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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 ROBERT B. CERVERO,
Ph.D. IN SUPPORT OF DEFENDANT'S
MOTIONS FOR SUMMARY JUDGMENT,
OR PARTIAL SUMMARY JUDGMENT,
AND IN OPPOSITION TO PLAINTIFFS'
MOTION FOR SUMMARY ADJUDICATION**

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

I, ROBERT B. CERVERO, Ph.D., hereby declare:

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

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

3. I am a Professor and Chair of the Department of City and Regional Planning at the University of California, Berkeley, and have held this position since 1980. From 1992 to 1995, I was Associate Dean of the College of Environmental Design at UC Berkeley. I have an A.B. degree in Economics and Geography from the University of North Carolina, Chapel Hill (1973); a Master of City Planning and a Master of Transportation Engineering from the Georgia Institute of Technology (1975); and a Ph.D. in urban planning from the University of California, Los Angeles (1980). Attached to Exhibit A (as Exhibit A) is a true and correct copy of my professional resume, which further describes my qualifications.

4. Attached to this Declaration as Exhibit A is a true and correct copy of my expert report in this case, dated January 31, 2008.

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

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

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

Robert Cervero

ROBERT B. CERVERO

EXHIBIT A

Expert Report of Robert B. Cervero
Darensburg et al. v. Metropolitan Transportation Commission
U.S. District Court
Northern District of California
Case No., C-05-1597-EDL
January 31, 2008

I have been retained by the Defendant's counsel in the Darensburg et al. v. Metropolitan Transportation Commission case to respond to the Plaintiffs' claims and to review and comment on the reports and declarations of the Plaintiffs' counsel's two experts: Mr. Thomas Rubin and Dr. Thomas Sanchez. I have been provided background materials on all depositions related to the case, the 2025 Regional Transportation Plan (approved in 2001) and 2030 Regional Transportation Plan (approved in 2005), MTC Annual Reports from 2001 to 2006, two MTC Equity Analysis Reports (from 2001 and 2004) as well as the Lifeline Transportation Network Report (2001), and other documents provided to me by the Defendant's counsel, Mr. Walter Schneider of Hanson, Bridgett, Marcus, Vlahos, Rudy, LLP. I charge \$200 per hour for my services and \$400 per hour for time spent giving depositions or testifying in court.

I. EXPERIENCE AND QUALIFICATIONS

1. I have more than 30 years of experience as an educator, researcher, consultant, and practitioner in urban and regional transportation planning and policy analysis. My curriculum vita is attached as Exhibit A. I have an A.B. degree in Economics and Geography from the University of North Carolina, Chapel Hill (1973); a Master of City Planning and a Master of Transportation Engineering from the Georgia Institute of Technology (1975); and a Ph.D. in urban planning from the University of California, Los Angeles (1980).

2. Since 1980, I have been on the faculty of the Department of City and Regional Planning at the University of California, Berkeley, where I am presently a Professor and Chair of the department; from 1992 to 1995, I was Associate Dean of the College of Environmental

Design at UC Berkeley. Since receiving my doctorate degree, I have actively worked as a consultant, advisor, and expert for clients on more than 70 projects and legal cases, both in the U.S. and abroad. My scholarly work spans the area of sustainable transportation planning and policy, with a focus on public transit systems and transportation/land-use integration. To date, I have been the author or co-author of six books on these subjects as well as 80-plus research reports and monographs, more than 130 peer-reviewed journal articles, and over 85 news and magazine articles, conference proceeding papers, and book reviews. Also, I have been an advisor and consultant on transportation and urban infrastructure projects in many countries, most recently in China, Colombia, Brazil, the Philippines, and Indonesia.

3. Over the past five years, I have been a regular instructor of transportation planning courses for the National Transit Institute and the World Bank Institute. In 2004, I received the first-ever Dale Prize for Excellence in Urban Planning Research. In 2003, I won the Article of the Year award from the Journal of the American Planning Association for my paper on "Road Expansion, Urban Growth, and Induced Travel: A Path Analysis". In the past, I have been a Fellow with the Urban Land Institute and the World Bank Institute.

4. Presently, I serve on the editorial boards of some of the leading journals in the urban planning and transportation fields, including *Urban Studies*, *Journal of the American Planning Association*, *Journal of Planning Literature*, and *Journal of Public Transportation*. I also chair the National Advisory Committee of the Active Living Research Program of the Robert Wood Johnson Foundation, and was recently appointed to the National Research Council committee on "Development Patterns, Vehicle Miles Traveled, and Energy". Over the past year and a half, I have given keynote conference addresses in Shenzhen, Sao Paulo, Salvador, Bali, Brisbane, Montreal, and Seoul.

II. MAIN CONCLUSIONS

1. The Metropolitan Transportation Commission (MTC) faithfully and dutifully exercises its statutory responsibility as a designated Metropolitan Planning Organization (MPO) in the San Francisco Bay Area in preparing the Regional Transportation Plan (RTP) and its implementation arm, the Regional Transportation Improvement Program (RTIP), with input from the region's many stakeholders. Decisions on the prioritization and funding of transportation projects within the constraint of available financial resources are made through an open, fair, inclusive, and participatory process. In my opinion, MTC is one of the most effective and influential MPOs in the United States, widely known as an innovator, for its progressive leadership, and for advancing a balanced and sustainable transportation system in one of the largest, most dynamic, and institutionally complex regions in the nation. In 2002, MTC received the "Outstanding Overall Achievement Award" for an MPO over 200,000 population from the American Metropolitan Planning Organization (AMPO) for its "innovative strategies to support livable communities throughout the Bay Area".¹

2. MTC's principal charge is to prepare an RTP that advances the common good of the nine-county Bay Area. Weighing the broader regional interest reduces the chance of parochial interests influencing decisions and distorting the allocation of scarce public resources. MTC is widely viewed as having one of the most effective, participatory planning and decision-making processes of any MPO in the nation.

3. Mr. Rubin's analysis of the last four RTPs (1994, 1998, 2001, and 2005) leads him to conclude that "MTC prioritizes capital needs over operating needs" (p. 9) and further claims that "to operate existing service is therefore more cost-effective per person than to expand service" (p. 30). For this reason, Mr. Rubin argues that more discretionary funds overseen by MTC should go to transit operations. The argument seems to be that MTC has the ability to use

¹ <http://www.ampo.org/content/index.php?pid=20>

some discretionary funds for not just transit capital investments but also to cover operating deficits. Mr. Rubin argues that MTC can, but chooses not to, apply FTA §5307 formula funds for preventive maintenance. Whether this is the best use of scarce and highly competitive transit dollars for the nine-county region as a whole, however, is never discussed. Just because funds *can* be used as operating subsidies does not mean they *should*. It is an article of faith that transit operators should be supported by MTC's discretionary pot of federal pass-through dollars as a means of shoring up a transit agency whose deficits are rising, regardless of whether or not this is the wisest use of scarce fiscal resources from a regional perspective. A body of research shows that transit operating subsidies typically are leaked away through the continuing operation of unproductive services and higher production costs (mainly for labor). The region's long-range goals, moreover, extend well beyond ensuring mobility. Forward-looking, long-range planning requires that regions not just maintain and recapitalize existing systems but also invest in new systems to accommodate expected growth – growth that is projected by the region's Association of Bay Area Governments (ABAG).

4. In his report, Mr. Rubin further states that federal policy *requires* MTC to cover transit operating shortfalls. To the contrary, the *Fiscal Constraint Guidance* report of the Federal Transit Administration (FTA) and Federal Highway Administration (FHWA) does not mandate that MPOs cover shortfalls nor does it assume MPOs will accept proposed transit agencies' operating plans and deliver the funds to support them. The Guidance states: "FHWA and FTA do not mandate a particular, specific level of operations or maintenance. The Federal government accepts that State and local governments and MPOs will adjust the operation and maintenance from year to year and decade to decade".

5. Neither the plaintiffs nor their experts have made a case and established the fact that operating subsidies are a higher priority or yield a higher net benefit/cost ratio for the region as a whole than investing in new capital projects. They have failed to demonstrate that rail expansion is less cost-effective over the RTP's long-term time horizon than system preservation, particularly in light of regional growth projections. While capital expansion costs

more, these costs might be more fully covered through transit ridership gains (and thus reduced loads on crowded highway systems) than maintaining poorly performing central-city bus services. If local transit operators need more funding and refuse to cut services, the onus lies on them and the residents they serve to provide supplemental funds, as has been the case in the past with voter-approved permanent sales tax referenda in Santa Clara and San Mateo Counties. It is wrongheaded and unsubstantiated to argue that others should foot the bill.

6. MTC's Equity Analyses from 2001 and 2005 appropriately focus on changes in transit accessibility to essential destinations, such as employment sites, medical centers, and grocery stores, between parts of the Bay Area with and without large shares of minority households. The past two RTPs, the analyses show, significantly improve the ability of minority populations to reach essential destinations via public transit. Accessibility measures as used by MTC in its Equity Analyses, as opposed to metrics on monetary expenditures or vehicle miles of transit service, are widely considered in public policy circles as the best way of measuring performance because they are based on "outcomes", not "inputs" and "outputs". The design of transit services suited to the mobility needs of disadvantaged populations, moreover, best occurs at the community-based planning and short-range transit planning levels. As noted in MTC's Low Income Flexible Transportation (LIFT) program, shared-ride shuttles and carsharing programs are likely better suited to helping transportation-disadvantaged population travel "where they want to go, when they want to go" than conventional fixed-route, fixed-schedule bus services.

III. ROLE OF METROPOLITAN PLANNING ORGANIZATIONS (MPOs) AND THE LONG-RANGE REGIONAL TRANSPORTATION PLAN (RTP)

1. Many charges about how funding decisions are reached by MTC are leveled by the plaintiffs and their experts, thus it is important to be clear about the roles and responsibilities of a regional planning agency at the outset. MTC is constituted as a democratic body, overseen by a 19-member commission of mostly elected officials appointed by cities and counties in the

San Francisco Bay Area, as set by statutory law.² MTC's constituency is large and diverse, including nearly 7 million residents of the nine-county, 101-city San Francisco Bay Area as well as 26 independent transit systems – each with its own board, staff, budget, fare systems, and timetables. Brokering agreement and approval of regional plans and implementation programs among the many partners and stakeholders is an extremely demanding, resource-intensive undertaking. According to Moore et al. (2007): “MPOs are a logical place to look for regional coordination of multiple governments, nongovernmental organizations, and private interests...They are conveners of local government interests in the MPO region...that determine regional transportation priorities.”³

2. MTC's principal charge is to prepare a long-range regional transportation plan (RTP) that not only preserves the existing transportation system but also anticipates and responds to future projected growth. With the Association of Bay Area Governments (ABAG) projecting some 2 million more inhabitants in the Bay Area by 2035 (putting the population total over 9 million), MTC has a statutory responsibility to estimate the travel-demand impacts of this expected growth and to propose and stage various transportation improvements that will promote long-range planning objectives – enhance mobility, protect the environment, conserve energy, and promote efficient settlement patterns, like transit-oriented development (TOD). Certification by independent auditors ensures the federal government that MTC's existing and future transportation expenditures are planned and prioritized based on an approved 3C planning process -- one that is comprehensive (weighing social, environment, and economic considerations), cooperative (involving representatives from major stakeholders), and continuous (updated on a regular basis).

3. ABAG, an entity independent of MTC with its own staff and board, produces

² Created by state legislation in 1970 (California Government Code § 66500 et seq.), MTC functions as both the Regional Transportation Planning Agency (RTPA) – a state designation – and for federal purposes, as the region's MPO. “MPO” is used in this report as an inclusive term, meant to also denote MTC's role as the state's RPTA.

³ T. Moore and P. Thornes, with B. Appleyard. 2007. *The Transportation/Land Use Connection*. Chicago: American Planning Association, Planning Advisory Service Report Number 546/547, p. 126.

estimates of future population and employment, broken down to MTC's Traffic Analysis Zones (TAZs). These demographic estimates fuel the seven-step travel-demand forecasting models, which under a set of assumptions negotiated and agreed to by transportation professionals in the region, provide the best-available estimates of future travel conditions. MTC models various RTP scenarios and through an inclusive public input process, settles on a long-range "fiscally constrained" plan to guide future transportation investments and programs. Given the complexity and dynamic nature of regional growth and shifting public priorities, RTPs are updated on a fairly regular basis. The Regional Transportation Improvement Program (RTIP) embodies the transportation investments and programs that fall out of the RTP process. With inputs from the region's transportation agencies and stakeholders, funding packages are put together to finance the projects listed in the RTIP.

4. Traditionally, MPOs focus on safeguarding "mobility" (i.e., the ability to move swiftly and safely within a region), seeking to achieve and maintain a desirable level-of-service on highways and transit networks. According to Moore et al., the overarching RTP objective "is to provide the transportation capacity necessary to serve planned and forecasted land development".⁴ MTC has long been known as an agency devoted to more than enhancing mobility alone, however. In its long-range planning, MTC weighs broader regional development objectives, consistent with federal law [49 U.S.C. §5303(b)(1)].⁵ This is reflected in the recently adopted 2030 RTP, which embraces such objectives as improving air quality, promoting economic development, increasing global competitiveness, and achieving environmentally sustainable patterns of land development. The 2030 RTP was prepared through an extremely participatory process, unprecedented in its scope, involving 34 public workshops, telephone polls, focus groups, and numerous other outreach efforts (described on page 8 of the plan).

⁴ T. Moore and P. Thornes, with B. Appleyard. 2007. *The Transportation/Land Use Connection*. Chicago: American Planning Association, Planning Advisory Service Report Number 546/547.

⁵ This law requires long-range transportation planning to consider factors related to impacts on economic development, global competitiveness, energy conservation, quality of life, and environmental protection (as Mr. Rubin documents on page 26 of his report).

5. The current federal transportation law that governs long-range transportation planning, SAFETEA-LU, stresses the importance of achieving objectives that go beyond enhancing mobility. According to Michael Replogle, president and founder of the Institute for Transportation and Development Policy: "...more 'far-reaching' is the SAFETEA-LU requirement that MPOs adopt regional plans that 'accomplish the objectives' of the planning process – to improve mobility, foster economic growth and development, minimize fuel consumption, and minimize air pollution", noting a "challenge will be to develop plans that accomplish all four objectives together..."⁶

6. The plaintiffs' expert reports conflate the roles and responsibilities of an MPO. An MPO does not determine how pass-through monies from the federal and state levels are spent. Transit service-providers like AC Transit do. As a regional planning entity, an MPO aims to reach consensus about a broad range of objectives that promote not only mobility across all modes but other social, economic, and environmental considerations. Its chief instrument for doing this is the Regional Transportation Plan (RTP). According to noted transportation scholar Martin Wachs: "The RTP is intended to be a guide to ongoing regional expenditures on transportation projects; so, in general, local and state governments are required by law and federal regulations to invest only in projects that are consistent with the stated objectives of the RTP."⁷ Nowhere have any of MTC's RTPs specified that subsidizing bus operations is a regional objective. Nor does MTC make decisions regarding the design, operations, or pricing of transit services anywhere in the region. Such choices are solely the province of the region's transit operators and their partners (notably county Congestion Management Agencies as mandated by Proposition 111 in 1990).⁸ Statements as follows by the plaintiffs distort the role

⁶ M. Replogle, "New Law, New Questions, Missed Opportunities: What does SAFETEA-LU Mean for Planning and the Environment", *Planning*, May 2006, pp. 7.

⁷ Wachs, M. 2004. Reflections on the Planning Process. *The Geography of Urban Transportation*. S. Hanson and G. Giuliano, eds. 3rd ed., Guilford Press, p. 149.

⁸ Proposition 111 required the formation of a Congestion Management Agency in all of California's urbanized counties as a condition to a statewide gasoline tax increase.

played by regional authorities in the day-to-day management of transit operations: "As a result of MTC's underfunding, and then discontinuation, of a free student bus pass for low-income youth, many students miss class at the end of each month".⁹ MTC did not discontinue AC's free bus pass; AC Transit's Board did, weighing fiscal realities. And perhaps rightfully so, according to one AC Transit staff member, who called AC Transit's youth pass program "a disastrous idea".¹⁰

IV. FRAMING LONG-RANGE PLANNING GOALS THROUGH THE RTP

1. It is important to review the overarching visions and long-range planning goals set for the Bay Area, agreed upon through a very open and inclusive public input process, because the plaintiffs contend that more resources should go to maintaining existing services and less to transportation system expansion. MTC's latest RTP, approved in early 2005 and focused on a 2030 target date, establishes a vision that "makes a significant down payment toward restoring the transportation infrastructure we've inherited...but additional installments – of both political and financial capital – will be required to fully realize the Transportation 2030 vision".¹¹ The vision also places a strong emphasis on "connecting transportation and land-use decisions" and calls for a balanced strategy of "adequate maintenance, system efficiency, and strategic expansion". Thus, the latest RTP and the RTIP for implementing the plan realizes that not only must resources go toward sustaining existing transit services but also toward expanding them in light of unfolding urban development patterns. "The spending recommendations proposed by the Transportation 2030 Plan are focused on maintaining and operating the existing transportation system efficiently and making strategic investments to keep pace with the Bay

⁹ Set One, Response to the defendant's special interrogation of the Plaintiff, *Communities for a Better Environment* (Case No. -05-1597-EDL), p. 9.

¹⁰ In her deposition, Joan Martin, Special Assistant to AC Transit's Chief Financial Officer, responds to the question: Do you know if AC Transit plans to provide a free bus pass in the future if it has additional operating funds?", stating: "I certainly hope not...It was a disastrous idea, if you ask me". Reporter's Transcript of the Deposition of Joan Martin, p. 75, lines 10-11, 18-21, 23, September 11, 2007, *Sylvia Darendsburg et al. vs. Metropolitan Transportation Commission*, Case No. C-05-1597-EDL.

¹¹ MTC, *Mobility for the Next Generation: Transportation 2030 Plan for the San Francisco Bay Area*, Final report, February 2005, p. 1.

Area's projected growth over the next 25 years".¹² Sixteen percent of the \$118 billion expenditures projected to 2030 is expected to go to system expansion, though the bulk of funds (80 percent) is to be devoted to maintain systems and services already in place. The RTP not only responds to growth but also aims to shape growth into a more transit-oriented format. Notably, it advances a "smart growth strategy" that "promotes future residential and commercial development clustered around existing and planned transit hubs", using MTC's Resolution 3434 (passed in 2001) to tie discretionary funds for capital projects to achieving minimum densities around planned transit corridors.¹³

2. Earlier RTPs also made a strong commitment to transportation system expansion. The 2001 RTP, which set a 2025 target date, called for nearly \$11 billion investment in new rail and bus projects (under the Regional Transit Expansion Program), advanced a Lifeline Transportation system aimed at enhancing mobility for low-income resident, and defined a Regional Bicycle Master Plan. It also identified maintenance of the existing transportation network as a high priority, albeit not at the exclusion of system expansion.

3. Moreover, the 2035 RTP update, currently at the stage of envisioning the future and articulating long-range goals through proactive public input, further speaks to the broader set of social, environmental, and economic objectives that need to be considered in future resource allocations.¹⁴ The plan update, called "Bay Area on the Move", extends the goals of the 2030 RTP to include "climate change", "sustainability", "community stability", "health", and "growth". Among the targets to be achieved by 2035 are reductions in carbon dioxide emissions, 40% below 1990 levels. Major expansion of all forms of transit – railways, bus systems, HOV/HOT networks, and ferries – is being looked upon to achieve these long-range

¹² MTC, *Mobility for the Next Generation: Transportation 2030 Plan for the San Francisco Bay Area*, Final report, February 2005, p. 35.

¹³ Resolution 3434 holds that in order to qualify for regional funding of major new rail extensions and new ferry lines, cities and counties must provide a minimum number of housing units within a half-mile radius of the new transit stations, averaged for all the stations along the new corridor.

¹⁴ H. Gardner and S. Heminger, *Challenges and Choice for a Bay Area on the Move*, Fall 2007, ABAG and MTC, powerpoint presentation.

objectives. That is, regional planning currently underway reveals that the RTP is much more than about ensuring future mobility by cars, trains, and buses. It realizes transportation services and investments are a powerful tool for advancing a range of societal objectives, including clean air, economic expansion, and community enhancement.

4. Proposals for expanding rail capital must be vetted in the RTP, with strong local funding commitments. The U.S. Congress will not approve funding for new fixed-guideway investments that are not included in the RTP or not supported by non-federal funds. The Bay Area's 2030 RTP directs a considerable share of projected resources to new AC Transit capital projects. Meeting the Federal Transit Administration's (FTA's) stringent New Start project-selection criteria, including providing local funding support, is primarily the responsibility of the project proposer (i.e., the transit agency), not the MPO. Typically, dedicated sales tax referenda are approved by county voters to provide local matches for transit capital projects, as has been the case in Santa Clara and San Mateo Counties. Local match funding is the prerogative of local beneficiaries (i.e., county residents), not the region's planning entity.

V. PARTICIPATORY INPUT IN DISCRETIONARY FUNDING DECISIONS

1. The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 marked a watershed in federal legislation, for the first time mandating that urbanized areas plan and invest to promote a balanced, multimodal transportation that promotes social, environmental, and economic objectives. MTC responded to the ISTEA legislation by forming a 37-member Bay Area Partnership (made up of directors of the county Congestion Management Agencies, major transit systems, and relevant federal, state, and regional authorities) to develop a multimodal scoring system for prioritizing projects using mutually agreed-upon criteria.¹⁵

2. In 2001, MTC formalized the "Partnership" through Resolution 3509, defining

¹⁵ J. Innes and J. Gruber, *Planning Styles in Conflict: The Metropolitan Transportation Commission*, *Journal of the American Planning Association*, Vol. 71, No. 2, 2005, pp. 177-188.

membership as “top managers of public agencies for moving people and goods in the Bay Area, as well as for protecting the region’s environmental quality”.¹⁶ The Partnership has lived up to its promise of being an inclusive and consensus-building forum making multimodal resource allocation decisions. To date, MTC’s Partnership has won accolades: recognition by the American Planning Association for “outstanding efforts in forging interagency cooperation” and the receipt of a Distinguished Achievement Award from the National Association of Regional Councils. Resolution 3509, it should be noted, evolved from an independent review conducted by Art Bauer and Associates, retained by MTC to make recommendations for improving the effectiveness of the Partnership.

3. Through the Partnership, MTC is widely recognized for introducing an open, participatory, impartial, and inclusive process for prioritizing competing transportation projects and proposals in the region. When responding to the 1991 ISTEA legislation, MTC brought together stakeholders to decide how to prioritize projects. One review found “this face-to-face meeting...forced participants to be less parochial since other interests were at the table as well”.¹⁷ In their comprehensive evaluation of MPOs in California, Paul Lewis and Mary Sprague of the Public Policy Institute of California commended MTC’s consultative and inclusionary approach to prioritizing projects, noting: “The end result was a set of ‘multimodal criteria’, which aim to weigh the tradeoffs among alternative proposals in the context of the entire metropolitan transportation system”.¹⁸ That is, MTC’s role is to represent the greater good for the region as a whole, not the interest of a particular transit operator or municipality. According to Linda Howe, at the time a transportation researcher at Rutgers University: “The result was a process that was perceived to be fair, and that allowed MTC staff to score 350 proposals in

¹⁶ MTC Resolution No. 3509, October 23, 2002, revised July 23, 2003 and June 6, 2005. Attachment A of the Resolution lists eligible voting members of the Partnership as “chief staff officers” from public agencies representing transit operation, transportation facilities, Congestion Management Agencies, public works, airports, seaports, and regional, state, and federal transportation, environmental, and land-use based agencies.

¹⁷ K. Younger and D. Murray, “Developing a Method of Multimodal Policy Setting for Transportation Projects in the San Francisco Bay Area in Response to Opportunities in ISTEA”, *Transportation Research Record*, No. 1429, 1994, p. 2.

¹⁸ P. Lewis and M. Sprague, *Federal Transportation Policy and the Role of Metropolitan Planning Organizations in California*, San Francisco, Public Policy Institute of California, April 1997.

three months (and) although project proposers sometimes debated the scoring, there was little carping about the overall approach or the weights given to various criteria".¹⁹

4. The depositions of AC Transit's management staff, such as Joan Martin and Tina Spencer (September 10 and 11, 2007), reveal an open, participatory, and inclusive process for allocating discretionary and flexible funds (such as TDA, STA, and CMAQ) with active involvement of not only transit service-providers like AC Transit but also County Congestion Management Agencies (CMAs). In her deposition, AC Transit's Manager for Long-Range Planning, Tina Spencer, stated that the RTP is developed "in consultation with a lot of other parties".²⁰ Also, Joan Martin, Special Assistant to AC Transit's Chief Financial Officer, noted that the agreement to allow AC Transit to use §5307 formula in the past for preventative maintenance was a group decision, made by MTC and the Transit Finance Working Group that she served on.²¹ In addition, allocation decisions for some formula-based funding sources, like Job Access Reverse Commute (JARC) grants, are made at the county level (with CMAs distributing funds to transit operators and county agencies).²² There are also checks and balances to ensure funding decisions are fair, judicious, and efficient. With regard to allowing preventive maintenance expenses to be funded using capital pots of money, past policies were proposed by a "partnership" of technical staff drawn from the region's transit agencies, working in concert with MTC staff. Ultimately, the Commission has to approve such allocations, however as noted by a member of AC Transit's management team, such a policy must be vetted

¹⁹ L. Howe, "Winging it with ISTEA", *Planning*, January 1994, p. 14.

²⁰ Reporter's Transcript of the Deposition of Tina Spencer, p. 93-95, September 10, 2007, Sylvia Darensburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL, p. 62 (lines 12-13).

²¹ Reporter's Transcript of the Deposition of Joan Martin, p. 93-95, September 11, 2007, Sylvia Darensburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL.

²² In her deposition, Joan Martin, Special Assistant to AC Transit's Chief Financial Officer, states: "Job Access and Reverse Commute...the funds are formula-driven, so they flow through MTC, but the CMA's are the ones that are responsible for the distribution or the allocation of the total funding part". Reporter's Transcript of the Deposition of Joan Martin, p. 44, lines 2, 8-11, September 11, 2007, Sylvia Darensburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL.

at "the general manager level before it gets to the Commission".²³

5. The plaintiffs' statement that "MTC exercises a significant, and in cases determinative, level of control over a variety of funding sources that it does not deem to be 'discretionary', including without limitation §5309 new starts...funds" is an overstatement. The Federal Transit Administrator and US Congress decide and appropriate new start funds, not MTC or any other MPO in the country. Yes, MTC allocates Federal pass-through funds for §5309 New Starts projects, which is part of the agency's charge in preparing a RTP and its implementation arm, the RTIP. However, MTC always allocates earmarked federal funds to the intended recipient, including the \$65 million earmark by Congress for AC Transit's BRT project.²⁴ An MPO is in a position to improve the competitive standing of a local fixed-guideway proposal. This has no doubt occurred through MTC's Resolution 3434 that mandates transit-oriented development, which has improved the rating of Bay Area rail proposals on FTA's land-use new-starts criteria. However once a federal decision is made on §5309 new starts projects, it is an exaggeration and disingenuous, I believe, to say that MTC has control of these funds "without limitation".

