

Attachment A
TRANSPORTATION 2035: VISION POLICY STRATEGIES

Change in Motion

Transportation 2035 *is* change in motion — guided by the Three Es of economy, environment, and equity, along with a set of ambitious goals and performance objectives, that will transform not only the way we invest in our transportation but the very way the Bay Area travels. The plan sets forth a bold vision and takes us on a journey to:

Where mobility and accessibility is ensured for all Bay Area residents and visitors, regardless of age, income or disability; and

Where our ~~highways, local streets and roads, public transit systems, and~~ bicycle and pedestrian facilities, public transit systems, local streets and roads, and highways are all safe and well-maintained and take us when and where we need to go; and

Where an integrated market-based pricing system for the region's carpool lanes, bridges, and roadways helps us not only to manage the demand on our mature transportation system but also to pay for its improvements; and

Where our lively and diverse metropolitan region is transformed by a growth pattern that creates complete communities with ready, safe and close access to jobs, shopping, and services that are connected by reliable and cost-effective transit services and where transit is in place and readily available for both our short and long trips; and

Where technology advances move out of the lab and onto the street, including clean fuels and vehicles, sophisticated traffic operations systems to manage traffic flow on our roadways, advanced and accessible traveler information that allows us to make informed travel choices, and transit operational strategies that synchronize fare structures, schedules, and routes to speed travel to our destinations; and

Where we have a viable choice to leave our autos at home and take advantage of a seamless network of accessible pedestrian and bicycle paths that connect to nearby bus, rail and ferry services that can carry us to work, school, shopping, services, or recreation; and

Where we lead and mobilize a partnership of regional and local agencies, businesses, and stakeholders to take effective action to protect our climate and serve as a model for national and international action; and

Where our transportation investments and travel behaviors are driven by the need to reduce our impact on the earth's natural habitats; and

Where all Bay Area residents enjoy a higher quality of life.

POLICY BRIEF #1: TRANSPORTATION INVESTMENTS

Where We Are Today

- Our regional transportation system is an intricate and mature network of highways, local roadways, and transit systems, ~~and bicycle and pedestrian facilities~~.
- As our transportation system ages, the maintenance needs continue to outpace funding available, leading to higher deferred maintenance costs and substantial backlogs.
- Safety remains a critical concern. Over the past nine years, the region has averaged 440 fatal collisions and 37,000 injury collisions per year.
- Our private railroad systems are nearing or at capacity. The competition for scarce capacity between freight and passenger rail services continues to grow, with limited new rights-of-way available.
- Two of the three international airports will reach runway capacity between 2015 and 2020 – congested local freeways constrain airport and seaport landside access.

Challenges to Overcome

- Adequate funding to keep the regional system in a good state of repair and to minimize backlogs has been difficult due to lack of existing and new revenue sources.
- The bicycle and pedestrian network is comparably less developed as a regional system than its highways, roadways and transit counterparts.
- Bicyclists and pedestrians are disproportionately represented in all traffic collision deaths accounting for about 28 percent of total fatalities, while only a small percentage of all trips.
- Funding for transit services is severely limited; this situation will worsen as new transit expansion projects come online vying over fixed and segregated pots of operating and capital funds.
- By 2035, close to 25 percent of the region's residents will be 65 years or older. Paratransit services may become oversubscribed; but local transit services may not be able to absorb demand due to limited operating and capital resources. Accessible taxis may provide relief, but there are insufficient supplies to meet demand.
- Better institutional and functional coordination of the region's transit operators is needed to gain more efficiency and productivity from the existing system, reduce administrative redundancy and duplicative expenses.

