



Attachment K

**Southern California Association of Governments 2020 Regional
Transportation Plan/Sustainable Communities Strategy EIR Applicable
Mitigation Measures**

Public Resources Code (PRC) Section 21155.1(b)(5) requires that any applicable mitigation measures, performance standards, or criteria set forth in the prior environmental impact reports (EIRs), and adopted findings, have been or will be incorporated into the transit priority project, including the 2020-2045 RTP/SCS Program EIR for SCAG in September 2020.

The Triangle Centre Mixed-Use Sustainable Communities Project would be subject to the following mitigation measures in the Southern California Association of Governments (SCAG) 2020—2045 Regional Transportation Plan/Sustainable Communities Strategy Program EIR.¹

AIR QUALITY

PMM AQ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Minimize land disturbance.
- b. Suspend grading and earth moving when wind gusts exceed 25 miles per hour unless the soil is wet enough to prevent dust plumes.
- c. Cover trucks when hauling dirt.
- d. Stabilize the surface of dirt piles if not removed immediately.
- e. Limit vehicular paths on unpaved surfaces and stabilize any temporary roads.
- f. Minimize unnecessary vehicular and machinery activities.
- g. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
- h. Revegetate disturbed land, including vehicular paths created during construction to avoid future off-road vehicular activities.
- i. On Caltrans projects, Caltrans Standard Specifications 10-Dust Control, 17-Watering, and 18- Dust Palliative shall be incorporated into project specifications.
- j. Require contractors to assemble a comprehensive inventory list (i.e., make, model, engine year, horsepower, emission rates) of all heavy-duty off-road (portable and mobile) equipment (50 horsepower and greater) that could be used an aggregate of 40 or more hours for the construction project. Prepare a plan for approval by the applicable air district demonstrating achievement of the applicable percent reduction for a CARB-approved fleet.
- k. Ensure that all construction equipment is properly tuned and maintained.
- l. Minimize idling time to 5 minutes or beyond regulatory requirements—saves fuel and reduces emissions.

¹ Southern California Association of Governments (SCAG), *2020—2045 Regional Transportation Plan/Sustainable Communities Strategy Program EIR*, (September 2020).

- m. Provide an operational water truck on-site at all times. Use watering trucks to minimize dust; watering should be sufficient to confine dust plumes to the project work areas. Sweep paved streets at least once per day where there is evidence of dirt that has been carried on to the roadway.
- n. Utilize existing power sources (e.g., power poles) or clean fuel generators rather than temporary power generators.
- o. Develop a traffic plan to minimize community impacts because of traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service. Schedule operations affecting traffic for off-peak hours. Minimize obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites. Project sponsors should consider developing a goal for the minimization of community impacts.
- p. As appropriate require that portable engines and portable engine-driven equipment units used at the project work site, except for on-road and off-road motor vehicles, obtain CARB Portable Equipment Registration with the state or a local district permit. Arrange appropriate consultations with the CARB or the District to determine registration and permitting requirements prior to equipment operation at the site.
- q. Require projects to use Tier 4 Final equipment or better for all engines above 50 horsepower (hp). In the event that construction equipment cannot meet to Tier 4 Final engine certification, the Project representative or contractor must demonstrate through future study with written findings supported by substantial evidence that is approved by SCAG before using other technologies/strategies. Alternative applicable strategies may include, but would not be limited to, construction equipment with Tier 4 Interim or reduction in the number and/or horsepower rating of construction equipment and/or limiting the number of construction equipment operating at the same time. All equipment must be tuned and maintained in compliance with the manufacturer's recommended maintenance schedule and specifications. All maintenance records for each equipment and their contractor(s) should make available for inspection and remain on-site for a period of at least two years from completion of construction unless the individual project can demonstrate that Tier 4 engines would not be required to mitigate emissions below significance thresholds. Project sponsors should also consider including ZE/ZNE technologies where appropriate and feasible.
- r. Projects located within the South Coast Air Basin should consider applying for South Coast AQMD "SOON" funds which provides funds to applicable fleets for the purchase of commercially available low-emission heavy-duty engines to achieve near-term reduction of NOx emissions from in-use off-road diesel vehicles.
- s. Projects located within AB 617 communities should review the applicable Community Emissions Reduction Plan (CERP) for additional mitigation that can be applied to individual projects.
- t. Where applicable, projects should provide information about air quality related programs to schools, including the Environmental Justice Community Partnerships (EJCP), Clean Air Ranger Education (CARE), and Why Air Quality Matters programs.
- u. Projects should work with local cities and counties to install adequate signage that prohibits truck idling in certain locations (e.g., near schools and sensitive receptors).
- v. As applicable for airport projects, the following measures should be considered:
 - i. Considering operational improvements to reduce taxi time and auxiliary power unit usage, where feasible. Additionally, consider single engine

