialist	Project Planner - Safety and Security	Scientific Manager - Stormwater Quality	Traffic / Parking	Total
Task 1.0 PROJECT MANAGEMENT																
ODC - Task 1																
TOTAL COST - TASK 1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 2.0 PUBLIC RELATIONS																
ODC - Task 2																
TOTAL COST - TASK 2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 3.0 REFINEMENT OF ROUTING & STATION LOCATIONS																
ODC - Task 3																
TOTAL COST - TASK 3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 4.0 PEDESTRIAN & BICYCLE CONNECTIONS																
ODC - Task 4																
TOTAL COST - TASK 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 5.0 PHASING & FINANCING PLAN																
ODC - Task 5																
TOTAL COST - TASK 5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 6.0 SMALL STARTS PROCESS																
ODC - Task 6																
TOTAL COST - TASK 6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 7.0 ENVIRONMENTAL CLEARANCE																
ODC - Task 7																
TOTAL COST - TASK 7	$26,276	$40,662	$49,527	$33,641	$60,909	$16,195	$7,101	$42,759	$15,541	$33,277	$9,091	$4,168	$8,695	$48,446	$93,007	503 010 $557,277
Task 8.0 PRELIMINARY ENGINEERING																
ODC - Task 8																
TOTAL COST - TASK 8	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 9.0 FINAL DESIGN OF PHASE 1																
ODC - Task 9																
TOTAL COST - TASK 9	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 10.0 FINAL DESIGN OF PHASE 2																
ODC - Task 10																
TOTAL COST - TASK 10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 11.0 BID PERIOD SERVICES																
ODC - Task 11																
TOTAL COST - TASK 11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 12.0 DESIGN SERVICES DURING CONSTRUCTION																
ODC - Task 12																
TOTAL COST - TASK 12	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 13.0 TRANSIT PLANNING SUPPORT																
ODC - Task 13																
TOTAL COST - TASK 13	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 14.0 OPTIONAL SERVICES																
A. Subsurface Utility Scanning/Potholing [see DEA ODCs]																0
B1. Surveyed Right of Way Base Mapping																0
B2. Legal Descriptions for Acquisitions & TCE's																0
C. Additional TSP Signals [20 intersections]																0
D. Flood Channel Impact Requirements																0
E. Major Sewer/Water Utility relocation																0
F. Additional Presentation Boards and Renderings [see ODCs]																0
G. Ped and Bike Counts [after]																0
H. Active Transportation Grant Environmental Document	10	30	70	69		15	25	44		30	10	11	20	19	35	369
I. Survey/Engineering support at ROW Acquisition																0
ODC - Task 14																
TOTAL COST - TASK 14	$1,683	$3,088	$5,876	$3,421	$7	$2,849	$1,614	$10,170	$0	$8,713	$1,509	$1,536	$2,698	$3,968	$6,026	$49,951
TOTAL PROJECT HOURS	168	425	660	630	240	95	135	229	125	190	70	41	80	119	575	3982
TOTAL DIRECT LABOR	$11,442.46	$17,918.00	$22,690.80	$17,652.60	$24,945.60	$7,350.05	$3,569.40	$21,677.14	$6,965.00	$16,184.20	$4,360.80	$2,344.38	$4,749.00	$21,098.66	$40,569.50	$222,697.69
TOTAL MULTIPLIERS	$13,956.39	$21,854.58	$27,675.57	$21,530.68	$30,428.15	$8,913.64	$4,353.60	$26,439.61	$7,783.39	$19,739.87	$5,245.68	$2,859.44	$5,791.14	$25,734.04	$49,471.64	$271,856.02
FEES	$2,539.49	$3,977.28	$5,038.68	$3,918.55	$5,537.17	$1,649.37	$792.30	$4,811.67	$1,412.84	$3,592.41	$954.65	$520.36	$1,053.91	$4,683.27	$9,003.23	$49,474.36
Check																$607,227.99
ODCs - From Summary Sheets																$63,010
ODCs																$63,010
TOTAL PROJECT COST	$27,938	$43,750	$55,403	$43,102	$60,909	$18,044	$8,715	$52,928	$15,541	$39,516	$10,581	$5,724	$11,593	$51,516	$99,035	$607,228

Tasks/Hours Breakdown	Gruen											Arellano Associates						
	Partner in Charge	Project Manager Planning	Project Manager Architecture/Landscape	Senior Planner	Intermediate Planner	Senior Architecture	Intermediate Architecture	Junior Architecture	Senior Landscape	Intermediate Landscape	QAC Reviewer	Total	Senior Project Manager	Senior Project Coordinator	Project Coordinator	Graphic Designer-Model	Total	Vice President	Sr Project Manager
Task 1.0 PROJECT MANAGEMENT																		
ODC - Task 1																		
TOTAL COST - TASK 1	$8,479	$13,577	$9,591	$0	$0	$0	$0	$0	$0	$0	$13,103	$44,668	$0	$0	$0	$0	$0	$0	
Task 2.0 PUBLIC RELATIONS																		
ODC - Task 2																	$25,838.00	
TOTAL COST - TASK 2	$9,655	$15,091	$20,282	$2,269	$6,487	$3,346	$4,607	$0	$3,325	$0	$0	$65,162	$41,654	$17,539	$15,174	$6,902	$107,207	$0	$0
Task 3.0 REFINEMENT OF ROUTING & STATION LOCATIONS																		
ODC - Task 3												$0.00						
TOTAL COST - TASK 3	$0	$22,748	$1,687	$0	$20,186	$0	$0	$0	$0	$7,849	$0	$52,470	$0	$0	$0	$0	$0	$0	
Task 4.0 PEDESTRIAN & BICYCLE CONNECTIONS																		
ODC - Task 4												$0.00						
TOTAL COST - TASK 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0		$0	$0	
Task 5.0 PHASING & FINANCING PLAN																		
ODC - Task 5												$0.00						
TOTAL COST - TASK 5	$7,065	$7,253	$15,722	$4,599	$3,920	$0	$0	$0	$0	$0	$0	$38,559	$0	$0	$0		$0	$0	
Task 6.0 SMALL STARTS PROCESS																		
ODC - Task 6												$0.00						
TOTAL COST - TASK 6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Task 7.0 ENVIRONMENTAL CLEARANCE																		
ODC - Task 7												$0.00						
TOTAL COST - TASK 7	$0	$7,912	$0	$0	$6,858	$0	$0	$0	$0	$0	$0	$14,772	$0	$0	$0	$0	$0	$0	
Task 8.0 PRELIMINARY ENGINEERING																		
ODC - Task 8												$116,000.00						
TOTAL COST - TASK 8	$16,249	$14,836	$40,248	$8,035	$7,249	$42,050	$18,693	$0	$0,427	$4,088	$0	$274,545	$0	$0	$0	$0	$0	$0	$14,7
Task 9.0 FINAL DESIGN OF PHASE 1																		
ODC - Task 9												$0.00						
TOTAL COST - TASK 9	$6,829	$0	$16,965	$0	$0	$25,431	$53,409	$44,250	$3,325	$4,882	$0	$155,106	$0	$0	$0	$0	$0	$0	
Task 10.0 FINAL DESIGN OF PHASE 2																		
ODC - Task 10												$0.00						
TOTAL COST - TASK 10	$3,061	$0	$10,062	$0	$0	$12,046	$55,189	$42,775	$11,082	$26,363	$0	$160,579	$0	$0	$0	$0	$0	$0	
Task 11.0 BID PERIOD SERVICES																		
ODC - Task 11												$0.00						
TOTAL COST - TASK 11	$1,413	$0	$2,356	$0	$0	$13,162	$1,424	$2,260	$0	$5,535	$0	$26,250	$0	$0	$0	$0	$0	$0	
Task 12.0 DESIGN SERVICES DURING CONSTRUCTION																		
ODC - Task 12												$0.00						
TOTAL COST - TASK 12	$24,962	$0	$76,038	$0	$0	$211,477	$0	$2,950	$25,377	$42,697	$0	$383,500	$0	$0	$0	$0	$0	$0	
Task 13.0 TRANSIT PLANNING SUPPORT																		
ODC - Task 13												$0.00						
TOTAL COST - TASK 13	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Task 14.0 OPTIONAL SERVICES																		
A. Subsurface Utility Scanning/Potholing (see GEA ODCs)												0					0	
B1. Surveyed Right of Way Base Mapping												0					0	
B2. Legal Descriptions for Acquisitions & TCE's												0					0	
C. Additional TSP Signals (30 Intersections)												0					0	
D. Flood Channel Impact Requirements												0					0	
E. Major Sewer/Water Utility relocation												0					0	
F. Additional Presentation Boards and Renderings (see ODCs)				19		3	40	40		4		106					0	
G. Ped and Bike Counts (after)												0					0	
H. Active Transportation Grant Environmental Document												0					0	
I. Survey/Engineering support of RW Acquisition												0					0	
ODC - Task 14												$20,400.00						
TOTAL COST - TASK 14	$0	$0	$0	$1,265	$0	$935	$3,561	$2,950	$0	$325	$0	$28,835	$0	$0	$0	$0	$0	$0	
TOTAL PROJECT HOURS	330	493	1229	146	457	2760	1540	1292	447	1124	89	8898	228	160	299	136	823	0	1
TOTAL DIRECT LABOR	$28,059.00	$29,333.50	$69,745.75	$6,059.00	$18,184.00	$171,117.50	$48,460.20	$34,393.04	$17,580.00	$33,011.36	$4,729.50	$359,964.66	$20,520.00	$8,640.00	$7,475.00	$3,400.00	$40,035.00	$0.00	$20,276
TOTAL MULTIPLIERS	$42,595.73	$44,545.85	$105,915.90	$9,201.29	$24,546.73	$198,740.19	$75,140.43	$52,229.27	$27,152.57	$50,131.84	$7,182.37	$607,386.33	$47,347.61	$7,304.26	$6,319.37	$2,874.38	$33,845.50	$0.00	$0
FEES	$7,064.67	$7,387.94	$17,568.16	$1,526.02	$4,071.09	$27,966.08	$12,462.08	$8,662.23	$4,503.26	$8,314.32	$1,191.20	$100,735.10	$3,786.76	$1,594.43	$1,379.44	$627.44	$7,388.06	$0.00	$0
Check												$1,244,486.09					$107,206.65		
ODCs - From Summary Sheets												$138,400					325,938		
ODCs												$138,400					$25,938		
TOTAL PROJECT COST	$77,711	$81,267	$193,229	$16,786	$44,782	$397,847	$137,663	$95,285	$49,536	$91,456	$13,103	$1,244,486	$51,654	$17,539	$15,174	$6,902	$107,207	$0	$20,2

