

5. Review of Proposed Scope Revision for the SR 4 Integrated Corridor Analysis (ICA) Study Presented by Martin Engelmann, CCTA Deputy Executive Director, Planning

Attachments:

- Year 2030 PM Peak Hour Analysis - I-680/SR4 Full I/C Project Conditions
- June 1, 2011 CCTA Planning Committee staff report on Approval of Amendment No.2 to Agreement No. 308 with Atkins North America, Inc. to Conduct Additional Traffic Analysis of the I-680/SR-4 Interchange Configuration and Scope Addendum Request for the SR4 Integrated Corridor Analysis (ICA) Study
- Proposal to Conduct Focused Review of SR 4 "Third EB Lane" approved by the TRANSPAC TAC on March 24, 2011 and by TRANSPAC on April 21, 2011

Year 2030 PM Peak Hour Analysis - I-680/SR4 Full I/C Project Conditions						
Proposed Scenarios for SR4 Third EB Lane	EB SR4 Performance Measures through I/C				EB SR4 Performance Measures downstream of I/C	
	I/C Weaving Segment (from Pacheco Blvd on-ramp to E-N loop ramp)		I/C Merge Area (with improved N-E diagonal connector)		Queue Size due to Lane Drop from 3 to 2 MF Lanes (just east of Solano Way on-ramp)	
	Avg. Speed	Traffic Density (vehicles per mile per lane)	LOS	Avg. Speed		
Scenario 1						N/A
Scenario 2						N/A
Scenario 3						
Scenario 4						

Scenario 1 - Extend HOV lane to east of the interchange to where the future HOV to HOV direct connector would be; no lane extensions through the interchange.
 Scenario 2 - Extend HOV lane back to Glacier Drive; have all as HOV lane until the future HOV to HOV direct connector is constructed when the segment west of the connector would be eliminated as a throwaway cost.
 Scenario 3 - Construct a 3rd mixed-flow lane from Glacier Drive through the interchange and transition as appropriate into an HOV lane just east of the Solano Way on-ramp; when the future HOV to HOV direct connector is constructed, the segment west of the connector would be eliminated as a throwaway cost. The remaining lane would be an HOV lane for its entirety.
 Scenario 4 - Install an HOV lane where the future HOV to HOV direct connector would be, plus a separate (3rd) mixed-flow lane from Glacier Drive through the interchange which would merge just east of the Solano Way on-ramp; when the HOV to HOV direct connector is constructed, it would not impact the additional mixed-flow lane. This scenario has no throwaway cost and addresses the need to add capacity through the interchange.

Planning Committee **STAFF REPORT**

Meeting Date: June 1, 2011

Subject	Approval of Amendment No. 2 to Agreement No. 308 with ATKINS North America, Inc. to Conduct Additional Traffic Analysis of the I-680/SR-4 Interchange Configuration.
Summary of Issues	ATKINS North America, Inc. is currently working on the SR 4 Integrated Corridor Analysis (ICA) project to consolidate the Action Plans for SR 4 (West, Central, and East) into a cohesive corridor plan. TRANSPAC has requested expanding the scope of the study to include more detailed traffic analysis of the lane configurations on SR 4 through the I-680 interchange under various "build" conditions. To conduct the additional analysis of the build-out condition, and to allow adequate contingency for possible further evaluation of interim conditions, amendment of \$50,000 is proposed, increasing the "not-to-exceed" agreement budget from \$150,000 to \$200,000
Recommendations	Approve Amendment No. 2 to Agreement No. 308 with ATKINS North America, Inc.
Financial Implications	Measure J Program 18, Congestion Management, Transportation Planning, Facilities & Services funds this project under Transportation Planning (Org. OCP-18A). It is also eligible for reimbursement through federal STP funds through an inter-agency agreement with MTC.
Options	n/a
Attachments	A. Proposed Amendment No. 2 to Agreement No. 308 with ATKINS North America, Inc.
Changes from Committee	

Background

ATKINS North America is currently working on the State Route (SR) 4 Integrated Corridor Analysis (ICA). The study, with an original budget of \$150,000 funded through Measure J Transportation Planning funds, has been underway since October 2010, it is expected to be completed by fall 2011.

The purpose of the SR 4 ICA is to consolidate the Action Plans for SR 4 (West, Central, and East) into a cohesive corridor plan that: 1) identifies and prioritizes previously identifies projects along the corridor; 2) develops and evaluates new projects, including transit options and arterial operational improvements; 3) advances local community goals for Priority Development Areas (PDAs) along the corridor; and 4) establishes a consistent set of Multi-modal Transportation Service Objectives (MTSOs) for incorporation into future Action Plan updates.

Proposed Change in Scope of Work, Budget, and Schedule

Work on the study is currently about 60 percent complete. The consultant has so far reviewed the existing action plans, assessed proposed and new improvement projects, and begun setting project priorities. During the course of discussions with the Corridor Technical Advisory Committee (C-TAC) regarding project priorities, staff from the City of Concord raised concerns about the phasing and implementation of the I-680/SR-4 interchange, and requested that the consultant perform additional analysis to determine the optimum lane configuration on SR-4 through the interchange.

Subsequently, at the May 12th TRANSPAC meeting, Concord staff made a presentation conveying the issues and questions regarding the interchange. TRANSPAC concurred that additional analysis would be beneficial. Subsequently, Authority staff worked with Concord staff, the TRANSPAC-TAC, and the consultant to formulate a scope of work to perform the additional analysis.

Staff proposes an agreement amendment that would increase the total contract value from \$150,000 to \$200,000. The \$50,000 increment would be split: \$27,000 for the immediate need of evaluating the interchange, and \$23,000 in extra work that would be held as contingency for additional evaluation of interim conditions if necessary.

