



METROPOLITAN
TRANSPORTATION
COMMISSION

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Agenda

Transit Sustainability Project

PROJECT STEERING COMMITTEE

October 13, 2011

12:30-3:30pm

Lunch provided

Joseph P. Bort MetroCenter
Auditorium
101 Eighth Street
Oakland, California

1. **Introductions**
2. **Project Schedule**
3. **Financial and Service Performance Metrics**
 - a. **Summary of Draft Performance Metrics**
 - b. **Next Steps**
4. **Transit Performance Initiative: Speed Program**
5. **Plan Bay Area: Update on Scenarios and Project Performance Assessment**
6. **Fare Analysis Overview and Initial Findings**
7. **Institutional Scope of Work**
8. **Regional Poll**
9. **Public Comment/ Information/ Next Meeting**

The next meeting of the Transit Sustainability Project Steering Committee will be November 21, 2011.



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Memorandum

TO: Transit Sustainability Project Steering Committee

DATE: October 6, 2011

FR: Deputy Executive Director, Policy

RE: October 13th Project Steering Committee (PSC) Meeting

We look forward to seeing you at the Transit Sustainability Project (TSP) Steering Committee meeting on October 13th.

The agenda includes several items, many of which focus on work underway or planned for the immediate future. In response to requests from the last meeting, the meeting will include:

- an overview of the regional poll under development,
- an update on the Plan Bay Area alternative scenarios development and project performance assessment, and
- an outline of the scope of work for the institutional analysis.

In addition, there will be detailed discussion of:

- the financial and service performance metrics proposed over the course of the project to date,
- some recently completed initial fare analysis, and
- additional information regarding the transit performance initiative for urban trunk services.

As we move towards wrapping up the work of the PSC in December/January, we want to continue the discussion about performance metrics. These metrics are meant to provide a measurable yardstick for the *reform* part of this project and help place the region's transit network on a more sustainable footing. Last January we first presented potential targets for improved financial performance. Over the past two PSC meetings, we reviewed targets related to service performance. At this meeting, we will present both together for your feedback.

In addition, two revenue-related items are on the agenda: the plans for a regional poll on the regional gas tax, and initial fare analysis. MTC has state authority to put a regional gas tax on the ballot. However, given lack of public support in the past, we have never pursued a ballot measure. We are in the process of moving forward with a regional poll to gauge the receptivity to such a measure, which we see as integral to the reform and *revenue* platform of the TSP. The other revenue-related item on the agenda is an evaluation of transfer fare policies. We conducted some high-level initial analysis to see how ridership might change if riders were not required to pay multiple fares for multi-operator trips. We will discuss the initial results and potential next steps at the meeting.

At your September meeting we proposed developing a transit performance initiative focused on low-cost capital investments that could improve operations and customer experience. Following the positive feedback from the PSC, we are in the process of working with the transit agencies to develop a pilot program focused on the urban trunk system and will provide an update at your meeting.

We look forward to the discussion on October 13th.



Ann Flemer



TSP Project Steering Committee
October 13, 2011



Today's Agenda

- **Project Schedule**
- **Financial and Service Performance Metrics**
 - Summary of Draft Performance Metrics
 - Next Steps
- **Transit Performance Initiative: Speed Program**
- **Plan Bay Area: Update on Scenarios and Project Performance Assessment**
- **Fare Analysis Initial Findings**
- **Institutional Scope of Work**
- **Regional Poll**



Project Schedule

November 21st – Project Steering Committee

- Institutional – initial discussion
- Revenue discussion
- ADA Paratransit final recommendations (following completion of focus groups)
- Inner East Bay and Peninsula subregional analysis briefings

December/January TBD – Project Steering Committee

- Final financial, service and institutional recommendations for PSC discussion

February 2012 – MTC Select Committee

- Initial recommendations to the Commission for discussion
- Public outreach

March 2012

- Final Commission approval



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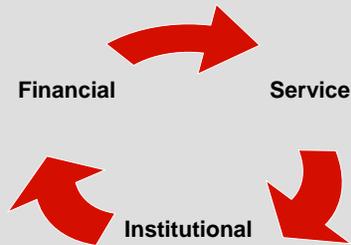
Financial and Service Performance Metrics



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Project Work Program

Project Goal: To identify the major challenges facing transit, confront them directly, and identify a path toward an efficient, affordable, well-funded transit system that more people will use.