Tasks/Hours Breakdown	Cambridge Systematics						David Evans and Associates, Inc.											E
	Principal	Ridership Forecasting Manager	Modeler	Modeler	Production	Total	Survey Manager	Engineer	Survey Land Surveyor	Sr. Survey Analyst	Survey Analyst	Survey HDS Tech	Survey CADD	Survey Coordinator	Survey Party Chief (LS)	Survey Instrumentman	Survey Chainman	Total
Task 1.0 PROJECT MANAGEMENT																		
ODC - Task 1																		
TOTAL COST - TASK 1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 2.0 PUBLIC RELATIONS																		
ODC - Task 2																		
TOTAL COST - TASK 2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 3.0 REFINEMENT OF ROUTING & STATION LOCATIONS																		
ODC - Task 3																		$0.00
TOTAL COST - TASK 3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 4.0 PEDESTRIAN & BICYCLE CONNECTIONS																		
ODC - Task 4																		$0.00
TOTAL COST - TASK 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 5.0 PHASING & FINANCING PLAN																		
ODC - Task 5																		$0.00
TOTAL COST - TASK 5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 6.0 SMALL STARTS PROCESS																		
ODC - Task 6						$132.00												$0.00
TOTAL COST - TASK 6	$3,482	$23,997	$19,454	$13,156	$1,835	$62,015	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 7.0 ENVIRONMENTAL CLEARANCE																		
ODC - Task 7																		$0.00
TOTAL COST - TASK 7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 8.0 PRELIMINARY ENGINEERING																		
ODC - Task 8																		$121,750.25
TOTAL COST - TASK 8	$0	$0	$0	$0	$0	$0	$27,297	$9,763	$20,945	$13,356	$30,002	$35,798	$27,512	$7,115	$26,111	$25,857	$21,233	$266,457
Task 9.0 FINAL DESIGN OF PHASE 1																		
ODC - Task 9																		$0.00
TOTAL COST - TASK 9	$0	$0	$0	$0	$0	$0	$0	$21,345	$0	$0	$0	$0	$0	$0	$0	$0	$0	$21,345
Task 10.0 FINAL DESIGN OF PHASE 2																		
ODC - Task 10																		$0.00
TOTAL COST - TASK 10	$0	$0	$0	$0	$0	$0	$0	$19,566	$0	$0	$0	$0	$0	$0	$0	$0	$0	$19,566
Task 11.0 BID PERIOD SERVICES																		
ODC - Task 11																		$0.00
TOTAL COST - TASK 11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 12.0 DESIGN SERVICES DURING CONSTRUCTION																		
ODC - Task 12																		$0.00
TOTAL COST - TASK 12	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 13.0 TRANSIT PLANNING SUPPORT																		
ODC - Task 13																		$0.00
TOTAL COST - TASK 13	$2,238	$9,942	$7,279	$6,695	$1,835	$28,030	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 14.0 OPTIONAL SERVICES																		
A. Stakeholder Utility Scanning/Potholing [see DEA ODCs]						0												0
B1. Surveyed Right of Way Base Mapping						0												0
B2. Legal Descriptions for Acquisitions & TCE's						0												0
C. Additional TSP Signals [33 intersections]						0												0
D. Flood Channel Impact Requirements						0												0
E. Major Sewer/Water Utility relocation						0												0
F. Additional Presentation Boards and Renderings [see ODCs]						0												0
G. Ped and Bike Counts [after]						0												0
H. Active Transportation Grant Environmental Document						0												0
I. Survey/Engineering support of RW Acquisition						0												0
ODC - Task 14						0												0
TOTAL COST - TASK 14	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL PROJECT HOURS	23	183	213	169	28	304	145	228	110	85	220	345	238	88	180	205	170	2074
TOTAL DIRECT LABOR	$5,208.42	$39,853.80	$24,302.77	$18,846.24	$3,336.41	$91,733.43	$9,237.50	$17,100.00	$6,930.00	$4,905.00	$10,120.00	$12,075.00	$9,536.00	$2,840.00	$8,887.40	$8,755.55	$7,162.10	$86,838.55
TOTAL MULTIPLIERS	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$15,607.83	$28,986.21	$11,747.64	$7,835.43	$17,154.41	$20,468.33	$16,164.47	$4,475.06	$14,929.42	$14,841.53	$12,140.48	$164,151.03
FEES	$529.04	$3,085.36	$2,458.28	$1,824.62	$338.64	$8,173.94	$2,461.51	$4,608.62	$1,887.79	$1,214.14	$2,727.44	$3,254.33	$2,579.05	$711.91	$2,373.68	$2,359.71	$1,930.26	$28,098.96
Check						$90,045.38												$696,838.75
ODCs - From Summary Sheets						$132												$409,750
ODCs						$132												$439,750
TOTAL PROJECT COST	$5,720	$33,913	$26,733	$19,851	$3,670	$90,046	$27,297	$50,695	$20,945	$13,356	$30,002	$35,798	$28,271	$7,827	$26,131	$25,857	$21,233	$696,839

