Regional Pedestrian Planning for the San Francisco Bay Area: Recommendations for Moving Forward

Regional Pedestrian Committee
Metropolitan Transportation Commission
Oakland, CA

FINAL DRAFT: August 11, 2008

Contributors
Nancy Baer (Contra Costa Health Services, RPC Chair 2008), Roger Bazeley (San Francisco PTA), Brad Beck (Contra Costa Transportation Authority), John Brazil (City of San José), Michelle DeRobertis (Santa Clara Valley Transportation Authority), Robert Guerrero (Solano Transportation Authority), Heath Maddox (City of San Francisco), Jason Patton (City of Oakland, RPC Chair 2007), Bob Planthold (MTC Advisory Council), Beth Thomas (California Department of Transportation), Ana Validzic (City of San Francisco), Rochelle Wheeler (Alameda County Transportation Improvement Authority, RPC Chair 2006), Sara Woo (Solano Transportation Authority)

Regional Pedestrian Committee
The Regional Pedestrian Committee is an ad hoc advisory body to staff at the Metropolitan Transportation Commission and provides a forum for information-sharing on pedestrian issues throughout the Bay Area. The committee is composed of agency staff and advocates and its meetings are open to the public. The work of the RPC is guided by this vision: *"Everyone is a pedestrian almost every day. The Bay Area is committed, at the local and regional level, to encouraging walking as a safe, convenient and healthy way to get around. The Regional Pedestrian Committee strives to improve pedestrian safety, mobility, and connectivity by promoting the best engineering, planning, public education, and law enforcement practices available."*

Contents

1. Executive Summary

In June 2007, the Regional Pedestrian Committee (RPC) of the Metropolitan Transportation Commission (MTC) undertook a one year project to evaluate the need for a Regional Pedestrian Plan in the San Francisco Bay Area. **Based on the analysis presented in this white paper, the RPC recommends that the MTC develop a Regional Pedestrian Plan.** Such a plan will provide a coherent vision on the central role of walking to the success of regional policies on smart growth, traffic safety, air quality, climate change, and public health. This white paper makes the case for such a Plan by establishing the regional significance of pedestrian considerations and proposing an outline for the planning effort.

MTC's Regional Transportation Plan (T-2030) called for the development of a Regional Pedestrian Plan (p. 56). In the development of T-2035, the need for a Regional Pedestrian Plan became evident when the Regional Bicycle and Pedestrian Program was proposed to be a bicycle-only funding program, dedicated to fully funding the construction of the regional bikeway network as proposed in the Regional Bicycle Plan. Although other funding programs will address pedestrian infrastructure and programs, it is unknown how funding levels compare to the outstanding need given the absence of a Regional Pedestrian Plan.

What is the state of walking in our region today and how can we make it better, to help achieve our regional goals for improved access, better health, and a cleaner environment? In the San Francisco Bay Area, thirty percent of all trips are one mile or less in length. Pedestrians account for [X%] of trips, [Y%] of all collisions, and [Z%] of capital investments. Despite these numbers, there is no comprehensive plan to rectify these disparities.

Regionally developed and adopted policies on land use, transportation, public health, and air quality impact pedestrians throughout the nine-county San Francisco Bay Area. The success of these policies increasingly depends upon the safety and quality of the pedestrian environment. Faced with sprawl, climate change, and social disparities in traffic safety and public health, the region cannot afford to dismiss walking as a merely local concern. The readily achievable opportunity for MTC is developing a pedestrian plan that would coordinate and thereby add value to the numerous policies and programs at the regional level that already affect pedestrians. The focus and clarity provided by this plan will add value beyond its cost, helping the region to achieve its policy goals and promoting equity in transportation decision-making.

2. Introduction: The Case for Regional Pedestrian Planning

Regional policies on land use, transportation, public health, and air quality impact pedestrians throughout the nine-county San Francisco Bay Area. More and more of these policies are being developed in response to regional challenges, and yet the pedestrian issues and ramifications are not being examined directly. The integration of walking as a legitimate transportation mode into new policies and programs would dramatically improve the pedestrian environment while helping the Bay Area meet its policy goals in these pressing areas. This section makes the case for regional pedestrian planning by identifying regional policies that affect pedestrians, defining "regional pedestrian facilities," and summarizing the efforts of other areas to integrate walking into regional transportation planning.