The additional work will also change the schedule, adding approximately three months to the previous 18-month time line. The budget revision accounts for the added time and additional meetings that will be involved with this effort.

The proposed agreement amendment is shown in Attachment A.



**Amendment No. 2 to Contra Costa Transportation
Authority Agreement No. 308**

DATE June 15, 2011

CONSULTANT ATKINS North America, Inc.

SCOPE OF SERVICES State Route 4 Integrated Corridor Analysis

EFFECTIVE DATES Agreement No. 308: October 20, 2010; Amendment
No. 1: May 18, 2011; Amendment No. 2: June 15, 2011

WHEREAS, the Contra Costa Transportation Authority, a special District (referred to herein as "AUTHORITY"), and ATKINS North America, Inc. (referred to herein as "CONSULTANT"), entered into a Consultant Agreement (referred to herein as "AGREEMENT") on October 20, 2010 to provide consultant support for the *State Route 4 Integrated Corridor Analysis* (referred to herein as "STUDY"); and

WHEREAS, Amendment No. 1 to the AGREEMENT changed the firm name and Study Name; and

WHEREAS, TRANSPAC, the Regional Transportation Planning Committee for Central County, has requested that the STUDY include additional analysis of the lane configurations on SR-4 through the I-680/SR-4 interchange; and

WHEREAS, in consultation with the TRANSPAC Technical Advisory Committee (TAC) and the SR-4 Corridor-TAC, Authority staff has worked with CONSULTANT to develop a scope of work, budget, and schedule for conducting the additional analysis; and

WHEREAS, the results of the additional analysis to evaluate the lane configurations on SR-4 will help move the STUDY forward; and

WHEREAS, both parties now wish to amend the Agreement;

*Amendment No. 2 to Agreement No. 308 between Contra Costa Transportation Authority and ATKINS North America, Inc.
Page 2 of 3*

It is mutually AGREED:

1. That Article III COMPENSATION amended as shown in Exhibit 1, which is attached hereto and made a part hereof; and
2. That Exhibit B, Scope of Services, is amended to include the scope addendum as shown in Exhibit 2, which is attached hereto and made a part hereof; and
3. That Exhibit C, Milestone Schedule, is amended to include an additional three (3) months to develop the SR 4 Integrated Corridor Analysis; and
4. That all other terms and conditions in the AGREEMENT remain unchanged.

CONSULTANT

ATKINS North America, Inc.

DRAFT

Thomas Biggs
Vice President

CONTRA COSTA TRANSPORTATION AUTHORITY

DRAFT

David E. Durant
Chair

Attest:

Approved as to form:

DRAFT

Randell H. Iwasaki, Executive Director

DRAFT

Stanley S. Taylor, Partner
Authority Legal Counsel

Exhibits: Exhibit 1: Article III. COMPENSATION
Exhibit 2: Scope Addendum Request letter from Atkins, May 18, 2011

Amendment No. 2 to Agreement No. 308 between Contra Costa Transportation Authority and ATKINS North America, Inc.
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EXHIBIT 1

III. COMPENSATION: As full consideration for the satisfactory performance and completion by CONSULTANT of this Agreement, AUTHORITY shall pay to CONSULTANT compensation as set forth in Exhibit D, Compensation, Invoicing and Payment. Total compensation for the Agreement shall not exceed the following:

	Agreement 308	Amendment No. 1	Total Agreement Value	
Base Work	\$150,000	\$27,000	\$177,000	Maximum
Extra Work	--	\$23,000	\$23,000	Maximum
Total Agreement Value	\$150,000	\$50,000	\$200,000	Maximum

Extra Work must be authorized in accordance with Section 18.4 of Exhibit A, General Conditions. No additional compensation will be paid without a written amendment to the Agreement.



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www.atkinsglobal.com/northamerica

May 18, 2011

Martin Engelmann
Deputy Executive Director, Planning
Contra Costa Transportation Authority
2999 Oak Road, Suite 100
Walnut Creek, CA 94597

Subject: Scope Addendum Request for the SR 4 Integrated Corridor Analysis (ICA) Study

Dear Mr. Engelmann:

As requested in your email and our conversations, the following is the work scope to perform additional FREQ and HCM analysis along with the estimated project management effort due to the anticipated schedule change as a result of this scope addendum request.

The objective of this additional analysis is to apply available tools and data to conduct a focused review of the third eastbound lane from Glacier Drive to the HOV lane-add west of Port Chicago Highway. The proposed focused review will include the following tasks:

1. Review the accident rates in the vicinity of the I-680/SR 4 interchange and compare to statewide accident averages
2. Review traffic operations for eastbound SR 4 under these scenarios:
 - 2.1. Start HOV lane from end of the future HOV direct connector
 - 2.2. Start HOV lane from Glacier Drive
 - 2.3. Start mixed-flow lane from Glacier Drive and transition to HOV lane midway between I-680 and SR 242
 - 2.4. Start HOV lane from end of future HOV direct connector and start a separate mixed-flow lane from Glacier Drive to midway between I-680 and SR 242
3. Review current phasing plan for the I-680/SR 4 interchange improvement project

Roadway configuration for these analysis scenarios are shown in Attachment A. The proposed analysis assumes a full build out scenario as the baseline scenario for comparative purposes. The results of the analysis will help quantify the benefits of the proposed lanes. This analysis shall be conducted in close coordination with TRANSPAC-TAC, the C-TAC, and CCTA staff along with some oversight from the engineering sub consultant (URS) and local staff. SR 4 C-TAC members from TRANSPAC will assist CCTA staff with the following responsibilities:

1. Oversight of the SR 4 focused review through completion of the SR 4 Integrated Corridor Analysis
2. Oversight of possible amendment to the interchange project post-completion of the corridor analysis

The following is our proposed scope along with the attached budget estimate for this work:

Task A – Planning-level Analysis: This task includes performing supplemental analysis, documenting findings in a technical memo, and reviewing/coordinating meetings associated with the analysis. The analysis will be conducted based on the year 2030 full interchange project condition (also referred to as "Existing + Phase I, II, III, IV, V + other CSMP Improvements in Central County and vicinity), and for the scenarios described below.