Tasks/Hours Breakdown	EMI						Group Delta						HR&A				
	Project Manager	QA/QC Reviewer	Project Engineer	Geologist	Technician/LOTB	Total	Principal Environmental Engineer	Senior Scientist - Project Manager	Staff Geologist	Field Technician	Drafting/Figures	Total	Project Manager	Partner in Charge	Advisor	Analytic Support	Total
Task 1.0 PROJECT MANAGEMENT																	
ODC - Task 1																	
TOTAL COST - TASK 1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 2.0 PUBLIC RELATIONS																	
ODC - Task 2																	
TOTAL COST - TASK 2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 3.0 REFINEMENT OF ROUTING & STATION LOCATIONS																	
ODC - Task 3																	
TOTAL COST - TASK 3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 4.0 PEDESTRIAN & BICYCLE CONNECTIONS																	
ODC - Task 4																	
TOTAL COST - TASK 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 5.0 PHASING & FINANCING PLAN																	
ODC - Task 5																	
TOTAL COST - TASK 5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 6.0 SMALL STARTS PROCESS																	
ODC - Task 6																	
TOTAL COST - TASK 6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$42,156	$17,566	$5,275	$35,197	$100,169
Task 7.0 ENVIRONMENTAL CLEARANCE																	
ODC - Task 7																	
TOTAL COST - TASK 7	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$8,782	$1,757	$1,757	$9,915	$22,210
Task 8.0 PRELIMINARY ENGINEERING																	
ODC - Task 8												$8,000.00					
TOTAL COST - TASK 8	$13,799	$5,644	$7,212	$6,309	$2,495	$35,718	$5,571	$25,883	$20,141	$0	$2,274	$59,670	$0	$0	$0	$0	$0
Task 9.0 FINAL DESIGN OF PHASE 1																	
ODC - Task 9						$37,692.45											
TOTAL COST - TASK 9	$27,998	$7,792	$19,231	$22,503	$22,039	$136,256	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 10.0 FINAL DESIGN OF PHASE 2																	
ODC - Task 10						$37,692.45											
TOTAL COST - TASK 10	$0	$1,848	$2,404	$2,872	$2,911	$47,327	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 11.0 BID PERIOD SERVICES																	
ODC - Task 11																	
TOTAL COST - TASK 11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 12.0 DESIGN SERVICES DURING CONSTRUCTION																	
ODC - Task 12																	
TOTAL COST - TASK 12	$8,899	$1,946	$962	$0	$4,990	$14,799	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 13.0 TRANSIT PLANNING SUPPORT																	
ODC - Task 13																	
TOTAL COST - TASK 13	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$3,513	$2,459	$0	$5,205	$11,177
Task 14.0 OPTIONAL SERVICES																	
A. Subsurface Utility Scanning/Potholing (see DEA ODCs)						0						0					0
B1. Surveyed Right of Way Base Mapping						0						0					0
B2. Legal Descriptions for Acquisitions & TCE's						0						0					0
C. Additional TSP Signals (28 Intersections)						0						0					0
D. Flood Channel Impact Requirements	4		8	8	4	24						0					0
E. Major Sewer/Water Utility relocation						0						0					0
F. Additional Presentation Boards and Renderings (see ODCs)						0						0					0
G. Ped and Bike Counts (after)						0						0					0
H. Active Transportation Grant Environmental Document						0						0					0
I. Survey/Engineering support of RW Acquisition						0						0					0
ODC - Task 14																	
TOTAL COST - TASK 14	$690	$0	$481	$949	$532	$2,652	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
TOTAL PROJECT HOURS	284	72	262	308	320	1235	30	182	240	0	32	484	186	62	20	406	674
TOTAL DIRECT LABOR	$15,691.00	$5,616.00	$9,702.00	$10,472.00	$10,956.00	$52,137.00	$1,803.00	$8,311.94	$6,518.40	$0.00	$736.00	$17,369.34	$15,430.56	$6,172.72	$1,991.20	$14,259.72	$37,853.20
TOTAL MULTIPLIERS	$26,841.63	$10,322.77	$17,833.25	$19,248.58	$19,589.79	$95,833.02	$3,281.63	$15,038.30	$11,761.79	$0.00	$1,331.42	$31,421.14	$34,070.68	$13,629.37	$4,396.57	$31,483.25	$83,578.87
FEES	$4,453.26	$1,593.88	$2,753.62	$2,972.08	$3,024.23	$14,797.00	$506.06	$2,334.82	$1,831.82	$0.00	$206.74	$4,879.05	$4,950.12	$1,886.21	$608.79	$4,574.20	$12,143.31
Check						$236,851.92						$59,669.52					$133,576.37
ODCs - From Summary Sheets						$74,765						$6,000					$0
ODCs						$74,185						$8,000					$0
TOTAL PROJECT COST	$48,986	$17,533	$30,289	$32,693	$33,567	$236,952	$5,571	$25,883	$20,141	$0	$2,274	$59,670	$54,451	$21,762	$7,027	$50,316	$133,576

Tasks/Hours Breakdown

	Total
Task 1.0 PROJECT MANAGEMENT	
ODC - Task 1	
TOTAL COST - TASK 1	$0
Task 2.0 PUBLIC RELATIONS	
ODC - Task 2	
TOTAL COST - TASK 2	$0
Task 3.0 REFINEMENT OF ROUTING & STATION LOCATIONS	
ODC - Task 3	
TOTAL COST - TASK 3	$0
Task 4.0 PEDESTRIAN & BICYCLE CONNECTIONS	
ODC - Task 4	
TOTAL COST - TASK 4	$0
Task 5.0 PHASING & FINANCING PLAN	
ODC - Task 5	
TOTAL COST - TASK 5	$0
Task 6.0 SMALL STARTS PROCESS	
ODC - Task 6	
TOTAL COST - TASK 6	$0
Task 7.0 ENVIRONMENTAL CLEARANCE	
ODC - Task 7	
TOTAL COST - TASK 7	$0
Task 8.0 PRELIMINARY ENGINEERING	
ODC - Task 8	$0.00
TOTAL COST - TASK 8	$59,138
Task 9.0 FINAL DESIGN OF PHASE 1	
ODC - Task 9	
TOTAL COST - TASK 9	$61,273
Task 10.0 FINAL DESIGN OF PHASE 2	
ODC - Task 10	
TOTAL COST - TASK 10	$38,478
Task 11.0 BID PERIOD SERVICES	
ODC - Task 11	
TOTAL COST - TASK 11	$0
Task 12.0 DESIGN SERVICES DURING CONSTRUCTION	
ODC - Task 12	
TOTAL COST - TASK 12	$0
Task 13.0 TRANSIT PLANNING SUPPORT	
ODC - Task 13	
TOTAL COST - TASK 13	$0
Task 14.0 OPTIONAL SERVICES	
A. Subsurface Utility Scanning/Potholing (see DEA ODCs)	0
B1. Surveyed Right of Way Base Mapping	0
B2. Legal Descriptions for Acquisitions & TCE's	0
C. Additional TSP Signals (30 intersections)	0
D. Flood Channel Impact Requirements	0
E. Major Sewer/Water Utility relocation	0
F. Additional Presentation Boards and Renderings (see ODCs)	0
G. Ped and Bike Counts (after)	0
H. Active Transportation Grant Environmental Document	0
I. Survey/Engineering support of RW Acquisition	0
ODC - Task 14	
TOTAL COST - TASK 14	$0
TOTAL PROJECT HOURS	1080
TOTAL DIRECT LABOR	$51,429.00
TOTAL MULTIPLIERS	$84,843.00
FEES	$13,625.30
Check	$149,889.30
ODCs - From Summary Sheets	$0
ODCs	$0
TOTAL PROJECT COST	$149,889