VI. MTC's EXPENDITURE OF DISCRETIONARY FUNDS

1. Much of the criticism leveled by the plaintiffs' expert, Mr. Rubin, against MTC stems from the claim that MTC can and should redirect discretionary funds it presumably has at its disposal from transit capital projects to operations and maintenance. Mr. Rubin states that the preservation of the existing transportation system over its expansion is a "well-established and widely-accepted transportation planning principle" (p. 10). While I agree this is the case in a

²³ Reporter's Transcript of the Deposition of Joan Martin, p. 100, lines 1-2, September 11, 2007, Sylvia Darensburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL.

²⁴ In response to the question: "Has MTC ever rejected any request for allocation under the \$65,000,000 earmark", Joan Martin, Special Assistant to AC Transit's Chief Financial Officer, response was: "Not to my knowledge", stating later in response to the question whether AC Transit received all money that it request for the Telegraph BRT service and transbay service, "we received all we requested". Reporter's Transcript of the Deposition of Joan Martin, p. 80, lines 1-3, p. 91, lines 5-10. September 11, 2007, Sylvia Darensburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL.

short-term planning horizon, I do not accept that it is the case for a plan looking 25 years into the future, such as the RTP. Should money be going to fixing broken streets and keeping buses running in areas losing population at the expense of foregoing new investments in fast-growing parts of the region? Such logic runs counter to principles of smart-headed, long-range strategic planning. This is especially so given the strong emphasis given by the Commission and its partners to promoting “economic development”, staving off “climate change”, increasing “global competitiveness”, and encouraging “transit-oriented development”.

2. Mr. Rubin also blames MTC for service cuts that AC Transit made. He states that during the period “MTC chose to cover capital shortfalls of BART and Caltrain but not operating shortfalls of AC Transit”, “AC Transit experienced a 9.6% decline in service levels while BART and Caltrain dramatically increased service by 48.2% and 80.4%, respectively” (p. 38). Holding aside the question of how “service” is measured, Mr. Rubin implies that MTC’s provision of capital funds to rail operators, consistent with the RTP, is responsible for AC Transit’s elimination of its least productive routes. What about market trends? From 2000 to 2005, BART’s ridership increased by 9.1%. Over the same period, AC Transit’s ridership fell by 4.4%.²⁵ Might declining ridership on AC Transit’s bus routes at a time when other transit operators, like BART, are experiencing ridership gains have something to do with the decision to cut services? The failure to link the region’s transit capital funding decisions to existing and projected shifts in regional travel demand undermines Mr. Rubin’s arguments.

3. The inference that AC Transit is being shortchanged in the expenditure of MTC’s discretionary funds does not hold up under scrutiny. In FY 2005-2006, AC Transit received 17.1% of the total \$711.4 million in discretionary funds MTC allocated to 20 Bay Area transit operators. AC Transit’s service-area population as a share of the total service-area populations of the 20 operators was 11.9%.²⁶ (Patterns were similar in other fiscal years, with AC Transit

²⁵ National Transit Database: <http://www.ntdprogram.gov/ntdprogram>

²⁶ Service area populations are based on statistics presented in *Statistical Summary of Bay Area Transit Operators: Fiscal Years 2001-02 through 2005-06*, MTC, March 2007. The collective service- area

receiving 13.7% of discretionary funds allocated to transit operators in FY 2002-03 and 19.7% in FY 2004-05).

4. Mr. Rubin states that: "Of the funds (MTC) has devoted to covering capital shortfalls, it has devoted far more funding to capital rehabilitation shortfalls of BART and Caltrain than of AC Transit and to BART and Caltrain capital expansion projects" (p. 42). Mr. Rubin's use of the word "shortfalls" is unfortunate – these are investments, not subsidies. It is an accepted fact rail transit is a much more capital-intensive technology than conventional bus transit, thus the statement that more capital dollars are being spent on rail than bus could be made for similar-size U.S. metropolitan areas with both urban rail and bus services, like metro Washington DC and Atlanta. Simply put, rail transit is capital-intensive and bus transit is labor-intensive, thus for the same number of passengers carried, capital outlays will always be higher for rail, just as labor costs will always be higher for bus.

5. There is no evidence presented among any of those deposed under oath of a systematic bias against bus operators in general and AC Transit in particular. Indeed, statements by Randy Rentschler of MTC, during his deposition in this case, suggests the allocation of sales tax revenues, like from AB 1107 and TDA, is stacked in favor of AC Transit and if anything, is anti-rail:

"AB 1107...the beneficiary is currently AC Transit and Muni because they get to take money outside their service area and give it to themselves; ...Tri-Delta, LAVTA, Union City – all those folks would demand a piece of the sales tax that they are paying out and not getting it;... there is no mild word for their sense of outrage that would be vented in a public space over their sales tax for 30 years going to AC Transit;....we allocate BART's STA money to AC Transit; ... we give all the TDA money to AC Transit, every dime that we can, even money we weren't supposed to and got busted on;...BART doesn't get a nickel of TDA generated in San Francisco which they are a big provider of service;...If MTC

populations for the 20 operators was calculated by summing the service-area populations over the 20 operators.

didn't exist, all of BART's money would go to BART;...there is probably a lot of hostility for MTC for favoring AC Transit and AC Transit taking advantage of our good will..."²⁷

VII. OPERATIONS & MAINTENANCE VERSUS CAPITAL EXPANSION

1. Mr. Rubin states that "Federal laws...require MPOs in their long-range plans to cover all shortfalls, regardless of whether they are for operating or capital needs" (p. 11).²⁸ This is a misstatement. Federal law requires that the RTP be fiscally constrained so as to avoid a wish-list "that includes many more projects than could realistically be completed with available revenues".²⁹ But it does not mandate that MPOs cover all shortfalls. There are other ways to eliminate shortfalls besides shifting regional funds from one local account to another. The transit agency operating in the red can reduce shortfalls through other means – cutting low-performing services, selectively raising fares, reducing overhead expenses, or securing support from local beneficiaries of services, be they municipalities or taxpayers willing to pass a dedicated sales tax referendum. With a finite amount of discretionary funds and far more requests for support than what can be funded, the plaintiffs' argument appears to be that MTC needs to better reallocate money so that everyone's wishes are satisfied. The statement that MTC must "cover all shortfalls" in its planning does not mean that it must shift money from capital to operating accounts. Rather, local transit operators have the option of adjusting service levels and fares as well as cutting costs, done within the constraints of projected fiscal resources so as to ensure no deficits are incurred.³⁰ MTC's mandate is to make sure the RTP is "fiscally constrained", thus encouraging transit operators to cut out unproductive services is

²⁷ Partial Transcript of the Deposition of Randy T. Rentshler, Volume 1, August 6, 2007, Sylvia Darendburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL, p. 5 (lines 14-18), p. 6 (lines 1-3, 7-10), p. 16 (lines 7-8), p. 16 (lines 10-11), p. 20 (lines 9-12, 14-17), p. 20 (lines 23-25) and p. 21 (line 1).

²⁸ Mr. Rubin further contends that MTC has exacerbated AC Transit's operating shortfall, arguing "its funding policies artificially limit the pool of funds available for operating costs in the Bay Area" (p. 7)

²⁹ U.S. Department of Transportation, Federal Highway Administration, *FHWA-FTA Fiscal Constraint Guidance*, 6-27-05.

³⁰ Mr. Rubin puts it: "If an operator cannot continue to provide its existing level of service within those revenue limitations, the budget it submits to MTC must include cuts in service or new sources of revenue. (See MTC's 1992 SRT Guidelines, MTCP221254). (Page 22 of Mr. Rubin report.)

and should be part of the strategy for covering shortfalls.

2. Shortfalls occur not only because of rising operating costs but also declining revenues, including from the farebox. Federal guidelines acknowledge this, noting that the “fiscal restraint requirement entails an analysis of revenues and costs” – i.e., shortfalls can be eliminated not only by securing outside support but also by cutting costs or obtaining increased local support. It’s not just AC Transit that must live within budget constraints. All 26 of the Bay Area’s transit operators must do so. Mr. Rubin further charges that “MTC contracts in effect require operators to prepare a SRTP according to its guidelines”. Such “contracts”, need we be reminded, are agreed upon by a 37-member Partnership. And who else should be setting the rules under which all transit operators must live other an entity that represents the interest of the region at large? There must be a consistent approach that all 28 Bay Area transit operators abide by in making budgeting decisions. One independent assessment complements MTC in this regard, noting “MTC was able to use its leverage in programming funds to generate enhanced cooperation and coordination among the region’s often fractious jurisdictions and transit providers”.³¹

3. Mr. Rubin feels strongly that the maintenance and operations of existing transit networks should take precedence over capital expansion. This might be his view but it does not necessarily reflect the views of MTC’s policy makers or even the Federal government.

According to the *FHWA-FTA Fiscal Constraint Guidance* :

“FHWA and FTA do not second-guess a State DOT’s or MPO’s decisions regarding uses of funding, nor would we question the priorities a State DOT or MPO has set with respect to maintenance and operation of the existing transportation system and construction of new projects. The FHWA and FTA simply assure that the process used by the MPO and State to establish priorities is consistent with the transportation planning statute and regulations, and that the MPO, transit agency, and State DOT are able to

³¹ P. Lewis and M. Sprague, *Federal Transportation Policy and the Role of Metropolitan Planning Organizations in California*, San Francisco, Public Policy Institute of California, April 1997, p. 115.

demonstrate reasonably available funding to meet the priorities it has identified.”³²

4. The suggestion that the MPO is incorrect in advancing transit capital project implies a flawed and non-participatory planning process. MTC must be certified as complying with federal and state statutory planning requirements, as must all MPOs. To date, MTC has been certified by the federal government for satisfying statutory planning requirements in each of the triennial reviews conducted.³³ Mr. Rubin goes on to state that other MPOs use §5037 funds for operations and preventive maintenance.³⁴ I can accept that these places have identified this as a priority but I cannot accept that this means the nine-county Bay Area should do likewise. Dr. Martin Wachs warns against a one-size-fits-all approach to transportation decision-making: “In truth, regions differ dramatically from one another and their regional transportation plans should undoubtedly reflect their differences”.³⁵

5. Mr. Rubin further writes: “Federal law makes it very clear to the transit industry, and to MPOs like MTC, that preserving existing transit operations is the highest priority of transit planning and transit financing. While this does not mean that no existing transit services should ever be eliminated ... it does mean that, under Federal law (emphasis added), preserving

³² U.S. Department of Transportation, Federal Highway Administration, *FHWA-FTA Fiscal Constraint Guidance*, 6-27-05.

³³ As of this writing, MTC’s last certification was in the Fall of 2003. In a letter to MTC Executive Director Steve Heminger from Leslie T. Rogers (Regional Administrator, FTA) and Gary N. Hamby (FHWA, Division Administrator), dated October 31, 2003: “The result of the review is that FHWA and FTA jointly certify that the transportation planning process meets the requirements of 23 CFR 450 and 49 CFR 613” (Document reference MTCP255092-255111). No conditions were set on the certification. MTC anticipates a renewal of its new certification sometime early this year.

³⁴ Mr. Rubin claims: “Congress allows Section 5307 funds to be used for certain types of operating purposes and most MPOs in the country use Section 5307 funds for those operating purposes” (p. 36), however no citation is provided to back up this claim. Mr. Rubin also states MPOs in 18 U.S. cities “authorize” the use of §5307 funds for “operations”, though whether this is done in practice, and if so, the share that goes to operations is not stated. Later Mr. Rubin states “numerous MPOs in major urbanized areas national program and allocate 5307 for preventive maintenance” (p. 52.). This suggest these MPOs do more than just “authorize”.

³⁵ Wachs, M. 2004. Reflections on the Planning Process. *The Geography of Urban Transportation*. S. Hanson and G. Giuliano, eds. 3rd ed., Guilford Press, p. 153.

existing transit service is a higher priority than expanding transit service, if a choice must be made". This is wholly inconsistent with statements by FTA and FHWA that they do not question MPO's priorities "with respect to maintenance and operations of existing transportation system and construction of new projects".

6. If MTC were to follow Mr. Rubin's advice and apply capital funds to maintenance purposes, bus operators like AC Transit would likely be financially hurt the most. Under deposition and in response to the question of whether funding priority should be given to preventative maintenance, AC Transit's special assistant to the Chief Financial Officer, Joan Martin, stated: "...if it did, BART could bankrupt the whole system...Their maintenance needs and Muni's maintenance needs exceed everybody in the region. So if you made that a top scoring project, they would get all the money".³⁶ And when asked: "But the bar on using preventive maintenance for operating, is that something imposed by MTC?", Ms. Martin responded: "It's imposed by the group of operators deciding what the best use of the limited funds that come into this agency", the group of operators being the Transit Finance Working Group formed by MTC.³⁷ In short, AC Transit's own management does not believe the use of capital funds for preventive maintenance should be a high priority, and the decision not to make it a priority was made not by MTC but the collectivity of transit agencies in the region.

7. Mr. Rubin further argues that more than \$5307 funds can go to bus operations. He states that MTC can also transfer funds from federal highway accounts (p. 58), CMAQ (p. 59), and STP (p. 60) for bus operations. Such statements ignore the competing demands for scarce fiscal resources. Whether MTC *should* reallocate such funds is not addressed. One can only assume that MTC's "Partnership", including county CMAs that consider the interests of highway users as well transit riders, has weighed in on such possibilities and opted not to direct highway dollars or other competitive sources to transit operations.

³⁶ Reporter's Transcript of the Deposition of Joan Martin, p. 95, lines 21-25 and p. 96, lines 2-4, September 11, 2007, Sylvia Darensburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL.

³⁷ Reporter's Transcript of the Deposition of Joan Martin, p. 99, lines 3-7, September 11, 2007, Sylvia Darensburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL.

8. As discussed earlier, the powers that MTC exerts over discretionary funding decisions are overstated by the plaintiffs and their experts. Many decisions for which MTC ends up disbursing funds are actually controlled at levels below and above MTC. A longstanding practice, written into state implementing law, is that County Congestion Management Agencies (CMAs) program 50% or more of Surface Transportation Program (STP) funding.³⁸ And the decision of which fixed-guideway proposals get funded is made principally by FTA under its New Starts evaluation. Statements as follows by Mr. Rubin ignore the fact that many investment decisions are outside of MTC's purview: "MTC has spent billions of dollars in capital expansion...for new BART and Caltrain service, and comparatively minimal amounts on AC Transit capital expansion" (p. 50). Most of these "billions" are controlled either by local taxpayers (e.g., bond referenda passed to build BART) or the federal government (FTA §5309 funds for bus capital and new rail starts). What capital funds MTC does control, such as FTA §5309 allocations for fixed guideway systems, are allocated based on a comprehensive and cooperative planning process, where all stakeholders have a voice in how funds are spent.

9. In critiquing MTC's funding decisions, Mr. Rubin also writes: "A portion of the funds in MTC's RTPs for operation and maintenance of the so-called 'existing system' actually involve operation and maintenance of an expanded system" (p. 49). To exclude such costs would be irresponsible. Because RTPs are prepared over a 25 year time horizon, it only stands to reason that as systems are expanded, new rail segments also have to be operated and maintained.

VIII. CAPITAL FINANCE AND THE TIP

1. Besides criticizing MTC for failure to direct transit capital dollars to operations, the plaintiffs, and Mr. Rubin in particular, suggest that the Bay Area's decision to allocate funds for capital expansion of rail services is somehow wrongheaded. These critics simply fail to

³⁸ P. Lewis and M. Sprague, *Federal Transportation Policy and the Role of Metropolitan Planning Organizations in California*, San Francisco, Public Policy Institute of California, April 1997, p. 111.

establish the fact that channeling substantial shares of the region's transportation funds for future capital expansion is inappropriate and inconsistent with the policy aims of the RTP.³⁹ The argument seems to boil down to this: bus agencies like AC Transit incur deficits and MTC has funds that could go to lower or even eliminate these deficits, thus funds should be applied accordingly. There is an absolute lack of consideration of market and regional growth trends, the mandate of long-range planning to anticipate and respond to projected future growth, and broader regional policy objectives of using transit investments to shape regional growth. If shifting more of MTC's discretionary funding accounts to covering transit operating deficits is the best use of the region's funds, the onus falls on the plaintiffs to make this case. They fail to do so.

2. MTC's Regional Transit Expansion Program, adopted in 2001 as Resolution 3434, identifies nine new rail extensions, conditioning funding on projects that promote transit-oriented development (TOD). The 2030 RTP targeted two-thirds of the region's future transportation dollars to public transit. Strategic expansion projects are programmed not just for rail operators but for AC Transit as well, including Bus Rapid Transit (BRT) (\$428.4 million), non-BRT corridor enhancements (\$239.5 million), and rolling stock (\$38 million). Indeed, among the strategic expansion projects listed in the 2030 Plan, the \$705.9 million slated for AC Transit projects is 72% of the \$978.4 million directed to BART projects.⁴⁰ Relative to the number of passengers carried in Fiscal Year 2005-2006, the 2030 RTP directs more strategic expansion funding to AC Transit than for BART -- \$10.72 per passenger for AC Transit versus

³⁹ The actual programming of funds to implement capital projects identified in the RTP occurs through the Regional Transportation Improvement Program (RTIP). The RTIP is updated at least every two years with a three-year horizon and must comply with the state Transportation Improvement Program (STIP). The cost of all projects in a region that could contribute to improvements in travel time and safety almost always exceeds the financial resources considered reasonable available to pay for them. For this reason, the defining task of an RTP is to prioritize projects and select ones that are within the constraints of available funding.

⁴⁰ MTC, *Mobility for the Next Generation: Transportation 2030 Plan for the San Francisco Bay Area*, Final report, February 2005, Appendix 1.

\$9.65 per passenger for BART.⁴¹ Accounting for the distance of trips, the allotment for strategic expansion slated for AC Transit in the 2030 RTP is considerably higher than for BART -- \$3.37 per passenger mile for AC Transit versus \$0.75 per passenger mile for BART. The 2030 RTP, it should be added, does not come close to meeting BART's capital replacement needs, let alone its system expansion costs. The 2030 RTP estimates BART will account for 44% of the region's total transit capital replacement needs over the next 25 years and its estimated shortfall of \$1.4 billion will comprise half of the region's transit capital replacement shortfall (p. 42-43 of the 2030 RTP).

3. As detailed in the September 10, 2007 deposition of Tina Spencer, AC Transit's Manager of Long Range Planning, AC Transit's capital project proposals cycle up to the RTP through a hierarchical process, beginning with in-house preparation of a Short Range Transit Plan (SRTP) -- with inputs from "a variety of managers along with the executive staff and the general manager" -- and involving intermediary reviews by County Congestion Management Agencies (CMAs) and other public participation inputs, and eventually to MTC for inclusion in the RTP.⁴² The role of the CMA as an intermediate county-level mediator prior to regional review is an important part of the transportation decision-making process in California. This checks and balance process ensures project proposals -- particularly between highway and transit interests -- get a fair airing. According to AC Transit's Tina Spencer: "The RTP is a *capital plan*...If staff submits *operating projects* through the CMA process, the project is normally rejected because it does not fit the criteria of a Major Capital Project" (emphases added).⁴³

4. As if to discourage further rail expansion in the Bay Area, Mr. Rubin notes in his

⁴¹ AC Transit = \$705.9 million/64.92 million = \$10.87; BART = \$978.4 million/101.35 million = \$9.65. Sources: MTC, *Mobility for the Next Generation: Transportation 2030 Plan for the San Francisco Bay Area*, Final report, February 2005, Appendix 1; MTC, *Statistical Summary of Bay Area Transit Operators, Fiscal Years 2001-02 through 2005-06*, March 2007; and Federal Transit Administration, *National Transit Database*, 2005-2006, <http://www.ntdprogram.gov/ntdprogram/data.htm>.

⁴² Reporter's Transcript of the Deposition of Tina Spencer, p. 93-95, September 10, 2007, Sylvia Darensburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL, p. 59 (lines 1 to 22).

⁴³ Reporter's Transcript of the Deposition of Tina Spencer, p. 93-95, September 10, 2007, Sylvia Darensburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL, p. 60 (line 23) and p. 61 (lines 19-22).

report that urban rail proposals consistently fall short of projected ridership. This is untrue. Houston's 7.5-mile Metro Red Line was projected to have 39,000 daily passengers by 2020; as of Fall 2007, it already had 41,700 daily riders. Minneapolis's Hiawatha light-rail line already has daily patronage that exceeds 2020 projections by 19%. St. Louis's two LRT lines were expected to reach 86,000 riders in 2025 yet as of August 2007 already averaged 88,000 weekday riders. Contrary to what critics claim, urban rail travel is increasing nationwide. Since 1990, the nation's transit ridership has risen by 11.5% and rail transit accounted for 75% of this gain.⁴⁴ BART's patronage of 101 million customers in 2007 was the system's highest annual total on record.

IX. THE DISTORTING EFFECTS OF TRANSIT OPERATING SUBSIDIES

1. Mr. Rubin's report implies that MTC should be shifting funds from transit operators with surpluses to those incurring deficits – i.e., reward deficit-riddled operations and penalize those who tightened their belts to put their fiscal house in order. He writes: "If one operator has more operating funds than it needs, and another has less, MTC does not assign the excess operating funding to the operator that needs it, but treats each operator as a stand-alone silo" (p. 22).

2. AC Transit's farebox recovery rate (farebox revenues/operating expenses) has deteriorated in recent years, from 23.8% in 2000 to 18.1% in 2005.⁴⁵ This is considerably lower and deteriorating more rapidly than for all U.S. transit operators in urbanized areas above one million population, where the average farebox recovery rate slipped slightly from 38.8% in 2000 to 38.0% in 2005. AC Transit's rising deficits and declining farebox performance is due to powerful forces that are affecting the fiscal health of many bus operators that serve mainly older, central-city communities – e.g., suburbanization and exurbanization; central-city disinvestment; stagnant population and employment growth. Pouring money into such

⁴⁴ American Public Transportation Association. *Public Transportation Fact Book*, 58th edition, May 2007.

⁴⁵ National Transit Database, <http://www.ntdprogram.gov/ntdprogram/data.htm>. Note: These statistics do not include depreciation and debt service on capital.

operations from outside sources is not necessarily the solution to a bus operator's declining fiscal health.

3. A substantial body of research has established that subsidizing transit operating deficits through transfer payments from other government entities (be they the federal, state, or regional bodies) promotes the continuation of unproductive services and fails to produce intended benefits.⁴⁶ A study by Douglass Lee of the Volpe Transportation Systems Center of the U.S. Department of Transportation estimated that of the total federal operating assistance to transit agencies from 1980 to 1989, only 23% ended up as benefits to users (in the form of lower fares or newly induced transit trips).⁴⁷ Most operating subsidies got leaked away in the form of higher factor inputs (mainly higher wage compensation), followed by productivity declines, substitution for state and local grants, and the operation of under-utilized services. By directing highly competitive and increasingly scarce regional transportation dollars to selective capital projects that pass stringent economic tests and not indiscriminately to operators as carte blanche subsidies, MTC has shown fiscal responsibility, not irresponsibility. It is in large part because of past research that the federal government opted to get out of the business of providing US transit agencies with operating assistance, as acknowledged by Mr. Rubin on page 37 of his report. There is no reason why MPOs, in partnership with their constituent agencies and representatives, should not do likewise.

4. Mr. Rubin also ignores research showing the largest single source of leakage of

⁴⁶ D. Lee, "Transit Cost and Performance Measurement", *Transportation* Vol. 9, No. 2, 1989, pp. 47-70; D. Lee, "Evaluation of Federal Operating Subsidies to Transit", Cambridge Massachusetts, U.S. Transportation Systems Center, Report for the Urban Mass Transportation Administration, 1983; J. Pucher, A Markstedt, and I. Hirschman, "Impacts of Subsidies on the Costs of Urban Public Transport", *Journal of Transport Economics and Policy*, May 1983, pp. 155-176; D. Pickrell, "Rising Deficits and the Use of Transit Subsidies in the United States", *Journal of Transport Economics and Policy*, Vol. 17, No. 3, 1985, pp. 281, 298; R. Cervero, "The Anatomy of Transit Operating Deficits", *Urban Law and Policy*, Vol. 6, 1984, pp. 477-497; S. Anderson, "The Effect of Government Ownership and Subsidy on Performance: Evidence from the Bus Transit Industry", *Transportation Research A*, Vol. 17, 1983, pp. 191-200; R. Cervero, "Cost and Performance Impacts of Transit Subsidy Programs", *Transportation Research A*, Vol. 19, 1984, pp. 407-413.

⁴⁷ D. Lee, "Evaluation of Federal Operating Subsidies to Transit", Cambridge Massachusetts, U.S. Transportation Systems Center, Report for the Urban Mass Transportation Administration, 1983.

transit operating subsidies is higher labor compensation packages.⁴⁸ He states: "There is simply no justification...for distinguishing between capital rehabilitation and operating shortfalls, and then covering one but not the other" (p. 36). Capital rehabilitation includes cost for tires, vehicle overhauls, facility upgrades, and other outlays controlled by market prices.⁴⁹ Operating costs, which are predominantly made up by wages and labor-related expenses, are determined mostly by transit boards and managers in negotiation with union representatives, not factor-input prices. Research shows that relying on other parties to foot the bill of transit operating deficits relieves transit managers from the pressure of having to drive a hard bargain at the wage negotiations table.⁵⁰

5. Operating deficits perform an important market discipline on public entities like AC Transit – they prompt judicious cuts in unproductive services. This indeed has been the case with AC Transit. In his deposition, Anthony Bruzzzone, AC Transit's Manager of Service and Operations Planning, states:

"...we have so much money and we have service policies that tell us how to allocate it...; And one of the policies is when we have to cut service, we cut from the least productive and just go up the line..."⁵¹

This is the way it is supposed to work – revenue shortfalls incurred by a transit operator places the burden on that operator, and not on a regional planning agency accountable to all Bay Area residents, to carefully and judiciously cut services. The other option is for the transit operator to secure additional revenues, such as through fare increases or increase local-source funds, as has been the case to date in Santa Clara, San Mateo, and San Francisco counties. The onus is

⁴⁸ Lee, 1983, fn 47, *supra*.

⁴⁹ Mr. Rubin identifies "associated capital maintenance items" as including equipment, tires, tubes, and materials, and reconstruction of such equipment and materials, citing Section 5307(a)(1) on page 37 of his report.