Demand Inputs

Demand inputs shall be obtained from the SR 4 FPI study, which in turn obtained the information from the CCTA travel demand model.

Freeway Analysis

Freeway segment analysis will be conducted using the FREQ and HCM2010 software. The scenarios that will be analyzed in FREQ and HCM are shown in attachment A and the results of this analysis will allow us to quantify the presence and extent of any queues that may form east of Solano Way in the model. The following analysis will be conducted:

3. FREQ Model Analysis

- 3.1. Perform FREQ analysis for the I-680/SR 4 full interchange project conditions (EB PM and WB AM peak hours). This scenario will act as the baseline condition.
- 3.2. Perform FREQ analysis for EB PM peak with the Phase III, Scenario 3 including the I-680/SR 4 full interchange project conditions, described above in 2.1 through 2.4 (and shown in Attachment A) to obtain queue information on SR 4 east of Solano Way.
- 3.3. Perform FREQ analysis for EB PM peak with the Phase III, Scenario 4 including the I-680/SR 4 full interchange project conditions, described above in 2.1 through 2.4 (and shown in Attachment A) to obtain queue information on SR 4 east of Solano Way.

4. HCM 2010 Analysis

- 4.1. Obtain weaving and merging data (LOS, density and speeds) for EB SR 4 at Pacheco Boulevard and the N-E diagonal connector respectively.
- 4.2. Analyze Scenarios 1, 2, 3 and 4 at two locations as described above in 2.1 through 2.4 (Pacheco Boulevard and the N-E diagonal connector) for the PM peak hour. A total of 8 analysis points.

Meetings/Coordination

- Hold one meeting each with the C-TAC
- Hold one coordination meeting with URS (2 Atkins attendees anticipated)
- Hold one meeting each with the TRANSPAC-TAC and C-TAC committees (2 Atkins attendees anticipated)
- Hold one additional meeting with the Client (2 Atkins attendees anticipated)

Documentation

Prepare a technical memorandum that will summarize the findings of the study and will include a qualitative review of the current phasing for the interchange project and provide recommendations regarding possible re-phasing. The cost estimate assumes one draft submittal and one minor revision cycle for the technical memorandum.

Schedule

We anticipate that the analysis and documentation will be completed in approximately six weeks from the receipt of notice to proceed excluding any review/meeting time.

Task B – Project Management: This task accounts for additional project coordination and management efforts based on three months of additional time added to the project schedule. The time will be used to refine the additional scope, perform the analysis, and provide findings to the C-TAC and TRANSPAC-TAC for discussion and review.

Meetings/Coordination

- Conduct six conference calls with the Client (during the three month period)

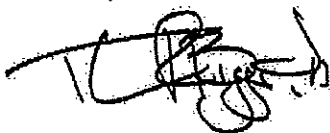
Task C (Optional) – Interim Analysis: This task accounts for analysis of additional interim alternatives that may arise from the coordination/consultation meeting with C-TAC, TRANSPAC-TAC and CCTA staff during the course of the study. It is assumed that the magnitude and scope of analysis of such interim alternatives will be similar to those identified in Task A of this scope. Use of this contingent budget will require prior written approval by the CCTA Project Manager.

Fee Summary

The estimated total cost for this addendum is a time and materials "not to exceed" fee of \$45,990. Any major change in the basic assumptions of this scope that requires additional iterations of the analysis will be performed under a new scope of work specifically designed to address such major revisions. A detailed breakdown of cost estimate for individual tasks is summarized in Attachment B.

If you have any questions, Please feel free to call me at 415-362-1500 ext 218 or Kai Chan at 415-362-1500 ext 211.

