appendix three

transportation control measures

Transportation Control Measures (TCMs) are strategies to reduce vehicle emissions. The federal TCMs shown below were added over successive revisions to the State Implementation Plan (SIP). With the exception of the five new TCMs (A-E), the original set of 28 TCMs has been completed.

Federal TCMs in the State Implementation Plan

TCM Number	Federal Transportation Control Measure
Original TCMs from 1982 Bay Area Air Quality Plan	
TCM 1	Reaffirm commitment to 28 percent transit ridership increase between 1978 and 1983
TCM 2	Support post-1983 improvements in the operators' five-year plans and, after consultation with the operators, adopt ridership increase target for the period 1983 through 1987
TCM 3	Seek to expand and improve public transit beyond committed levels
TCM 4	High-occupancy-vehicle (HOV) lanes and ramp metering
TCM 5	Support RIDES efforts
TCM 6*	Continue efforts to obtain funding to support long-range transit improvements
TCM 7	Preferential parking
TCM 8	Shared-use park-and-ride lots
TCM 9	Expand commute alternatives program
TCM 10	Information program for local governments
TCM 11**	Gasoline Conservation Awareness Program (GasCAP)
TCM 12**	Santa Clara County commuter transportation program
Contingency Plan TCMs Adopted by MTC in February 1990 (MTC Resolution 2131)	
TCM 13	Increase bridge tolls to $1.00 on all bridges
TCM 14	Bay Bridge surcharge of $1.00
TCM 15	Increase state gas tax by 9 cents
TCM 16*	Implement MTC Resolution 1876, Revised — New Rail Starts
TCM 17	Continue post-earthquake transit services
TCM 18	Sacramento-Bay Area Amtrak service
TCM 19	Upgrade Caltrain service
TCM 20	Regional HOV System Plan
TCM 21	Regional transit coordination

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* Deleted by EPA action from 1999 Ozone Attainment Plan

** Deleted by EPA action from 1999 Ozone Attainment Plan, but retained in Carbon Monoxide Maintenance Plan

TCM Number	Federal Transportation Control Measure
TCM 22	Expand Regional Transit Connection ticket distribution
TCM 23	Employer audits
TCM 24	Expand signal timing program to new cities
TCM 25	Maintain existing signal timing programs
TCM 26	Incident management on Bay Area freeways
TCM 27	Update MTC guidance on development of local Transportation Systems Management (TSM) programs
TCM 28	Local TSM Initiatives

New TCMs in 2001 Ozone Attainment Plan (Being Implemented)

TCM A	Regional Express Bus Program
TCM B	Bicycle/Pedestrian Program
TCM C	Transportation for Livable Communities
TCM D	Expansion of Freeway Service Patrol
TCM E	Transit access to airports

The 19 proposed state Transportation Control Measures (TCMs) in the Draft 2005 Bay Area Ozone Strategy have been updated pursuant to the requirements of the California Clean Air Act (CCAA). The proposed TCMs include transit service improvements, rideshare programs, bicycle and pedestrian enhancements, and land-use, pricing, and traffic management strategies. The implementation steps outlined for each TCM include both near-term and long-term implementation. A full description of these state TCMs will be included in the *Draft 2005 Bay Area Ozone Strategy* publication, available in Summer 2005.

State TCMs Proposed in the Draft 2005 Bay Area Ozone Strategy

TCM Number	State Transportation Control Measure	Implementation Steps
TCM 1	Support voluntary employer-based trip reduction programs	• Provide core support for employer programs, based on an assessment of employer needs and the level of employer interest. Potential support includes assistance in developing or enhancing employer programs, information and referrals, employer networks, and programs to recognize outstanding employer programs. • Support legislation to maintain and expand incentives for employer programs, such as tax deductions and/or tax credits for employer efforts to promote ridesharing, transit, and other commute alternatives • Seek legislation to create stronger voluntary programs for all employers or to require certain minimum elements for public employers
TCM 2	Adopt employer-based trip reduction rule	*TCM deleted* — Health and Safety Code Section 40929 does not permit air districts to require mandatory employer-based trip reduction programs.
TCM 3	Improve local and areawide bus service	• Replace worn-out transit buses with clean-fuel buses and retrofit existing diesel buses with diesel emission control technology • Sustain the existing Regional Express Bus Program • Assist further planning work on enhanced bus and Bus Rapid Transit concepts • Sustain transit service to airports • Restore local bus routes that were eliminated due to economic recession • Implement new Enhanced Bus and Bus Rapid Transit services and additional Lifeline Transit services, and expand of Regional Express Bus Programs as funds become available
TCM 4	Upgrade and expand local and regional rail service	• Upgrade and expand local and regional rail service • Implement MUNI Metro Third Street Light Rail initial operating segment from Downtown SF to Hunter's Point • Implement Caltrain Express/Rapid Rail Phase 1 ("Baby Bullet") to San Francisco • Extend Tasman East and Vasona light-rail transit (LRT) in Santa Clara County • Extend BART to Warm Springs, eBART to Eastern Contra Costa County, tBART to Livermore/Amador Valley and implement Silicon Valley Rapid Transit Corridor and an Oakland International Airport connector • Implement MUNI Metro Central Subway in San Francisco • Implement Caltrain Downtown Extension/rebuild TransBay Terminal • Implement Downtown East Valley LRT in Santa Clara County • Implement new Marin/Sonoma Commuter Rail Service between Cloverdale and a San Francisco-bound ferry service • Implement an additional Capitol Corridor peak-period commuter service between Vacaville and Oakland • Implement Dumbarton Rail Service connecting BART and Caltrain over a rebuilt Dumbarton rail bridge
TCM 5	Improve access to rail and ferries	• Develop demonstration program for station car and bike station concepts at select regional transit centers • Determine long-term funding needs for existing shuttles and examine funding options • Implement Safe Routes to Transit to improve bicycle and pedestrian access • Complete Regional Transit Connectivity Plan • Develop a master plan for innovative secure bicycle storage strategies at key transit hubs