⁵⁰ D. Pickrell, "Rising Deficits and the Use of Transit Subsidies in the United States", *Journal of Transport Economics and Policy*, Vol. 17, No. 3, 1985, pp. 281, 298; R. Cervero, "The Anatomy of Transit Operating Deficits", *Urban Law and Policy*, Vol. 6, 1984, pp. 477-497; S. Anderson, "The Effect of Government Ownership and Subsidy on Performance: Evidence from the Bus Transit Industry", *Transportation Research A*, Vol. 17, 1983, pp. 191-200

⁵¹ Reporter's Transcript of the Deposition of Anthony Bruzzzone, p. 20, lines 4-9, September 11, 2007, Sylvia Darensburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL.

on the local beneficiaries of services to cope with the deficit, not the regional planning entity.

6. AC Transit's Manager of Service, Mr. Bruzzone suggests the selective cutting of services is not only based on efficiency criteria but equity considerations as well: "We mostly cut service up in the hills, and we had done analysis previous to that that basically said if we protected the trunks, we were protecting most of the low income riders".⁵² Thus, one cannot charge that service-cutting within AC Transit's jurisdiction has disproportionately hurt the poor.

7. In his report, Mr. Rubin further suggests the effects of subsidies for operations are no different than those for capital investments: "MTC's distinction between operating and capital shortfalls finds no basis in Federal law or State statute, which specifically refer to a combined, all-inclusive concept of 'shortfall', not to separate operating and capital shortfalls" (p. 69). If operating subsidies are thought not to yield societal benefits and capital assistance is, there is a compelling logic for treating the two categories differently.

8. Transit agencies are responsible for the cost impacts of in-house management decisions, not the region's taxpayers at large, nor MTC. In a recent review of the 236 Belgian-made buses that AC Transit purchased for \$97.2 million for its Bus Rapid Transit (BRT) network, Robert Gammon contends that "after AC Transit purchased costly foreign buses that drivers hate and many riders fear, its services and finances took a wrong turn".⁵³ MTC did not dictate purchase of these buses. To imply AC Transit's financial woes are due to MTC's withholding of discretionary funds is blind to the cost effects of past management decisions.

9. The 2030 RTP makes it clear that the responsibility lies with transit agencies to

⁵² Reporter's Transcript of the Deposition of Anthony Bruzzone, p. 22, lines 9-12, September 11, 2007, Sylvia Darensburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL. Note: The "hills" generally correspond to the higher income parts of AC Transit's service jurisdiction, such as the Montclair district of Oakland and the city of Piedmont.

⁵³ R. Gammon, "The Buses from Hell", *East Bay Express*, January 23, 2008. See: http://www.eastbayexpress.com/news/the_buses_from_hell/Content?oid=627762

ensure deficits are kept in check even if assistance is received for operations and maintenance: "Transit operators that receive repair funds should ... be required to adjust passenger fares and other local revenues to keep pace with inflation so their repair backlogs can be stabilized and reduced."⁵⁴ Moreover, "no public agency should receive additional funds unless it agrees to support and implement measures to improve the efficiency of the transportation network".⁵⁵

X. COMPARATIVE PERFORMANCE AND PRODUCTIVITY

1. In his declaration, Mr. Rubin turns to MTC's report on *Statistical Summary of Bay Area Transit Operators – Fiscal Years 2001-02 through 2005-06* to conclude that AC Transit ranks well above average among Bay Area operators (p. 73), implying more fiscal resources should be directed the agency's way. He states: "In my professional opinion...AC Transit already operates more efficiently than BART and Caltrain" (p. 75). Comparing operating costs of fundamentally different transit systems, designed to serve different markets, is like mixing "apples and oranges". Buses operate on roads and thus incur no direct right-of-way costs. Make no mistake that there are right-of-way costs since someone pays for building, sizing, and maintaining roads to accommodate buses. Railway systems, on the other hand, face substantial right-of-way costs.

2. Performance indicators vary markedly according to what is being measured. BART services generally score low on a per trip basis since one of its chief markets is long-haul, suburb-to-central city journeys (comparable to commuter-rail systems). BART also has high peak-to-base ratios of passengers, meaning relatively empty trains in the midday. However on a passenger-mile basis, accounting for the longer trips it serves, BART's performance improves markedly. This is shown in Exhibit B, Figure 1, using FY 2004 data from FTA to compare BART with AC Transit and experiences from six modern-day urban rail systems with 100 more

⁵⁴ MTC, *Mobility for the Next Generation: Transportation 2030 Plan for the San Francisco Bay Area*, Final report, February 2005, p. 2.

⁵⁵ *Ibid*, p. 2.

vehicles.⁵⁶ In terms of ridership productivity, BART lags behind both AC Transit and other urban rail systems on a passenger trip basis – 1.56 passengers per revenue vehicle-mile compared to 2.6 for AC Transit and an even higher number for other rail systems.⁵⁷ However weighing the fact that BART trips tend to be longer, BART's ridership productivity on a passenger-mile basis is more than twice as high as AC Transit's and comparable that of other rail systems. In terms of cost, the lower graph in Figure 1 in Exhibit B shows BART's operating expenses for each passenger trip are comparatively high. However accounting for the longer length of BART trips, the agency outperforms the comparison groups – indeed, BART's operating cost for each mile a person is carried was around one-quarter of AC Transit's.

3. Even among bus systems in the same metropolitan area, inter-agency comparisons can be faulty. San Francisco Muni's bus operations experience much higher operating costs per passenger trip than AC because of shorter trips and higher maintenance costs stemming from frequent stop-and-go in a dense city and San Francisco's hilly terrain. Muni's ridership performance per revenue mile of bus services, however, is much higher than AC Transit's because San Francisco's high densities generate many transit trips and slower operating speeds reduce the miles that buses log each day. In sum, the kinds of performance comparisons that Mr. Rubin and others make between rail and bus operators in the Bay Area are fraught with methodological and conceptual problems. At worst, they distort our understanding of the relative roles and performance of different transit modes in vastly different operating environments.

⁵⁶ Older-generation rail operations from New York, Chicago, Philadelphia, and Boston are not used since their system designs and operating environments are from a totally different era than recent-generation systems (i.e., most were built 100 years ago or more). The comparison recent-generation urban rail systems compared in Figure 1 are from: Atlanta (MARTA); Baltimore (MTA); Los Angeles (LAMTA); Miami (Miami-Dade Transit); and Washington D.C. (WMATA).

⁵⁷ I note that Mr. Rubin argues that "vehicle revenue miles" is "the most meaningful measure of the amount of service that a transit agency provides to transit riders" (p. 44, Mr. Rubin report).

XI. EQUITY ANALYSES AND SOCIAL JUSTICE

1. The report for the plaintiffs prepared by Dr. Sanchez critiques MTC's equity analyses for being too narrow. Dr. Sanchez contends that a combination of inputs (e.g., expenditures), outputs (e.g., service delivery), and outcomes (e.g., accessibility changes) should be tracked and studied in the Bay Area. He contends that compared to other MPOs, MTC gives short shrift to equity and environmental justice considerations. I disagree. Examining performance based on monetary "inputs" and service "outputs" is widely accepted as a flawed approach to evaluation in the urban transportation sector.⁵⁸ The field is rife with examples of wasteful expenditures of scarce transportation dollars to run empty buses in the name of advancing social equity. My own research of welfare-to-work programs in the San Francisco Bay Area underscores this.⁵⁹ In the late-1990s, AC Transit extended the hours and days-of-week of operations for five bus routes and added several entirely new routes. All of these improved services connected low-income, predominantly minority Oakland neighborhoods with employment centers near the Oakland International Airport and downtown as well as small businesses dotted along International Boulevard and San Pablo Avenue. A combination of funds from the STA account, JARC, and Alameda County CalWorks supported the expanded services. Collectively, these improvements connected inner-city Oakland residents to more than 400 employers (within a five-minute walk of routes) and around 380 child-care, training, and employment-support facilities and services. Also, 420 new bus stops were added within a quarter mile of the residences of welfare recipients or low-income households. Productivity levels of these services, however, were quite low, ranging from 4 to 15 passengers per revenue hour. The average operating cost per ride of these new services was \$7.90 in 2001, three times higher than the system-wide average cost of \$2.65. In 2000 and 2001, Route 50, which serves the low-income Alameda Point neighborhood, were extended from 9PM to midnight at a staggering

⁵⁸ Transportation Research Board, *Performance Measures to Improve Transportation Systems: Summary of the Second National Conference*, TRB Conference Proceedings 36, National Academy of Sciences, K. Turnbull, Rapporteur, 2005.

⁵⁹ R. Cervero et al., *Reverse Commuting and Job Access in California: Markets, Needs and Policy Prospects*. Sacramento: Business, Transportation and Housing Agency, California Department of Transportation, September 2002, p. 160-161.

cost of around \$24 per trip, more than it would cost to take a taxi for a similar trip.

2. MTC's focus on accessibility as an outcome measure is, in my opinion, well suited toward assessing how the poor and minority populations fare under transportation investment and service decisions in the RTPs and TIPs. Reviews of environmental justice in the urban transportation sector by Forkenbrock and Schweitzer (1999), Greig et al. (2003), and Wachs (2004) similarly view achievement in terms of benefits conferred by improving accessibility as well as minimizing disproportional negative impacts in disadvantaged communities and representation in decision making processes; no mention is made in these studies of equalizing transit expenditures or miles of service across neighborhoods or socio-demographic groups.⁶⁰ Additionally, MTC's focus on accessibility stems logically from the 2030 RTP that cites improving "access to jobs, medical centers, schools and grocery stores for those who do now own a car" as an overarching goal for the region.⁶¹

3. The Sanchez report (p. 41) notes the 2005 RTP Equity Analysis was faulted by the Minority Citizens Advisory Committee (MCAC) for "failure to assess whether transit is serving residents when they want to travel and exactly where they need to go, nor does it assess any cost barrier to using any mode of transportation". It is widely known, and backed by a body of research, that fixed-route bus services like AC Transit's perform notoriously poorly at delivering low-income individuals "any- and every-where" and all times. It is for this reason that flexible paratransit services and car-ownership programs are proposed in MTC's Low Income Flexible

⁶⁰ D. Forkenbrock and L. Schweitzer. Environmental Justice and Transportation Planning, *Journal of the American Planning Association*, Vol. 65, 1999, pp. 96-111; J. Greig, S. Cairns, and M. Wachs, *Environmental Justice and Transportation: A Citizen's Handbook*, Berkeley, University of California, Berkeley, Institute of Transportation Studies, 2003; M. Wachs, Reflections on the Planning Process. *The Geography of Urban Transportation*. S. Hanson and G. Giuliano, eds. 3rd ed., Guilford Press, p. 151; D. Deka, "Social and Environmental Justice Issues in Urban Transportation", *The Geography of Urban Transportation*. S. Hanson and G. Giuliano, eds. 3rd ed., Guilford Press, pp. 332-355.

⁶¹ MTC, *Mobility for the Next Generation: Transportation 2030 Plan for the San Francisco Bay Area*, Final report, February 2005, p. 9.

Transportation (LIFT) program to help the poor.⁶² MTC's report on the LIFT program states "the most cost-effective solutions to filling gaps in the network may require provision of non-fixed route services..." and that "local planning must consider a variety of creative solutions, such as guaranteed ride home programs, use of taxi vouchers, community-based shuttles, or affordable strategies for car ownership and carsharing". This is consistent with research conducted on CalWorks clients and chronically unemployed Bay Area residents showing that ownership and accessibility of an automobile explains successful welfare-to-work transitions far more than transit accessibility.⁶³

4. Both the 2001 and 2004 Equity Analysis Reports use Geographic Information Systems to compare changes in numbers of jobs reachable by transit and car within 45 minutes, "with" versus "without" projects, between minority and non-minority communities. In response to suggestions from the environmental justice community, the 2004 Report expanded the accessibility analysis to include other essential destinations (including schools, food stores, and health centers) as well as additional performance measures: travel-time savings and vehicle miles traveled through minority communities. The 2004 Report also compares differences in these measures between low-income and minority communities and the remainder of the Bay Area. The 2004 Equity Report emphasizes that finer-grain analyses are needed to identify the service best suited to the specific travel needs of transportation-disadvantaged populations. This best occurs at the level of MTC's community-based transportation plans and transit agencies' short-range transit plans (SRTPs). Quite simply, the details of transit service design suited for specific subpopulation cannot be adequately handled at the level of a regional plan. Instead, the Bay Area's environmental justice community should be given adequate opportunity to shape transit service and fare policies and programs in the SRTPs prepared by transit

⁶² For summaries of this research, see: R. Cervero, *Paratransit in America: Redefining Mass Transportation*, Westport, CT, Praeger Press, 1997; R. Cervero et al., *Reverse Commuting and Job Access in California: Markets, Needs and Policy Prospects*, Sacramento: Business, Transportation and Housing Agency, California Department of Transportation, September 2002,

⁶³ R. Cervero, O. Sandavol, J. Landis. "Transportation as a Stimulus to Welfare-to-Work: Private Versus Public Mobility", *Journal of Planning Education and Research*, Vol. 22, 2002, pp. 50-63; R. Cervero and Y. Tsai, "Job Access and Reverse Commute Initiatives in California: A Review and Assessment", *Transportation Research Record 1859*, 2003, pp. 79-86.

operators.

5. In his report, Dr. Sanchez devotes considerable space (pages 73 to 79) to describing MTC's travel demand models, and critiques the agency's equity analysis for failing to distinguish travel times by rail versus bus. First, MTC has one of the most sophisticated trip-based regional travel demand models in the U.S., particularly in the mode-choice phase that uses nested logit techniques to distinguish rail versus bus modes, estimated within an upper-level nest (that predicts whether travelers will opt for transit versus the automobile mode).⁶⁴ Second, minimum travel time algorithms for comparing travel-times among competing modes are universally used in the traffic assignment phase of travel-demand modeling, as is MTC's articulation of total time spent accessing, waiting for, and riding transit. I disagree with Dr. Sanchez's statement (p. 81 of his report) that "given the choice of a BART route and an AC Transit route for the same trip (same origin and destination), the model will predict a transit rider will take BART, where both modes are available". There is no doubt that the point-to-point travel time on BART is much less than AC Transit for the simple reason that BART operates on an exclusive, grade-separated right-of-way while AC Transit buses operate at-grade in mixed traffic conditions. However, if the time reaching a BART station and waiting for train exceeds that of accessing and boarding an AC Transit bus, the door-to-door time of bus travel can be less. For most short to intermediate trips for which AC Transit better serves origin-destination combinations, MTC's model has the capability of showing faster door-to-door travel by bus. Dr. Sanchez (p. 81) further criticizes MTC's model since "it does not take into account whether low-income travelers can afford rail fares". I am not aware of any regional-scale travel-demand models that directly address affordability for the simple fact that this is not what they were designed for. The use of explanatory variables such as personal income along with estimated costs of a trip does, however, bring some elements of affordability into the analysis.

⁶⁴ Nested logit models apply a hierarchical structure to estimate the discrete choice of traveling by a specific model. For example, the utilities of choosing bus or rail transit are accounted for in the higher-level model that predicts the likelihood of taking public transit or traveling by car. For discussions on MTC's use of nested logit models, see: http://www.mtc.ca.gov/maps_and_data/datamart/forecast/baycast1.htm#modechoi

6. MTC's commitment to social and environmental justice has gone beyond report preparation. MTC's Transportation for Livable Communities (TLC) program has directed considerable sums to disadvantaged communities, earning the agency a "best practice in smart growth" citation from the Association of Metropolitan Planning Organizations (AMPO).⁶⁵ The Commission sponsored Welfare-to-Work plans in all nine Bay Area Counties, backed by \$5 million in new federal funds to launch the Low Income Flexible Transportation (LIFT) Program, and the introduction of TransLink that allows more convenient and expeditious transfers between transit operators. A significantly higher share of MTC's discretionary funds goes to public transit than transit's share of the Bay Area transportation market, partly as a safety net for transit-dependent residents, partly to advance a broader smart-growth agenda.

7. A case study of welfare-to-work programs in Alameda County also found that MTC played a crucial role in mounting and supporting demonstration services:

MTC's role was more than helping to broker an agreement. The agency also spearheaded important technical analyses to guide policy decisions. Notably, its staff planners prepared a series of GIS maps of Alameda County identifying where welfare recipients live relative to the location of low-wage workplaces, child-care centers, and bus routes. The maps highlighted gaps between where buses go and where welfare recipients need to go to reach jobs they are eligible for. Because many of these jobs operate on late-night and odd-hour shifts, it became evident that getting people off of welfare and into work would require that schedules be extended.⁶⁶

Such detailed technical analyses of the mobility needs of transportation-disadvantaged populations are, in my opinion, far more useful in promoting equality of access and social justice than some checklist of expenditures or provision revenue-miles of bus services.

⁶⁵ See: <http://www.ampo.org/content/index.php?pid=56>

⁶⁶ R. Cervero et al., *Reverse Commuting and Job Access in California: Markets, Needs and Policy Prospects*. Sacramento: Business, Transportation and Housing Agency, California Department of Transportation, September 2002, p. 160.

8. The notion that the poor and transportation-needy are concentrated in urban centers is flawed. The welfare-to-work study of the Bay Area found: "In the San Francisco Bay Area, substantial concentrations of low-income households were found not only in central-city settings but in the suburbs as well. Thus, 'reverse commutes' constitute just one part of the region's job-access needs".⁶⁷ This squares with the statement made by MTC's Director of Legislation and Public Affairs Randy Rentschler, in his August 6, 2007 deposition: "...there is a higher proportion of poor folks riding transit in these smaller suburban districts than there are in AC Transit".⁶⁸

9. The 2006-2007 Transit Passenger Demographic Survey shows AC Transit serves a larger share of low-income and minority residents of the Bay Area than other transit operators, however to assume that BART caters mainly to professional-class, predominantly white travelers is wrong. The survey shows the majority of BART patrons are non-white and indeed BART's share of customers who are African American (18.8%) matches closely with the shares who are African Americans for all Bay Area transit trips (19.2%).⁶⁹ BART and AC Transit are more complements than competitors. Whether heading to SFO, Market Street in downtown San Francisco, or shopping malls in Pleasanton, residents of Alameda and Contra Costa County benefit from high-speed, line-haul services provided by BART. Many travelers couple the two services, using AC Transit as a feeder connection to BART stations. MTC's TransLink program will facilitate bus-rail interconnections all the more this coming Spring when AC Transit riders will be able to conveniently hop aboard BART trains using TransLink without two fare transactions.

⁶⁷ R. Cervero et al., *Reverse Commuting and Job Access in California: Markets, Needs and Policy Prospects*. Sacramento: Business, Transportation and Housing Agency, California Department of Transportation, September 2002, p. 237.

⁶⁸ Partial Transcript of the Deposition of Randy T. Rentschler, Volume 1, p. 8, lines 4-6, August 6, 2007, Sylvia Darensburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL.

⁶⁹ Godbe Research, *2006-2007 Transit Passenger Demographic Survey*, Phase One, Final Report, prepared for the Metropolitan Transportation Commission, September 2007, Chapter 4.4, Page 4, 4-18.

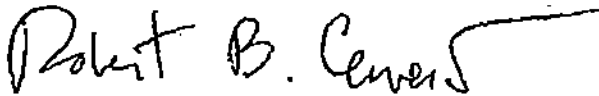
XII. CONCLUSION

1. My expert opinion is that MTC faithfully and effectively exercises its duties and statutory responsibilities as an MPO, relying on a broad base of input from numerous stakeholders and interested parties across multiple communities from the Bay Area to prepare a balanced, multi-modal, and forward-looking RTP and to implement high-priority projects and programs identified in the RTP through a fair, participatory, and inclusive RTIP.

2. Decisions regarding the expenditure of flexible and discretionary transportation funds in the region occur through a "Partnership" of local and regional stakeholders that minimize parochialism and ensure a broad set of considerations are weighed – including maintaining existing transit services and roadway networks, system expansion to accommodate projected growth, and advancing larger social, economic, and environmental objectives – when allocating scarce fiscal resources.

3. The social equity analyses conducted by MTC to date appropriately focus on improving the accessibility of minority and disadvantaged communities to essential destinations as the key benchmark for gauging performance in this area. The design of transit services and other mobility options such as community-based shuttles occurs and should occur at the local level, such as in the preparation of a short-range transit plan.

Respectfully Submitted,

A handwritten signature in black ink, reading "Robert B. Cervero". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Robert B. Cervero

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 1, 2008, I served a true and accurate copy of the document(s) entitled:

EXPERT REPORT OF ROBERT B. CERVERO
DARENSBURG, et al. v. METROPOLITAN TRANSPORTATION COMMISSION
 U.S. District Court - Northern District of California
 Case No., C-05-1597 EDL
 January 31, 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 1, 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
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A

Exhibit A
Curriculum Vitae
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Education:

Ph.D., Urban Planning and Management Program
Graduate School of Architecture and Urban Planning,
University of California, Los Angeles, 1977-80.

Master of Science in Civil Engineering (M.S.) and
Master of City Planning (M.C.P.), Departments of Civil
Engineering and City Planning,
Georgia Institute of Technology, Atlanta, 1973-1975.

A.B., Geography and Economics, University of North Carolina,
Chapel Hill, 1969-73.

Employment:

1992-present	Professor, Department of City and Regional Planning; Chair (2005-present); Associate Dean, College of Environmental Design (1992-95), University of California, Berkeley. Faculty Affiliate: Energy and Resources Group (ERG); Institute of Transportation Studies. Teaching: Transportation Planning, Quantitative Methods, Land Use Planning, Spatial Modeling, and Research Design.
1986-1992	Associate Professor, Department of City and Regional Planning, University of California, Berkeley.
1990-1991	Resident Advisor and Project Associate, Harvard Institute for International Development, Urban Development Policy and Finance Project, Jakarta, Indonesia.
1980-1986	Assistant Professor, Department of City and Regional Planning, University of California, Berkeley.

1978-1979 Senior Transportation Planner, Southern California Association of Governments, Los Angeles.

1975-1977 Director of Transportation, Billings-Yellowstone City-County Planning Department, Billings, Montana.

1974-1975 Transportation Engineer, Parsons-Brinckerhoff-Tudor-Bechtel, Inc., Atlanta, Georgia.

1973 Planner, Southeast Virginia Planning District Commission, Norfolk, Virginia.

1971-1972 Aeronautical Engineering Assistant, Naval Air Station, Norfolk, Virginia.

Consulting and Advising (1986-Current):

MTRC, Hong Kong; prime consultant on evaluating "Rail + Property" Program, Hong Kong, 2005-present.

Fehr & Peers and ICF Conculstant, "Mixed-Use Development and Vehicle Trips: Improved Estimation Methodology", subconsultant, 2007-present.

Transit Oriented Design in China -- Shenzen Urban Transport Planning Center, Institute of Urban Planning and Design Institute (Shenzhen University), and Tianjing Urban Planning and Design Institute; Shenzhen and Tianjin, China, 2007-present.

Faegre and Benson Law Firm, advisor on property appraisal for Minneapolis ballpark condemnation case, Minneapolis, Minnesota, 2007.

PB Place-making. "Tysons Corner: Planning and Urban Design", Tysons Corner Task Force, Virginia, 2006-present.

HNTB. "MTIA: Metrolink South and North, St. Louis; Madison, WI LRT project; 2006-2007.

World Bank Institute and Quezon City, Quezon City CBD Renewal, 2007.

Transit Cooperative Research Program, H-27A, "Ensuring Full Potential Ridership from Transit-Oriented Development", subconsultant to Parsons-Brinckerhoff-Quade-Douglas, Co-Investigator, 2005-present.

National Cooperative Research Project 25, "Land Use Forecasting for Indirect Impact Analysis", subconsultant to PB Placemaking, 2005-present.

Cambridge Systematics, Transportation and Land Use Course development, National Highway Institute," subconsultant, 2005- 2006. Preparing materials on transportation and land use interactions for national training course.

World Bank Institute, Local Capacity Building in Indonesia, consultant, 2005-2007.

FIA Foundation and Westminster University, "Contributions of Transport Projects to Welfare-to-Work: An International Study", London, England, Co-Investigator, 2004-2005.

Team Leader, Mission on Urban Planning Futures for Wuhan, China; China Development Bank and World Bank; prepared and presented summary findings; Wuhan, China, October 2004.

Beijing Comprehensive Master Plan; technical assistance and training on transportation and land-use integration for Beijing long-range plan; Lincoln Institute of Land Policy and National Center for Smart Growth, University of Maryland; Beijing, China June 2004.

St. Louis MetroLink South Extension, subconsultant on economic and ridership benefits of light rail extension, HNTB, March 2003-2004; prepared two reports on direct ridership models for the MetroSouth extension.

Fehrs and Peers Associates, Lafayette, California; direct ridership forecasting for proposed BART extension; 2003.

Bay Area Rapid Transit District, subconsultant on ridership impacts of transit oriented development, January 2003-January 2004.

Utahans for Better Transportation, advisor on Legacy Parkway project, 2003-2004.

Bogotá-Cundinamarca Regional Planning Initiative, United Nations Centre for Regional Development, Bogotá, Colombia; July 2002-November 2005. Bogotá-Cundinamarca Regional Planning Initiative, United Nations Centre for Regional Development, Bogotá, Colombia; July 2002-November 2005. Prepared papers on: "Recommendations on the Regional Planning and Development Project for Bogotá-Cundinamarca Based on Workshop Three" (2002); "Core Principles for Articulating a Transportation Vision for the Bogotá-Cundinamarca Region"(2003); "Institutional Arrangements for the Development of Regional Transport Systems: Models from the U.S., Canada, and Europe" (2003); "Institutional Aspects for Capacity Building and Participatory Planning" (2005). See: <http://www.regionbogotacundinamarca.org/mos/index.php>

Utah Transit Authority, ridership forecasts of transit joint development; November 2002.

Society of Protection of Nature in Israel and Tel Aviv Environmental Research Center, Tel Aviv, Israel; advised on mass transit and urban development at local, corridor, and regional scales in Tel Aviv-Jaffa; April 2002.

Shapell Industries, analysis of jobs-housing balance issues and contribution of housing production to narrowing imbalances in Tri-Valley of the San Francisco Bay Area, 2002.

Riverside County, Bus Rapid Transit Program, Land-use thresholds for support BRT investments, Institute of Transportation Studies, February 2002-present.

National Association of Realtors and Urban Land Institute. Analysis of land-value capitalization effects for commercial and residential properties related to proximity to light-rail, heavy-rail, bus-rapid transit, and commuter rail services in Santa Clara County, Los Angeles County, and Orange County, California. October 2001-present.

Tellus Institute; Inc. Transit Cooperative Research Program, *New Paradigms in Transit*. Prepared materials and moderated sessions for Internet dialogue on New Paradigms in Transit. January-March 2002.

State of California, *California Futures Plan*; advisor on land-use components of long-range state transportation plan; UCLA Public Policy Program, September 2001-January 2002.

State of Ceará, Fortaleza, Brazil; consultant and advisor on access, traffic, parking, and transit issues for master-planned Convention Center project, August 2001-January 2002.

