

CHAPTER 3

TRANSPORTATION

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TRANSPORTATION

CATEGORIES OF MOBILE SOURCE EMISSIONS

Mobile sources are motorized vehicles, which are classified as either on-road or off-road. On-road mobile sources typically include automobiles and trucks that operate on public roadways. Off-road mobile sources include aircraft, ships, trains, and self-propelled construction equipment that operate off public roadways. Mobile source emissions are accounted for as both direct source emissions (those directly emitted by the individual source) and indirect source emissions that by themselves do not emit air contaminants but indirectly cause the generation of air pollutants by attracting vehicles. Examples of indirect sources include office complexes, commercial and government centers, warehouses/distribution centers, sports and recreational complexes, rail yards, port terminals, and residential developments that attract mobile source emissions.

TRANSPORTATION AND INDIRECT SOURCE CONTROL PROGRAMS

Indirect sources are generally considered to be sources which generate or attract motor vehicle activity. State law is clear that the creation of the AQMD does not constitute an infringement on the existing authority of cities and counties to plan or control land use, and does not provide or transfer new land use authority to the AQMD, SCAG or CARB (H&SC § 40414). Historically, cities and counties in the South Coast basin have determined appropriate land uses through the planning process, while the AQMD imposes air quality requirements on sources of air pollution operating within the local jurisdictions. The relationship between the AQMD and the cities and counties is one of concurrent jurisdictional authority over sources of air pollution. Therefore, the regulation of indirect sources by the AQMD falls within the existing shared authority with the local jurisdictions and would not infringe on city and county land use decisions. This is supported by state law which specifies the authority of the AQMD to reduce or mitigate emissions from indirect and area wide sources of air pollution but does not constitute an infringement on the existing authority of counties and cities to plan or control land use (H&SC § 40716(a)).

The California Clean Air Act (CCAA) authorizes the AQMD to consider Indirect Source Control (ISC) programs in the development of the AQMP, and CARB has provided guidance for air districts and local governments that advocates the development of ISC programs as an effective tool to attain and maintain state ambient air quality standards. Generally the AQMD relies on the CEQA process to mitigate indirect source emissions. SCAG has the responsibility to coordinate the efforts of the counties and cities in the process of developing and reviewing plan elements which meet the requirements of state and federal law, and local needs relating to transportation, land use, demographic projections, employment, housing, and other matters of local concern (H&SC § 40464).

The CCAA defines the term “transportation control measure” (TCM) as “any strategy to reduce vehicle trips, vehicle use, vehicle miles traveled, vehicle idling, or traffic congestion for the purpose of reducing motor vehicle emissions” (H&SC § 40717(g)). The TCMs must be at a stringency level commensurate with the air quality designation (H&SC § 40918-40920). Indirect source control measures in the 2003 AQMP are broadly described in the TCMs developed by SCAG. There is inherent overlap between ISC strategies and TCMs, and the distinction between the two is subtle. Generally, TCMs are designed to implement a local or regional strategy to change travel behavior. In contrast, an indirect source control measure may rely on TCMs or stand alone to affect a change in travel behavior that occurs to and from a specific indirect source.

According to the CARB document, *Guidance for the Development of Indirect Source Control Programs*, land use design strategies that are sensitive to air quality issues, such as incorporating mixed uses into a land use project, can reduce vehicle trips by as much as 50 percent. Design strategies for site plans that are sensitive to air quality are also effective in reducing mobile source emissions. For example, a site plan design that incorporates amenities such as bicycle racks and pedestrian paths may reduce vehicle trips up to 10 percent.

CONGESTION AND TRANSPORTATION SYSTEM MANAGEMENT

Land use development may affect local transportation/circulation systems by increasing traffic to congested roadways and reducing vehicle speeds. The resulting increase in mobile source emissions adversely affects regional air quality, especially ozone levels and localized carbon monoxide concentrations. Under the regional Congestion Management Plan (CMP), local governments are required to adopt and implement a program to analyze the impacts of land use decisions on their portion of the CMP transportation system. If the project would cause traffic service at an intersection to deteriorate below level of service E (considerable congestion) or the level established in the CMP, the resulting congestion should be addressed by improvements, programs, or actions that either mitigate the deficiency or measurably improve the level of service of the system. In fact, the CMP requires that the impact be mitigated through the development of a deficiency plan. AQMD staff are available to assist local agencies identify areas where a project or series of projects may bring increased congestion to a segment of roadway.