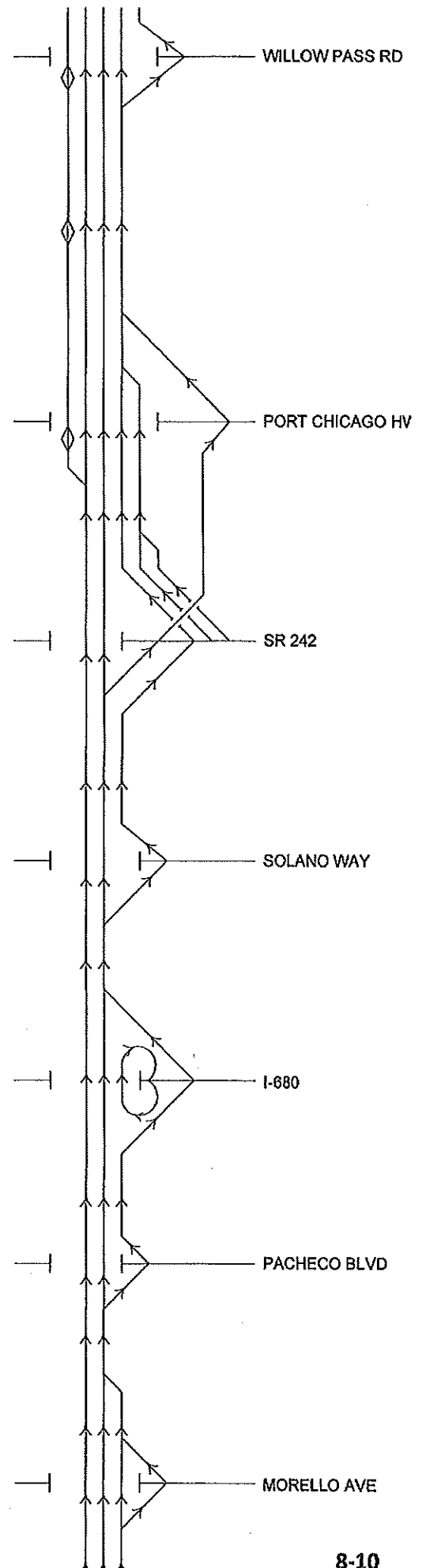
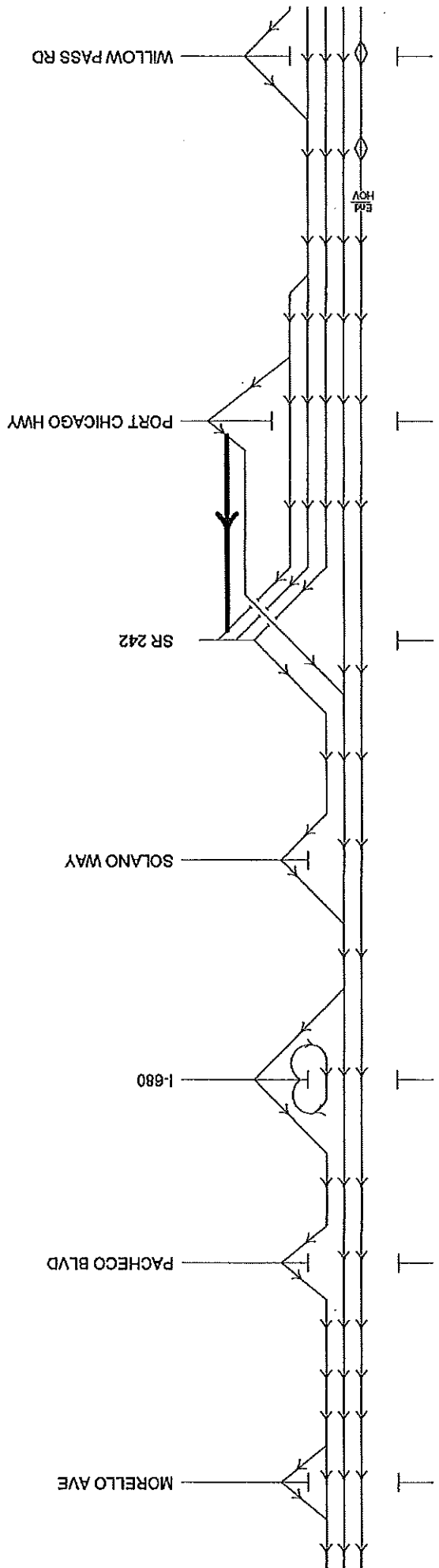
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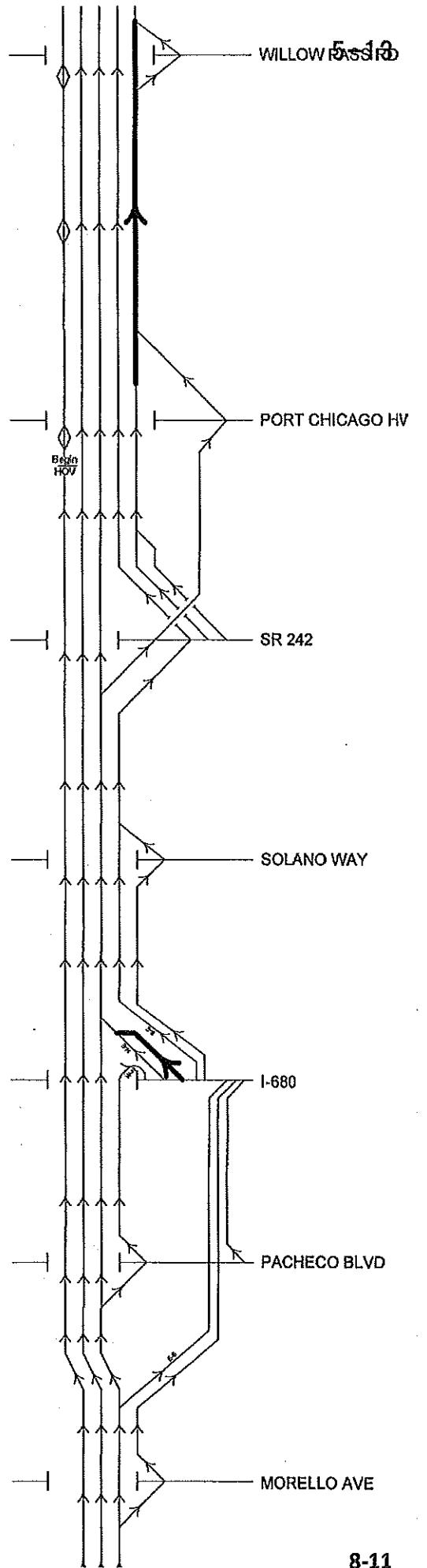
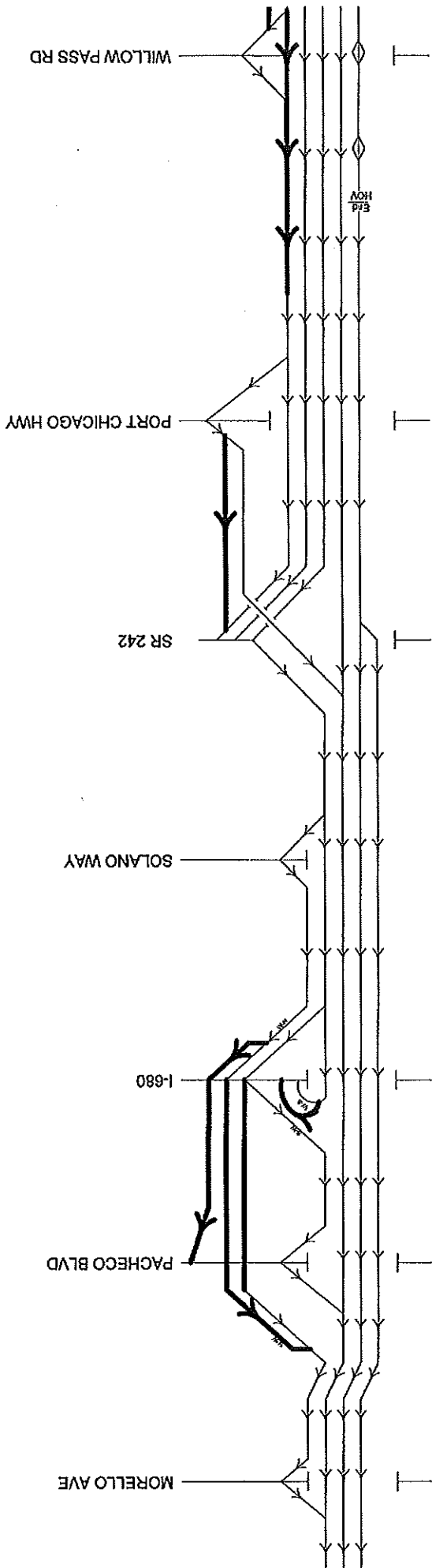