Montgomery County, Maryland, Planning Board; consultant and advisor on the development of a long-

range Transportation Policy Report, February 1999-September 2001.

California Department of Transportation; subconsultant to Cambridge Systematics on designing data base and evaluation of transit-oriented developments (TODs) in California, October 2000-June 2001.

Charlotte, North Carolina, Corridor Study Plans, Northern and North-eastern Transit Corridors; land-use modeling, accessibility analysis, and station typology development; May 2000-July 2001.

United Nations Commission on Human Settlements (Habitat); regulation of the informal transport sector, comparative international study, July 1999-September 2000.

Community Design, Charrette for Anchor Mills adaptive re-use project, Huntersville, NC, October 1999; with Duane-Plater-Zybeck Associates.

City of Grand Rapids, Michigan; strategic transit and urban planning, May-October 1999.

City of Lake Forest, California, El Torro Corridor Project, design and planning consultant, October 1999.

City of Plano, Texas; land use and transportation planning strategies for the city, April 1999.

Independence Corridor Bus Rapid Transit Project, Charlotte, North Carolina; strategic planning and design, December 1998-July 1999.

Century Development, San Francisco, City Lofts Project, Jack London Square, Oakland, February, 1999; evaluated issues related traffic and parking impacts, adaptive re-use, and transit-village development.

Inquiry on the Scoresby Transport Corridor, Melbourne, Australia; expert witness and testimony, sponsored by the Public Transport User's Association, December, 1998.

New town/transit village development, Dublin, Ireland, Mahoney-Pike Associates; assisted with conceptualizing new-town development plans for two large sites near rail stations; November, 1998

Long-Range Transit Alternatives Analysis, Department of Transportation, City of Charlotte, North Carolina; policy consulting, ridership evaluation of land-use scenarios, economic impact assessment; 1998-2000.

National Training and Research Program on Transportation, Land Use, and the Environment, National Transit Institute, New Jersey; consultant with LDR International; Team Manager and Course Co-Instructor - Atlanta, Chicago, Seattle, Dallas, Delaware, Boston, Buffalo, Phoenix, Washington, D.C., Columbus, Denver, Anchorage, Richmond, Albuquerque, San Antonio, Frankfurt, New Orleans, Sacramento, Des Moines, Raleigh, Kansas City; 1997-2001.

Transit Cooperative Research Program, New Paradigms for Public Transportation; prepared statements on new paradigms for land use, management, pricing, organization, and environment; with Eno Transportation Foundation, 1997.

South New Jersey Light Rail Transit Project, Booz-Allen Associates; Evaluation of induced ridership demand and economic impacts, sub-consultant, 1996-1997.

Transit Cooperative Research Program, Economic Impacts of Urban Transit Systems, with Cambridge Systematics, Inc. Co-Principal Investigator, 1996-1997.

Joint Development Planning for St. Clair Extension of St. Louis Light Rail System. Bi-State Development Commission, STV/Booker Engineering, 1995-1996.

Transportation Demand Management for Auckland, New Zealand, Travers Morgan. Reviewed U.S. experience with TDM and the implications for Auckland, 1995.

Jobs-Housing Balance in Hunt Valley, Maryland. Security Management Corporation. Conducted analysis of transportation and environmental benefits of proposed residential development on jobs-housing balance in Baltimore County. Provided expert testimony at public hearing, 1995-1977.

Tren Urbano Impacts on Station Area Land Values, GMAC Tren Urbano Program, San Juan, Puerto Rico, 1995. Evaluated impacts of planned light rail systems on property values.

Development of Jaya Tangerang New Town, Jakarta, Indonesia, with Calthorpe and Associates, for PT Jayaland, 1995. Developed transportation and land-use elements for planned new town.

Implementing Transit-Oriented Development Around Rail Stations Along Los Angeles's Metro Red Line, with Cordoba Corporation, for Los Angeles County Metropolitan Transportation Authority, 1995. Conducted impact analysis of proposed mixed-use development around the Little Tokyo/Arts Center Station.

Emeryville Station Car Project. Feasibility Study for Implementing Station Cars in Emeryville, California, Implementation of San Francisco Station Car Demonstration Program, 1994-present.

Transit Cooperative Research Program, Urbitrans Associates. Project on "Improving Transit Connections for Enhanced Suburban Mobility", 1994-1996. Conducting research on suburban mobility.

Transit Cooperative Research Program, Parsons-Brinckerhoff-Quade-Douglass, Inc. Project on "Transit and Urban Form", 1993-1996. Conducted theoretical and empirical work on transit-urban form relationships.

Taiwan Science Industrial Park Administration, 1992-1993. Advising on developing a Science City Master Plan for the Hsinchu region. Conducting financial and economic appraisal for infrastructure development for Science City.

City of Albuquerque, 1993-1994. Advised on long-range strategic transportation and land-use planning. City of Palo Alto, 1993. Advised on redevelopment of CalTrain station in Palo Alto.

City of Houston, Texas, 1993. Evaluated the impacts of pedestrian designs on travel behavior.

Harvard Institute for International Development (HIID), Jakarta, Indonesia, 1989-1992. Worked on numerous projects related to urban and regional development and finance in Indonesia. Prepared policy reports on: central-local fiscal relations; regional development grant reform; private participation in infrastructure finance; betterment tax financing; organizational approaches to solid waste management; grant allocations and tariff structures in the water supply sector; urban land and building valuation; deregulation of state and regional enterprises; parking pricing for DKI Jakarta; criteria for evaluating loan applications for bus terminals and solid waste facilities; and training materials for economic appraisals of loan proposals for infrastructure investments.

State of Hawaii, 1990-92. Evaluated Alternatives Analysis and recommended busway options for the proposed Honolulu Rapid Transit System.

The Newhall Land and Farming Company, 1990. Assisted with transportation element for the Valencia Town Center.

Wilkes, Artis, Hedrick & Lane, Bethesda, Maryland, 1990. Prepared planning guidelines for the North Bethesda Conceptual Plan.

Government of Indonesia and World Bank, Syarikat Sailcos SDN BHD, Pekanbaru, Riau. 1987-1990. Transmigration program and rural economic development planning. Prepared reports on settlement planning, socio-economic impacts, and regional economic development.

Korean Research Institute for Human Settlements, Seoul, Korea. 1989. Infrastructure financing. Prepared report on alternative approaches for financing national highway improvements.

Arthur Andersen & Company, Sydney, Australia and Houston, Texas. 1989. Advanced transportation development for new science community and facilities planning for multinational petroleum company.

Rice Center for Urban Mobility Research, Houston, Texas. 1984-1988. Research projects on mass transit finance, joint development, and suburban mobility.

Transportation Systems Center, U.S. Department of Transportation, Cambridge, Massachusetts. 1982-1986. Research on subsidy policies for urban mass transit.

Legal Experience: Expert Witness and Testimony

Consultant/Expert Witness: Environmental justice suit against the Metropolitan Transportation Commission; Hanson Bridgett Marcus Vlahos Rudy, LLP, 2007-present.

Expert Witness: *San Diego RV Resort v. Metropolitan Transit Development Board*, San Diego, California. Consultant to Best, Best, & Krieger LLP, on land-market impacts of light-rail services in San Diego, deposition; expert witness; 2001-2003.

Expert Witness: *Santa Clara Valley Transportation Authority v. Bianchi, et al.*, San Jose, California. Consultant to Erickson, Beasey, Hewitt, Willson, LLP and SCVT; estimated land-value premium to high-density residential parcel near planned light rail station; deposition; 2001.

Expert Witness: *Save Our Valley v. Sound Transit*, Seattle, Washington. Consultant to Preston Gates Ellis, LLP and Sound Transit; prepared report on benefits of at-grade alignment in the Rainier Valley; deposition; 2000-2001.

Expert Witness: *Muzzi v. SamTrans*, Millbrae, California. Consultant to Erickson, Beasey, Hewitt, Willson, LLP and BART; deposition; listed as expert witness; prepared report on accessibility benefits at the Millbrae BART station, 2000-2001.

Expert Witness: *Summerfield Suites v. SamTrans*, San Bruno, California. Consultant to Hanson Bridgett Marcus Vlahos Rudy, LLP. Listed as expert witness; prepared report on benefits of proximity to rail transit for a hotel property, San Bruno BART station, 2000-2002.

Expert Witness: *Tanforan Shopping Center v. SamTrans*, San Bruno, California. Consultant to Erickson, Beasey, Hewitt, Willson, LLP and BART; deposition; prepared reports on accessibility benefits accruing to a large commercial-retail property from the San Bruno BART station, 1999-2001.

Expert Witness: Government of Victoria, Melbourne, Australia, Scoresby Freeway Judicial Inquiry, December, 1998.

Co-author of Brief to the Supreme Court of the United States, October Term, 1996; *Bernadine Suitum v. Tahoe Regional Planning Agency*, on Writ of Certiorari to the U.S. Court of Appeals for the Ninth Circuit Court, No. 96-243.

Expert Witness: *Henderson vs. SamTrans*, Expert witness to Hanson Bridgett Marcus Vlahos Rudy, LLP and BART; prepared a report on accessibility benefits for the Colma BART station; filed deposition. 1994-95.

Expert Witness: *San Joaquin County General Plan*. Provided expert testimony at legal hearing on the San Joaquin County General Plan, County Board of Supervisors, 1982.

Visiting Professorships and Research Appointments:

Tongji University, Department of Urban Planning, Shanghai, China; Xi'an University of Architecture and Technology, Institute of Urban Planning, Xi'an, China; February 2004.

Universidade Federal Do Rio de Janeiro (UFRJ), Instituto Alberto Luiz Coimbra de Pós-graduação e Pesquisa de Engenharia, Rio de Janeiro, Brazil, July-August 2000.

University of Melbourne, Faculty of Architecture, Building and Planning, Melbourne, Australia, April-May 1996.

Korean Research Institute for Human Settlements, Seoul, Korea, August 1989.

Institute of Technology, Bandung, Indonesia, December 1988-January 1989.

Institute of Transportation Sciences, Kaiserslautern University, Kaiserslautern, Federal Republic of Germany, November-December 1987.

Institute of Economics, Dortmund University, Federal Republic of Germany, October-November 1987.

Publications:

Books:

Developing Around Transit: Strategies and Solutions That Work. Washington, D.C.: Urban Land Institute, 2004; with R. Dunphy, F. Dock, M. McAvery, D. Porter, and C. Swenson.

The Transit Metropolis: A Global Inquiry, Washington, DC: Island Press, 1998; translated into Chinese, China Architecture and Building Press, 2007.

Paratransit in America: Redefining Mass Transportation. Westport, CT: Praeger, 1997.

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America's Suburban Centers: The Land Use-Transportation Link. Boston: Unwin-Hyman, 1989.

Suburban Gridlock. New Brunswick, New Jersey: Center for Urban Policy Research, Rutgers University Press, 1986.

Journal Articles and Book Chapters:

Rail + Property Development in Hong Kong: Experiences and Extensions, *Urban Studies*, 2008; with J. Murakami (forthcoming)

Informal Transport: A Global Perspective, *Transport Policy* Vol. 14, 2007, pp. 445-457; with A. Golub.

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A Re-Evaluation of Travel Behavior in California TODs. *Journal of Architecture and Planning Research*; Vol. 23, No. 3, 2006, pp. 247-263; with H. Lund and R. Willson.

Alternative Approaches to Modeling the Travel-Demand Impacts of Smart Growth. *Journal of the American Planning Association*, Vol. 72, No. 3, 2006, pp. 285-295.

An Ecological Approach to Creating Active Living Communities, *Annual Review of Public Health*, Vol. 27, 2006, pp. 297-322; with J. Sallis, W. Ascher, K. Henderson, K. Kraft, J. Kerr.

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- Changing Live-Work Spatial Relationships: Implications for Metropolitan Structure and Mobility. *Cities in Competition: The Emergence of Productive and Sustainable Cities for the 21st Century*, J. Brotchie, et al., eds. Sydney: Longman Cheshire, pp. 330-347, 1995.
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- Making Transit Work in the Suburbs. *Transportation Research Record* 1451, pp. 3-11, 1994.
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Dale Prize for Excellence in Urban and Regional Planning, 2004; California State University at Pomona; first awardee.

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Urban Land Institute, Fellow, 1998-2004; two terms.

World Bank Institute, Fellow and Instructor, 1999-present.

LeFrak Lecturer, University of Maryland, 2001.

Lincoln Institute of Land Policy, Associate, 1999-2000.

Chester Rapkin Award, *Journal of Planning Education and Research*, 1991.

Article of the Year, 2nd place, *Journal of the American Planning Association*, 1990.

Fulbright Fellowship, Visiting Scholar in Indonesia, 1990-91.

Teacher of the Year Award, Department of City and Regional Planning, UC Berkeley, Academic Years 1988-89, 1986-87, and 1985-86.

Pacific Rim Research Fellowship, University of California, 1988-1989

German Academic Exchange Fellowship, DAAD, 1987

Seventh Regional Science Dissertation Competition Award, 1980

American Planning Association Outstanding Scholarship Award, 1980

Fishbaugh Memorial Fellowship Award, 1979; Brython Davis Memorial Fellowship Award, 1978, UCLA.

Carnegie-Mellon Fellowship in City Planning, Georgia Tech, 1973-1975

Phi Beta Kappa Honors, University of North Carolina, 1971-1973

Current Membership in Professional Societies:

Urban Land Institute, Washington, D.C. (Member; Transportation-Land Use Forum)

Lincoln Institute of Land Policy, Cambridge, Massachusetts.

American Planning Association, member; Transportation Planning Division, Vice-Chair, 1989-91.

Transportation Research Board, Washington, D.C.

Professional and Civic Activities:

Editorial Board, *Journal of the American Planning Association*; 2006-present; 1996-2003.

Editorial Board, *Journal of Planning Literature*, 2005-present.

International Advisory Committee and Editorial Board, *Urban Studies*, 2004-present.

Editorial Board, *The Journal of Public Transportation*, 1994-present.

National Advisory Board, Active Living Policy and Environmental Studies Program, The Robert

Wood Johnson Foundation, 2002-present. <http://www.alpes.ws/Staff.asp>

National Research Council Committee for the Study on the Relationship Among Development Patterns, Vehicle Miles Traveled, and Energy, 2007-present.

FTA Expert Panel on Economic Development Impacts of Transit Projects, Cambridge Systematics, Washington, D.C., 2007.

Urban Land Institute, Infrastructure Advisory Group, 2006-present.

San Diego Association of Governments, Panelist, San Diego Independent Panel Review of Long-Range Transit Plan, 2005-present.

Reason Foundation, Advisory Board, Mobility Project, Los Angeles, 2005-present.

Metropolitan Transportation Commission, Panelist, Long-Range Transit Plan, 2005-present.

Obesity and Built Environment, Special Emphasis Panel, National Institute of Health, 2005.

Physical Exposures Working Group, National Children's Study, National Institute of Health, 2002-2005.

National Research Council Committee on Physical Activity, Health, Transportation, and Land Use, 2003-2005.

International Steering Group, Urban Transport Strategies Review, The World Bank, Washington, D.C., 1999-2001.

Peer Review Panel, Alternatives Analysis for the Los Angeles Metropolitan Transit Authority, Intelligent Transportation Peer-to-Peer Review Program, Federal Transit Administration, Los Angeles, 1998.

Editorial Board, *Urban Design International*, 1995-1996.

Co-author of Brief to the Supreme Court of the United States, October Term, 1996: *Bernadine Suitum v. Tahoe Regional Planning Agency*, on Writ of Certiorari to the U.S. Court of Appeals for the Ninth Circuit, No. 96-243, 1996.

Panel on Transportation Options for Megacities in Developing Nations, Transportation Research Board, National Research Council, 1995-1996.

The Sustainability Project, Advisor, American Institute of Architects; Santa Barbara, California, 1994-1996.

Panel on Intermodal Guideway Project, Federal Transit Administration and Center for Urban Transportation Research, University of South Florida, 1995-1996.

Panel on Transportation Research and Development, California Council on Science and Technology, Irvine, California, 1993-94.

Committee on National Urban Policy, National Academy of Sciences, Washington, 1985-1990.

Panel on Equitable Cost Sharing for Activity Center Traffic Mitigation, National Cooperative Highway Research Program, National Research Council, Washington, 1987-1990.

Panel on Travel Characteristics of Suburban Activity Centers, National Cooperative Highway Research Program, National Research Council, Washington, 1987-1990.

Bay Area Transportation Task Force, Bay Area Council, San Francisco, 1984-1987.

Transit Productivity Committee, Metropolitan Transportation Commission, Oakland, 1984-1987.

Committee on Local Transportation Finance, Transportation Research Board, Washington, 1984-1987.

Task Force on Public-Private Cooperation in Transportation, Transportation Research Board, Washington, 1984-1987.

Committee on Transportation Planning, People for Open Space, Berkeley, 1984.

Recent Professional Training

University of Wisconsin, Madison, College of Engineering, University Education and Training for Transportation Professions; taught course on "Integrating Land Use and Rail Transit Planning", Madison, Wisconsin and Sunnyvale, California, 2005-2006.

World Bank, Urban Management Course, "Integration of Urban Transportation and Urban Planning"; instruction in Toronto, Brasilia (three times), Buenos Aires, Belo Horizonte, Jaipur (India), Beijing; 1999-2004.

National Training Program on Coordinating Transportation and Land Use (2nd Program), National Transit Institute, New Jersey. Course Co-Instructor: New Brunswick (NJ), Los Angeles, Springfield (MO); 2003-2004.

National Training and Research Program on Transportation, Land Use, and the Environment, National Transit Institute, New Jersey; consultant with LDR International; Team Manager and Course Co-Instructor -- Atlanta, Chicago, Seattle, Dallas, Delaware, Boston, Buffalo, Phoenix, Washington, D.C., Columbus, Denver, Anchorage, Richmond, Albuquerque, San Antonio, Frankfurt (KY), New Orleans, Sacramento, Des Moines, Raleigh, Kansas City, Charlotte, San Francisco; 1997-2002.

Invited Speeches, Lectures, Panels, and Paper Presentations:

Evening Speaker: "Railway/Land Use Integration: Principles and Experiences", Institute of Urban Planning and Design Research, Shenzhen University, Shenzhen China, January 2008.

Invited Speaker: "Transportation and Land Use Integration at Multiple Scales: Lessons for China", Tianjin Urban Planning and Design Institute, Tianjin, China, December 2007.

Invited Evening Speaker: "Making Transit Work: Enhancing Mobility and Livability through the Transit-Land Use Connection"; Indianapolis Metropolitan Planning Organization; and Bloomington City Council, November 2007.

Invited Speaker: "Transport and the Environment", International Conference on: "A Climate of Reconciliation: Economy, Social Justice and the Environment", Trudeau Foundation, Calgary, Alberta, November 2007.

Keynote Speaker: "Effects of Public Transportation on City Design". International Conference on: "Cities

and Transportation - Innovations and Visions", sponsored by Swiss Federal Institute of Technology and VBZ, in celebration of 125 Years of Public Transport in Zurich; Zurich Switzerland, November 2007.

Speaker: "TOD and Trip De-Generation". Rail-volution 2007, Miami Beach, Florida, November 2007; also presented at: 1st Annual UCTC/PATH Conference: "On the Road to Sustainability: From Research to Practice", Berkeley, CA, October 2007.

Co-presenter: "Travel Demand Impacts of Suburbanization in Shanghai, China"; moderator: session on "mobility for everyone". American Collegiate Schools of Planning, Milwaukee, WI, October 2007.

Keynote speaker: "Toward a Full and Integration Transportation Program: Lessons for Central Florida", Conference on Central Florida's Transportation Future, ULI - Orlando District Council, Orlando, Florida, September 2007.

Plenary Speaker: "Sustainable Transport and Urbanism...at Multiple Scales", Meeting of the Minds: The Innovations we need for more Sustainable Cities, Urban Age Institute, Oakland, CA, September 2007.

Invited Speaker: "Transit Oriented Development in China: Opportunities and Challenges", Shenzhen Planning Bureau, Shenzhen, China, July 2007.

Presented paper: "Influences of Built Environments on Walking and Cycling: Lessons from Bogotá", World Congress on Transport Research, Berkeley, CA, June 2007.

Invited Speaker: "Successful Global Transit Metropolises", Seminar on Transport in a Sustainable Metropolis; "Land Use and Public Transport: Best Evidence", Workshop on Transport Solutions for Sustainable Development; National Association of Public Transit and Hewlett Foundation, Sao Paulo, Brazil, June 2007.

Invited Speaker: "BRT and Land Use", Symposium on: "Finding Transit that Fits the Tappan Zee Corridor: The Case for Bus Rapid Transit", Tri-State Transportation Campaign, Westchester County, New York, June 2007.

Invited Speaker: "Current Thinking in Urban Service Delivery with a Focus on Metropolitan Transport Planning and Management and Its Applicability to the Quezon City Context", World Bank Institute and Quezon City Government, Quezon City, The Philippines; "Managing Urban Growth and Designing Sustainable Transport Systems", Cities Alliance and the World Bank Institute, Manila, The Philippines, June 2007.

Invited Speaker: "Urban Management and Service Provision in a Decentralized Framework: International Experiences" and "Infrastructure Planning and Service Provision: Implications for the Indonesian Context", World Bank Institute, Training course on: Indonesia -- Strengthening Local Service Delivery Under Decentralization, Bali, Indonesia, May 2007.

Panelist: "Spatial Mismatch, Balanced Growth, and Workforce Housing", Workforce Housing Roundtable, U.S. Department of Housing and Urban Development, Washington, D.C., May 2007.

Chair and Moderator: Plenary session on "Formalization of Urban Land Tenure in Developing Countries", Urban Research Symposium 2007, World Bank, Washington, D.C., May 2007.

Evening Lecture: "Transit-Oriented Development: From Here to There", Raleigh Department of Planning, Raleigh, NC, May 2007.

Evening Lecture: "Making Tysons Corner Work", Tysons Land Use Task Force and George Mason School of Management, McLean, Virginia, April 2007. Video stream at:

<http://www.fairfaxcounty.gov/offsite/?pg=http://www.fairfaxcounty.gov/cable/channell6/asx/cervero.asx>

Keynote presentations: "Transportation and Land Use in Developing Countries", "Integrated Transit, Broadly Defined", and "Mobility Management and Sustainable Futures", International Seminar on Mobility and Integration in Salvador", Center for the Study of Transport and the Environment, Federal University of Bahia, Salvador, Brazil, April 2007.

Presented paper: "Informal Transit: A Global Perspective", International Conference on Urban Transport – Today and Tomorrow, Indian Institute of Technology, Agra, India; March 2007.

Keynote speaker: 'International Best Practice in Transit Oriented Development', Conference on 'Living Smarter' The Future of South East Queensland, Surfers Paradise, Australia; Workshop on 'Smart Growth in a Fast Growing Region', Property Council of Australia; Workshop on 'Transit Oriented Development in the Midst of Rising Automobility', Office of Urban Management, Queensland, Brisbane, Australia; March 2006.

Presented Paper: "City CarShare: Longer-Term Travel-Demand and Car Ownership Impacts". Presented at the 86th Annual Meeting of the Transportation Research Board, Washington, D.C., January 2007.

Invited Speaker: "TOD: Planning for Hong Kong's Future", Evening Seminar, Metropolitan Rail Transit Corporation, Hong Kong, December 2006.

Invited Speaker and Panelist: "Economic Growth in Urban Regions: Implications for Future Transportation", Forum on the Future of Urban Transportation, Eno Transportation Foundation, Washington, D.C., December 2006.

Keynote speaker: "Polycentricism, Balanced Growth, and Travel: Thirty Years of Evidence from the San Francisco Bay Area", Workshop on Polycentric Employment, Eastern Asia Society for Transportation Studies, Nagoya, Japan, November 2006.

Keynote speaker: "Public Transport and Sustainable Urbanism: Global Lessons", *5th Anniversary for Graduate School of Environmental Studies and Symposium on Sustainable Transport and Cities*, Nagoya University, Nagoya, Japan, November 2006.

Discussant, Session on "Nexus Between City Planning and Public Education", Association of Collegiate Schools of Planning, Annual Conference, Ft. Worth, Texas, November 2006.

Keynote evening speaker: "What Makes a Successful TOD?", Colloquium on Transit Oriented Development", University of Quebec, Montreal, Canada, November 2006.

Presented paper and panelist: "Freeway Deconstruction and Urban Regeneration". International Symposium on the 1st Anniversary of Cheong Gye Cheon Restoration, Seoul Municipal Government, Seoul, Korea, October 2006.

Keynote Speaker: "Balanced Regional Growth: Lessons for Vegas?", Annual Conference, Nevada Chapter, American Planning Association, Carson City, Nevada, September 2006.

Presentation: "Urban Planning and the Creation of Supportive Environments", *Workshop on "Urbanization and the Effectiveness of Networks in Health Promotion"*, International Union for Health Promotion and Education (IUHPE), Atlanta, Georgia, August 2006.

Presented background paper at plenary session: 'Financial Sustainability and Financial Schemes for Cleaner Urban Transport in Latin America', *Ar Limpo para America Latina*, Biannual Conference, World Bank, Sao Paulo, Brazil, July 2006.

Keynote Speaker: "Bus Transit and Land-Use Integration: Global Insights", Annual Conference of the Michigan Transportation Planning Association and the Michigan Association of Regions, Grand Rapids, MI, July 2006.

Speaker: "Infrastructure and Land Use: 10 Principles", Forum on "Connections for Growth", Urban Land Institute, New York City, June 2006.

University Lecture: "Transport and Land-Use Integration in the Developing World", University of Sao Paulo, Sao Carlos, Brazil, June 2006.

Keynote Speaker: "Mobility and Accessibility: Toward a Sustainable Transport Future"; Speaker: "TOD and DOT: Contrasting Approaches to Land Use and Public Transit Integration". IV Rio de Transportes, COPPE, Federal University, Rio de Janeiro, Brazil, June 2006.

Speaker: "Transit Oriented Development in America"; "TOD and New Town Development: International Experiences". International Workshop on New Town Planning and Transit-Oriented Development", Korea Housing Corporation, Seoul, Korea, May 2006.

Speaker, Moderator, and Course Developer: "Transit Systems: Rail and BRT"; "What is TOD?", "TOD and the Private Sector", "TOD and Urban Management"; "TOD and Bus Rapid Transit". International Workshop on Transit Oriented Development: Global Experiences and Opportunities/Challenges for China, China Executive Leadership Academy, Pudong and the Lincoln Institute of Land Policy, Shanghai, China, May 2006.

Speaker, Plenary Session: "Mobility Benefits of Accessibility Planning", 3rd International Conference on Future Urban Transport, Volvo Research Foundation, Gothenberg, Sweden, April 2006.

Seminar Speaker: "Balanced, Mixed Use Development: Efficiency and Equity Trade-Offs. METRANS Seminar Series, University of Southern California, Los Angeles, March 2006.