2.1 Pedestrians and Regional Policies

Smart Growth/Transit-oriented Development: The success of smart growth and transit-oriented development (TOD) is entirely dependent on creating high-quality pedestrian environments. However, the focus on safe and convenient pedestrian facilities may sometimes get lost. The Bay Area has many policies on the books to foster smart growth and promote TODs. The development of regional guidance and incentives for pedestrian safety and access will improve the quality of smart growth in the Bay Area, thereby helping to fully realize the region's investment in public transit.

Public Health/Physical Activity Policies and Promotions: The link between public health and transportation infrastructure is being developed at the local and countywide levels, and should be recognized and formalized at the regional level. Transportation and the built environment impact the health of communities, from asthma rates, to traffic-related injuries, to obesity linked to physical inactivity, to personal security. Adding public health to the mix will provide further impetus to public officials and citizens to fund and build walking facilities. Regional promotional and policy efforts will make a key contribution through improved coordination and economies of scale.

Traffic Injuries/Fatalities and Pedestrian Safety: Local agencies do not have sufficient analytic tools for reporting, analyzing, and rectifying pedestrian-involved collisions. Poor data lead to a lack of understanding on the significance of pedestrian collisions. Local analysis of pedestrian collisions may miss areas and trends that could be seen only when looking at collisions more broadly. Collisions along city, county, and/or special district borders may seem insignificant in one jurisdiction until viewed as a whole. Similarly, trends in collisions at and along regional roadways and rail lines could be seen and addressed systematically.

Regional Funding Decisions: The current need for pedestrian facilities throughout the region is unknown. Without this information, decisions about limited regional transportation funds

cannot equitably address pedestrian needs. Additionally, existing funding sources are focused on capital improvements, while there is a large and unmet need for enforcement and education programs. Incentives based on funding priorities will encourage well-designed facilities without necessarily increasing the overall cost of existing programs.

Regional Air Quality Goals and Carbon Emissions: All of the walking trips in the region today, including those linked to transit, are improving air quality and reducing carbon emissions. **Thirty percent of all transportation trips in the San Francisco-Oakland Consolidated Metropolitan Statistical Area are one mile in length or less (Nationwide Personal Transportation Survey, 1995).** Replacing some of the many short auto trips with walk trips will have a large impact due to the proportionally high emissions generated by these trips. The current air quality and carbon benefits of the walking mode share should be quantified to justify the maintenance and expansion of current efforts (like Marin County's Safe Routes to School program).

2.2 Regional Facilities Serving Pedestrians

A pedestrian facility is a physical improvement that enables walking for transportation or recreation. Such facilities are regionally significant if (a) they serve destinations (including transit stops and stations) that generate cross-county trips; (b) the facility is responding to a pedestrian deficiency created by a regional roadway; or (c) if the facility itself spans multiple counties. There are six categories of such facilities and for each category illustrative examples are provided from around the region.

Pedestrian Connections to Regionally Significant Transit: Pedestrian access to regional transit stations is a key component of successful transit and supportive land uses. The catchment area for walk trips in a station area depends upon the quality of that walking environment. Comprehensive pedestrian facilities around regional transit stations are needed to fully realize the region's transit investment. Such station areas will serve more people in a manner that is space efficient and help energize those station areas. *Examples*: Fruitvale BART Station, Hayward Downtown/BART Station connection.

Pedestrian/Transit Connections to Regionally Significant Destinations: University campuses, hospitals, airports, major sports facilities, and other regionally significant destinations are land uses that generate trips from across the region. With proper planning and coordination, such existing and future destinations could be served by transit and pedestrian facilities, providing regional access that is not automobile dependent. *Examples*: San Jose State University, Kaiser Permanente Walnut Creek Medical Center, San Francisco International Airport (BART), AT&T Park (San Francisco).

