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METROPOLITAN TRANSPORTATION COMMISSION

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

SYLVIA DARENSBURG, VIRGINIA
MARTINEZ, and VIVIAN HAIN;
individuals on behalf of themselves and all
others similarly situated;
AMALGAMATED TRANSIT UNION
192; COMMUNITIES FOR A BETTER
ENVIRONMENT,

Plaintiffs,

v.

METROPOLITAN TRANSPORTATION
COMMISSION,

Defendant.

No. C 05 01597 EDL

**DECLARATION OF STEFAN BOEDEKER
IN SUPPORT OF DEFENDANT'S MOTIONS
FOR SUMMARY JUDGMENT, OR
PARTIAL SUMMARY JUDGMENT, AND IN
OPPOSITION TO PLAINTIFF'S MOTION
FOR SUMMARY ADJUDICATION**

Date: June 24, 2008
Time: 9:00 a.m.
Crtrm: E, 15th Floor
Before: Hon. Elizabeth D. LaPorte

I, STEFAN BOEDEKER, hereby declare:

1. I make this Declaration on personal knowledge, and if called upon to testify, could competently testify as to the facts set forth herein based upon that knowledge.

1 2. I have been retained by defendant Metropolitan Transportation Commission
2 ("MTC") as an expert witness.

3 3. I am the Managing Director of Alvarez & Marsal Holdings, LLC ("A&M"), a
4 specialized independent global professional services firm. Prior to joining A&M, I held partner
5 level positions at Deloitte & Touche LLP, PricewaterhouseCoopers LLP, and Arthur Andersen
6 LLP and managing director level positions at Navigant Consulting Inc. and LECG. I received the
7 equivalent of a B.S. in Statistics and a B.A. in Business Administration from the University of
8 Dortmund in Dortmund, Germany (1986). I received an MS in Statistics from the University of
9 Dortmund (1988) and an M.A. in Economics from the University of California, San Diego
10 (1992). I also completed all Ph.D. requirements in Economics except for my dissertation at the
11 University of California, San Diego. Attached to Exhibit A (as Exhibit A) is a true and correct
12 copy of my professional resume, which further describes my qualifications.

13 4. Attached to this Declaration as Exhibit A is a true and correct copy of my expert
14 report in this case, dated February 1, 2008.

15 5. Attached to this Declaration as Exhibit B is a true and correct copy of my rebuttal
16 report in this case, dated February 25, 2008.

17 6. I declare under penalty of perjury that the attached reports are based upon my
18 personal knowledge and that I am competent to testify as to the matters set forth therein. I further
19 declare under penalty of perjury that the opinions stated in the attached reports are based upon
20 information of a type reasonably relied upon by experts in my field.

21 I declare under penalty of perjury under laws of the State of California that the foregoing
22 is true and correct. Executed this day of April 18, 2008.

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STEFAN BOEDEKER

EXHIBIT A

Expert Report of Stefan Boedeker

Darensburg et al. v. Metropolitan Transportation Commission

U.S. District Court

Northern District of California

Case No. C-05-1597-EDL

February 1, 2008

I. Introduction

A. Qualifications

1) I am a Managing Director in the Dispute Analysis & Forensic Services group at Alvarez & Marsal Holdings, LLC ("A&M"), a specialized independent global professional services firm providing litigation, turnaround and restructuring, corporate finance, healthcare, transaction advisory, real estate, and business consulting services to legal counsel, government agencies, and large companies. My office is located at 633 West 5th Street, 25th Floor, Los Angeles, CA 90071. Prior to joining A&M, I held partner level positions at Deloitte & Touche LLP, PricewaterhouseCoopers LLP, and Arthur Andersen LLP and managing director level positions at Navigant Consulting Inc. and LECG. I was responsible for the Economics and Statistics practice at certain previously listed firms. I also worked as a statistician for the German Government for three years before moving to the United States to attend graduate school.

2) I am an economist and a statistician. I received the equivalent of a Bachelor of Science in Statistics and a Bachelor of Arts in Business Administration from the University of Dortmund in Dortmund, Germany in 1986. I received a Masters of Science in Statistics from the University of Dortmund in 1988 and a Masters of Arts in Economics from the University of California, San Diego in 1992. I also finished all of the Ph.D. requirements in Economics at the University of California, San Diego except for my dissertation. My work focuses on the application of economic, statistical, and financial models to a variety of areas, such as providing solutions to

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business problems, supporting complex litigation, and drafting economic impact studies. Throughout my career, I have performed statistical analyses and economic impact studies on numerous occasions in both litigation and research contexts. A copy of my curriculum vitae is attached as Exhibit A to my Expert Report.

3) All of the facts and circumstances set forth in this report are known to me personally and I could and would testify competently to them if called to do so. My hourly billing rate for professional services for both, consulting work and expert testimony related to this case is \$550.

B. Scope of Work

3) I have been retained by Defendant's counsel in Darensburg et al. v. Metropolitan Transportation Commission ("MTC") to conduct a statistical analysis of publicly available data pertaining to providers of public transportation in the San Francisco Bay Area with particular emphasis on the Alameda-Contra Costa Transit District ("AC Transit"), Bay Area Rapid Transit District ("BART"), and the Peninsula Corridor Joint Powers Board ("Caltrain"). I was asked to statistically analyze publicly available data about issues raised in the Second Amended Complaint (the "Complaint") in the above referenced matter. In particular, I was asked to address the following allegations in my report:

- a. AC Transit serves a ridership that is nearly 80% people of color. Caltrain and BART have higher percentages of white transit riders than does AC transit.¹
- b. Over many years, MTC exercised and continues to exercise control over transportation funding for the Bay Area in a manner that disproportionately benefits the white riders of Caltrain and BART, at the expense of the disproportionately minority riders of AC Transit.²
- c. As a result of MTC's discriminatory funding practices, AC Transit bus riders receive a public subsidy of \$2.78/ trip..., Caltrain riders receive \$13.79/trip..., and BART riders receive \$6.14/trip.³

¹ Second Amended Complaint, November 1, 2007, p.1

² Ibid

³ Ibid

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- d. The level of rail service has experienced a steady increase, yet the level of bus services available to riders of AC Transit has fallen precipitously.⁴
- e. MTC's funding preference is not justified by any transportation planning or business necessity.⁵
- f. MTC funds and advocates for projects and programs vastly less cost-effective than AC Transit projects and programs.⁶

4) The information and opinions stated in this report are based on the litigation documents provided to me from *Darensburg v. MTC*; the sources of publicly available data I have cited in this report, a complete list of all documents considered for is attached as Exhibit B; and my general expertise in the field of conducting economic impact studies and statistical analyses.

C. Overview of Opinions

5) Based on my analysis of relevant data and documents reviewed, my opinions are as follows:

- a. Per capita funding figures are computed by dividing total funding and individual riders. Therefore, inferences based on percentage figures of minority ridership across transit operators can be significantly biased when instead absolute numbers of riders should be used. In fact, my analysis revealed that there are transit operators serving larger numbers of minority riders than AC Transit.
- b. AC Transit received significant funds for both its operating and capital needs. In addition, MTC's allocation of funds benefited large numbers of minority riders on BART, Caltrain, and other transit operators. The data did not display a statistical correlation between race of ridership and funding.
- c. The figures cited as "public subsidy per trip" in the Complaint cannot be substantiated by the data. In fact, numerous other statistics provide evidence contrary to the assertion that AC Transit's riders received the lowest funding.

⁴ Second Amended Complaint, November 1, 2007, p.2

⁵ Ibid

⁶ Second Amended Complaint, November 1, 2007, p.3

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- d. AC Transit's statistics for passengers, revenue vehicle miles, and revenue vehicle hours follow a general trend consistent with all transit operators over a time period of over eleven years. In addition, the reduction in routes did not have a statistical significant impact on revenue vehicle miles and revenue vehicle hours.
- e. The alleged "funding preference" conducted by MTC for capital intensive rail projects served the purpose of moving people from congested freeways onto public transportation. Additionally, BART routes served as a means to connect non-white riders to areas with more job opportunities and higher wages.
- f. There is no evidence in the data that BART and Caltrain operate less cost effectively than AC Transit. In fact, the data show evidence to the contrary.

II. Summary of Case Background

A. Key Elements of Complaint

6) On November 1, 2007, plaintiffs Sylvia Darensburg and Vivian Hain, on behalf of themselves and all others similarly situated; filed a class action lawsuit against MTC alleging race discrimination in the practice of funding public transit services in the San Francisco Bay Area. The Complaint further alleges "Through its funding, advocacy, and other decision-making practices, Defendant MTC has historically engaged, and continues to engage, in a policy, pattern or practice of actions and omissions that have the purpose and effect of discriminating against poor transit riders of color in favor of white, suburban transit users, on the basis of their race and national origin."⁷

7) Specifically, the Complaint makes several allegations and comparisons between the funding of projects and programs with respect to AC Transit as opposed to BART and Caltrain. The Complaint alleges that MTC knowingly distributed funds in a discriminatory manner which resulted in practices that harmed transit riders of color who depend on AC Transit. The plaintiffs claim that their class action was filed

⁷ Second Amended Complaint, November 1, 2007, p.1

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to ensure that minority bus riders share equitably the improvement of transit services that white suburban commuters enjoy.

B. MTC Discretionary Funds

8) The following section lists the discretionary funds in each fiscal year subject to allocation and final programming by MTC as stated in the annual reports for MTC Discretionary Funding.⁸ These funds are allocated among approximately 20 transit operators⁹ of public transportation in the nine-county area¹⁰:

- a. *FTA Section 5307 – Urbanized Area Formula.*
- b. *FTA Section 5309 Guideway – Fixed Guideway Modernization Formula*
- c. *FTA Section 5310 – Elderly and Disabled Projects*
- d. *FTA Section 5311 – Non-Urbanized Area*
- e. *Transportation Enhancement Act (TEA)*
- f. *Surface Transportation Program (STP)*
- g. *Congestion Mitigation & Air Quality Improvement Program (CMAQ)*
- h. *State Transit Assistance (STA)*
- i. *Regional Transportation Improvement Program (RTIP)*
- j. *Transportation Development Act, Article 4, 4.5, and 8*
- k. *Transportation Development Act, Article 3*

⁸ MTC Discretionary Funding for FY 2005-2006, March 12, 2007, "amounts shown represent the committed use of each type of funding as of the end of the fiscal year. The actual drawdown of the funds could take place during the same fiscal year or over several subsequent fiscal years."

⁹ Over the four years, the number of transit operators listed as receiving MTC funds fluctuated between eighteen and twenty. The complete list of 21 operators include, AC Transit, BART, Caltrain, CCCTA, City of Alameda and Oakland (Harbor Bay Ferries), City of Fairfield Transit, ECCTA, GGBHTD, LAVTA, Marin County Transportation District, NCTPA/Napa Vine, S. F. Muni, Sam Trans, San Joaquin Railroad Commission (ACE), Santa Rosa Bus, Sonoma County Transit, Union City Transit, Vacaville Transit, Vallejo Transit, VTA, and Westcat.

¹⁰ Counties include Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma.

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- l. *AB1107*
- m. *AB 664 Bridge Tolls*
- n. *Bridge Tolls Unrestricted 5% Funds*
- o. *Bridge Tolls Ferryboat Capital 2% Funds*
- p. *RM 1 Regional Rail Extension Reserves*
- q. *Regional Measure 1 Funds*

C. Publicly Available Data Relevant to This Matter

9) My analyses in this matter are based on the following publicly available data sources:

- a. *2000 U.S. Census ("Census")* - The Decennial Census occurs every 10 years, in years ending in zero, to count the population and housing units for the entire United States. Its primary purpose is to provide the population counts that determine how seats in the U.S. House of Representatives are apportioned.
- b. *2006 MTC Transit Passenger Demographic Survey* - An MTC Transit Passenger Demographic Survey of the region's fixed route transit riders. The purpose of this study was to better understand the demographic characteristics (age, gender, income, household size, and ethnicity) of transit passengers who use the fixed route services provided by thirteen major transit providers and seven additional smaller operators within the nine-county region.
- c. *Bureau of Labor Statistics* - The Bureau of Labor Statistics ("BLS") is the principal fact-finding agency for the Federal Government in the broad field of labor economics and statistics. The BLS is an independent national statistical agency that collects, processes, analyzes, and disseminates essential statistical data to the American public, the U.S. Congress, other federal agencies, state and local governments, business, and labor. The BLS also serves as a statistical resource to the Department of Labor.
- d. *MTC Discretionary Reports* - MTC issues annual reports reflecting the allocation actions and final programming pertaining to federal, state and local grants. For all fund sources, the amounts represent the committed use of each type of funding as of the end of the fiscal year.
- e. *MTC Statistical Summaries* - Reports prepared by MTC which include a summary of financial and operating information for the majority of public

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transit agencies in the nine-county San Francisco Bay Area. The summaries include operator profiles, financial and operating data, performance measures and graphs.

- f. *Individual Transit System Operator Websites* – Public information directly obtained from websites, including but not limited to <http://www.actransit.org>, <http://www.bart.gov>, and <http://www.caltrain.org>
- g. *National Transit Database* - The National Transit Database (“NTD”) is the Federal Transit Administration's (FTA's) primary national database for statistics on the transit industry. Recipients of FTA Urbanized Area Formula Program (§ 5307) and Non-urbanized Area Formula Program (§ 5311) are required by statute to submit data to the NTD. Over 650 transit agencies and authorities file annual reports to FTA through the internet-based reporting system.
- h. *MTC Memo to MCAC/Partnership EJ Subcommittee, October 2006* - Memo containing discussions regarding funding differences among transit operators, including a “Flow of Funds” Table and Table of Major “Capital Projects.”

D. Initial Review of Plaintiffs’ Experts Reports

10) On or around January 12, 2008, I received the reports of Dr. Thomas Sanchez, Dr. Richard Berk, and Mr. Thomas Rubin, plaintiffs’ designated experts in this case as described below. I reviewed these reports while finalizing the work on my report. However, this report does not address specific points in their reports which I plan to do at a later time in a separate rebuttal report.

- a. Expert Report of Richard Berk – January 9, 2008: Provides opinions on whether policy and funding decisions adversely affect AC Transit and fall disproportionately on minorities.
- b. Expert Report of Thomas W. Sanchez – January 11, 2008: Provides opinions on transportation planning principles and funding decisions for environmental justice and equity purposes.
- c. Expert Report and Declaration of Thomas A. Rubin – January 11, 2008: Provides opinions and analysis of MTC’s funding, planning, legislative advocacy, and other decision-making policies and practices and their impact on the riders of AC Transit

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III. Details of Opinions

- a. *Per capita funding figures are computed by dividing total funding and individual riders. Therefore, inferences based on percentage figures of minority ridership across transit operators can be significantly biased when instead absolute numbers of riders should be used. In fact, my analysis revealed that there are transit operators serving larger numbers of minority riders than AC Transit.*

11) The Second Amended Complaint defines the plaintiffs in this case as “people of color who are riders of AC Transit”¹¹ and a little further down clarifies them as “... poor transit riders of color ...”.¹² My first analysis focused on researching available data sources to find quantifiable information about the group of plaintiffs defined by the Complaint. The Census reports population by county and by race, but that definition would be too broad to capture the plaintiffs in this case. Additionally, the users of AC Transit are not limited to residents of the counties of Alameda and Contra Costa. The Census also contains information about people’s commuting choices to and from work broken down by mode of transportation and specific public transit system used. However, commuter data are too narrow to capture reliable information about the plaintiffs because a large percentage of daily transit trips can be for non-work related purposes.

12) The Census also reports information about individuals’ choices in terms of the mode of transportation and the public transit system they choose to commute to and from work by. The Census does not contain information about the numbers of trips made by these individuals on the various public transportation systems. Therefore, wide use is made of ridership surveys to obtain this more detailed information. These ridership surveys are conducted by the transit operators of public transportation in the nine-county area and by MTC on a regular basis. Each survey is based on a sample of riders taken at different points in time.

¹¹ Second Amended Complaint, November 1, 2007, p.1

¹² Ibid

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13) The surveys are not true random samples in the sense that users of public transportation were randomly selected from a sample frame, surveyed about their choices, and then results being extrapolated back to the universe of users with a precise margin of error and confidence level. In addition, sampling methodology and sample sizes vary dramatically yielding at times drastically different results. Nonetheless, these surveys are the best information available to obtain information about the racial breakdown of riders by transit operator.

14) An additional complicating aspect that surveys must deal with lies in the fact that hundreds of thousands of users of public transportation in the nine-county area utilize multiple transit operators to fulfill their demands and needs for transportation. Most surveys are not sophisticated enough to differentiate at that level and, therefore, do not allow an extrapolation from trips taken to the actual individuals who took those trips. However, these survey data are the best data available to answer questions about racial ridership by transit operator.

15) In the Complaint, plaintiffs state that AC Transit serves a ridership that is nearly 80% people of color. I validated this figure as shown in Table 1, by comparing results reported in the 2006 MTC Transit Passenger Demographic Survey which contained information regarding the racial composition of riders surveyed across the transit operators. It must be noted that some variation for the racial composition of riders in reported figures may occur due to methodological limitations, but have been deemed to be within a reasonable statistical margin of error.

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Table 1

Non-White Percentage of Users of Public Transportation by Public Transit System

Public Transit System	Non-White %
AC Transit	78%
Union City Transit	77%
ECCTA	75%
WestCat	74%
City of Fairfield Transit	73%
Vallejo Transit	71%
VTa	70%
Sam Trans	70%
LAVTA	61%
Benicia Breeze	60%
CCCTA	59%
S. F. Muni	58%
Vacaville City Coach	57%
BART	53%
ACE	53%
NCTPA/Napa Vine	50%
Santa Rosa Bus	50%
CALTRAIN	50%
Sonoma County Transit	42%
GGBHTD	37%
Alameda Ferry	29%

Source: 2006 MTC Transit Passenger Demographic Survey.

Note: Riders represent number of survey respondents weighted by individual agency ridership percentage across all transit agencies. See 2006 MTC Transit Passenger Demographic Survey - Technical Memo #3b for weighting methodology. Non-White Riders represent Total Riders less White Riders.

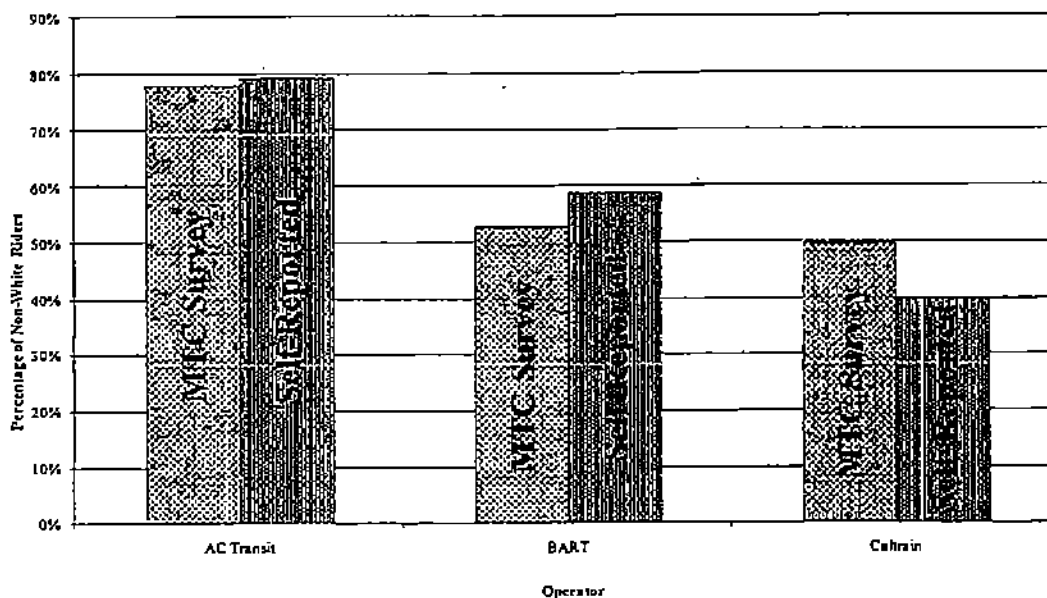
16) Next, I compared ridership information from the 2006 MTC Transit Passenger Demographic Survey and racial ridership data self-reported by AC Transit, BART and Caltrain. Chart 1 displays and compares the results for AC Transit, BART, and Caltrain. The figures in Chart 1 measure the share of non-white riders within one of the three transit operators as a percentage of all riders of that operator. The figures in Chart 1 show that variation occurs between the different surveys, but that the variation is within statistically acceptable levels. The data indicate that AC Transit has the highest percentage of minority riders.¹³

¹³ The percentage is taken relative to the total of all minority riders across AC Transit, BART, and Caltrain

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Chart 1

Reported Percentage of Non-White Riders by Source



Sources: 2006 MTC Transit Passenger Demographic Survey; AC Transit TransLink® Marketing Plan, February 6, 2006; San Francisco Bay Area Rapid Transit District 2007 Report to Congress; Caltrain Board of Directors Meeting Minutes, November 6, 2003 (www.caltrain.org/bod_minutes_11_6_03.html).

17) However, looking at the percentage of non-white ridership within a public transit system does not allow a comparison of the actual number of minority riders served by those systems. Even though BART has a smaller percentage of minority riders, the absolute number of minority riders using BART is larger than that of AC Transit. The following Table 2, Chart 2 and Chart 3 show the share of minority riders served by AC Transit, BART, and Caltrain as a percentage of all minority riders served by these three operators together. Even though AC Transit has the highest percentage of minority riders on their system, across the three data sources BART actually serves a larger number, and thus percentage of the minority riders for the three operators combined.

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Table 2
Racial Composition of Users of Public Transportation by Public Transit System

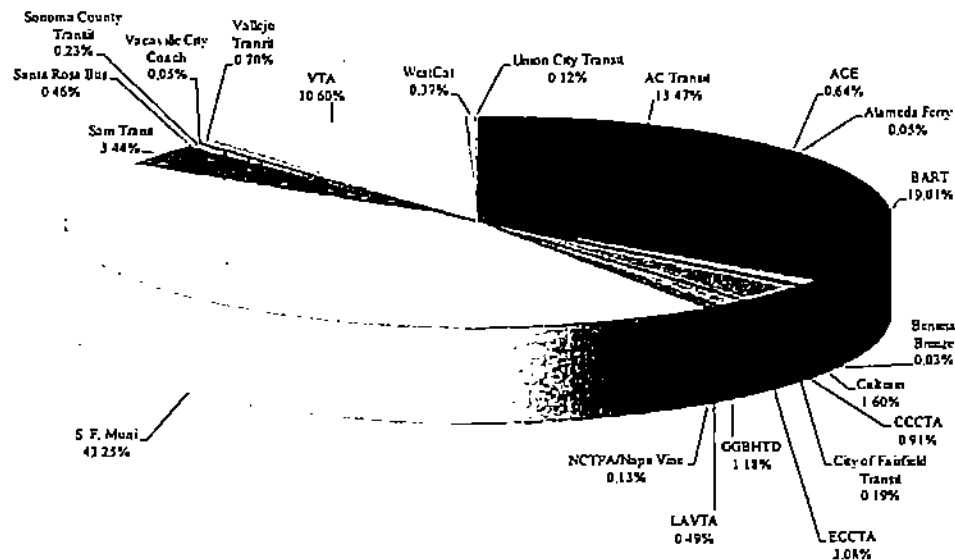
Public Transit System	White Riders	White %	Non-White Riders	Non-White %	Total Riders
S. F. Muni	2,692	42%	3,724	58%	6,416
BART	1,453	47%	1,637	53%	3,090
AC Transit	324	22%	1,160	78%	1,484
VTA	389	30%	913	70%	1,302
Sam Trans	129	30%	296	70%	425
ECCTA	89	25%	265	75%	354
CALTRAIN	139	50%	138	50%	277
GGBHTD	171	63%	102	37%	273
CCCTA	55	41%	78	59%	133
ACE	49	47%	55	53%	104
Vallejo Transit	24	29%	60	71%	84
Santa Rosa Bus	40	50%	40	50%	80
LAVTA	27	39%	42	61%	69
Sonoma County Transit	28	58%	20	42%	48
WestCat	11	26%	32	74%	43
City of Fairfield Transit	6	27%	16	73%	22
NCTPA/Napa Vine	11	50%	11	50%	22
Alameda Ferry	10	71%	4	29%	14
Union City Transit	3	23%	10	77%	13
Vacaville City Coach	3	43%	4	57%	7
Benicia Breeze	2	40%	3	60%	5

Source: 2006 MTC Transit Passenger Demographic Survey.

Note: Riders represent number of survey respondents weighted by individual agency ridership percentage across all transit agencies. See 2006 MTC Transit Passenger Demographic Survey - Technical Memo #3b for weighting methodology. Non-White Riders represent Total Riders less White Riders.

Chart 2

MTC Demographic Survey Composition
Percent Share of Total Non-White Passengers For Bay Area Transit Operators

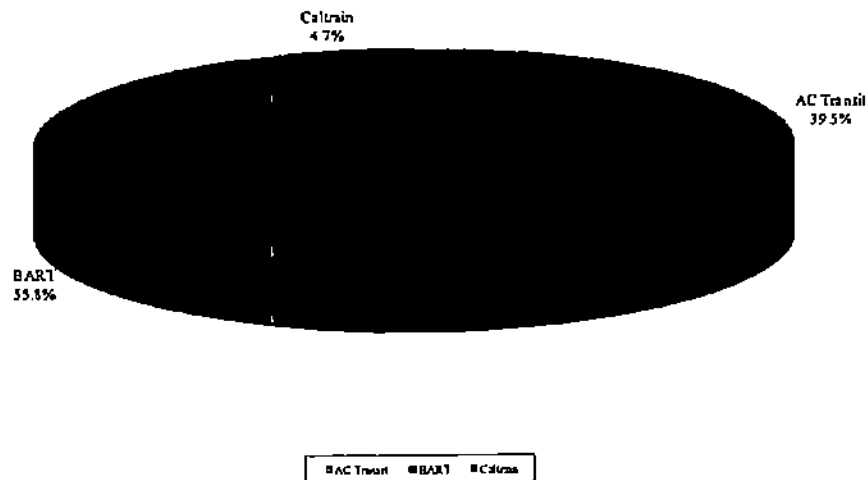


Source: 2006 MTC Transit Passenger Demographic Survey.

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Chart 3

Percent Share of Aggregate Non-White Passengers Using AC Transit, BART or Caltrain



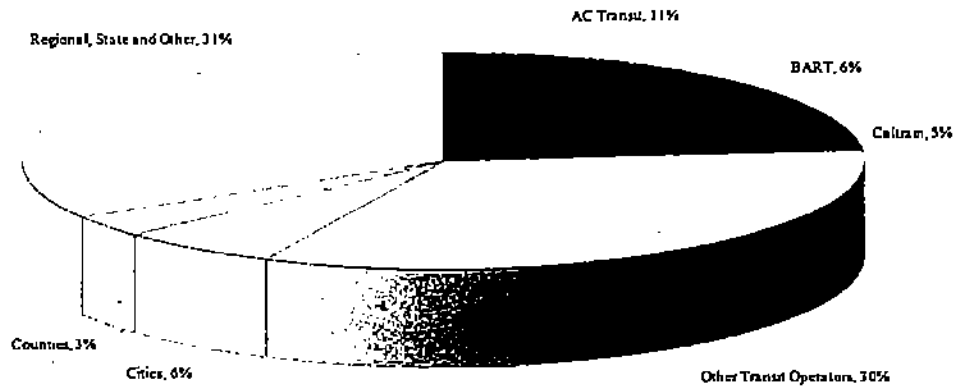
Source: 2006 MTC Transit Passenger Demographic Survey

18) It must be noted that the nine-county area is a highly interconnected system of multiple operators of public transportation where the surveys can at most measure the racial composition of trips taken on a transit operator's system, rather than capture a precise estimate of individuals taking these trips. Table 3 below depicts a matrix of inter-operator connections in the nine-county area. The large number of connections between transit operators indicates a potentially high overlap of riders between the various transit operators. This implies that individual riders may benefit from funds allocated to more than one transit operator. Of particular interest in this context is the fact that substantial portions of miles of BART tracks in the East Bay run through Alameda and Contra Costa County with multiple stations above or below ground which are in close proximity to AC Transit bus stops. This fact makes it hard if not impossible to determine whether a rider is a user of one system or the other or both, and to quantify the degree of overlap.

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Chart 4

Distribution of Aggregate MTC Allocated Discretionary Funds
for Fiscal Years Ending 2003-2006



Source: MTC Discretionary Funding Reports

20) When focusing the analysis on all transit operators in the nine-county area it becomes apparent that cumulatively between fiscal 2002/2003 and fiscal 2005/2006, AC Transit received the 2nd highest funding, ranking only behind SF Muni, and thus outranking BART and Caltrain individually and almost equaling total funding for BART and Caltrain combined for those four years (See Table 4 for data on all transit operators and Chart 5 for a breakdown by year for AC Transit, BART, and Caltrain). For the three transit operators referenced in the Complaint, AC Transit receives the most funding from MTC in each of the four years. In fact, in fiscal year 2004/2005 AC Transit received more funding than BART and Caltrain combined. Cumulatively across all four years, AC Transit received \$484,156,098, which is approximately 97% of the funds allocated to BART and Caltrain for a combined total of \$498,680,238 in the four year period.