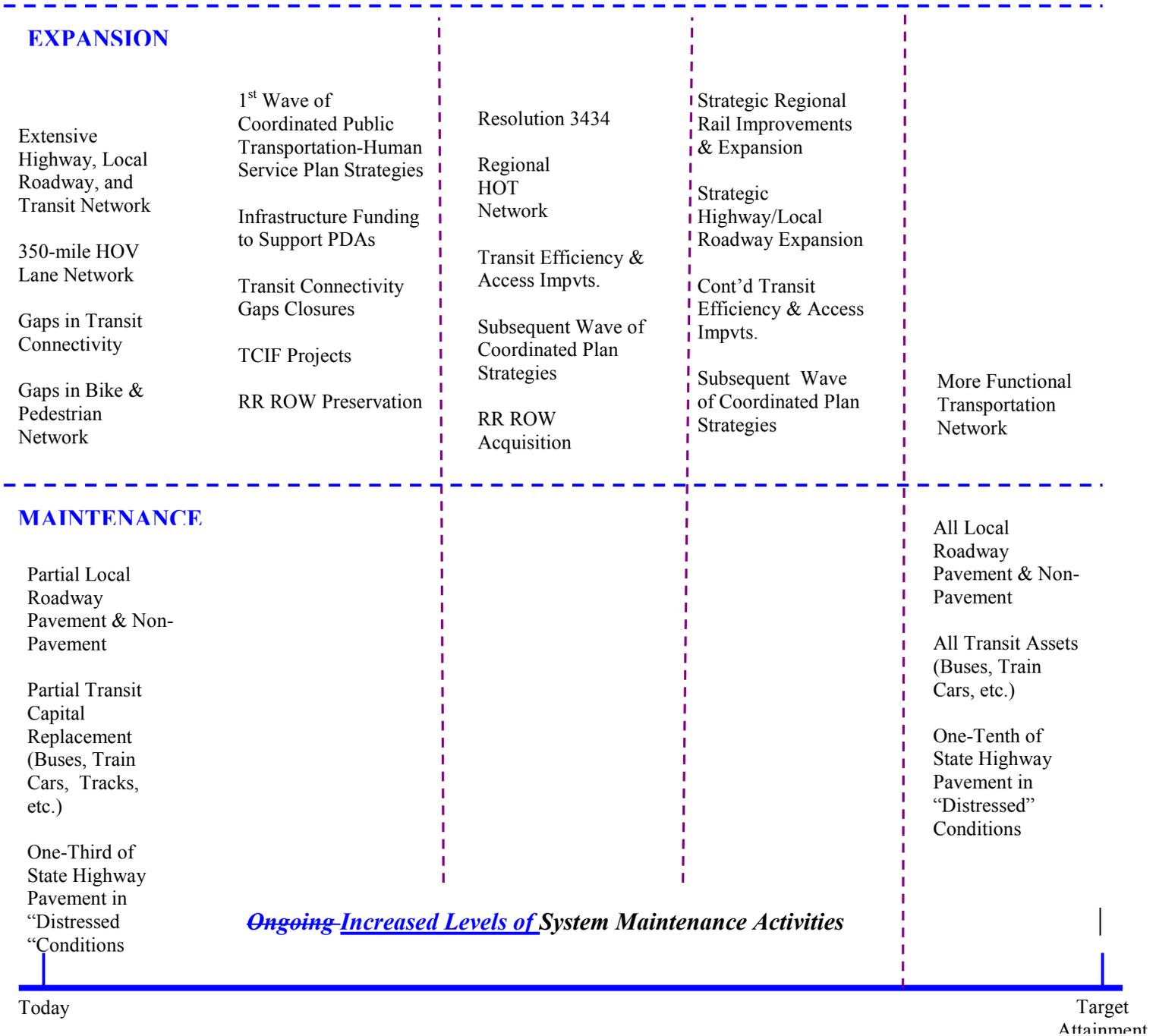
Where Do We Want to Be?