Tasks/Hours Breakdown	Iteris									MIG				
	Principal / Vice President	Principal / Vice President	Associate Vice President	Senior Transportation Engineer	Senior Transportation Planner	Associate Trans. Engineer	Associate Trans Planner	Assistant Trans Engineer	Total	Outreach Specialist	Project Manager/Facilitator	Project Associate	Project Assistant	Total
Task 1.0 PROJECT MANAGEMENT														
ODC - Task 1														
TOTAL COST - TASK 1	$0	$0	$0	$0	$0	$0	$0	$0	$0					
Task 2.0 PUBLIC RELATIONS										$544	$4,083	$468	$580	$5,675
ODC - Task 2														
TOTAL COST - TASK 2	$0	$6,843	$1,844	$5,313	$0	$0	$0	$0	$15,800	$680	$23,817	$15,456	$0	$39,953
Task 3.0 REFINEMENT OF ROUTING & STATION LOCATIONS														$44,115
ODC - Task 3														
TOTAL COST - TASK 3	$1,068	$2,601	$0	$2,317	$0	$2,341	$0	$1,915	$10,261	$0	$0	$0	$0	$0
Task 4.0 PEDESTRIAN & BICYCLE CONNECTIONS														
ODC - Task 4														
TOTAL COST - TASK 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 5.0 PHASING & FINANCING PLAN														
ODC - Task 5														
TOTAL COST - TASK 5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 6.0 SMALL STARTS PROCESS														
ODC - Task 6														
TOTAL COST - TASK 6	$544	$520	$0	$1,159	$0	$2,341	$0	$1,915	$6,478	$0	$0	$0	$0	$0
Task 7.0 ENVIRONMENTAL CLEARANCE														
ODC - Task 7														
TOTAL COST - TASK 7	$8,429	$10,143	$10,912	$16,220	$0	$16,829	$0	$19,311	$83,836	$0	$0	$0	$0	$0
Task 8.0 PRELIMINARY ENGINEERING														
ODC - Task 8														
TOTAL COST - TASK 8	$6,736	$21,587	$27,792	$3,478	$21,583	$0	$6,029	$1,915	$38,925.00 $125,495	$0	$0	$0	$0	$0
Task 9.0 FINAL DESIGN OF PHASE 1														
ODC - Task 9														
TOTAL COST - TASK 9	$1,360	$2,601	$7,684	$0	$5,391	$0	$3,668	$0	$26,162	$0	$0	$0	$0	$0
Task 10.0 FINAL DESIGN OF PHASE 2														
ODC - Task 10														
TOTAL COST - TASK 10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 11.0 BID PERIOD SERVICES														
ODC - Task 11														
TOTAL COST - TASK 11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 12.0 DESIGN SERVICES DURING CONSTRUCTION														
ODC - Task 12														
TOTAL COST - TASK 12	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Task 13.0 TRANSIT PLANNING SUPPORT														
ODC - Task 13														
TOTAL COST - TASK 13	$1,360	$7,040	$0	$3,478	$0	$7,802	$0	$0,384	$20,062	$0	$0	$0	$0	$0
Task 14.0 OPTIONAL SERVICES														
A. Subsurface Utility Scanning/Potholing (see DEA ODCs)									0					0
B1. Surveyed Right of Way Base Mapping									0					0
B2. Legal Descriptions for Acquisitions & TCE's									0					0
C. Additional TSP Signals (30 intersections)	$0	$0		$0	$0	$0	$1	$0	2451					0
D. Flood Channel Impact Requirements									0					0
E. Major Sewer/Water Utility Relocation									0					0
F. Additional Presentation Boards and Renderings (see ODCs)									0					0
G. Ped and Bike Counts (after)									0					0
H. Active Transportation Grant Environmental Document									0					0
I. Survey/Engineering support of R/W Acquisition									0					0
ODC - Task 14									0					0
TOTAL COST - TASK 14	$21,752	$29,009	$0	$36,831	$26,923	$77,049	$7,102	$23,939	$299,850	$0	$0	$0	$0	$0
TOTAL PROJECT HOURS	152	283	310	820	746	1112	249	894	4366	9	246	196	8	459
TOTAL DIRECT LABOR	$13,884.00	$24,994.00	$16,129.00	$40,189.00	$26,348.00	$35,686.00	$7,470.00	$18,738.00	$183,440.00	$415.35	$9,481.18	$5,484.48	$200.00	$15,549.99
TOTAL MULTIPLIERS	$23,586.21	$42,008.07	$27,191.22	$67,779.62	$47,817.41	$61,696.81	$12,660.49	$31,697.26	$314,456.99	$699.12	$15,902.32	$9,184.70	$336.18	$26,121.36
FEES	$3,757.22	$6,821.21	$4,331.12	$10,795.58	$7,616.54	$9,859.48	$2,007.04	$5,034.53	$50,092.70	$111.35	$2,536.15	$1,464.92	$53.62	$4,166.23
Check									$587,944.69					$49,989.51
ODCs - From Summary Sheets									$36,925					$4,261
ODCs														$4,161
TOTAL PROJECT COST	$41,329	$73,603	$47,842	$118,751	$83,782	$108,454	$22,077	$55,369	$587,845	$1,225	$27,919	$16,114	$590	$48,990