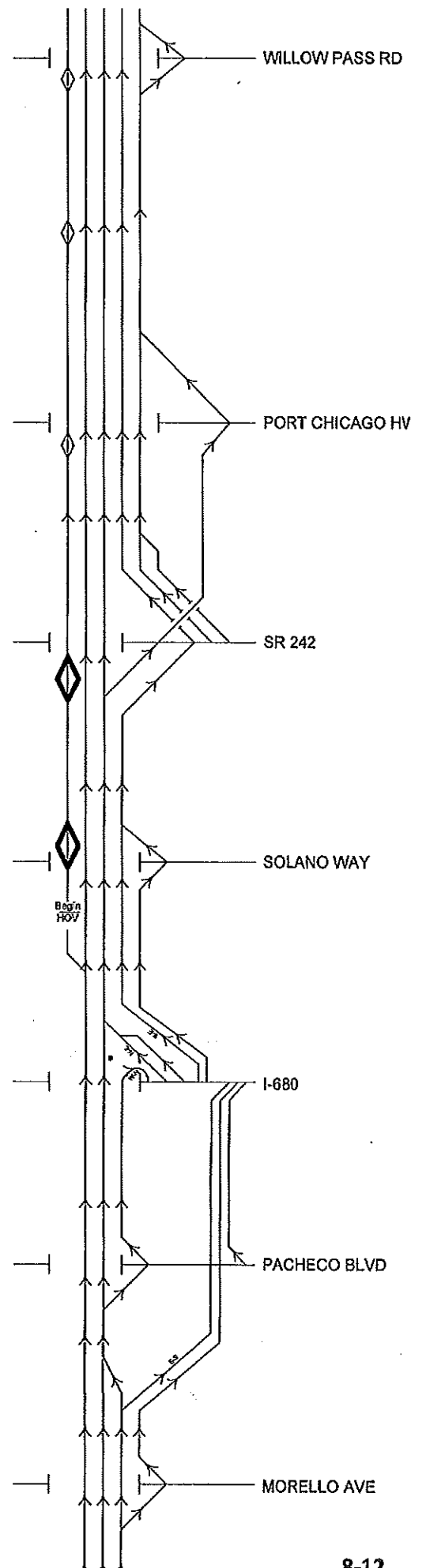
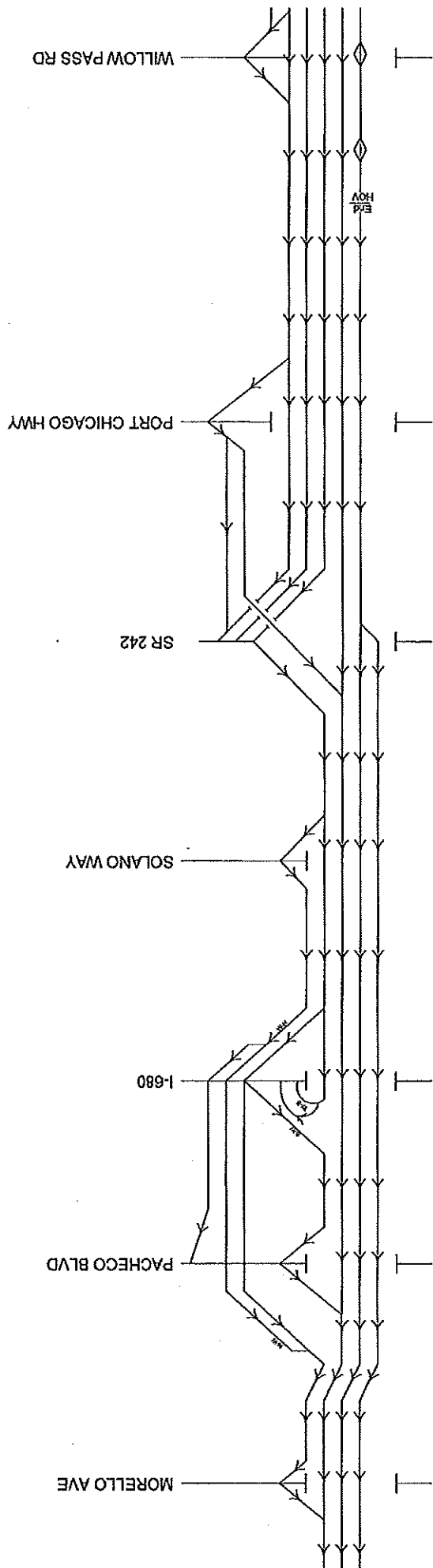
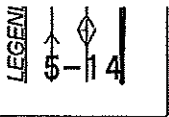
Thomas R. Biggs, Jr.
Vice-President, California Transportation
ATKINS