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TCM Number	State Transportation Control Measure	Implementation Steps
TCM 6	Improve interregional rail service	• Implement additional interregional rail service in Capitol (Auburn–Sacramento–Oakland–San Jose) Corridor and track enhancements • Implement additional Altamont Corridor Express rail service and track enhancements • Implement high-speed rail service between Los Angeles and the Bay Area
TCM 7	Improve ferry service	• Conduct initial planning for new ferry service • Implement new high-speed low emission ferry to service Vallejo to San Francisco route • Expand existing ferry service between: Oakland/Alameda and San Francisco, and Larkspur and San Francisco • Implement new ferry service between Berkeley/Albany and San Francisco, and South San Francisco and San Francisco • Implement new intermodal transit hub at Vallejo Ferry Terminal • Expand berthing capacity at the San Francisco Ferry Terminal • Implement hydrogen fuel cell ferry demonstration project from Treasure Island to San Francisco • Assist ferry operators in converting vessel engines to lower emission engines • Study and potentially implement new service between Richmond, Hercules/Rodeo, Martinez, Redwood City and San Francisco; Port Sonoma and San Francisco; and Oakland and San Francisco airports
TCM 8	Construct carpool/express bus lanes on freeways	• Expand existing HOV network, based on 2003 Transportation Improvement Program, where beneficial to air quality. Special attention should be paid to express bus operations to maximize benefits for transit. Monitor and adjust occupancy requirements and hours of operation to maximize air quality and mobility benefits. • Implement HOV support facilities such as park & ride lots at various locations • Implement additional HOV lanes and support infrastructure identified in the Regional Transportation Plan, where beneficial to air quality
TCM 9	Improve bicycle access and facilities	• Fund Regional Bicycle Plan and Safe Routes to Transit improvements • Continue Transportation Development Act (TDA) Article 3, Transportation for Livable Communities (TLC) and Transportation Fund for Clean Air (TFCA) funding for bike improvements • Develop on-line bicycle mapping tool as part of the regional 511 traveler information number • Promote Bike to Work Week/Day • Encourage local jurisdictions to develop safe and convenient bicycle lane and route networks, provide secure bike racks and storage, and require bicycle access and amenities as conditions of approval of development projects • Encourage public education about bicycle safety for both bicyclists and motorists
TCM 10	Youth transportation	• Encourage walking and bicycling to school through the Safe Routes to Schools Program • Establish special carpool formation services for parents, students and staff at Bay Area elementary and secondary schools • Replace school buses with clean-fuel vehicles • Offer transit ride discounts to youth and students
TCM 11	Install freeway traffic management systems	• Integrate traffic management features into new freeway construction projects • Maintain current level of Freeway Service Patrol (FSP) • Maintain 511 transit information service and improve and customer convenience • Extend ramp metering in major freeway corridors • Seek funding for full deployment of Caltrans' Traffic Operation System/Traffic Management Center project • Expand FSP to other routes and times of the day
TCM 12	Arterial management measures	• Maintain current technical assistance program for local jurisdictions that seek to retime signals, including the evaluation of bus priority treatments • Continue TFCA program to fund arterial management projects where air quality benefits can be demonstrated • Coordinate the timing of an additional 1,200 signals and continue updating timing plans • Work with bus operators to provide priority treatment along major bus routes