Seminar Speaker: "The Challenges of TOD in greater Phoenix". Transportation Seminar, College of Design, Arizona State University, Phoenix, March 2006.

Keynote Speaker: "Vienna Surrounded by Phoenix: The Challenges of TOD and Smart Growth in Mississauga", City Forum: Moving Forward, Canadian Urban Institute, Mississauga, Ontario, February 2006.

Invited Speaker: "TOD & TAD: The Twin Evils of Transit and Urbanism", Citizens for Modern Transit, Evening Roundtable, St. Louis, February 2006.

Keynote Speaker: "TOD and DOT: Contrasting Approaches to Land Use & BRT Integration", TransNOW Annual Student Conference, Transportation Northwest Center, Corvallis, Oregon, February 2006.

Luncheon Speaker: "Bus Rapid Transit, Urbanism, and the Poor: Lessons from Latin America", San Francisco Planning and Urban Research Association, Noontime Forum, San Francisco, February 2006.

Lecturer: "Transportation and Land Use Integration", Workshop on Transportation and Land Use Integration, Lincoln Institute of Land Policy and South China University of Technology, Guangzhou, China; "Ten Principles of Land Use and Transport Integration", China Ministry of Construction, Shenzhen, China, December 2005.

Discussant and Moderator: Session on "Transit Ridership". Annual Meeting of the American Collegiate Schools of Planning, Kansas City, Missouri, October 2005.

Invited Seminar Speaker: "Urban Geomorphology and Travel Choices: Sustainability and Social Equity Implications", Carolina Population Center; "TOD in America", Carolina Urban Research Study Center; University of North Carolina, Chapel Hill, October 2005.

Invited Speaker: "Balanced Growth and TOD in California: Travel Impacts and Policy Implications". Sacramento, California Department of Transportation, "Research Connection" Statewide Video Conference Series, September 2005.

Keynote paper presentation: "TOD in the United States: Strategies, Issues, Prospects", International Conference on "Transit Oriented Development: Making It Happen", Landcorp and Australian Planning Commission, Freemantle, Western Australia, July 2005.

Plenary speaker: "Cross-Cutting Themes on Local Capacity Building in Indonesia", Workshop on "Sustainable Approaches to Local Government Capacity Building", World Bank Institute and BAPPEDA, Bali, Indonesia, June 2005.

Keynote speaker: "Economic & Community Impacts of Transit Investments", Symposium on "Evaluating Economic and Community Impacts of Transit Corridors", Humphrey Institute of Public Affairs and Hennepin County, University of Minnesota, Minneapolis, June 2005.

Presented paper: "Meeting the Twin Goals of Affordable Housing and Sustainable Mobility", National Housing Conference, plenary session, Royal Institute of Architects of Ireland, Cork, Ireland, May 2005.

Keynote Speaker and panelist: "Transit and Sustainable Urbanism", Evening Colloquium on "Toward a Better Urbanism: Transit and Where We Go from Here", Congress for the New Urbanism, Minnesota Chapter, University of Minnesota, Minneapolis, April 2005.

Keynote Speaker: "Transit Oriented Development: International Experiences and Their Applicability to Chinese Cities", International Conference on Sustainable Urban Transportation Planning in China, Municipality of Dalian and Tsinghua University, Dalian, China, March 2005.

Presentation: "Off-Line Modeling of Transportation and Land Use Futures", Annual National Conference of the American Planning Association, San Francisco, March 2005.

Panelist: "Future of Transportation". Symposium on California at 50 Million", Institute of Urban and Regional Development, UC Berkeley, March 2005.

Presentation: "Job Access and Social Exclusion in the U.S.", Conference on Evaluating the Contribution of Transport Projects to Welfare to Work: An International Study", FIA Foundation for the Automobile and Society, London, England, November 2004.

Keynote Speaker: "Successful Models of Transport and Land-Use Innovations"; Moderator, Session on "Improving Commercial and Societal Outcomes": International Conference on "Smart Transport and Property: Leveraging Transport Infrastructure for Property and Land Development", Transport Roundtable Australasia Pty Ltd., Brisbane, Australia, November 2004.

Presentations: "Thematic Address on Transport and Land: Connecting the Cities"; "Summary Presentations on Urban Planning Directions for Wuhan, China": International Symposium on Planning the Future of Cities in China", China Development Bank and the World Bank, Beijing and Wuhan, China, October 2004.

Presentation on: "Towards a Sustainable Metropolis: An International Perspective", International Summer Course on "Networks of Globalization: New Urbanism and Beyond", Royal Institute of Technology,

Stockholm, Sweden, October 2004.

Presented Paper: "Balanced Transport and Sustainable Urbanism: Enhancing Mobility and Accessibility through Institutional, Demand Management, and Land-Use Initiatives", International Symposium on "Urban Mobilities: The Challenges, the Research Issues in China and Abroad", Institut Pour la Ville Mouvement and Tsinghua University, Beijing, China, October 2004.

Presented Paper: "Transit Oriented Development in America: Contemporary Practices, Impacts, and Policy Directions", Conference on "Incentives, Regulations and Plans: The Role of States and Nation-States in Smart Growth Planning", National Center for Smart Growth, and Habiforum, Annapolis, Maryland, September 2004.

Speaker: "Ten Principles for Integrating Transport and Land Use: Lessons for Beijing". Special Seminar, Beijing Municipal Planning Department, Beijing, China, June 2004.

Evening Speaker: "Transportation and Community Development". Dale Prize Award Ceremony, California Polytechnic University at Pomona, Pomona California, May, 2004. See: <http://video.csupomona.edu/RJZimmer/TransCD-245.aspx>

Keynote Speaker: "Bus-Based Transit and Urban and Regional Land-Use Integration". International Conference on "Cities in Motion". Republic of Colombia National Planning Department, Ministry of the Environment, and UNDP. Bogotá, Colombia, April 2004.

University Lectures: "Transportation, Sustainable Urbanism, and the Developing World" (four lectures), Tongji University, Shanghai, China; "Transportation and New Urbanism: Physical Determinism or Sustainable Pathways?" (two lectures), Xi'an University of Architecture and Technology, Xi'an, China; "Urban Visions and Sustainable Futures", Xi'an City Planning and Design Institute, Xi'an, China; February 2004.

Presentation: "Economic Benefits of Transit Investments: A Research Perspective", session on "Economic Benefits of Transit"; presented paper on "City CarShare: Second-Year Travel Demand and Car Ownership Impacts", session on "Carsharing and Station Car Evaluations"; 83rd Annual Meeting of the Transportation Research Board, Washington, D.C., January 2004.

Presentations: "Urban Form and Travel Behavior", Seminar on "Smart Growth Measurement", Fehrs and Peers, Inc., Sacramento and Walnut Creek, December 2003.

Presentation: "Public Health and Urban Planning", 13th Congress of Nutrition in Latin America, Society for Latin American Nutrition, Acapulco, Mexico, November 2003.

Presentation: "The Role of Transportation Investments in Shaping Land Development", UCLA Policy Research Symposium on "Finance: The Critical Link", Lake Arrowhead, California, October 2003.

Presented Paper: "Coping with Complexity in America's Urban Transport Sector". International Conference on: "Future Urban Transport". Volvo Foundation, Göteborg, Sweden, September 2002.

Keynote Luncheon Speaker: "Transit-Oriented Development in America: Experiences, Challenges, and Prospects". DuPage Public Transit Discovery Conference III, DuPage County Public Transit Committee, Elmhurst, Illinois, September 2003.

Presented paper and panelist: "Institutional Arrangements for the Development of Regional Transport Systems in Bogotá-Cundinamarca: Models from Abroad". Conference on International Lessons for Regional Planning in Bogotá-Cundinamarca; United Nations Centre for Regional Development (UNCRD),

Bogotá, Colombia, August 2003.

Keynote Speaker: "Flexible Transport – What Is It?, Conference on Delivering Flexible Transport: Showcasing the Way Forward", Queensland Council of Social Services; Seminar Guest Speaker: "Urban Planning Challenges and Options for Southeast Queensland", Queensland Department of Transportation; Brisbane, Australia, July 2003.

Presented Paper: "Traditional Urbanism, New Technologies, and Mobility", International Conference on "Senses of Mobility", City on the Move, Cerisy-la-salle, Normandy, France, June 2003.

Invited Speaker: "Transportation and Smart Growth", Growing Communities Conference, Grand Rapids, Michigan, June 2003.

Presentation: "Transportation Problems as Housing Problems: Insights and Lessons from California". International Conference on Integrated Transport Planning, Wuppertal University, Wuppertal Germany, May 2003.

Presentation: "Good Practices with Job Access Programs in the United States", International Seminar on Transport and Social Exclusion – G7 Comparison, London, England, University of Westminster, April 2003.

Keynote speaker and presented paper: "Transit Oriented Development: Getting in Front of the Curve", Conference on: "Land use Transport Planning: Making the Connection", Arriyadh Development Authority, Riyadh, Saudi Arabia, March 2003.

Presented paper and roundtable panelist: "Mobility and Design Aspects of the Bogotá-Cundinamarca Regional Planning Project", Second Training Course on Regional Development Management: Building Institutional Capacity for a Shared Vision of the Future of Bogotá-Cundinamarca", United Nations Centre for Regional Development, Bogotá, Colombia, January 2003.

Presentation: "TOD Benefits", session on "Transit Oriented Development: State of the Practice and Future Benefits"; presented paper on "City CarShare: First-Year Travel Demand Impacts", session on "Carsharing Trends, Technologies and Findings"; 82nd Annual Meeting of the Transportation Research Board, Washington, D.C., January 2003.

Presentation: "Contrasting Models of Urban Transport Development", World Bank's Inaugural Urban Research Symposium on "Urban Development for Poverty Reduction: Toward a Research Agenda", Washington, D.C., December 2002.

Presented Paper: "Social Exclusion and Job Access in the United States", International Seminar on "Day-to-Day Mobility and Social Exclusion", Institut Pour La Ville en Mouvement, University of Marne-la-Vallée, France, December 2002.

Keynote Speaker: "Global Perspectives on Transit Oriented Development", Conference on: "Not a Stop -- But a Destination", Envision Utah, Salt Lake City, November 2002.

Speaker: "The Physical Environment and Transportation", Conference on: "Promoting Public Health in the Americas", Pan American Health Organization, Santiago, Chile, October 2002.

Speaker: "Transit Oriented Development and Sustainable Transportation", XVI Congress of ANPET (Associação Nacional de Pesquisa e Ensino em Transportes), Natal, Brazil, October 2002.

Speaker, Plenary Session: "Reverse Commuting and Job Access in California: Markets, Needs, and Policy Prospects", Conference of "Job Access and Reverse Commuting in California: The Public Agency-Transit Connection", Caltrans and the Institute of Transportation Studies, Oakland, October 2002.

Panelist: Workshop on: "Principles for Development Around Transit", Urban Land Institute, Smart Growth Workshop, Washington, D.C., June 2002.

Panelist: Workshop on: "Research Agenda on Health, Land Use, Transportation and Planning", Center for Disease Control, Decatur, Georgia, May 2002.

Public Lecture and 2002 International Expert Advisor: "The Transit Metropolis: International Insights and Lessons for Tel Aviv", Society for the Preservation of Nature in Israel, Tel Aviv Environmental Research Center, Porter School, Tel Aviv University; "Mass Transit and Urban Planning", Workshop on Transit in Tel Aviv-Jaffa, Tel Aviv Regional Planning Authority; "Mass Transit and Livable Communities", Workshop on Future Transit in Tel Aviv-Jaffa, Municipality of Tel Aviv, Israel, April 2002.

Lecturer: "The Sustainable Transit Metropolis", Hebrew University, Department of Geography, Jerusalem, Israel, April 2002.

Speaker-Panelist: "Public-Private Benefits of TOD"; Panelist on "Future of Planning"; Annual Meeting of the American Planning Association, Chicago, April 2002.

Keynote Speaker. "Access, Mobility, and Waterfront Restoration for Fortaleza", Seminar on Study Results for the Multi-functional Event Complex in Ceará, Fortaleza, Brasil, March 2002.

Invited Speaker. Transportation and Smart Growth. National Association of Realtors, Transportation Working Group, Washington, D.C., March 2002.

Panelist. National Roundtable on Smart Growth Policy and Practice. National Association of Home Builders, Washington, D.C., March 2002.

Invited Guest Speaker: "Healthy Transportation and Healthy Cities", Seminar Series on "Designing and Building Healthy Communities", Center for Disease Control (CDC), Atlanta, March 2002.

Keynote Speaker: "The Sustainable Metropolis: Visioning the Future", Conference on "Cities and Transportation: Choices and Consequences", International Centre for Sustainable Cities, Simon Fraser University, Vancouver, British Columbia, February 2002.

Speaker: "Transportation and Sustainable Urbanism", South Asia Urban Management Course, World Bank Institute, Jaipur, India, January 2002.

Presented paper: "Road Expansion, Urban Growth and Induced Travel: A Path Analysis", 81st Annual Meeting of the Transportation Research Board, Washington, D.C., January 2002.

Speaker and Panelist: "Effectively Integrating Transportation and Land Use Planning", South Florida Regional Transportation Summit, South Florida Regional Transportation Organization, Ft. Lauderdale, January 2002.

Speaker: "Waterfront Urbanism", Transportation and Communications Department, State of Ceará, Fortaleza, Brazil, January 2002.

Speaker and Panelist: "Transit and Traffic Congestion", Rail-Volution Conference, Session on "Easing the Burden: Transit and Congested Areas", San Francisco, December 2001.

Keynote Speaker, Guest of Honor, Session Chairman: Keynote Speech: "Sustainable Transportation Technologies and Sustainable Urbanism"; Chaired Session on: "New Technologies For Sustainable Mobility"; International Symposium on Automotive Electronics and Alternative Energy Sources, Institute of Electronics and Telecommunication Engineers, Indian Institute of Technology, Kanpur, India, November 2001.

Speaker and Panelist: "Transportation as a Housing and Land Use Problem", Conference on "California's Future in the Balance: Transportation, Housing, Education, and Water Four Decades Beyond the Pat Brown Era", Pat Brown Institute, California State University, Los Angeles, November, 2001.

Presented Paper: "Influences of Land-Use and Demographic Composition on Real Estate Markets: Do Exclusion and Diversity Add Value?" Critical Issues Symposium on Causes and Consequences of Exclusionary Regulations, DeVoe Moore Center, Florida State University, Tallahassee, November, 2001.

2001 LeFrak Lecturer: "Transportation and Urbanism: What's all the Fuss?", "Global Cities and Transportation", and public dialogue. Urban Studies and Planning, School of Architecture, University of Maryland, College Park, Maryland, October 2001.

Speaker: "Transit Innovations: Learning from the Developing World", Conference on "Redefining, Reevaluating, & Reinventing Transit", UCLA Extension Public Policy Program on The Transportation/Land Use/Environment Connection, Lake Arrowhead, California, October 2001.

Keynote Speaker: "Rising to Mobility Challenges in an Increasingly Mobile World", Connex, 2nd Annual Congress, Beurs van Berlage, Amsterdam, The Netherlands, October, 2001.

Invited Speaker: "Urban Transportation Innovations: Lessons for Brazil", Seminar, Department of Transportation Engineering, Universidade Federal do Ceará, Fortaleza, Brazil, September and October, 2001.

Speaker: "Smart Growth and Urban Regeneration", International Symposium on "Sustainability in Urban Space: Regeneration of Cities for the Next 100 Years", Nagoya Industrial and Science Research Institute, Nagoya, Japan, July 2001.

Presented Paper and Chaired Session: "Modeling Locational Choice" and "Modeling Urban Travel". The 9th World Conference on Transport Research, Seoul, Korea, July 2001.

Speaker: "Strengthening Transportation and Land Use Linkages in California", Conference on: California Transportation Futures – Transportation Planning Strategies to Serve California's People, Enhance Its Prosperity, and Protect its Resources, UCLA Extension Public Policy Program, Los Angeles, June 2001.

Presented paper: "Meeting Mobility Challenges in an Increasingly Mobile World", International Seminar on: Urban Mobility: The Stakes and Research Challenges in France and Abroad", Institut pour la Ville en Mouvement, Université Paris, Marne-la-Vallée, France, June 2001.

Keynote speech: "Public Policy and Jobs-Housing Balance", Monterey County Jobs-Housing Workshop, Overall Economic Development Commission, Monterey County, California, June 2001.

Invited Lecture, "Transportation, Urban Development, and Sustainability", Curso de Gestão Urbana e de Cidades, Fundação João Pinheiro, Governode Minas Gerais and World Bank Institute, Belo Horizonte, Brazil, May 2001; Invited Lecture, "Regional Transportation Planning", City of Belo Horizonte, Urban Planning Department, Belo Horizonte, Brazil, May 2001.

Evening Lecture, Invitation. "Sustainable Transportation: A Global Perspective", Department of Urban Studies and Planning, Massachusetts Institute of Technology (MIT), Cambridge, May 2001.

Luncheon Speaker: "Efficient Urbanization". Special Luncheon Seminar, Lincoln Institute of Land Policy, Cambridge, Massachusetts, May 2001.

Invited Speaker: "World-Class Transportation: Lessons for the Bay Area", San Mateo Transportation Authority, San Carlos, California, April 2000.

Keynote speech: "What Makes a Corridor Unique?", Roundtable on Transportation and Corridor Redevelopment, State and Local Policy Program, Humphrey Institute of Public Affairs, University of Minnesota, Minneapolis, March 2001.

Presented paper: "Induced Demand at the Metropolitan Scale: An Interpretative Review", Forum on Working Together to Address Induced Demand", Eno Foundation and U.S. Environmental Protection Agency, Washington, D.C., February 2001.

Presentation: "Informal Transport", 7th Annual UCTC Student Conference, Irvine, California, February 2001.

Presentation: "Public Transportation and Urban Space: Challenges and Opportunities", 7th UPR-MIT Conference on Tren Urbano, San Juan, Puerto Rico, January 2001.

Presented Paper: "Road Supply-Demand Relationships: Sorting Through the Causal Chain". 80th Annual Meeting of the Transportation Research Board, Washington, D.C., January 2001.

Luncheon Speaker: "Efficient Urbanization", UC/Sacramento Special Seminar Series on Smart Growth, UC/Sacramento Program, Institute of Government Studies, Sacramento, December 2000.

Keynote Speaker: "The Transit-Land Use Connection", Seminar on Capital Beltway Rail Feasibility, Virginia Department of Rail and Public Transportation, Fairfax, Virginia, November 2000.

Lecture: "Sustainable Transit", Distinguished Lecture Series on Sustainable Transportation, Stanford University, Program on Urban Studies and City of Palo Alto, Department of Planning, Palo Alto, November 2000.

Keynote Speaker and paper presentation: "Land Use and Transportation: Smart Growth, or Breaking Out of the Box", Eight Annual Conference of the Resource Management Law Association of New Zealand, Auckland, New Zealand, October 2000.

Keynote Speaker and paper presentation: "Co-managing Metropolitan Growth and Transport", 28th National Congress of the Royal Australian Planning Institute, Sydney, Australia, October, 2000.

Speaker/Principal Instructor: "How Does San Francisco Compare?", San Francisco Planning and Urban Research Association (SPUR), Citizen Planning Institute, *Transportation: What Works for San Francisco*, San Francisco, October, 2000.

Guest Speaker: "Informal Transport in the Developing World"; "Transit and the City of the Future", Lecture Series, Combra Institute, Graduate School in Engineering, Federal University of Rio de Janeiro, August, 2000.

Speaker: "Inner-Ring Suburbs: Decline and Turn Around", ULI Policy Forum, Urban Land Institute, Washington, D.C., July, 2000.

Presented paper: The Built Environment and Travel: Evidence from the United States, International Conference on Land Use and Travel Behaviour, Velo Mondial 2000, Amsterdam, The Netherlands, June, 2000.

Presented paper: ATransport Planning for Accessibility and Environmental Quality@, International Conference on Sustainable Transport & Clean Air, Government of Indonesia, Jakarta, Indonesia, May, 2000.

Presentation: "Informal Transport in Mega-Cities", Government of Argentina, Department of Transportation, Buenos Aires, Argentina, May, 2000.

Speaker: "Land Use and Travel: What We Know", Session on ABalancing Transportation-Land Use@, Urban Land Institute, Spring Council Forum, Miami, Florida, May, 2000.

Invited Speaker: "Sustainable Transportation for Sustainable Cities", Conference on Liveable Cities for All -- Des villes habitables pour tous", Vivre en ville, Montreal, Quebec, Canada, May, 2000.

Presentation: "Regulating the Informal Transportation Sector: Global Experiences", Workshop on Transport Regulation, The World Bank, Washington, D.C., April, 2000.

Presented Paper: Rationalizing Regional Transportation and Land Use in the 21st Century, Roundtable on Urban Issues in the 21st Century: A Closer Look at the American City, U.S. Department of Housing and Urban Development, Washington, D.C., April, 2000.

Keynote Speaker: Mobility in the 21st Century. Conference on: Moving People: Transportation Options for Delaware, University of Delaware, School of Urban Affairs and Public Policy, Newark, Delaware, March, 2000.

Moderator and Speaker: Symposium on Transportation and Sustainability: European Perspective. 79th Annual Meeting of the Transportation Research Board, Washington, D.C., January, 2000.

Presented Paper: Transportation as a Stimulus of Welfare-to-Work. 79th Annual Meeting of the Transportation Research Board, Washington, D.C., January, 2000.

Speaker and Panelist: "Public Transport and Cities of the 21st Century: Planning and Design Challenges", Seminar on Urbanization in the New Millennium, University of Lisboa, Faculty of Human and Social Sciences, Lisbon, Portugal, November, 1999.

Public Lecture: "Public Transport and Urbanism", Falecia Gayle Memorial Lecture, inaugural lecture, Citizens for Modern Transit, St. Louis, November, 1999.

Public Lecture: ATransit, Growth, and Sustainability@, Community Forum on Transit and Metropolitan Growth, Grand Rapids, Michigan, November, 1999.

Speaker: ATransportation, Urban Form, and Community Development, Alameda County Congestion Management Agency, Oakland, California, October 1999.

Presenter: "Strategies to Smart Growth", Conference on: Managing Growth in the 21st Century: Philosophies, Institutions, Strategies, University of Virginia, School of Law, Center for Environmental Studies, Charlottesville, October 1999.

Speaker: "The Key to Successful Transit", First Annual Meeting of the Urban Land Institute, Charlotte Chapter. Seminar on: "Successful Transit Development in Charlotte", Urban Land Institute, Charlotte, North Carolina, September 1999.

Speaker: "Integration of Transportation and Urbanization", Course on Innovations in Urban Management ("Curso de Gestão Urbana e Municipal", Escola de Administração Fazendária and the World Bank Institute, Brasília, Brazil, September 1999.

Speaker: "Highways, Public Transport, and Sustainable Growth", Institute of Transportation Economics, Tokyo, Japan, August, 1999.

Speaker: "Transport, Land Use, and the Environment", State Environmental Protection Authority, Dalian, China, August, 1999.

Speaker and Facilitator: "Transportation and Traditional Towns", Growing Communities Conference, Grand Rapids Metro Council, Grand Rapids, Michigan, June, 1999.

Speaker and Discussant: "Motorization and Congestion in Developing Countries", Conference on Traffic Congestion -- A Global Perspective, MIT Conference sponsored with Ford, Cambridge, Massachusetts, MIT, June, 1999.

Speaker and Moderator: "Smart Approaches to Transit-Oriented Development and Transit Villages", Conference on Place Making -- Developing Town Centers, Transit Villages and Main Streets, Urban Land Institute, Chicago, June, 1999.

Luncheon Speaker: "Transit and Urban Development in California", Institute of Government Studies, State of California, Sacramento, May, 1999.

Presented Paper: "Integration of Urban Transport and Urban Planning", Course on Urban and City Management, The Economic Development Institute, World Bank, Toronto, Canada, May, 1999.

Presented Paper: AForecasting Ridership and Economic Impacts of Coordinated Transit and Land-Use Development: A Heuristic Approach@, Annual Meeting of the American Planning Association, Seattle, April, 1999.

University Lecture: AThe Demise of Diamond Lanes?@ Allan M. Voorhees Lecture Series, The Transportation Policy Institute, Rutgers University, New Brunswick, New Jersey, April, 1999.

Speaker: AIn Defense of Pro-Active Planning and Co-Development@, Seminar on AUrban Form and the Transportation Connection@, Urban Land Institute Policy Program Series, Sacramento, January, 1999.

Keynote Speech: ASmart versus Dumb Growth: Transportation Implications@. Conference on ATransportation and Land Use@, Tidewater Regional Transit, Norfolk, Virginia, January, 1999.

Presented paper: "Where to Increase Densities: Housing and Transport"; facilitated workshop on "Transit Villages"; Conference on "The Housing Crisis: Is Higher Density a Solution?", Royal Institute of Architects of Ireland, Dublin, Ireland, November 1998.

Speaker and Panelist, ATransit and Land Use@, Annual Meeting of the Charlotte Regional Realtor Association, Forum on ATransit and Roads@, Charlotte, North Carolina, October 1998.

Dinner Speaker: AThe Transit Metropolis@, IURD Dinner Series, University of California, September 1998.

Speaker, AReflections on the Role of Land Transport in Metropolitan Development@, Workshop on Issues in Regional and Urban Economies, The World Bank, Washington, D.C., May 1998.

Speaker, AThe Future of Transportation@, 50th Anniversary Celebration of the Department of City and Regional Planning, UC Berkeley, May 1998.

Organizer and Moderator: AConference on Transportation in Developing Countries@, University of California, Berkeley, Clark Kerr Campus, April 1998.

Presented Paper and Panelist: AMobility and Sustainability for the 21st Century@. International Conference on Cities on the Threshold of the 21st Century, Urban Research Center, Utrecht University, Utrecht, The Netherlands, April 1998.

Invited Speaker: AThe Transit Metropolis: A Global Inquiry@. Seminar on Transportation and Society, Urban Planning Program, University of Michigan, March 1998.

Speaker and Facilitator, ABus Rapid Transit: Lessons for the U.S.@, Forum on Bus Rapid Transit, Federal Transit Administration, Washington, D.C., January 1998.

Speaker and Panelist: AMobility Options for Welfare-to-Work@, Panel on Mobility and Welfare-to-Work, Annual Meeting of the Transportation Research Board, Washington, D.C., January 1998.

Presented Paper: AJob Accessibility as a Performance Indicator: An Analysis of Trends and Their Social Policy Implications in the San Francisco Bay Area@, Annual Conference of the American Collegiate Schools of Planning, Ft. Lauderdale, Florida, November 1997.

Presented Paper and Panelist: AToward Accessibility Planning of Metropolitan Areas of the 21st Century@, International Symposium, Metropolitan Mobility in the 21st Century, Expo 2000 Hannover, University of Kaiserslautern, Kaiserslautern, Germany, November 1997.