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Table 4

**Aggregate MTC Allocated Grants by Transit
Operator for Fiscal Years Ending 2003-2006**

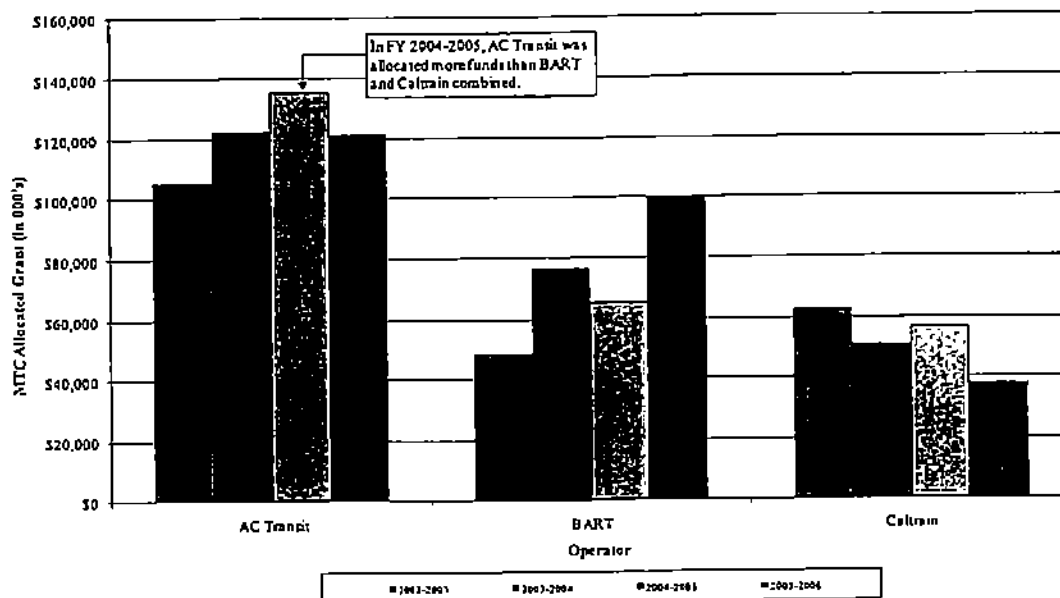
Operator	Aggregate Amount (\$)	Rank
S. F. Muni	\$640,068,679	1
AC Transit	\$484,156,098	2
VTA	\$459,524,716	3
BART	\$290,175,760	4
Caltrain	\$208,504,478	5
Sam Trans	\$152,478,147	6
GGBHTD	\$150,626,497	7
CCCTA	\$81,354,157	8
LAVTA	\$64,947,280	9
ECCTA	\$49,809,194	10
Vallejo Transit	\$38,640,485	11
Sonoma County Transit	\$37,286,594	12
City of Fairfield Transit	\$22,814,711	13
NCTPA/Napa Vine	\$20,661,862	14
Westcat	\$20,493,906	15
Santa Rosa Bus	\$12,535,616	16
Vacaville Transit	\$9,058,088	17
Union City Transit	\$6,309,652	18
San Joaquin Railroad Commission (ACE)	\$4,263,859	19
City of Alameda (Harbor Bay)	\$2,342,841	20
Marin County Transportation District	\$119,960	21
BART and Caltrain (Combined)	\$498,680,238	
TOTAL	\$2,756,172,580	

Source:
MTC Discretionary Funding Reports.

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Chart 5

MTC Allocated Grant by Operator by Year



Source: MTC Discretionary Funding Reports

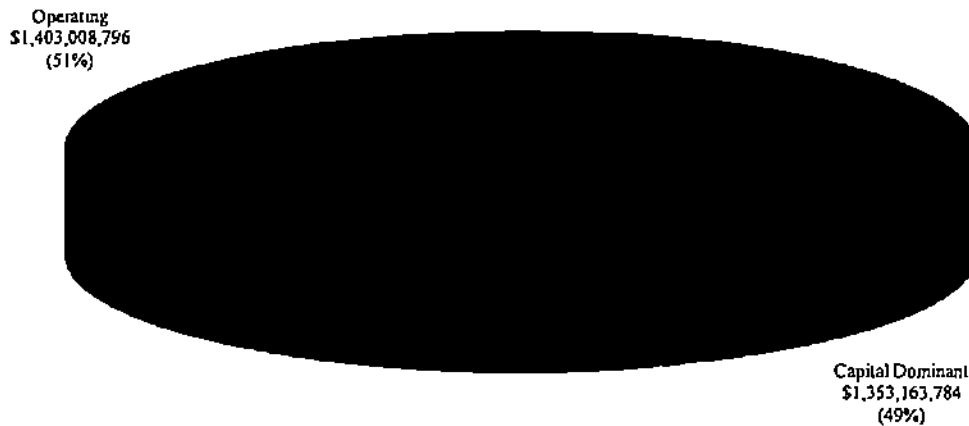
21) The funds under MTC's discretion are earmarked as either capital or operating funds. The Second Amended Complaint makes repeated reference to MTC's funding decisions to prefer capital intensive project that benefit predominantly white ridership in more affluent suburbs at the cost of poor transit riders.¹⁴ Based on documents provided to me by MTC and based on discussions held with MTC personnel, I divided the discretionary funds under MTC's control which are allocated among the operators as capital dominant and operating dominant. The following Chart 6 shows the overall breakdown of funds allocated to the transit operators displaying over \$1.40 billion dollars (51%) in operating funds and \$1.35 billion dollars (49%) in capital funds. This almost even split of allocation into capital and operating funds is in stark contrast to the allegations made in the Complaint.

¹⁴ Second Amended Complaint, November 1, 2007, p.1

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Chart 6

Total MTC Discretionary Funds Allocated to Transit Operators for
Fiscal Years Ending 2003-2006



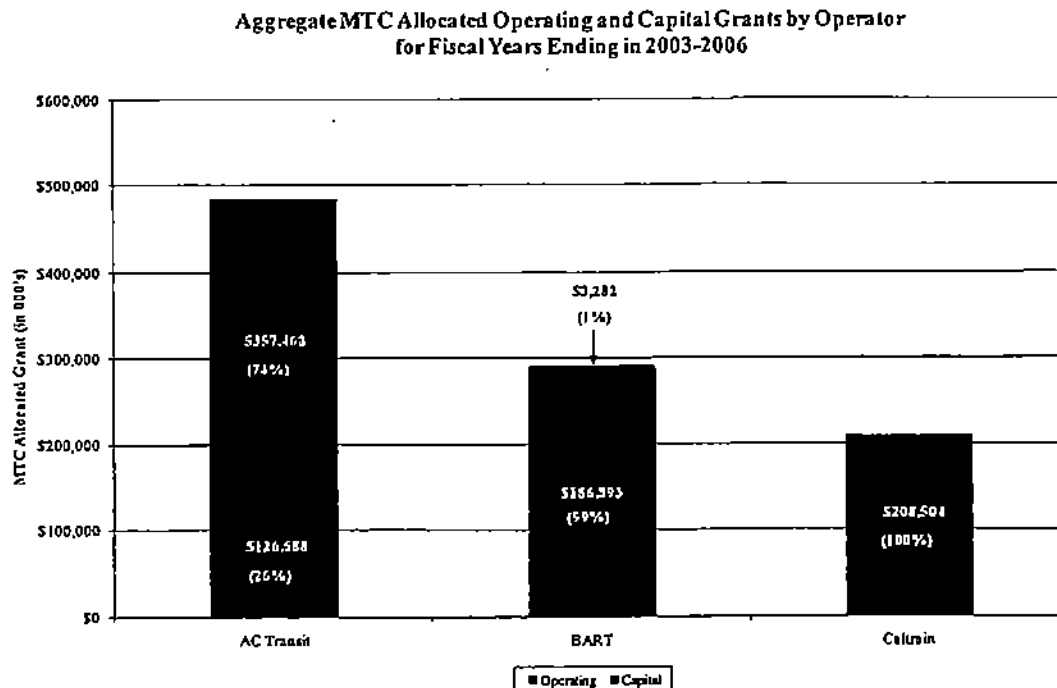
Sources: MTC Discretionary Funding Reports, Memo to MCAC/Partnership EJ Subcommittee, October 2006 (Bates #MTCEM010201)

22) The following Chart 7 displays the breakdown of funds into their capital and operating components for AC Transit, BART, and Caltrain. While it is true that both, BART and Caltrain receive larger total dollar amounts in capital funds they receive virtually no operating funds. AC Transit received both capital and operating funding as opposed to BART and Caltrain, which primarily received capital funding, and therefore must rely on other methods to self-sustain and to meet their operating needs. While the Second Amended Complaint asserts that MTC's alleged discriminatory funding practices favor capital funding at the cost of neglecting operating funding, the figures in Chart 7 prove the contrary. In the four year period from fiscal year 02/03 through fiscal year 05/06 AC Transit received more operating funding than both, BART and Caltrain received in capital funding. In fact, AC Transit's total operating funding in those four years equaled more than 70% the combined capital funding of BART and Caltrain.¹⁵

¹⁵ AC Transit's total operating funding of \$361,961 equals 75% of BART and Caltrain's combined capital funding of \$482,627.

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Chart 7



Sources: MTC Discretionary Funding Reports; Memo to MCAC/Partnership EJ Subcommittee, October 2006 (Bates #MTCEM010281)

23) The Complaint only focuses on AC Transit in comparison to BART and Caltrain. However, MTC's funding decisions cannot be analyzed for just those three transit operators. The funding decisions involve allocating a fixed amount of funds across all transit operators in a "zero-sum-game" which implies that money allocated to one system in a sense is "taken" away from all other transit operators. Additionally, there are no transit operators with 100% minority or 100% white ridership. Therefore, any funding decision would seemingly benefit some minority riders on transit operators while it would seemingly disadvantage other minority riders on other transit operators.

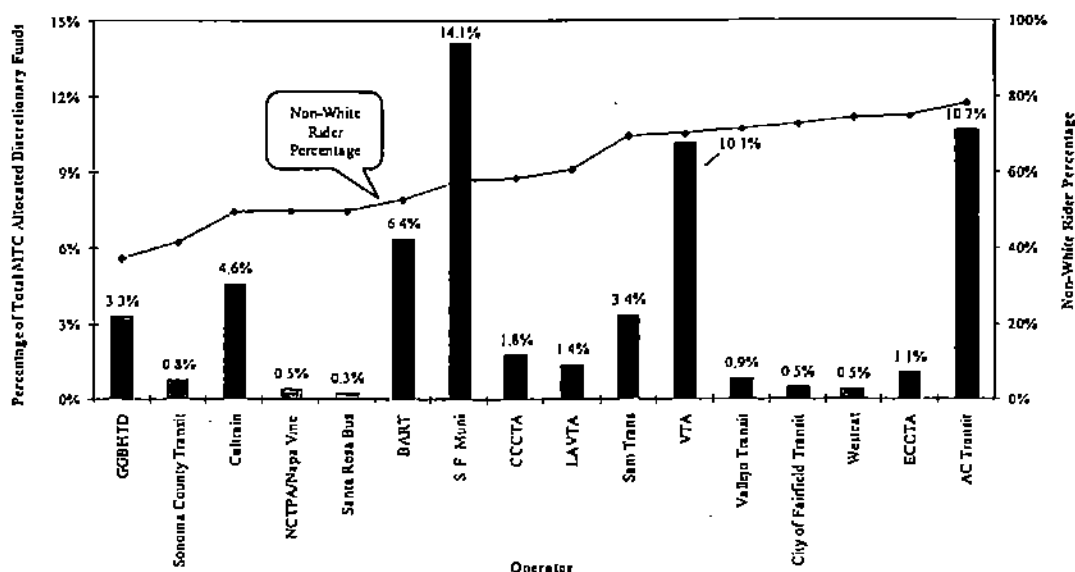
24) The following Chart 8 displays the percentages of non-white ridership on the right vertical axis and the funding for each transit system on the left vertical axis. In Chart 8 the funding is expressed as a percentage of total MTC funding across all transit operators. In Chart 8 the bars represent the funding figures and the diamonds connected by the line represent the non-white ridership. The data in the charts are

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sorted in ascending order of non-white rider percentage. As the line indicating non-white ridership steadily increases the bars representing the funding are literally “all over the place”. This implies that there is no trend of favoring funding for transit operators serving predominantly white ridership. In fact, the three operators with the highest funding, SF Muni, AC Transit, and VTA, all have higher minority ridership than BART and Caltrain.

Chart 8

Percentage of Total MTC Allocated Discretionary Funds for Fiscal Years Ending 2003-2006
& Non-White Rider Percentage by Transit Operator



Note: Analysis only includes transit operators that were allocated at least \$10 million over the period fiscal years ending 2003-2006.
Sources: 2006 MTC Transit Passenger Demographic Survey, MTC Discretionary Funding Reports, MTC Statistical Summaries of Bay Area Transit Operators

25) The Complaint seems to suggest a strong negative correlation between total funding and percentage of minority ridership, i.e., less funding for transit operators with larger minority ridership. However, looking at Chart 8 does not seem to lend visual support to this assertion. To validate this visual impression, I performed statistical correlation tests that indicate that there were no consistent trends and no statistically significant correlations between those two variables¹⁶ I performed additional statistical correlation tests indicating the following; first, there was a

¹⁶ The correlation coefficient between total funding and non-white percentage ridership is approximately 17% and it is statistically insignificant with a P-value of 0.467

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statistically significant correlation between total riders and total funding, i.e., transit operators with a larger ridership typically receive larger total funding.¹⁷ Second, there was no statistical correlation between percentage of minority riders and per capita funding across all transit operators.¹⁸ When comparing bus only operators¹⁹ the same lack of correlation between per capita funding and race can be observed.²⁰

- c. *The figures cited as "public subsidy per trip" in the Complaint cannot be substantiated by the data. In fact, numerous other statistics that provide evidence contrary to the assertion that AC Transit's riders receive the lowest funding.*

26) Plaintiffs utilized public subsidy figures to derive the conclusion that AC Transit received subsidies of \$2.78 per trip, BART \$6.14 per trip, and Caltrain \$13.79 per trip. This distribution of subsidy per trip across the three transit operators in conjunction with the percentage of minority riders (Plaintiff stated 40% for Caltrain, 57% for BART, and almost 80% for AC Transit) is the strongest quantitative evidence that plaintiffs provided as proof of MTC's alleged discriminatory funding practices. These figures are derived as a weighted average of publicly available NTD information.²¹ The use of total reported funds in the NTD is misleading because the total reported funds in the NTD represent all funds received by the transit operator which far exceed the discretionary funds allocated by MTC. Even when utilizing the referenced NTD sources I was not able to replicate the numbers of subsidy per trip presented in the Complaint.

27) To accurately reflect MTC's funding practices, I utilized the funding data from MTC's Discretionary reports for the fiscal years 2002/03 through 2005/06 to generate the following Chart 9 depicting total cumulative funding per passenger for

¹⁷ The correlation coefficient between total funding and total ridership is approximately 85% and it is statistically significant with a P-value of 0.000002 (statistical significance in excess of 99.99%)

¹⁸ The correlation coefficient between the percentage of minority riders and per capita funding is approximately -0.9% and it is statistically insignificant with a P-value of 0.970

¹⁹ Bus-only operators in this analysis include: AC Transit, CCCTA, City of Fairfield Transit, ECCTA, LAVTA, NCTPA/Napa Vine, Sam Trans, Santa Rosa Bus, Sonoma County Transit, Vacaville Transit, Union City Transit, and Westcat.

²⁰ The correlation coefficient between percentage of minority riders and per capita grants for bus-only agencies is approximately -26% and it is statistically insignificant with a P-value of 0.413

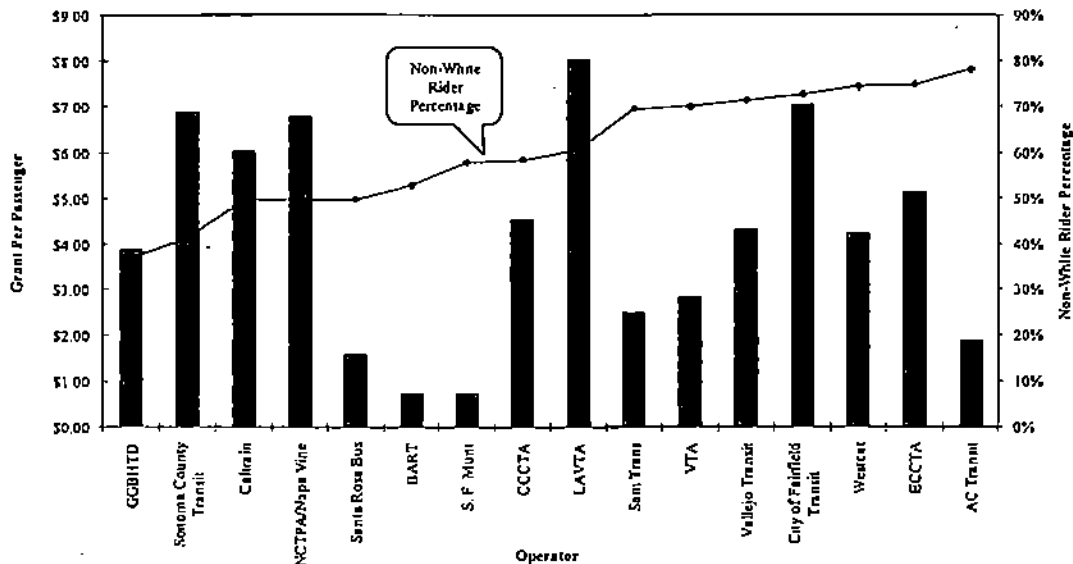
²¹ The NTD includes various funds that are not under MTC discretion and therefore cannot be reconciled to the MTC Discretionary reports.

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all transit operators in connection with the non-white ridership percentage for AC Transit, BART, and Caltrain.

Chart 9

Cumulative MTC Allocated Grant Per Passenger for Fiscal Years Ending 2003-2006
& Non-White Rider Percentage by Transit Operator



Note: Analysis only includes transit operators that were allocated at least \$10 million over the period fiscal year ending 2003-2006
Sources: 2006 MTC Transit Passenger Demographic Survey, MTC Discretionary Funding Reports, MTC Statistical Summaries of Bay Area Transit Operators

28) This chart clearly demonstrates the inaccurate figures on which Plaintiffs have based their allegations:

- AC Transit subsidy per passenger is \$1.87 using funds truly under MTC's discretion, where as plaintiffs utilized over-inclusive public subsidy figures to derive the conclusion that AC Transit received subsidies of \$2.78 per trip.
- BART subsidy per passenger is \$0.74 using funds truly under MTC's discretion, where as plaintiffs utilized over-inclusive public subsidy figures to derive the conclusion that BART received subsidies of \$6.14 per trip.
- Caltrain subsidy per passenger is \$6.07 using funds truly under MTC's discretion, where as plaintiffs utilized over-inclusive public subsidy figures to derive the conclusion that Caltrain received subsidies of \$13.79 per trip.

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29) In addition, there is a statistically significant negative correlation between the number of passengers and the subsidy per passenger²², i.e., the more passengers that ride on the transit operator the lower the funding per passenger trip; in fact a double-log regression analysis revealed that a 10% increase in passenger volume would result in a 3.1% decrease in funding per capita.²³ This finding can be interpreted as an indication that funding decisions are not made proportionally to passenger volume, which can be explained by larger effects of economies of scale for the larger transit systems. The incremental cost of moving 10% more passengers is smaller for larger systems and thus, the funding received decreases on a per capita or per trip basis. Based on this finding of productivity gains among the larger operators and thus, lower per capita funding it is not surprising to see a relatively lower per capita funding for the really large operators SF Muni, BART, and AC Transit.

30) It also has to be pointed out that the funding figures used to generate Chart 9 are comprised of total discretionary funding, including both capital and operating funds. In essence, operating and capital funds serve fundamentally different purposes. Operating funds have a short time horizon. They are utilized to finance day to day operations and are thus responsible to provide service on a daily basis. A dollar of operating funding in a given year typically has its full impact in that same year. Chart 9a below points to the fact that AC Transit received more short term funding to finance their day to day operations than either BART or Caltrain. In terms of operating funds, AC Transit receives \$1.40 per passenger, BART receives \$0.04 per passenger, and Caltrain receives \$0.03 per passenger.

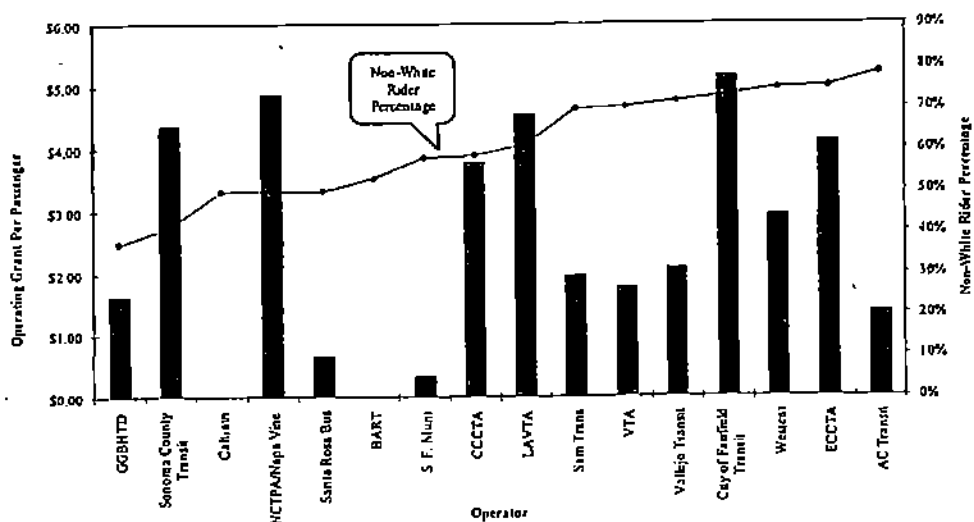
²² The correlation coefficient between the number of passenger trips and subsidy per trip is only approximately -38% and it is statistically significant at approximately 90% with a P-value of 0.102

²³ In a double-log model, the logarithm of both variables, subsidy per trip and total number of trips is taken. The regression algorithm is then applied to the logarithms of the variables resulting in a coefficient that can be interpreted as an elasticity, i.e., it quantifies the expected percentage change in subsidy per trip caused by a specific given percentage change in the number of trips.

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Chart 9a

Cumulative MTC Allocated Operating Grant Per Passenger for Fiscal Years
Ending 2003-2006 & Non-White Rider Percentage by Transit Operator



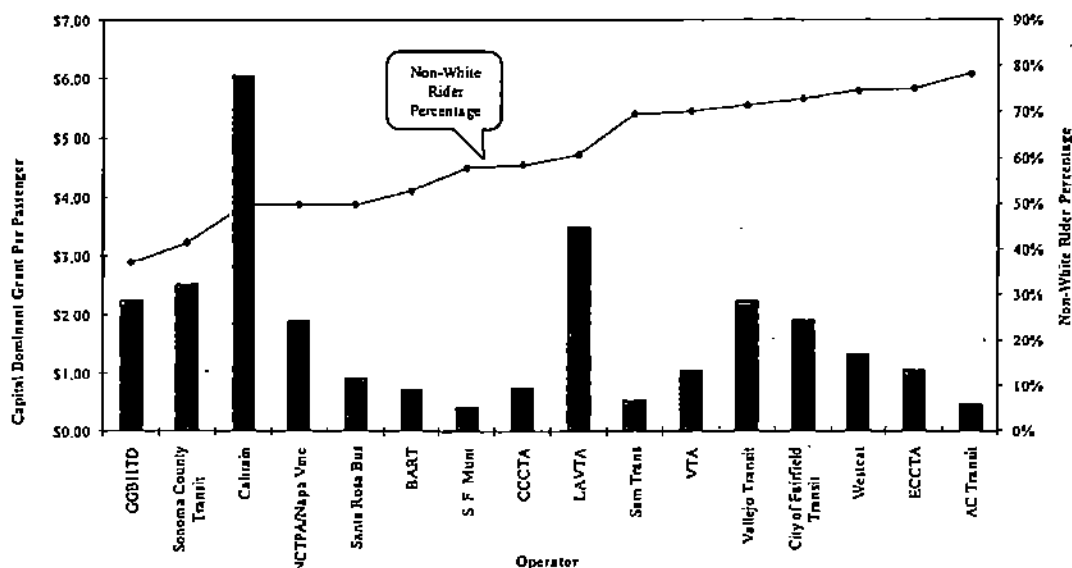
Note: Analysis only includes transit operators that were allocated at least \$10 million over the period fiscal years ending 2003-2006.
Sources: 2006 MTC Transit Passenger Demographic Survey; MTC Discretionary Funding Reports; MTC Statistical Summaries of Bay Area Transit Operators

31) Conversely, capital funds have a long term horizon. They are utilized to finance projects with life spans of sometimes decades which provide infrastructure and logistics to provide service in the long run. However, due to the way the data are recorded, the full amount of capital funding as booked in the year it has been released is shown regardless of the life time of the underlying investment. Because of the heavy capital investments necessary to build infrastructure to support a rail system, it is not surprising that rail only operators like BART and Caltrain's total funding per capita figures are skewed upward. Including capital investments like building rail lines for BART and Caltrain would be comparable to including the cost of building and maintaining roads and bridges that AC Transit utilize on a daily basis. However, these costs are not attributed to bus operators in general.

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Chart 9b

Cumulative MTC Allocated Capital Dominant Grant Per Passenger for Fiscal Years Ending 2003-2006 & Non-White Rider Percentage by Transit Operator



Note: Analysis only includes transit operators that were allocated at least \$10 million over the period fiscal year ending 2003-2006.
 Sources: 2006 MTC Transit Passenger Demographic Survey, MTC Discretionary Funding Reports, MTC Statistical Summaries of Bay Area Transit Operators.

32) Chart 9a and Chart 9b separate all funding received into funding from operating funds and capital dominant funds²⁴. In the years 2003 to 2006 Caltrain received no operating funding at all and BART only received approximately 1% of its total funding in operating funding. In contrast, AC Transit received approximately 74% in operating funding that flow directly into providing service to its riders on a daily basis which is strong evidence against the assertion in the complaint that MTC favors funding for capital intense projects of rail operators utilized by affluent white riders at the cost and expense of poor minority riders of AC Transit.

33) In the following paragraphs, I will discuss alternative ways of measuring the impact of discretionary funds allocated by MTC. As noted above, the per capita funding figures reflect funding per passenger trip. Chart 10 below demonstrates a

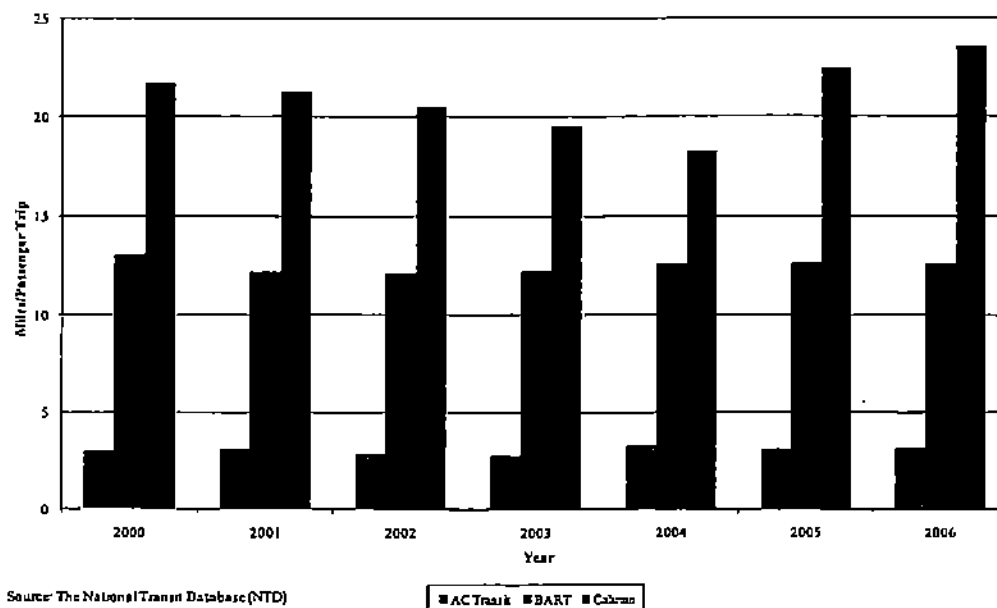
²⁴ Capital dominant funds include FTA Section 5307, FTA Section 5309, STP, RTIP, AB 644 Bridge Tolls, Bridge Tolls Ferryboat Capital 2% Funds, RM I Regional Rail Extension Reserves, and Regional Measure 1 Funds based on discussions held with MTC personnel.

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significant difference in the average trip length across the three transit operators referred to in the Complaint. The chart clearly shows that Caltrain passengers travel the largest distances, followed by BART and then AC Transit, respectively. Over a seven year span the average length of a trip on an AC Transit bus stayed fairly constant around 3 miles. The average trip length on BART stayed also fairly constant in the 12 and 13 mile range whereas there were larger fluctuations in the average trip length on Caltrain between 18 and 24 miles.