- taxing, if feasible as allowed per Federal Aviation Administration guidelines.
- ii. Set goals to achieve a reduction in emissions from aircraft operations over the lifetime of the proposed project.
- iii. Require the use of ground service equipment (GSE) that can operate on battery-power. If electric equipment cannot be obtained, require the use of alternative fuel, the cleanest gasoline equipment, or Tier 4, at a minimum.
- w. As applicable for port projects, the following measures should be considered:
 - i. Develop specific timelines for transitioning to zero emission cargo handling equipment (CHE).
 - ii. Develop interim performance standards with a minimum amount of CHE replacement each year to ensure adequate progress.
 - iii. Use short side electric power for ships, which may include tugboats and other ocean-going vessels or develop incentives to gradually ramp up the usage of shore power.
 - iv. Install the appropriate infrastructure to provide shore power to operate the ships. Electrical hookups should be appropriately sized.
 - v. Maximize participation in the Port of Los Angeles' Vessel Speed Reduction Program or the Port of Long Beach's Green Flag Initiation Program in order to reduce the speed of vessel transiting within 40 nautical miles of Point Fermin.
 - vi. Encourage the participation in the Green Ship Incentives.
 - vii. Offer incentives to encourage the use of on-dock rail.
- x. As applicable for rail projects, the following measures should be considered:
 - i. Provide the highest incentives for electric locomotives and then locomotives that meet Tier 5 emission standards with a floor on the incentives for locomotives that meet Tier 4 emission standards.
- y. Projects that will introduce sensitive receptors within 500 feet of freeways and other sources should consider installing high efficiency of enhanced filtration units, such as Minimum Efficiency Reporting Value (MERV) 13 or better. Installation of enhanced filtration units can be verified during occupancy inspection prior to the issuance of an occupancy permit.
- z. Develop an ongoing monitoring, inspection, and maintenance program for the MERV filters.
 - i. Disclose potential health impacts to prospective sensitive receptors from living in close proximity to freeways or other sources of air pollution and the reduced effectiveness of air filtration systems when windows are open, or residents are outside.
 - ii. Identify the responsible implementing and enforcement agency to ensure that enhanced filtration units are installed on-site before a permit of occupancy is issued.
 - iii. Disclose the potential increase in energy costs for running the HVAC system to prospective residents.
 - iv. Provide information to residents on where MERV filters can be purchased.
 - v. Provide recommended schedule (e.g., every year or every six months) for replacing the enhanced filtration units.

- vi. Identify the responsible entity such as future residents themselves, Homeowner's Association, or property managers for ensuring enhanced filtration units are replaced on time.
 - vii. Identify, provide, and disclose ongoing cost-sharing strategies, if any, for replacing the enhanced filtration units.
 - viii. Set criteria for assessing progress in installing and replacing the enhanced filtration units; and
 - ix. Develop a process for evaluating the effectiveness of the enhanced filtration units.
- aa. Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities

CULTURAL RESOURCES

PMM-CUL-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to historical resources, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Pursuant to CEQA Guidelines Section 15064.5, conduct a record search during the project planning phase at the appropriate Information Center to determine whether the project area has been previously surveyed and whether historical resources were identified.
- b. During the project planning phase, retain a qualified architectural historian, defined as an individual who meets the Secretary of the Interior's (SOI) Professional Qualification Standards (PQS) in Architectural History, to conduct historic architectural surveys if a built environment resource greater than 45 years in age may be affected by the project or if recommended by the Information Center.
- c. Comply with Section 106 of the National Historic Preservation Act (NHPA) including, but not limited to, projects for which federal funding or approval is required for the individual project. This law requires federal agencies to evaluate the impact of their actions on resources included in or eligible for listing in the National Register. Federal agencies must coordinate with the State Historic Preservation Officer in evaluating impacts and developing mitigation. These mitigation measures may include, but are not limited to the following:
 - Employ design measures to avoid historical resources and undertake adaptive reuse where appropriate and feasible. If resources are to be preserved, as feasible, carry out the maintenance, repair, stabilization, rehabilitation, restoration, preservation, conservation or reconstruction in a manner consistent with the Secretary of the Interior's Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings. If resources would be impacted, impacts should be minimized to the extent feasible.
 - Where feasible, noise buffers/walls and/or visual buffers/landscaping should be constructed to preserve the contextual setting of significant built resources.
- d. If a project requires the relocation, rehabilitation, or alteration of an eligible historical resource, the Secretary of the Interior's Standards for the Treatment of Historic Properties should be used to the maximum extent possible to ensure the historical significance of the resource is not impaired. The application of the standards should be overseen by an architectural historian or

historic architect meeting the SOI PQS. Prior to any construction activities that may affect the historical resource, a report, meeting industry standards, should identify and specify the treatment of character-defining features and construction activities and be provided to the Lead Agency for review and approval.