- *Keep the Foundation Strong* - Establish cost-effective maintenance standards, and secure adequate funding for road and transit maintenance to minimize costs and backlogs
- *Maximize System Performance* - Maximize system performance with full deployment of system management strategies and institutional cooperation in the delivery of system services.
- *Make Transportation Accessible* – Develop public transit and HOV facilities and services that facilitate public transit ridership growth. Also, provide reasonable and affordable transportation alternatives to the automobile and effectively balance mainstream transit services, customized paratransit and human services transportation to meet the needs of low-income, elderly and disabled persons
- *Support System Strategic Expansion* - Fully close gaps in the regional carpool lane network; reduce truck delay in key freight corridors, and convert more truck trips to rail and barge; improve the speed and on-time reliability of bus transit through use of transit-priority measures; close gaps in the regional and local major arterial bicycle network.
- *Promote More Public/Private Partnerships Innovative Project Delivery Approaches* – Implement design-build project delivery methods to rationalize risks and minimize delays. Leverage funding from the private sector with to support public sector investments. For example, use public/private

partnerships in the freight network to maximize dual benefits to each, and ensure those investments are coordinated with other public investments in the same corridor.

The Journey – A Continuum of Efforts & Innovations

SYSTEM MANAGEMENT – See TECHNOLOGY



POLICY BRIEF #2: PRICING

Where We Are Today

- Though common in many other industries (e.g., airlines, utilities), using price to avoid peak period overload is the exception in regional and state transportation; Europe and other US cities demonstrate that road pricing can reduce congestion and emissions.
- Some work is underway: Alameda and Santa Clara counties are developing HOT lane demonstration corridors (on I-680, I-580, US 101 and SR 85); San Francisco is instituting a congestion-based charge on Doyle Drive and studying the feasibility of a citywide congestion pricing program; MTC has been studying the feasibility of a regional HOT Network
- Working families in the Bay Area spend 10 percent more of their income on transportation and housing combined than families in other major metropolitan areas; this is largely due to high housing costs in our region.
- The region lacks a framework for coordinating transit fares; operators offer discounted fares for youth, elderly and disabled passengers but do not consider income level.
- While parking pricing policies can significantly affect transportation travel behavior and overall parking demand at employment and commercial areas, very few communities take the opportunity to effectively price parking.

