

CEQA Air Quality Planning and Permitting Handbook

Appendix C

BEST AVAILABLE MITIGATION MEASURES

Best Available Mitigation Measures (BAMM)

The mitigation measures listed in the following table are divided into categories based on the project's anticipated end use: R= Residential; C= Commercial; or M=Mixed-use.

Mitigation points are used to quantify the approximate emission reduction factor associated with a particular mitigation measure. The points are equivalent to a percentage of emission reduction associated with using a particular measure in a project. For example, implementing mitigation measures in a project that adds up to 15 mitigation points means that the measures are anticipated to make a 15% reduction in the projects anticipated operational emissions. This would allow for a 15% reduction in the Indirect Source Fee (assuming CalEEMod analyses did not have fields to allow specific mitigations to be modeled), as well as a 15% reduction in the modeled emissions for use in CEQA analyses.

Mitigation points will not be allowed for measures that the District does not believe to be real, quantifiable, verifiable, or enforceable. The District will also disallow or discount measures that appear to overlap in order to prevent double counting.

Voluntary Offsite Mitigation Projects

Funding for offsite mitigation projects is done on a voluntary basis by which a project proponent may pay fees through the District Rule 2:11D Indirect Source Fee process, or to sponsor a specific air pollution emission reduction project approved by the District in order to receive mitigation credit. All funding arrangements occur between the District and the project proponent. Voluntary off-site mitigation allows a proponent to fund a mitigation project of their choosing.

All projects should utilize the most current version of CalEEMod to estimate the project's emission. Any mitigation measures selected from within the CalEEMod analysis must not overlap with measures selected from outside of the CalEEMod model to ensure that double credit is not taken.

Example Project – 200 Single Family Homes

A project is proposed to construct 200 single family residences. The project proponent enters the project details into CalEEMod to determine the project's long-term Area/Operational Phase emission impacts. It is determined that the sum of the Area/Operational Reactive Organic Gas (ROG), pounds per day emissions for the project exceeds the 25 pounds per day and that the PM10 is less than the 80 pound per day threshold (Level B). The ROG emission estimates are at 40 pounds per day.

District CEQA requirements- The modeling indicates that project impacts would likely lead to a Mitigated Negative Declaration or EIR after the requirements of Standard Mitigation Measures (SMMs) ~~for~~ were imposed, per CEQA Handbook Tables 1-1 and 2-1, due to potentially significant impacts. The project proponent would then select appropriate BAMMs in accordance with Section 5.1 of the CEQA Handbook as necessary to document other onsite reductions the Air Quality Planning and Permitting Handbook, April 2015

proponent is willing to do.

Example Project- 700 homes, 200 multi-family units, office park, commercial building

A mixed-use project is proposed to construct 700 single family residences, 200 multi-family units, a commercial office park, and other large commercial buildings. The project proponent enters the project details into CalEEMod to determine the project's long-term Area/Operational Phase emission impacts. It is determined that the sum of the Area/Operational Nitrogen Oxide (NO_x), pounds per day emissions for the project exceeds the 137 pounds per day, Level C. The NO_x emission estimates are at 150 lbs/day.

District CEQA requirements- Per CEQA Handbook Tables 1-1 and 2-1, this project will likely require an EIR. Determination of the level of significance will likely depend on the number of BAMMs that can be incorporated into the project. It is possible that the project proponent could demonstrate that the application of SMMs, BAMMs, and voluntary off-site reductions meet the requirements.

Best Available Mitigation Measures with point values

Measure #	Title	Use	Description	Mitigation Value
Bicycle/Pedestrian/Transit				
1	Bike parking	C,M	Project provides one bike rack space per 10 vehicle/employee parking spaces.	0.5
2	Showers, lockers	C,M	Project provides four clothes lockers and one shower for every 80 employees.	0.5
3	Bicycle parking at apartments or condos	R	Project provides one long-term bicycle locker or locked room with standard racks, or a standard rack in a location that is staffed or monitored.	0.5
4	Project is located within ½ mile of Class I or Class II bike lane	R,C,M	Project design includes a designated bicycle route connecting all units, on-site and off-site bicycle facilities to existing Class I or Class II bike lanes within ½ mile.	1.0
5	Pedestrian network	R,C,M	Project provides a pedestrian access network that internally links all uses and connects to all existing or planned external streets and pedestrian facilities contiguous with the project site.	1.0
6	Pedestrian barriers minimized	R,C,M	Site design and building placement minimize barriers to pedestrian access and interconnectivity. Physical barriers such as walls, berms, landscaping, and slopes between residential and non-residential uses that impede bicycle or pedestrian circulation are eliminated.	1.0
7	Bus shelter for existing transit service	R,C,M	Bus service provides headways of one hour or less for stops within ¼ mile; project provides safe and convenient bicycle/pedestrian access to transit stop(s) and provides essential transit stop improvements (i.e., shelters, route information, benches, and lighting; must be coordinated with TRAX).	0.5
8	Bus shelter for planned transit service	C	Project provides transit stops with safe and convenient bicycle/pedestrian access. Project provides essential transit stop improvements (i.e., shelters, route information, benches, and lighting) in anticipation of future transit service (must be coordinated with TRAX).	0.25
9	Display or kiosk	R,C,M	Project provides a display case or kiosk displaying transportation information in a prominent area accessible to employees or residents (must be coordinated with TRAX).	0.5
10	Traffic calming	R,C,M	Project design includes pedestrian/bicycle safety and traffic calming measures in excess of jurisdiction requirements. Roadways are designed to reduce motor vehicle speeds and encourage pedestrian and bicycle trips by featuring traffic calming features which may include: marked crosswalks, count-down signal timers, curb extensions, speed tables, raised crosswalks, raised intersections, median islands, tight corner radii, and roundabouts or mini-circles.	0.25 – 1.0