Speaker and Panelist: ASustainable Transit: Lessons from Abroad@, Rail-Volution >97, Building Livable Communities with Transit, St. Louis, Missouri, October 1997.

Speaker and Panelist: AUrban Transit and Communities@, Third Annual Governor=s Conference on Tren Urbano, San Juan, Puerto Rico, October 1997.

Presented Paper and Panelist: Conference on AInfrastructure Development and Finance in Developing Countries@, East-West Perspectives on 21st Century Urban Development, CSIRO Australia and University of Indonesia, Jakarta, Indonesia, June 1997.

Speaker: AJump Starting Transit-Based Housing through Public-Private Deal-Making@, Annual Meeting of the American Institute of Architects, New Orleans, May 1997.

Public Lecture: AMetros and Metropolitan Areas@, UNAM, Mexico City, May 1997.

Speaker and Panelist: ACalifornia=s Spreading Landscape@, Symposium on AUrban Sprawl@, Lincoln Land Institute, Cambridge, Mass., December 1996.

Speaker: AThe Polycentric Metropolis: Transportation and Environmental Implications@, Seminar Series on Urban Economics, College of Urban and Public Affairs, Portland State University, November 1996.

Speaker: AUrban Design and Transportation@, Conference on Urban Design, Telecommuting and Travel Behavior, Travel Model Improvement Program, Texas Transportation Institute, Williamsburg, Virginia, October 1996.

Presented Paper: ASubcentering and Commuting: Trends in the San Francisco Bay Area@, TRED Conference on Land Use and Transportation, Lincoln Institute of Land Policy, Cambridge, Mass., October 1996.

Keynote Speaker: Transportation Session, AParadigm Shift: From Automobility to Accessibility Planning@, 15th EAROPH World Congress, Auckland, New Zealand, September 1996.

Speaker: AHigh Speed Rail and the Development of California=s Center Valley@, California Intercity High-Speed Rail Commission, Oakland, August 1996.

Luncheon Speaker: AThe Transit Metropolis: Myths vs. Realities@, Seventh Annual Transportation Research Conference, Center for Transportation Studies, University of Minnesota, Minneapolis, May 1996.

Public Lecture: ACities in the Suburbs@, Town and Gown Lecture Series, Faculty of Architecture, Building & Planning, University of Melbourne; AStrategic Regional Planning@, Special Seminar, Victoria Department of Planning and Development, Melbourne, Australia, May 1996.

Dinner Speaker: AThe Tenuous Link Between Transport and Urban Development@, Joint Meeting of the Royal Australian Institute for Planners and the Australian Institute for Engineerings, Canberra, Australia, April 1996.

Lecture: ATransit-Supportive Development: International Insights@, Research Seminar Series, Faculty of Architecture, Building & Planning, University of Melbourne, Australia, April 1996.

Presented paper: AParatransit in Puerto Rico and Mexico City: Lessons for North America@, CODATU VII Conference on Urban Transport in Development Countries, New Dehli, India, February, 1996.

Speaker on: ATransportation and the Environment@, Albuquerque Town Hall on Linking Land Use and Transportation. City of Albuquerque, New Mexico, October 1995.

Speaker on: AJobs-Housing Balance and Mobility: 1980-1990 Trends@, Seminar Series, Institute of Transportation Studies, University of California, Davis, October 1995.

Keynote Speaker and Advisor: *Goleta Old Town Community Design Conference and Workshop*. Sponsored by The Sustainability Project and the American Institute of Architects. Goleta, California, October 1995.

Speaker on: *Infrastructure Development and Indonesia=s Future*. Conference on AIndonesia=s Economic Development@, Celebration of Indonesia=s 50th Year of Independence, San Francisco, September 1995.

Presented Paper and Discussant: *Designing, Planning, and Negotiating Waterfront Development: Perspectives from the U.S. and Their Implications for the Jakarta Waterfront Development Project*, Symposium on Planning and Implementation Approaches for the Jakarta Waterfront Development, Jakarta, Indonesia, August, 1995.

Presented Paper. *Transit-Oriented Development in the U.S. and Europe: Built Environment and Travel Behavior*. Session on Transport and Land Use. Seventh World Conference on Transportation Research, Sydney, Australia, July, 1995.

Speaker: *Transit-Oriented Development: Fact or Fantasy*, School of Urban and Regional Planning, University of Southern California, Seminar Series, April 1995.

Speaker and Discussant: Panel on *New Vision on Urban Transportation*. National Conference of the American Planning Association, Toronto, April 1995.

Speaker: *Making Transit Work in the Suburbs: Service, Access, and Land Use*. Visiting Scholars Seminars, University Transportation Research Center, City College New York, New York, February, 1995.

Presented Paper: *Land Use Changes and BART*. Session on BART at Twenty. 74th Annual Meeting of the Transportation Research Board, Washington, D.C., January, 1995.

Guest Speaker: *Land Use and Transportation Implications of Stapleton Redevelopment*. Workshop on Redevelopment of Stapleton Airport, Stapleton Redevelopment Foundation, Denver, December, 1994.

Speaker on: *Transit-Supportive Development in the U.S.: Experiences and Prospects*. Conference on Linking Land Use, Transportation, and Air Quality Planning. Lincoln Land Institute, Salt Lake City, December, 1995.

Speaker, Moderator, and Sponsor: *Workshop on Urban Management in Developing Countries*. Institute of Urban and Regional Development, Visiting Indonesian delegation, UC Berkeley, November 1994.

Panelist: *Critique of Transit-Oriented Development*. U.C. Doctoral Student Transportation Symposium, Los Angeles, November, 1994.

Discussant and Presented Paper: *Transportation as a Tool for Economic Development*. Annual Meeting of the Association of Collegiate Schools of Planning, Phoenix, November, 1994.

Keynote Speaker: *Sustainable Transportation for Medium-Size Cities*. Sustainable Transportation Conference, City of Santa Barbara, October, 1994.

Speaker: *Linkages Between Land Use and Transportation Planning*. Least Cost Planning Symposium, Washington State Energy Office, Seattle, Washington, November, 1995.

Speaker: *Transit-Based Housing in California*. Metropolitan Transit Development Board, San Diego, October 1994.

Presented Paper: *Development Impacts of Urban Transport: A U.S. Perspective*. Presented at the Environmental Science Research Council Seminar on Transport and Urban Development, London, UK, April, 1994.

Speaker: *Ridership Impacts of Transit-Based Housing*, Transportation Science Seminar, Institute of Transportation Studies, University of California, Berkeley, March, 1994.

Panelist: *New Vision for Public Mobility in Greater Detroit*, Metropolitan Affairs Corporation, Detroit, Michigan, March, 1994.

Presented Paper: *Using Census Data for Transit, Multimodal, and Small Area Analyses*, National Conference on Decennial Census Data for Transportation Planning, Transportation Research Board, Irvine, March, 1994.

Speaker: *Neo-Traditional Design: Its Promise, and The Light Rail Transit Cost Efficiency Debate*, TechTrans 94, PTI Journal and the National Association of Regional Councils, San Diego, February, 1994.

Speaker: *Land Use and Transportation Planning*, Bay Area 2000: Getting on Track, The Regional Institute of the Bay Area, Emeryville, February, 1994.

Speaker: *Edge Cities: Suburb or City?*, California Studies Conference VI, The Center for California Studies, Oakland, February, 1994.

Lecturer: *Transit-Supportive Development: Does It Matter?*, Evening Lecture Series, Department of Geography, Georgia State University, Atlanta, February, 1994.

Present paper: *Making Transit Work in the Suburbs*, Annual Meeting of the Transportation Research Board, Washington, D.C., January, 1994.

Panelist: *Workshop on Land Policy and Real Estate Markets*, Lincoln Land Institute, Cambridge, Massachusetts, December, 1993.

Speaker: *Transit-Based Development, Air Quality, and Mobility in California*. Symposium on: The Role of Land Use Strategies in Improving Transportation and Air Quality. UCLA Extension Public Policy Program, Lake Arrowhead, California, November, 1993.

Presented paper and moderated session: *Organizational Options for Providing Urban Waste Management Services: The Case of Indonesia*; session on Improving Urban Services Delivery in Developing Countries. 35th Annual Meeting of the Association of Collegiate Schools of Planning, Philadelphia, October, 1993.

Speaker: *Transportation Demand Management in a Third World City: Coping with Congestion in Jakarta, Indonesia*. The Global Challenge: Pacific Rim Conference, PRCUD, San Francisco, October, 1993.

Keynote Speaker: *Making the Transportation-Land Use Connection Work*. Fourteenth International Pedestrian Conference, Boulder, Colorado, October, 1993.

Keynote Speaker: *Transportation Wars: City-Suburb Conflicts*. Eight Annual Metropolitan Conference on Public Transportation Research, Chicago Area Transportation Study, June 1993.

Presented Paper: *Changing Live-Work Spatial Relationships: Implications for Metropolitan Structure and Mobility*. Fourth International Workshop on Technological Change and Urban Form, Berkeley, April 1993.

Speaker: *The Transportation-Land Use Nexus*. Conference on Linking Land Use and Transportation: Models for ISTEA and Clean Air Act Implementation, Lincoln Land Institute, Atlanta, Philadelphia, and Denver, April-June, 1993.

Keynote Speaker: *The Urban Crisis: New Challenges in Planning*. Tenth Annual Conference on Urban Planning Challenges, Virginia Commonwealth University, Richmond, April 1993.

Guest Speaker: *Land Use and Transit Challenges for the 21st Century*. TechTrans Conference, Las Vegas, March 1993.

Guest Speaker: *Future of the Automobile in North America*. Futures Forum: GoPlan, Calgary, Alberta, February 1993.

Panelist: *Transit and Urban Form. Session on Transit and Urban Development*. Annual Meeting of the Transportation Research Board, January 1993.

Guest Speaker: *National Overview on Transit/Commercial Development*. Seminar on Coordinating Transit/Land Use and Development. American Public Transit Association, San Diego, October 1992.

Presented Paper: *Transit Applications of Pricing and Market-Based Approaches*. Symposium on The Transportation-Land Use-Air Quality Connection: The Role of Pricing and Market-Based Strategies. UCLA Extension Program, Lake Arrowhead, October 1992.

Guest Speaker: *Civilizing the Automobile*. Dean's Lecture Series. Department of Architecture and Urban Planning, University of New Mexico, October 1992.

Session Speaker: *The Challenge for Transportation and How it Shapes the City*. Conference on City Challenge, Perth Australia, September 1992.

Presented Paper: *Land Market Impacts of Urban Rail Transit and Joint Development*. The 6th World Conference on Transport Research, Lyon, France, July, 1992.

Presented Paper: *Stimulating Transportation Alternatives in Response to Congestion Pricing*. Congestion Pricing Symposium, U.S. Department of Transportation, Arlington, Virginia, June, 1992.

Keynote Speaker: *Honolulu's Future: Rail Transit or Busways?* Annual Meeting of the Hawaii Transportation Council, National Transportation Week, Honolulu, June, 1992.

Speaker and Moderator: *IVHS and Cities of Tomorrow*. Session on Intelligent Vehicle Highway Systems. National Planning Conference, American Planning Association, Washington, D.C., May, 1992.

Speaker: *Regionalism in the San Francisco Bay Area*. San Francisco Chamber of Commerce, Symposium on Transportation, Housing, and Regionalism, March, 1992.

Keynote Speaker: *Preserving Mobility in the Sacramento Region*. Suburban Mobility Conference, Sacramento Area Council of Governments, January, 1992.

Lecturer: *Joint Development Experiences in the U.S.* Joint Development Workshop, Federal Transit Administration/Urban Land Institute: Los Angeles, San Francisco, New York, Seattle, 1992.

Keynote Speaker: *Emerging Transportation Technologies and the Future of Our Cities*. Tech Trans 91 -- Conference on Technology, Institutional Innovations & Transportation, Las Vegas, September 1991.

Keynote Speaker: *Jobs-Housing Balance, Affordable Housing, and Transportation*. Conference on: Affordable Housing -- Creating More Livable Communities. San Diego Housing Commission, San Diego, March 1991.

Speaker: *Jobs-Housing Balance as Public Policy*. Colloquium: School of Social Ecology, University of California, Irvine, February 1991.

Keynote Speaker: *Breaking the Auto Habit: Designing Cities and Programs for People, Not Just Cars*. Eleventh International Pedestrian Conference, Boulder, Colorado, October, 1990.

Presented Paper: *Role of Transportation in Urban and Regional Development Planning in Indonesia*. Workshop on Spatial Development Policy in Indonesia: Review and Prospects, University of Indonesia, Jakarta, July, 1990.

Presented Paper: *Balancing Public and Private Transport Services in Southeast Asian Cities*. Conference on Public-Private Partnership for Economic Development in the Southeast Asian Pacific Rim, Pacific Regional Science Organization, Bandung, Indonesia, July, 1990.

Speaker and Panelist: *Planning for Foot and Car Traffic at Town Centers*, Seminar on Visualizing the Valencia Town Center, Newhall Farm and Land Company, Valencia, California, June, 1990.

Speaker: *Shaping Urban Development Through National Transportation Policies*, UMTA's Sixth Annual Symposium on the Private Sector and Public Transit, Louisville, Kentucky, May, 1990.

Speaker: *Mobility Planning for Large-Scale Suburban Activity Centers*, Annual Meeting of the American Planning Association, Denver, April, 1990; also, organized sessions on Suburban Activity Centers and Transportation and the Environment.

Guest Lecturer: *Accessibility and Economic Development in Indonesia*, Lecture Series on Issues in Indonesian Development, Center for Southeast Asia Studies, University of California, Berkeley, December 1989.

Speaker: *Commuter Behavior and the Built Environment: Probing the Link*, First National Conference on Suburban Mobility, Tysons Corner, Virginia, December 1989.

Guest Lecturer: *Highway Finance in Korea*, Transportation Science Seminar Series, University of California, Berkeley, November 1989.

Guest Speaker: *Jobs-Housing Mismatches in America*, Conference on Future Directions for Boston and the Metro Region, Metropolitan Area Planning Council and the Boston Redevelopment Authority, Boston, November 1989.

Speaker: *Improving Urban Transportation through Deregulation*, Conference on Growth and the Limits of Growth, American Society for Public Administration, Costa Mesa, California, November 1989.

Speaker: *Transportation and Land Use Planning in the 1990s*, Conference on Transportation Planning Futures, Michigan Department of Transportation, Detroit, November 1989.

Presented paper on: *Accessibility and Third World Rural Development: A Case Study of Sumatra*, 31st Annual Meeting of the Association of Collegiate Schools of Planning, Portland, Oregon, October 1989.

Keynote Speaker: *Land Use and Transportation Planning: A Challenge for the 1990s*, Annual Meeting of the New York Upstate Chapter of the American Planning Association, Rochester, September 1989.

Guest Lecturer: *Transportation Considerations in New Town Planning*, Lecture Series, Korea Research Institute for Human Settlements, Seoul, Korea, August 1989.

Presented paper on: *Jobs-Housing Mismatches and Regional Mobility*, Seminar on Transportation Networks and Regional Development, Leningrad, USSR. Regional Science Association, US and Soviet Divisions, May 1989.

Speaker: *Land Use Responses to Regional Mobility*, Annual Meeting of the American Planning Association, Session on Suburban Highway Needs, Atlanta, April 1989.

Speaker: *Transmigration Planning in Sumatra*, Lecture Series on Planning for Development in Indonesia, Center for South and Southeast Asia Studies, UC Berkeley, April 1989.

Speaker: *Development Tools to Encourage Transportation Management*, Fifth Annual Symposium on the Private Sector and Public Transit, Urban Mass Transportation Administration, Denver, April 1989.

Speaker: *Regional Growth Trends in America*. Metro 2020 Conference, Wisconsin Department of Natural Resources, Milwaukee, April 1989.

Keynote Speaker: *The Land Use-Transportation Connection*. Symposium on Land Use and Transportation Planning in the 1990s, Northern Virginia Planning Commission, Falls Church, Virginia, April 1989.

Speaker: *America's Suburban Design Template*. Symposium on a New Suburbia, College of Environmental Design, UC Berkeley, March 1989.

Guest Lecturer: *Land Use Planning and Suburban Mobility*. Transportation Center Seminar Series, Northwestern University, Evanston, February 1989.

Speaker: *Maintaining Mobility in the Sunbelt Crescent*. Conference on Maintaining Mobility in Houston, Rice Center, Houston, November 1988.

Speaker: *Transportation and the Multi-centered City*. Conference on Phoenix's Future, City of Phoenix, October 1988.

Speaker: *Strategies for Preserving Regional Mobility*. Symposium on Suburban Mobility, City of Dallas, October 1988.

Presented Paper on: *Mobility Challenges Posed by Population and Employment Decentralization*. World Congress on the 21st Century City. International Federation of Municipal Engineers and Association des Ingenieurs des Villes de France, Nice, France, June 1988.

Guest Lecturer: *Urban Transit Innovations in North America*. Lecture Series on Transportation Sciences, Kaiserslautern University, West Germany, December 1987.

Guest Lecturer: *Urban Transit in North America and Europe: Lessons from Both Sides of the Atlantic*. Economics and Planning Colloquium Series, Dortmund University, West Germany, November 1987.

Speaker: *Transportation Options for Greater Chicago*. Regional Transit Authority Workshop, Lincolnshire, Illinois, October 1987.

Moderator and Speaker: *The Urban/Suburban Crunch*. Annual Meeting of the Board of Directors, Eno Foundation, Westport, Connecticut, October 1987.

Speaker: *Mobility Crisis: Avoiding Development Meltdown*, Annual Meeting of the Urban Land Institute, Los Angeles, October 1987.

Keynote Speaker: *Ways of Avoiding Growth-Induced Traffic Congestion*. Symposium on "Can We Have Growth without Congestion?", Puget Sound Council of Governments, Seattle, October 1987.

Speaker: *Impact Fees: Exactions or Extortions?* Conference on Public/Private Options for Highway Finance, Federal Highway Administration, Houston, Texas, August 1987.

Presented paper on: *Demographic-Employment Imbalances in Suburban Labor Markets*. Tenth Annual Pacific Regional Science Conference, Pusan, Korea, July 1987.

Speaker and Session Chair: *Economic Analysis and Planning in China*, Conference on Planning for Human Settlements in China and the U.S., Tongji University, Shanghai, China, June 1987.

Speaker: *Living over the Store: Balancing Jobs and Housing to Reduce Travel*, Seminar on "Managing Transportation: The Developer's Role", Urban Land Institute Professional Development Seminar, San Francisco, June 1987.

Presented paper on: *Jobs-Housing Imbalances in Suburban Employment Markets*. Conference on Suburbia Re-examined, Hofstra University, Hempstead, New York, June 1987.

Keynote Speaker: *Development and Transportation: A National Perspective*, Conference on Development Impacts of Transportation, Washington State Department of Transportation, Seattle, June, 1987.

Speaker: *Forces Behind the Loss of Mobility in the 1980s*. The California Transportation Public Affairs Forum, Maintaining Mobility: California's Challenge, California Chamber of Commerce, San Francisco, June 1987.

Speaker: *The Future for Ridesharing*. Public Affairs Forum, Commuter Transportation, Inc., Los Angeles, May 1987.

Speaker: *Preserving Mobility on the 101 Corridor*. Workable Communities Forum, Marin Affordable Housing Coalition, San Rafael, California, May 1987.

Keynote Speaker: *Traffic and Growth: Policy Directions for the Future*. Fourth Annual Meeting of the Association for Commuter Transportation, Long Beach, California, May 1987.

Guest Lecturer: *Land Use Planning as an Approach to Traffic Mitigation*. UCLA Extension Public Policy Program on Transportation Management, Los Angeles, May 1987.

Speaker and Moderator: *Financing Off-Site Road Improvements*, Annual Meeting of the American Planning Association, Session on Transportation and Economic Development, New York, April 1987.

Speaker and Moderator: *Organizing and Working with Transportation Management Organizations*, National Conference on Strategies to Alleviate Traffic Congestion, Institute of Transportation Engineers, San Diego, March 1987.

Speaker: *Reducing Traffic Through Land Use Initiatives*. Contra Costa County's Mayors' Conference, Concord, California, February 1987.

Keynote Speaker: *Congestion, Growth, and Public Choices*. Forum on Transportation and Land Use Policy Choices, University of California Law Center, Los Angeles, February 1987.

Speaker: *A Look into California's Future*, Annual Meeting of Californians for Better Transportation, Sacramento, December 1986.

Speaker: *Private Sector Responses to Suburban Congestion*, Third Annual Symposium on the Private Sector and Public Transit, Urban Mass Transportation Administration, San Diego, November 1986.

Speaker: *Job Dispersal and the Preservation of Mobility*. Thursday Evening Lecture Series, School of Architecture and Urban Planning, UC Los Angeles, October 1986.

Speaker: *The Alameda County Transportation Tax*, Special Transportation Science Seminar, UC Berkeley, October 1986.

Keynote Speaker: *Managing Traffic Versus Growth*, Orange County Chamber of Commerce Conference on Traffic Management Solutions, Newport Beach, California, September 1986.

Speaker: *Jobs-Housing Mismatches and the Loss of Mobility*, Institute of Transportation Studies Seminar, University of California, Irvine, September 1986.

Speaker and Lecturer: *Urban Transportation Economics*. Workshop on Economic Theory and Applications for Transit Managers, Portland State University, August 1986.

Speaker: *Mobility and the Welfare of the City*. Seminar on Welfare and Work in the City. National Research Council, Washington, D.C., May 1986.

Presented paper on: *Land Use and Development Innovations Associated with Canadian Urban Transit*, 28th Annual Conference of the Western Social Science Association, Reno, Nevada, April 1986.

Speaker on: *Urban Transit Innovations in Canada*, Transportation Science Seminar, UC Berkeley, February 1986.

Presented paper on: *Intrametropolitan Trends in Sunbelt and Western Cities*, Session on Demographic Trends in Transportation, 65th Annual Meeting of the Transportation Research Board, Washington, D.C., January 1986.

Speaker on: *Mobility, Suburban Development, and the Private Sector*, Session on Private Sector Initiatives, 65th Annual Meeting of the Transportation Research Board, Washington, D.C., January 1986.

Presented paper on: *Safeguarding Mobility in Suburban Office Settings*, Session on Land Development and Traffic Mitigation, 65th Annual Meeting of the Transportation Research Board, Washington, D.C., January 1986.

Presented paper on: *Planning Methods and Micros: Striking a Conceptual and Mechanical Balance*, Session on Planning Methods, 27th Annual Meeting of the Association of Collegiate Schools of Planning, Atlanta, Georgia, November 1985.

Presented paper on: *Mobility and Suburban Employment*, Session on New Urban Development Patterns, 27th Annual Meeting of the Association of Collegiate Schools of Planning, Atlanta, Georgia, November 1985.

Speaker on: *Traffic Control Ordinances for Major Metropolitan Centers*, Fourth Annual Conference of the Zoning Institute, American Planning Association, San Francisco, October 1985.

Speaker and Moderator: *The Canadian Experience: Making Transit Work in the Golden Gate Corridor*, Symposium sponsored by the Canadian Consulate General and the Golden Gate Transportation District, San Rafael, California, October 1985.

Speaker on: *Mobility and Suburban Office Development*, 37th Annual California Transportation and Public Works Conference, Los Angeles, May 1985.

Speaker on: *Using Microcomputers in Planning Methods Courses*, Second Annual Symposium on Microcomputer Use in Planning Education, McGill University, Montreal, April 1985.

Speaker and Moderator on: *Rail Transit Planning: Lessons from Canada*, Annual Conference of the American Planning Association, Montreal, April 1985.

Speaker: *Integrating Heavy Rail Transit and Land Use Investments*. Lecture Series of the Canadian Studies Program, UC Berkeley, April 1985.

Presented paper on: *Experiences with Time-of-Day Transit Pricing in the United States*, 64th Annual Meeting of the Transportation Research Board, Washington, D.C., January 1985.

Speaker on: *Urban Transportation Futures and Policy Choices*. Lincoln Institute Seminar, UC Berkeley, December 1984.

Presented paper and moderated session on: *The Renaissance of Rail Transit in North America: Planning and Policy Choices*, 26th Annual Conference of the Association of Collegiate Schools of Planning, New York, October 1984.

Speaker: *Assessing the Impacts of Fare Changes*, Eight Annual Washington State Transportation Conference, Bellevue, Washington, September 1984.

Speaker: *Evidence on Time-of-Day Transit Pricing in the U.S.*, Transportation Science Seminar, UC Berkeley, April 1984.

Speaker: *Transit Planning in Western Canada*, Lecture Series of the Canadian Studies Program, UC Berkeley, April 1984.

Guest Lecturer: *Regional Activity Analysis for Urban Transportation Planning*, Rail Planning Seminar, Institute of Transportation Studies, San Diego, March 1984.

Presented paper on: *The Anatomy of Transit Operating Deficits*, Symposium on Transportation and Development, Lincoln Institute of Land Policy, Los Angeles, February 1984.

Speaker on: *Exploring the Effects of Inter-City Bus Deregulation on Small Communities*, Seminar on New Directions in Rural Development in the U.S., UC Berkeley, January 1984.

Presented paper on: *The Land Use Potential of Light Rail Transit in North America*, 63rd Annual Meeting of the Transportation Research Board, Washington, D.C., January 1984.

Presented paper on: *Recent Transit Fare Innovations in the U.S.*, 25th Annual Conference of the Association of Collegiate Schools of Planning, San Francisco, October 1983.

Speaker on: *Transit Fare Policy*, Transit Management Seminar, UC Irvine, August 1983.

Speaker on: *Finance Issues in Urban Transit*, Workshop on Transportation Futures in Los Angeles, Graduate School of Architecture and Urban Planning, UC, Los Angeles, May 1983.

Presented paper on: *Possible Effects of Eliminating Federal Transit Operating Subsidies*, 62nd Annual Meeting of the Transportation Research Board, Washington, D.C., January 1983.

Presented paper on: *Sharing Transit's Costs*, 62nd Annual Meeting of the Transportation Research Board, Washington, D.C., January 1983.

Speaker: *Revising Transit Fare Policies*. Workshop on Financing Public Transit in the 1980s, Public Policy Program, UCLA Extension, November 1982.

Presented paper on: *Intergovernmental Responsibilities for Financing the Nation's Public Transit Services*, Second Transportation Research Seminar, Arizona Department of Transportation, Phoenix, November 1982.

Presented paper on: *Transit Pricing Evaluation Model*, 61st Annual Meeting of the Transportation Research Board, Washington, D.C., January 1982.

Presented paper on: *Multi-stage Approach to Transit Cost Modeling*, 61st Annual Meeting of the Transportation Research Board, Washington, D.C., January 1982.

Speaker on: *Transit Pricing Theory*, Southern California Chapter of the Regional Science Association, RAND Corporation, Los Angeles, December 1981.

Speaker on: *Fair Fares*, Transportation Science Seminar, UC Berkeley, May 1981.