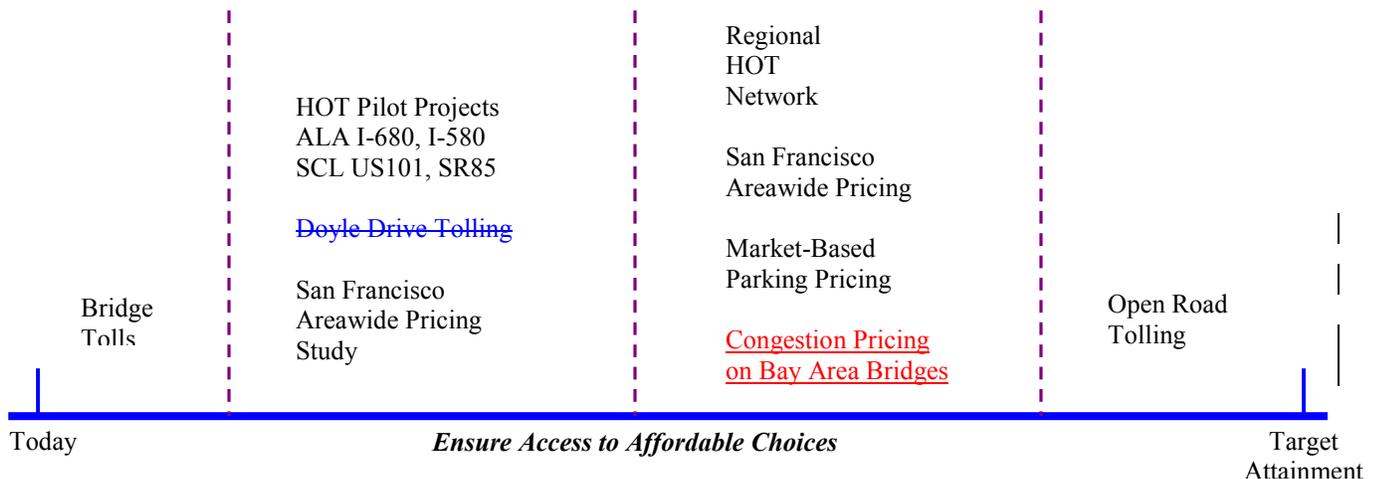
Challenges to Overcome

- In the absence of hands-on experience, the public and many elected officials are skeptical that pricing can succeed technically and politically.
- Congestion pricing programs can be and must be designed so that basic mobility is affordable for low-income households.
- The region lacks a framework for coordinating parking pricing policies; local jurisdictions and businesses are concerned that new or higher parking fees may put them at a competitive disadvantage.
- ~~While there has been some agreement to-on design applications-principles and enforcement strategies for the two-Bay Area HOT lane demonstration projects, s that are currently under design, regionally consistent design standards, design principles and delivery approaches, and enforcement strategies~~ HOT lane design principles and project delivery approaches need to be developed in conjunction with Caltrans and CHP as the HOT network is expanded, ~~which has not yet established standards for HOT lanes; enforcement strategies will need to be developed in conjunction with CHP~~
- ~~There are ongoing discussions about a regional versus corridor-by-corridor approach to pricing, beginning with the corridors under development in Santa Clara, Alameda and San Francisco counties. These demonstration projects could provide insights into an expanded HOT network.~~
- ~~Introduction of new pricing strategies will raise issues of governance;~~ MTC would need legislative authority to develop and administer a regional HOT network; further, regional stakeholders must ~~develop agreements on~~ explore revenue allocation options that support development of a regional system. ~~Views that toll revenues collected from users of the systems must be utilized within close proximity of the area collected must be considered as part of this discussion, as well as views that transportation networks such as the Interstate Highway System and Bay Area toll bridges relied on the pooling of revenue across political jurisdictions to benefit all users of the network.~~

Where Do We Want to Be?

- *Implement Full Road Pricing* - Advance ~~congestion road~~ pricing as a ~~congestion demand~~ management tool, starting with the HOT Lanes demonstration projects, to demonstrate the concept of congestion pricing, and moving eventually toward full pricing on road priefreeways and toll bridges ing along with area-wide pricing to manage demand. Where road pricing is not an option, deploy other system management strategies to reduce congestion at heavily used freeway segments.
- *Promote Area Pricing* - ~~Implement a congestion toll on Doyle Drive by 2009 and f~~Follow a natural progression over time to European-style cordon or area-pricing of San Francisco.
- *Support Local Parking Management Policies* - Advance parking policies at the local level that address parking supply and provide market-based pricing signals to users reflecting both direct and indirect costs of parking and support TOD and support transit use.
- *Provide affordable choices* - Give full consideration to providing access for persons of all income levels to the benefits associated with pricing programs. Seek to provide affordable choices, including such as high quality transit and bicycle and pedestrian facilities, in ~~advance of~~ implementing conjunction with congestion pricing programs.
- Re-invest all pricing revenues back into transportation improvements – transportation revenues should not be used for non-transportation purposes.

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POLICY BRIEF #3: FOCUSED GROWTH

Where We Are Today

- The regional housing market has not kept up with demand resulting in the Bay Area having the highest median housing costs in the nation.
- The region's fastest growing areas are in the outer ring – in-commuting from outside the region has and will likely continue to increase – and the “drive till you qualify” phenomenon will likely continue [as residents search for more affordable homes, larger homes with backyards, better schools, and the like](#) unless more housing choices [and other community assets](#) are provided in the urban core and near key transit stations and corridors.
- High-growth areas in the outer ring are putting pressure on transportation facilities that were not originally designed to carry current or future traffic volumes and facilitate long-distance driving; vehicle miles traveled and carbon emissions are increasing as a result.
- The region has undertaken several initiatives (TLC/HIP, TOD Policy, T-PLUS) over the past several years to work with local agencies to invest in more focused growth, particularly near existing transit nodes and corridors
- Priority Development Areas (PDAs) have been nominated by local jurisdictions as part of the FOCUS effort. Together they could accommodate as much as 56 percent of the Bay Area's growth by 2035. MTC has committed nearly \$20 million to support planning efforts in PDAs.