Chart 10

Average Length of Passenger Trip in Miles (2000-2006)

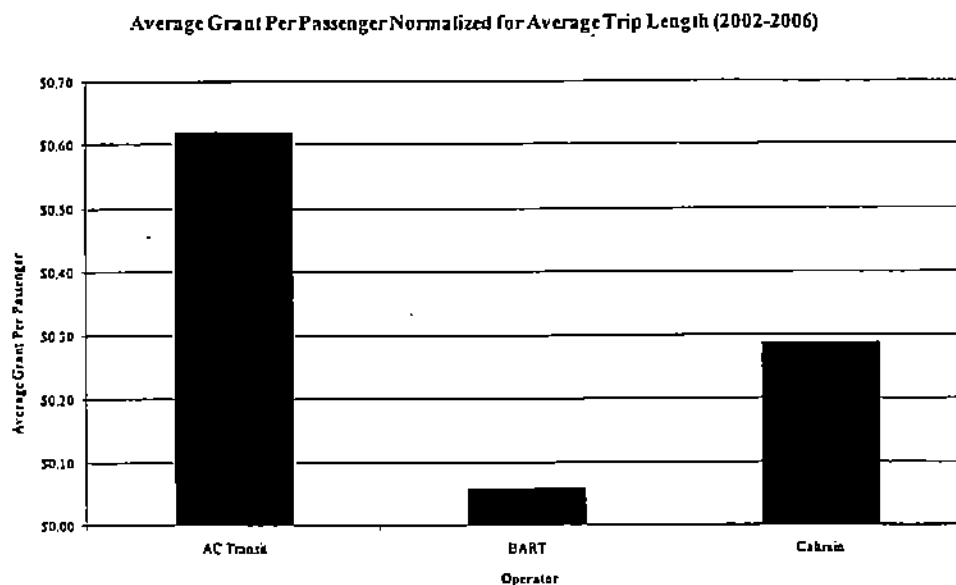


34) As can be seen in Chart 10, in 2006 for example, the average length per trip on BART is approximately four times larger than the average trip on AC Transit, and the one on Caltrain is approximately eight times larger than the average trip on AC Transit. Considering the large differences in miles traveled per trip any measure of funding per trip would have to include an adjustment for the length of the trip. Chart 12 shows the funding for each transit operator when normalizing the trip length to one mile and recalculating the funding for each passenger trip mile. Incorporating this

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adjustment into the funding per trip calculation has a dramatic impact on the results. Riders on AC Transit receive by far the highest funding per trip mile – more than double the funding for Caltrain riders and more than ten times the funding for BART riders.

Chart 11



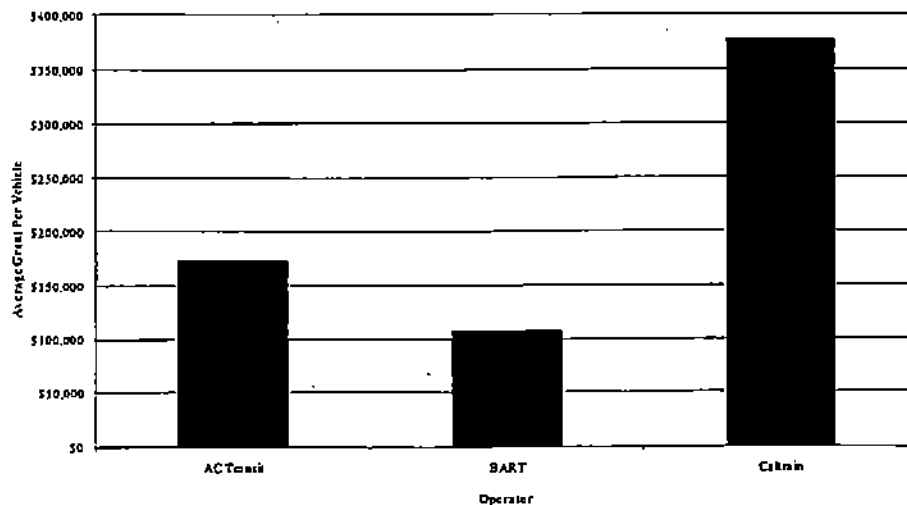
Source: MTC Discretionary Funding Reports, MTC Statistical Summaries of Bay Area Transit Operators, National Transit Database (NTD)
 Note: Due to the fact that data from Statistical Summaries and NTD is based on different fiscal years, an average grant per passenger for the fiscal year ending 2002-2006 was normalized by an average trip length for 2002-2006.

35) The next three measures take into account the actual fleet size of each of the transit operators. First, I will compute the average funding per vehicle in operation. For AC Transit all vehicles in operation were buses. For BART and Caltrain engines and train cars were counted as vehicles in operation. Chart 12 demonstrates that AC Transit's average funding per vehicle is larger than BART's funding, but smaller than Caltrain's funding.

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Chart 12

Average MTC Allocated Grant Per Vehicle for Fiscal Years Ending 2003-2006

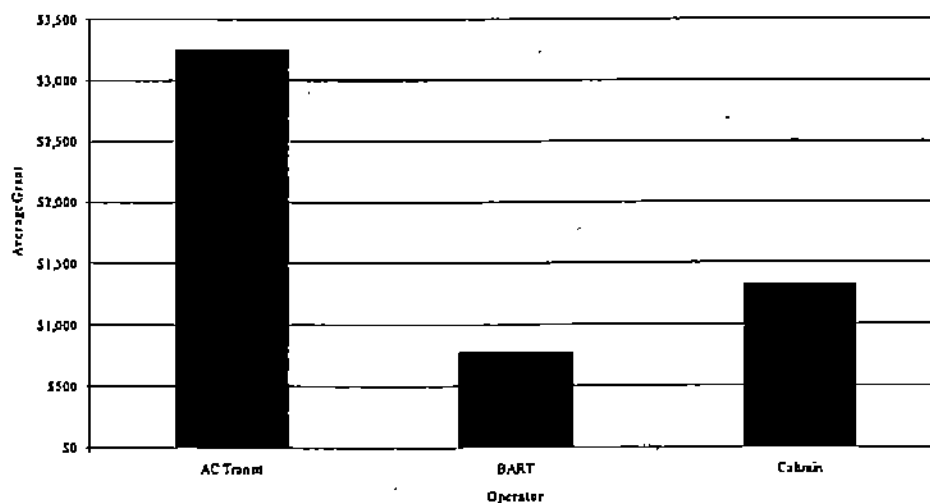


Sources: MTC Discretionary Funding Reports; MTC Statistical Summaries of Bay Area Transit Operators.
 Note: Fleet size for FY 2003-2004 was not available so an average of available data was taken.

36) Second, I take into consideration the average number of miles per vehicle in the fleet to compute the funding per revenue vehicle mile for each vehicle in the fleet. Chart 13 demonstrates that AC Transit receives the highest funding per revenue vehicle mile per vehicle.

Chart 13

Average MTC Allocated Grant Per Average Revenue Vehicle Mile for Each Vehicle in a Fleet for Fiscal Years Ending 2003-2006



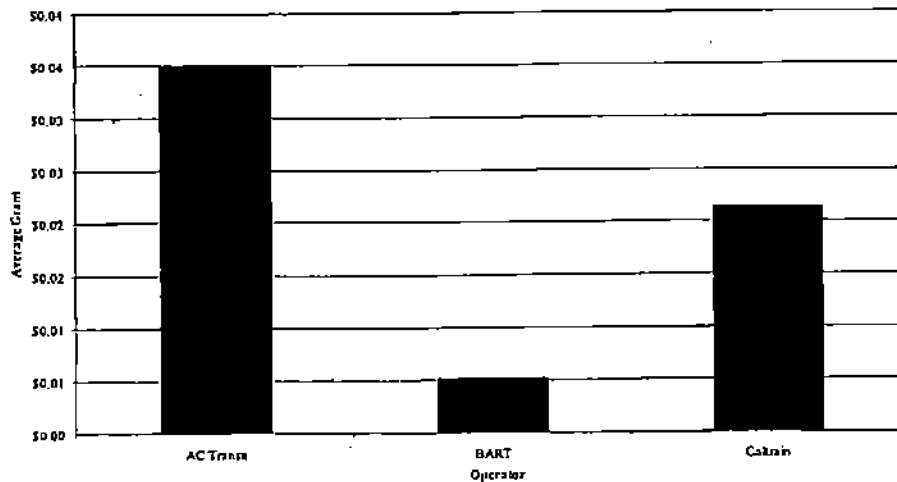
Sources: MTC Discretionary Funding Reports; MTC Statistical Summaries of Bay Area Transit Operators.
 Note: Fleet size for FY 2003-2004 was not available so an average of available data was taken.

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37) Third, I further compute the average funding for one vehicle in a transit operator's fleet to transport one passenger for one mile. Chart 14 depicts that funding for each passenger per vehicle traveling one revenue vehicle mile is much greater for AC Transit as compared to BART or Caltrain. It is almost double compared to Caltrain and almost quadruple compared to BART.

Chart 14

Average MTC Allocated Grant for One Vehicle in an Operator's Fleet to Transport One Passenger for One Mile for Fiscal Years Ending 2003-2006



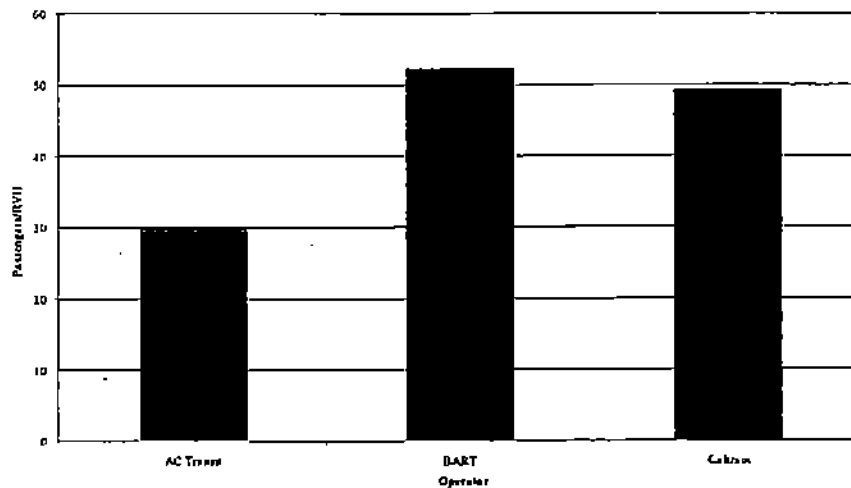
Sources: MTC Discretionary Funding Reports, MTC Statistical Summaries of Bay Area Transit Operations.
Note: Fleet size for FY 2003-2004 was not available so an average of available data was taken.

38) The next two measures take into account the hours of operation. Based on total passenger volume and total revenue hours I computed the average number of passengers transported per revenue vehicle hour. In this comparison as demonstrated in Chart 15, both BART and Caltrain move around 50 passengers per revenue vehicle hour where as AC Transit's average is around 30 passengers.

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Chart 15

Average Passengers Per Revenue Vehicle Hour (RVH) by Transit Operator
for Fiscal Years Ending 2003-2006

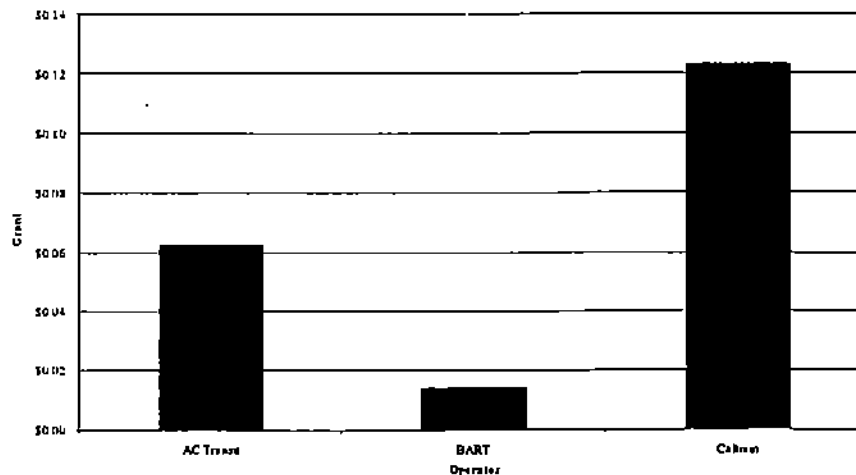


Source: MTC Statistical Summaries of Bay Area Transit Operations

39) Given the large differences in passengers per revenue vehicle hour I normalized average funding per trip by taking into account the number of passengers transported per revenue vehicle hour. The results of this analysis are displayed graphically in Chart 16. They indicate that AC Transit's average funding based on this methodology is approximately four times larger than BART and approximately half of Caltrain.

Chart 16

Average MTC Allocated Grant Per Passenger Normalized for Passengers Served in a
Revenue Vehicle Hour (RVH) for Fiscal Years Ending 2003-2006



Source: MTC Document: Funding Report: MTC Statistical Summaries of Bay Area Transit Operations

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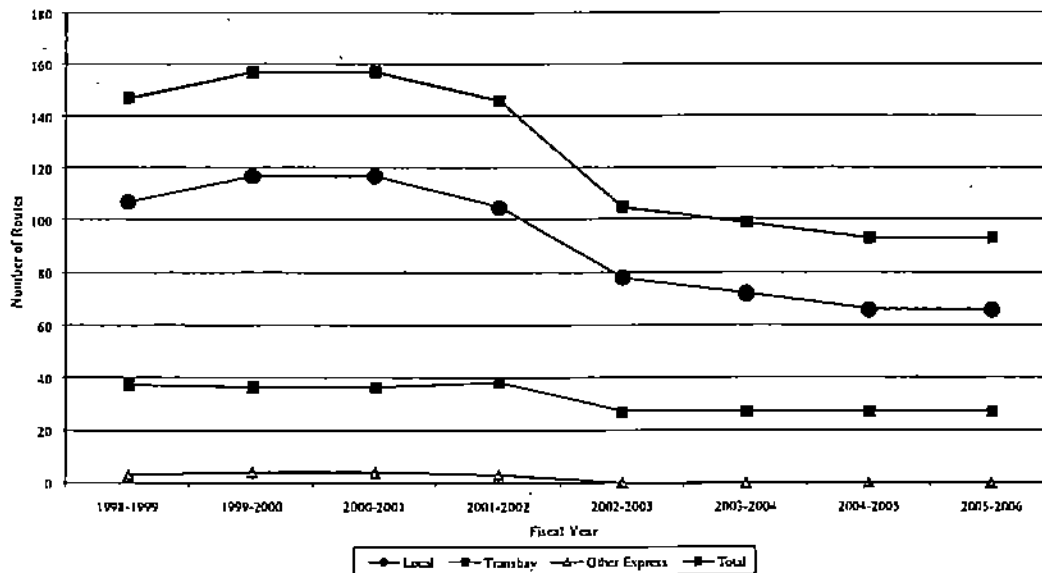
40) In summary, there are many different measures that can be used to analyze the funding received by the different transit operators. If there were pervasive discrimination against AC Transit, one would expect to see AC Transit ranking last in more than just one measure. However, my analysis demonstrates that in most instances, BART receives the lowest funding among the three transit operators and AC Transit receives the most funding relative to some of the measures considered.

- d. *AC Transit's statistics for passengers, revenue vehicle miles and revenue vehicle hours follow a general trend of all operators over a time period of over 11 years. In addition, the reduction in routes did not have a statistical significant impact on revenue vehicle miles and revenue vehicle hours.*

41) In this section, I will analyze the allegation in the Complaint that rail service has been increased at the cost of cutting AC Transit's service. Plaintiffs based their argument on the fact that the number of routes has decreased sharply over time as can be seen in Chart 17 below.

Chart 17

Number of AC Transit Routes (1998-2006)



Source: MTC Statistical Summaries of Bay Area Transit Operators.
 Note: Route data for FY 2003-2004 was not available, so an average of available data was taken.

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42) The sharp decrease in number of routes served by AC Transit is an undisputed fact. However, I did not have data to analyze whether the reduction in routes was caused by closing routes completely or by consolidating existing routes or a mix of both. In order to analyze the impact of a reduction in routes I analyzed changes of total passenger volume, revenue vehicle miles and revenue vehicle hours over an eleven year period for AC Transit.

43) I utilized regression analyses to answer the question of whether the reduction in routes had a statistically significant impact on total revenue vehicle miles, total revenue vehicle hours and overall passenger volume. In the three regression models, I utilized total revenue vehicle miles, total revenue vehicle hours, and overall passenger volume as dependent variables and the number of routes in operation as the independent variable. The two regressions for total revenue vehicle miles and revenue vehicle hours did not have statistically significant F statistic indicating that the independent variable has no explanatory power for the dependent variables, i.e., the number of routes does not have a statistically measurable impact on total revenue vehicle miles and total revenue vehicle hours. This implies that resources (vehicle miles and vehicle hours) were shifted from the closed or consolidated routes to existing routes. This substitution effect as proven by that the fact that there is no statistically significant reduction of revenue vehicle miles and revenue vehicle hours when reducing routes is important evidence against the allegations in the Complaint that MTC's funding decisions significantly reduced the quality and quantity of AC Transit's service.

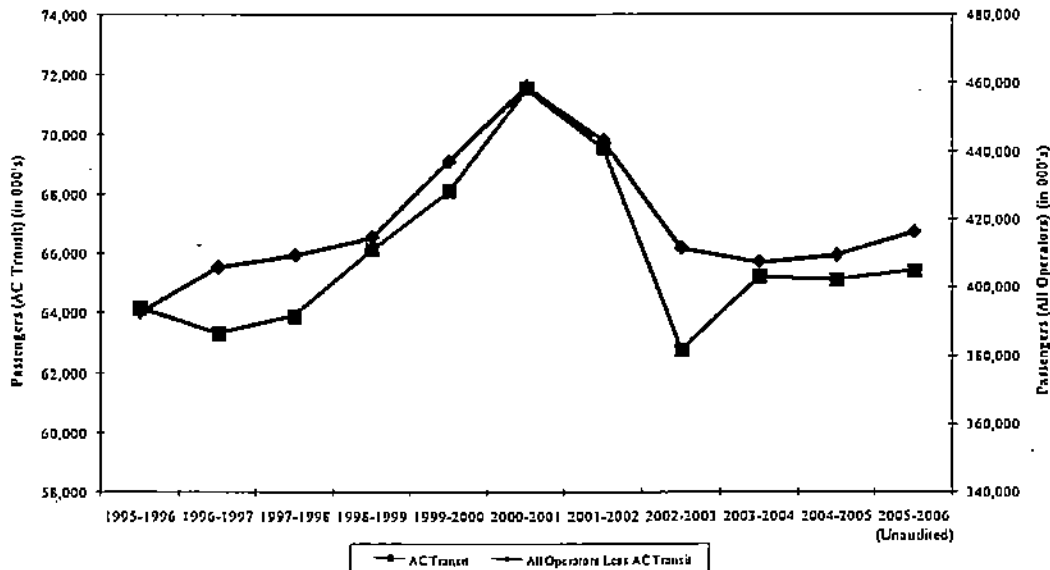
44) Next I considered data on overall passenger volume. As can be seen in Chart 18 the drop of passenger volume of AC Transit follows a general trend of decreased passenger volume for all Bay Area public transit operators between 2001 and 2004. The number of AC Transit routes dropped significantly in this period while revenue vehicle miles and revenue vehicles did not show any statistical correlation with the number of routes. However, passenger volume dropped significantly which implies

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that for a similar number of revenue vehicle hours and revenue vehicle miles fewer passengers utilized AC Transit.

Chart 18

Total AC Transit Passengers vs.
Total Aggregate Passengers of All Operators Less AC Transit



Source: MTC Statistical Summaries of Bay Area Transit Operators.

45) When comparing total passenger volume for AC Transit with all other transit operators, both time series display the same trend. The correlation coefficient between the two time series is 92.6% with a statistical significance level in excess of 99%.

46) Next, I obtained data for total revenue vehicle miles and for total revenue vehicle hours for AC Transit and all other transit operators in the time period from fiscal 1995/1996 to fiscal 2005/2006. Chart 20 and Chart 21 depict AC Transit's figures as compared to an aggregate total for all other operators. The two lines in Chart 19 and Chart 20 below move together very closely and follow the same general trend.

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Chart 19

Total AC Transit Revenue Vehicle Hours vs.
Total Aggregate Revenue Vehicle Hours of All Operators Less AC Transit

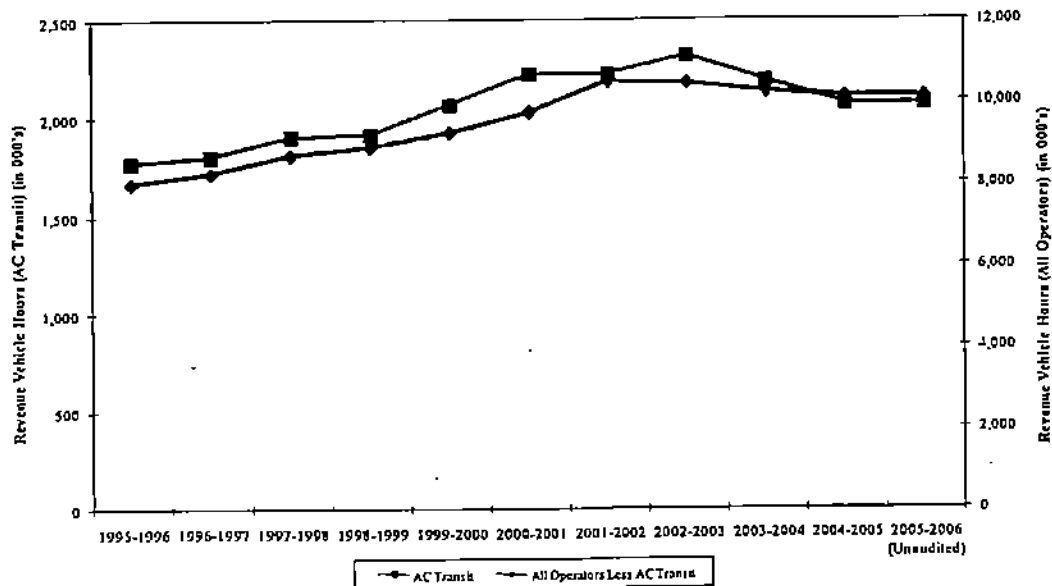
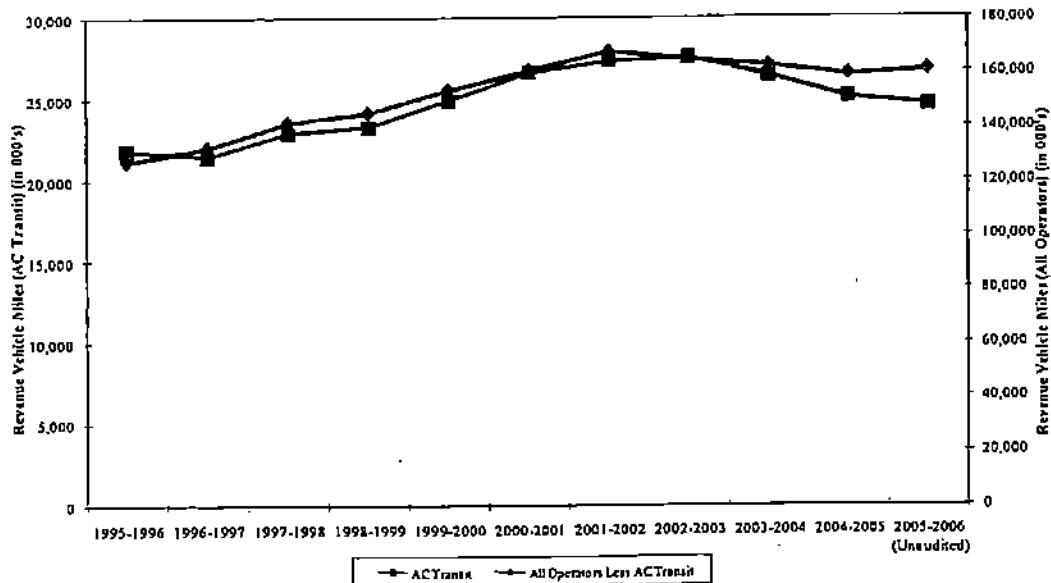


Chart 20

Total AC Transit Revenue Vehicle Miles vs.
Total Aggregate Revenue Vehicle Miles of All Operators Less AC Transit



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47) When comparing total revenue vehicle miles for AC Transit with all other transit operators, both time series display the same trend. The correlation coefficient between the two time series is 94.6% with a statistical significance level in excess of 99%. When comparing total revenue vehicle hours for AC Transit with all other transit operators, both time series display the same trend. The correlation coefficient between the two time series is 92.2% with a statistical significance level in excess of 99%.

- e. *The alleged "funding preference" conducted by MTC for capital intensive rail projects served the purpose of moving people from congested freeways onto public transportation. Additionally, BART routes served as a means to connect non-white riders to areas with more job opportunities and higher wages.*

48) As previously discussed, it is difficult to determine how plaintiffs allege that MTC conducts a "funding preference" for rail systems benefiting affluent white commuters at the cost of poor riders of color, when in fact AC Transit receives more funds than both BART and Caltrain. When considering funds as a whole or for just operating components, often times AC Transit receives more funding. Only when considering capital components alone, funding appears to provide BART and Caltrain with a larger capital amount. It is difficult to quantify and make true comparisons of benefit received when comparing two entirely different transit systems, the bus system as compared to a rail system. Larger capital expenditures are expected and needed to build the infrastructure for rails as opposed to bus systems that rely on bridges and roads that have been paid for by other means.

49) A brief review of opinions of experts in the field of public transportation seems to indicate consensus about the immeasurable benefits achieved by investing in new and maintaining existing rail systems to alleviate traffic congestion on freeways by providing incentives to move commuters from their cars into public transit systems. Below contains a few quotes highlighting these benefits.

- a. "... a disruption of the Bay Area Rapid Transit (BART) system would cause severe traffic problems on area roads. Without BART service,

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morning congestion on the Bay Bridge westbound would create backups stretching 26 miles with vehicles traveling as slowly as 9 miles per hour. In the afternoon, heading east, the Bay Bridge backup would stretch 31 miles with an average travel speed of 11 miles per hour. 'We found that the peak morning rush hour will go from two hours starting at 7 a.m. to a staggering seven hours, so half the workday would be gone by the time drivers step out of their cars,' said Michael Cassidy, UC Berkeley Professor of civil engineering and co-author of the report."²⁵

- b. "An interruption in BART service could trigger traffic gridlock throughout the Bay Area, according to a worst-case analysis by UC Berkeley researchers published last year...Commute times from Pittsburg to Interstate 80 via Highway 4 could jump to 165 minutes instead of the usual 30 minutes, while travel times from I-680 to Highway 13, via Highway 24, would go from 24 minutes to as high as 195 minutes, the report said."²⁶
- c. "Highway capacity expansion tends to reduce congestion during the short term, but this benefit declines over time, and the resulting generated traffic can increase other costs such as downstream congestion, accidents and pollution emissions. Transit benefits tend to be smaller in the short term, but increase over time. As a result, evaluation that focuses on short-term impacts tends to favor highway expansion, while those that take a longer-term perspective tend to favor transit improvements."²⁷
- d. "After the Loma Prieta earthquake in 1989, San Francisco's Bay Bridge was closed for a month. How did people get to work? On the BART

²⁵ Jorge Laval, Michael Cassidy and Juan-Carlos Herrera (2004), *Traffic Impact Analysis: Effects Of The Absence Of Bart Service On Major East Bay Corridors*, Institute of Transportation Studies, UC Berkeley (www.berkeley.edu).

²⁶ Kelly St. John, "Study shows BART strike would tie up Bay Area Traffic", June 29, 2005, San Francisco Chronicle

²⁷ Litman, Todd, *Evaluating Public Transit Benefits and Costs: Best Practices Guidebook*, (2008), Victoria Transport Policy Institute.

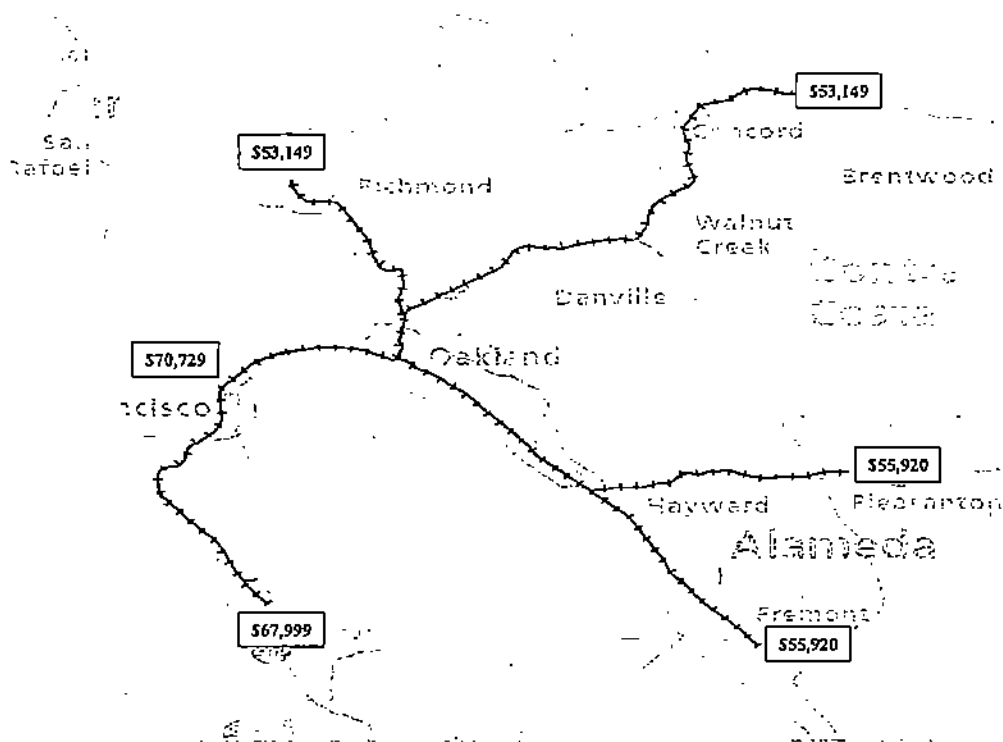
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Heavy Rail system. During the critical month, BART carried 75% of transbay commuters, up from 35% before the earthquake."²⁸

50) Additionally, both BART and Caltrain routes run through areas with a high minority population giving access of mobility to areas with potentially higher wages. I compared the average wages earned by county. As shown below, BART serves as a mechanism for which individuals who live in lower earning areas have easy access to areas that provide higher earning potential such as San Francisco and the San Mateo area. Chart 21 below shows the overlap of the counties served by BART as compared to annual 2006 salaries earned by county in the Bay Area as reported by the BLS.