Tasks/Hours Breakdown	OPC				Psomas											Terry A. Hayes			
	Principal in Charge	Project Manager	Senior Analyst	Total	Survey Manager	Project Surveyor	Office Surveyor	Office Surveyor	Survey Cadd	Survey Cadd	PLS Party Chief	Party Chief	Instrument Man	Chainman	Administrative Assistant	Total	Task Manager	Energy Specialist	Air Quality Specialist	Administrative Assistant
Task 1.0 PROJECT MANAGEMENT																				
ODC - Task 1																				
TOTAL COST - TASK 1	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Task 2.0 PUBLIC RELATIONS																				
ODC - Task 2																				
TOTAL COST - TASK 2	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Task 3.0 REFINEMENT OF ROUTING & STATION LOCATIONS																				
ODC - Task 3																				
TOTAL COST - TASK 3	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Task 4.0 PEDESTRIAN & BICYCLE CONNECTIONS																				
ODC - Task 4																				
TOTAL COST - TASK 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Task 5.0 PHASING & FINANCING PLAN																				
ODC - Task 5																				
TOTAL COST - TASK 5	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Task 6.0 SMALL STARTS PROCESS																				
ODC - Task 6																				
TOTAL COST - TASK 6	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Task 7.0 ENVIRONMENTAL CLEARANCE																				
ODC - Task 7																				
TOTAL COST - TASK 7	$1,143	$3,637	$20,232	$25,012	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$18,637	$10,537	$17,750	$1,6
Task 8.0 PRELIMINARY ENGINEERING																				
ODC - Task 8																				
TOTAL COST - TASK 8	$0	$0	$0	$0	$8,111	$13,384	$6,874	$15,019	$9,798	$3,159	$5,576	$0	$4,845	$4,771	$485	$2,500.00 $74,523	$0	$0	$0	$
Task 9.0 FINAL DESIGN OF PHASE 1																				
ODC - Task 9																				
TOTAL COST - TASK 9	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Task 10.0 FINAL DESIGN OF PHASE 2																				
ODC - Task 10																				
TOTAL COST - TASK 10	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Task 11.0 BID PERIOD SERVICES																				
ODC - Task 11																				
TOTAL COST - TASK 11	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Task 12.0 DESIGN SERVICES DURING CONSTRUCTION																				
ODC - Task 12																				
TOTAL COST - TASK 12	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Task 13.0 TRANSIT PLANNING SUPPORT																				
ODC - Task 13																				
TOTAL COST - TASK 13	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$
Task 14.0 OPTIONAL SERVICES																				
A. Subsurface Utility Scanning/Potholing (see DEA ODCs)				0												0				
B1. Surveyed Right of Way Base Mapping				0	80	110	224	224	224	224						0				
B2. Legal Descriptions for Acquisitions & TCE's				0	120	200	500	500	500	300						1086				
C. Additional TSP Signals (20 Intersections)				0												2129				
D. Flood Channel Impact Requirements				0												0				
E. Major Sewer/Water Utility relocation				0												0				
F. Additional Presentation Boards and Renderings (see ODCs)				0												0				
G. Ped and Bike Counts (after)				0												0				
H. Active Transportation Grant Environmental Document				0												0				
I. Survey/Engineering support of RW Acquisition				0												0				
ODC - Task 14				0	40	68	40	40			250		40	250	4	732				
TOTAL COST - TASK 14	$0	$0	$0	$0	$60,833	$97,492	$105,027	$83,640	$74,980	$41,383	$34,650	$0	$4,845	$29,658	$242	$500.00 $493,533	$0	$0	$0	$
TOTAL PROJECT HOURS	5	25	200	230	272	466	814	854	664	564	290	0	80	290	12	4506	120	100	175	3
TOTAL DIRECT LABOR	$368.65	$1,292.80	$7,920.00	$9,676.65	$25,571.52	$24,232.00	$36,256.00	$33,733.00	$28,944.00	$15,228.00	$13,821.40	$0.00	$3,312.00	$11,840.70	$248.52	$193,188.94	$7,509.60	$4,248.00	$7,152.25	$726
TOTAL MULTIPLIERS	$642.57	$2,044.44	$11,372.40	$14,059.41	$39,105.15	$40,200.69	$63,470.02	$55,963.05	$48,018.15	$25,263.25	$22,929.79	$0.00	$5,495.04	$19,643.72	$412.29	$320,582.11	$9,432.83	$5,333.40	$8,983.94	$916
FEES	$163.92	$330.64	$1,833.24	$2,273.81	$6,267.67	$6,443.29	$10,172.80	$8,969.90	$7,696.21	$4,049.13	$3,675.11	$0.00	$880.67	$3,148.44	$66.08	$51,369.21	$1,894.24	$957.94	$1,813.62	$164
Check																$568,061.26				
ODCs - From Summary Sheets				$25,011.87												$3,000				
ODCs				$0												$3,000				
TOTAL PROJECT COST	$1,143	$3,637	$20,232	$0 $25,012	$68,944	$70,876	$111,801	$98,666	$84,658	$44,540	$40,425	$0	$9,693	$34,633	$727	$568,061	$18,837	$10,537	$17,750	$1,6

Tasks/Hours Breakdown	WRECO							
	Principal Engineer	Supervising Engineer	Senior Engineer	Associate Engineer	Staff Engineer	Senior Technician	Clerical/Tech Editor	Total
Task 1.0 PROJECT MANAGEMENT								
ODC - Task 1								
TOTAL COST - TASK 1	$0	$0	$0	$0	$0	$0	$0	$0
Task 2.0 PUBLIC RELATIONS								
ODC - Task 2								
TOTAL COST - TASK 2	$0	$0	$0	$0	$0	$0	$0	$0
Task 3.0 REFINEMENT OF ROUTING & STATION LOCATIONS								
ODC - Task 3								
TOTAL COST - TASK 3	$0	$0	$0	$0	$0	$0	$0	$0
Task 4.0 PEDESTRIAN & BICYCLE CONNECTIONS								
ODC - Task 4								
TOTAL COST - TASK 4	$0	$0	$0	$0	$0	$0	$0	$0
Task 5.0 PHASING & FINANCING PLAN								
ODC - Task 5								
TOTAL COST - TASK 5	$0	$0	$0	$0	$0	$0	$0	$0
Task 6.0 SMALL STARTS PROCESS								
ODC - Task 6								
TOTAL COST - TASK 6	$0	$0	$0	$0	$0	$0	$0	$0
Task 7.0 ENVIRONMENTAL CLEARANCE								
ODC - Task 7								
TOTAL COST - TASK 7	$0	$0	$0	$0	$0	$0	$0	$0
Task 8.0 PRELIMINARY ENGINEERING								
ODC - Task 8								$0.00
TOTAL COST - TASK 8	$1,155	$3,957	$7,074	$9,783	$2,209	$3,014	$0	$23,250
Task 9.0 FINAL DESIGN OF PHASE 1								
ODC - Task 9								
TOTAL COST - TASK 9	$462	$1,695	$6,737	$10,442	$849	$1,786	$276	$22,247
Task 10.0 FINAL DESIGN OF PHASE 2								
ODC - Task 10								
TOTAL COST - TASK 10	$924	$1,695	$5,895	$10,992	$1,699	$2,878	$329	$24,410
Task 11.0 BID PERIOD SERVICES								
ODC - Task 11								
TOTAL COST - TASK 11	$0	$0	$0	$0	$0	$0	$0	$0
Task 12.0 DESIGN SERVICES DURING CONSTRUCTION								
ODC - Task 12								
TOTAL COST - TASK 12	$0	$0	$0	$0	$0	$0	$0	$0
Task 13.0 TRANSIT PLANNING SUPPORT								
ODC - Task 13								
TOTAL COST - TASK 13	$0	$0	$0	$0	$0	$0	$0	$0
Task 14.0 OPTIONAL SERVICES								
A. Subsurface Utility Scanning/Potholing (see OEA ODCs)								0
B1. Survey/4 Right of Way Base Mapping								0
B2. Legal Descriptions for Acquisitions & TCE's								0
C. Additional TSP Signals (30 Intersections)								0
D. Flood Channel Impact Requirements								0
E. Major Sewer/Water Utility relocation								0
F. Additional Presentation Boards and Renderings (see ODCs)	6	48	304	1058	548	186	10	1824
G. Ped and Bike Counts (after)								0
H. Active Transportation Grant Environmental Document								0
I. Survey/Engineering support of R/W Acquisition								0
ODC - Task 14								0
TOTAL COST - TASK 14	$1,386	$5,136	$51,199	$119,591	$45,605	$13,381	$5656	$240,215
TOTAL PROJECT HOURS	17	74	421	1372	596	279	19	2234
TOTAL DIRECT LABOR	$1,513.17	$4,835.16	$27,331.32	$58,131.84	$19,513.04	$7,736.97	$461.84	$119,542.54
TOTAL MULTIPLIERS	$2,055.49	$6,568.08	$37,126.67	$78,968.02	$26,506.51	$10,509.49	$554.53	$162,368.99
FEES	$356.87	$1,140.32	$6,445.82	$13,709.77	$4,601.56	$1,824.62	$113.64	$28,192.96
Check								$310,122.82
ODCs - From Summary Sheets								$0
ODCs								$0
TOTAL PROJECT COST	$3,926	$12,544	$70,904	$150,807	$50,622	$20,071	$1,250	$310,123