TCM Number	State Transportation Control Measure	Implementation Steps
TCM 13	Transit use incentives	• Implement Translink® (universal fare card) on transit systems throughout the region • Implement improvements to the 511 transit information service • Encourage employers, transit operators, local governments and others to promote and expand employer-based transit subsidy programs like the Commuter Check and EcoPass programs • Improve signage at transit transfer hubs • Deploy real-time transit arrival information • Increase passenger amenities at transit hubs and stops • Complete Alameda and Contra Costa County transit centers identified in AC Transit's Comprehensive Service Plan
TCM 14	Carpool and vanpool services and incentives	• Maintain current programs of the Regional Ridesharing Program and increase efficiency in delivering services • Explore innovative concepts such as real-time ridematching and more formal pick-up/drop-off locations for casual carpoolers • Explore options for expanding medium-distance (15–30 miles) vanpools
TCM 15	Local land-use planning and development strategies	MTC will: • Implement its 5-point transportation and land-use platform including a new planning grant program to fund station area plans around major transit facilities • Maintain funding for expanded TLC planning and capital grant programs and HIP program • Continue providing Transportation Planning and Land-Use Solutions (T-PLUS) funding to congestion management agencies to promote community revitalization projects • Utilize a Caltrans grant to examine opportunities for transit-oriented development along major transit corridors • Develop incentives and conditions to promote supportive land use policies around major new transit investments BAAQMD will: • Continue to fund bicycle projects, traffic-calming, shuttles, low emission vehicles, trip reduction programs and other clean air projects through the TFCA program • Continue to provide technical assistance to local jurisdictions on air quality analyses in the environmental review process • Continue to encourage cities and counties to reduce emissions from sources other than motor vehicles including lawn and garden equipment, wood stoves and fireplaces, and residential and commercial uses ABAG will: • Periodically monitor and update its Smart Growth demographic projections • Promote multi-jurisdiction planning along select transit corridors to encourage transit-oriented development MTC, ABAG and the BAAQMD will: • Develop financial and other incentives and technical assistance to encourage innovative parking strategies such as reduced parking, parking fees, parking cash-out, shared parking and other parking programs • Pursue legislative changes to remove barriers and provide incentives for smart growth • Promote carsharing as a way to reduce parking requirements • Monitor indirect source mitigation programs in other regions for Bay Area feasibility • Provide technical assistance to local government agencies • Publicize noteworthy examples of local clean air plans, policies and programs, as well as endorse noteworthy development projects • Study opportunities to promote location efficient mortgages (LEMs) to encourage home purchases near transit

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TCM Number	State Transportation Control Measure	Implementation Steps
TCM 16	Public education/ intermittent control measures	• Continue Spare the Air (STA) notices to media, employers, public agencies and individuals, with an emphasis on reactive organic gases (ROG) reductions, obeying freeway speed limits in electronic freeway signs and other outreach efforts • Expand STA notices to add emphasis on ROG reductions, obeying freeway speed limits, and discouraging use of pleasure craft • Expand the Clean Air consortium to include cities and counties, as well as other public agencies • Target major commercial airports and their tenants for greater participation in the STA program • Increase coordination between the Bay Area's STA program with the San Joaquin Valley's STA program • Continue public education program on the proper maintenance and operation of motor vehicles to reduce air pollution • Study effectiveness and costs of free transit on Spare the Air days • Explore possible legislative approaches to formalize and strengthen episodic approaches
TCM 17	Conduct demonstration projects	• Promote demonstration projects to develop new strategies to reduce motor vehicle emissions. Potential projects include: – Low and zero emission vehicles (LEV) and refueling infrastructure – Parts replacement program for middle-aged cars – Heavy duty diesel vehicle idling – Carsharing • Monitor Phase 1 projects and expand depending on effectiveness and resources available
TCM 18	Implement transportation pricing reform	• Advocate for legislative authority to develop and promote revenue measures for: – Congestion pricing on bridges – High-occupancy/toll lanes – Regional and state gas tax increases of up to $.50 per gallon – Regional vehicle miles traveled (VMT) fees – Taxes on diesel fuel – Emissions-based vehicle registration fees
TCM 19	Improve pedestrian access and facilities	• Review and comment on general/specific plan policies to promote development patterns that encourage walking and circulation policies. Emphasize pedestrian travel and encourage amending zoning ordinances to include pedestrian-friendly design standards. • MTC will continue to fund local pedestrian improvement projects through the TLC program, and support the Pedestrian Safety Task Force and associated pedestrian safety programs. • TFCA program will continue to fund pedestrian improvement projects to reduce motor vehicle trips and emissions. • Continue to identify and fund planning projects that enhance pedestrian movement in neighborhoods, downtowns and near transit stops • Continue funding specific improvements through a variety of funding sources • Support Safe Routes to Schools
TCM 20	Promote traffic-calming measures	• Promote traffic-calming measures • Fund traffic-calming projects such as pedestrian-exclusive streets, residential and neighborhood traffic calming measures, and arterial and major route traffic-calming measures • Include traffic-calming strategies in the transportation and land use elements of general and specific plans • Encourage area-wide traffic-calming plans and programs • Include traffic-calming strategies in capital improvements programs