


Alameda Countywide Transportation Plan Update

Evaluation Outcomes




presented to
Technical Advisory Working Group

presented by
Cambridge Systematics, Inc.

July 2011

Transportation leadership you can trust.



Agenda

- Describe the evaluation process
 - » Vision and Goals
 - » Screening & scenario evaluations
 - » Performance analysis & modeling
 - » Example of project & program outcomes
- Identify next steps in the evaluation process

Evaluation Process

Vision and Goals Guiding the CWTP

- **Foundation for all analysis performed for the CWTP Update**
 - » Vision and Goals
- **Vision**
 - » “Alameda County will be served by a premier transportation system that supports a vibrant and livable Alameda County through a connected and integrated multimodal transportation system promoting sustainability, access, public health and economic opportunities.”

3



Evaluation Process

Vision and Goals Guiding the CWTP (continued)

- **Goals for the transportation system**
 - » 1 - Multimodal
 - » 2 - Accessible, Affordable and Equitable for people of all ages, incomes, abilities and geographies
 - » 3 - Integrated with land use patterns and local decision making
 - » 4 - Connected across the county, within and across the network of streets, highways, transit, bicycle and pedestrian routes
 - » 5 - Reliable and Efficient
 - » 6 - Cost Effective
 - » 7 - Well Maintained
 - » 8 - Safe
 - » 9 - Supportive of a Healthy and Clean Environment

4



Evaluation Process Defensible Evaluation Tools to Support the CWTP

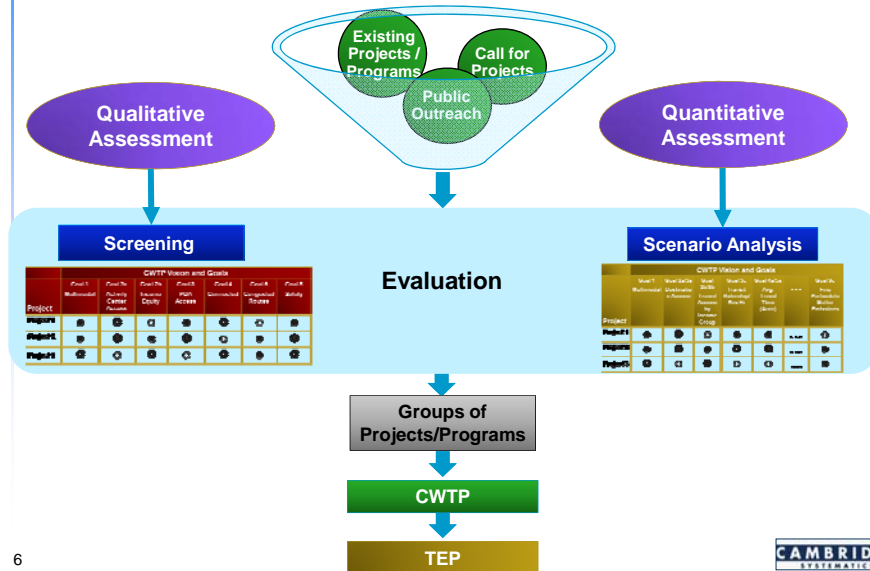
- » Objective screening
- » Performance-based process to evaluate scenarios
- » Objective project grouping
- » State-of-the-practice tools applied to support the planning process
- » Tools to inform and support decision-making, not to replace decision-making
- » Provide credible data to decision-makers



5



Evaluation Process Screening and Scenario Evaluation Processes



6



Evaluation Process

Screening Projects and Programs

- **Screening**
 - » Includes CWTP/RTP Call for projects and programs
 - » Excludes committed projects
 - » Includes programmatic projects, programs
- **Projects/programs categorized by number of goals met and estimated project costs**