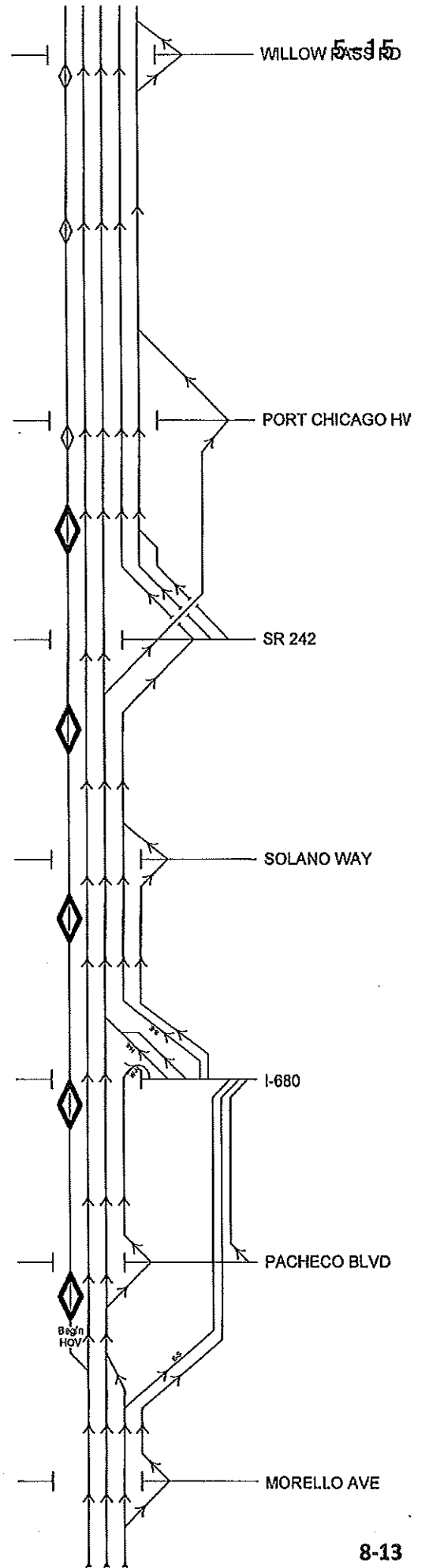
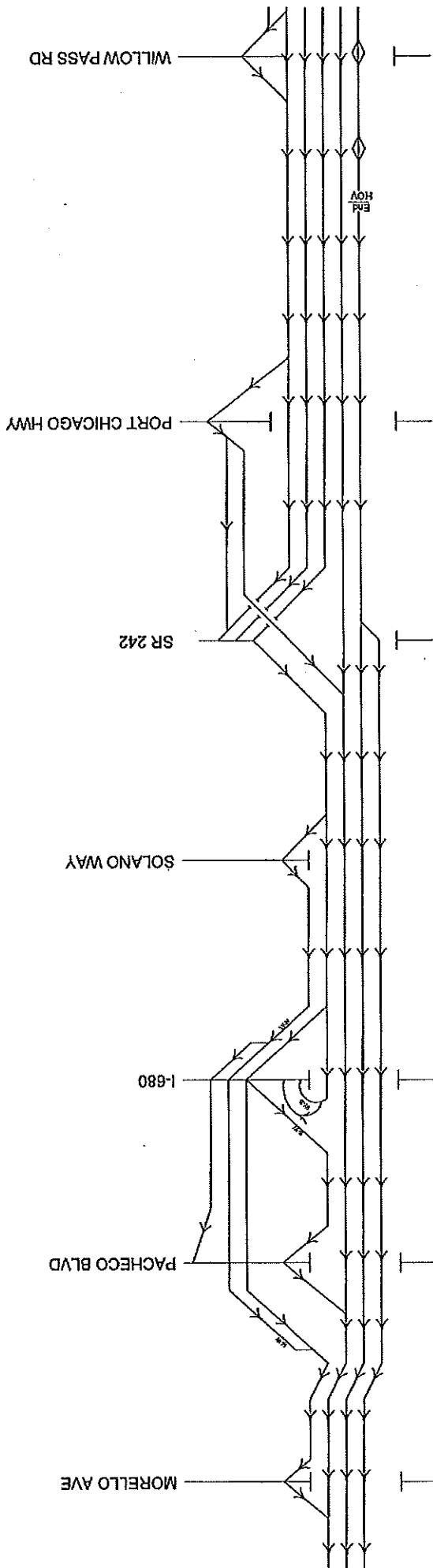
Attachment A
Analysis Scenarios