Pedestrian Design and Mitigations on Regionally Significant Roadways: Freeways, interchanges, state highways, and major arterials create barriers to pedestrian travel. These roadways can divide

areas that would otherwise be connected by pedestrian trips. Surface streets that are part of Congestion Management Programs have a mandate for moving vehicular traffic that can compromise pedestrian safety and access. There is no mechanism to systematically address these unintended consequences of the Metropolitan Transportation System. *Examples*: El Camino Real (Peninsula), 19th Ave (San Francisco), International Blvd/E 14th St (East Bay), Interstate 80 (Emeryville, Berkeley, Albany, El Cerrito waterfront).

Trips Using Multiple Transit Agencies: Linkages between multiple transit agencies allow for pedestrian-based trips that span the Bay Area. However, there are significant needs for the physical integration of these services at intermodal stations. Key pedestrian facilities include coherent wayfinding signage and schedule information as well as waiting areas, shelters, and street crossings. *Examples*: Richmond Intermodal Station (BART, Capitol Corridor, AC Transit, Golden Gate Transit), Millbrae Station (BART, CalTrain, SamTrans), San Jose Diridon Station (Valley Transportation Authority, Caltrain, Capitol Corridor, Altamont Corridor Express).

Cross-county Projects: There are a growing number of pedestrian trails and bridges that are explicitly regional in nature. These projects require systematic planning, coordination, and funding at the regional level to promote coordination between local jurisdictions, special districts, and state agencies. *Examples*: San Francisco Bay Trail, San Francisco Ridge Trail, Golden Gate Bridge, Zampa Bridge, San Francisco Bay Bridge Eastern Span Path.

Areas with Significant Inter-county Pedestrian Trips: In some areas, there is significant pedestrian activity that spans the boundary between two counties. Such areas will benefit from regional coordination to ensure that the jurisdictional boundaries don't perpetuate physical barriers that inhibit walking. *Examples*: Albany/El Cerrito (Alameda and Contra Costa Counties), San Francisco/Daly City (San Francisco and San Mateo Counties), and Palo Alto/East Palo Alto (Santa Clara and San Mateo Counties).

2.3 Learning from Other Regions

The Regional Pedestrian Committee conducted an informal survey of regional and state pedestrian plans to understand their purpose and common elements. These plans are providing leadership within their respective regions or states by establishing walking as a travel mode, setting policies and design standards to support it, and identifying regionally-significant pedestrian connections. The following regional and state pedestrian plans were reviewed:

- Maricopa Association of Governments (Phoenix, AZ area), *Pedestrian Plan 2000*
- New Jersey Department of Transportation, *New Jersey Statewide Bicycle and Pedestrian Master Plan, Phase 2*, 2004 (updates 1995 plan)
- Ohio-Kentucky-Indiana Regional Council of Governments, *OKI Regional Pedestrian Plan*, 2004
- Puget Sound Regional Council, *Regional Bicycle and Pedestrian Implementation Strategy for the Central Puget Sound Region*, 2002

- Washington State Department of Transportation, *Washington State Bicycle Facilities and Pedestrian Walkways Plan* (in development)

In addition to these plans, the review included two other related documents: Maricopa Association of Governments (Phoenix, AZ area), *Regional Pedestrian Program Overview*, 2003; and Wisconsin Pedestrian Planning Guidance (for MPOs & larger communities), 1993.

The common elements of these plans are visions, goals, and objectives; an analysis of existing conditions; a mechanism for public participation; implementation strategies; policies and design standards; regional growth policies and incentives; education and enforcement; performance measures; funding sources; and means for monitoring progress. None of the plans provide a comprehensive list of capital projects for the region, instead relying on city and county plans. Perhaps the most intriguing of the plans surveyed is from the Maricopa Association of Governments (MAG) for Phoenix, Arizona region. The plan modeled latent demand for pedestrian trips and then classified pedestrian activity districts. A pedestrian level of service (LOS) was used to develop goals and performance measures for those districts.

The San Francisco Bay Area has a growing need for such analysis as development density increases around transit nodes and in downtowns. Such development will create pressure to increase the capacity of intersections to maintain or improve automobile level of service (LOS). Designating pedestrian activity districts with associated performance measures like pedestrian LOS is an example of how pedestrian planning could work as a component of multimodal planning to achieve regional goals.