The following questions should be asked regarding the potential of a development project to adversely affect air quality:

- Does the site design for public right-of-way and pedestrian walkways encourage pedestrian traffic? If not, can the site be modified to encourage pedestrian traffic?
- Is onsite traffic circulation designed to reduce vehicle queuing? If not, can the project layout be modified to minimize vehicle idling emissions?

- Are links between the project and bike/pedestrian pathways adequate to facilitate walking and bicycling rather than driving? If not, can the site be modified to accommodate bike/pedestrian pathways?
- Do residential-specific plans incorporate mixed uses such as banks, post offices, etc., to minimize vehicle miles traveled (VMT) but avoid incompatible land use between sensitive receptors and air pollution sources? If not, can mixed uses be incorporated?
- Is the project accessible to transit facilities? If not, can the project design be modified to access public transit facilities?
- Do developments in transit corridors provide sustainable densities to support transit ridership? If not, how could those developments be modified to achieve minimum densities?
- Could the project affect the levels of service on the Congestion Management Plan (CMP) transportation system? If so, what would be the impact on the transportation system?

Transportation System Management

Transportation System Management (TSM) is a means of improving the efficiency of the existing transportation system through more effective utilization of facilities. TSM programs that discourage single-occupant vehicle trips and promote flexible work hours may improve levels of service on city streets. Overall, effective TSM programs that reduce the existing traffic congestion and VMT while increasing the carrying capacity of the transportation system will reduce air pollution. The California Department of Transportation (CALTRANS) lists the following TSM measures that could be appropriately included in the air quality element:

- programs to improve traffic flow
- preferential treatments for transit and other HOV strategies
- provisions for pedestrians and bicyclists
- management/control of parking
- changes in work schedules, fares and tolls
- actions to reduce motor vehicle use in congested areas
- improved public transit

CALTRANS and local transit agencies recommend uniform design features that should be considered in the planning stages of some TSM measures. For example, the Riverside Transit Agency provides guidelines for local planners, developers and decision makers that outline uniform standards for the design and placement of bus-related facilities. The document, titled *Design Guidelines for Bus Transit*, defines criteria, dimensions, and space requirements for the following transit facilities and amenities:

- pedestrian and bicycle access-ways connecting with transit

- bus stops, signs, and hardware (e.g., benches, shelters, lighting)
- park and ride facilities
- transit centers

Cities are encouraged to consider all CALTRANS TSM measures in their air quality elements and to collaborate with CALTRANS and local transit agencies to reduce air pollution through efficient design and management of transportation facilities and fleets.

Cities may utilize a portion of the state motor vehicle registration fees to fund TSM measures. Assembly Bill 2766 authorizes a \$4 motor vehicle fee surcharge at the time motor vehicles are registered to be used solely to fund projects and programs that reduce air pollution from motor vehicles, as well as to fund mobile-source related planning, monitoring, enforcement, and technical studies necessary to implement the California Clean Air Act. The AQMD subvenes 40 percent of the total AB 2766 revenue Subvention Funds to cities and counties within the air district based on the prorated share of the jurisdiction's population. For many cities, the AB 2766 revenue provides a vital funding source to implement TSM measures and AQMP mobile source control measures. The AQMD provides an AB 2766 Resource Guide as a framework for use of the funds to help local governments evaluate and select cost-effective projects that are eligible for funding. The Resource Guide describes typical projects that reduce vehicle emissions from the following categories:

- purchase of alternative-fueled vehicles
- abatement of vehicle emissions
- implement land use strategies to reduce vehicle emissions
- public transportation programs
- traffic management projects
- transportation demand programs
- market-based strategies
- promote bicycle use
- PM₁₀ reduction strategies
- public education

A California statewide regulation now limits diesel-fueled commercial motor vehicle idling. Effective February 1, 2005, operators of diesel-fueled commercial motor vehicles over 10,000 pounds are prohibited from idling more than five minutes when not engaged in work activity. California state law prohibits the idling of a vehicle's primary diesel engine for greater than five minutes at any location with some exceptions. The use of diesel auxiliary power systems and main engines are limited to five minutes when within 100 feet of homes or schools while a driver is resting. The idling rules are among a series of rules adopted by the CARB as part of its Diesel Risk Reduction Plan. Efforts by local jurisdictions to encourage residents to turn their engines off when they park, saves fuel and emissions. Cities may adopt ordinances to impose more stringent engine idling requirements than those imposed by the state or the local air district.