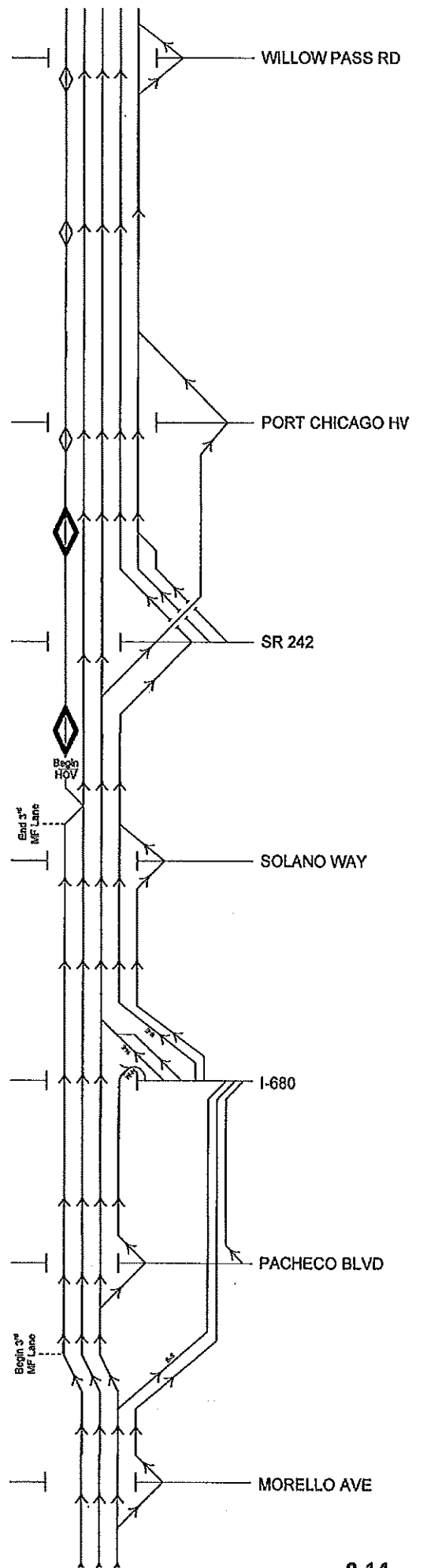
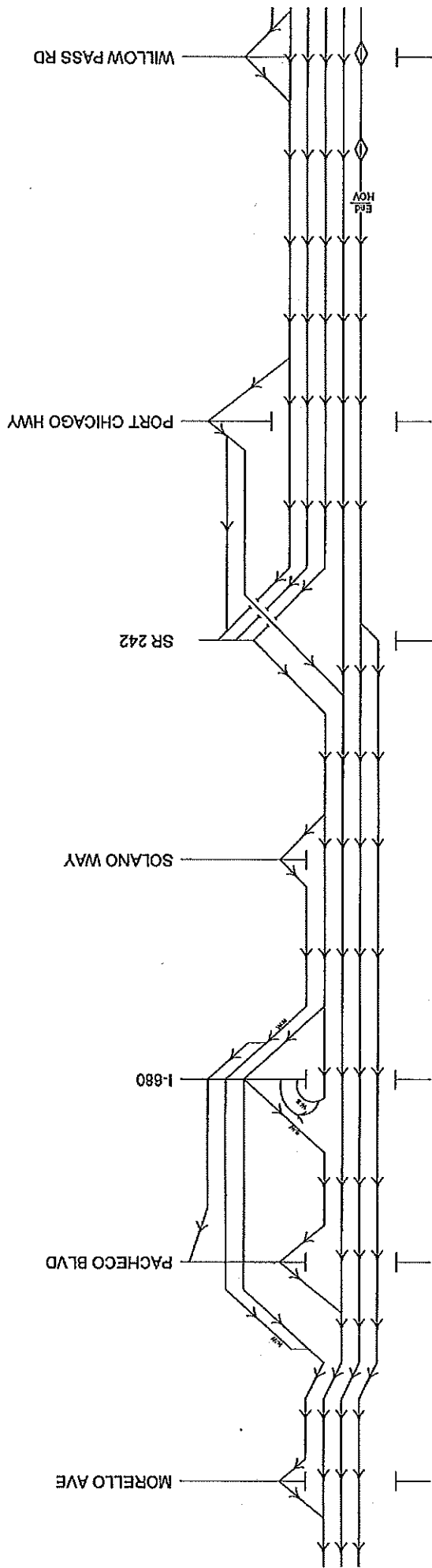
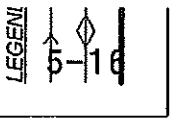
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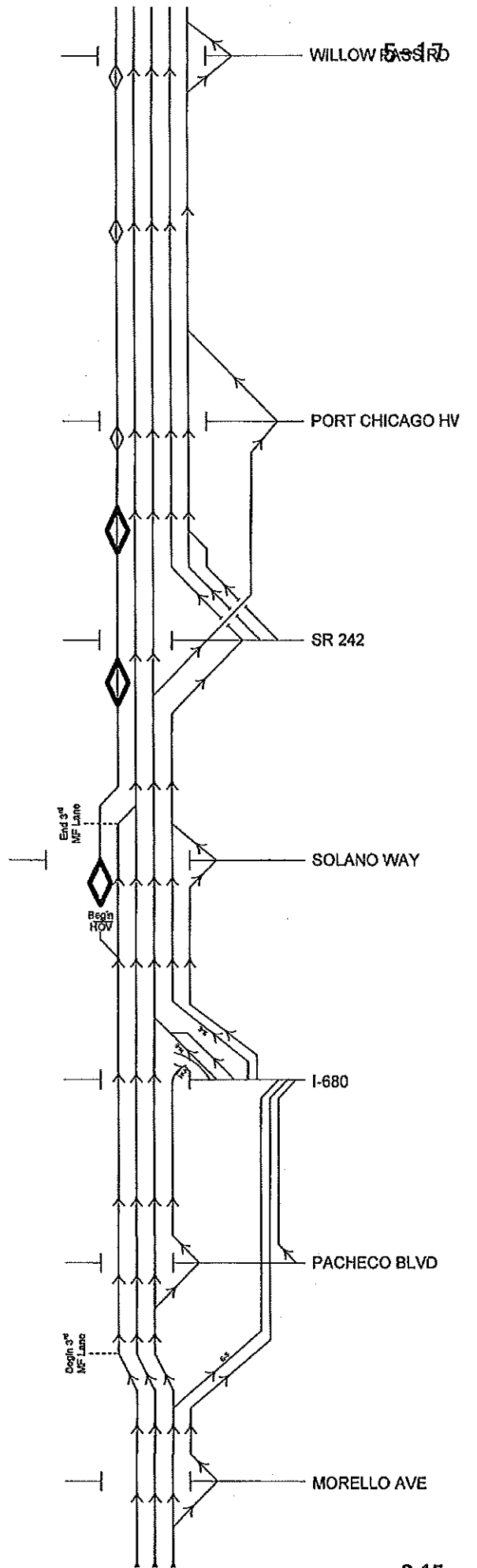
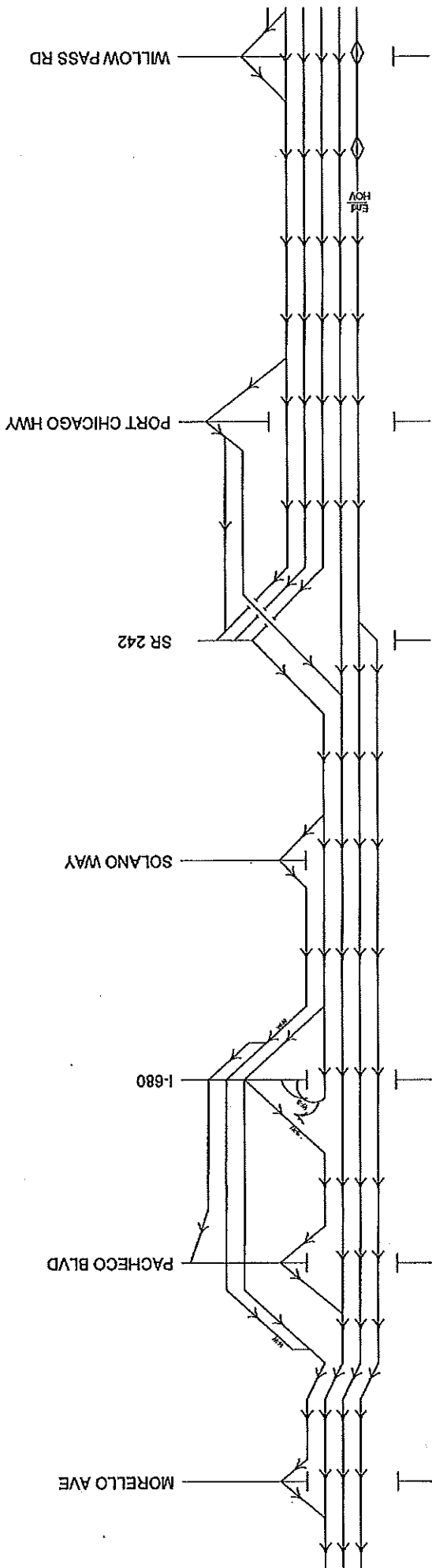
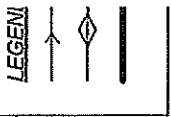