3. Outline for a Regional Pedestrian Plan

Without a regional plan for pedestrian accommodation, resources cannot be allocated with a full accounting of the needs and benefits for the San Francisco Bay Area. The lack of a regional vision leaves a void in identifying and justifying the need for pedestrian infrastructure. Anyone who walks or uses a wheelchair has experienced the negative consequences: inability to safely and conveniently access transit stations, travel across jurisdictional boundaries, or reach regional destinations without a car. This section describes how a Regional Pedestrian Plan will build on work to date by the Metropolitan Transportation Commission and suggests how to improve upon these efforts. The outline explains how the Plan will address existing conditions, policies and plans, programs and resources, and implementation.

3.1 Existing Conditions

The existing conditions chapter will provide an overview of current needs and best practices in order to establish the "state of the system" for pedestrians. While the geographical extent of a Regional Pedestrian Plan precludes an exhaustive inventory, a summary of regional conditions will provide the necessary basis for policy recommendations. An accounting of financial needs can be extrapolated from county-level planning documents while a survey of selected jurisdictions will provide local details, including best practices. The Existing Conditions chapter will address the following topics:

Data: Who is walking in the Bay Area? Where are they walking to? How safe is it? How many pedestrians are walking to transit? Answers to these basic questions are generally unavailable due to significant gaps in data collection and analysis. Data necessary for pedestrian planning include pedestrian counts, collisions and injuries, mode share, and existing facilities and programs. MTC's Pedestrian Tool Box provides a helpful collection of data sources addressing many of these needs, including those of federal and state government agencies, local agencies, and non-governmental organizations. However, these data are neither uniformly nor consistently collected across public agencies, and data required for effective pedestrian planning are often unavailable. A comprehensive assessment of available data will inform the design and frequency of future data collection efforts.

Facilities: The geographical extent of the San Francisco Bay Area precludes a comprehensive inventory of all pedestrian facilities. This analysis will therefore be general, highlighting key examples that illustrate the state of the system for pedestrians. These examples should cover the range of regional pedestrian facilities described in the previous section.

Regional Air Quality Goals and Carbon Emissions: The air quality and climate benefits of walking and walking to transit should be quantified to define the benefits already being realized. Thirty percent of trips in the San Francisco Bay Area are one mile or less in length. Replacing some of the many short auto trips with walk trips will have a large impact due to the proportionally high emissions generated by these trips. Collaboration with the Air District and the Congestion Management Agencies as partners will support this effort.

Capacity: A Regional Pedestrian Plan will inventory the capacity of agencies to deliver pedestrian facilities and programs. Amongst local jurisdictions, a lack of capacity is a key barrier to improving pedestrian safety and access and meeting regional goals. Key aspects for such an inventory include staffing (pedestrian planners and coordinators), pedestrian advisory committees, and training opportunities. A portion of this information is already available from MTC's routine accommodation study.

3.2 Policies and Plans

Numerous policies at the federal, state, and regional levels create the mandate for pedestrian accommodation:

- The US Department of Transportation's *Policy Statement of Integrating Walking and Bicycling into Transportation Infrastructure* states that "walking facilities will be incorporated into all transportation projects unless exceptional circumstances exist."
- Caltrans *Deputy Directive 64* explains, "The Department fully considers the needs of all non-motorized travelers (including pedestrians, bicyclists, and persons with disabilities) in all programming, planning, maintenance, construction, operations, and project development activities and products."
- Assembly Concurrent Resolution 211 reads, "[T]he Legislature of the State of California hereby encourages all cities and counties to implement the policies of the California Department of Transportation Deputy Directive 64 and the United States Department of Transportation's design guidance document on integrating bicycling and walking when building their transportation infrastructure."

At the regional level, MTC has multiple policies and programs that address this mandate. **The missing component is the comprehensive plan for coordinating this effort and realizing the regional benefits to smart growth, public health, traffic safety, air quality, and carbon emissions.**

MTC Resolutions

Resolution 3765 (Routine Accommodation) reads, "Projects funded all or in part with regional funds … shall consider the accommodation of bicycle and pedestrian facilities, as described in Caltrans Deputy Directive 64."