Presented paper on: *Efficiency and Equity Impacts of Transit Fare Policies*, 60th Annual Meeting of the Transportation Research Board, Washington, D.C., January 1981.

Speaker and Moderator: *Transportation and Energy*, Energy Conservation Symposium, Institute of the Rockies, Billings, Montana, May 1977.

B

Exhibit B

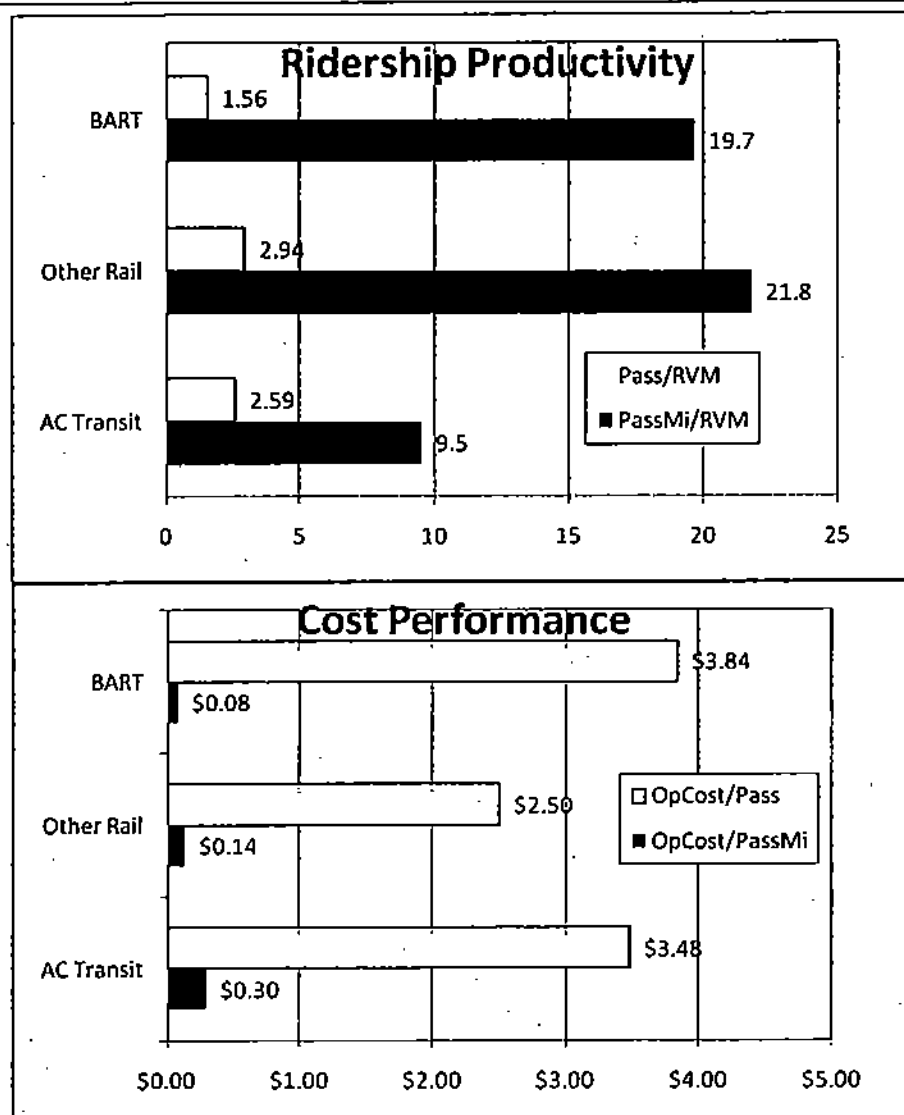


Figure 1. Comparison of Ridership and Operating Costs Among BART, AC Transit, and Other

Recent-Generation Urban Rail Systems in U.S., Fiscal Year 2004

Pass=Passengers; RVM = Revenue Vehicle Mile; PassMi = Passenger Miles; OpCost = Operating Costs

Source: Federal Transit Administration National Transit Database, FY 2004.

EXHIBIT B

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

This is the second of two Expert Reports I have prepared at the request of the Defendant's counsel in the *Darensburg et al. v. Metropolitan Transportation Commission* case. The first report explained the roles, functions, and purposes of a designated Metropolitan Planning Organization (MPO), like MTC, and the many challenges it faces, including the development of a long range Regional Transportation Plan (RTP). It also explained the rationale behind MTC's past expenditure of discretionary as well as operating and capital funds. Issues related to maintenance and expansion of existing transit services, productivity and performance trends, and social justice and equity are also addressed. The first report also responded to the reports of Thomas Rubin and Thomas Sanchez, plaintiffs' experts.

This second report builds upon the prior document, addressing other topics raised by the plaintiffs and their experts. It takes issue with the underlying argument of Mr. Rubin, which is that funding of buses should always take precedence over rail investments. In this rebuttal, I challenge Mr. Rubin's false "bus vs. rail" dichotomy and present my own views – informed by three decades of research and practice – on the value of rail investments as complements to other transit services and the benefits that accrue from integrated transit and urban

development, which ultimately benefits the Bay Area and its residents regardless of racial or ethnic background, geographic location, or socioeconomic status.

I. Key Points of Rebuttal

The following are principal points made by the plaintiff's experts to which I respond:

1. The plaintiffs and their experts maintain that the decision-making process for preparing a long-range Regional Transportation Plan (RTP) and Transportation Improvements Program (TIP) in the Bay Area is biased against bus operators like AC Transit. I disagree. ISTEA and subsequent federal legislation challenged metropolitan areas to make difficult multi-modal funding decisions among competing projects in an environment where funding requests far exceeded available resources. Through the establishment of a "Partnership" of the region's major stakeholders and an open and transparent decision-making process, MTC is widely viewed as having one of the most effective and participatory planning and decision-making processes of any Metropolitan Planning Organization (MPO) in the nation. There simply is no evidence of systematic bias or capriciousness in MTC's past allocation of discretionary funds among competing projects, and if anything, AC Transit has benefited more than most transit agencies from past decisions. In FY 2005-2006, AC Transit received 17.1% of the total \$711.4 million in discretionary funds MTC allocated to 20+ Bay Area transit operators. During the same period, AC Transit's service-area population as a share of the total service populations of

the 20 operators was 11.9%.¹

2. The plaintiffs and their experts charge that MTC should redirect more discretionary dollars to activities like preventive maintenance as opposed to capital expansion. Indeed, Mr. Rubin states that federal law requires MPOs to cover operating shortfalls in the RTP. In truth, federal policy only stipulates that the RTP be "fiscally constrained" and leaves the decision of how much to spend on maintaining existing services and how much to invest in new ones to local policy-makers. The plaintiffs fail to present any credible evidence that current allocations for operations and capital expansion are suboptimal or could be improved by re-channeling resources. Research consistently shows that increasing operating assistance to public transit fails to yield economic benefits and for the most part is associated with waste – e.g., continuing operation of unproductive services and higher labor compensation packages without commensurate increases in productivity. The plaintiffs have also failed to demonstrate that rail expansion is less cost-effective over the RTP's long-term time horizon than system preservation, particularly in light of regional growth projections produced by the Association of Bay Area Governments (ABAG). The chief responsibility for increasing transit funding over and beyond that available through federal and state sources should lie with local beneficiaries, not the region's taxpayers at large. In the past, this has occurred in Santa Clara and San Mateo Counties where voters approved permanent

¹ Service-area populations are based on statistics presented in *Statistical Summary of Bay Area Transit Operators: Fiscal Years 2001-02 through 2005-06*, MTC, March 2007. The collective service-area populations for the 20 operators were calculated by summing the service-area populations over the 20 operators, accounting for the fact that some operators have overlapping service boundaries.

sales tax referenda to increase funding for transit services in their jurisdictions.

3. The plaintiffs and their experts contend that MTC's Equity Analyses have serious shortcomings. In my opinion, MTC's use of accessibility measures for multiple types of trips provides the best basis for gauging the distributional-equity impacts of past transit investments at a regional scale. Comparisons of accessibility levels to job sites, retail shops, medical facilities, and the like provide the best barometer for evaluating how past transit investment and service-deployment strategies have impacted mobility-disadvantaged communities vis-à-vis the region at large. In this regard, past and planned transit investments have and will materially enhance the ability of disadvantaged citizens to reach places they need to go, more so than the typical Bay Area resident. Equity Analyses are an important element of the RTP, however the nine-county region is not the proper scale to work out the details of transit expenditures (inputs) or service designs (outputs). The design and configuration of transit services that meet the mobility needs of disadvantaged populations best occurs at the community-based planning and short-range transit planning levels. MTC has demonstrated its support to disadvantaged populations in practice by committing funds to region-wide programs including Welfare-to-Work and LIFT.

II. Rail Transit and Economic Development

1. The plaintiffs and their experts challenge past expenditures of discretionary transportation dollars in the Bay Area as if they have been wasteful. There is a

compelling logic to investing in high-capacity transit systems in a region with a vibrant and growing economy that is expected to add two million inhabitants over the next 25 to 30 years.² Research shows that in regions with robust and growing economies, rail-transit capital investments often yield high economic rates of return.³ One analysis estimated that nationwide, rail transit requires about \$12.5 billion annually in public subsidies; however these costs are offset several times over by the estimated \$67.4 billion in annual economic benefits that are conferred by these investments (from reductions in congestion, highway and parking investments, car ownership outlays, and accidents).⁴ In one of the most rigorous economic analyses to date (using econometric models and benefit-cost analyses), the Urban Institute and Cambridge Systematics estimated that over the long run, capital investment in rail rehabilitation and expansion for the SEPTA system in the Philadelphia area can pay off handsomely: "In terms of total economic impact, the return to the region and the State would be over 9 dollars for every dollar spent on SEPTA".⁵ Studies also show that in large metropolitan areas experiencing significant traffic congestion, transit expansion offers greater economic benefits than widening roads and freeways. David Aschauer, a highly regarded economist-scholar, conducted a study of the macroeconomic impact of transit versus highway investments and found that transit has more than twice the potential to

² Association of Bay Area Governments (ABAG), *Projections 2030*, Oakland, ABAG.

³ Cambridge Systematics, Inc. and Apogee Research, Inc., *Measuring and Valuing Transit Benefits and Disbenefits*, Washington, D.C.: Transportation Research Board, TCRP Report 20, 1996.

⁴ Victoria Transport Policy Institute, *Rail Transit in America: A Comprehensive Evaluation of Benefits*, August 2006. See: <http://www.vtpi.org>.

⁵ The Urban Institute and Cambridge Systematics, Inc., *Public Transportation Renewal as an Investment: The Economic Impact of SEPTA on the Regional and State Economy*, Philadelphia, Delaware Valley Regional Planning Commission, June 1991, p. ES-15.

increase worker productivity, and that its benefits are more than twice the net benefits of highway investments.⁶

2. MTC's current RTP update, *Transportation 2035: Change in Motion*, embraces transportation infrastructure investments as a tool for strengthening the region's economy and maintaining global competitiveness, and calls for doing so in the most cost-effective manner.⁷ Transit's role potential for spurring economic development is recognized by the federal government. Notably, SAFETEA-LU amendments to Section 5309(d)(2)(B) add "economic development impacts" as an additional evaluation criteria for New Starts projects. One of the best ways to measure the economic development benefits of transit investments is to examine impacts on land prices. Land markets capitalize the accessibility benefits conferred by new transit investments since there is a finite supply of properties that are well-served by transit. Several comprehensive reviews of the literature suggest that under conditions of increasing traffic congestion and economic growth, rail-transit investments yield high rates of return, particularly in the case of commercial uses.⁸ For commercial properties near CalTrain and ACE commuter rail stations in Santa Clara County, land-price premiums of nearly 100% have been attributed to the enhanced accessibility provided by rail services in the late 1990s

⁶ D. Aschauer, *Transportation Spending and Economic Growth – The Effects of Transit and Highway*. Washington, D.C.: American Public Transit Association, 1999.

⁷ Metropolitan Transportation Commission, *Transportation 2035 Plan: Change in Motion*, 2007. See: http://www.mtc.ca.gov/planning/2035_plan/index.htm

⁸ R. Cervero, *Transit-Induced Accessibility and Agglomeration Benefits: A Land Market Evaluation*. Berkeley: Institute of Urban and Regional Development, Working Paper 691, 1996; K. Vessali, Land Use Impacts of Rapid Transit: A Review of the Empirical Literature, *Berkeley Planning Journal*, Vol. 11, 1996, Parsons Brinckerhoff, *The Effect of Rail Transit on Property Values: A Summary of Studies*, New York, February 27, 2001.

when the county's economy was on an upswing.⁹ Similar land-price premiums have been associated with rail investments in San Diego and Dallas.¹⁰

III. Rail Investments as a Tool for Guiding Growth

1. In the Bay Area, past rail transit investments have played a pivotal role in not only stimulating but also shaping growth. There can be no question that the San Francisco Bay Area's settlement pattern is far less car-dependent than it would have been otherwise without investments in BART and commuter-rail systems. The *BART @ 20 Study* (focusing on BART's land use impacts during its first two decades of existence) found that BART had the effect of concentrating employment in downtown San Francisco and where supportive zoning was introduced around stations, spurred mid-to-high-rise commercial and residential development.¹¹ As a result, BART kept the region's urban centers economically strong and helped stem the dispersal of jobs to the metropolitan periphery. Importantly, BART played a vital role in helping downtown San Francisco retain its employment and retail primacy (i.e., the share of regional jobs and retail sales in the Central Business District, or CBD). During the 1980s, for example, downtown San Francisco retained a fairly constant share of regional jobs while Los

⁹ R. Cervero and M. Duncan. Transit's Value-Added: Effects of Light and Commuter Rail Services on Commercial Land Values. *Transportation Research Record*, 1805, 2002.

¹⁰ R. Cervero, The Property Value Case for Transit, *Developing Around Transit: Strategies and Solutions that Work*, Washington, D.C., The Urban Land Institute, R. Dunphy, R. Cervero, et al., eds., 2004, Chapter Two.

¹¹ R. Cervero and J. Landis. Twenty Years of the Bay Area Rapid Transit System: Land-Use and Development Impacts. *Transportation Research A*, Vol. 31, No. 4, 1997, pp. 309-333; R. Cervero, *BART @ 20: Land Use and Development Impacts*, Berkeley: Institute of Urban and Regional Development, University of California, Monograph 49.

Angeles, which had no rail system in place during the 1980s, experienced a marked decline in the share of regional jobs located in the CBD.¹² Between 1975 (two years after BART's opening) and 1995, more than 30 million square feet of office space was built along downtown San Francisco's BART-served Market Street corridor. Most of this development would not have been possible without BART due to the fact that the San Francisco-Oakland Bay Bridge did not have the capacity to accommodate additional commuter traffic.¹³ The spillover benefits to the region at-large from maintaining a strong, pre-eminent urban center, the BART @ 20 study concluded, are substantial and under-appreciated. Other commercial districts have also materially benefited from BART's presence. The renaissance of downtown Oakland in recent years has been due in part to the confluence of three different BART lines at the 12th Street/Center City station.¹⁴ This is but one example of a rail service, notably BART, providing tangible benefits to a community within AC Transit's service area.

2. Strong, rail-served CBDs are particularly vital in an increasingly global economy. Studies show that a dominant and strong CBD is vital to the economic well-being and global

¹² From 1980 to 1990, the share of regional jobs in San Francisco's CBD falls from 17.4% to 16.3%, a 1.1 percentage point drop. Over the same period, the share of Southern California's jobs in Los Angeles's CBD fell from 7.6% to 5.7%, a 1.9 percentage point decline. However, since Los Angeles's percentage base was much lower, the relative loss of regional employment in downtown Los Angeles was much more substantial. Sources: R. Cervero and J. Landis. Twenty Years of the Bay Area Rapid Transit System: Land-Use and Development Impacts. *Transportation Research A*, Vol. 31, No. 4, 1997, pp. 309-333; R. Cervero, *BART @ 20: Land Use and Development Impacts*, Berkeley: Institute of Urban and Regional Development, University of California, Monograph 49, 1995.

¹³ R. Cervero and J. Landis. Twenty Years of the Bay Area Rapid Transit System: Land-Use and Development Impacts. *Transportation Research A*, Vol. 31, No. 4, 1997, pp. 309-333.

¹⁴ R. Cervero, G. Arrington, J. Smith-Heimer, R. Dunphy, and others. *Transit Oriented Development in America: Experiences, Challenges, and Prospects*. Washington, D.C.: Transit Cooperative Research Program, Report 102, 2004, Chapter 18; http://gulliver.trb.org/publications/tcrp/tcrp_rpt_102.pdf

competitiveness of a region.¹⁵ Only with high-quality rail services can the kinds of agglomeration economies be achieved in the CBD to attract high value-added, knowledge-based industries in finance, legal services, and professional consulting. Globalization heightens the role of central cities as command-and-control posts in international networks of capital, services, and information trade and exchange, complemented by highly specialized labor markets.¹⁶ The easy access to resources such as labor, extensive business networks, and cutting-edge research performed at institutes of higher learning – made possible only by the high densities that can be sustained by rail services – attracts both capital and entrepreneurs to urban areas. Consequently, metro areas with strong urban centers and rail-transit services are often at the center of the development of many new technologies, like biotechnology. The Bay Area's past RTPs and discussions surrounding the 2035 RTP update have not lost sight of this fact. Creating a world-class transit network by upgrading existing facilities and strategically expanding new ones has and will continue to be a cornerstone of long-range transportation planning in the region.

3. Local elected officials are also increasingly aware that those who vote them into office want more growth channeled to station areas as a way to stem worsening traffic congestion. Many see the concentration of future growth around transit stops as their

¹⁵ D. Banister and J. Berechman, *Transport Investment and Economic Development*. London: University College, London Press, 2000; E. Glaeser and J. Gottlieb, Urban Resurgence and the Consumer City. *Urban Studies*, Vol. 43, No. 8, 2006, pp. 1275-1299.

¹⁶ S. Sassen, *The Global City*. Princeton NJ: Princeton University Press, 2001; T. Hutton, Post-industrialism, post-modernism, and the reproduction of Vancouver's central area. *Urban Studies* Vol. 41, No. 1, 2004, pp. 1953-1982.

best traffic-management tool. In an interview with *Planning* magazine, Tom Margo, BART's General Manager, remarked: "We're being courted by cities that want BART extensions", noting that MTC's (Resolution 3434) policy of encouraging high-density growth around stations "helps us reward those communities that make the zoning and land-use changes that we're looking for."¹⁷

4. The fact that around two-thirds of Bay Area residents recently polled about transportation in the region felt that rail extensions are a high priority reflects an appreciation among the populous of the synergies that come from rail expansion.¹⁸ Notably, rail transit systems exhibit important "network effects". New links added to a skeletal system benefits the existing links by increasing connectivity throughout a region.¹⁹ Only when regional rail networks begin to mimic the coverage, extensiveness, and connectivity of their chief competitors – freeway networks – can they begin to win over a significant market share of travelers. International cities with extensive metro-rail networks, such as Paris, London, and New York, offer services that are time-competitive with the private car, and consequently boast high transit modal shares. Currently, the Bay Area's rail network is time-competitive with the private car for trips in limited corridors and just a few hours of the day. Only by extending and intensifying the region's network of light, heavy, and commuter rail services – complemented by Bus

¹⁷ J. Tumlin and A. Millard-Ball, How to Make Transit-Oriented Development Work, *Planning*, Vol. 69, No. 5, 2003, p. 15.

¹⁸ As part of the 2035 RTP update, a poll of 1,800 Bay Area residents was conducted in the fall of 2007. See: http://www.mtc.ca.gov/planning/2035_plan/poll.htm

¹⁹ F. Goetzke, Network Effects in Public Transit Use: Evidence from a Spatially Autoregressive Mode Choice Model for New York, *Urban Studies*, Vol. 45, No. 2, pp. 407-417, 2008.

Rapid Transit (BRT) and High-Occupancy Vehicle (HOV) lanes – can the Bay Area eventually achieve the type of critical mass necessary for world-class transit services. The Regional Transportation Plans (RTPs) provide the platform for incrementally building a network of high-quality transit services that over the long run achieves the kinds of societal benefits that the region aspires to – high mobility, sustainable patterns of development, and equality of access for all.

5. Critics often claim that rail investments benefit professional-class suburbanites at the expense of central-city residents. This is based on the premise that investment plans focus on extending rail lines to the region's outskirts. This has not been the case, however, in the San Francisco Bay Area. Resolution 3434 and the RTP's "Smart Growth Vision" call for most future capital investments to be in the region's urban core. In addition, current long-range planning is focusing on building BART's core capacity, a possible second Transbay tube, infill stations, a fourth track in Oakland, and initiation of express rail/skip stop services.²⁰ A balance of strategic extensions, new links, infill services, capacity expansion, and system rehabilitation is being looked upon to enhance mobility and advance broader community development objectives in all parts of the region. This is in keeping with the region's smart-growth land-use policies. Growth projections call for 25% of new households created in the Bay Area between 2000 and

²⁰ Earth Tech, Korve Engineering, *Bay Area Regional Rail Planning: Conceptual Alternatives Tasks*, Oakland, California Department of Transportation, February 14, 2007.

2025 to be located in the urban core – San Francisco, San Jose, and Oakland.²¹ Investing heavily in core-area rail upgrades, infilling, and rehabilitation is an important part of achieving this “Smart Growth Vision”.

6. Planned rail upgrades and investments in the region’s core coupled with new BRT services continue a tradition of aligning high-quality transit services in corridors that serve a racially and ethnically diverse mix of Bay Area residents. This is revealed by a recent Geographic Information Systems (GIS) overlay analysis conducted by MTC, which shows the spatial relationship between rail and BRT lines – existing and planned – and levels of racial diversity. Attachment A presents the overlay map. The results clearly show that proposed BRT investments and rail extensions from Fremont to Warm Springs and on to central San Jose, along the Dumbarton Bridge and into southern San Mateo County, and to the far eastern reaches of Contra Costa County (eBART) would serve numerous neighborhoods that are racially “moderately diverse” to “very diverse”. The plaintiff’s contention that rail system expansions have not and will not benefit minority communities is patently incorrect, as underscored by the map in Attachment A. In the Bay Area, high-capacity, high-quality transit has and will continue to serve a diverse mix of residents and neighborhoods.

7. MTC’s commitments to improving access for mobility-disadvantaged residents through long-term investments, it should emphasized, are complemented by a host of near-term

²¹ MTC, *Mobility for the Next Generation: Transportation 2030 Plan for the San Francisco Bay Area*, Final report, February 2005, p. 32.

efforts, such as the preparation of Welfare-to-Work plans in all nine Bay Area Counties and the set aside of \$5 million in federal funds to launch the Low Income Flexible Transportation (LIFT) program. MTC also conducted a Lifeline Transportation Network study that pinpointed gaps in vital transit service for underserved communities across the region. Moreover, MTC has aggressively sought funding to help fill service gaps, to date having channeled more than \$350 million in funds to assist local transit operators close these gaps and redress existing transit service deficiencies. Clearly, MTC's commitment to enhancing mobility for disadvantaged residents of the Bay Area is occurring at both the near-term operational level and long-term strategic planning and investment level.

IV. Transit and the Environment

1. The plaintiffs and their experts look at past transit investment decisions in a very narrow and self-serving manner, couched in terms of social equity, overlooking other important factors that must also be weighed in preparing a strategic long-range plan. In recent years, policy-makers in the San Francisco Bay Area and the state of California have made a strong commitment to reducing greenhouse gas (GHG) emissions. Fortunately, they are listening to their constituents: a recent poll of 1,800 Bay Area residents found that "reducing greenhouse gas emissions" was considered an extremely important or very important transportation priority by 75% of respondents.²² Transit and land-use

²² See: http://www.mtc.ca.gov/planning/2035_plan/poll.htm

integration has an important role to play in this regard. By one account, "transportation and land-use strategies to reduce the need to drive are a cornerstone of local climate plans".²³ Even with the most optimistic assumptions of increased fuel economy and energy-efficient vehicle designs, anticipated increases in Vehicle Miles Traveled (VMT) are expected to swamp technological advances, leading to a 60% increase in CO₂ emissions nationwide over the 2000-2025 period.²⁴ Even an "aggressive technology" scenario (assuming an average fuel economy of 75 mpg and 50% reductions in greenhouse gas emission per gallon) would require a 20% reduction in VMT to keep greenhouse gases at their current level two decades into the future.²⁵ Designing neighborhoods and cities that prompt people to walk, bike, and take public transit more and drive less must be part of the portfolio of strategies for reducing GHG emissions.

2. MTC, it is important to note, has also embraced clean technologies as a GHG emissions-reduction tool. For example, MTC has accommodated AC Transit's past funding requests for Zero Emission Buses (ZEBs) to help AC Transit and other large Bay Area bus operators to satisfy California Air Resource Board (CARB) requirements.²⁶ To date, MTC has allocated some \$25 million in discretionary STP and FTA Section 5307 funds for the purchase of ZEBs, which cost between \$2.2 million and \$2.7 million each, around 4 to 5

²³ A. Millard-Ball, *Pollution Solutions, Planning*, Vol. 73, No. 8, 2007, p. 15.

²⁴ Center for Clean Air Policy, *Sector-Based Approach to the Post-2012 Climate Change Policy Architecture*, Washington, D.C., August 2006.

²⁵ L. Frank, S. Kavage, B. Appleyard, *The Urban Form and Climate Change Gamble, Planning*, Vol. 73, No. 8, 2007, pp. 18-23.

²⁶ The CARB requirement for ZEBs applies to California transit operators with more than 200 buses, stipulating that, among other things, 15% of the bus fleet must be ZEB by 2011.

See: <http://www.arb.ca.gov/regact/bus04/fro2.pdf>

times as much as a conventional diesel bus. Among the Bay Area operators (AC Transit, Golden Gate Transit, SamTrans, and Valley Transit Authority) subject to CARB regulations and receiving discretionary funds through MTC to purchase ZEBs, AC Transit is to receive more than half the total allocation. CARB's ZEB requirements, it should be emphasized, apply to bus operators, not MPOs. MTC is not statutorily obligated to dedicate discretionary funds for this purpose, however in light of the region's strong commitment to clean-fuel technology, MTC has willingly partnered with the region's large bus operators to aggressively promote ZEBs.

3. Transit-oriented development (TOD) is the most promising of all smart-growth strategies for holding VMT in check, and rail-transit corridors are the most promising settings for leveraging TOD.²⁷ A CalTrans-funded study of TODs in California estimated that a TOD can "lower annual rates of driving by 20 to 40 percent for those living, working, and/or shopping near major transit stations".²⁸ Another California study found that among those who drove to work when they lived away from transit, 52.3% switched to transit commuting upon moving within a ½-mile walking distance of a rail station.²⁹ TOD also holds tremendous environmental promise in the state, with one study estimating that "TODs can help households reduce rates of greenhouse gas

²⁷ R. Cervero, G. Arrington, J. Smith-Heimer, R. Dunphy, and others. *Transit Oriented Development in America: Experiences, Challenges, and Prospects*. Washington, D.C.: Transit Cooperative Research Program, Report 102, 2004; http://gulliver.trb.org/publications/tcrp/tcrp_rpt_102.pdf

²⁸ T. Parker, G. Arrington, M. McKeever, and J. Smith-Heimer, *Statewide Transit-Oriented Development Study: Factors for Success in California*, Sacramento: California Department of Transportation, 2002, pp. 94-95.