Chart 21

**Average 2006 Salary in Bay Area Counties
Served by Bay Area Rapid Transit (BART)**



Sources: Bureau of Labor Statistics, 2006 data, MTC Summaries of Bay Area Transit Operators.

²⁸ *BART's Contributions to the Bay Area*, by The Sedway Group, prepared for the San Francisco Bay Area Rapid Transit District (BART), July, 1999, p. iii

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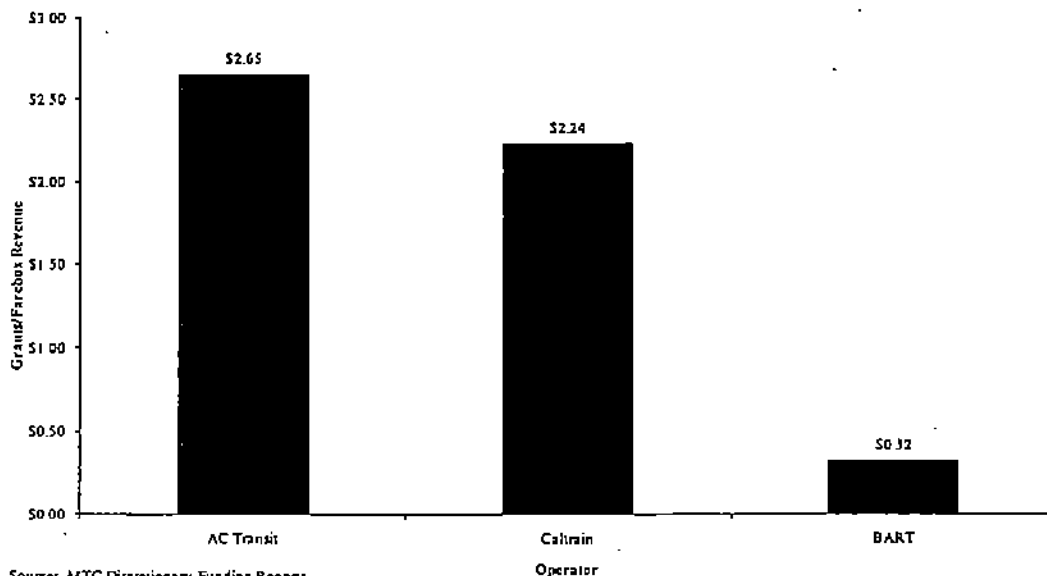
- f. *There is no evidence in the data that BART and Caltrain operate less cost effectively than AC Transit. In fact, the data show evidence to the contrary.*

51) Without providing any quantitative evidence, the Complaint boldly asserts that MTC shifts funds to transit operators that are less cost-efficient than AC Transit. In this section, I performed a statistical analysis of data that show evidence to the contrary.

52) First, I looked at the ratio of grants over farebox revenue. This ratio can be interpreted as a multiplier of funds needed to generate a dollar of farebox revenue. The lower the ratio, the more efficient use a transit operator makes of the funds provided in terms of farebox revenue generated. Chart 22 depicts the results of this analysis for AC Transit, BART and Caltrain as an aggregated figure for the four fiscal years from 02/03 to 05/06.

Chart 22

MTC Allocated Grants Over Farebox Revenue by Transit
Authority for Fiscal Years Ending 2003-2006

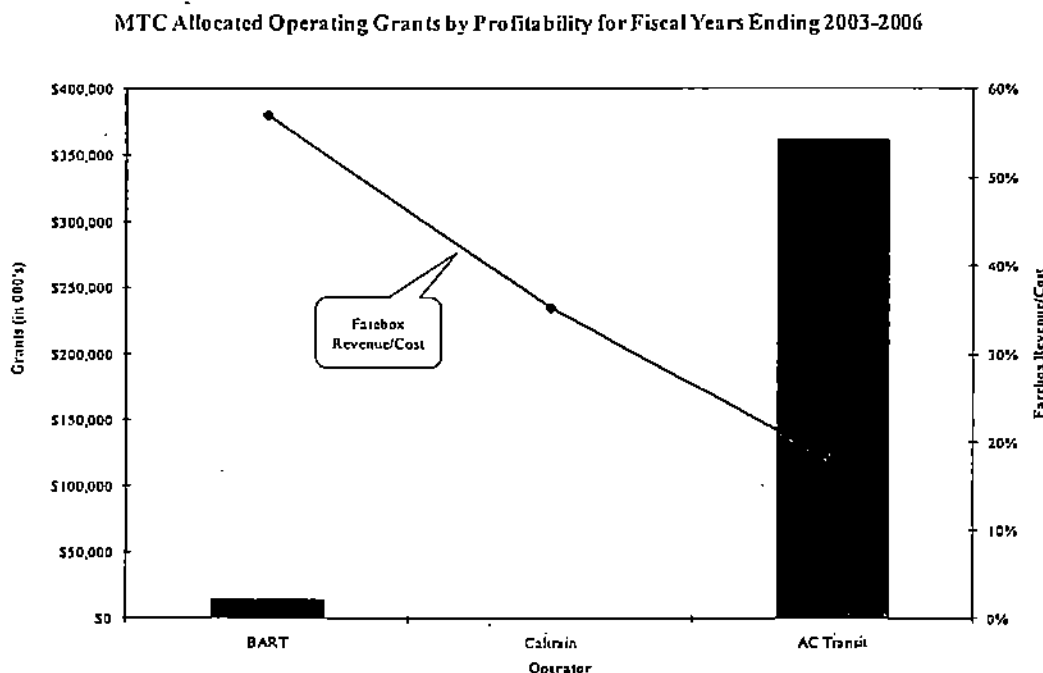


Sources: MTC Discretionary Funding Reports,
MTC Statistical Summaries of Bay Area Transit Operators

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53) Second, I computed the percentage of operating costs that is covered by farebox generated for the three transit operators. Chart 23 displays the cost recovery ratio together with the total operating funding received for the fiscal years 02/03 to 05/06. The left vertical axis in this chart measures total operating funding received and the right vertical axis measures the percentage of farebox revenue that covers operating cost. Even though AC Transit is the only operator with funding specifically designated for operating purposes its farebox to operating cost recovery ratio is by far the lowest.

Chart 23



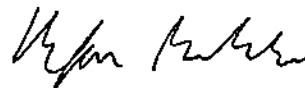
Sources: MTC Discretionary Funding Reports; MTC Statistical Summaries of Bay Area Transit Operators

54) Chart 23 indicates that AC Transit received the highest funding, yet has demonstrated the worst cost recovery ratio. AC Transit's cumulative cost recovery ratio of 18% indicates that riders on AC Transit only pay \$0.18 on every dollar of operating costs incurred. For an assumed ticket price of \$1.50, this can be interpreted as an implicit subsidy of approximately \$6.00 for that ticket.

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IV. Conclusion

55) In summary, my detailed and thorough analysis of publicly available data demonstrates that Plaintiff allegations are not supported. By using publicly available data, I have concluded that (a) Per capita funding figures are computed by dividing total funding and individual riders. Therefore, inferences based on percentage figures of minority ridership across transit operators can be significantly biased when instead absolute numbers of riders should be used. In fact, my analysis revealed that BART among other transit operators serves a larger number of minority riders and thus, funding to BART implicitly benefits a larger number of minority riders than AC Transit; (b) AC Transit received significant funds for both its operating and capital needs. In addition, MTC's allocation of funds benefited large numbers of minority riders on BART, Caltrain, and other transit operators. The data did not display a statistical correlation between race of ridership and funding; (c) The figures cited as "public subsidy per trip" in the Complaint cannot be substantiated by the data. In fact, numerous other statistics provide evidence contrary to the assertion that AC Transit's riders received the lowest funding; (d) AC Transit's statistics for passengers, revenue vehicle miles, and revenue vehicle hours followed a general trend consistent with all transit operators over a time period of over eleven years. In addition, the reduction in routes did not have a statistical significant impact on revenue vehicle miles and revenue vehicle hours, and thus quantity of service; (e) The alleged "funding preference" conducted by MTC for capital intensive rail projects served the purpose of moving people from congested freeways onto public transportation. Additionally, BART routes served as a means to connect non-white riders to areas with more job opportunities and higher wages; (f) There is no evidence in the data that BART and Caltrain operate less cost effectively than AC Transit. In fact, the data show evidence to the contrary.



STEFAN BOEDEKER
Los Angeles
February 1, 2008



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Exhibit A

Stefan Boedeker

Stefan Boedeker
Managing Director

Alvarez & Marsal

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Education

- BS in Statistics, University of Dortmund, Germany
- BA in Business Administration, University of Dortmund, Germany
- MS in Statistics, University of Dortmund, Germany
- MA in Economics, University of California, San Diego
- Met Ph.D. requirements except dissertation in Economics, University of California, San Diego

Professional Associations

- Member of the American Economic Association (AEA)
- Member of the American Statistical Association (ASA)
- Member of the Econometric Society
- Member of the Mathematical Association of America (MAA)
- In 2001 Stefan was a member of an AICPA task force dealing with Corporate Integrity Agreements (CIA). Stefan was responsible for issues related to statistical methodology utilized in CIA's.

Stefan is a Managing Director for Alvarez & Marsal where he focuses on the application of economic, statistical, and financial models to a variety of areas such as solutions to business issues, complex litigation cases, and economic impact studies. Stefan has assisted companies from multiple industries in the resolution of a variety of aspects related to securities class action disputes, including materiality assessment, class certification, liability analysis, and damages calculation. His expertise in litigation support covers all phases of securities class actions, from initial fact finding and liability assessment to expert opinion reporting and testimony.

Professional and Business History

- » LECG LLC, 2005-2007, Director
- » Navigant Consulting Inc., 2004-2005, Managing Director in Litigation and Investigation Practice
- » Deloitte & Touche LLP, 2003 - 2004, Leader of the Economic and Statistical Consulting Practice in the West Region
- » PricewaterhouseCoopers LLP, 2002 - 2003, Leader of the Litigation Consulting Group in Los Angeles, Leader of the Economic and Statistical Consulting Practice in the West Region
- » Andersen LLP, 1992- 2002 - Partner (since 2000), last position held: Director of Economic and Statistical Consulting practice in the Pacific Region
- » University of California, San Diego, 1989-1991 - Teaching Assistant, Department of Economics
- » German Government, 1986-1989 - Economic Research Assistant



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Professional and Business Experience

Representative Engagements

- » For a leading publicly-traded developer of enterprise management software, employed statistical approach to demonstrate the diversity of investment styles among proposed lead plaintiffs for a securities class action lawsuit alleging section 10b-5 violations and other claims. Employed an econometric approach to estimate potential damages for each lead plaintiff.
- » For a large software developer, Stefan performed statistical modeling to assist in a securities class action litigation involving allegations of improper revenue recognition, reserve allocations, financial statement disclosures and other accounting irregularities.
- » In numerous investigations about alleged stock option backdating Stefan developed and applied statistical methods analyzing financial data to evaluate the allegations. He also applied statistical sampling methodology in these cases.
- » In a class action race discrimination suit against the Alabama Department of Transportation, Stefan developed statistical regression models and tests to analyze the alleged discrimination.
- » For a vegetable seed company, Stefan performed rebuttal work of the plaintiff's expert's statistical analysis alleging age discrimination.
- » For a major aerospace company, Stefan performed statistical analyses to rebut allegations of age discrimination.
- » For a prestigious national not-for-profit organization, completed commissioned study to examine the actual trading activity of a number of diversified investors and compare it to alleged market price effects of claimed securities fraud (asserted in complaints) in order to determine the net impact of the particular diversified investors. Based on the study, made inferences about the impact on the broader community of diversified investors to determine to what extent shareholders in fact are paying themselves in class action settlements.
- » For a failed computer hardware company in defense of a 10b-5 securities litigation action, Stefan performed statistical analyses of accounting transactions, inventory and receivable reserves and the auditor's work papers in its evaluation of the allegations.
- » For a leading publicly-traded developer of enterprise management software, Stefan employed econometric time-series model to analyze allegations of insider trading and the timing of certain stock transactions relative to information available to officers in the company.
- » For a large mass merchandiser Stefan developed a document and data reconciliation tool and he developed a statistical sampling mechanism to proof compliance with a court ordered document retention procedures in the course of a wage and hour litigation.



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- » For a shareholder derivative action against a leading publicly-traded health care provider, employed an econometric approach to quantify potential damages per share due to alleged section 10b-5 violations and other claims. For the same matter, developed a multi-trader model to estimate the number of shares potentially damaged.
- » For a publicly-traded manufacturer of office supplies, developed a Black-Scholes application and utilized a binomial distribution probability methodology to evaluate the appropriateness of the size of a loan loss reserve related to a loan collateralized by the assets of an employee stock purchase plan.
- » In several Rule 10b(5) class actions, Stefan used the event study approach to calculate the value line of a security. In these cases Stefan applied complex and advanced one, two, and multi-trader models.
- » When heading up the Economics and Statistical consulting group at a Big Five Accounting Firm, Stefan directed numerous engagements in quantifying exposure in securities litigation cases where wrongdoing of the auditor was alleged.
- » For a video rental store chain Stefan developed sampling algorithms based on in-store security cameras to analyze time spent by assistant managers on exempt versus non-exempt activities.
- » For a large fast food chain Stefan directed a team collecting employee work information from restaurant locations in order to monitor and gain compliance in response to litigation
- » Stefan worked with a Fortune 500 bank in a class action suit to review the claims of managers that were misclassified and should have been paid overtime. To compute damages, Stefan reviewed the overtime records of employees in this position prior to a job classification change and, in the absence of overtime data after the job classification change, Stefan reviewed sign in and sign out times of the office building.
- » For a long-term care provider Stefan used data from timesheets, payroll, and other scheduling records to create comprehensive reports showing potential exposure for each of the claimed areas: timely wage payment, overtime wage payment, adequate daily meal and rest break periods, and travel time compensation.
- » For a maternity clothing store chain Stefan performed analyses related to exempt/non-exempt status issues for managers and assistant managers. Stefan also conducted a break time analysis for all employees.
- » For a commercial flooring contractor Stefan assessed the job duties and responsibilities of a group of supervisors. During the engagement, the scope of work expanded to include an analysis of misclassification and back-pay exposure for additional groups of employees.



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- » For a large meatpacker Stefan conducted a time and motion study to properly assess the duration of certain separately compensated activities to rebut allegations of violation of minimum wage laws.
- » For a public university housing department Stefan conducted an extensive time and motion study to identify the tasks (and associated time range to perform each task) related to processing a contract cancellation.
- » For a large drugstore chain Stefan used in-store cameras for the smaller stores and actual in-store observations for the larger stores to conduct a time motion study and quantify the time spent by assistant managers on certain pre-defined tasks.
- » For a large public storage company Stefan conducted a detailed time and motion study to determine the cost of collection and administration of late payments. Using both self-logging and independent review techniques, Stefan defined each step in the late payment process, calculated the cost to the company for such activities, and compared this cost to the late fees under dispute.
- » For a large retail chain Stefan conducted an extensive analysis of the company's compliance with break time rules and regulations and also the employees' usage and potential abuse of break time.
- » For a large mass merchandise retailer Stefan compiled a comprehensive database of punch clock data, payroll data, point of sales data, hardcopy information about manual edits of time entries, store security system data, etc. to analyze allegations of inserting breaks, deleting time and forcing employees to work after they clocked out.
- » In a gender discrimination case against a temporary employment agency, Stefan performed econometric analyses to disprove salary discrimination against two former female employees.
- » In a class action gender discrimination case against a large real estate brokerage firm, Stefan provided deposition testimony to class certification issues.
- » In a wrongful termination dispute of a regional property manager, Stefan utilized economic and statistical models to assess the allegations of economic loss due to the separation of employment.
- » For a patent infringement case on industrial orbital sanders, Stefan analyzed scenarios based on economic demand models and price elasticity calculations to determine past and future lost profits as well as price erosion.
- » In a copyright infringement case of used car evaluation guides, Stefan specified and estimated linear and non-linear regression models to determine the effect of the infringement of the copyright on sales over time.
- » In a merger of two warehouse chains, Stefan specified statistical tests and regression models to explain differences in inventory shortages.



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- » In a natural resource damage case, Stefan provided econometric analysis of property value loss due to proximity to a solid waste site utilizing hedonic regression models.
- » In a natural resource damage case, Stefan provided econometric analysis of property value loss due to proximity to a polluted river utilizing hedonic regression models.
- » For a case involving potential damage from a landfill in a state park, Stefan analyzed data about travel, tourism and park attendance. Stefan specified and estimated linear regression models and time series models to predict park attendance.
- » For a large U.S. food and beverage company, Stefan worked on an evaluation of intangible assets based on an econometric model comparing the demand of branded and private label products.
- » For a large healthcare corporation involved in the breast implant litigation, Stefan specified and estimated statistical models to quantify the expected contribution to a combined settlement pool. He also quantified potential liability in individual law suits by analyzing company specific production and profitability data combined with a study of the correlation between compensatory and punitive damages in similar law suits.
- » In a dispute over decline in returns for soybean futures, Stefan specified statistical models to predict cumulative returns.
- » In a class action case involving alleged diminution of property values due to ground-water contamination, Stefan specified and estimated hedonic regression models to show that other factors than the contamination contributed significantly to the loss in property value.
- » In a dispute between the State of Tennessee and a health plan, Stefan performed a statistical analysis of a sample of claims to test for overpayments.
- » For a patent infringement case on micro-motors, Stefan analyzed data of production and sales of goods that contain micro-motors and ran econometric regressions to determine price erosion.
- » For a film production company, Stefan specified statistical models to quantify the loss in expected box office revenue due to the breach of contract by a celebrity.
- » In a dispute between a union and a meatpacker over violation of state law with respect to fixed allowances for certain compensable activities, Stefan analyzed the union's damage claim and conducted an activity timing analysis.
- » Stefan designed and administered large-scale databases to reconstruct accounting records of a large financial institution's Corporate Trust Department. He developed statistical models to analyze bondholders' presentment behavior of Bearer bonds.



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- » In a dispute between the Department of Interior and individual Native Americans over mismanagement of individual trust accounts, Stefan performed a statistical analysis of an electronic database with approximately 60 million records in order to draw a statistically valid sample of accounts for further analysis.
- » In a variety of cases, Stefan assisted clients in the use of the Government approved statistical program RatStat to perform probe samples and the necessary extrapolations of repayments due to the Government in Medicare reimbursements disputes.
- » For a major health care provider, Stefan developed a benchmarking model to assess the exposure in a dispute with the Department of Justice regarding over-coding issues.
- » In a trademark infringement case of video equipment, Stefan calculated damages based on the defendant's unjust enrichment utilizing statistical time trend models.
- » For a major chemical company involved in a personal injury case, Stefan created and maintained a database containing damage award data about chemical industries. Stefan also specified pooled cross-sectional/time-series regression models to analyze the effects of punitive damage awards on job safety and new capital expenditure.
- » For a breach of contract case involving a production company over failed financing for a film, Stefan analyzed cost and revenue figures and estimated regression models to predict foreign box office revenues.
- » For a large financial institution's personal trust department, Stefan designed a random sample to estimate the potential exposure due to fee overcharges.
- » For a major health care provider, Stefan developed statistical sampling plans in the area of Home Health Care to assess the exposure in a DOJ investigation regarding medical necessity issues.
- » For a major health care provider, Stefan developed statistical sampling models and predictive models to answer questions about irregularities of Lab billings.
- » For a large homecare product provider, Stefan developed alternative stratified sampling models to address allegations of fraud.
- » In a provider's OIG self-disclosure relating to CPT coding issues, Stefan conducted statistical sampling reviews to prove that the errors were random in nature and did not constitute fraud.
- » For a major health care provider, Stefan developed statistical methods to assess the exposure in a DOJ investigation related to cost report reserve issues.
- » For a state's psychiatric hospitals, Stefan developed the statistical methodology in a billing dispute with HCFA about potential charge and billing problems.



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- » In a variety of cases, Stefan designed statistical random samples for an HMO to test the validity and reliability of electronic databases in a billing dispute with HCFA (now CMS).
- » For several County owned hospitals in San Diego County, Stefan conducted the statistical analysis for a self disclosure, and presented the results to the regional OIG office in Santa Ana, CA.
- » In a dispute between a major health care provider and private payor groups, Stefan developed statistical stratified sampling models to assess exposure across different contract types.
- » For a project analyzing data of billing overcharges of a chain of psychiatric hospitals, Stefan worked on a sample design and the estimation of the total amount of overcharges based on the sample.
- » For a major long distance carrier, Stefan developed a stratified random sample design to estimate the amount of disputed charge backs from a service provider.
- » In a dispute between a major long distance carrier and some of its supply vendors about overcharges on invoices, Stefan developed stratified random sample designs to quantify the overcharges.
- » For a project analyzing the extent of competition in the market segments of a pipeline company, Stefan analyzed price indices.
- » In an antitrust case involving high volume copiers, Stefan estimated the divisional cost of capital directly from divisional accounting time series using the capital asset pricing model.
- » In a major municipal bankruptcy, Stefan performed an analysis of financial time series data of yields and cost of borrowing for the portfolio and selected subsets thereof. He also developed statistical forecast models based on the pre-bankruptcy portfolio to predict interest earnings and expenses as well as daily cash flows for the post-bankruptcy period.
- » In a variety of cases, Stefan designed statistical random samples for HMO's to test the validity and reliability of electronic databases containing patient information. In a large variety of cases, Stefan rebutted expert reports utilizing economic theory or statistical techniques, in particular economic demand models, regression models and statistical sampling methods.

Non-Disputes

- » For a large law firm, Stefan performed a comprehensive statistical analysis of Los Angeles superior court jury verdicts over the last decade. The project tested the hypothesis of systematic bias in particular courthouses with respect to plaintiff-win probability, length of trial, length of deliberation, and dollar amounts awarded.



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- » For a project analyzing the extent of competition in the market segments of a pipeline company, Stefan estimated regression and Tobit-models to determine optimal bidding behavior for gas storage demand. He prepared testimony given in filings before the Federal Energy Regulatory Commission (FERC).
- » For the American Film Marketing Association, Stefan performed an economic impact study of the influence of the independent film producers and distributors on the U.S. economy in general, and the California economy in particular.
- » For the Arizona Tax Research Association, Stefan developed economic models to quantify the revenue impact of a proposed change of taxation in the construction sector in Arizona.
- » For a large entertainment client, Stefan developed statistical models to predict the return of video cassettes and DVDs.
- » For several clients in the retail industry, Stefan developed statistical models to estimate the liability of unredeemed gift certificates.
- » For a client in the restaurant business, Stefan developed statistical models to quantify the dollar amount of outstanding unredeemed gift certificates.
- » For a major hotel chain, Stefan developed statistical models to forecast the redemption of frequent traveler program points for tax purposes.
- » For a high profile e-commerce company, Stefan's team produced an interactive Business decision tool to forecast company growth and profitability. The interactive model allows the client, through the choice of a few fundamental inputs, to measure the simultaneous impact on all cost and revenue dimensions of the company, including real estate and equity participation.
- » For the Nevada Resort Association, Stefan quantified the economic impact of the gaming industry with special emphasis on the accelerated population growth in greater Las Vegas.
- » For the Los Angeles Unified School District, Stefan performed an economic study about the impact of different recycling programs.
- » For the Los Angeles County Department of Health Services, Stefan conducted a time and motion study to determine the time required to complete specific Medi-Cal eligibility and provider forms.
- » For a hotel property management company, Stefan analyzed customer data, and used data mining methods to develop predictive models for customer acquisition, retention, and attrition.
- » For large grocery store chains, Stefan analyzed the effectiveness of a frequent shopper card program utilizing data mining techniques. He also analyzed customer data to facilitate the introduction of one-to-one marketing tools.



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- » For a hotel property management company, Stefan developed a demand driven yield management system.
- » For a company providing self storage space, Stefan developed a demand driven price-setting strategy utilizing own- and cross-price elasticity regression models.
- » For a high-tech start-up with a unique service offering of new products, Stefan recommended product-pricing scenarios.
- » For a large international conglomerate, Stefan developed customized data mining techniques for the implementation within a customer knowledge management system.

Depositions

- » MRO Communications, Inc vs. American Telephone and Telegraph Company, United States District Court District of Nevada, Case No. -5-95-903-PMP, Deposition Testimony, September 26, 1996
- » Yolanda Aiello Harris, individually and on behalf of all others similarly situated; Jennifer Hopkins, individually and on behalf of others similarly situated; Shannon L. Bradley, individually and on behalf of others similarly situated, Plaintiffs, vs. CB Richard Ellis, Inc., a California corporation; CB Commercial INC., a California corporation; Defendants, Superior Court of California, County of San Diego, Case No. GIC 745044, Deposition Testimony, January 05, 2001.
- » State of Tennessee, ex rel., Douglas Sizemore, Petitioner vs. Xantus Healthplan of Tennessee, Inc., Chancery Court of Davidson County, Tennessee at Nashville, Case No 99-917-II, Deposition Testimony, October 11, 2001.
- » Howard Wright, Inc., a California corporation doing business as AppleOne Employment Services, Plaintiffs, vs. Olsen Staffing Services, Inc., a Delaware Corporation, Dagny Smith, an individual, Vicky Riechers, an individual, and Linda Shiftman, an individual, Defendants, Superior Court of the State of California for the County of Los Angeles, Case No. BC 200657, Deposition Testimony, December 7, 2001.
- » Sacred Heart Medical Center, et al., Plaintiffs, -vs- Department of Social and Health Services, and Dennis Braddock, the Secretary of the Department of Social and Health Services, Defendants, Superior Court of the State of Washington in and for the County of Thurston, No. 00-2-01898-1, Deposition Testimony, January 23, 2003.



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- » Patrick Bjorkquist individually and on behalf of all others similarly situated, Plaintiff, vs. Farmers Insurance Company of Washington, Defendant, in the Superior Court of the State of Washington for King County, Case No.: 02-2-11684-1 SEA, Deposition Testimony, November 3, 2003.
- » Diversified Property, a general partnership, Dora Saikhon Family Trust, and Nancy Saikhon Borrelli, an individual, Plaintiffs vs. Manufacturers Life Insurance (U.S.A.), a Michigan corporation, erroneously sued as Manufacturers Life Insurance Company, Inc., Defendants in the Superior Court of California, County of San Diego, Case No.: GIC 815128, Deposition Testimony on July 21, 2004.
- » Alan Powers, Plaintiff, vs. Laramar Group et al., Defendants in the United States District Court, Northern District of California, No. C-02-3755 SBA, Deposition Testimony on August 27, 2004.
- » Group Anesthesia Services, A Medical Group, Inc., Claimant, vs. American Medical Partners of North Carolina, Inc., etc., et al., Respondents, JAMS Arbitration, Reference No. 1100040919, Deposition Testimony on February 9, 2005.
- » Group Anesthesia Services, A Medical Group, Inc., Claimant, vs. American Medical Partners of North Carolina, Inc., etc., et al., Respondents, JAMS Arbitration, Reference No. 1100040919, Deposition Testimony on March 11, 2005.
- » Fujitsu v. Cirrus Logic et al., United States District Court, Northern District of California, San Jose Division, Case No. 02CV01627. Deposition Testimony on April 21, 22, 2005.
- » Goldman et al. v. RadioShack Corporation, United States District Court, Eastern District of Pennsylvania, Case No. 03 CV 0032, Deposition Testimony on May 18, 2005.
- » Perez et al. v. RadioShack Corporation, United States District Court, Northern District of Illinois, Eastern Division, Case No. 02-CV-7884, Deposition Testimony on December 13, 2005.
- » United States of America ex rel. A. Scott Pogue v. American Healthcorp Inc., Diabetes Treatment Centers of America Inc., et al., United States District Court, Middle District of Tennessee at Nashville, Civil No. 3-94-0515, Deposition Testimony on May 12, 2006.
- » School Districts' Alliance v. State of Washington, United States District Court, Eastern District of Thurston, Case No. 04-2-02000-7, Deposition Testimony on July 20, 2006.
- » Boca Raton Community Hospital, Inc., a Florida not-for-profit corporation d/b/a Boca Raton Community Hospital, on behalf of itself and on behalf of Class of all others similarly situated v. Tenet Healthcare Corp., a Nevada Corporation, United States District Court, Southern District of Florida, Miami Division, Case No. 05-80183-CIV-SEITZ/MCALILEY, Deposition Testimony on July 25, 2006.