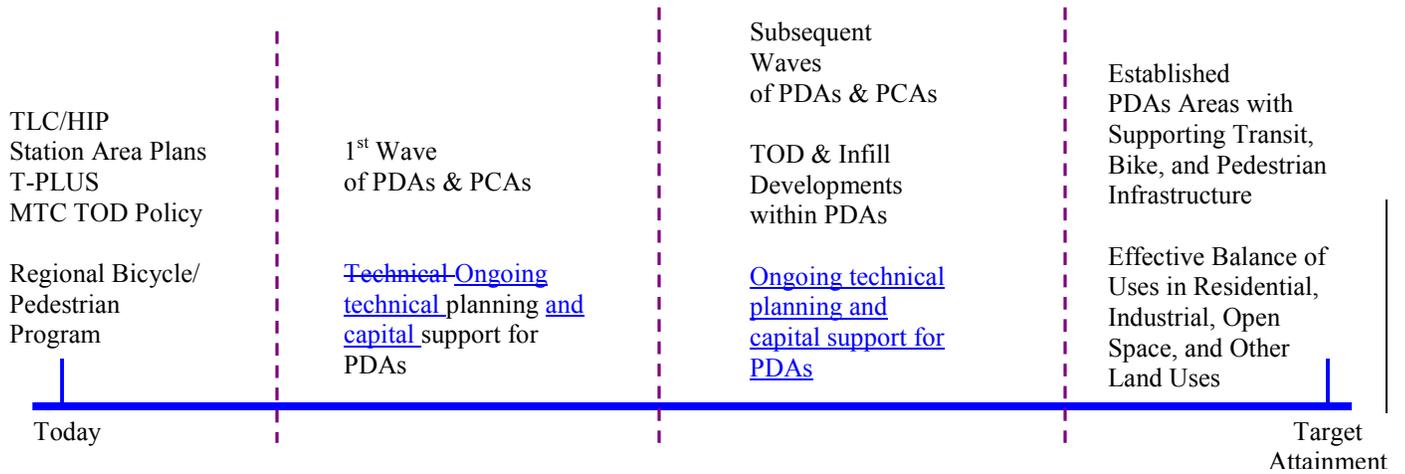
Challenges to Overcome

- PDAs require substantial investments for their host local governments; capital budgets submitted with the first round of PDA applications total tens of billions of dollars so cities and counties will require direct financial assistance to make focused growth real
- The redistribution of growth is a long-term solution to the region's transportation and climate issues; unless we coalesce local and regional priorities now, interest will wane and growth will find its own path of least resistance
- Increased new housing supply can reduce prices but ~~can~~ also [displace low-income residents and local businesses in gentrifying neighborhoods areas](#).
- ~~Some industrial land uses are disappearing due to local pressures to convert to higher value land uses~~ [Pressure to convert industrial land uses to higher value land uses, such as residences, should be monitored to avoid harming the local and regional economy.](#)
- Many PDAs overlap with critical goods movement corridors in the region, and finding a balance between competing uses in the urban core is critical to ensuring a diverse job base and efficient goods movement system.

Where Do We Want to Be?