COST PROPOSAL

Parsons

LABOR COSTS

NAME	FUNCTION	HOURS	RATE	AMOUNT
Gerard Lumabas	Project Manager	2173	$70.00	$152,110.00
Chris Johnson	Principal-In-Charge	0	$109.00	$0.00
Ben Fardi	QA/QC Manager	860	$85.00	$73,100.00
Chris Segur	Engineering Lead	4510	$65.00	$293,150.00
Michelle Cooper	Roadway Design Engineer	3647	$55.00	$200,585.00
Paul Kosinski	Drainage Design Engineer	1,999	$55.00	$109,945.00
Nicole Deluca	Utilities Coordination/Design	2,310	$55.00	$127,050.00
Stephen Hu	Structural Engineer	2,067	$70.00	$144,690.00
Gerald McCoy	Transit Systems / Communications Lead	836	$75.00	$62,700.00
Noel Leon	Capital Cost Estimator	384	$45.00	$17,280.00
Alireza Chinichian	Construction Administration / Management Lead	778	$60.00	$46,680.00
Phil Hoffman	Transportation Planning Lead	657	$113.37	$74,484.09
Tom Ryden	Transit Operations Analysis	518	$102.16	$52,918.88
Eric Coumou	GIS Mapping	312	$52.99	$16,532.88
	Engineer II	3,633	$40.00	$145,320.00
	Engineer I	5,719	$35.00	$200,165.00
	Associate Engineer	6,180	$30.00	$185,400.00
	Senior Manager (Communication Design)	157	$67.21	$10,551.97
	Senior Systems Engineer	400	$55.29	$22,116.00
	Intermediate Systems Engineer	394	$44.23	$17,426.62
	Communication Design Engineer	235	$34.62	$8,135.70
	CADD Technician	1,332	$26.44	$35,218.08
	TOTAL HOURS	39,101		TOTAL LABOR $1,995,559

INDIRECT COSTS (OVERHEAD)

OVERHEAD	121.97%	
	TOTAL OVERHEAD	$2,433,984

DIRECT COSTS — Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT	
Travel Expenses - Local	25,000	Miles	$0.51	$12,637.50	
Travel Expenses - Air Fare (25 trips)	25	Trips	$500	$12,500.00	
Lodging/Food/Transportation	20	Days	$300	$6,000.00	
Encroachment Permits (5 cities)	5	Permits	$500	$2,500.00	
Section 1602 Permit	1	Permits	$2,495	$2,495.00	Optional
SBCFCD Permit	1	Permits	$10,450.00	$10,450.00	Optional
			TOTAL DIRECT COSTS		$46,583

FEE (PROFIT) PERCENTAGE	10%	
	TOTAL FEES	$442,954
	COST:	$4,919,080

COST PROPOSAL

Parsons

LABOR COSTS

NAME	FUNCTION	HOURS	RATE	AMOUNT	
Stephanie Blanco	Environmental Lead	168	$68.11	$11,442.48	
James Santos	Senior Environmmental Planner	425	$42.16	$17,918.00	
Sean Noonan	Environmmental Planner	660	$34.38	$22,690.80	
Emily Hoyt	Associate Planner	630	$28.02	$17,652.60	
Areg Gharabegian	Noise and Vibration Specialist	240	$103.94	$24,945.60	
Greg King	Master Planner - Historical / Archeological	95	$77.79	$7,390.05	
Monica Corpuz	Associate Planner - Historical / Archeological	135	$26.44	$3,569.40	
Ernie Figueroa	Senior Landscape Architect	229	$94.66	$21,677.14	
Arianne Preite	Biologist - Ecosystems / Biological Resources / Wetlands	125	$50.92	$6,365.00	
Anne Kochaon	Community / Environmental Justice Specialist	190	$85.18	$16,184.20	
Ryan Todaro	Project Planner - Permitting / Construction Impacts	70	$61.44	$4,300.80	
Indu Menon	Energy Consumption Specialist	41	$57.18	$2,344.38	
Dan Conaty	Project Planner - Safety and Security	80	$59.35	$4,748.00	
Veronica Seyde	Scientific Manager - Stormwater Quality	319	$66.14	$21,098.66	
Dale Wilson	Traffic / Parking	575	$70.54	$40,560.50	
	TOTAL HOURS	3,982		TOTAL LABOR	$222,888

INDIRECT COSTS (OVERHEAD)

OVERHEAD	121.97%		
		TOTAL OVERHEAD	$271,856

DIRECT COSTS — Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT	
Scoping materials (Display Boards, Pamphlets and etc) for 5 meetings	1	Unit	$8,000	$8,000.00	
Public Meeting Materials	1	Unit	$3,000	$3,000.00	
Reprographics	1	Unit	$7,010	$7,010.00	
Traffic Modelling	1	Unit	$30,000	$30,000.00	
Traffic Counts	1	Unit	$15,000	$15,000.00	
			TOTAL DIRECT COSTS		$63,010

FEE (PROFIT) PERCENTAGE	10%		
		TOTAL FEES	$49,474.36
		COST:	$607,228

COST PROPOSAL

Team 1

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	DIRECT LABOR	AMOUNT
Larry Schlossberg	Partner in Charge	330	$85.00	$28,050.00
Elaine Carbrey	Project Manager Planning	493	$59.50	$29,333.50
Jill Wagner	Project Manager Architecture/Landacape	1229	$56.75	$69,745.75
Adam Maleitzke	Senior Planner	146	$41.50	$6,059.00
Orlando Gonzalez	Intermediate Planner	457	$35.37	$16,164.09
Canny	Senior Architecture	2760	$40.26	$111,117.60
	Intermediate Architecture	1540	$32.13	$49,480.20
Ernseto	Junior Architecture	1292	$26.62	$34,393.04
Dean Howell	Senior Landsacpe	447	$40.00	$17,880.00
Darin Morris	Intermediate Landscape	1124	$29.37	$33,011.88
Zohar Sorek	Q/C Reviewer	80	$59.12	$4,729.60
	TOTAL HOURS	9,898	TOTAL LABOR	$399,965

INDIRECT COSTS (OVERHEAD)

OVERHEAD	151.86%	
	TOTAL DIRECT COSTS	$607,386

DIRECT COSTS — Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT	
Presentation Boards, Printing, Travel	1	LS	$60,000	$60,000.00	
Professional Renderings	7	LS	$5,000	$35,000.00	
Specification Writer	1	EA	$21,000	$21,000.00	
Additional Presentation Boards	24	EA	$225	$5,400.00	Optional
Additional Renderings	3	EA	$5,000	$15,000.00	Optional
			TOTAL DIRECT COSTS		$136,400

FEE (PROFIT) PERCENTAGE	10%	FEE	$100,735
		TOTAL COST	$1,244,486

COST PROPOSAL

Arellano Associates

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
Laura Muna-Landa	Senior Project Manager	228	$90.00	$20,520.00
Maria Yanez-Forgash	Senior Project Coordinator	160	$54.00	$8,640.00
Tom van der List	Project Coordinator	299	$25.00	$7,475.00
Kyle Santiago	Graphic Design/e-Media	136	$25.00	$3,400.00
	TOTAL HOURS	823	TOTAL LABOR	$40,035

INDIRECT COSTS (OVERHEAD)

OVERHEAD	84.54%	
	TOTAL DIRECT COSTS	$33,846

DIRECT COSTS — Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Photocopying/Printing	3,000	Unit	$1.00	$3,000.00
Postage	3,000	Unit	$0.50	$1,500.00
Advertisements (3 rounds)	3	Unit	$4,000.00	$12,000.00
Meeting Supplies	15	Unit	$100.00	$1,500.00
Translation	1	Unit	$2,000.00	$2,000.00
Rental Fees	15	Unit	$300.00	$4,500.00
Mileage	1	Unit	$1,438.00	$1,438.00
			TOTAL DIRECT COSTS	$25,938