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- » Boca Raton Community Hospital, Inc., a Florida not-for-profit corporation d/b/a Boca Raton Community Hospital, on behalf of itself and on behalf of Class of all others similarly situated v. Tenet Healthcare Corp., a Nevada Corporation, United States District Court, Southern District of Florida, Miami Division, Case No. 05-80183-CIV-SEITZ/MCALLEY, Deposition Testimony on October 13, 2006.
- » Louise Ogborn v. McDonald's Corporation et al., Commonwealth of Kentucky 55th Judicial District, Bullitt County Circuit Court, Case No. 04-CI-00769, Deposition Testimony on October 19, 2006.
- » Elise Davis v. Kohl's Department Stores, Inc. consolidated with Rosie Grindstaff v. Kohl's Department Stores, Inc., Superior Court of the State of California for County of Los Angeles Central District, Case No. BC 327426 (lead case) consolidated with Case No. BC 341954, Deposition Testimony on April 25, 2007.
- » Norman Utley, et al., v. MCI, Inc., MCI Worldcom Communications, Inc., and MCI Network Services, Inc., formerly known as MCI Worldcom Network Services, Inc., United States District Court, Northern District of Texas, Dallas Division, Civil Action No. 3:05 - CV- 0046 - K, Deposition Testimony on May 30, 2007.

Testimony

- » State of Tennessee, ex rel., Douglas Sizemore, Petitioner vs. Xantus Healthplan of Tennessee, Inc., Chancery Court of Davidson County, Tennessee at Nashville, Case No 99-917-II, Trial Testimony, October 16, 2001.
- » State of Tennessee, ex rel., Douglas Sizemore, Petitioner vs. Xantus Healthplan of Tennessee, Inc., Chancery Court of Davidson County, Tennessee at Nashville, Case No 99-917-II, Rebuttal Testimony, October 26, 2001.
- » Howard Wright, Inc., a California corporation doing business as AppleOne Employment Services, Plaintiffs, vs. Olsen Staffing Services, Inc., a Delaware Corporation, Dagny Smith, an individual, Vicky Riechers, an individual, and Linda Shiftman, an individual, Defendants, Superior Court of the State of California for the County of Los Angeles, Case No. BC 200657, Trial Testimony, March 4, 2002.
- » Columbia/HCA Healthcare Corporation - Billing Practices Litigation, United States District Court, Middle District of Tennessee, Nashville Division, Case No. 3-98-MDL-1227 on June 28, 2002.



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- » Sacred Heart Medical Center, et al., Plaintiffs v. Department of Social and Health Services, and Dennis Braddock, the Secretary of the Department of Social and Health Services, Defendants, Superior Court of the State of Washington in and for the County of Thurston, No. 00-2-01898-1, Testimony in Liability Trial, April 14, 2003.
- » Diversified Property, a general partnership, Dora Saikhon Family Trust, and Nancy Saikhon Borrelli, an individual, Plaintiffs v. Manufacturers Life Insurance (U.S.A.), a Michigan corporation, erroneously sued as Manufacturers Life Insurance Company, Inc., Defendants in the Superior Court of California, County of San Diego, Case No.: GIC 815128, Trial Testimony on October 25, 2004.
- » Bridgestone/Firestone North American Tire v. Sampo Japan Ins. Co. of America, United States District Court for the Middle District of Tennessee Nashville Division Civil Action NO. 3-02-1117, March 7, 2005
- » Group Anesthesia Services, A Medical Group, Inc., Claimant, vs. American Medical Partners of North Carolina, Inc., etc., et al., Respondents, JAMS Arbitration, Reference No. 1100040919, Arbitration Testimony on March 23, 2005.
- » Goldman et al. v. RadioShack Corporation, United States District Court, Eastern District of Pennsylvania, Case No. 03 CV 0032, Testimony in Liability Trial, on June 28, 29, 2005.
- » Goldman et al. v. RadioShack Corporation, United States District Court, Eastern District of Pennsylvania, Case No. 03 CV 0032, Rebuttal Testimony in Liability Trial, on July 5, 2005.
- » Mauna Loa Vacation Ownership LLP v. Accelerated Assets, LLP, United States District Court, District of Arizona, Case No. CIV 03-0846 PCT DGC Trial Testimony, on February 22, 2006.
- » School Districts' Alliance v. State of Washington, United States District Court, Eastern District of Thurston, Case No. 04-2-02000-7, Trial Testimony on November 13, 2006.

Publications

- » Boedeker, Stefan and Goetz Trenkler (2001) - "A Comparison of the Ridge and Iteration Estimator" - in: Econometric Studies: A Festschrift in Honour of Joachim Frohn (ed. by Ralph Friedmann, Lothar Kneueppel, and Helmut Luetkepohl), New Brunswick.

EXHIBIT B

Rebuttal Report of Stefan Boedeker

Darensburg et al. v. Metropolitan Transportation Commission
U.S. District Court
Northern District of California
Case No. C-05-1597-EDL
February 25, 2008

I. Introduction

A. Scope of Work

1) On February 1, 2008, I submitted an expert report ("the Expert Report") in the matter of *Darensburg et al. v. Metropolitan Transportation Commission* ("MTC"), Case No. C-05-1597-EDL. This matter arises from a Second Amended Complaint ("the Complaint") filed on November 1, 2007 by plaintiffs Sylvia Darensburg and Vivian Hain, on behalf of themselves and all others similarly situated; to bring a class action lawsuit on behalf of a class of Black, Hispanic, Asian, or Pacific Islander, and American Indian or Alaska native individuals who are patrons of AC Transit¹ against MTC alleging that MTC has historically engaged, and continues to engage, in a policy, pattern or practice of actions and omissions that have the purpose and effect of discriminating against poor transit riders of color in favor of white, suburban transit users, on the basis of their race and national origin.² My qualifications were previously stated in the Expert Report. My current Curriculum Vitae is attached as Exhibit A to my Rebuttal Report.

2) I have been retained by Defendant's counsel to review, analyze, and discuss the three expert reports (as further discussed below) submitted on behalf of the Plaintiffs in the above referenced matter. More specifically, in this rebuttal report, I will opine on Plaintiffs' experts' conclusions by contrasting them to results of statistical analyses derived from publicly available information. Further, I will test the validity of any quantitative analysis they may have or relied upon and/or performed in conjunction with forming their opinions.

¹ Stipulation and Order, December 10, 2007, p. 2

² Second Amended Complaint, November 1, 2007, p. 1

3) All of the facts and circumstances set forth in this report are known to me personally and I could and would testify competently to them if called to do so. My hourly billing rate for professional services for both, consulting work and expert testimony related to this case is \$550.

B. Additional Documents and Data Reviewed

4) On or around January 12, 2008, I received the reports of Dr. Richard Berk, Mr. Thomas Rubin and Dr. Thomas Sanchez, Plaintiffs' designated experts in this case as described below. I reviewed these reports while finalizing the work on my Expert Report. The information and opinions stated in this report are based on the litigation documents provided to me from *Darensburg v. MTC*; the sources of publicly available data I have previously cited in my Expert Report, a complete list of all documents considered is attached as Exhibit B; and my general expertise in the field of conducting economic impact studies and statistical analyses. I have relied upon the following items in addition to the publicly available data I analyzed in my Expert Report:

- a. *Expert Report of Richard Berk, January 9, 2008 and related Exhibits* - Provides opinions on whether policy and funding decisions adversely affect AC Transit and fall disproportionately on minorities.
- b. *Expert Report and Declaration of Thomas A. Rubin, January 11, 2008 and related Exhibits* - Provides opinions and analysis of MTC's funding, planning, legislative advocacy, and other decision-making policies and practices and their impact on the riders of AC Transit.
- c. *Expert Report of Prof. Thomas W. Sanchez, January 11, 2008 and related Exhibits* - Provides opinions on transportation planning principles and funding decisions for environmental justice and equity purposes.
- d. *MTC Regional Transportation Plans (RTPs) in the year 1994, 1998, 2001, and 2005* - These long-range planning documents specify a detailed set of investments and strategies used to maintain, manage and improve the surface transportation network in the nine-county San Francisco Bay Area. They also include a detailed analysis of each specific transit region within the Bay Area along with current and future transit projects within each region. Projections are generally forecasted from twenty to twenty-five years into the future.

C. Overview of Opinions

5) Based on my analysis of relevant data and documents reviewed, my opinions are as follows:

- a. Section II – Rebuttal of Dr. Berk’s report;
 - (i) Dr. Berk fails to follow established procedures to provide statistical evidence of disparate impact.
 - (ii) Dr. Berk fails to look at absolute numbers of minority riders when assessing adverse impact of funding decisions. Incorporating these figures shows that BART serves significantly more minority riders than AC Transit.
 - (iii) Dr. Berk looks at AC Transit’s internal minority percentages rather than at AC Transit’s share of all minority riders across AC Transit, BART, and Caltrain combined. A more appropriate analysis of all minorities across the three transit operators drops AC Transit’s share of minority riders to 38.7%.
- b. Section III – Rebuttal of Mr. Rubin’s report;
 - (i) The publicly available data do not support Mr. Rubin’s conclusion that MTC funds capital intensive projects at the cost of AC Transit.
 - (ii) In contrast to Mr. Rubin’s assertions that AC Transit is the sole “victim” of MTC’s funding practices, the 2001 and 2005 RTP data indicate projected operating deficits for several transit operators, some of them with larger projected operating deficits than AC Transit.
 - (iii) An analysis of annual MTC Discretionary Funding reports provides clear evidence that MTC’s operating funding from discretionary funds for AC Transit is significantly higher than for BART and Caltrain.
 - (iv) An analysis of transit operator specific data provides evidence that AC Transit’s operating shortfall can be attributed to AC Transit’s internal operational processes.
- c. Section IV – Rebuttal of Dr. Sanchez’s report;
 - (i) Dr. Sanchez draws many conclusions without providing any quantitative analysis to support his conclusions.
 - (ii) In the limited instances where Dr. Sanchez provides quantitative analysis, I have provided evidence that contradicts his conclusions and points out incorrect interpretation of the underlying data.

I. Rebuttal of Richard Berk's Expert Report

6) In the Expert Report of Richard Berk – January 9, 2008, Dr. Berk asserts that if MTC's policy and funding decisions adversely affected AC Transit they would disproportionately disadvantage minorities. Further, more minorities would be disadvantaged than at BART or Caltrain. In the following section, I will discuss the proper methodology to apply in adverse impact analysis and I will demonstrate how Dr. Berk's computations are based on some fundamental methodological flaws.

7) In essence, Dr. Berk's analysis does not show more than the fact that AC Transit has more minority riders than non-minority riders and a higher percentage of minority riders than BART and Caltrain. It does not show how many minority riders actually use AC Transit, BART or Caltrain. Nor does it provide any statistical proof of adverse impact from MTC's funding decisions on AC Transit's minority riders.

8) In order to put Dr. Berk's expert opinion into context, I will briefly discuss the typical use of statistical evidence in disparate impact cases. First, there has to be an identifiable action by the defendant in a case. This action could be a policy, a decision about business practices, promotions of a group of people, etc. Second, this action will then result in a measurable impact on a set of individuals which is defined as all individuals who are affected by the action. As an example of this, I will use allegations that women were not promoted within a company's sales department. These women would represent the protected class affected by the action for which all employees in that department would be the complete population. It is important to point out that the members of the protected class and the members of the comparison group have to comprise the entire universe of individuals. In addition, no individual can be a member of the protected class and a member of the comparison group at the same time.

9) Typically, it is Plaintiff's burden of proof to show that members of a protected class (e.g., racial minorities, females, etc.) have been adversely affected by the application of the action at issue. Referring to my example, let's assume that there were eight male and two female promotions in a department in a company with 50 male and 50 female employees. In this example, one would have to decide whether eight male and two female promotions

among 50 male and 50 female employees created a disparate impact for the female employees.

10) Next, a statistical methodology would have to be applied to decide whether the action had a disparate impact. In my example, the question arises whether promotion decisions had negatively impacted members of the protected class (female employees). The most commonly used statistical methodology to answer this question is the computation of selection rates or proportions. The standard statistical method is to use the test for equality of two proportions. This type of statistical test provides decision criteria to answer the question whether the observed outcome of the action at hand (e.g., promotion of males and females) happened by chance alone or was due to some discriminatory selection criteria. In this example, 2 of 50 females were promoted while 8 of 50 males were promoted. The usual statistical test for equality of proportions is highly significant and indicates statistical evidence for a disparate impact of the promotion process on female employees. In addition, the female promotion rate of 4% (2 of 50) is only a quarter (or 25%) of the male promotion rate of 16% (8 of 50). This is less than the 80% guideline³ indicating further evidence of a disparate impact of the promotion process on female employees.⁴

11) I will now apply the methodology described above to the case at hand. The identifiable action by the defendant in this case is MTC's actual allocation of funds to the different transit operators. The transit operators themselves are not parties to this case. Implicitly, the allocation of funds benefits the riders on the systems provided by the different transit operators. The plaintiffs in this case are defined as riders of color on AC Transit. Since MTC allocates funds from a more or less fixed pool of money across more than twenty transit operators, any analysis of disparate impact cannot focus on a small subset of transit operators.

³ Adverse impact and the "four-fifths rule"- A selection rate for any race, sex, or ethnic group which is less than four-fifths (4/5) (or eighty percent) of the rate for the group with the highest rate will generally be regarded by the Federal enforcement agencies as evidence of adverse impact, while a greater than four-fifths rate will generally not be regarded by Federal enforcement agencies as evidence of adverse impact, (http://www.dol.gov/dol/allcfr/title_41/Part_60-3/41CFR60-3.4.htm).

⁴ For example, if the promotion rate of the protected class is at least 80% of the promotion rate of the non-protected group, then this will generally not be regarded as evidence of disparate impact.

12) Considering the definition of the class and the universe of all individuals impacted by MTC's funding decision, several major flaws in Dr. Berk's purported statistical proof of adverse impact become immediately clear without even analyzing his computations:

- a. The class is defined as all minority riders on AC Transit. MTC's funding decisions impact all riders on all transit operators. Therefore, the comparison group should be defined as all riders on all other transit systems as well as the non-minority riders on AC Transit. However, Dr. Berk's purported statistical proof focuses on minority rider percentages for just two other operators, BART and Caltrain.
- b. Dr. Berk does not measure the outcome of the action (i.e., MTC's funding decisions) that he attempts to prove to have an adverse impact on the plaintiffs.
- c. Dr. Berk does not take into account that a minority rider using AC Transit may also be a user of one or more other transit operators, and thus be a member of the protected class as well as the comparison group. As previously stated, no individual can be a member of the protected class and a member of the comparison group at the same time.
- d. Dr. Berk does not take into account that non-minority riders on AC Transit face the exact same impact of MTC's funding decisions as their minority counterparts.
- e. Dr. Berk fails to define a meaningful proportion which would enable him to apply a statistical significance test to test the hypothesis of disparate impact.

13) Besides these fundamental methodological flaws in Dr. Berk's analysis, there are also several shortcomings in his actual computations which I will discuss in the following paragraphs.

A. Rebuttal to Berk's Opinion:

"Any policy or funding decisions adversely affecting AC Transit services would disproportionately affect minority riders because minorities constitute far more than half of all AC Transit riders. It is also apparent that adverse policies or funding decisions affecting AC Transit would burden its minority riders more than adverse policies or funding decisions affecting BART or Caltrain would burden their minority riders. The reason is that AC Transit riders are substantially more likely to be minorities than riders of BART or Caltrain." (Berk ¶3)

14) In his report, Dr. Berk analyzed the results of the 2006 MTC Transit Passenger Demographic Survey. Depending on how respondents with "Other" or "DK/NA" answers

were counted, the survey indicated that either approximately 68% or 78% of AC Transit riders surveyed were minority riders. In a true random sample it is possible to extrapolate the sample results back to the universe from which the sample was drawn. Statisticians choose a confidence level (i.e., how likely is it that the results of a specific sample would be observed in repeated samples) and then calculate a margin of error for the extrapolations of the sample results to the universe.

15) Dr. Berk determined the margin of error to be $\pm 3\%$. However, he used the two-point estimates of 68% and 78% for his calculations of the upper and lower limit. From a statistical point of view, a lower limit would be defined as the point estimate minus the margin of error and the upper limit would be defined as the point estimate plus the margin of error. In Dr. Berk's case of two different point estimates, the correct statistical lower limit would be defined as the lower point estimate minus the margin of error and the correct statistical upper limit would be defined as the larger point estimate plus the margin of error. The application of the correct lower and upper limits would yield an estimate of the percentage of AC Transit's minority riders somewhere between 65% and 81% (i.e., $68\% - 3\%$ and $78\% + 3\%$). Applying the corrected upper and lower limits increases the range from 10% ($78\% - 68\%$) to 16% ($81\% - 65\%$), which constitutes an increase of 60% in variation. Dr. Berk used his computations to conclude that AC Transit has more minority riders in any given week than non-minority riders and that an AC Transit rider is 2.1 to 3.5 times more likely to be a minority rider. In comparison, the percentage of minority riders using BART is estimated between 48% and 54% and Caltrain between 48% and 51%. Applying the same margin of error would translate into a range of minority riders between 45% and 57% for BART and 45% to 54% for Caltrain.⁵

16) Based on total estimated riders per week,⁶ Dr. Berk continued to estimate the total number of minority riders for AC Transit. Considering the approximately 944,000 weekly riders on AC Transit and assuming the margins of error from Dr. Berk's analysis, there are anywhere between 614,000 and 765,000 minority riders using AC Transit in every given week. However, in his comparison with BART and Caltrain, Dr. Berk failed to compute the

⁵ Figures presented are as stated from the Expert Report of Dr. Berk – January 9, 2008, p. 2-3

⁶ Average Weekly Ridership is defined as the "total number of weekday and weekend riders for each transit system during an average week," 2006 MTC Transit Passenger Demographic Survey – Technical Report #3b dated April 13, 2007.

total number of minority riders for those two operators which would have shown that BART served a much larger number of minority riders.

17) For comparative purposes, I applied my corrections to Dr. Berk's methodology⁷ and the same data source to BART and Caltrain. When I applied the lower and upper limits for BART minority riders from Paragraph 16, there were approximately 1,959,000 weekly riders, with a weekly range of 882,000 and 1,117,000 minority riders. Likewise, when I applied the same analysis for Caltrain, there were approximately 176,000 weekly riders, with a weekly range of 79,000 and 95,000 minority riders.

18) Looking at a transit operator's ridership alone and using its ratio of minority riders when assessing adverse impact of funding decisions is flawed because it does not take into account how many actual riders were impacted. The correct method to assess adverse impact would have to identify all minority riders within the comparison group (for which Dr. Berk selected AC Transit, BART and Caltrain). The total estimated weekly ridership for this population came to approximately 3,080,000. Using the upper limit estimates for minority riders on the three operators resulted in an estimated 1,977,000 weekly minority riders, which placed BART's share of weekly minority riders at approximately 56.5%, AC Transit's at approximately 38.7%, and Caltrain's at approximately 4.8%.

19) In summary, a more appropriate extrapolation of Dr. Berk's own methodology shows that BART, not AC Transit, serves the majority of minority riders. Clearly, any funding decision that would adversely impact minority riders would therefore have the largest negative impact on BART who serves more minority riders than AC Transit.

II. Rebuttal of Thomas A. Rubin's Expert Report and Declaration

20) In the Expert Report and Declaration of Thomas A. Rubin – January 11, 2008, Mr. Rubin provides his opinions and analysis of MTC funding, planning, legislative advocacy, and other decision-making policies and practices and their impact on the riders of AC Transit. In the following section, I will present certain opinions expressed by Mr. Rubin;

⁷ I applied the margin of error to obtain correct statistical lower and upper limits for the percentage of minority riders. Next, I computed estimates of absolute minority riders by multiplying percentages of minority ridership with the estimated weekly total riders from the *2006 MTC Transit Passenger Demographic Survey: Technical Report #3b*.

counter his opinions using the same data sources he relied upon; and provide quantitative evidence from additional historical sources that also contradict his opinions.

A. Rebuttal to Rubin's Opinion:

"MTC prioritizes the capital needs of transit operators within its jurisdiction over their operating needs." (Rubin ¶12)

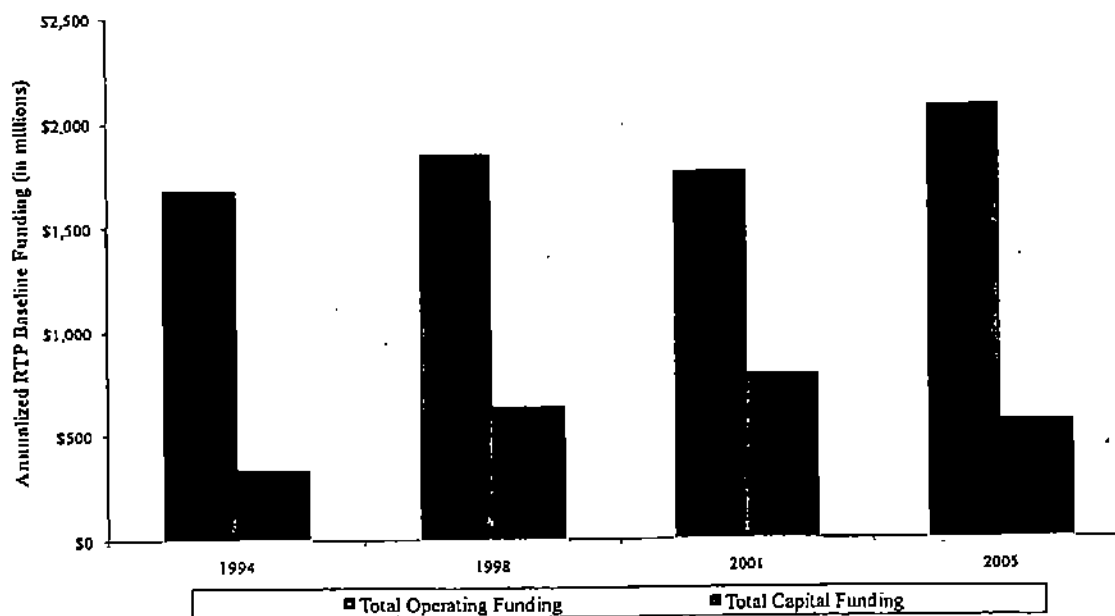
21) Mr. Rubin based his opinions on the analysis of data from projected long-term (20 and 25 year) Regional Transportation Plans ("RTP") which are updated periodically to reflect changes in funding needs for the different transit operators as well as changes in long-term transportation patterns in the nine-county area. It is of utmost importance to consider the fact that the RTPs are long-term projections attempting to assess future funding needs with potential funding sources. The financial data in the RTPs do not reflect actual funding under MTC's discretion. In order to analyze the impact of actual funding, other data sources such as the annual MTC Discretionary Funding reports have to be analyzed. Mr. Rubin does not attempt to support his opinions with data from these reports. Therefore, his opinions and conclusions are not based on any actual historical funding data.

Critique of Rubin - Projected RTP Data

22) A closer look at the underlying data for each RTP reveals evidence contrary to Mr. Rubin's opinion. In Chart 1 below, I compare total annualized projected RTP operating and capital funding. Projected operating funding across all transit operators is greater than capital funding in each of the last four RTPs (1994, 1998, 2001, and 2005). In fact, projected operating funding as a percentage of projected total funding always represents a larger portion of projected total funding; shown as 83.3% in the 1994 RTP, 74.3% in the 1998 RTP, 69.1% in the 2001 RTP and 78.6% in the 2005 RTP.

Chart 1

**Bay Area Regional Transportation Plan Annualized Baseline Operating
and Capital Funding Projections for 1994, 1998, 2001 and 2005**



Notes:

1) Annualized figures represent 25-year projected figures divided by 25 for 2001 and 2005 RTPs and 20-year projected figures divided by 20 for 1994 and 1998 RTPs.
 2) MTC reported dollar amounts differently for each of the RTPs. For 1994 and 1998 RTPs projected revenues/costs are adjusted to year-of-expenditure dollars. The 2001 and 2005 RTPs reported all projected revenues/costs as though they were incurred in 2000 and 2004, respectively, and did not account for inflation.

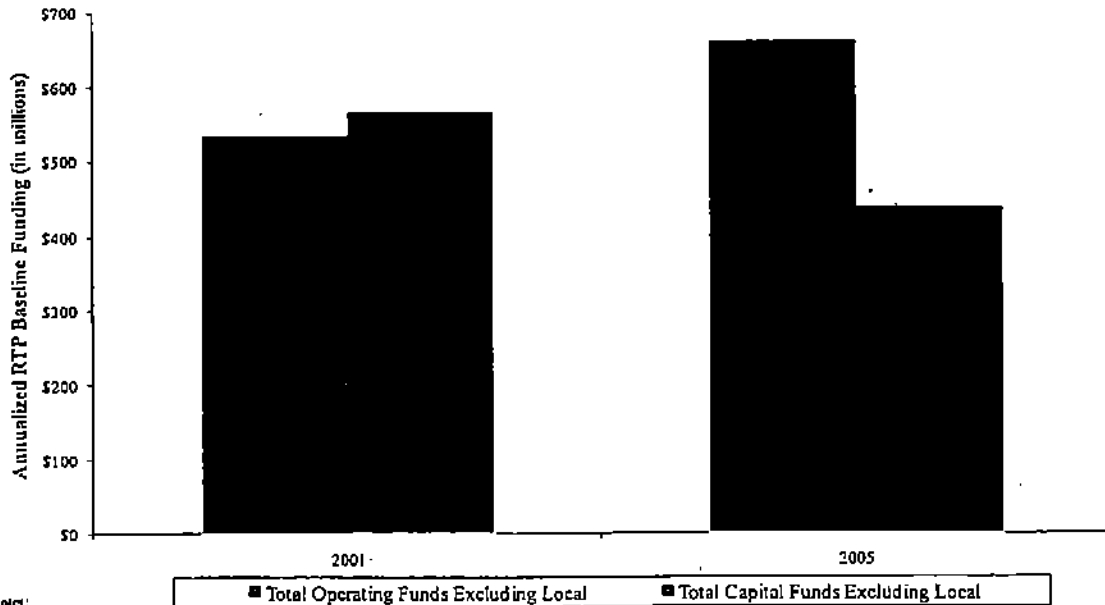
Sources: 1994, 1998, 2001 and 2005 Bay Area Regional Transportation Plans.

23) A detailed fund analysis for the 2005 and 2001 RTPs show that "Local Funding"⁸ provides a large portion of projected operating funding. The RTP defines Local Funds to be primarily comprised of transit fares, and state and county tax revenue, which would not fall under MTC discretion. As can be seen in Chart 2, when Local Funds are removed, aggregate operating funding is still approximately 60% of all non-local funding in 2005 and 50% of all non-local funding in 2001.

⁸ Local Funding sources primarily represent "transit fares, dedicated sales tax programs, state gas tax and county sales tax subventions to local streets and roads," 2005 RTP - *Transportation 2030 Plan for the San Francisco Bay Area*, p. 1.2-3

Chart 2

**Bay Area Regional Transportation Plan Annualized Baseline Operating
and Capital Funding Projections for 2001 and 2005
(Excluding Local Funds)**

**Notes:**

1) Detailed funding data was not provided for the 1994 and 1998 RTPs.

2) Annualized figures represent 25-year projected figures divided by 25 for 2001 and 2005.

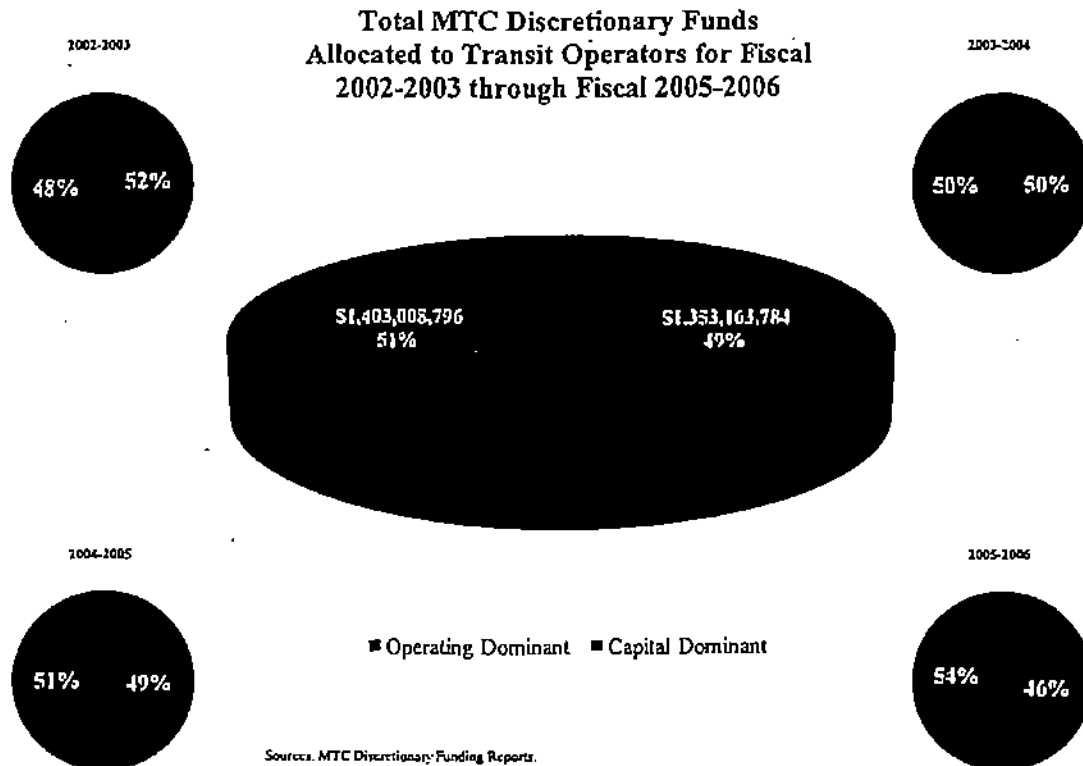
3) The 2001 and 2005 RTPs reported all projected revenues/costs as though they were incurred in 2000 and 2004, respectively, and did not account for inflation.