- *Focus Future Growth* - Recognize that PDAs encompass potential areas for focusing growth around transit hubs and transit arterial corridors and they serve as opportunity areas for targeted regional investments; [and that continued infrastructure improvements are needed in those areas that have recently experienced high growth](#)
- *Adequate Funding to Make Focused Growth Work* - Provide adequate infrastructure funding for PDAs and give them consideration in the allocation of all new increments of existing unconditional funding and in the use of new revenue sources. [Also, provide funding support from existing or new revenue sources to other urban, suburban and rural areas of the region that are working to managing growth and reduce vehicle trips.](#)
- *Consider Freight Needs* - Support industrial land-use preservation where needed and support local jurisdictions in finding ways for goods movement activities, housing and commercial areas to co-exist as good neighbors

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POLICY BRIEF #4: TECHNOLOGY

Where We Are Today

System Management

- Traffic congestion caused by incidents is a major problem. The amount of delay experienced by motorists due to non-recurrent congestion is equal in magnitude to the delay experienced due to recurrent day-to-day bottlenecks.
- Although some technology is already in place to address non-recurrent congestion, less than one-third of the freeway system is currently equipped with the needed system management equipment.
- Integration of the freeway system, local arterials, and the transit network is limited. Each system largely operates independently of the other, providing little opportunity to manage the overall system in a coordinated manner.
- Although ramp metering is a proven strategy to reduce freeway traffic congestion, it has been implemented on only 25% of the Bay Area freeway system. Because of this, the ability to maintain optimal performance in response to growing traffic demands is severely limited.
- Communications between transportation providers is primitive. The ongoing Center-to-Center effort to exchange data between several traffic management centers is the first step in improving this situation. Interoperability and communications between Transit agencies is also in its infancy. TransLink[®] is the region's most significant investment for interoperability (fare payment.)

Air Quality/Greenhouse Gas Emissions

- Nearly half of the greenhouse gas emissions (GHG) emissions in the Bay Area come from the transportation sector.
- AB 32 (2006 California Global Warming Solutions Act) requires CARB to develop regulations and market mechanisms that will ultimately reduce California's GHG emissions to 1990 levels by 2020 (a 25 percent decrease), and to 80 percent below 1990 levels by 2050.
- Federal CAFE standard just recently approved to increase fleetwide average of light duty vehicles sold in 2020 and beyond to 35 miles per gallon (mpg); US EPA will require heavy duty trucks to reduce particulate matter (PM) emissions by 85 percent by 2020
- State legislation (Pavley) requires all light duty vehicles sold in California to reduce GHG emissions by 30 percent by 2016; by 2020 California is committed to implement more stringent GHG emission standards (Pavley Phase 2 rules) that will further double GHG emissions and will likely yield better California fleet fuel efficiency to an estimated 44 mpg.
- California Air Resources Board (CARB) will implement air quality regulations for goods movement, including trucks, shore power, railroads, and ships.
- Particulate matter is also a concern. The Bay Area will likely be designated as a non-attainment area for the national PM_{2.5} standards in 2009. PM₁₀ levels are closely linked to vehicle miles traveled due to the contribution of road dust and brake and tire particles. Goods movement accounts for a large share of PM and NO_x emissions from transportation sources. All together, motor vehicles account for 40 percent of the PM₁₀ inventory for 2010 (of which road dust is by far the largest contributor, at nearly 35%).

Challenges to Overcome

- California must convince the federal appeals court to allow AB 32 implementation.
- New or improved vehicle standards must not only address improvements to fuel efficiency but also emission reductions of particulate matter and other criteria pollutants.
- Adequate funding is needed to further develop emerging technologies such as VII.

- Implementation of initial Integrated Corridor Mobility projects on I-880 and I-80 in Alameda/Contra Costa counties will require substantial negotiation between Caltrans, affected counties and cities, and transit agencies to develop operational agreements.
- Sustaining the performance benefits of a system management program requires a dependable operations and maintenance budget. Otherwise, any investments in new infrastructure will inevitably be wasted.
- TransLink[®] program needs to complete installation on all operators and achieve a steady state operations.

Where Do We Want to Be?