Medium-to-high
performers/
Low-to-medium
costs

High performers/
High costs

Low performers/
High costs

7



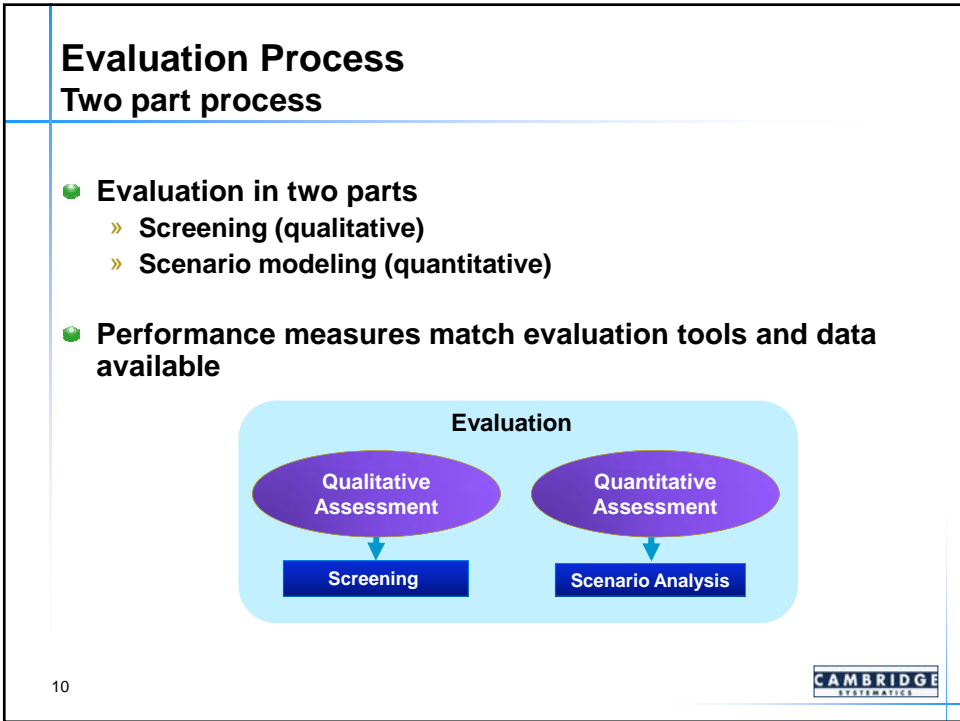
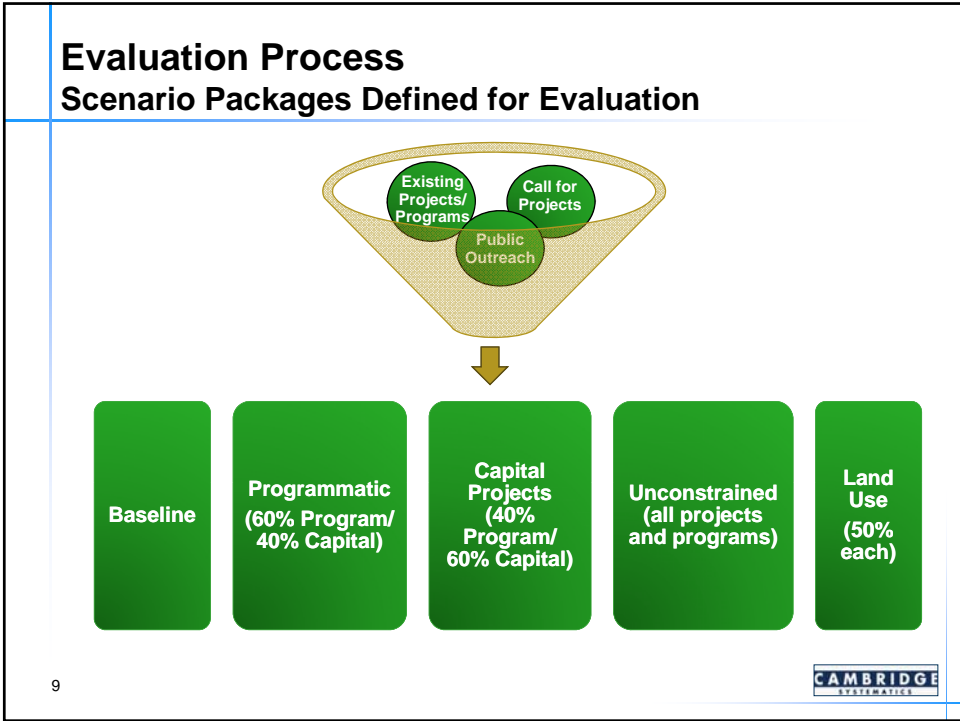
Evaluation Process

Scenario Packages Defined for Evaluation

- **Baseline**
 - » Includes existing plus committed projects/programs
- **Unconstrained - \$32b of funding**
 - » Includes all transportation projects/programs identified in the Call for Projects
- **Constrained – \$12b of finding for**
 - » Programmatic – Emphasis on programs, 60% program, 40% capital project split
 - » Capital Project – Emphasis on projects, 40% program, 60% capital project split
 - » Land Use – Emphasis on land use, 50% split for programs and capital projects