Reform *and* Revenue



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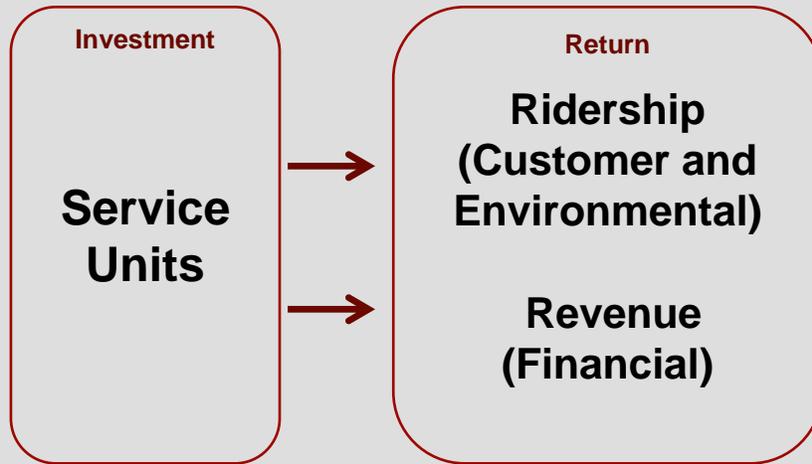
What is a sustainable transit system?

- **Customer:** A system that functions as an accessible, user-friendly and coordinated network for transit riders, regardless of mode, location or jurisdiction.
- **Financial:** A system that can cover its operating and capital costs with a growing share of passenger fare revenues as well as reliable streams of public funding.
- **Environmental:** A system that can attract and accommodate new riders in an era of emission-reduction goals, and is supported through companion land use and pricing policies.



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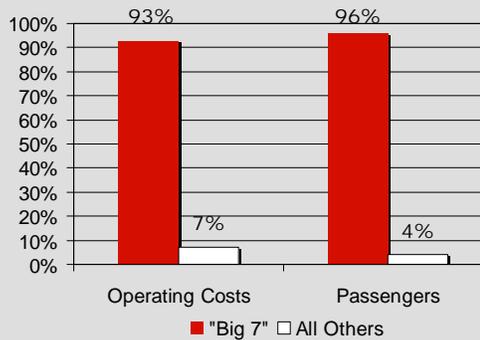
Development of Performance Metrics



Financial Performance Metrics Proposed for the Large Seven Operators

"Big 7"

- AC Transit
- BART
- Caltrain
- Golden Gate
- SamTrans
- SFMTA
- VTA



Data Sources

- National Transit Database
- Interviews with agencies – CFOs
- Data from agencies
- Labor Contract reviews

Service Performance Metrics Proposed for Regional Services Only

- Regional system as defined by:
 - crossing the Bay, or
 - having a route length of twenty miles or more and crossing a county line
- Includes:
 - BART, Caltrain
 - TransBay bus services (AC Transit, Golden Gate, WestCAT, FAST, Dumbarton, SolTrans)
 - Express bus services if they cross a county line (SamTrans, VTA, LAVTA, Sonoma County, Napa Vine)
 - Ferry services (WETA, Golden Gate)



Metrics to Measure Success

Cost-Based	Productivity-Based	Financial Effectiveness
Financial	Service	Financial and Service
Cost per service hour	Capacity Utilization (pass miles/seat mile)	Farebox Recovery
Big 7 Operators only	Regional Services only	Regional Services only
Reduce operating cost by 10% per service hour within 3 years (inflation adjusted)	Increase capacity utilization by 10% within 3 years	Improve farebox recovery ratio to meet average based on service type within 3 years

Enforcement: TBD



PSC Feedback to Date

Financial

- Financial targets should be set compared to 2008 performance to account for reforms implemented to date
- 10% reduction in operating costs per hour of service might be too high a target for some agencies to meet

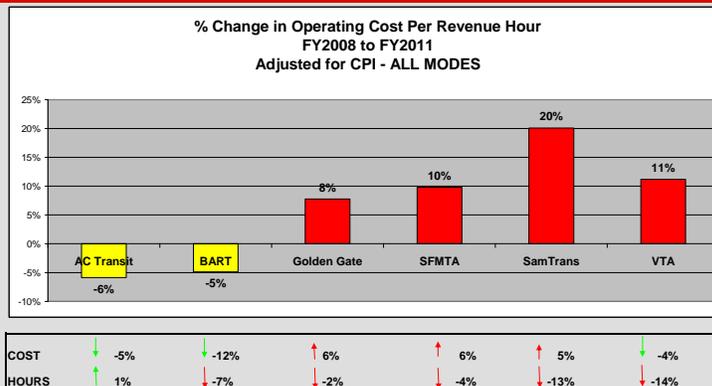
Service

- Split opinions on whether or not to include performance metrics for non-regional services
- 3 year timeframe for a 10% increase in capacity utilization is too aggressive; consider 5% increase in 3 years and/or 10% increase in 5 years



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Financial Snapshot: 2008 vs. 2011



Source: Annual TDA Claim Form submitted by operators to MTC. FY2008: Actuals; FY2011: Unaudited

- Given performance-to-date, agencies may need more than 3 years to reduce costs by 10%.
- 5 of 6 agencies reported service cuts, resulting in operating cost increases on a per service unit basis



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Options for Discussion – Financial Metric

Cost-Based

Financial

Cost per service hour

Big 7 Operators only

Reduce operating cost by 10% per service hour within 3 years (inflation adjusted)

- What is the right timeframe?
 - 3 or 5 years?
- When is the right start date?
 - 2008, 2012, or rolling date based on timing of contract agreement?