Deploy System Management Strategies

- Communication infrastructure sufficient to take advantage of in-vehicle technologies as they are developed by the private sector
- Fully instrumented freeway system in which operation can be accurately monitored and managed and from which traveler information can be generated on a real-time basis
- Ramp metering through the entire Bay Area freeway system, with integrated operation of arterials
- Operate TransLink[®] on all transit agencies
- Deploy transit priority measures and real-time arrival information
- [Deploy traffic system management on local arterials](#)

Reduce Emissions

- Fully implement AB 32 (Phases 1 and 2)
- Accelerate plug-in hybrid development
- Improve electric vehicle/hydrogen cell technology
- Ultimately increase fuel efficiency to 54 mpg and increase share of zero-emission vehicles to 55 percent of statewide fleet in order to help achieve state GHG and PM emission goals.

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SYSTEM MANAGEMENT

<p>16% of Freeway System has ramp metering</p> <p>23% of freeway has necessary TOS equipment to manage non-recurrent congestion</p> <p>Traveler Information through the 511 and Use of Freeway CMSs</p> <p>Vehicle Infrastructure Integration Testbed Under Development</p> <p>10% of Transit System includes TransLink® in Full Operations</p>	<p>Educational Workshops on Ramp Metering</p> <p>Increase in Fleet of VII-Equipped Vehicles</p> <p>40% of Transit System includes TransLink® in Full Operations</p>	<p>Reduction of Impact of Non-Recurrent Congestion.</p> <p>Improved Incident Clearance Times.</p> <p>County and Public Support for Ramp Metering; Deploy in Remaining Major Freeway Corridors</p> <p>Increase in Dynamic Mode Shifts in Response to Real-Time Situation</p> <p>70% of Transit System includes TransLink® in Full Operations</p>	<p>Negotiations with Caltrans and Other Operators on Joint Operating and Management Policies</p> <p>100% of Transit System includes TransLink® in Full Operations</p>	<p>Fully Managed and Controlled System, with Integrated Operation between the Freeway, Arterials, and Transit</p> <p>Sustainable O&M Budget for Technology</p> <p>Efficient and Safe System Through Automated VII Technologies</p> <p>Ability to Leverage New & Emerging Technology</p> <p>Mature System Interoperable between Parking & Fastrak</p>
<h3 style="color: blue;">AIR QUALITY/GHG EMISSIONS</h3>				
<p>Current CAFÉ Standards</p> <p>Global Warming Solutions Act</p> <p>Hybrid, alternative fuel vehicles</p>	<p>Implement Global Warming Solutions Act</p>	<p>More Stringent CAFÉ Standards</p> <p>Phase 2 Pavley Rules (fleetwide average of 44 mpg)</p> <p>Technological Changes that Change Business Practices & Related Home-to-Work Travel</p>	<p>Cleaner Fuels & Improved Vehicle Technology</p> <p>Increase in Hybrid Auto Ownership</p> <p>Another Wave of Hybrid-Type Vehicle Technology</p>	<p>Fleetwide Average of 54 mpg</p> <p>55% Zero-Emission Vehicles Fleet</p>
<p>Today</p>				<p>Target Attainment</p>

POLICY BRIEF #5: INDIVIDUAL ACTIONS

Where We Are Today

- The automobile is still the primary transportation mode, wherein currently 84 percent of trips are by auto, 10 percent are by biking/walking, and 6 percent by transit.
- While simply driving less is likely to have the biggest impact relative to the Transportation 2035 Plan's performance objectives.
- Over 90 percent of traffic collisions are attributable to a human factors rather than infrastructure issues and could be addressed through education and enforcement. Pedestrian [and bicycle](#) safety, aggressive driving, motorcyclist safety and driving decisions about rights of way and turning are bigger problems in the Bay Area than they are statewide.
- Substantial transit infrastructure investments have had little impact on mode split over time.
- Transit is a popular option in some Bay Area corridors where it is time and cost competitive (no toll plazas, avoidance of high San Francisco parking charges).