Resolution 875 (Transportation Development Act Article 3) mandates that all pedestrian and bicycle projects receiving TDA Article 3 funds be reviewed by a Bicycle Advisory Committee. This requirement could be extended to include Pedestrian Advisory Committees (PAC) or Bicycle and Pedestrian Advisory Committees (BPAC) to help ensure that pedestrian projects are reviewed by people with an avocation for walking.

Resolution 3434 (Transit-oriented Development Policy for Regional Transit Expansion Projects) conditions funding for transit expansion on minimum residential densities at new stations. To assist cities in meeting these goals, MTC created a Station Area Planning grant program to fund city-sponsored planning efforts to support high levels of transit ridership, including transportation infrastructure that supports non-motorized access. The pedestrian district concept (described below) could be linked to Resolution 3434 to improve station area planning efforts with policy and design guidance. Ultimately, the higher quality pedestrian infrastructure will help realize the benefits of the regional transit investment – the goal of Resolution 3434.

Regional Transportation Plan 2035

Transportation 2035 (T-2035) is MTC's transportation blueprint for the next 30 years. The plan's goals are based on the three "E's" of economy, environment, and equity. Performance objectives were developed to evaluate how particular projects and programs contribute to the economy, environment, and equity of the region. To achieve these goals, a policy strategy addresses, investments, individual actions, focused growth, pricing and affordability, and technology.

MTC supports individual actions such as pedestrian transportation that result in emissions reductions from motor vehicles, reduces delay, and improves affordability for Bay Area households. Focused growth concentrates development within areas that will allow residents to walk five minutes to transit and other destinations. All of these investments and actions must be done in a way that increases walking and increases safety by reducing collisions between motor vehicles and pedestrians.

In addition to the many projects and programs submitted to MTC, T-2035 establishes regional programs administered by MTC:

- Transportation for Livable Communities (TLC) grant program was doubled to $2.2 billion with $1.5 billion to pedestrian projects.
- Climate Protection is an new $113 million program with a new Safe Routes to School (SR2S) and Safe Routes to Transit (SR2T) totaling $57 million.

- Regional Bicycle Network program includes $1 billion to fund bicycle projects of regional significance. It includes pedestrian improvements through the one-third of the network that is paths used by both bicyclists and pedestrians.

Other Regional Planning Efforts

Community Based Transportation Planning Program (CBTPP) developed out of two reports completed in 2001: the "Lifeline Transportation Network Report" and the "Environmental Justice Report." The program supports the development of collaborative plans and projects in low-income and minority communities to evaluate options and set priorities for filling transportation gaps. The communities with the largest health disparities, and where public health efforts are focused, closely follow those where MTC is funding Community-based Transportation Plans. Collaboration between MTC, ABAG, and the Bay Area Regional Health Inequities Initiative would strengthen the efforts of all. A regional pedestrian plan could address the transportation/public health connection and thereby guide such collaboration.

Pedestrian Districts Study was completed by MTC in 2006. It reviewed pedestrian planning in the Bay Area, developed a typology of pedestrian districts, presented case studies of Bay Area pedestrian districts, developed cost estimates for typical pedestrian improvements, defined next steps for MTC in the pedestrian realm, and made recommendations for updating MTC's Regional Pedestrian Resource Guide. This study would provide a starting point for a Regional Pedestrian Plan.

Priority Development Areas (PDAs) are infill development opportunities within existing communities. The proposed PDAs could accommodate half of the Bay Area's projected housing growth to the year 2035, at generally moderate densities. The regional agencies are working to develop a program of technical assistance, planning grants, and capital funding for local governments undertaking PDA development. An overall vision for pedestrian accommodation is critical to the success of this regional planning effort.

Transit Connectivity Plan details a comprehensive strategy for easing passengers' movement from one transit system to another by providing more reliable connections, simplifying fare collection, improving wayfinding signage, and reducing overall travel times. Improving multi-operator transit trips is critical for improving the viability of walking and transit-riding and reducing automobile trips across jurisdictional boundaries.