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Options for Discussion – Service Metric

Productivity-Based

Service

Capacity Utilization (pass miles/seat mile)

Regional Services only

Increase capacity utilization by 10% within 3 years*

Financial Effectiveness

Financial and Service

Farebox Recovery

Regional Services only

Improve farebox recovery ratio to meet average based on service type within 3 years

- What is the right timeframe?
 - 3 or 5 years?
- When is the right start date?
 - 2008, 2012, or next service changes?
- Consideration of non-regional service performance evaluation?

New services have a 3-year ramp up period.
*Not required if utilization greater than 85%.



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Performance Metrics Next Steps

- Form a Joint TAC composed of subset of the Financial and Service TACs and non-transit agency members of the PSC
- Meet in October and November
- Develop monitoring and enforcement approach for financial and service performance metrics
- Present final recommendations to the PSC in December

Transit Performance Initiative: Speed Program

Urban Trunk System

- All-day backbone bus and light rail service on higher-density arterials
- Carries 53% of trips in the region
- Average operating speed of 9 mph

Agency	Average Speed: Urban Trunk Routes
AC Transit	10.0 mph
Muni	7.8 mph
SamTrans	12.3 mph
VTA	13.8 mph



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Why Improve Speed?

- Speed improvement benefits both the customer and the agency; minimal tradeoffs
- Can significantly improve farebox recovery and cost per passenger boarding; can also reduce operating costs
- Speed improvements are most beneficial when more service can be operated for the same cost or the same service with reduced cost



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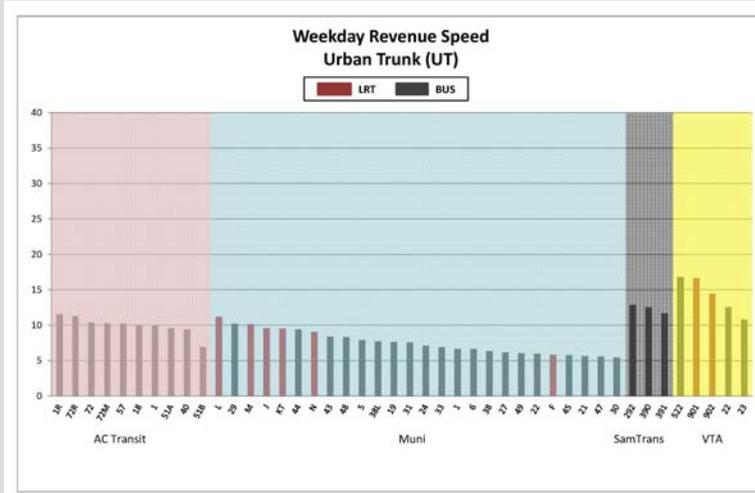
Speed Improvement Approach

- Focus on actively improving Urban Trunk corridors that operate at 15 minute headways or better, and have speeds of 15 mph or less
- Provide incentive funding for lower-cost improvements that can be implemented quickly
- Build on existing agency efforts and initiatives
- Monitor results
- If successful, expand program as funding allows



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Speed Chart



Draft list of routes based on data from agencies.



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Example: AC Transit

- Urban Trunk routes – average revenue speed just 10mph
- 5% speed increase:
 - Over 26,800 hours saved annually* and almost 1.2m additional boardings
 - Savings of ~\$3.6m annually (direct cost) plus farebox revenue
- 10% speed increase:
 - Over 51,200 hours saved annually* and almost 2.3m additional boardings
 - Savings of ~\$6.9m annually (direct cost) plus farebox revenue

* Assumes time savings do not go into additional layover



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Transit Effectiveness Project

- Improve Reliability and Build Confidence
- Travel time reductions
 - 10 to 30% (varies by route type)
 - Transit priority improvements
 - Transit-only lanes and bypass lanes
 - Transit signal priority
 - Bus bulbs
 - Stop consolidation on busiest routes
 - Faster boarding via ticket vending machines all-door boarding, and low-floor buses
- Highest investment proposed for **Rapid Network** which carries the majority of customers