²⁹ R. Cervero, *Ridership Impacts of Transit-Focused Development in California*, Berkeley: Institute of Urban and Regional Development, University of California, Monograph 45, 1993.

emissions by 2.5 to 3.7 tons per year".³⁰ In addition, TOD has been associated with higher economic productivity. One study found that San Francisco Bay Area communities with high levels of transit accessibility (which TOD contributes to) averaged higher levels of economic output per worker after statistically controlling for factors like income and employment densities. The flip side of poor access to labor is economic losses. The San Francisco Bay Area Economic Forum estimated that in 1995, local businesses lost some \$2 billion annually in economic productivity because of traffic congestion.³¹ The environmental and economic benefits of TODs are unassailable and to the credit of the region's policy-makers, this is now reflected in transit investment policy. Notably, MTC's Resolution 3434 recognizes the potential VMT-reducing impacts of TOD by requiring minimum station-area densities as a prerequisite for channeling discretionary funds for rail transit improvements.³² Moreover, MTC's Transportation for Livable Communities (TLC) has materially enhanced TOD activities in the Bay Area by providing funds for strategic planning and construction of ancillary improvements around stations, including bicycle and pedestrian amenities and compact housing.

4. The desire to reduce VMT and to promote TOD is not just the rhetoric of progressive-minded urban planners or environmentalists. Bay Area residents overwhelmingly want

³⁰ Parker et al., *op cit*, p. 43.

³¹ Local Government Commission, *Building Livable Communities: A Policy Maker's Guide to Infill Development*, Sacramento, 1995.

³² The 2030 RTP states: "Recognizing the development impact that rail transit investment can have on the physical environment, the Transportation 2030 Plan conditions Resolution 3434 discretionary fund allocations on local governments taking steps to implement the Smart Growth Vision through general plan amendments and zoning changes. Source: MTC, *Mobility for the Next Generation: Transportation 2030 Plan for the San Francisco Bay Area*, Final report, February 2005, p. 5.

such a future. In response to a recent public opinion poll, 65% of 1,800 respondents stated that "reducing the amount of driving" was an extremely important or very important long-term goal.³³ Rail transit was viewed as one way to reduce car-dependence and driving: 65% of respondents stated that "extending rail lines throughout the Bay Area and improving connections to neighboring regions" was a high priority. Moreover, TOD was embraced as a means to increase transit's ridership productivity: 76% of respondents agreed that "financial incentives should be used to encourage development along public transit lines" and 71% agreed that "cities that allow more homes to be built near public transit should get more regional transportation dollars".

5. Pro-rail sentiments are found across the political spectrum. Paul M. Weyrich and William S. Lind of the Free Congress Foundation (a Washington, DC conservative research institute and policy education organization) note the city-shaping advantages of rail investments: "Buses have no effect on development. Why? Because a bus route can disappear overnight. Buses also seldom attract 'riders from choice' with significant disposable incomes, which is what downtowns need economically. Streetcars, with their investments in tracks and wires, represent a commitment to lasting, high quality transit service, service developers can count on for years to come".³⁴ In the Bay Area, business associations have taken a particularly strong pro-TOD stand. The Silicon Valley

³³ See: http://www.mtc.ca.gov/planning/2035_plan/poll.htm.

³⁴ P. Weyrich and W. Lind. Why Conservatives Should Want Streetcars. *Street Smart: Streetcars and Cities in the Twenty-First Century*, G. Ohland and S. Poticha, eds., Oakland, CA., Reconnecting America, 2007.

Manufacturer's Group, which represents the interests of some of the world's leading high-tech companies, has identified "promoting transit-oriented development" as one of the organization's primary transportation goals.³⁵ Representing the larger corporate interests of the region, the Bay Area Council has similarly gone on record as recommending that "funding incentives for transportation infrastructure should be provided to jurisdictions to accommodate ... increased densities along transportation corridors and at transit hubs."³⁶ Smart growth interests have reached the level in the Bay Area where pro-environmental and pro-business factions have joined forces. The Bay Area Alliance for Sustainable Development, whose steering committee includes members from the Bay Area Council as well as the Sierra Club, issued a *Compact for a Sustainable Bay Area*, wherein members from the public and private spheres committed themselves to: "Reach out to financial institutions to encourage diverse housing types and mixed-use investments at transit-supportive densities with urban areas, near transit, which reuse underutilized or deteriorated areas; ... (and) advocate in support of mixed-density and mixed-income residential development, including adequate affordable housing, particularly in areas with transit and other services."³⁷

V. Bus Versus Rail? A False Dichotomy

1. The plaintiffs and their experts cloak many of their arguments about transit funding decisions as if bus and rail services are rivals, almost in a wasteful sense. There is an

³⁵ See: <http://www.svmg.org/Committees/Transportation/index.cfm>.

³⁶ See: http://www.bayareacouncil.org/ppi/tpt/51v_mtc1.html

³⁷ Bay Area Alliance, *Compact for a Sustainable Bay Area*, San Francisco, October 2002, p. 10.

undercurrent of “bus versus rail” in their views about how scarce transportation dollars should be spent. Pitting one mode against the other creates a false dichotomy. By design, rail and bus services more often than not complement (rather than compete against) each other – the former providing mainline, “backbone” services, the latter providing both feeder and mainline services. BART’s chief market is long-haul journeys, such as from the East Bay to downtown San Francisco or SFO. AC Transit caters more to shorter and intermediate-distance trips, and also plies its trade in areas un-served by BART. Many AC Transit routes, moreover, were reconfigured when BART opened to function as complementary feeders. Fortunately, in the San Francisco Bay Area, bus and rail transit co-benefit from each other’s presence.

2. In some corridors, BART and AC Transit routes parallel each other (e.g., AC Transit’s Transbay express buses and BART’s transbay tube). In these instances, a healthy form of competition, or “constructive redundancy”, exists, offering travelers a range of service-price options and providing valuable “back up” services. A series of studies on “redundancy in public transit” sponsored by the U.S. Department of Transportation found substantial benefits from multiple transit service options – e.g., back-up services in the event of an episodic event (e.g., labor strike by one operator; earthquake damage to a bridge) and differentiated service quality (e.g., higher-speed rail with more limited stops; slower transbay bus services with better residential connectivity). BART supported commuters and kept the regional economy intact following the collapse and reconstruction of major road segments after the 1989 Loma Prieta earthquake. (In late

1989, BART accommodated 75% of transbay commuters, up from 35% before the quake.³⁸ Moreover, with a single transit agency or mode, a labor strike can cripple a city, as witnessed by past labor stoppages in New York City and Paris.³⁹ Having multiple transit service-providers and modal options weakens the paralyzing impacts of workers from a single transit agency going on strike, and in so doing, helps to moderate union demands for transit wage rate hikes. In his review of multiple bus-rail operations throughout the U.S., Jonathan Bendor of Stanford University found “redundancy benefits” in the San Francisco Bay Area, concluding that: “The AC-BART system is operationally more reliable than either of its subsystems”.⁴⁰

3. Rail transit also gets criticized for being “pro-rich/anti-poor” as well as “pro-white/anti-minority”. It is simply wrong to infer that rail transit services confer benefits principally to affluent members of society or one particular race. Thirty-seven percent of BART’s patrons are from households with annual incomes below \$50,000.⁴¹ A majority of

³⁸ The Sedway Group, *BART’s Contributions to the Bay Area*, Oakland: report prepared for the Bay Area Rapid Transit System, July, 1999, p. iii.

³⁹ One assessment held: “To get across the Bay from Oakland to San Francisco, one can ride commuter rail, multiple transbay buses, or a ferry. Riders enjoy the benefit of having choices in terms of mode, time schedules, and fares. Redundancies also ensure a backup alternative in the event of a labor strike or (as demonstrated in the 1989 Loma Prieta earthquake) a natural disaster. Source: ³⁹ R. Cervero, G. Arrington, J. Smith-Heimer, R. Dunphy, and others. *Transit Oriented Development in America: Experiences, Challenges, and Prospects*. Washington, D.C.: Transit Cooperative Research Program, Report 102, 2004, p. 388.

⁴⁰ J. Bendor, *Redundancy in Public Transit: Volume IV – Structure, Competition, and Reliability in Planning and Operations*, Berkeley, Institute of Urban and Regional Development, University of California, Berkeley, August 1980, p. 265.

⁴¹ Godbe Research, *op cit.*, p. 4.4-19.

riders on both BART and Caltrain, moreover, are non-white.⁴² Additionally, a recent survey showed that 57.7% of BART riders normally had no automobile available for the trip they were making.⁴³ Rail connections also aid many moderate-income households, particularly first-time homebuyers and young families, who are priced out of the Bay Area's housing market and must rely on high-quality transit to connect their residences to job opportunities. A study of the Altamont Commuter Express (ACE) service to the Silicon Valley estimates a daily 80-mile commute by train saves each commuter over \$2,500 annually -- \$2,688 by train compared to \$5,282 by car.⁴⁴ For many low- and moderate-income Bay Area residents and those without cars, rail transit is the only high-quality transportation available at a fairly affordable price.

4. Mr. Rubin's expert report maintains that AC Transit is more cost-effective than BART or CalTrain, and accordingly deserves higher shares of MTC's discretionary funds. It is wrongheaded to compare transit modes mainly with respect to costs while ignoring differences in levels of service and market demands. Compared to bus transit, rail systems serve much larger geographic territories, operate at much higher speeds, and cater more to those heading to dense urban districts, charging a premium fare for higher quality services. Rail also generally rates higher in comfort, reliability, and

⁴² Godbe Research, *2006-2007 Transit Passenger Demographic Survey*, Phase One, Final Report, prepared for the Metropolitan Transportation Commission, September 2007, pp. 4.4-18, 4.6-17.

⁴³ Godbe Research, *op cit.*, p. 4.4-10.

⁴⁴ American Public Transit Association, *The Benefits of Public Transit*, Washington, D.C., 2004. Source: http://www.apta.com/research/info/online/ben_overview.cfm

"image" than buses.⁴⁵ Traditional bus routes, on the other hand, offer finer grain, more localized services, marked by slower speeds, more frequent stops, and closer access to residential neighborhoods. Fundamentally different services and travel markets translates into fundamentally different cost-effectiveness metrics. Performance levels also vary markedly by how "outputs" are measured – for example, the operating costs of buses per passenger are almost always less than rail transit, in large part because they tend to serve shorter distance trips; on a per passenger-mile basis, however, rail transit almost always out-performs bus transit.⁴⁶ In Fiscal Year 2004, AC Transit's operating cost per passenger trip was 9.4% less than BART's -- \$3.48 versus \$3.84. On a per passenger-mile basis, however, BART operating cost was almost 4 times lower -- \$0.08 versus \$0.30.⁴⁷ Cost comparisons between systems like AC Transit and BART or CalTrains are unavoidably "apples and oranges" comparisons. Writes one observer: "Saying that buses are cheaper than rail – implying that as a mode they are superior – is similar to saying that bicycles or motorcycles are better than cars because they have lower costs".⁴⁸

5. Mr. Rubin's anti-rail sentiments have been noted by others and seem to be based as much on ideology as fact. Paul Weyrich and William Lind of the Free Congress

⁴⁵ V. Vuchic, *Transportation for Livable Cities*, New Brunswick, New Jersey: Center for Urban Policy Research, 1999.

⁴⁶ One analysis found that between 1996 and 2003, average operating costs per passenger-mile rose by 40% for U.S. urban areas with bus-only services compared to a rise of 19% for those areas with both bus and rail services. Source: L. Henry and T. Litman, *Evaluating New Start Transit Program Performance: Comparing Rail and Bus*, Victoria Transport Policy Institute, 2006. See: <http://www.vtpi.org>.

⁴⁷ Source: Federal Transit Administration National Database, 2004.

⁴⁸ V. Vuchic, *op cit.*, 1999, p. 208.

Foundation write: "Libertarian transit critics Thomas A. Rubin and James E. Moore, say: 'Rail is not a decongestant. New facilities cannot decongest existing facilities'" ⁴⁹

Weyrich and Lind then go on to say: "The facts show that, as usual, the anti-transit myth-makers are wrong". Citing statistics for the period of 1992 to 1997 from the Texas Transportation Institute (TTI), Weyrich and Lind point out that large U.S. metropolitan areas with rail systems experienced far less increases in traffic congestion than those without rail systems. Quoting from the TTI report, Weyrich and Lind note: "For the 1992-97 period examined, traffic congestion...increased by 55.9% in urban areas without rail transit, but only 32.4% in urban areas with rail transit in major travel corridors. In other words, traffic congestion grew at a rate 73% higher in non-rail cities, than in cities with rail in one or more major travel corridors". ⁵⁰ Another study suggests motorists are the biggest beneficiaries of rail-transit investments. An FTA policy paper closely examined how rail transit reduces hours of delay along corridors it serves in six different U.S. cities, concluding transit passengers saved 17,443 hours daily and the removal of would-be motorists from highway segments saved motorists an additional 42,772 daily hours. In other words, not only did rail transit benefit people who did not ride, non-riders experienced more than twice as much time savings. ⁵¹ Yet another study of the Washington D.C. area (whose rail system opened a few years after BART) concluded that

⁴⁹ P. Weyrich and W. Lind, *How Transit Benefits People Who Do Not Ride It: A Conservative Inquiry*, Washington, D.C.: The Free Congress Foundation, October 2003, p. 7. Source of quote: T. Rubin and J. Moore, III, *Ten Transit Myths: Misperceptions About Rail Transit in Los Angeles and the Nation*, Los Angeles, Reason Foundation, November 1996.

⁵⁰ Cited in Weyrich and Lind, 2001, p. 8. Source: Light Rail Now, "Study: Rail Transit May Slow Growth in Traffic Congestion", March 2001.

⁵¹ Federal Transit Administration, *Transit Benefits 2000 Working Papers: A Policy Choice Policy Analysis*, Washington, D.C., FTA Policy Paper; cited in: Weyrich and Lind, *op cit.*, 2001, p. 10.

rail transit produces congestion-reduction benefits that substantially exceed the financial subsidies it receives.⁵² National trends suggest that if anything, rail transit's congestion-reducing benefits have increased in recent years. Since 1990, the nation's transit ridership has risen by 11.5% and rail transit accounted for 75% of this gain.⁵³

VI. MORE ON PREVENTIVE MAINTENANCE

1. My first Expert Report challenged the contention of the plaintiffs and Mr. Rubin that more discretionary capital funds *can* and, by extension, therefore *should* be re-directed to preventive maintenance. This claim is found throughout Mr. Rubin's report and is repeated cited as evidence that MTC has been biased against AC Transit in past funding decisions. In truth, over the years MTC has strongly supported preventive maintenance and indeed has taken a number of steps that make it easier for scarce transportation dollars to be applied for this purpose.
2. The false dichotomy of "BART versus AC Transit" created by the plaintiffs and their experts is played out most poignantly in the arguments that money spent on new rail tracks and rolling stock is better spent on overhauling bus transmissions and other forms of preventive maintenance. The amount of discretionary resources that could viably go toward preventive maintenance (versus vehicle replacement or facility

⁵² P. Nelson, A. Baglino, W. Harrington, E. Safirova, A. Lipman. *Transit in Washington, D.C.: Current Benefits and Optimal Level of Provision*. Washington, D.C.: Resources for the Future, 2006. See: <http://www.rff.org/rff/Documents/RFF-DP-06-21.pdf>

⁵³ American Public Transportation Association, *Public Transportation Fact Book*, 58th edition, May 2007.

reconstruction), however, is never specified, nor is it established that such resources would substantially change the fiscal health of AC Transit and benefit riders. The plaintiffs and Mr. Rubin suggest that giving AC Transit discretionary funds for preventive maintenance will solve its budgetary woes, but nowhere is the association between preventive maintenance needs and fiscal shortfalls shown. FTA provides a fairly broad definition of what constitutes "preventive maintenance": "all the activities, supplies, materials, labor, services, and associated costs required to preserve or extend the functionality and serviceability of the asset in a cost effective manner".⁵⁴ The operative word here is "cost effective", suggesting the presence of some criteria or preconditions for determining when it makes sense to overhaul versus replace an engine or transmission. As things stand, no credible arguments or evidence is presented that re-directing more of MTC's discretionary funds to preventive maintenance will materially increase cost-effectiveness or ridership productivity.

3. As reflected in the past two RTPs, MTC has adopted a "Fix it First" policy both for transit and highway projects. So far as the distribution of FTA Section 5307 Fixed Guideway funds, preventive maintenance has historically scored a 9 out of 16 possible points in MTC's Transit Capital Priorities Criteria. Consequently, Section 5307 funds have been used predominantly to maintain capital assets. This is consistent with the "Fix it First" policy.

⁵⁴ Federal Transit Administration, *National Transit Database Glossary*, Washington, D.C. See: <http://www.ntdprogram.gov/ntdprogram/Glossary.htm>.

4. MTC has been particularly sensitive to swings in the region's business cycle and when things get tough, has taken extra steps to ensure discretionary funds go to preventive maintenance. In response to the economic downturn, MTC passed Resolution 3515 in 2003 which increased the ranking score given to preventive maintenance proposals to ensure transit operators were able to obtain needed operating assistance. This policy was subsequently revised two times, most recently as Resolution 3688, approved in March 2005. The present policy allows transit operators to score preventive maintenance projects higher for two out of 12 years when it can be demonstrated they would otherwise have to cut services. MTC's preventive maintenance policies recognizes the underlying need to preserve and maintain the existing system while at the same time provide flexibility to address unforeseen operating budget needs.
5. Consistent with MTC's partnership approach to making funding allocation decisions, to date all policy decisions regarding preventive maintenance have been achieved by consensus. All stakeholders – cities, counties, and transit agencies – have had a voice in deciding the share of discretionary funds that can go to preventive maintenance. Notably, the Transit Finance Working Group, made up of representatives from each of the region's transit operators, serves as the forum for discussing issues and recommending policies related to preventive maintenance. In her deposition, Joan Martin, Special Assistant to AC Transit's Chief Financial Officer, pointed out that the agreement to allow AC Transit to use Section 5307 formula in the past for preventative maintenance was a group decision, made by MTC and the Transit Finance Working

Group that she served on.⁵⁵ To say that there is a bias against preventive maintenance ignores the reality that policies on the distribution of scarce transportation funds are democratically reached.

6. Appreciable shares of AC Transit's operating revenues have consisted of funds provided by MTC for preventive maintenance. Between FY 2000-01 and FY 2005-06, MTC has distributed a total of \$130.7 million to AC Transit for preventive maintenance, which ranged from 2.1% to 23.7% of AC Transit's annual operating revenues over this period.⁵⁶ These are hardly inconsequential amounts and confirm MTC and its partners' strong and unwavering commitment to preventive maintenance.

⁵⁵ Reporter's Transcript of the Deposition of Joan Martin, p. 93-95, September 11, 2007, Sylvia Darensburg et al. vs. Metropolitan Transportation Commission, Case No. C-05-1597-EDL.

⁵⁶ In FY 2000-01, AC Transit received \$49,272,738 in preventive maintenance funds from MTC. This amount was an accumulation of three years of previous year FTA formula funding originally programmed for bus replacement but swapped for preventive maintenance in order to free up AC Transit's preventive maintenance budget to procure Van Hool buses (non-American buses that could not be purchased using federal funds) at AC Transit's request. (See Exhibit E filed October 31, 2005 in support of Amended Declaration of Alix Bockelman in support of MTC's Amended Motion to Dismiss.) In FY 2001-02, AC Transit received \$4,900,000 from MTC for preventive maintenance. MTC initially committed to several years of funding in the event that Measure B, an Alameda County sales tax, did not pass. But, because Measure B did pass, only one year of the funding was programmed. (See id.) In FY 2002-03, AC Transit received \$10,893,392 in preventive maintenance funds from MTC. (See id.) In FY 2003-04, AC Transit received \$17,192,896 in preventive maintenance funds from MTC. (See id.) In FY 2004-05, AC Transit received \$34,673,834 in preventive funds from MTC, \$18,440,239 of which was from a funding swap, at AC Transit's request, that freed up AC Transit's preventive maintenance budget to once again allow AC Transit to purchase foreign Van Hool buses. (See id.) In FY 2005-06, AC Transit received \$13,776,000 in preventive maintenance funds from MTC. (See id.)

VII. CONCLUSION

1. The San Francisco Bay Area is blessed with a rich mix of transit services, a legacy of decades of careful and strategic planning and investments by local decision-makers, state interests, and regional entities, including MTC. Holding traffic congestion in check while maintaining the region's economic vitality, improving environmental quality, promoting livable communities, and enhancing access for all poses a daunting set of challenges. To MTC's credit, an open, broad-based, and participatory planning process has evolved for taking on this challenge, one that gives voice to the region's many stakeholders and constituents. Many stakeholders wish more resources were available for pursuing particular projects, however a robust and inclusionary regional planning process such as MTC's ensures that ultimately parochial interests are overshadowed by regional ones. The San Francisco Bay Area's RTPs – past and present – are the product of a partnership of regional interests that ensures scarce fiscal resources are invested wisely and fairly. No evidence is presented by the plaintiffs or their experts to suggest otherwise.
2. In a growing region like the Bay Area whose natural environment is increasingly fragile and economy is increasingly tied to the global marketplace, scarce transit dollars need to go to both maintaining and strategically expanding bus and rail services. Smart-growth policies that call for expanding transit's core capacity, building central-city Bus

Rapid Transit (BRT) lines, and strategically investing in fast-growing corridors ensure that the region's transit-land use nexus will remain strong in coming years. Importantly, through the leadership of MTC and its partner agencies, long-range planning – past and present – recognizes that transportation is a powerful “means” for achieving a host of desirable “ends” for the region at-large – economic growth, social equity, and environmental protection, among others. In this regard, MTC's short- and long-range planning and programming practices have been, in my opinion, an unqualified success.

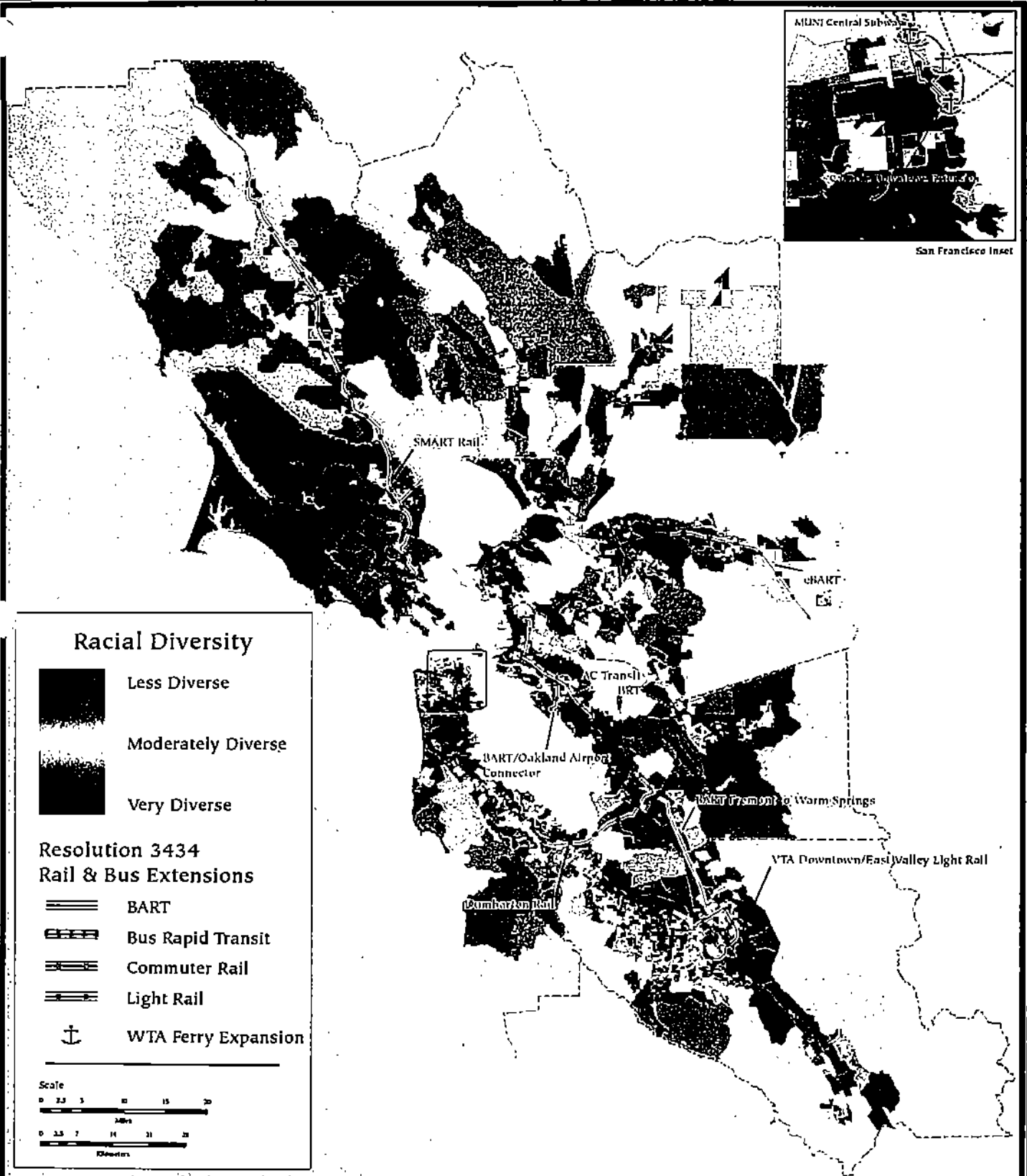
3. Pitting bus transit and rail interests against each other through unsupported claims of biased funding decisions is counterproductive to achieving an integrated, comprehensive, and equitable transportation system and thus is ultimately detrimental to all of the region's transit users. In the Bay Area, buses and trains are complements far more than they are competitors. Past allocations of discretionary transit dollars have not given short shrift to bus riders any more than they have to rail users in large part because MTC and its partners subscribe to the view that in the Bay Area, bus and rail transit, and the customers they service, co-benefit from each other's presence.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Robert Cervero', with a stylized, flowing script.

Robert Cervero

RACIAL DIVERSITY & TRANSIT EXPANSION IN THE BAY AREA



Racial Diversity in 2000 by Census Block Group

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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 Robert B. Cervero
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

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United States District Court - Northern District of California
Action Number C 05 01597 EDL

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