Cities are encouraged to work collaboratively with non-government organizations and consult with the broader community about the mix of anti-idling initiatives (e.g., workplace-based, school-based, municipal by-law, and/or community outreach) that will work best in their area. Further, cities could determine if vehicle idling is a concern at municipally-owned or controlled facilities (e.g., city hall, community centers) and implement measures to discourage idling. Local jurisdiction environmental advisory or air quality committees are good forums to start to discuss the health effects of emissions from idling vehicles and the options available to reduce or eliminate those emissions. Local jurisdictions may consider partnering with other community organizations (e.g., environmental groups, school boards) to implement a community anti-idling campaign or project and consider participating in a “fleet challenge” with other municipalities or fleet owners in the community.

SUGGESTED GOAL, OBJECTIVES AND POLICIES/STRATEGIES

Goal 2 A reduction in air pollution from mobile sources

Objective 2.1 Reduce motor vehicle trips and vehicle miles traveled.

Suggested Policies/Strategies to Reduce Motor Vehicle Trips and VMT:

- AQ 2.1.1** Seek new cooperative relationships between employers and employees to reduce vehicle miles traveled (VMT).*
- AQ 2.1.2** Work with large employers and commercial/industrial complexes to create Transportation Management Associations and to implement trip/VMT reduction strategies. (For additional information please refer to AQMD’s Rule 2202 Employee Commute Reduction Program Guidelines.)*
- AQ 2.1.3** Cooperate with surrounding jurisdictions to provide incentives, adopt regulations and develop transportation demand management programs that reduce and eliminate vehicle trips and VMT.*
- AQ 2.1.4** Collaborate with local transit agencies to:*
- develop programs and educate employers about employee rideshare and transit
 - establish mass transit mechanisms for the reduction of work-related and non-work related vehicle trips
 - promote mass transit ridership through careful planning of routes, headways, origins and destinations, and types of vehicles
- AQ 2.1.5** Identify and develop non-motorized transportation corridors (e.g., bicycling & walking trails).*

- AQ 2.1.6** Provide merchants with fliers/posters that publicize public mass transit schedules to encourage their customers to use mass transit.*
- AQ 2.1.7** Outline a plan of mobile source enforcement methods such as periodic mobile source (e.g., trucks and buses) checkpoints throughout the City to enforce opacity regulations. Technical assistance can be sought from by CARB and the California Highway Patrol (CHP) on enforcement issues.
- AQ 2.1.8** Provide incentives such as preferential parking for alternative-fuel vehicles (e.g., CNG or hydrogen).

Objective 2.2 Establish necessary policies and requirements to reduce indirect source emissions.

Suggested Policies/Strategies Related to the Reduction of Mobile Source Emissions at Special Event Centers:

- AQ 2.2.1** Establish requirements for special event centers to provide off-site parking and park-n-ride facilities at remote locations. Remote parking should be as close as practicable to the event site and the operator should operate or provide alternative-fuel vehicles for shuttles.*
- AQ 2.2.2** Promote peripheral parking by increasing on-site parking rates and reduced peripheral parking rates.*
- AQ 2.2.3** Encourage special event center operators to provide discounted transit passes with event tickets or offer discounted on-site parking for carpooling patrons (four or more persons per vehicle).*

Objective 2.3 Reduce mobile source emissions through efficient management of transportation facilities and system infrastructure using cost-effective management and innovative demand-management techniques.