8







Evaluation Process

Performance Measure Evaluation Tools

- Model used to assess transportation impacts of scenarios (multimodal, land use)
- Model outputs used to assess scenario impacts (performance measures, GHG emissions analysis, maintenance conditions)
- GIS used to support screening and scenario analysis
- Sketch planning models used to evaluate GHG, maintenance, cost effectiveness and safety


11


Evaluation Process Performance Measures		
<u>Goal</u>	<u>Screening Measure</u>	<u>Scenario Measure</u>
1. Multimodal	<ul style="list-style-type: none"> Number of passenger and freight modes improved or affected by the investment 	<ul style="list-style-type: none"> Percent of all trips made by alternative modes (bicycling, walking, or transit)
2. Accessible, Affordable, & Equitable	<ul style="list-style-type: none"> Number of activity centers & transit hubs within ½ mi of the investment Number of traffic analysis zones (TAZs) with above-average proportion of low-income households that are intersected by an investment 	<ul style="list-style-type: none"> Share of households, by income group, within a given travel time to activity centers Share of households, by income group, geographically close to frequent transit service
3. Integrated w/ Land Use Patterns & Local Decision-Making	<ul style="list-style-type: none"> Number of PDAs intersected by an investment 	<ul style="list-style-type: none"> Share of households, by income group, geographically close to frequent transit service Transit ridership per revenue hour

12


Evaluation Process Performance Measures		
<u>Goal</u>	<u>Screening Measure</u>	<u>Scenario Measure</u>
4. Connected	<ul style="list-style-type: none"> Ability to complete or improve a link in the regional transportation system 	<ul style="list-style-type: none"> Average travel time (auto, carpool, truck, transit) Ratio of peak to off-peak travel time
5. Reliable & Efficient	<ul style="list-style-type: none"> Located on an identified Congestion Management Plan route Located on a route with above average heavy trucks 	<ul style="list-style-type: none"> Average travel time (auto, carpool, truck, transit) Ratio of peak to off-peak travel time
6. Cost Effective	<ul style="list-style-type: none"> Reflected in grouping process, which groups investments based on performance measure evaluation and cost 	<ul style="list-style-type: none"> Reflected in grouping process, which groups investments based on performance measure evaluation and cost

13



Evaluation Process Performance Measures		
<u>Goal</u>	<u>Screening Measure</u>	<u>Scenario Measure</u>
7. Well Maintained	<ul style="list-style-type: none"> This measure was not used in screening evaluation 	<ul style="list-style-type: none"> Percent of roads, by facility type, in excellent, good, low or failing condition Estimating the remaining service life remaining for all transit assets
8. Safe	<ul style="list-style-type: none"> Number of freeways and arterial roadways with fatal crash rates above the statewide average ("safety areas") that the investment overlaps 	<ul style="list-style-type: none"> Collision-related injuries and fatalities for all modes
9. Clean &Healthy Environment	<ul style="list-style-type: none"> This measure was not used in screening evaluation 	<ul style="list-style-type: none"> Average daily travel time for bicycle and pedestrian trips Per-capita CO₂ emissions from cars and light-duty trucks Per-capita fine particle emissions from cars and light-duty trucks

14

Evaluation Process Grouping Projects/Programs

- A process was developed to create a framework to group projects/programs by performance value versus cost
- Combined results from screening and scenario evaluations used to identify groups
 - » Used equal weights to create total performance value by project/program
 - » Total performance value and capital cost determined group for each project/program
 - » Based on funding limits that apply specifically to capital projects/programs

15



Evaluation Process Grouping Projects/Programs (continued)

- Groups not interpreted as “good” or “bad” projects
- Groups provide a way to identify projects that offer similar performance value
 - » All projects/programs within a given group should be viewed as having equivalent performance-versus-cost value

16



Evaluation Process

Grouping Projects/Programs (continued)

- Score by performance measure
- Average performance measures such that each of the 9 goals has one value
- Assign relative high, medium and low scores
- Sum the scores to determine total score for each project and program
- Compare to cost
- Group projects and programs

Medium-to-high performers/
Low-to-medium costs

High performers/
High costs

Low performers/
High costs

17



Evaluation Process

Other Factors to Create CWTP

- Limited available funding
- Create both “Constrained” and “Vision” project and program packages
- Combine projects and program investments
- Meet CWTP Vision and Goals
- Projects and programs may be funded in part by TEP