Best Available Mitigation Measures with point values

11	Mixed uses within ¼ mile of existing transit	R,C,M	Planned infrastructure must be in General Plan, Specific Plan or Community Plan (maximum credit is 1.0).	1.0
12	Mixed uses within ¼ miles of planned transit	R,C,M	Planned transit must be in Transit Masterplan, General Plan, Specific Plan or Community Plan (maximum credit is 1.0; cannot get points for both #11, #12).	1.0
Parking Measures				
13	Paid parking	R,C,M	Employee and/or customer paid parking system.	3.0 – 6.0
14	Minimum parking	R,C,M	Provide minimum amount of parking required.	0.5
15	Provide parking reduction	C,M	Office 25%, Medical office 8%, Commercial 5%, Industrial 10%, Additional 10 -20% if located along transit station (special review of parking is required; may require city/county variance or revision to ordinance).	2.5
16	Pedestrian pathway through parking	R,C,M	Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances.	0.5
17	Off street parking	R,C,M	Parking facilities are not adjacent to street frontage (.1 - not connected to pedestrian or bicycle access ways and not high density; 1.0 – parking facilities that face street frontage feature ground floor retail along street frontage; 1.5 – parking facilities not sited adjacent to public roads contiguous with project site, pedestrian entrances are located along street frontage.	0.1, 1.0, 1.5
18	Parking lot shading	R,C,M	Increase parking lot shading by 20% over code utilizing low pollution-emitting trees. Consult TCAPCD for low ozone forming potential shrubs and trees.	1.0
19	Electric vehicle charging	R,C,M	Provide electric vehicle charging facilities.	1.0
20	Preferential parking	C	Provide preferential parking for carpool/vanpools; covered carpool/vanpool spaces near entrance to building(s); loading and unloading facilities for transit and carpool/vanpool users.	0.5 – 1.5
21	‘Park and Ride’ lot	R	Project is located within one mile of a ‘Park and Ride’ lot, fosters public transit use for the workplace commute.	0.5
22	Vehicle idling policy	C	Adopt a Vehicle Idling Policy requiring all vehicles under company control to adhere to a 5 minute idling policy. Also enforce an onsite idling policy of 5 minutes or less including company owned contact, vendor and delivery vehicles. TCAPCD approved written company policy, vendor contractual language, onsite signage and enforcement procedures required.	0.5
Site Design Measures				

Best Available Mitigation Measures with point values

23	Office/mixed-use density	C,M	Project provides high density office or mixed-use proximate to transit. Mitigation value based on project density and proximity to transit. project must provide safe and convenient pedestrian and bicycle access to all transit stops within ¼ mile.	1 – 3.0
24	Orientation to existing transit, bikeway, or pedestrian corridor	R,C,M	Project is oriented towards existing transit, bicycle, or pedestrian corridor. Setback distance is reduced to minimum allowed under jurisdiction code. Primary entrances to buildings are located along public street frontage.	1.0
25	Orientation to planned transit, bikeway, or pedestrian corridor	R,C,M	Project is oriented towards planned transit, bicycle, or pedestrian corridor. Setback distance is reduced to minimum allowed under jurisdiction code. Primary entrances to buildings are located along public street frontage. Cannot get points for both this measure and measure #24.	0.5
26	Residential density	R	Exceed density requirements by local jurisdiction.	1.0 – 5.0
27	Street grid	R,C,M	Multiple and direct street routing (grid style). Full credit for internal connectivity factor (CF) > 0.70, and average ¼ mile or less between external connections. [CF = # of intersections/(# of cul-de-sacs + intersection)].	1.0
28	Secondary units	R	Secondary units (granny units) which promote infill land use.	1.0
29	Neighborhood electric vehicle access	R,C,M	Make physical development consistent with requirements for neighborhood electric vehicles (NEV). Project design includes designated NEV routes and facilities. Roadways internal to project site are designed to accommodate NEVs. 0.5 – internal connections only; 1.0 – internal and external connections to surrounding neighborhoods; 1.5 – internal NEV connections and connections to other existing NEV networks.	0.5 – 1.5
Mixed Use				
30	Mixed use credit	M	Development of projects predominantly characterized by properties on which various uses, such as office, commercial, institutional and residential are combined in a single building or on a single site. A single site may include contiguous properties. Cannot get points for both this measure and any “convenience services” measures. Also mutually exclusive with #31.	3.0
31	Partial mixed use credit	R,C,M	Have a least 3 of the following on site and/or within ¼ mile: Residential development, retail development, personal services, open space, office. Also mutually exclusive with #30.	1.0 – 3.0
32	Other mixed use credit	R,M	Neighborhood serving as focal point with parks, school and civic uses within ¼ mile. Does not have to be a mixed use project to apply this measure.	0.5
33	Bicycle and	R,C,M	Separate, safe and convenient bicycle and	2.0