3.3 Programs and Resources

This chapter will examine existing and potential programs of regional significance on resource sharing, data collection and analysis, funding incentives, and walking promotion. These programs will be evaluated for their suitability for implementation at the regional level, either for standardizing a practice (like data collection and analysis) or for achieving economies of scale (like mass marketing or Safe Routes to School programs). Existing examples include the

511 traveler information system and the *Regional Pedestrian & Bicycle Training Workshops*.

Resource Sharing

Bicycle and Pedestrian Safety Toolbox is an on-line resource developed and maintained by the MTC.[1] This resource could be expanded in response to specific needs for information identified by the Regional Pedestrian Plan.

Regional Pedestrian Resource Guide was developed in 2001 in conjunction with the San Francisco Bay Area's Pedestrian Safety Task Force, the predecessor of the Regional Pedestrian Committee [TRUE?]. This guide could be expanded into an on-line library for pedestrian-related plans and research generated by jurisdictions throughout the Bay Area. Examples include Pedestrian Master Plans, evaluations of traffic control devices, model ordinances, and the like. Such a library will realize the true value of the region's work by helping jurisdictions learn from each other.

Data Collection and Analysis

Pedestrian Counts are not collected or recorded in a systematic manner in the San Francisco Bay Area. Given the standardization of motor vehicle and transit counts, this knowledge gap contributes to an overall lack of understanding and action on pedestrian safety and access. In 2003, MTC's Bicyclist and Pedestrian Data Collection and Analysis Project developed a methodology for counts to be included in a regional database. This effort could be revisited in light of the intensive and methodical count project conducted in 2008 by the UC Berkeley Traffic Safety Center and the Alameda County Transportation Improvement Authority.

Pedestrian Collision Data are rarely analyzed at the countywide or regional level, which contributes to a similar knowledge gap on how pedestrians are affected by the Metropolitan Transportation System, railroad lines, and other transportation infrastructure of regional significance.

Travel Surveys like the Bay Area Travel Survey and the American Community Survey are key data sources. Existing data for the region should be used to analyze walking trips by purpose and geographic area. Improved data are also needed on the number of pedestrian trips linked to other modes (like transit) and the number of pedestrian trips that are not work related. MTC is well-positioned for contributing to the collection and analysis of these data.

Travel Forecasting is dominated by future projections of private motor vehicle trips. Research and reform are critically needed to develop countywide transportation models that are

[1] www.mtc.ca.gov/planning/bicyclespedestrians/safety/framework.htm

consistent with multimodal transportation policies. The current practice of travel forecasting is a barrier to the region realizing its policy goals on transportation, land use, public health, air quality, and climate change.

Sidewalk Management System, analogous to the Pavement Management System, could provide local jurisdictions with a tool for more effectively managing their infrastructure. Developing such a tool at the regional level would create an economy of scale and improve the allocation of regional funds.

Funding Programs

Existing Funding Programs could provide a stronger emphasis on pedestrian safety and access by making these considerations an explicit factor in prioritizing allocations from related funding sources. Given the limitations on transportation funds, there are numerous opportunities for rewarding superior projects that will contribute to the implementation of the Regional Pedestrian Plan.

New Funding Programs could create new revenue streams for pedestrian infrastructure. In particular, future discussions of a regional gas tax, vehicle license fee increases, and bridge toll increases should explicitly address how pedestrian improvements can mitigate the externalities of private motor vehicles and internal combustion engines. Regional Measure 2 provides a model for these future discussions.

Regional Pedestrian and Bicyclist Safety Technical Assistance Program (Safety TAP) was a pilot project initiated by MTC in 2002 to assist local agencies in improving pedestrian and bicyclist safety by creating a "culture of safety" and institutionalizing these considerations into city policies and practices. Safety TAP could be re-established as an ongoing program to promote, document, and disseminate best practices in a focused and cost-effective manner.

Regionally Significant Roadways and Pedestrian Mitigations: Funding from pedestrian and bicycle grant programs is being used to mitigate design hazards on the Metropolitan Transportation System. For example, the Alameda County Transportation Improvement Authority's Bicycle and Pedestrian Grant Program has awarded approximately 30% of available funding – comprising 50% of funded capital projects – to such mitigation efforts on regionally significant roadways. There is no regional mechanism for systematically addressing this regional issue.