18



Evaluation Process Organization of Results

- **Evaluation results presented by Subarea and Investment Strategies**
 - » Investment strategies are groups of similar project types
 - » Designed to identify project/scenario impacts in a concise manner
 - Transit Capital
 - Transit Operations
 - Pedestrian and Bicycle
 - Surface Streets
 - HOV/HOT Lanes
 - Freeway Bottleneck Removal

19



Evaluation Process Organization of Results (continued)

- **5 subareas used to organize results geographically**
 - » North County: Albany, Berkeley, Oakland, Piedmont and Emeryville
 - » North-Central County: Oakland, Fruitvale, Coliseum Area, Eastmont, and Alameda
 - » Central County: San Leandro, Hayward, Castro Valley, Cherryland, and San Lorenzo, Unincorporated areas
 - » South County: Union City, Newark, and Fremont
 - » East County: Dublin, Pleasanton, Livermore, and Unincorporated Areas
- **North-Central subarea is subset of North County subarea to provide greater detail for multiple travel markets**

20



Evaluation Process Screening (continued)

Screening Performance Analysis

Projects & Programs	CWTP Vision and Goals						
	Goal 1 Multimodal	Goal 2a Activity Center Access	Goal 2b Income Equity	Goal 3 PDA Access	Goal 4 Connected	Goal 5 Congested Routes	Goal 8 Safety
<i>Project:</i> I-880 Northbound HOV/HOT Lane Extension	○	●	○	●	●	○	○
<i>Program:</i> Transportation and Land Use (PDA) Program	●	●	●	●	○	●	●

Legend High Medium Low
 ● ○

23



Evaluation Process Performance Measures Example

Scenario Performance Measure Analysis

Scenarios of Projects and Programs	Goal 1 Multimodal	Goal 2a/3a Destination Access	Goal 2b/3b Transit Access by Income Group	Goal 3c Transit Ridership per Rev. Hour	Goal 4a/5a Avg Travel Time – Auto	Goal 4b/5b Avg Travel Time – Carpool	Goal 4c/5c Avg – Truck	Goal 4d/5d Avg Travel Time – Transit	Goal 4e/5e Ratio of Peak to Off-Peak Travel Time
<i>Project:</i> I-880 Northbound HOV/HOT Lane Extension	○	○	●	○	●	●	●	●	●
<i>Program:</i> Transportation and Land Use (PDA) Program	●	●	●	○	○	●	○	●	○

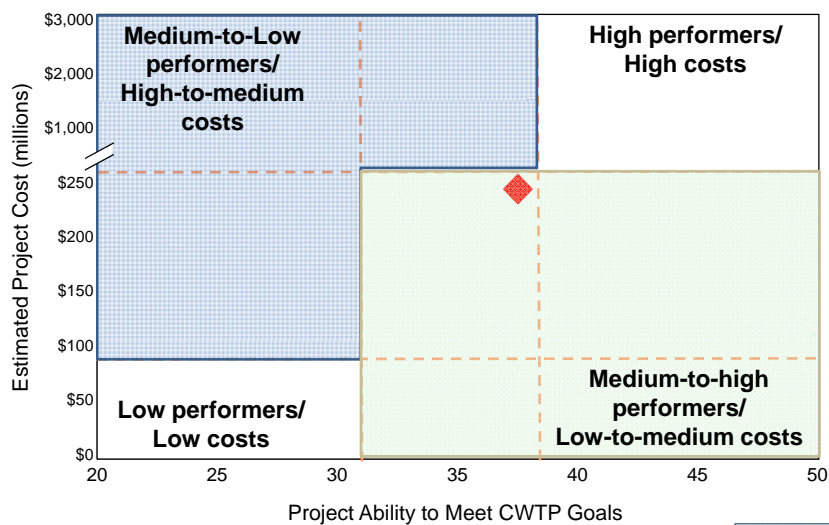
Scenarios of Projects and Programs	Goal 7a Pavement Condition	Goal 7b Transit Vehicle Condition	Goal 8 Crashes All Modes	Goal 9a Avg Non-Motorized Travel Time	Goal 9b GHG Emissions	Goal 9c Fine Particle Emissions
<i>Project:</i> I-880 Northbound HOV/HOT Lane Extension	●	●	●	○	○	○
<i>Program:</i> Transportation and Land Use (PDA) Program	○	●	○	●	●	●