FEE (PROFIT) PERCENTAGE	10%	FEE	$7,388
		TOTAL COST	$107,207

COST PROPOSAL

Butsko

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
	Vice President	0	**$153.00**	$0.00
	Sr. Project Manager	148	**$137.00**	$20,276.00
	Sr. Project Coordinator	54	**$90.00**	$4,860.00
	Sr. Designer	401	**$137.00**	$54,937.00
	AutoCAD Drafter	243	**$68.00**	$16,524.00

TOTAL HOURS **846** **TOTAL LABOR** **$96,597**

INDIRECT COSTS (OVERHEAD)

OVERHEAD **0.00%**

TOTAL DIRECT COSTS **$0**

DIRECT COSTS Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Reimbursable	**1**	**Unit**	**$3,000**	$3,000.00

TOTAL DIRECT COSTS **$3,000**

FEE (PROFIT) PERCENTAGE **0%** **FEE** **$0**

TOTAL COST **$99,597**

COST PROPOSAL

Team 1

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
Ronald West	**Principal**	23	**$226.11**	$5,200.42
Eric Bierce	**Ridership Forecasting Manager**	153	**$201.66**	$30,853.60
Chao Wang	**Modeler**	213	**$114.10**	$24,302.77
Xuan Liu	**Modeler**	169	**$106.78**	$18,046.24
Regina Speir	**Production**	28	**$119.16**	$3,336.41
	TOTAL HOURS	**586**	**TOTAL LABOR**	**$81,739**

INDIRECT COSTS (OVERHEAD)

OVERHEAD **0.00%**

TOTAL DIRECT COSTS **$0**

DIRECT COSTS Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Drive to Omnitrans (2 trips)	**240**	**Mile**	**$0.550**	$132.00
			TOTAL DIRECT COSTS	**$132**

FEE (PROFIT) PERCENTAGE **10%** **FEE** **$8,174**

TOTAL COST **$90,045**

COST PROPOSAL

David Evans and Associates, Inc.

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
Robert Vasquez	Survey Manager	145	$63.50	$9,207.50
Gabriel Rodriguez	Engineer	228	$75.00	$17,100.00
	Survey Land Surveyor	110	$63.00	$6,930.00
	Sr. Survey Analyst	85	$53.00	$4,505.00
	Survey Analyst	220	$46.00	$10,120.00
	Survey HDS Tech	345	$35.00	$12,075.00
	Survey CADD	298	$32.00	$9,536.00
	Survey Coordinator	88	$30.00	$2,640.00
	Survey Party Chief (LS)	180	$48.93	$8,807.40
	Survey Instrumentman	205	$42.71	$8,755.55
	Survey Chainman	170	$42.13	$7,162.10
	TOTAL HOURS	2,074	TOTAL LABOR	$96,839

INDIRECT COSTS (OVERHEAD)

OVERHEAD	169.51%	
	TOTAL DIRECT COSTS	$164,151

DIRECT COSTS — Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT	
Aerial Map (Base + 26 miles)	1	Unit	$77,500	$77,500.00	
Aerial Imagery (26 miles)	1	Unit	$10,750	$10,750.00	
Mileage - Aerial Mapping	1200	Mile	$0.575	$690.00	
Mileage - Control Survey	1,920	Mile	$0.575	$1,104.00	
Expenses - Engineering	1	LS	$700	$700.00	
Mobile Scanner - Topo Survey	2	Unit	$15,000	$30,000.00	
Static Scanner - Topo Survey	0	Unit	$650	$0.00	
Mileage - Topo Survey	550	mile	$0.575	$316.25	
Subsurface Utility Locating	1	Unit	$288,000	$288,000.00	Optional
Mileage - Design Utility Survey	1200	mile	$0.575	$690.00	
			TOTAL DIRECT COSTS	$409,750	

FEE (PROFIT) PERCENTAGE	10%	FEE	$26,099
		TOTAL COST	$696,839

COST PROPOSAL

Elwood & Associates, Inc.

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
	Coordinator	741	**$110.00**	$81,510.00
			$110.00	$0.00
			$110.00	$0.00
			$110.00	$0.00
			$110.00	$0.00
	TOTAL HOURS	**741**	**TOTAL LABOR**	**$81,510**

INDIRECT COSTS (OVERHEAD)

OVERHEAD **0.00%**

TOTAL DIRECT COSTS **$0**

DIRECT COSTS Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Reimbursable Expenses	**1**	**Unit**	**$8,500**	$8,500.00
			TOTAL DIRECT COSTS	**$8,500**

FEE (PROFIT) PERCENTAGE **0%** **FEE** **$0**

TOTAL COST **$90,010**

COST PROPOSAL Task 8 / Item 9.101 - Preliminary Engineering Date: 06/30/15 Earth Mechanics

EMI

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
Mike Kapuskar	Project Manager	284	$55.25	$15,691.00
Lino Cheang	QA/QC Reviewer	72	$78.00	$5,616.00
Ranjan Gunaranjan	Project Engineer	252	$38.50	$9,702.00
Michael Hoshiyama	Geologist	308	$34.00	$10,472.00
Kiat Kaekui	Technician/LOTB	320	$33.30	$10,656.00
	TOTAL HOURS	1,236	TOTAL LABOR	$52,137

INDIRECT COSTS (OVERHEAD)

OVERHEAD 183.81%

TOTAL DIRECT COSTS $95,833

DIRECT COSTS Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Lineament Study Materials	1	Lump	$1,200	$1,200.00
Reproduction/Mailing	1	Lump	$82	$82.00
Drilling Rig Rental - Task 9	1	Lump	$21,000	$21,000.00
Field Supplies	1	Lump	$500	$500.00
Traffic Control	1	Lump	$9,950	$9,950.00
Lab Testing	1	Lump	$23,750	$23,750.00
Soil Disposal	1	Lump	$4,000	$4,000.00
Reproduction/Mailing	1	Lump	$187	$187.00
Drilling Rig Rental - Task 10	1	Lump	$6,000	$6,000.00
Traffic Control	1	Lump	$2,900	$2,900.00
Lab Testing	1	Lump	$4,415	$4,415.00
Travel	1	Lump	$200.90	$200.90
			TOTAL DIRECT COSTS	$74,185

FEE (PROFIT) PERCENTAGE 10% FEE $14,797

TOTAL COST $236,952

COST PROPOSAL

Group Delta

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
Glenn Burks	Principal Environmental Engineer	30	$60.10	$1,803.00
Jack Packwood	Senior Scientist - Project Manager	182	$45.67	$8,311.94
Eric Smith	Staff Geologist	240	$27.16	$6,518.40
Chris Lemaster	Field Technician	0	$23.00	$0.00
CAD Drafter	Drafting/Figures	32	$23.00	$736.00
	TOTAL HOURS	484	TOTAL LABOR	$17,369

INDIRECT COSTS (OVERHEAD)

OVERHEAD	180.90%	
	TOTAL DIRECT COSTS	$31,421

DIRECT COSTS — Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
EDR Searches	10	unit	$500	$5,000.00
Mileage	0	Unit	$0	$1,000.00
Traffic Control				$0.00
Laboratory Analyses				$0.00
Drilling Rig Rental/Geoprobe				$0.00
			TOTAL DIRECT COSTS	$6,000

FEE (PROFIT) PERCENTAGE	10%	FEE	$4,879
		TOTAL COST	$59,670

COST PROPOSAL

Team 1

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
Judith Taylor	**Project Manager**	186	**$82.96**	$15,430.56
Amitabh Barthakur	**Partner in Charge**	62	**$99.56**	$6,172.72
Eric Rothman	**Advisor**	20	**$99.56**	$1,991.20
Analyst	**Analytic Support**	406	**$35.12**	$14,258.72
	TOTAL HOURS	**674**	**TOTAL LABOR**	**$37,853**