Best Available Mitigation Measures with point values

	pedestrian paths		pedestrian paths connecting residential, commercial, and office uses. Does not have to be a mixed use project to apply this measure.	
34	Development pattern	R,C,M	Project provides a development pattern that eliminates physical barriers such as walls, berms, landscaping, and slopes between residential and non-residential uses that impede bicycle or pedestrian circulation. Does not have to be a mixed use project to apply this measure.	1.0
Convenience Services				
35	Day care facilities	R,C,M	Day care facilities are provided on site (1.0) or within ¼ mile of site (0.5).	0.5; 1.0
36	Restaurant or cafeteria	R,C,M	Restaurant or cafeteria on site or within ¼ mile of site.	0.2
37	Bank or ATM	R,C,M	Bank or ATM on site or within ¼ mile of site.	0.2
38	Dry cleaners	R,C,M	Dry cleaners on site or within ¼ mile of site (non-perchloroethylene).	0.2
39	Post office	R,C,M	Post office on site or within ¼ mile of site.	0.2
40	Recreation	R,C,M	Recreation facility or fitness center on site or within ¼ mile of site.	0.2
Building Component Measures				
41	Residential wood burning	R	No residential wood burning appliances.	1.0
42	Furnaces	R,C,M	Install lowest emitting commercially available furnace.	0.5
43	Ozone destruction catalyst	R,C,M	Install ozone destruction catalyst on air conditioning systems.	2.5
44	Energy Star roof	C	Install Energy Star labeled roof materials.	0.5
45	Green roof	C	Install a vegetated roof that covers at least 50% of roof area.	0.5
46	Fiber optics	R,C,M	Provide fiber optic wiring and connections.	0.5
47	T1 Internet	R,C,M	Provide T1 wiring and connections.	0.5
48	Solar	R,C,M	Install roof photovoltaic energy systems (2.5 – if offered as a standard on all homes).	0.5
49	Energy-efficient technologies	R,C,M	Provide innovative energy-efficient technologies (i.e., Energy Star Home energy standards). Exceeding Title 24 building standards.	1.0
50	Solar orientation	R	Orient 75 or more percent of homes and/or buildings to face either north or south (within 30 degrees of N/S).	0.5
Miscellaneous Measures				
51	Video conferencing	C,M	Install videoconferencing system.	0.5
52	Teleworking	C,M	Promote teleworking and implement an employee-telework policy.	1.0
53	Telework terminal	R	Provide free-access telework terminals in multi-family projects	1.0 – 3.0

Best Available Mitigation Measures with point values

54	Clean air business practices	C	Examples: Using electric or low-emission light duty fleet vehicles, contracting with alternative-fuel waste hauling companies, contracting with carrier, delivery, security, or other services utilizing electric, low-emission, alternative fuel, or utilizing heavy-duty vehicles that are CARB certified to optional low-emission standards for NOx.	To be determined (tbd)*
55	Electric lawnmower	R	Provide a complimentary electric lawnmower to each residential buyer.	tbd
56	Transit subsidy	C	Provide transit pass subsidy and/or commute alternative allowance. Point value based on 100% subsidy.	tbd
Mitigation Funding				
57	Mitigation funds (MF)	R,C,M	Provide funding and/or resources to develop or improve Park and Ride lots. Coordinate with TCAPCD and Transportation Commission (CTC).	tbd
58	MF	R,C,M	Provide funding to existing transit services. Coordinate with TCAPCD and CTC.	tbd
59	MF	R,C,M	Provide funding to implement projects identified in city or county Bicycle Master Plans.	tbd
60	MF	C	Subsidize vanpool programs.	tbd
61	MF	C	Subsidize transportation alternative incentive programs.	tbd
62	MF	R,C,M	Contribute to the paving of off-site roadways and alleys.	tbd
63	MF	R,M	Contribute funding to retrofit residential wood burning appliances.	tbd
64	MF	R,M	Contribute funding to electric lawnmower exchange program.	tbd
65	MF	R,M	Contribute funding to vehicle scrap program.	tbd
66	MF	R,M	Retrofit existing homes in the project area with energy-efficient devices.	tbd
67	MF	R,M	Retrofit existing business in the project area with energy-efficient devices.	tbd
68	MF	C,M	Construct satellite worksites.	tbd
69	MF	R,C,M	Provide funding for Low Emission School Buses.	tbd
Innovative Strategies				
70	Other	R,C,M	Other proposed strategies, in consultation with project TCAPCD.	tbd

*To be determined (tbd): each category to be evaluated on a project-by-project specific basis.