Suggested Policies/Strategies Related to TSM efficiency:

- AQ 2.3.1** Synchronize traffic signals throughout the City and with adjoining cities and counties while allowing free flow of mass transit systems.*
- AQ 2.3.2** Construct and improve traffic signals with Automated Traffic Surveillance and Control systems at appropriate intersections.*
- AQ 2.3.3** Reduce traffic delays through highway maintenance, rapid emergency

response, debris removal, and elimination of at-grade railroad crossings.*

- AQ 2.3.4** Encourage businesses to schedule deliveries at off-peak traffic periods through the land use entitlement or business regulation process.
- AQ 2.3.5** Encourage the construction of HOV lanes whenever necessary to relieve congestion and reduce air pollution. Emphasize the use of HOV lanes, as well as light rail and bus routes, and pedestrian and bicycle facilities to improve mobility and air quality.
- AQ 2.3.6** Monitor traffic and congestion to determine when and where the City needs new transportation facilities to achieve increased mobility efficiency.*
- AQ 2.3.7** Work with local transit providers to incorporate best design practices for transit into new development projects.*
- AQ 2.3.8** Adopt a Trip Reduction Ordinance that is equivalent to or more stringent than the requirements of AQMD Rule 2202 (refer to Rule 2202 (I)).*
- AQ 2.3.9** Implement the required components of the Congestion Management Plan (CMP), and continue to work with (applicable body/organization) on annual updates to the CMP.
- AQ 2.3.10** Support SCAG's Regional Growth Management Plan by developing intergovernmental agreements with appropriate governmental entities such as the (Council of Government), sanitation districts, water districts, and those sub-regional entities identified in the Regional Growth Management Plan.
- AQ 2.3.11** Replace existing vehicles in the city fleet with the cleanest vehicles commercially available.*

Objective 2.4 Secure all available funding from local, state and federal sources to improve TSM cost effectiveness

Suggested Policies/Strategies Related to Funding Resources:

- AQ 2.4.1** Develop and coordinate a plan with local agencies for cost-effective use of AB 2766 funds so that revenue is used for projects and programs identified in the AQMP.
- AQ 2.4.2** Develop and adopt a policy to utilize federal Congestion Mitigation and Air Quality Improvement (CMAQ) funds in coordination with regional agencies in a manner consistent with projects approved in the AQMP.

AQ 2.4.3 Apply annually to the AQMD Mobile Source Reduction Committee (MSRC) for AB 2766 “Local Government Match Program” grants for projects that reduce mobile source emissions (e.g., purchases of alternative-fueled vehicles).

AQ 2.4.4 Seek opportunities to pool AB 2766 revenue with neighboring cities to fund programs that will reduce mobile source emissions (e.g., traffic synchronization, fueling station infrastructure, teleconferencing facilities).

Objective 2.5 Advocate for stricter regulations on mobile source emissions.

Suggested Policies/Strategies Related to Advocacy:

AQ 2.5.1 Cooperate with federal and state agencies and the AQMD in their efforts to reduce exposure from railroad, truck, and ship emissions.

AQ 2.5.2 Collaborate with the USEPA, CARB, AQMD, and warehouse owners to create programs and ordinances to minimize the amount of diesel emissions related to warehousing operations.

Objective 2.6 Purchase and operate alternative fuel vehicles and encourage the greater use of alternative fuel vehicles

Suggested Policies/Strategies Related to the Increased Use of Alternative Fuels:*

AQ 2.6.1 Support full compliance with the AQMD’s and CARB’s Fleet Rules.

AQ 2.6.2 Manage the City’s transportation fleet fueling standards to achieve the greatest number of alternative fuel vehicles in the City fleet.

AQ 2.6.3 Encourage City contractors who operate vehicles within the City boundaries to operate alternative fuel vehicles.

AQ 2.6.4 Support the development of alternative fuel infrastructure that is publicly accessible.

AQ 2.6.5 Establish programs for priority or free parking on City streets or in City parking lots for alternative fuel vehicles.

AQ 2.6.6 Join or continue current membership with a Clean Cities Coalition.

Objective 2.7 Reduce emissions from idling vehicles.

Suggested Policies/Strategies to Reduce Emissions From Idling Vehicles:*

- AQ 2.7.1** Enforce a statewide regulation that requires school buses and other heavy-duty vehicle operators to turn off their engines if they are idling within 100 feet of a school.

- AQ 2.7.2** Adopt an ordinance that restricts vehicle engine idling for the purpose of controlling or mitigating vehicle emissions or abating a nuisance.

- AQ 2.7.3** Design traffic plans, including the development of suggested routes, to minimize diesel truck idling.

*Potential funding for these policies has been identified in Appendix E.