Sources: 2001 and 2005 Bay Area Regional Transportation Plans

Critique of Rubin - Reported Actual Discretionary Data

24) Furthermore, based on my analysis of the annual MTC Discretionary Funding reports, the data displays an even distribution between the allocation of capital and operating needs. In fact, a review of the historical results of the actual funds allocated from fiscal year 2002-2003 through fiscal 2005-2006, proves that the funds are split 51/49 between operating and capital on a cumulative basis for all four years. Moreover, in each individual year the split is very close to an even 50/50 split (ranging over the years between 48/52 to 54/46) between operating and capital funding. Therefore, the data from the MTC Discretionary Funding reports provide strong evidence contrary to Mr. Rubin's opinion that MTC neglected AC Transit's operating needs in favor of capital intensive projects. Whether in aggregate across four years or in each individual year, Chart 3 displays the graphical representation of the nearly uniform splits.

Chart 3

**B. Rebuttal to Rubin's Opinion:**

"MTC has created AC Transit's operating shortfalls in two ways. First, its funding policies artificially limit the pool of funds available for operating costs in the Bay Area...Second, after the planning process identifies an operating shortfall, MTC chooses not to cover operating shortfalls and instead chooses to cover only capital shortfalls..." (Rubin ¶13)

25) Mr. Rubin's "operating shortfall" analysis is misleading because the variables used to calculate this "operating shortfall" include funds and sources of funds that are not under MTC's discretion. There has been no evidence in the data that projected operating shortfalls can be attributed to MTC allocation of funds. Particularly when I analyzed AC Transit, operator-specific variables may have caused the operating shortfalls. Moreover, the shortfalls documented in the RTPs represent projected and not actual shortfalls.⁹ When looking at the detail and analyzing the components of this "shortfall" calculation (with an understanding of how an operating or capital shortfall is calculated) it is evident that the

⁹ For example, the 2005 RTP projects a shortfall of \$64 million for AC Transit through 2018 unless service or increased funding is adjusted.

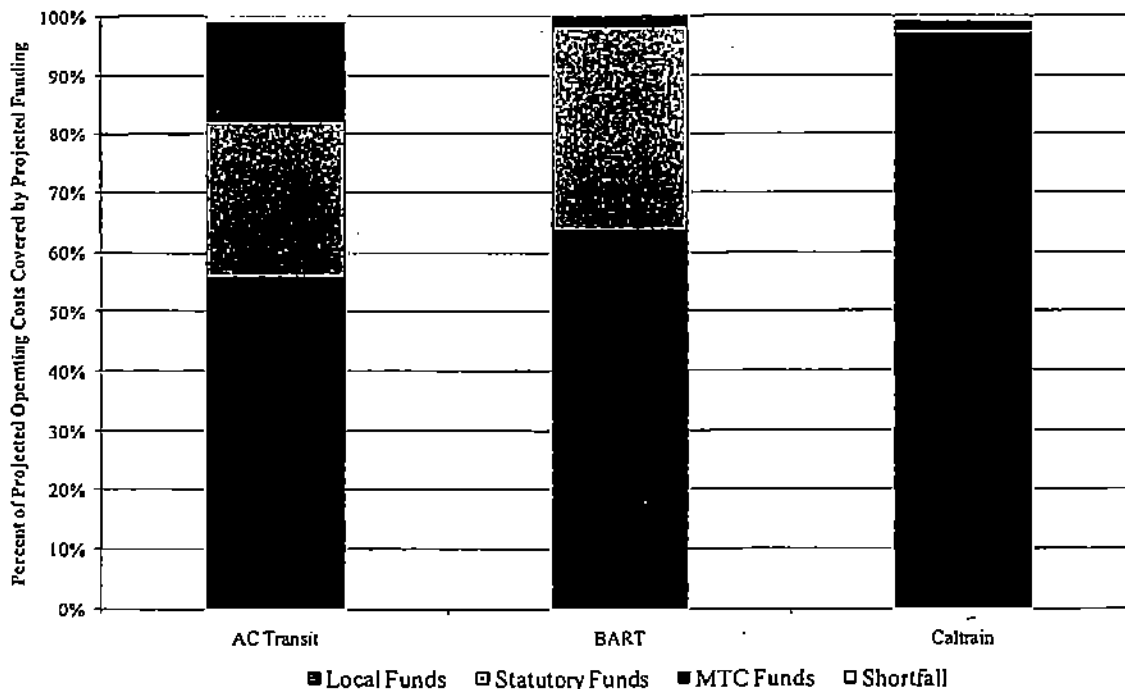
amounts being compared include other revenue sources, for example "farebox revenue" which bears no relation to MTC funding allocations.

Critique of Rubin - Projected RTP Data

26) Based on the following analyses, AC Transit is projected to receive more funds than either BART or Caltrain. Analysis of 2005 RTP figures showed that Local Funds is projected to cover the majority of operating costs for AC Transit, BART, and Caltrain. For AC Transit, Local funding was projected to cover 55.7% of operating costs, as compared to BART and Caltrain, (projected to cover 63.6% and 96.8%, respectively). Statutory and MTC funding was projected to cover the remaining and larger portion of AC Transit's operating costs (43.4%) as compared to BART (36.4%) and Caltrain (2.1%). Chart 4 shows this detail for the 2005 RTP.

Chart 4

2005 RTP Projected Sources of Operating Funding

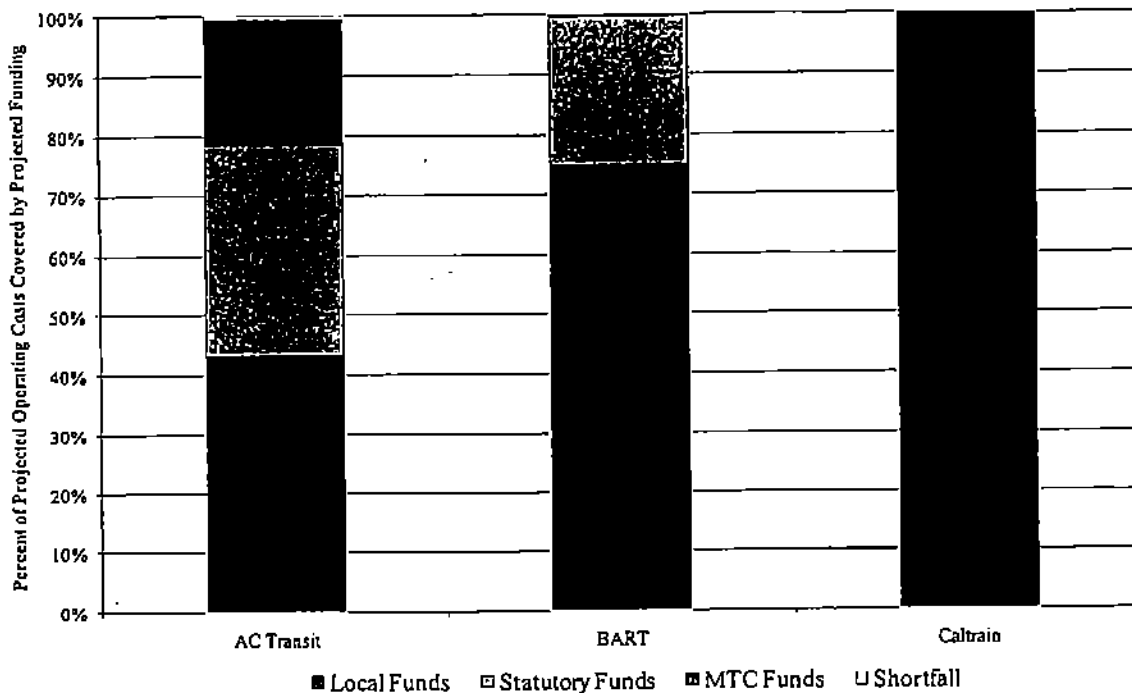


Source: 2005 Regional Transportation Plan for San Francisco Bay Area.

27) This same trend became even more evident in 2001. In the 2001 RTP, the Local Funds were projected to cover the majority of operating costs for BART (74.6%) and all of the operating costs for Caltrain (100.0%). The remaining funds for BART were projected to

be covered by Statutory and MTC funding (25.4%)¹⁰. In contrast, AC Transit's percentage of Local funding was projected to cover only 43.1% of operating costs. Again, Statutory and MTC funding was projected to cover the remaining larger portion of AC Transit's operating costs (56.3%). This analysis further demonstrates evidence contrary to Mr. Rubin's conclusion that MTC has under-funded AC Transit's operating needs. Chart 5 shows this detail for the 2001 RTP.

Chart 5
2001 RTP Projected Sources of Operating Funding



Source: 2001 Regional Transportation Plan for San Francisco Bay Area.

Critique of Rubin - Reported Actual Discretionary Data

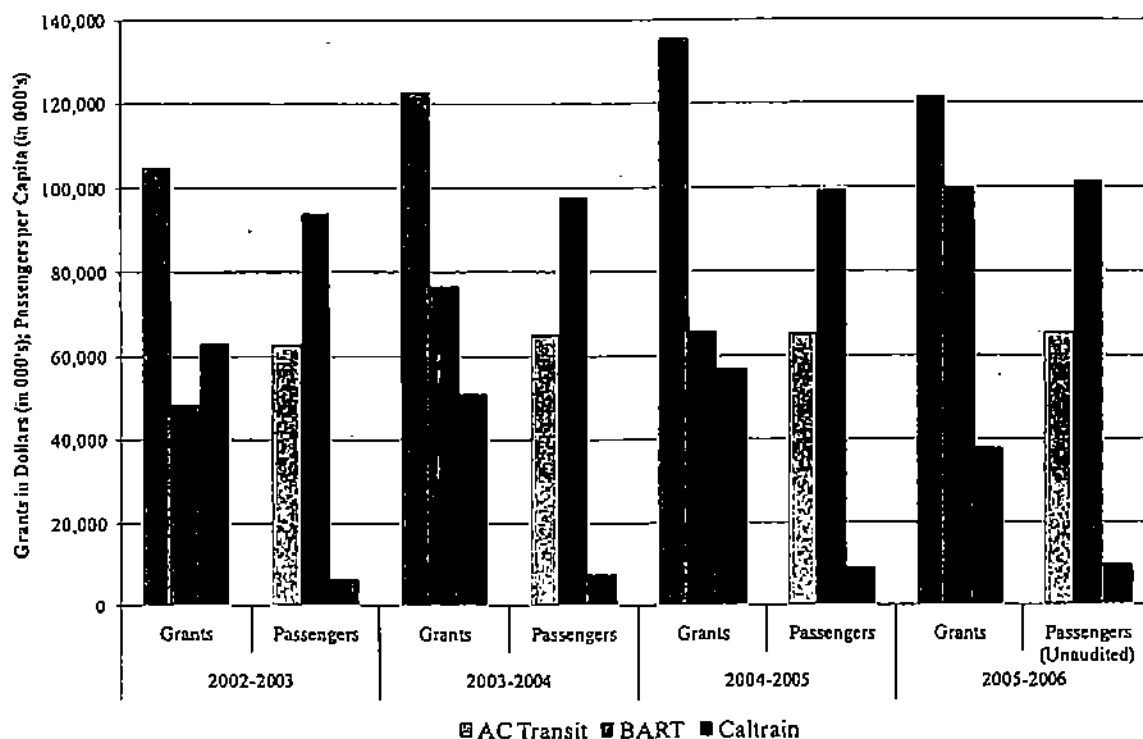
28) When comparing overall MTC discretionary funding, AC Transit has historically received more funding than both BART and Caltrain, and in fiscal 2004-2005 AC Transit actually received more funding than BART and Caltrain combined. See Chart 6 for historical MTC funding amounts compared to total passengers. The left vertical axis

¹⁰ There were no additional projections of Statutory or MTC funds because Local Funds covered 100% of Caltrain's projected operating costs.

measures total funding in \$000s and total passenger volume in 000s. Chart 6 clearly demonstrates that even though AC Transit has received the most funds in each of four years, it in fact is BART who has served the largest number of passengers in each of the four years.

Chart 6

MTC Allocated Grant and Passengers by Operator by Year



Sources: MTC Discretionary Funding Reports; MTC Statistical Summaries of Bay Area Transit Operators.

Rebuttal of Rubin Based on Projected RTP Data

29) Mr. Rubin's report repeatedly states that MTC caused and created significant operating shortfalls for AC Transit. Yet, RTPs from which Mr. Rubin's figures are based take into consideration operator-specific and self-reported data in the planning process. To analyze Mr. Rubin's opinion, I compared the 2005 RTP projected operating and capital net deficits/surpluses across all transit operators, which amount to projected total operating deficits of approximately \$1.28 billion and capital deficits of \$2.13 billion. This represents approximately 2.5% of all operating funding and approximately 15.1% of all capital funding (including surpluses and small operators). Table 1 below lists transit operators sorted by the

amount of their respective projected operating and capital funding shortfalls (i.e. projected net deficits).

30) As can be seen in Table 1, all of the large¹¹ transit operators listed below had projected net capital funding deficits and six had projected net operating deficits in the 2005 RTP. AC Transit's projected deficits were neither the largest deficits when measured in absolute dollars nor when measured as percentages of total funding. Therefore, the shortfall data presented by Mr. Rubin did not show any evidence of MTC's funding decisions singling out AC Transit.

Table 1

2005 Regional Transportation Plan: Percentage Projected Deficit
of Projected Overall Funding For Large Operators (\$ in 000s)

OPERATING						% of Non-White Riders
Operator ¹	Operating Funding	Operating Expenses	Operating Deficit	Operating Deficit / Operating Funding		
VTA	\$ 9,223,900	\$ 9,811,727	\$ 587,827	6.37%		70.12%
Muni	13,006,130	13,517,195	511,065	3.93%		58.04%
GGBHTD	1,709,657	1,791,456	81,799	4.78%		37.36%
AC Transit	6,570,466	6,634,821	64,355	0.98%		78.17%
Caltrain	2,153,585	2,176,453	22,868	1.06%		49.82%
Vallejo	436,875	436,892	17	0.00%		71.43%
BART	13,355,334	13,355,334	-	0.00%		52.98%

CAPITAL						% of Non-White Riders
Operator	Capital Funding ²	Capital Costs	Capital Deficit ³	Capital Deficit / Capital Funding		
BART	\$ 5,698,312	\$ 7,085,901	\$ 1,387,589	24.35%		52.98%
Caltrain	1,076,409	1,591,954	515,545	47.89%		49.82%
Muni	2,576,073	2,893,103	317,030	12.31%		58.04%
AC Transit	909,147	1,224,235	315,088	34.66%		78.17%
VTA	1,076,546	1,242,723	166,177	15.44%		70.12%
GGBHTD	613,890	716,549	102,659	16.72%		37.36%
Vallejo	125,667	136,096	10,429	8.30%		71.43%

Note:

1) CCCTA, LAVTA, and SanTrans (which predominantly service minorities) did not have operating deficits and had capital surpluses.

2) Capital Funding includes Transportation 2030 Funding

3) Capital Deficit reflects "Vision Element Capital Need" per the 2005 RTP.

Sources: 2005 Bay Area Regional Transportation Plan; 2006 MTC Transit Passenger Demographic Survey.

31) The following Table 2 demonstrates data for three other bus-only operators with a majority of minority riders, CCCTA, LAVTA, and SanTrans. These bus-only operators had neither projected operating nor capital shortfalls in the 2005 RTP indicating further evidence

¹¹ The 2005 RTP - Transportation 2030 Plan for the San Francisco Bay Area segregates analysis between "large" and "small" operators. As the three named transit operators from the Complaint are included as "large operators", the analysis is performed with respect to the "large operators."

that MTC's funding decisions do not disadvantage transit operators with large percentages of minority riders.

Table 2

**2005 Regional Transportation Plan: Projected Funding For Comparable
Bus-Only Transit Operators (\$ in 000s)**

OPERATING				% of Non-White Riders
Operator	Operating Funding	Operating Expenses	Operating Deficit	
CCCTA	\$ 641,425	\$ 641,425	\$ -	58.65%
LAVTA	281,846	281,846	-	60.87%
SamTrans	2,510,825	2,510,825	-	69.65%

CAPITAL				% of Non-White Riders
Operator	Capital Funding	Capital Costs	Capital Surplus	
CCCTA	\$ 240,326	\$ 159,953	\$ 80,373	58.65%
LAVTA	111,011	90,559	20,452	60.87%
SamTrans	791,049	490,731	300,318	69.65%

Note:

None of these operators received Transportation 2030 Funding.

Sources: 2005 Bay Area Regional Transportation Plan; 2006 MTC Transit Passenger Demographic Survey.

32) In the 2001 RTP, almost all the transit operators were projected to have neither operating nor capital deficits. The 2001 RTP projected an operating deficit of approximately \$55.9 million which corresponds to approximately 0.1% of total operating funding. AC Transit's operating deficit is projected to be about 0.63% of AC Transit's total operating funding.

C. Rebuttal to Rubin's Opinion:

"AC Transit's persistent operating shortfalls, and consequent service cuts, must be seen against the backdrop of the substantial funding that MTC has devoted to the capital needs of BART and Caltrain." (Rubin ¶14)

"In 2003...AC Transit cut its service by 4% in June and an additional 14% in December...[MTC's] spending decisions reveal that MTC prioritizes capital over operating needs and BART and Caltrain service expansion over AC Transit service preservation." (Rubin ¶20)

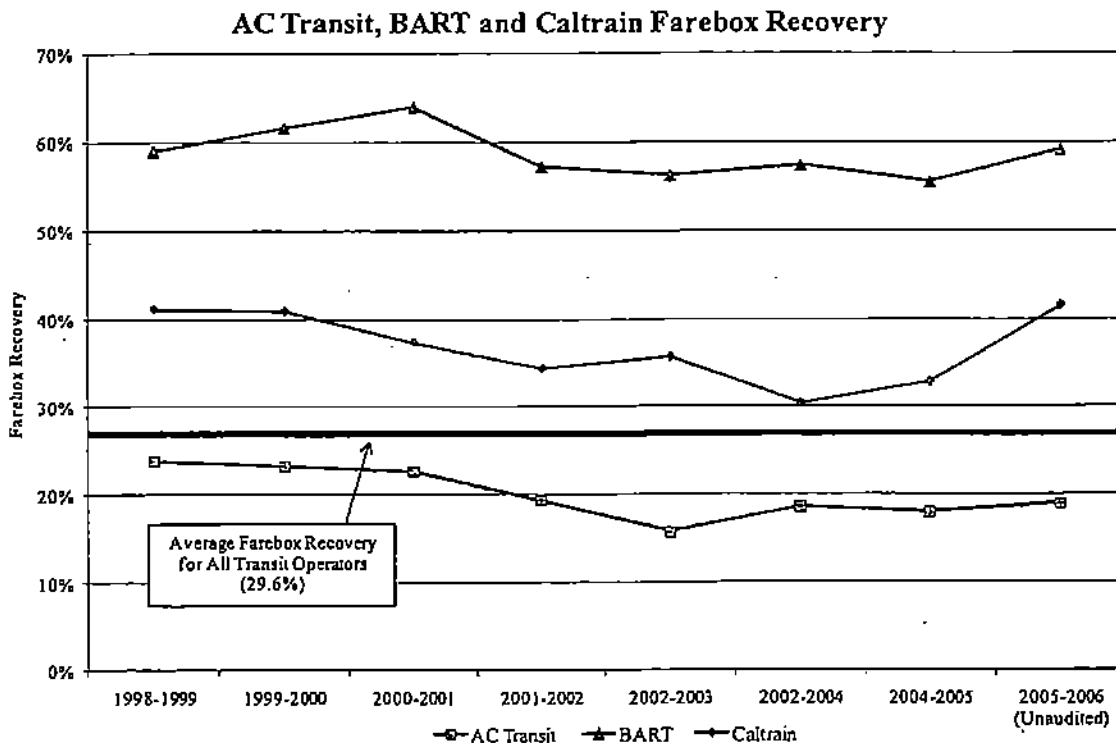
33) In the following paragraphs, I will supply quantitative evidence based on my analysis of publicly available data indicating that AC Transit's projected operating shortfalls are not the result of MTC's alleged capital-biased funding decisions. In contrast, the evidence points to AC Transit's large operating costs which may be the result of other external factors.

Rebuttal of Rubin Based on Actual Discretionary Fund Data

34) During fiscal 1998-1999 through fiscal 2005-2006, AC Transit increased farebox revenue per passenger by approximately 3.0% per year, while operating costs per passenger increased by approximately 6.3% per year. In comparison, BART and Caltrain increased farebox revenue per passenger by an average of approximately 3.0% and 4.4%, respectively per year, while operating costs per passenger only increased by approximately 3.0% and 4.3%, respectively per year.

35) AC Transit's historical data displayed an increase of farebox revenue per passenger (approximately 3.0% per year), similar to an increase in farebox revenue per passenger (also approximately 3.0% per year) as displayed by BART. However, AC Transit exhibited a significantly larger increase in operating costs per passenger (6.3% per year), while BART was able to maintain relatively consistent operating costs per passenger increases of only 3.0% per year. A common measurement to compare farebox revenue and operating costs is to analyze the farebox revenue recovery which represents the ratio of fares received to total operating costs. During fiscal 1998-1999 to fiscal 2005-2006, BART's farebox revenue recovery ranged from 55.5% to 63.8% as compared AC Transit's farebox revenue recovery of 15.9% to 23.7%. Chart 7 displays the data trend for the eight year period from fiscal 1998-1999 through fiscal 2005-2006.

Chart 7



Note: For the period fiscal 1998-1999 through fiscal 2005-2006, Average Farebox Recovery represents aggregate farebox revenue divided by aggregate operating costs across all transit operators across all years.

Sources: MTC Statistical Summaries of Bay Area Transit Operators

36) Even though AC Transit increased farebox revenue per passenger by approximately 3.0% per year, the significantly larger increase in operating costs per passenger of 6.3% per year led to a significant decrease of farebox revenue recovery from 23.7% in fiscal 1998-1999 to 19.0% in fiscal 2005-2006. The lowest farebox revenue recovery level of 15.9% occurred in fiscal 2002-2003. The steep decline in farebox revenue recovery was experienced while actual farebox revenue increased, thus indicating an accelerated growth of operating costs that significantly outpaced the growth in farebox revenue. The impact of this relationship between farebox revenue and operating costs can be demonstrated in a scenario that assumes operating costs did not outpace the growth in farebox revenue. I used actual farebox revenue as a base and recalculated operating costs by assuming a constant, rather than declining farebox revenue recovery rate. For example, under the assumption that farebox revenue recovery had remained steady at the fiscal 1998-1999 (23.7%) level in fiscal 2002-2003, that would imply expected operating costs of approximately \$177 million rather than actual costs of \$265 million – a difference of approximately \$88 million. The following

Table 3 displays the details of my computations for the other years. By contrast, the projected 2001 RTP operating shortfall was \$36.7 million and the projected 2005 RTP operating shortfall was \$64.4 million.

Table 3
Estimated AC Transit Operating Cost

Fiscal Year	Farebox Revenue	Actual Operating Cost	Farebox Recovery	Estimated Operating Cost with Farebox Recovery of 23.7%
1998-1999	\$ 41,421,000	\$ 174,515,000	23.7%	\$ 174,515,000
1999-2000	45,324,000	195,089,000	23.2%	190,959,124
2000-2001	48,654,000	214,694,000	22.7%	204,989,083
2001-2002	46,068,000	237,841,000	19.4%	194,093,745
2002-2003	42,073,000	265,113,000	15.9%	177,262,007
2003-2004	45,370,000	244,212,000	18.6%	191,152,931
2004-2005	45,060,000	249,828,000	18.0%	189,846,839
2005-2006 (Unaudited)	50,321,000	265,459,000	19.0%	212,012,489
Total		\$ 1,846,751,000		\$ 1,534,831,218

Source: MTC Statistical Summaries of Bay Area Transit Operators.

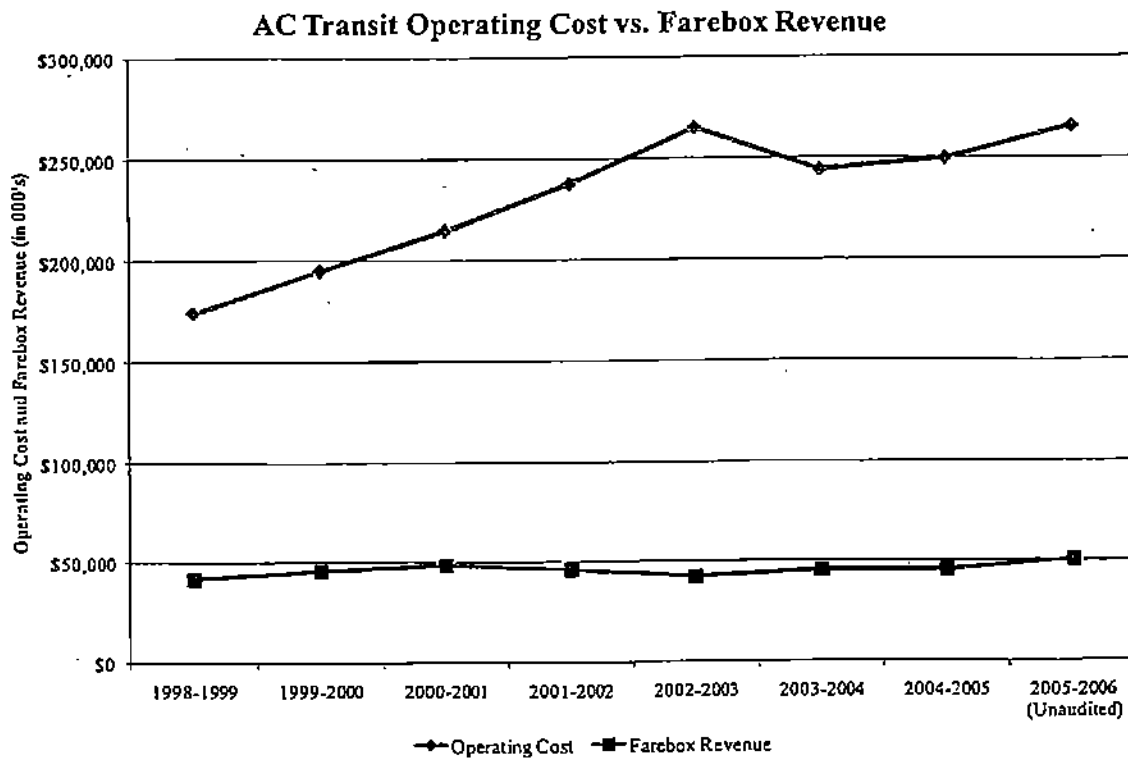
37) Another important interpretation of the farebox revenue recovery ratio is one of an implicit subsidy. If the farebox revenue recovery ratio is 19%, then 81 cents on the dollar of fares were provided from sources other than the ticket price. In comparison BART's farebox revenue recovery ratio ranges from approximately 56% to approximately 64% indicating an implicit subsidy between 36 and 44 cents on the dollar, which represents just about half of AC Transit's subsidy. The previous analyses demonstrate that MTC's alleged capital-biased funding decisions cannot be held responsible for AC Transit's projected operating shortfalls.

38) I performed a correlation analysis between farebox revenue and operating cost for AC Transit for the eight-year period from fiscal 1998-1999 through fiscal 2005-2006. There was no statistically significant correlation between these two variables for AC Transit.¹² As can be seen in Chart 8, operating costs were increasing for all of the years but one, while farebox revenue had both downward and upward trends. Of particular interest is the fact that while farebox revenue was steadily declining from fiscal 2000-2001 through fiscal 2002-2003, operating costs rose to their highest levels in the same time period. Further regression

¹² p-value of 0.42

analysis revealed no statistically significant time trend for farebox revenue¹³ but a highly significant positive time trend for operating costs.¹⁴ The rapid increase of costs with flat or slightly decreasing farebox revenue and passenger volume provides strong evidence that it is not MTC's funding allocation that caused a potential shortfall but rather AC Transit's management of operations and funds.