INDIRECT COSTS (OVERHEAD)

OVERHEAD **220.80%**

TOTAL DIRECT COSTS **$83,580**

DIRECT COSTS Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
				$0.00

TOTAL DIRECT COSTS **$0**

FEE (PROFIT) PERCENTAGE **10%** **FEE** **$12,143**

TOTAL COST **$133,576**

COST PROPOSAL

Team 1

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
Jerry Lam	Principal	60	$100.00	$6,000.00
David Tea	Project Manager	140	$65.00	$9,100.00
Zhilbert Assatryan	Project Engineer	560	$50.00	$28,000.00
Helgar Reyes	CAD	320	$26.00	$8,320.00
	TOTAL HOURS	1,080	TOTAL LABOR	$51,420

INDIRECT COSTS (OVERHEAD)

OVERHEAD	165.00%	
	TOTAL DIRECT COSTS	$84,843

DIRECT COSTS — Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
mileage		Unit	$2,000	$0.00
Prinnting/plotting		Unit	$5,000	$0.00
Delivery		Unit	$2,000	$0.00
	0		TOTAL DIRECT COSTS	$0

FEE (PROFIT) PERCENTAGE	10%	FEE	$13,626
		TOTAL COST	$149,889

COST PROPOSAL

Iteris

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
	Principal / Vice President	152	**$92.00**	$13,984.00
	Associate Vice President	283	**$88.00**	$24,904.00
	Senior Transportation Engineer	310	**$52.00**	$16,120.00
	Senior Transportation Planner	820	**$49.00**	$40,180.00
	Associate Trans. Engineer	746	**$38.00**	$28,348.00
	Associate Trans. Planner	1112	**$33.00**	$36,696.00
	Assistant Trans. Engineer	249	**$30.00**	$7,470.00
	Assistant Trans. Planner	694	**$27.00**	$18,738.00
	TOTAL HOURS	**4,366**	**TOTAL LABOR**	**$186,440**

INDIRECT COSTS (OVERHEAD)

OVERHEAD	**168.68%**	
	TOTAL DIRECT COSTS	**$314,487**

DIRECT COSTS — Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Intersection Counts	**124**	**Unit**	**$250**	$31,000.00
ADT Counts	**20**	**Unit**	**$150**	$3,000.00
Mileage	**3000**	**miles**	**$0.575**	$1,725.00
Printing and Shipping	**1**	**LS**	**$1,200**	$1,200.00
		TOTAL DIRECT COSTS		**$36,925**

FEE (PROFIT) PERCENTAGE	**10%**	**FEE**	**$50,093**

TOTAL COST	**$587,945**

COST PROPOSAL

MIG

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
Esmeralda Garcia	Outreach Specialist	9	$46.15	$415.35
Andy Pendoley	Project Manager/Facilitator	246	$38.46	$9,461.16
Paola Bassignana	Project Associate	196	$27.88	$5,464.48
Annette Arredondo	Project Assistant	8	$25.00	$200.00
	TOTAL HOURS	459	TOTAL LABOR	$15,541

INDIRECT COSTS (OVERHEAD)

OVERHEAD 168.08%

TOTAL DIRECT COSTS $26,121

DIRECT COSTS Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Mileage	7,300	Mile	$0.57	$4,161.00
			TOTAL DIRECT COSTS	$4,161

FEE (PROFIT) PERCENTAGE 10% FEE $4,166

TOTAL COST $49,990

COST PROPOSAL

OPC

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
Mark LaBonte	**Principal in Charge**	5	**$79.33**	$396.65
Josh Cosper	**Project Manager**	25	**$50.48**	$1,262.00
Alfredo Jacquez	**Senior Analyst**	200	**$35.10**	$7,020.00
	TOTAL HOURS	**230**	**TOTAL LABOR**	**$8,679**

INDIRECT COSTS (OVERHEAD)

OVERHEAD **162.00%**

TOTAL DIRECT COSTS **$14,059**

DIRECT COSTS Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
				$0.00
			TOTAL DIRECT COSTS	**$0**

FEE (PROFIT) PERCENTAGE **10%** **FEE** **$2,274**

TOTAL COST **$25,012**

COST PROPOSAL

Parsons

LABOR COSTS

NAME	FUNCTION	HOURS	RATE	AMOUNT
Cliff Simental	Survey Manager	272	$86.66	$23,571.52
Sean Smith	Project Surveyor	466	$52.00	$24,232.00
Shane Bender	Office Surveyor	814	$47.00	$38,258.00
James Rios	Office Surveyor	854	$39.50	$33,733.00
Jesus Ulloa	Survey Cadd	864	$33.50	$28,944.00
Mike Lauwers	Survey Cadd	564	$27.00	$15,228.00
	PLS Party Chief	290	$47.66	$13,821.40
	Instrument Man	80	$41.41	$3,312.80
	Chainman	290	$40.83	$11,840.70
	TOTAL HOURS	4,506		TOTAL LABOR $193,190

INDIRECT COSTS (OVERHEAD)

OVERHEAD 165.90%

TOTAL OVERHEAD $320,502

DIRECT COSTS Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT	
Printing Budget				$2,500.00	
Optional Printing	1	Unit	$500.00	$500.00	(Optional)

TOTAL DIRECT COSTS $3,000

FEE (PROFIT) PERCENTAGE 10%

TOTAL FEES $51,369

COST: $568,061

COST PROPOSAL

Terry A. Hayes Associates Inc.

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
Sam Silverman	**Task Manager**	120	**$62.58**	$7,509.60
Mike Sullivan	**Energy Specialist**	100	**$42.46**	$4,246.00
Seyedehsan Hosseini	**Air Quality Specialist**	175	**$40.87**	$7,152.25
Natasha Mapp	**Administrative Assistant**	30	**$24.29**	$728.70
	TOTAL HOURS	**425**	**TOTAL LABOR**	**$19,637**

INDIRECT COSTS (OVERHEAD)

OVERHEAD	**125.61%**	
	TOTAL DIRECT COSTS	**$24,665**

DIRECT COSTS — Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
Travel for Two Meetings	**280**	**Miles**	**$0.575**	$161.00
Report Reproduction	**500**	**Page**	**$0.05**	$25.00
		TOTAL DIRECT COSTS		**$186**

FEE (PROFIT) PERCENTAGE	**10%**	**FEE**	**$4,430**
		TOTAL COST	**$48,918**

COST PROPOSAL

WRECO

DIRECT COSTS (LABOR)

NAME	FUNCTION	HOURS	RATE	AMOUNT
	Principal Engineer	17	**$89.01**	$1,513.17
	Supervising Engineer	74	**$65.34**	$4,835.16
	Senior Engineer	421	**$64.92**	$27,331.32
	Associate Engineer	1372	**$42.37**	$58,131.64
	Staff Engineer	596	**$32.74**	$19,513.04
	Senior Technician	279	**$27.73**	$7,736.67
	Clerical/Tech Editor	19	**$25.36**	$481.84
	TOTAL HOURS	**2,778**	**TOTAL LABOR**	**$119,543**

INDIRECT COSTS (OVERHEAD)

OVERHEAD **135.84%**

TOTAL DIRECT COSTS **$162,387**

DIRECT COSTS Billed at Actual Cost

ITEM	QUANTITY	UNIT	UNIT COST	AMOUNT
				$0.00

TOTAL DIRECT COSTS **$0**

FEE (PROFIT) PERCENTAGE **10%** **FEE** **$28,193**

TOTAL COST **$310,123**