N^x Judah Express

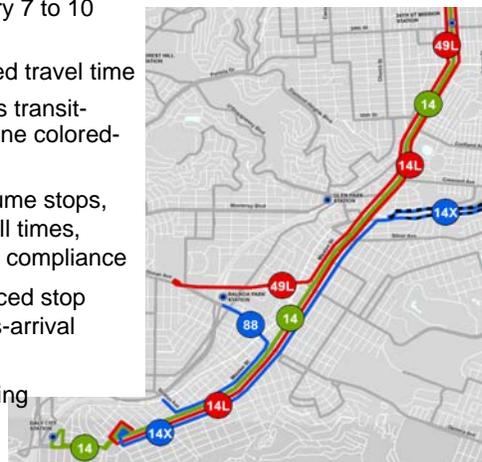
Implemented in July 2011

- N-Judah Line: Most crowded rail line with daily boardings of 38,000
 - Travel time and reliability impacted by congested operating environment and long dwell times on crowded vehicles
- Nx-Judah Express: Supplemental bus service to reduce crowding on N Judah and to improve reliability
- Dedicated fleet with distinctive branding
- Ridership higher than expected
- Crowding eased at key rail stops
- Public feedback overwhelmingly positive; record setting on-time performance



Mission Mobility Maximization

- Increased all day limited-stop service from 6 am to 10 pm (7 days a week) on 49L and 14L
- Local service would be provided every 7 to 10 min
- More limited stops resulting in reduced travel time
- Transit-priority improvements such as transit-signal-priority and exclusive transit-lane colored-pavement enhancements
- Ticket-vending machines at high-volume stops, allowing faster boarding, shorter dwell times, more rapid travel, and increased fare compliance
- Customer amenities including enhanced stop identification, information panels, bus-arrival predictions
- Dedicated fleet with distinctive branding
- Cost per mile: \$1.6 million



Light Rail Express



- 3 peak roundtrips
- Santa Teresa to Baypointe
- 5.6 miles express, 6 skipped stations
- Travel time savings – 4 minutes
- No capital costs
- +\$560,000 annual op. costs
- Increased avg. daily boardings 16%
 - 93% say the faster trip/schedule is very/somewhat important
 - 52% say availability of Wi-Fi is very/somewhat important



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Light Rail System Analysis

Rapid 522



- “Speed” Strategies
 - Limited Stops (30 vs. 115 for local)
 - Free Running Schedules
 - Bus Signal Priority
- Palo Alto to Eastridge
 - **22% Travel Time Savings**
- Palo Alto to 1st & Santa Clara
 - **24% Travel Time Savings**
- Distinctive vehicles
- 15 minute headways



- Total budget: \$1.4 million
- 17% Ridership Increase

Emergency Times: Stop 3 and 1071 x 5%

Beginning this July... 522

Faster, more direct service between Palo Alto and East San Jose

- > **Frequent, All-day Service**
- > **Priority at Traffic Signals**
- > **Reduced Stops**

VTA Rapid 522. You'll know it as soon as you see it.

(408) 321-2200 (800) 894-9908 TDD (408) 321-2230 www.vta.org

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Rapid 522

Speed Program Next Steps

- Propose a ~\$30 million initial program for the urban trunks
- Meet with urban trunk operators to develop program
- Confirm funding, including timing and eligibility
- Prioritize projects based on cost/benefit, speed of implementation, and fund source eligibility
- Include as part of TSP recommendations to the Commission in early 2012

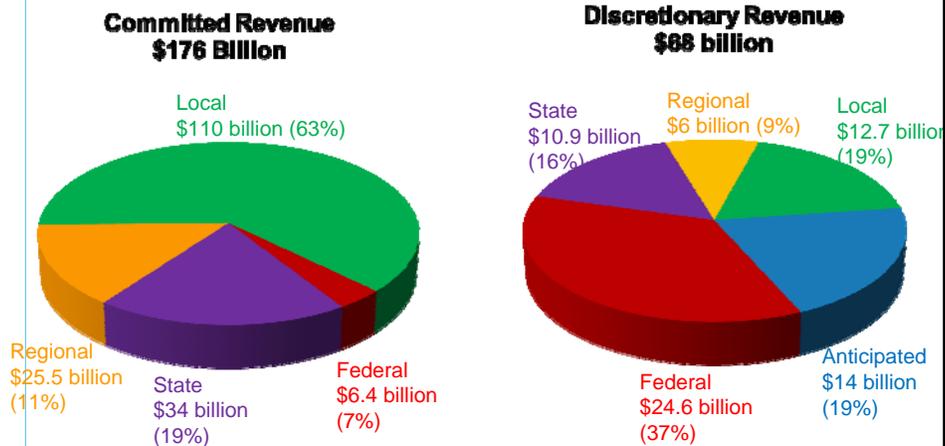
Plan Bay Area: Update on Scenarios and Project Performance Assessment