Chart 8



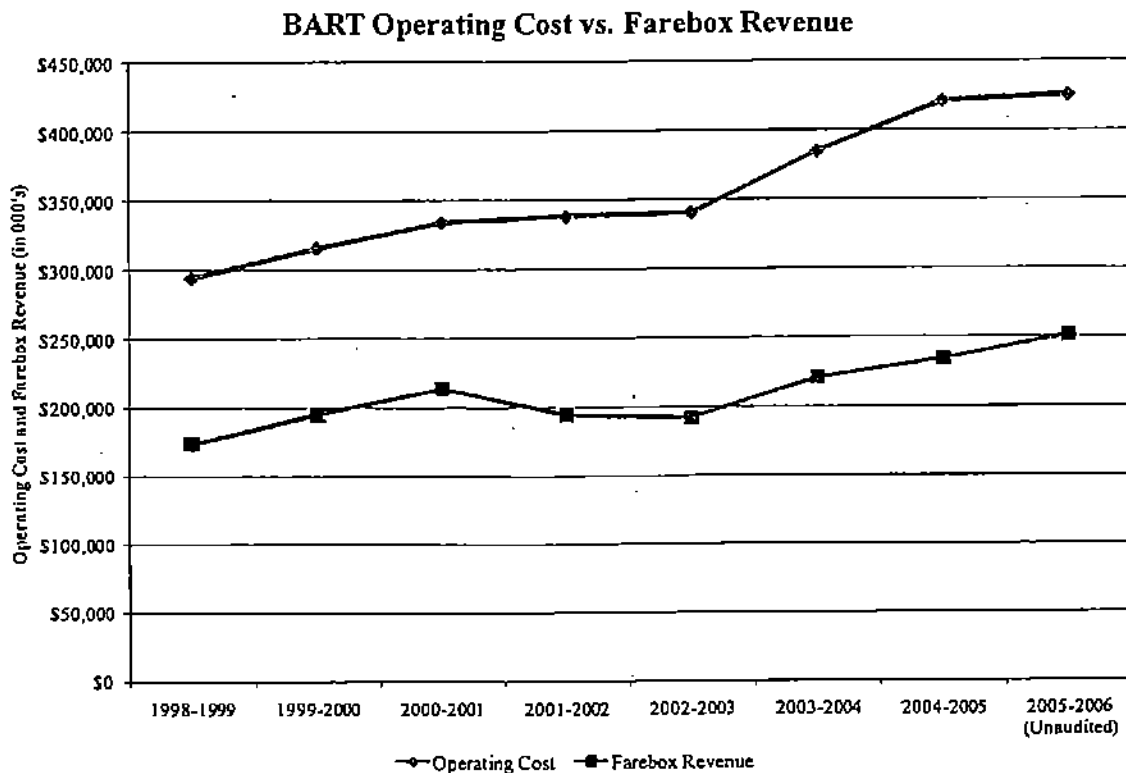
Sources: MTC Statistical Summaries of Bay Area Transit Operators.

¹³ p-value of 0.24

¹⁴ p-value of 0.002 – corresponds to statistical significance in excess of 99%

39) In contrast, Charts 9 and 10 for BART and Caltrain show time trends where operating cost and farebox revenue tracked each other much more closely. In fact, for both operators the correlation coefficients are statistically significant,¹⁵ indicating that operating costs and farebox revenue followed the same time trend. The high statistical significance of the positive correlation coefficient implies that farebox revenue and operating cost increase or decrease together.

Chart 9

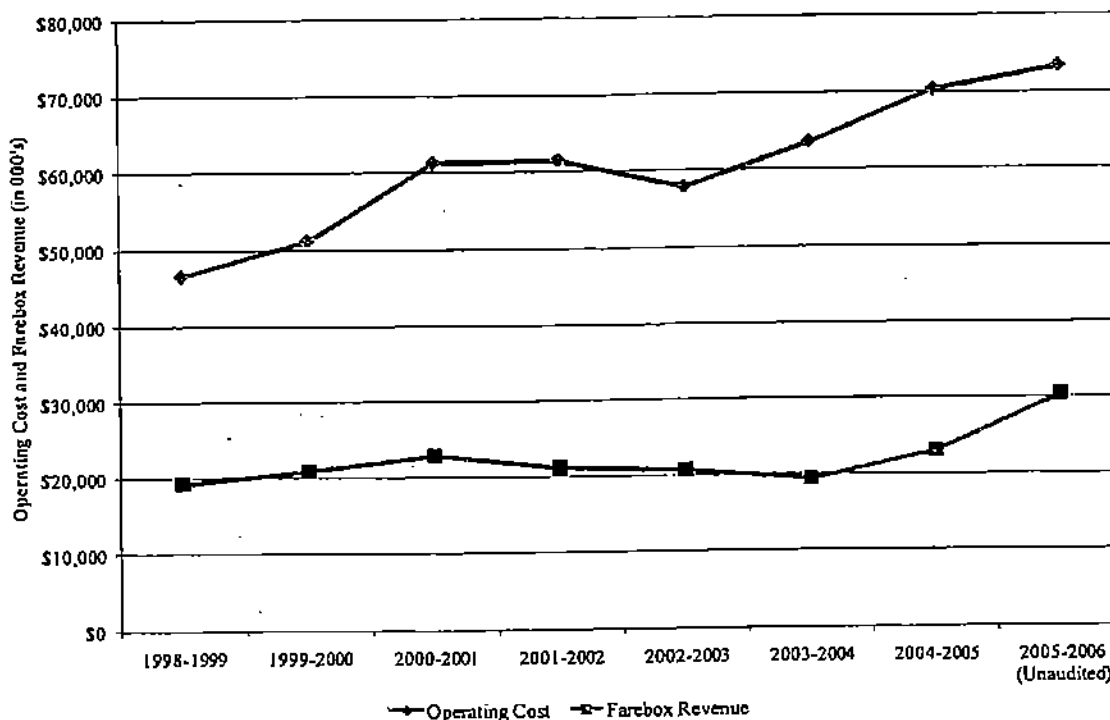


Sources: MTC Statistical Summaries of Bay Area Transit Operators.

¹⁵ p-value of 0.0006 for BART indicating statistical significance in excess of 99.9%, and a p-value of 0.043 for Caltrain indicating statistical significance at the 95% level.

Chart 10

Caltrain Operating Cost vs. Farebox Revenue



Sources: MTC Statistical Summaries of Bay Area Transit Operators.

40) While AC Transit's total operating costs increased at an annual average of 11.0% from fiscal 1998-1999 to fiscal 2002-2003, BART and Caltrain averaged 3.7% and 5.6%, respectively, during the same period. At the same time, farebox revenue for AC Transit in fiscal 2002-2003 was approximately the same level as in fiscal 1998-1999.

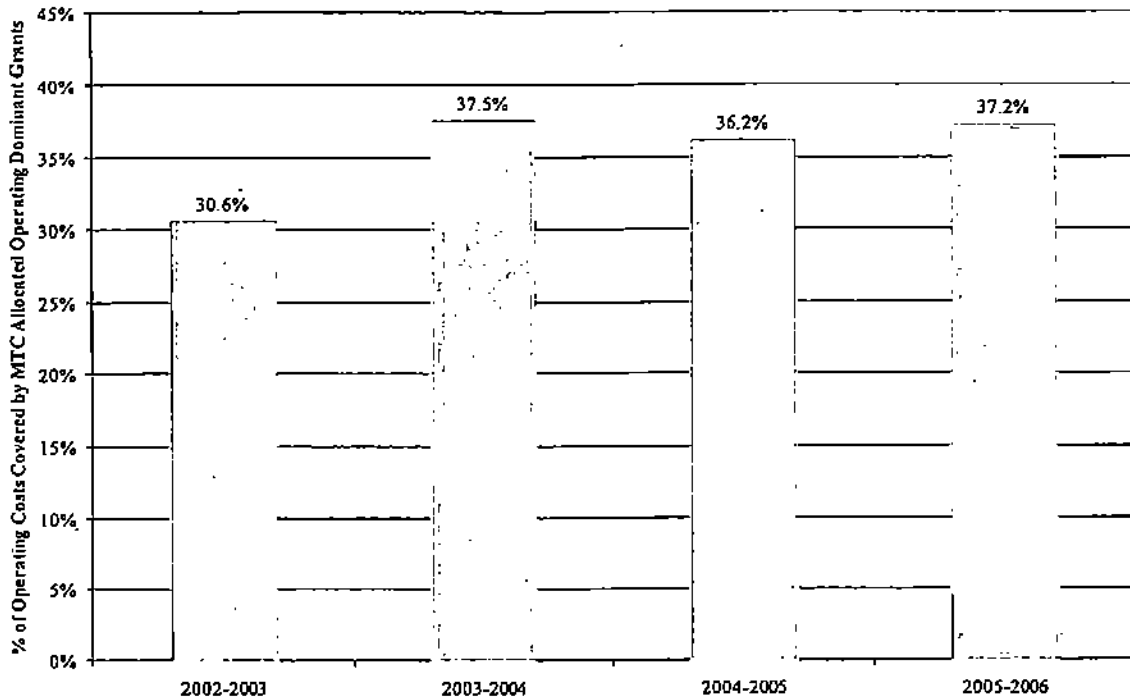
41) A closer look at the operating funding that AC Transit received from MTC's discretionary funds reveals an increase from \$81.1 million in fiscal 2002-2003 to \$98.8 million in fiscal 2005-2006, even though AC Transit's total operating costs decreased from \$265.1 million in fiscal 2002-2003 to \$244.2 million in fiscal 2003-2004, and then rose to \$249.8 million in fiscal 2004-2005, and then rose back up to \$265.5 million in fiscal 2005-2006.

42) The data also provide evidence of a percentage increase of operating funding for AC Transit. In fiscal 2002-2003, the operating funding allocated through MTC's discretionary funds amounted to 30.6% of AC Transit's total operating funds. As shown above in

paragraphs 21 and 22, AC Transit experienced a significant increase in total operating costs in fiscal 2002-2003. Between fiscal 2003-2004 and fiscal 2005-2006, MTC's discretionary funds covered between 36.2% and 37.5% of AC Transit's total operating costs. See Chart 11 below.

Chart 11

**AC Transit Percentage of Operating Costs Covered by MTC
Allocated Operating Dominant Grants**



Sources: MTC Statistical Summaries of Bay Area Transit Operators; MTC Discretionary Funding Reports.

43) Mr. Rubin argues that AC Transit had to cut service twice during 2003 (by 4% and 14%)¹⁶ to counter the operating shortfalls. I was not able to find a clear definition of "service cuts." NTD directional route miles and fleet size over the period showed minimal changes and failed to represent a significant cut in service.¹⁷ Additionally, Mr. Rubin favors revenue

¹⁶ The service cuts occurred in June and December 2003 according to *2005 RTP - Transportation 2030 Plan for the San Francisco Bay Area* - Appendix IV: Project Notebook

¹⁷ For this analysis, I compared NTD data which indicated almost static directional route miles and a small decrease in fleet size. NTD does not keep track of the actual number of routes but rather the total number of directional route miles, i.e., the mileage in each direction over routes that public transportation vehicles travel while in revenue service. Interestingly enough the only slight decline in the total number of directional route miles reported by NTD does not mirror the sharp decline in the number of routes indicating that routes were probably consolidated rather than closed all together.

vehicle miles as "the most meaningful measure of the amount of service that a transit agency provides to transit riders is 'Vehicle Revenue Miles' ("VRMi")."¹⁸

44) I will now analyze the reported revenue vehicle miles for the time period in question. In fiscal 2002-2003 revenue vehicle miles increased by approximately 0.9% and the closely correlated variable of revenue vehicle hours increased by approximately 4.1%. In the same year overall passenger volume decreased by approximately 9.8%, indicating even though there were fewer passengers the buses were running more miles and more hours.

45) The two alleged service cuts of 4% and 14% cited by Rubin occurred in June and December 2003. The impact of these cuts should have had an impact on the operational statistics in fiscal 2003-2004. However, there was only a decrease of 4.1% in revenue vehicle miles and a decrease of 5.5% in revenue vehicle hours in that year. Another interpretation of the reduction in vehicle miles could be that AC Transit adjusted its supply of service to the steep decrease of passenger volume of almost 10% in the previous year. It also has to be pointed out that the passenger volume increased by 3.9% during fiscal 2003-2004 indicating that the reduction in miles and hours of service had the opposite effect of an increase in ridership.

46) During fiscal 2004-2005 and fiscal 2005-2006 revenue vehicle miles decreased by 4.8% and 1.9% respectively while revenue vehicle hours decreased by 5.6% in fiscal 2004-2005 and stayed virtually unchanged in fiscal 2005-2006. In both years the passenger volume was also virtually unchanged. Again, an apparent reduction in supply of service as measured in miles and hours had virtually no impact on ridership which implies a fairly inelastic demand for AC Transit's bus services.

47) The simultaneous decrease in revenue vehicle miles and revenue vehicle hours could be interpreted as evidence of a reduction of service. However, as shown in my Expert Report in Paragraphs 41 through 46, total passenger volume, total revenue vehicle miles, and total revenue vehicle hours of AC Transit during the eleven year period from fiscal 1995-1996 through fiscal 2005-2006 displayed similar patterns as compared to all other transit operators combined, indicating that more macroeconomic trends explained demand for public transportation which then induced the transit operators to adjust the supply.

¹⁸ Expert Report and Declaration of Thomas A. Rubin – January 11, 2008, p.44

III. Rebuttal of Expert Report of Prof. Thomas W. Sanchez

48) In the Expert Report of Prof. Thomas W. Sanchez – January 11, 2008, Dr. Sanchez provides opinions on transportation planning principles and funding decisions for environmental justice and equity purposes. In the following section, I will show results of my analysis and quantitative evidence that contradicts certain opinions expressed by Dr. Sanchez.

A. Rebuttal to Sanchez's Opinion:

"MTC, like all MPOs, is governed by the requirement to treat minority populations and communities equally (Title VI), and to ensure that minority and low-income populations receive equal benefits, on an equally timely basis, as other populations." (Sanchez, p. 5)

Critique of Sanchez - Reported Actual Discretionary Data

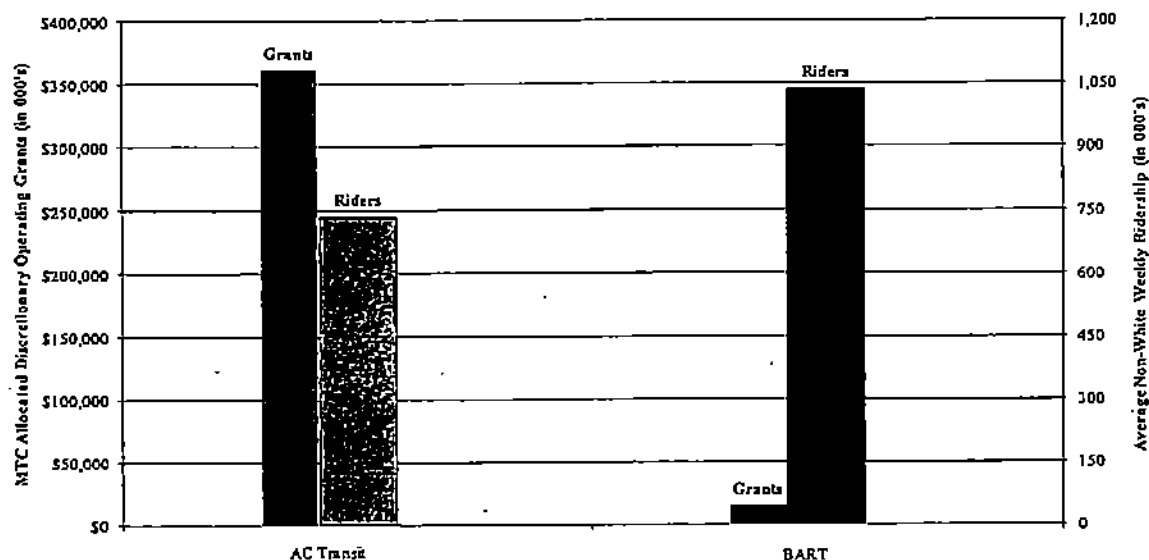
49) The above opinion stated in Dr. Sanchez's report implies that MTC does not treat minority populations and communities equally, yet he did not provide any quantitative evidence to support this opinion. Conclusions drawn from the implication that minority populations and communities are not treated equally can be misleading. As previously stated in my Expert Report, analysis of racial ridership composition must take into consideration the absolute number of riders served and not just racial composition in proportional terms. Dr. Sanchez claimed that "AC Transit carried a significantly greater proportion of minorities than BART did."¹⁹ It is contradictory to claim that MTC's funding practices are discriminatory against AC Transit when BART served at least 40%²⁰ more minority riders than AC Transit. In addition to serving more minority riders in absolute terms, BART also received less discretionary MTC funding as shown in Chart 12.

¹⁹ Expert Report of Prof. Thomas W. Sanchez – January 11, 2008, p. 97

²⁰ Calculated as the percent difference between average non-white weekly ridership for BART (1,038,049) and average non-white weekly ridership for AC Transit (737,856) based on the sample size and extrapolation from the 2006 MTC Transit Passenger Demographic Survey.

Chart 12

MTC Allocated Discretionary Operating Grants For Fiscal 2002-2003 through Fiscal 2005-2006 and Average Non-White Weekly Ridership



Notes:

Average Weekly Ridership is defined as "the total number of weekday and weekend riders for each transit system during an average week," 2006 MTC Transit Passenger Demographic Survey - Technical Report #3b dated April 13, 2007

Non-White Riders represent calculated portion of Average Weekly Riders based on percent of non-white riders in 2006 MTC Passenger Demographic Survey. Grant numbers are a cumulative total of MTC allocated discretionary operating grants from fiscal 2002-2003 through fiscal 2005-2006

Sources: MTC Discretionary Funding Reports; 2006 MTC Transit Passenger Demographic Survey.

B. Rebuttal to Sanchez's Opinion:

"Since bus riders, both in U.S. cities generally and in MTC's region in particular, are more likely to be minorities than are rail riders, disparities affecting bus riders as a group relative to rail riders are an important component of Title VI compliance and Environmental Justice. This is particularly true in the case of MTC, because EJ communities and their representatives in the Bay Area have explicitly asked MTC for many years to measure current and historic inequities in funding and service levels affecting bus riders relative to rail riders." (Sanchez, p. 6)

50) Dr. Sanchez discusses at length, historical inequities that had existed between funding and service levels for bus riders as opposed to rail riders. It is difficult to draw overarching conclusions on whether funding inequities exists between minority and non-minority riders by merely comparing entire systems that predominantly serve as a bus system or a rail system. The two transit systems are not directly comparable. Often times, transit systems overlap. Certain geographic areas, regardless of whether they serve minority or non-minority dominant populations, are served by multiple transit systems and multiple transit system types. It is difficult to definitively conclude that discrimination exists due to funding

practices provided to two transit systems that serve the same geographic region. Plaintiffs have not provided any quantitative support to show how this analysis could be done. Therefore, Plaintiffs have failed to provide any quantitative evidence to support their claim that such inequities exist. As shown in the map below, Caltrain, BART, and AC Transit all run through geographic regions with populations displaying higher than average racial diversity as shown in Chart 13. Because routes and service lines overlap, it is difficult to segregate a rider as purely an AC Transit rider or a BART rider.

C. Rebuttal to Sanchez's Opinion:

"AC Transit's percentage of total funding was smaller than its percentage of total riders, while BART and Caltrain had a higher percentage of total funding than their respective percentages of total riders." (Sanchez, p. 60)

Critique of Sanchez - Projected RTP Data

51) In his report, Dr. Sanchez's attempts to emphasize an analysis that "showed AC Transit's percentage of total funding was smaller than its percentage of total riders."²¹ This support of his opinion is flawed for several reasons. First, rather than using any actual historical results, Dr. Sanchez continues to discuss amounts from i) a "Draft Memo" and ii) a memo with figures based on projected RTP Funding figures as opposed to actual historical results.

Critique of Sanchez - Reported Actual Discretionary Data

52) Second, in his discussions, Dr. Sanchez cites percentage figures based on a population of only five selected transit operators (AC Transit, BART, Caltrain, SF Muni, and VTA),²² rather than the entire population of over twenty operators that received funding from MTC. For a more proper and complete analysis, inclusion of all transit operators and ridership totals are necessary. Analyzing the funding and ridership across all transit operators yields results that directly contradict Dr. Sanchez. In fact, the analysis showed that AC Transit received a larger share of discretionary funding (18%) for a smaller share of riders served (14%). Additionally, BART received a smaller share of discretionary funding (11%) for a larger share of riders served (21%) as displayed in Table 4.

Table 4
Percent Share of Total MTC Allocated Grants and Ridership
For Bay Area Transit Operators for Fiscal Years Ending 2003-2006

Operators With a Greater Percent Share of Total MTC Allocated Discretionary Grants Than Total Ridership					Operators With a Greater Percent Share of Total Ridership Than Total MTC Allocated Discretionary Grants				
Operator	Grants	% Share	Passengers	% Share	Operator	Grants	% Share	Passengers	% Share
AC Transit	\$ 484,156,098	17.6%	258,375,000	13.6%	S F Muni	\$ 640,068,679	23.2%	873,084,000	45.9%
VTA	\$ 459,324,716	16.7%	163,741,000	8.6%	BART	\$ 290,175,760	10.5%	392,655,000	20.6%
Caltrain	\$ 208,504,478	7.6%	34,329,000	1.8%					
Sam Trans	\$ 152,478,147	5.5%	60,945,000	3.2%					
GGBHTD	\$ 150,626,497	5.5%	38,746,000	2.0%					

Note: Analysis only includes transit operators that were allocated at least \$150 million in MTC discretionary grants over the period fiscal period 2002-2003 through 2005-2006

Sources: MTC Discretionary Funding Reports; MTC Statistical Summaries of Bay Area Transit Operators.

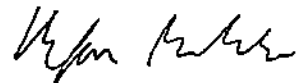
²¹ Expert Report of Prof. Thomas W. Sanchez – January 11, 2008, pg. 60

²² Expert Report of Prof. Thomas W. Sanchez – January 11, 2008, pg. 59

53) Dr. Sanchez extensively discusses the hidden inaccuracies reported in the Equity Analysis of the 2005 RTP and its failure to properly address equity, yet he offers very little, if any quantitative evidence to support his opinions. In his many critiques of how the MTC Equity Analysis does not properly measure inequity, he does not perform any quantitative analysis to support his critique. Dr. Sanchez makes note of the difficulty in obtaining such comprehensive data and yet continues to draw conclusions and overarching statements without any numerical support. Without providing the quantitative support to his many qualitative statements, Dr. Sanchez has failed to provide any evidence of discriminatory practices.

IV. Conclusions

54) In summary, Plaintiffs' experts failed to support any of their opinions with substantive quantitative analysis. Each expert stated their arguments and allegations without providing any valid support. Mr. Berk provided no statistical evidence of disparate impact and only discussed percentages of minority riders without context to the absolute number of riders. Mr. Rubin provided opinions from a data source that only discusses projected figures for which I was able to identify evidence contrary to his claims. Mr. Sanchez provides even less quantitative evidence from which he draws many qualitative conclusions. Therefore, each expert failed to provide objective data to support their allegation that MTC engaged in discriminatory funding policies.



STEFAN BOEDEKER
Los Angeles
February 25th, 2008



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Exhibit A

Stefan Boedeker
Managing Director

Alvarez & Marsal

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Education

- BS in Statistics, University of Dortmund, Germany
- BA in Business Administration, University of Dortmund, Germany
- MS in Statistics, University of Dortmund, Germany
- MA in Economics, University of California, San Diego
- Met Ph.D. requirements except dissertation in Economics, University of California, San Diego

Professional Associations

- Member of the American Economic Association (AEA)
- Member of the American Statistical Association (ASA)
- Member of the Econometric Society
- Member of the Mathematical Association of America (MAA)
- In 2001 Stefan was a member of an AICPA task force dealing with Corporate Integrity Agreements (CIA). Stefan was responsible for issues related to statistical methodology utilized in CIA's.

Stefan Boedeker

Stefan is a Managing Director for Alvarez & Marsal where he focuses on the application of economic, statistical, and financial models to a variety of areas such as solutions to business issues, complex litigation cases, and economic impact studies. Stefan has assisted companies from multiple industries in the resolution of a variety of aspects related to securities class action disputes, including materiality assessment, class certification, liability analysis, and damages calculation. His expertise in litigation support covers all phases of securities class actions, from initial fact finding and liability assessment to expert opinion reporting and testimony.

Professional and Business History

- » LECG LLC, 2005-2007, Director
- » Navigant Consulting Inc., 2004-2005, Managing Director in Litigation and Investigation Practice
- » Deloitte & Touche LLP, 2003 - 2004, Leader of the Economic and Statistical Consulting Practice in the West Region
- » PricewaterhouseCoopers LLP, 2002 - 2003, Leader of the Litigation Consulting Group in Los Angeles, Leader of the Economic and Statistical Consulting Practice in the West Region
- » Andersen LLP, 1992- 2002 - Partner (since 2000), last position held: Director of Economic and Statistical Consulting practice in the Pacific Region
- » University of California, San Diego, 1989-1991 - Teaching Assistant, Department of Economics
- » German Government, 1986-1989 - Economic Research Assistant



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Professional and Business Experience

Representative Engagements

- » For a leading publicly-traded developer of enterprise management software, employed statistical approach to demonstrate the diversity of investment styles among proposed lead plaintiffs for a securities class action lawsuit alleging section 10b-5 violations and other claims. Employed an econometric approach to estimate potential damages for each lead plaintiff.
- » For a large software developer, Stefan performed statistical modeling to assist in a securities class action litigation involving allegations of improper revenue recognition, reserve allocations, financial statement disclosures and other accounting irregularities.
- » In numerous investigations about alleged stock option backdating Stefan developed and applied statistical methods analyzing financial data to evaluate the allegations. He also applied statistical sampling methodology in these cases.
- » In a class action race discrimination suit against the Alabama Department of Transportation, Stefan developed statistical regression models and tests to analyze the alleged discrimination.
- » For a vegetable seed company, Stefan performed rebuttal work of the plaintiff's expert's statistical analysis alleging age discrimination.
- » For a major aerospace company, Stefan performed statistical analyses to rebut allegations of age discrimination.
- » For a prestigious national not-for-profit organization, completed commissioned study to examine the actual trading activity of a number of diversified investors and compare it to alleged market price effects of claimed securities fraud (asserted in complaints) in order to determine the net impact of the particular diversified investors. Based on the study, made inferences about the impact on the broader community of diversified investors to determine to what extent shareholders in fact are paying themselves in class action settlements.
- » For a failed computer hardware company in defense of a 10b-5 securities litigation action, Stefan performed statistical analyses of accounting transactions, inventory and receivable reserves and the auditor's work papers in its evaluation of the allegations.
- » For a leading publicly-traded developer of enterprise management software, Stefan employed econometric time-series model to analyze allegations of insider trading and the timing of certain stock transactions relative to information available to officers in the company.
- » For a large mass merchandiser Stefan developed a document and data reconciliation tool and he developed a statistical sampling mechanism to proof compliance with a court ordered document retention procedures in the course of a wage and hour litigation.



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- » For a shareholder derivative action against a leading publicly-traded health care provider, employed an econometric approach to quantify potential damages per share due to alleged section 10b-5 violations and other claims. For the same matter, developed a multi-trader model to estimate the number of shares potentially damaged.
- » For a publicly-traded manufacturer of office supplies, developed a Black-Scholes application and utilized a binomial distribution probability methodology to evaluate the appropriateness of the size of a loan loss reserve related to a loan collateralized by the assets of an employee stock purchase plan.
- » In several Rule 10b(5) class actions, Stefan used the event study approach to calculate the value line of a security. In these cases Stefan applied complex and advanced one, two, and multi-trader models.
- » When heading up the Economics and Statistical consulting group at a Big Five Accounting Firm, Stefan directed numerous engagements in quantifying exposure in securities litigation cases where wrongdoing of the auditor was alleged.
- » For a video rental store chain Stefan developed sampling algorithms based on in-store security cameras to analyze time spent by assistant managers on exempt versus non-exempt activities.
- » For a large fast food chain Stefan directed a team collecting employee work information from restaurant locations in order to monitor and gain compliance in response to litigation
- » Stefan worked with a Fortune 500 bank in a class action suit to review the claims of managers that were misclassified and should have been paid overtime. To compute damages, Stefan reviewed the overtime records of employees in this position prior to a job classification change and, in the absence of overtime data after the job classification change, Stefan reviewed sign in and sign out times of the office building.
- » For a long-term care provider Stefan used data from timesheets, payroll, and other scheduling records to create comprehensive reports showing potential exposure for each of the claimed areas: timely wage payment, overtime wage payment, adequate daily meal and rest break periods, and travel time compensation.
- » For a maternity clothing store chain Stefan performed analyses related to exempt/non-exempt status issues for managers and assistant managers. Stefan also conducted a break time analysis for all employees.
- » For a commercial flooring contractor Stefan assessed the job duties and responsibilities of a group of supervisors. During the engagement, the scope of work expanded to include an analysis of misclassification and back-pay exposure for additional groups of employees.



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- » For a large meatpacker Stefan conducted a time and motion study to properly assess the duration of certain separately compensated activities to rebut allegations of violation of minimum wage laws.
- » For a public university housing department Stefan conducted an extensive time and motion study to identify the tasks (and associated time range to perform each task) related to processing a contract cancellation.
- » For a large drugstore chain Stefan used in-store cameras for the smaller stores and actual in-store observations for the larger stores to conduct a time motion study and quantify the time spent by assistant managers on certain pre-defined tasks.
- » For a large public storage company Stefan conducted a detailed time and motion study to determine the cost of collection and administration of late payments. Using both self-logging and independent review techniques, Stefan defined each step in the late payment process, calculated the cost to the company for such activities, and compared this cost to the late fees under dispute.
- » For a large retail chain Stefan conducted an extensive analysis of the company's compliance with break time rules and regulations and also the employees' usage and potential abuse of break time.
- » For a large mass merchandise retailer Stefan compiled a comprehensive database of punch clock data, payroll data, point of sales data, hardcopy information about manual edits of time entries, store security system data, etc. to analyze allegations of inserting breaks, deleting time and forcing employees to work after they clocked out.
- » In a gender discrimination case against a temporary employment agency, Stefan performed econometric analyses to disprove salary discrimination against two former female employees.
- » In a class action gender discrimination case against a large real estate brokerage firm, Stefan provided deposition testimony to class certification issues.
- » In a wrongful termination dispute of a regional property manager, Stefan utilized economic and statistical models to assess the allegations of economic loss due to the separation of employment.
- » For a patent infringement case on industrial orbital sanders, Stefan analyzed scenarios based on economic demand models and price elasticity calculations to determine past and future lost profits as well as price erosion.
- » In a copyright infringement case of used car evaluation guides, Stefan specified and estimated linear and non-linear regression models to determine the effect of the infringement of the copyright on sales over time.
- » In a merger of two warehouse chains, Stefan specified statistical tests and regression models to explain differences in inventory shortages.