Funding Criteria: MTC can implement policy priorities through its funding criteria. Changing program guidelines for funding would deliberately influence which projects are funded and built. For implementation of the Regional Pedestrian Plan, possible funding priorities include:

- Locational Priorities could favor projects in transit station areas, priority development

areas, pedestrian districts and/or other places defined by regional pedestrian planning.

- Routine Accommodation Policy could be strengthened to make successful projects contingent on the inclusion of pedestrian and bicyclist facilities.
- Local Policies could be required or incentivized as an eligibility criterion for certain funding sources, analogous to the State's requirement for Bicycle Transportation Plans to receive funding from the Bicycle Transportation Account.
- Regional Design Guidelines could be required or incentivized for funding eligibility to ensure that limited regional resources are being used to fund best practices.
- Cost effectiveness can be difficult to define but may be a useful criterion given the expense of pedestrian improvements involving geometric modifications (curb, gutter, drainage, utility relocation) and pedestrian-scale lighting. "Infrastructure over amenities" may be one approach that would emphasize pedestrian safety and access over improvements that are primarily aesthetic. Such a criterion could be used to improve the Transportation for Livable Communities program.

Walking Promotion

511 traveler information system could be expanded to include a "Walking" section that would be closely linked to the transit information, while also addressing safety, public health, and additional resources like walking maps.

Individualized Marketing is a highly effective method to increase walking, along with bicycling and transit riding, by providing personalized travel information to residents. The local TravelChoice program has shown that significant mode shift is possible through these marketing programs.

Mobility Training is an emerging concept for reforming driver's education to make it relevant to contemporary travel patterns and policy challenges. Such training teaches travel basics for all modes, thereby promoting multimodal transportation as well as safer drivers through increased awareness.

Pedestrian Safety Campaign could provide a coherent message through mass marketing at the regional level that would be more effective and inexpensive than comparable efforts at the local or countywide levels. The "Street Smarts" campaign developed in conjunction with the City of San José could be adapted for regional use.

Spare the Air Days and their associated marketing campaigns have become an established message in the Bay Area. This campaign could readily be expanded to include a pedestrian component.

Walk to School Day and Safe Routes to School educational programs are becoming an increasingly common feature across the country. As with Bike to Work Day, MTC could play a role in

coordinating materials and publicity at the regional level to help these programs reach more people in a cost-effective manner. The programs could encourage "walk to transit" trips as well as promoting walking on Spare the Air days.

3.4 Implementation

In the previous sections, many suggestions are proposed on how to determine and fulfill the "regional pedestrian need." These suggestions would receive a critical evaluation through the proposed planning process to establish the policies and programs most effective in meeting this need. This section suggests how generally to think about implementation by identifying issues and questions that would be addressed by an effective and realistic plan.

Roles: To ensure that the plan is realized, it should clearly state who would be responsible for implementing the recommendations. As the adopting agency and one of few regional agencies, MTC would have a significant role. For some efforts, such as programs, the region could see economies of scale and cost savings. New staffing may be recommended. If so, would it reduce other capital or program funding? In some cases, local agencies or other regional agencies or organizations could have a role. MTC could partner with other agencies or organizations to share in implementation while being sensitive to requiring (or requesting) implementation by other agencies.

Cost Estimates: A total cost estimate to implement the plan – even an imperfect one – will provide critical information on regional funding needs. The cost estimates will certainly be higher than available funding. However, without an estimate, it is impossible to gauge an appropriate amount of funding to dedicate to pedestrian improvements versus other modes and to prioritize projects and programs based on their cost-effectiveness. Such an estimate should reflect true costs by including infrastructure, programs, planning, staffing, and maintenance. Given the infeasibility of a total inventory, two approaches could be used to develop such an estimate. First, a sample inventory using MTC's Pedestrian Districts Study would apply generalized cost estimates for various district types that could then be summed over the number of such districts planned in the region. This approach reinforces the MTC's involvement in station area planning. Second, a summation of countywide pedestrian plans could provide a regional total of overall need. Of the nine Bay Area counties, currently five have adopted or are developing countywide pedestrian or combined pedestrian/bicycle plans: Alameda, Contra Costa, San Francisco, Solano, and Sonoma. For counties without pedestrian plans, figures could be extrapolated from the Alameda Countywide Strategic Pedestrian Plan given that the geographical variations in Alameda County are suggestive of the region.