**Attachment B - Atkins Change Order Request for:
SR 4 Corridor Study
Supplemental Analysis for City of Concord**

Project Task	Project Staff Hours										Subtask Hours	Subtask Cost	Cost Per Task	
	Senior Project Manager	QA/Review by URS	Senior Planner	Senior Traffic Engineer	Project Engineer	Graphics Support	Project Engineer	Senior Traffic Engineer	Project Engineer	Graphics Support				
Task A Supplemental Traffic Analysis														
Task A.1 Review/Coordination Meetings	18	2	16	2	2							40	\$ 8,390	
Task A.2 Updated Freq Analysis		3		2	32							37	\$ 4,455	
Task A.3 HCM Analysis	2	3		16								21	\$ 3,725	
Task A.4 Update Graphics					4				8			12	\$ 1,060	
Task A.5 Preparation of a Technical Memorandum	4		4	4	4				2			18	\$ 3,030	
Task B Project Management														\$ 5,900
Project Management/Coordination	12		12	4								28	\$ 5,900	
Task C Interim Analysis (Optional)														\$ 19,180
Task C.1 Review/Coordination Meetings	16		16	4	4				4			40	\$ 8,100	
Task C.2 Quantitative Analysis	8		16	16	32							72	\$ 11,080	
Total Labor	60	8	64	48	78	10	48	78	10	10	268	\$ 45,740	\$ 45,740	
Direct Costs														
Reproduction												\$	250	
Total Proposed Fee (rounded)												\$	45,990	

Proposal to Conduct Focused Review of SR4 "Third EB Lane"

1. Amend PBS&J's scope of work for the SR4 Integrated Corridor Analysis to include a focused review of the third eastbound lane from Glacier Drive to the HOV lane-add west of PCH¹
2. Focused review should include the following tasks:
 - 2.1 Review the accident rates in the vicinity of the I-680/SR4 interchange vs. statewide averages
 - 2.2 Review traffic operations for EB SR4 under these scenarios:
 - 2.2.1. Start HOV lane from end of future HOV direct connector
 - 2.2.2. Start HOV lane from Glacier Drive²
 - 2.2.3. Start mixed-flow lane from Glacier Drive and transition to HOV lane midway between I-680 and SR242²
 - 2.2.4. Start HOV lane from end of future HOV direct connector, **AND** start a separate mixed-flow lane from Glacier Drive to midway between I-680 and SR242³
 - 2.3. Review current phasing plan for the I-680/SR4 interchange improvement project
3. SR4 C-TAC members from TRANSPAC to assist CCTA staff with the following responsibilities:
 - 3.1 Oversight of the SR4 focused review through completion of the Integrated Corridor Analysis
 - 3.2 Oversight of possible amendment to the interchange project post-completion of the Corridor Analysis

¹ CCTA staff will review the possibility of amending PBS&J's contract

² Assumes the third lane within the I-680/SR4 interchange area is a throw-away cost; i.e., the lane is for interim use only, until the interchange improvements are complete and an HOV direct connector is built

³ Assumes enough room exists in the center median