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- » In a natural resource damage case, Stefan provided econometric analysis of property value loss due to proximity to a solid waste site utilizing hedonic regression models.
- » In a natural resource damage case, Stefan provided econometric analysis of property value loss due to proximity to a polluted river utilizing hedonic regression models.
- » For a case involving potential damage from a landfill in a state park, Stefan analyzed data about travel, tourism and park attendance. Stefan specified and estimated linear regression models and time series models to predict park attendance.
- » For a large U.S. food and beverage company, Stefan worked on an evaluation of intangible assets based on an econometric model comparing the demand of branded and private label products.
- » For a large healthcare corporation involved in the breast implant litigation, Stefan specified and estimated statistical models to quantify the expected contribution to a combined settlement pool. He also quantified potential liability in individual law suits by analyzing company specific production and profitability data combined with a study of the correlation between compensatory and punitive damages in similar law suits.
- » In a dispute over decline in returns for soybean futures, Stefan specified statistical models to predict cumulative returns.
- » In a class action case involving alleged diminution of property values due to ground-water contamination, Stefan specified and estimated hedonic regression models to show that other factors than the contamination contributed significantly to the loss in property value.
- » In a dispute between the State of Tennessee and a health plan, Stefan performed a statistical analysis of a sample of claims to test for overpayments.
- » For a patent infringement case on micro-motors, Stefan analyzed data of production and sales of goods that contain micro-motors and ran econometric regressions to determine price erosion.
- » For a film production company, Stefan specified statistical models to quantify the loss in expected box office revenue due to the breach of contract by a celebrity.
- » In a dispute between a union and a meatpacker over violation of state law with respect to fixed allowances for certain compensable activities, Stefan analyzed the union's damage claim and conducted an activity timing analysis.
- » Stefan designed and administered large-scale databases to reconstruct accounting records of a large financial institution's Corporate Trust Department. He developed statistical models to analyze bondholders' presentment behavior of Bearer bonds.



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- » In a dispute between the Department of Interior and individual Native Americans over mismanagement of individual trust accounts, Stefan performed a statistical analysis of an electronic database with approximately 60 million records in order to draw a statistically valid sample of accounts for further analysis.
- » In a variety of cases, Stefan assisted clients in the use of the Government approved statistical program RatStat to perform probe samples and the necessary extrapolations of repayments due to the Government in Medicare reimbursements disputes.
- » For a major health care provider, Stefan developed a benchmarking model to assess the exposure in a dispute with the Department of Justice regarding over-coding issues.
- » In a trademark infringement case of video equipment, Stefan calculated damages based on the defendant's unjust enrichment utilizing statistical time trend models.
- » For a major chemical company involved in a personal injury case, Stefan created and maintained a database containing damage award data about chemical industries. Stefan also specified pooled cross-sectional/time-series regression models to analyze the effects of punitive damage awards on job safety and new capital expenditure.
- » For a breach of contract case involving a production company over failed financing for a film, Stefan analyzed cost and revenue figures and estimated regression models to predict foreign box office revenues.
- » For a large financial institution's personal trust department, Stefan designed a random sample to estimate the potential exposure due to fee overcharges.
- » For a major health care provider, Stefan developed statistical sampling plans in the area of Home Health Care to assess the exposure in a DOJ investigation regarding medical necessity issues.
- » For a major health care provider, Stefan developed statistical sampling models and predictive models to answer questions about irregularities of Lab billings.
- » For a large homecare product provider, Stefan developed alternative stratified sampling models to address allegations of fraud.
- » In a provider's OIG self-disclosure relating to CPT coding issues, Stefan conducted statistical sampling reviews to prove that the errors were random in nature and did not constitute fraud.
- » For a major health care provider, Stefan developed statistical methods to assess the exposure in a DOJ investigation related to cost report reserve issues.
- » For a state's psychiatric hospitals, Stefan developed the statistical methodology in a billing dispute with HCFA about potential charge and billing problems.



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- » In a variety of cases, Stefan designed statistical random samples for an HMO to test the validity and reliability of electronic databases in a billing dispute with HCFA (now CMS).
- » For several County owned hospitals in San Diego County, Stefan conducted the statistical analysis for a self disclosure, and presented the results to the regional OIG office in Santa Ana, CA.
- » In a dispute between a major health care provider and private payor groups, Stefan developed statistical stratified sampling models to assess exposure across different contract types.
- » For a project analyzing data of billing overcharges of a chain of psychiatric hospitals, Stefan worked on a sample design and the estimation of the total amount of overcharges based on the sample.
- » For a major long distance carrier, Stefan developed a stratified random sample design to estimate the amount of disputed charge backs from a service provider.
- » In a dispute between a major long distance carrier and some of its supply vendors about overcharges on invoices, Stefan developed stratified random sample designs to quantify the overcharges.
- » For a project analyzing the extent of competition in the market segments of a pipeline company, Stefan analyzed price indices.
- » In an antitrust case involving high volume copiers, Stefan estimated the divisional cost of capital directly from divisional accounting time series using the capital asset pricing model.
- » In a major municipal bankruptcy, Stefan performed an analysis of financial time series data of yields and cost of borrowing for the portfolio and selected subsets thereof. He also developed statistical forecast models based on the pre-bankruptcy portfolio to predict interest earnings and expenses as well as daily cash flows for the post-bankruptcy period.
- » In a variety of cases, Stefan designed statistical random samples for HMO's to test the validity and reliability of electronic databases containing patient information. In a large variety of cases, Stefan rebutted expert reports utilizing economic theory or statistical techniques, in particular economic demand models, regression models and statistical sampling methods.

Non-Disputes

- » For a large law firm, Stefan performed a comprehensive statistical analysis of Los Angeles superior court jury verdicts over the last decade. The project tested the hypothesis of systematic bias in particular courthouses with respect to plaintiff-win probability, length of trial, length of deliberation, and dollar amounts awarded.



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- » For a project analyzing the extent of competition in the market segments of a pipeline company, Stefan estimated regression and Tobit-models to determine optimal bidding behavior for gas storage demand. He prepared testimony given in filings before the Federal Energy Regulatory Commission (FERC).
- » For the American Film Marketing Association, Stefan performed an economic impact study of the influence of the independent film producers and distributors on the U.S. economy in general, and the California economy in particular.
- » For the Arizona Tax Research Association, Stefan developed economic models to quantify the revenue impact of a proposed change of taxation in the construction sector in Arizona.
- » For a large entertainment client, Stefan developed statistical models to predict the return of video cassettes and DVDs.
- » For several clients in the retail industry, Stefan developed statistical models to estimate the liability of unredeemed gift certificates.
- » For a client in the restaurant business, Stefan developed statistical models to quantify the dollar amount of outstanding unredeemed gift certificates.
- » For a major hotel chain, Stefan developed statistical models to forecast the redemption of frequent traveler program points for tax purposes.
- » For a high profile e-commerce company, Stefan's team produced an interactive Business decision tool to forecast company growth and profitability. The interactive model allows the client, through the choice of a few fundamental inputs, to measure the simultaneous impact on all cost and revenue dimensions of the company, including real estate and equity participation.
- » For the Nevada Resort Association, Stefan quantified the economic impact of the gaming industry with special emphasis on the accelerated population growth in greater Las Vegas.
- » For the Los Angeles Unified School District, Stefan performed an economic study about the impact of different recycling programs.
- » For the Los Angeles County Department of Health Services, Stefan conducted a time and motion study to determine the time required to complete specific Medi-Cal eligibility and provider forms.
- » For a hotel property management company, Stefan analyzed customer data, and used data mining methods to develop predictive models for customer acquisition, retention, and attrition.
- » For large grocery store chains, Stefan analyzed the effectiveness of a frequent shopper card program utilizing data mining techniques. He also analyzed customer data to facilitate the introduction of one-to-one marketing tools.



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- » For a hotel property management company, Stefan developed a demand driven yield management system.
- » For a company providing self storage space, Stefan developed a demand driven price-setting strategy utilizing own- and cross-price elasticity regression models.
- » For a high-tech start-up with a unique service offering of new products, Stefan recommended product-pricing scenarios.
- » For a large international conglomerate, Stefan developed customized data mining techniques for the implementation within a customer knowledge management system.

Depositions

- » MRO Communications, Inc vs. American Telephone and Telegraph Company, United States District Court District of Nevada, Case. No. -5-95-903-PMP, Deposition Testimony, September 26, 1996
- » Yolanda Aiello Harris, individually and on behalf of all others similarly situated; Jennifer Hopkins, individually and on behalf of others similarly situated; Shannon L. Bradley, individually and on behalf of others similarly situated, Plaintiffs, vs. CB Richard Ellis, Inc., a California corporation; CB Commercial INC., a California corporation; Defendants, Superior Court of California, County of San Diego, Case No. GIC 745044, Deposition Testimony, January 05, 2001.
- » State of Tennessee, ex rel., Douglas Sizemore, Petitioner vs. Xantus Healthplan of Tennessee, Inc., Chancery Court of Davidson County, Tennessee at Nashville, Case No 99-917-II, Deposition Testimony, October 11, 2001.
- » Howard Wright, Inc., a California corporation doing business as AppleOne Employment Services, Plaintiffs, vs. Olsen Staffing Services, Inc., a Delaware Corporation, Dagny Smith, an individual, Vicky Riechers, an individual, and Linda Shiftman, an individual, Defendants, Superior Court of the State of California for the County of Los Angeles, Case No. BC 200657, Deposition Testimony, December 7, 2001.
- » Sacred Heart Medical Center, et al., Plaintiffs, -vs- Department of Social and Health Services, and Dennis Braddock, the Secretary of the Department of Social and Health Services, Defendants, Superior Court of the State of Washington in and for the County of Thurston, No. 00-2-01898-1, Deposition Testimony, January 23, 2003.



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- » Patrick Bjorkquist individually and on behalf of all others similarly situated, Plaintiff, vs. Farmers Insurance Company of Washington, Defendant, in the Superior Court of the State of Washington for King County, Case No.: 02-2-11684-1 SEA, Deposition Testimony, November 3, 2003.
- » Diversified Property, a general partnership, Dora Saikhon Family Trust, and Nancy Saikhon Borrelli, an individual, Plaintiffs vs. Manufacturers Life Insurance (U.S.A.), a Michigan corporation, erroneously sued as Manufacturers Life Insurance Company, Inc., Defendants in the Superior Court of California, County of San Diego, Case No.: GIC 815128, Deposition Testimony on July 21, 2004.
- » Alan Powers, Plaintiff, vs. Laramar Group et al., Defendants in the United States District Court, Northern District of California, No. C-02-3755 SBA, Deposition Testimony on August 27, 2004.
- » Group Anesthesia Services, A Medical Group, Inc., Claimant, vs. American Medical Partners of North Carolina, Inc., etc., et al., Respondents, JAMS Arbitration, Reference No. 1100040919, Deposition Testimony on February 9, 2005.
- » Group Anesthesia Services, A Medical Group, Inc., Claimant, vs. American Medical Partners of North Carolina, Inc., etc., et al., Respondents, JAMS Arbitration, Reference No. 1100040919, Deposition Testimony on March 11, 2005.
- » Fujitsu v. Cirrus Logic et al., United States District Court, Northern District of California, San Jose Division, Case No. 02CV01627. Deposition Testimony on April 21, 22, 2005.
- » Goldman et al. v. RadioShack Corporation, United States District Court, Eastern District of Pennsylvania, Case No. 03 CV 0032, Deposition Testimony on May 18, 2005.
- » Perez et al. v. RadioShack Corporation, United States District Court, Northern District of Illinois, Eastern Division, Case No. 02-CV-7884, Deposition Testimony on December 13, 2005.
- » United States of America ex rel. A. Scott Pogue v. American Healthcorp Inc., Diabetes Treatment Centers of America Inc., et al., United States District Court, Middle District of Tennessee at Nashville, Civil No. 3-94-0515, Deposition Testimony on May 12, 2006.
- » School Districts' Alliance v. State of Washington, United States District Court, Eastern District of Thurston, Case No. 04-2-02000-7, Deposition Testimony on July 20, 2006.
- » Boca Raton Community Hospital, Inc., a Florida not-for-profit corporation d/b/a Boca Raton Community Hospital, on behalf of itself and on behalf of Class of all others similarly situated v. Tenet Healthcare Corp., a Nevada Corporation, United States District Court, Southern District of Florida, Miami Division, Case No. 05-80183-CIV-SEITZ/MCALILEY, Deposition Testimony on July 25, 2006.



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- » Boca Raton Community Hospital, Inc., a Florida not-for-profit corporation d/b/a Boca Raton Community Hospital, on behalf of itself and on behalf of Class of all others similarly situated v. Tenet Healthcare Corp., a Nevada Corporation, United States District Court, Southern District of Florida, Miami Division, Case No. 05-80183-CIV-SEITZ/MCALILEY, Deposition Testimony on October 13, 2006.
- » Louise Ogborn v. McDonald's Corporation et al., Commonwealth of Kentucky 55th Judicial District, Bullitt County Circuit Court, Case No. 04-CI-00769, Deposition Testimony on October 19, 2006.
- » Elise Davis v. Kohl's Department Stores, Inc. consolidated with Rosie Grindstaff v. Kohl's Department Stores, Inc., Superior Court of the State of California for County of Los Angeles Central District, Case No. BC 327426 (lead case) consolidated with Case No. BC 341954, Deposition Testimony on April 25, 2007.
- » Norman Utley, et al., v. MCI, Inc., MCI Worldcom Communications, Inc., and MCI Network Services, Inc., formerly known as MCI Worldcom Network Services, Inc., United States District Court, Northern District of Texas, Dallas Division, Civil Action No. 3:05 - CV- 0046 - K, Deposition Testimony on May 30, 2007.

Testimony

- » State of Tennessee, ex rel., Douglas Sizemore, Petitioner vs. Xantus Healthplan of Tennessee, Inc., Chancery Court of Davidson County, Tennessee at Nashville, Case No 99-917-II, Trial Testimony, October 16, 2001.
- » State of Tennessee, ex rel., Douglas Sizemore, Petitioner vs. Xantus Healthplan of Tennessee, Inc., Chancery Court of Davidson County, Tennessee at Nashville, Case No 99-917-II, Rebuttal Testimony, October 26, 2001.
- » Howard Wright, Inc., a California corporation doing business as AppleOne Employment Services, Plaintiffs, vs. Olsen Staffing Services, Inc., a Delaware Corporation, Dagney Smith, an individual, Vicky Riechers, an individual, and Linda Shiftman, an individual, Defendants, Superior Court of the State of California for the County of Los Angeles, Case No. BC 200657, Trial Testimony, March 4, 2002.
- » Columbia/HCA Healthcare Corporation - Billing Practices Litigation, United States District Court, Middle District of Tennessee, Nashville Division, Case No. 3-98-MDL-1227 on June 28, 2002.



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- » Sacred Heart Medical Center, et al., Plaintiffs v. Department of Social and Health Services, and Dennis Braddock, the Secretary of the Department of Social and Health Services, Defendants, Superior Court of the State of Washington in and for the County of Thurston, No. 00-2-01898-1, Testimony in Liability Trial, April 14, 2003.
- » Diversified Property, a general partnership, Dora Saikhon Family Trust, and Nancy Saikhon Borrelli, an individual, Plaintiffs v. Manufacturers Life Insurance (U.S.A.), a Michigan corporation, erroneously sued as Manufacturers Life Insurance Company, Inc., Defendants in the Superior Court of California, County of San Diego, Case No.: GIC 815128, Trial Testimony on October 25, 2004.
- » Bridgestone/Firestone North American Tire v. Sompō Japan Ins. Co. of America, United States District Court for the Middle District of Tennessee Nashville Division Civil Action NO. 3-02-1117, March 7, 2005
- » Group Anesthesia Services, A Medical Group, Inc., Claimant, vs. American Medical Partners of North Carolina, Inc., etc., et al., Respondents, JAMS Arbitration, Reference No. 1100040919, Arbitration Testimony on March 23, 2005.
- » Goldman et al. v. RadioShack Corporation, United States District Court, Eastern District of Pennsylvania, Case No. 03 CV 0032, Testimony in Liability Trial, on June 28, 29, 2005.
- » Goldman et al. v. RadioShack Corporation, United States District Court, Eastern District of Pennsylvania, Case No. 03 CV 0032, Rebuttal Testimony in Liability Trial, on July 5, 2005.
- » Mauna Loa Vacation Ownership LLP v. Accelerated Assets, LLP, United States District Court, District of Arizona, Case No. CIV 03-0846 PCT DGC. Trial Testimony, on February 22, 2006.
- » School Districts' Alliance v. State of Washington, United States District Court, Eastern District of Thurston, Case No. 04-2-02000-7, Trial Testimony on November 13, 2006.

Publications

- » Boedeker, Stefan and Goetz Trenkler (2001) - "A Comparison of the Ridge and Iteration Estimator" - in: Econometric Studies: A Festschrift in Honour of Joachim Frohn (ed. by Ralph Friedmann, Lothar Knueppel, and Helmut Luetkepohl), New Brunswick.

Exhibit B - Documents Considered

<u>Name</u>	<u>Source</u>	<u>Date Visited</u>
<u>A. Legal</u>		
First Amended Complaint		
Plaintiffs' Second Amended Complaint		
Stipulation and Order		
<u>B. Expert Reports</u>		
Expert Report of Richard Berk - January 9, 2008		
Expert Report of Thomas W. Sanchez - January 11, 2008		
Expert Report and Declaration of Thomas A. Rubin - January 11, 2008		
<u>D. Documents Produced by MTC</u>		
MTC Memo to MCAC/Partnership EJ Subcommittee, October 2006 (MTCM010201)		
<u>C. Publicly Available</u>		
<u>Reports</u>		
MTA Annual Reports 2000-2006		12/19/2007
MTA Discretionary Fund Reports FY 02/03 - 05/06		12/19/2007
National Transit Database 1996-2006 Data		12/19/2007
AC Transit Agency Profiles 2000-2006		12/19/2007
BART Agency Profiles 2000-2006		12/19/2007
Caltrain Transit Agency Profile 2000		12/19/2007
Caltrain Transit Agency Profile 2001		12/19/2007
Caltrain Transit Agency Profile 2002		12/19/2007
Caltrain Transit Agency Profile 2003		12/19/2007
Caltrain Transit Agency Profile 2004		12/19/2007
Caltrain Transit Agency Profile 2005		12/19/2007
Caltrain Transit Agency Profile 2006		5/9/2007
ACT 2002 Ridership Survey		5/9/2007
BART Station Profile Summary 1999		1/17/2008
BART Report to Congress 2007		1/17/2008
San Francisco Regional Transportation Plan for 2005-2030		
Statistical Summary of Bay Area Transit Operators 98-99		
Statistical Summary of Bay Area Transit Operators 99-00		
Statistical Summary of Bay Area Transit Operators 00-01		
Statistical Summary of Bay Area Transit Operators 01-02		
Statistical Summary of Bay Area Transit Operators 02-03		
Statistical Summary of Bay Area Transit Operators 04-05		
Statistical Summary of Bay Area Transit Operators 05-06		
Statistical Summary of AC Transit for 2006		
Statistical Summary of BART for 2007		
Statistical Summary of Caltrain for 2008		
MTC 2006-2007 Transit Passenger Survey (Phase 1)		1/17/2008
MTC 2006-2007 Transit Passenger Survey (Phase 2)		1/17/2008
MTC Transit Passenger Demographic Survey 2006		
Moving Costs - A Transportation Funding Guide for the San Francisco Bay Area	http://www.mtc.ca.gov/library/funding_guide/moving_costs.pdf	1/31/2008
BART Travel Characteristics of Transit-Oriented Development		
Santa Clara Valley Transportation Authority 2005-2006 On-board Passenger Survey Final Report		
Transportation 2030 Plan for the San Francisco Bay Area (RTP 2003)		
MTC Regional Transportation Plan 2001		
MTC Regional Transportation Plan 1998		
MTC Regional Transportation Plan 1994		
<u>Websites</u>		
US Census	http://factfinder.census.gov	12/19/2007
Bureau of Labor Statistics	http://www.bls.gov	
Bencica Breeze Transit	www.ci.bencica.ca.us/transport	2/1/2008
Marin County Transit	www.marintransit.org	2/1/2008
AC Transit	www.actransit.org	2/1/2008
BART Transit	www.bart.gov	2/1/2008
Caltrain Transit	www.caltrain.com	2/1/2008
CCCTA Transit	www.cccta.org	2/1/2008
City of Fairfield Transit	www.ci.fairfield.ca.us/transportation.htm	2/1/2008
ECCTA	www.eccta.org	2/1/2008
Golden Gate Bridge Transit	www.goldengate.org	2/1/2008
LAVTA (Wheels)	www.lavta.org	2/1/2008
NCTPA/Napa Vine	www.ncipa.net/index.cfm	2/1/2008
SF Muni	www.sfmuni.com	2/1/2008

Exhibit B - Documents Considered

<u>Name</u>	<u>Source</u>	<u>Date Visited</u>
Sam Trans	www.samtrans.com	2/1/2008
San Joaquin Railroad Commission (ACE)	www.acerail.com/	2/1/2008
Santa Rosa Bus	www.santarosabussaffic.com/city_bus.shtml	2/1/2008
Sonoma County Transit	www.sctransit.com	2/1/2008
Vallejo Transit	www.vallejotransit.com	2/1/2008
VTA	www.vta.org	2/1/2008
Westcat	www.westcat.org	2/1/2008
Vacaville Transit	www.vallejotransit.com/	2/1/2008
Union City Transit	www.ci.union-city.ca.us/risuretrans.html	2/1/2008
City of Alameda Ferry	www.eastbayferry.com	2/1/2008
SF Gate Newspaper Article - Study shows BART strike would tie up Bay Area traffic	http://www.sfgate.com/cgi-bin/article.cgi?file=/chronicle/archive/2005/06/29/MNbars29.DTL	
Bay Area Toll Authority Fund - Toll Funded Allocation Programs	http://bata.mtc.ca.gov/funded.htm	
Bay Area Toll Authority	http://bata.mtc.ca.gov	
MTC Website	http://mtc.ca.gov	
Board of Directors Meeting - Peninsula Corridor Joint Power Board	http://www.calltrain.org/bood_minutes_11_6_03.html	1/29/2008
AB 664 Fund Description	http://apps.mtc.ca.gov/meeting_packet_documents/agenda_689/2d-ab664.pdf	1/31/2008
US Dept of Labor 41 - CFR 60-3.4 - Information on Impact (4/3 Rule)	http://www.dol.gov/dol/alicfrtitle_41/Part_60-3/41CFR60-3.4.htm	2/22/2008

Academic

Jorge Laval, Michael Cassidy and Juan-Carlos Herrera (2004), *Traffic Impact Analysis: Effects Of The Absence Of BART Service On Major East Bay Corridors*, Institute of Transportation Studies, UC Berkeley (www.berkeley.edu).

Kelly St. John, "Study shows BART strike would tie up Bay Area Traffic", June 29 2005, San Francisco Chronicle

Litman, Todd, *Evaluating Public Transit Benefits and Costs: Best Practices Guidebook*, (2008), Victoria Transport Policy Institute.

The Sedway Group, *BART's Contributions to the Bay Area*, prepared for the San Francisco Bay Area Rapid Transit District (BART), July, 1999, p. iii

Exhibit C

Appendix –

Regression Analysis

1) Regression of AC Transit Farebox Revenue (Y) on AC Transit Operating Cost (X)
For Fiscal 1998-1999 through Fiscal 2005-2006

Regression Statistics		ANOVA Table			
		df	SS	MS	Significance F
Multiple R	0.33	1	6.802E+12	6.802E+12	0.74
R Square	0.11	6	5.532E+13	9.221E+12	0.42340
Adjusted R Square	-0.04	7	6.213E+13		
Standard Error	3,036,564				
Observations	8				

Regression Coefficients							
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Upper 95.0%
Intercept	38,663,411	8,074,152	4.79	0.003	18,906,674	58,420,148	58,420,148
Passengers	0.03	0.03	0.86	0.423	-0.055	0.115	-0.055
							0.115

2) Regression of BART Farebox Revenue (Y) on BART Transit Operating Cost (X)
For Fiscal 1998-1999 through Fiscal 2005-2006

Regression Statistics		ANOVA Table			
		df	SS	MS	Significance F
Multiple R	0.94	1	4.025E+15	4.025E+15	43.75
R Square	0.88	6	5.519E+14	9.199E+13	0.00057
Adjusted R Square	0.86	7	4.577E+15		
Standard Error	9,591,041				
Observations	8				

Regression Coefficients							
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Upper 95.0%
Intercept	32,042,888	26,958,636	-1.19	0.280	-33,922,517	98,008,294	98,008,294
Ln(Passengers)	0.50	0.07	6.61	0.001	0.31	0.68	0.68

3) Regression of Caltrain Farebox Revenue (Y) on Caltrain Operating Cost (X)
For Fiscal 1998-1999 through Fiscal 2005-2006

Regression Statistics		ANOVA Table				
		df	SS	MS	F	Significance F
Multiple R	0.72					
R Square	0.52					
Adjusted R Square	0.44					
Standard Error	2,700,229					
Observations	8					

Regression Coefficients						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	4,398,286	6,986,013	0.63	0.55	-12,695,872	21,492,444
Routes	0.29	0.11	2.56	0.04	0.01	0.57

4) Regression of AC Transit Farebox Revenue (Y) on Time (X)
For Fiscal 1998-1999 through Fiscal 2005-2006

Regression Statistics		ANOVA Table				
		df	SS	MS	F	Significance F
Multiple R	0.46					
R Square	0.21					
Adjusted R Square	0.08					
Standard Error	2,854,894					
Observations	8					

Regression Coefficients						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	43,011,393	2,224,515	19.34	0.000001	37,568,200	48,454,586
Routes	561,107	440,520	1.27	0.24987	(516,806)	1,639,020

5) Regression of AC Transit Operator Cost (Y) on Time (X)
For Fiscal 1998-1999 through Fiscal 2005-2006

Regression Statistics		ANOVA Table			
		df	SS	MS	F
Multiple R	0.90				
R Square	0.82	1	6.268E+15	6.268E+15	26.76
Adjusted R Square	0.79	6	1.405E+15	2.342E+14	
Standard Error	15,304,197	7	7.673E+15		
Observations	8				
Significance F					
					0.00207

Regression Coefficients						
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	175,872,679	11,924,934	14.75	0.00001	146,693,415	205,051,942
Routes	12,215,821	2,361,489	5.17	0.00207	6,437,466	17,994,177
					Lower 95.0%	Upper 95.0%
					146,693,415	205,051,942
					6,437,466	17,994,177

Sources: MTC Statistical Summaries of Bay Area Transit Operators.

PROOF OF SERVICE

I, Susan Christensen, declare that I am a resident of the State of California. I am over the age of 18 years and not a party to the action entitled *SYLVIA DARENSBURG, et al. v. METROPOLITAN TRANSPORTATION COMMISSION*, United States District Court - Northern District of California, Action Number C 05 01597 EDL; that my business address is 425 Market Street, 26th Floor, San Francisco, California 94105. On February 25, 2008, I served a true and accurate copy of the document(s) entitled:

Rebuttal Report of Stefan Boedeker
DARENSBURG, et al. v. METROPOLITAN TRANSPORTATION COMMISSION
 U.S. District Court - Northern District of California
 Case No., C-05-1597 EDL
 February 25, 2008

on the party(ies) in this action by placing said copy(ies) in a sealed envelope, each addressed to the last address(es) given by the party(ies) as follows:

SEE ATTACHED SERVICE LIST

(By First Class Mail pursuant to Rule 5(b) of Federal Rules of Civil Procedure.) I am readily familiar with Hanson Bridgett's practices for collecting and processing documents for mailing with United States Postal Service. Following these ordinary business practices, I placed the above referenced sealed envelope(s) for collection and mailing with the United States Postal Service on the date listed herein at 425 Market Street, 26th Fl., San Francisco, CA 94105. The above referenced sealed envelope(s) will be deposited with the United States Postal Service on the date listed herein in the ordinary course of business.



(By Express Mail pursuant to Rule 5(b) of Federal Rules of Civil Procedure.) I deposited each sealed envelope, with the postage prepaid, to be delivered via _____ to the party(ies) so designated on the service list.



(By Hand pursuant to Rule 5(b) of Federal Rules of Civil Procedure.) I directed each sealed envelope to the party(ies) so designated on the service list to be delivered by courier, _____, this date.



(By Telecopy Fax pursuant to Rule 5(b) of Federal Rules of Civil Procedure.) I am readily familiar with Hanson Bridgett's practice for processing of documents via Telefax. Following these ordinary business practices, I directed that the above referenced documents(s) be placed in the Telefax machine, with all costs of Telefaxing prepaid, directed to each of the party(ies) listed on the attached service list using the last Telefax numbers(s) given by the party(ies), and processed through the Telefax equipment, until a report is provided by that equipment indicating that the Telefax operation was successful.

I declare under penalty of perjury under the laws of the State of California that the above is true and correct and was executed on February 25, 2008 at San Francisco, California.


 Susan Christensen

SERVICE LIST

SYLVIA DARENSBURG, et al. v. METROPOLITAN TRANSPORTATION COMMISSION, et al.
 United States District Court - Northern District of California
 Action Number C 05 01597 EDL

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