Funding: A survey of existing funding sources would lead to recommendations in the Regional Pedestrian Plan regarding the outstanding needs for both funding programs and funding levels. For example, there may be important projects and programs that do not have an appropriate funding source: there is no capital program for rectifying pedestrian hazards on the Metropolitan Transportation System (MTS). Similarly, there is an ongoing lack of funds for education, encouragement, and enforcement, even when such programs have direct transportation benefits. A variety of federal, state, regional, and county sources fund pedestrian projects with an emphasis on capital improvements:

- Federal: Transportation Enhancements Activities (TEA), Congestion Mitigation & Air Quality Improvement Program(CMAQ), Surface Transportation Program (STP), Safe Routes to School (SRTS) from SAFETEA-LU
- State: State Transportation Improvement Program (STIP), Safe Routes to School (SR2S), Office of Traffic Safety (OTS), Transportation Development Act Article III (TDA-3)
- Regional: Regional Measure 2 (RM2), Transportation Fund for Clean Air (TFCA), Safe Routes to Transit (SR2T), Traffic Engineering Technical Assistance Program (TETAP), MTC's Regional Bicycle and Pedestrian Program (RBPP), Transportation Livable Communities (TLC), Housing Improvement Program (HIP)
- County: Several counties have enacted local sales tax measures that fund transportation projects, including pedestrian facilities.

A survey of existing funding sources could estimate the projected funding amounts for pedestrian improvements, both for recent and future years. It could compare expected revenues to cost estimates and identify the most appropriate opportunities for additional funding.

Relation to the Regional Transportation Plan: The Regional Pedestrian Plan will provide a clear understanding of the regional pedestrian need and thereby help MTC to attain its regional goals. Once the need is defined, the Regional Transportation Plan can more accurately and fully address the need through the development and prioritization of capital improvements and programs. The Plan will provide policy direction, design guidance, and contribute to the prioritization of projects funded by programs including Transportation for Livable Communities, Safe Routes to Transit, and Safe Routes to School.

Priorities and Next Steps: The plan should clearly identify the priority efforts and describe the near term next steps.

4. Recommendations

The overall recommendation of this paper is that the Metropolitan Transportation Commission develop a Regional Pedestrian Plan for the San Francisco Bay Area. Specifically, the Regional Pedestrian Plan will help fill the following gaps that currently exist in the Bay Area's transportation planning and decision-making:

- *Regional Cost Estimate*: The regional need for pedestrian facilities and programs is unknown. This estimate will enable MTC to program funds in an informed, effective, and equitable manner.

- *Collision Rates*: Due to the lack of pedestrian volume data, it is not possible to normalize collision data by walking rates. This type of analysis – commonplace for motor vehicles – will critically inform and improve the prioritization of capital improvements.

- *Performance Measures*: There are no consistently used measures of effectiveness for pedestrian safety and access. Such measures are needed to identify deficiencies, program improvements, and measure progress.

- *Education and Economies of Scale*: Pedestrian safety education and walking promotion have clear transportation benefits. These programs are most cost-effective at the regional level through economies of scale and consistent branding across jurisdictions.

- *Multijurisdictional Coordination*: Local jurisdictions and transit operators are increasingly collaborating on capital improvements. The Plan will provide policy and design guidance on pedestrian facilities to realize the full value of transit capital improvements.

- *Prioritization and Best Practices*: Oversubscribed funding programs are an opportunity to prioritize the best projects. Especially for discretionary funding, the Plan will provide guidance to applicants and evaluators on best practices.

While the Regional Pedestrian Plan could call for the creation of multiple new policies and programs, it does not necessarily need to do so. It will build upon the commendable work already undertaken by the MTC on smart growth, traffic safety, air quality, and environmental justice. It will help prepare and position the MTC for meeting the emerging transportation challenges posed by climate change and public health. And it will enable MTC to respond to existing transportation needs in a more equitable, sustainable, and effective manner.