Legend
 High
 ●
 Medium
 ○
 Low
 ○



Evaluation Process

Grouping Process – Project Example



Next Steps

On-going Tasks and Milestones

- **July:** Present CWTP evaluation outcomes
 - » July 21 - Presentation of results to all working group members
 - » July 28 - Presentation of results to Steering Committee
- **September:** First draft of CWTP and preliminary Transportation Expenditure Plan projects and program lists
- **October:** Conduct second evaluation of constrained list based on Steering Committee recommendations
- **September/October:** Second round of outreach and polling
- **November/December:** Present second draft CWTP and first draft TEP to Committees
- **December:** Present second draft CWTP and first draft TEP at Commission Retreat
- **January:** Commission approves draft plans

26

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Questions and Answers

27



Proposed CWTP Report Outline Overview of Report

- Follows generally the same outline as previous CWTPs
- Structure with a different look and feel
 - » Streamlined
 - » Graphically oriented
 - » Executive Summary style document
- Alameda CTC's first CWTP as a combined agency
- Stand-alone appendices provide detailed technical material

28



Draft CWTP Report Outline Overview of Report (continued)

1.0 Introduction

- » **Background**
 - Agency Direction, Mandate
 - Changes to CWTP from previous Updates
 - Integration with the Transportation Expenditure Plan (TEP)
 - Guidance to Support On-going Planning, Policy, and Funding
 - Plan Development Process and Title VI
- » **Summary of each report section**

2.0 A Vision of the Future

- » **Mission, Vision, and Goals**
- » **Linkages to Regional Planning Activities**
- » **Engagement of the Public and Stakeholders**
- » **Performance Objectives**
 - Mobility, equity, environment, etc.
- » **Policy Objectives**

29



Draft CWTP Report Outline Overview of Report (continued)

3.0 Existing Conditions

- » **Summary of the Briefing Book's Introduction Section**

4.0 Future Expected Conditions

- » **Summary of Briefing Book's Introduction Section**

5.0 A Diversified Strategy

- » **Lessons learned**
 - Focus how the CWTP has changed since 2004/2008
- » **Elements of the Diversified Strategy**
- » **Highlight specific policies and strategies of the CWTP**

30



Draft CWTP Report Outline Overview of Report (continued)

6.0 Management and Investment Strategies

- » Funding Priorities
- » Planning Guidelines
- » Incentives

7.0 Revenue

- » Why Funding Continues to be Limited
- » Available Funding Sources
- » Innovative Funding Methods
- » Funding Gap versus Transportation System Needs
 - Existing
 - Expected Future
- » Revenue Issues

31



Draft CWTP Report Outline Overview of Report (continued)

8.0 Integration of Transportation and Land Use

- » Previous Regional and Alameda County Land Use Perspective
- » Vision and Current Approach
 - Regional, SCS Overview
 - Alameda County Linkage to SCS
- » Alameda County Land Use Patterns: Existing and Future (To be determined through SCS process)
- » Key Transportation Issues and Improvements (linked to land use)

32



Draft CWTP Report Outline Overview of Report (continued)

9.0 Capital Project and Programmatic Strategies

- » Funding Challenges
- » Investment Program
 - Capital Projects, Programs, and Programmatic Projects
 - Linked to MTC RTP
 - Screening & scenario evaluation(summary)
 - Investment Emphasis Areas
- » Implementation Issues

10.0 Monitoring and Evaluation

- » CWTP Emphasis on Performance-Based Planning
- » Linkage to MTC RTP processes
- » Performance Measures
- » Performance Monitoring Recommendations

33



Draft CWTP Report Outline Overview of Report (continued)

11.0 Implementation Issues

- » Next Steps for On-going Planning and Policy Development
 - Relationship to TEP
 - Define Alameda CTC's Short-term Work Plan
 - Define Policy Initiatives
 - Define Analysis and Scoping Needs by Corridor and System
- » Transportation and Land Use
 - Define Analysis and Scoping Needs For
 - Priority Development Area/Growth Opportunity Area/Transit Oriented Development Plan
 - Short-term Implementation Plan
 - Long-term Implementation Plan
 - On-going
- » Address Outstanding Issues for Preparation of the Next CWTP

34



Draft CWTP Report Outline Overview of Report (continued)

Technical Appendices

- A. Glossary of Acronyms
- B. Metropolitan Transportation System
- C. Briefing Book (existing and future trend conditions)
- D. Summary (or full) White Papers
- E. Performance-Based Evaluation Process
- F. List of Projects (by Tier)
- G. List of Programs
- H. Land Use, Demographics, and SCS Consistency
- I. Transportation Funding and Revenue
- J. Major Transit Operations
- K. GHG Emissions and Future Targets
- L. Legislation and Initiatives: State and Regional
- M. Stakeholder and Public Outreach Process and Title VI
- O. Working Group Membership