Plan Bay Area

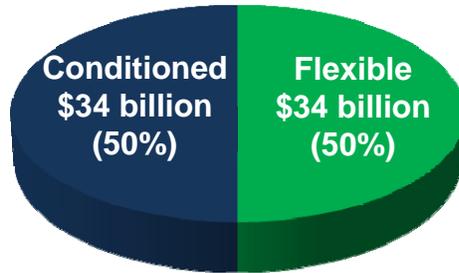
- Transit a key element of meeting SB 375 objectives
- Plan Bay Area focus to date has been on land use scenarios
- Current phase – project performance assessment (July – November 2011)
- Next phase – develop investment strategy (October 2011 – February 2012)
 - Transit operating network
 - State of good repair
 - Expansion projects
- Integrate recommendations from the TSP, as appropriate, into Plan Bay Area preferred scenario and policies

Plan Bay Area Committed vs. Discretionary Revenue

\$244 billion Total Revenue



Discretionary Revenue (\$68 Billion): Conditioned vs. Flexible



Conditioned Funds	\$ in billions
FTA 5307 Urbanized Area Formula	\$16
FTA 5309 Fixed Guideway	
FTA 5316 JARC	
FTA 5317 New Freedom	
AB 1107 ½ cent sales tax	\$2.5
Transit Toll	\$0.7
TDA/STA Population	\$15
Total	\$34
Flexible Funds	\$ in billions
STP/CMAQ	\$8
STIP	\$9
New Bridge Tolls	\$3
Anticipated	\$14
Total	\$34

Priority Development Areas

- Near high-level transit
- Planned for more housing
- Scenarios forecast growth in PDAs:
 - ~70-80% housing
 - ~50-60% jobs



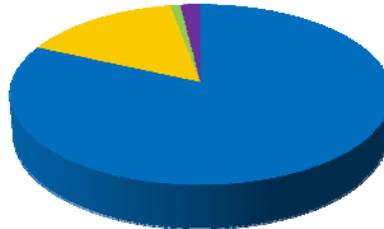
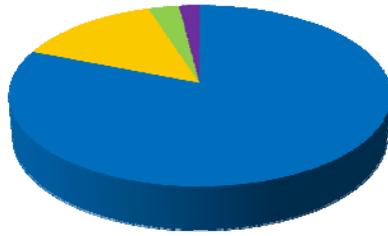
Investment Strategies

Transportation 2035 Network

Core Capacity Transit Network

**\$244 Billion
Plan Expenditures**

**\$259 Billion
Plan Expenditures**



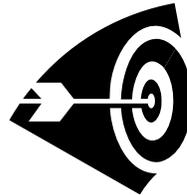
Investment	Transportation 2035 Network	Core Capacity Transit Network
Maintenance & Operations	81%	81%
Transit Expansion	14%	16%
Road Expansion	3%	1%
Bike/Pedestrian & Other	2%	2%

Project Performance Assessment



**BENEFIT-COST
ASSESSMENT**

Compare benefits & costs



**TARGETS
ASSESSMENT**

Determine impact on achieving adopted targets



BENEFIT-COST ASSESSMENT

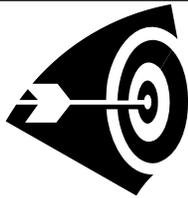
- Evaluate projects with greater than \$50 million in costs and/or regional impacts
- Benefits based on MTC regional travel demand model
- Cost information submitted by project sponsors

Benefits include:

- Travel time
- Emissions (CO₂, PM_{2.5}, PM₁₀, ROG, NOx)
- Health costs associated with changes in active transportation levels
- Collisions causing injuries, fatalities, or property damage only
- Direct user costs (vehicle operating/ownership)
- Noise

Costs include:

- Capital expenditures
- Operating & maintenance expenditures



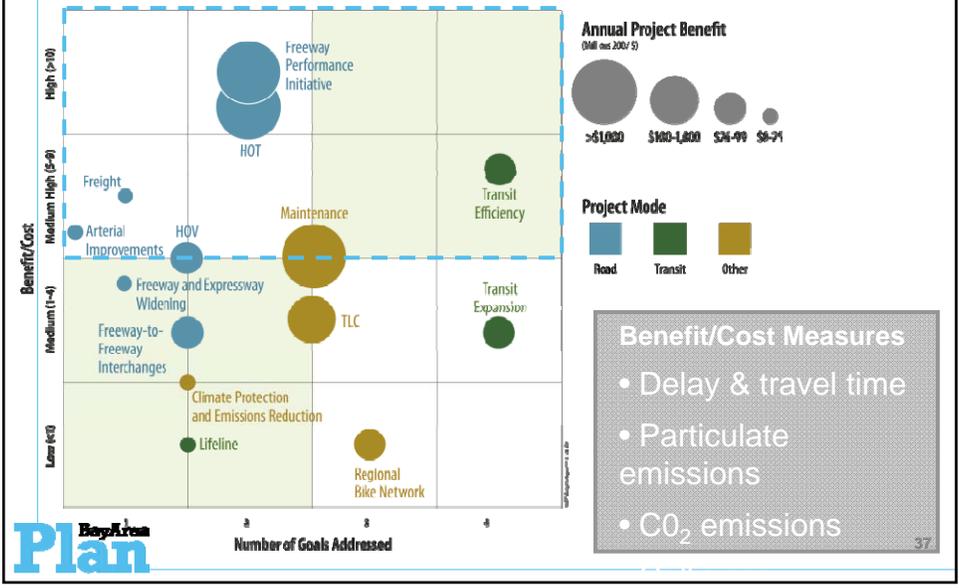
TARGETS ASSESSMENT

- Reflect adopted policies of MTC & ABAG by focusing on performance targets
- Larger projects (cost >\$50 million) subject to individual assessment
- Smaller projects assessed by type

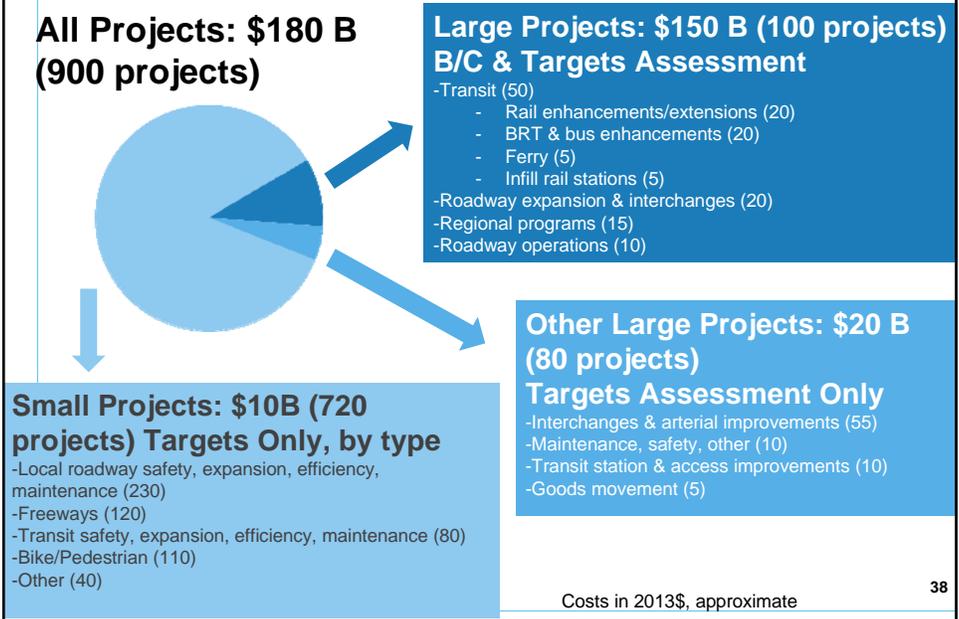
Targets include:

1. CO₂ emissions reduction
2. Adequate housing
- 3a. PM_{2.5} emissions reduction
- 3b. PM₁₀ emissions reduction
- 3c. PM emissions reduction in CARE communities
4. Injury and fatality collision reduction
5. Increase in minutes of active transportation (walking/biking)
6. Open space and agricultural preservation
7. Decrease in low-income expenditures on transportation
8. Economic vitality
- 9a. Decrease in per-trip non-auto travel time or increase in non-auto mode share
- 9b. VMT reduction
10. State of good repair

T-2035 Project Assessment



Analysis is Underway



Next Steps

- Release Project Performance Results – November 2011
- Release Scenario Assessment Results – December 2011
- Conduct Public Outreach – January 2012
- Discuss Infrastructure Needs and Investment Trade-Offs – October 2010 – February 2012
- Identify Preferred Scenario (includes Prelim Investment Strategy) – February 2012
- Release Preferred Scenario Assessment Results – March 2012
- Approve Preferred Scenario (includes Draft Investment Strategy) – May 2012

Fare Analysis: Initial Findings

Overview

- **Identify fare structure barriers to transit ridership**
 - Travel / transfer patterns and volumes
 - Fare policies and penalties for transferring riders
 - Latent travel demand
- **Evaluate fare concepts in the Inner East Bay**