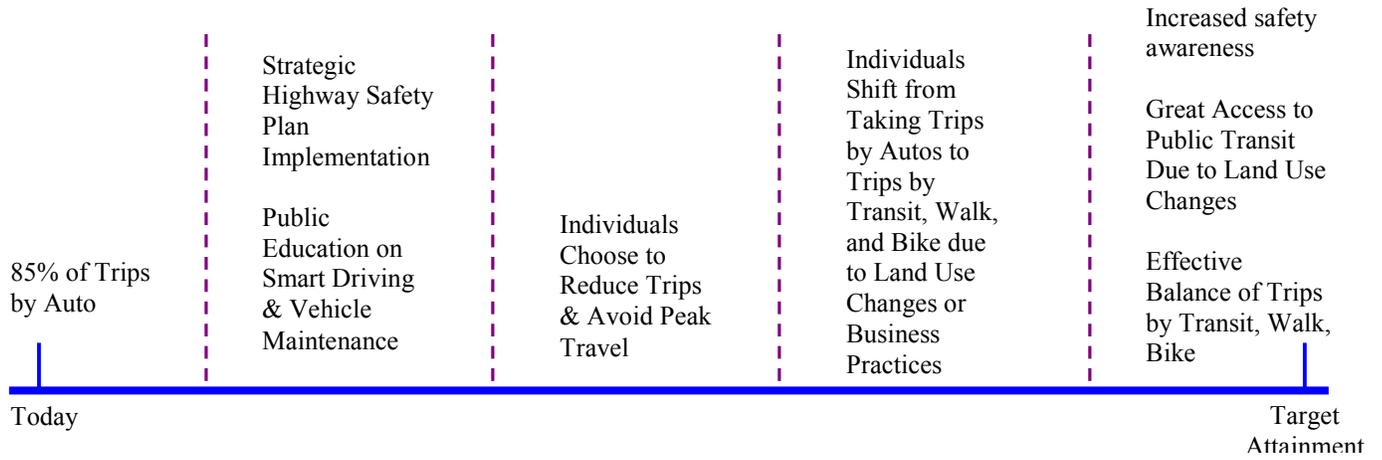
Challenges to Overcome

- Large mode shifts in the nearer term are not likely; our surveys have indicated that most people who drive do so because they believe it is not convenient or practical to use other modes.
- Attitude and preference change will only work if people have an environment in which they can effectuate their new attitudes and choices through new behaviors (e.g. waste-recycling, climate change awareness).
- While more compact land use can lead to less driving overall, such impacts would be considered to be more long-term.
- Many disparate [public awareness and education](#) activities are underway at the local level. A coordinated approach is needed among regional agencies to support robust public awareness [and education](#) programs.
- Education and enforcement activities are not generally eligible for the traditional funding sources with which MTC works. A comprehensive approach to regional safety will require partnerships with health departments and law enforcement.

Where Do We Want to Be?

- *Increase Public Education* - Encourage changes in attitude and behavior through a concerted public education program linking desired environmental, transportation, and safety outcomes with personal behavioral choices. [Also, collaborate with established employer networks to pursue telework, carpools/vanpools, transit planning and other related demand management strategies.](#)
- *Pursue Enhanced Enforcement to Improve Safety* - Commit to a legislative advocacy platform that secures additional funding and commitment to target known problems like speeding, drunk driving and encroachment on pedestrian rights of way.
- *Build Incentive/Pricing Programs* - Provide a combination of various incentive programs (e.g. vehicle buy-back or "feebates" for high MPG vehicles, ~~expanded bicycle and pedestrian facilities~~) and pricing strategies (e.g. parking pricing, variable tolls, carbon taxes) to encourage voluntary or induced attitudes and behaviors.
- *Enable Land Use Changes* - Provide incentives for planned communities (priority development areas) that allow non-driving access and travel through appropriate densities, use mixes and place designs.

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