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Fare Analysis

- Ran two scenarios through the regional travel model to see the impact of current transfer policies on ridership:
 - Existing fare policies scenario, and
 - Free transfer scenario – assumed rider paid only one fare; the higher of the fares of the connecting operators
- Methodology
 - Used May 2011 Clipper data as the basis for transfer rates
 - Adjusted the data to account for varying Clipper penetration rates
 - Adjusted transit ridership to observed data



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Inter-Operator Transfers and Transfer Rates, Average Weekday

	Total Transfers To/From	Total Ridership	Transfer Rate
AC Transit	12,717	190,647	6.7%
BART	77,837	338,842	23.0%
Caltrain	12,765	36,695	34.8%
Golden Gate Ferry	468	6,618	7.1%
Golden Gate Transit	878	20,531	4.3%
SamTrans	3,100	45,909	6.8%
San Francisco Muni	73,821	706,208	10.5%
Santa Clara VTA	2,254	130,670	1.7%
Total	183,840	1,476,121	12.5%

Source: May 2011 Clipper inter-operator travel matrix; CH2M HILL estimates. Excludes smaller operators



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Fare Policies and Penalties for Transferring Riders

Operator Pair	Monthly Transfers	Single Trip Transfer Agreement	Pass Transfer Agreement
BART / SFMTA	1,556,200	\$0.25 discount on SFMTA, each way	"A" Fast Pass (\$10 more/month to ride BART within SF; and BART Plus (savings ~\$6-\$10/month)
AC Transit / BART	269,300	\$0.25 discount on AC Transit, each way	None
Caltrain/ SFMTA	218,500	None	\$5 discount on SFMTA pass
BART / Caltrain	72,300	None	None
AC Transit / SFMTA	40,900	None	None
BART / SamTrans	30,100	None	BART Plus (savings ~\$8-\$12/month)
SamTrans / VTA	27,900	Free transfer on 2 nd leg, each way	Monthly pass reciprocity

Operator pairs with >20,000 monthly transfers



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Fare Policies and Penalties for Transferring Riders

- Top 3 operator pairs account for 89% of total inter-operator transfers
- 4 of the 5 top operator pairs are primarily regional/local connections



Free Inter-Operator Transfer Scenario: Summary Results (Annualized)

	Ridership Change, #	Ridership Change, % (Inter-Operator Trips)	Ridership Change, % (All Trips)
AC Transit	97,516	1.6%	0.2%
BART	5,622,600	19.0%	5.5%
Caltrain	725,670	15.9%	6.6%
Golden Gate Ferry	-3,986	-4.4%	-0.2%
Golden Gate Transit	100,951	25.0%	1.6%
SamTrans	256,069	13.1%	1.9%
San Francisco Muni	1,869,127	8.2%	0.9%
Santa Clara VTA	371,695	29.1%	0.9%
Minor Operators	2,681,160	22.5%	8.0%
Total	11,720,804	14.9%	2.5%

- Overall regional ridership growth of 2.5%; overall fare revenue loss of 1.0% (\$6.3 million)
- Actual distribution of fare revenue impacts by operator would depend on specific business rules

Initial Observations

- There are numerous inconsistent transfer fare policies between operators: confusing for the customer
- There are both financial and service barriers standing in the way of customers taking their optimal route
- Fare policy reform offers opportunity to increase overall ridership and improve existing customer experience
- Need to also consider improvements in service that would reduce the non-monetary barriers to transfers (service levels, service design, etc)



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Next Steps

- Focus on those operator pairs that showed high potential for increased ridership and have limited discounts

Operator Pair	Current Discounts	Current Pass Programs
BART/SFMTA	Modest	A Fast Pass and BART Plus
BART/AC Transit	Modest	None
BART/Caltrain	None	None
BART/Small Operators	Modest	BART Plus

- Consider fare policies to improve regional/local connections
- Focus on BART/AC Transit pilot as part of the Inner East Bay subregional service analysis



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Institutional Scope of Work

Institutional Scope of Work

Approach:

- Conduct a focused analysis of specific challenges

Scope of work:

- Identify challenges
 - What are the financial and customer challenges as a result of the current institutional structure?
- Identify other models, nationally and internationally (sparingly) that would address those challenges
- Outline phasing and implementation options

Potential Challenge #1 - Resources

- Resource assignment that is spread across agencies for functional areas
- Bay Area Big 7 transit agencies employ 11,729 FTEs

Category	FTEs	Percentage
General Administration	1,251	11%
Human Resources/EEO/Risk Management/Safety	277	22%
Financial/Audit/Grant Administration	204	16%
Information Technology	158	13%
Public Information/Affairs/Marketing	154	12%
Board/Executive/Senior Management	115	9%
Legal/Procurement/DBE	114	9%
Engineering/Capital Projects/Real Estate	100	8%
Long Range Planning/Service Planning/Title VI	49	4%
Other	44	4%
Admin Support/Clerical	35	3%
Vehicle Operations	6,690	57%
Vehicle Maintenance	2,301	20%
Non-Vehicle Maintenance	1,047	9%
Other Functions	36	0%
Contracted Functions	376	3%
Indirect Functions	29	0%

Source: Mundle & Associates;
data directly from agencies



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Potential Challenge #2 – Service and Capital Planning

- Lack of joint service planning/delivery for seamless service for the customer
- Lack of joint capital program development leads to competing needs and projects



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Potential Challenge #3 – Fare and Customer Service Policies

- Inconsistent fare policies
- Highest common denominator approach to regional projects (Clipper, 511)
- Inconsistent customer experience (e.g. signage, trip planning, maps, etc.)

Transit Operator	Senior/ Disabled	Youth	Child
AC Transit	50%	50% (5-17 yrs.)	4 and under free (limit 2)
BART	63%	63% (5-12 yrs.)	4 and under free
Caltrain	50%	50% (5-17 yrs.)	4 and under free (limit 1)
County Connection	66%	Same as adult	Under 6 free
Golden Gate Transit	50%	50% (6-18 yrs.)	5 and under free (limit 2)
SamTrans	58%	43% (5-17 yrs.)	4 and under free (limit 1)
San Francisco Muni	66%	66% (5-17 yrs.)	Under 5 free
Santa Clara VTA	58%	15% (5-17 yrs.)	Under 5 free
WestCAT	58%	Same as adult	Under 6 free (limit 2)

Discounts as of 2009.



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Discussion

Reaction to Potential Challenges? Priorities?

- Resource assignment that is spread across agencies for functional areas
- Lack of joint service and capital planning and delivery
- Inconsistent fare and customer service policies
- **Are there others?**



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Regional Poll



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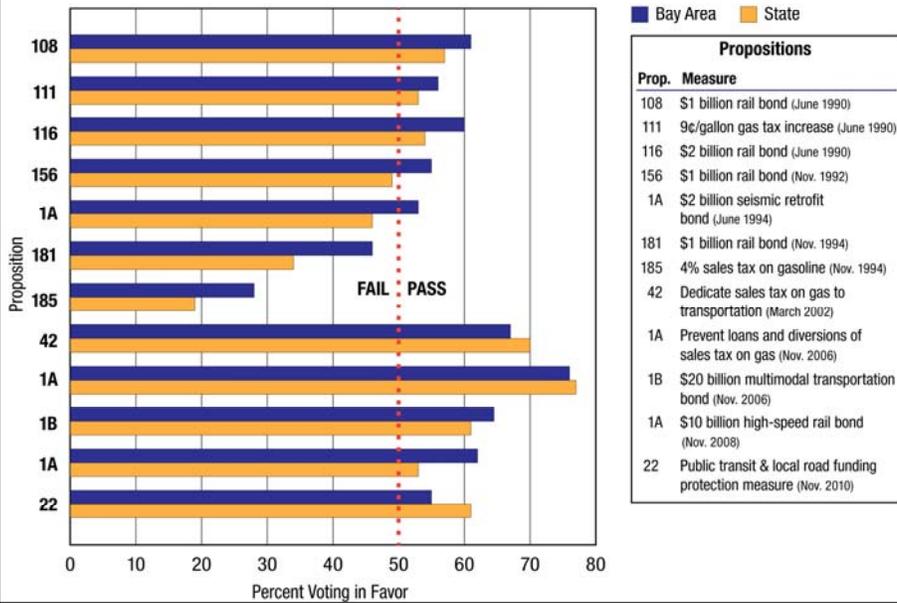
Potential Regional Gas Tax – Background

- Per state law, MTC may impose a gas tax not to exceed 10 cents per gallon
- Approval subject to two-thirds overall voter approval in the counties that place the measure on the ballot.
- Revenues can be used for:
 - a) rehabilitating local streets and roads;
 - b) Bay Area transit operations;
 - c) funding other projects or programs not yet identified.
- 10 cent gas tax = ~\$250 million/year



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Voting Results on Transportation Ballot Measures Bay Area vs. State



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Next Steps

- Commission has approved public opinion and polling services
- Poll will be conducted in early 2012
- Poll questions under development; will share with transit agencies and CMAs
- Commissioners to advise on poll questions
- Poll results in early 2012 will inform decision on whether or not to proceed

**Next Meeting:
November 21st, 12:30pm**