- e. If a project would result in the demolition or significant alteration of a historical resource eligible for or listed in the National Register of Historic Places (NRHP), California Register of Historical Resources (CRHR), or local register, recordation should take the form of Historic American Buildings Survey (HABS), Historic American Engineering Record (HAER), or Historic American Landscape Survey (HALS) documentation, and should be performed by an architectural historian or historian who meets the SOI PQS. Recordation should meet the SOI Standards and Guidelines for Architectural and Engineering, which defines the products acceptable for inclusion in the HABS/HAER/HALS collection at the Library of Congress. The specific scope and details of documentation should be developed at the project level in coordination with the Lead Agency.
- f. During the project planning phase, obtain a qualified archaeologist, defined as one who meets the SOI PQS for archaeology, to conduct a record search at the appropriate Information Center of the California Historical Resources Information System (CHRIS) to determine whether the project area has been previously surveyed and whether resources were identified.
- g. Contact the NAHC to request a Sacred Lands File search and a list of relevant Native American contacts who may have additional information.
- h. During the project planning phase, obtain a qualified archaeologist or architectural historian (depending on applicability) to conduct archaeological and/or historic architectural surveys as recommended by the qualified professional, the Lead Agency, or the Information Center. In the event the qualified professional or Information Center will make a recommendation on whether a survey is warranted based on the sensitivity of the project area for archaeological resources. Survey shall be conducted where the records indicate that no previous survey has been conducted, or if survey has not been conducted within the past 10 years. If tribal resources are identified during tribal outreach, consultation, or the record search, a Native American representative traditionally affiliated with the project area, as identified by the NAHC, shall be given the opportunity to provide a representative or monitor to assist with archaeological surveys.
- i. If potentially significant archaeological resources are identified through survey, and impacts to these resources cannot be avoided, a Phase II Testing and Evaluation investigation should be performed by a qualified archaeologist prior to any construction-related ground-disturbing activities to determine significance. If resources determined significant or unique through Phase II testing, and avoidance is not possible, appropriate resource-specific mitigation measures should be established by the lead agency, in consultation with consulting tribes, where appropriate, and undertaken by qualified personnel. These might include a Phase III data recovery program implemented by a qualified archaeologist and performed in accordance with the OHP's Archaeological Resource Management Reports (ARMR): Recommended Contents and Format and Guidelines for Archaeological Research Designs. Additional options can include 1) interpretative signage, or 2) educational outreach that helps inform the public of the past activities that occurred in this area. Should the project require extended Phase I testing, Phase II evaluation, or Phase III data recovery, a Native American representative traditionally affiliated with the project area, as indicated by the NAHC, shall be given the opportunity to provide a

representative or monitor to assist with the archaeological assessments. The long-term disposition of archaeological materials collected from a significant resource should be determined in consultation with the affiliated tribe(s), where relevant; this could include curation with a recognized scientific or educational repository, transfer to the tribe, or respectful reinterment in an area designated by the tribe.

- j. In cases where the project area is developed and no natural ground surface is exposed, sensitivity for subsurface resources should be assessed based on review of literature, geology, site development history, and consultation with tribal parties. If this archaeological desktop assessment indicates that the project is located in an area sensitive for archaeological resources, as determined by the Lead Agency in consultation with a qualified archaeologist, the project should retain an archaeological monitor and, in the case of sensitivity for tribal resources, a tribal monitor, to observe ground disturbing operations, including but not limited to grading, excavation, trenching, or removal of existing features of the subject property. The archaeological monitor should be supervised by an archaeologist meeting the SOI PQS
- k. Conduct construction activities and excavation to avoid cultural resources (if identified). If avoidance is not feasible, further work may be needed to determine the importance of a resource. Retain a qualified archaeologist, and/or as appropriate, a qualified architectural historian who should make recommendations regarding the work necessary to assess significance. If the cultural resource is determined to be significant under state or federal guidelines, impacts to the cultural resource will need to be mitigated.
- l. Stop construction activities and excavation in the area where cultural resources are found until a qualified archaeologist can determine whether these resources are significant, and tribal consultation can be conducted, in the case of tribal resources. If the archaeologist determines that the discovery is significant, its long-term disposition should be determined in consultation with the affiliated tribe(s); this could include curation with a recognized scientific or educational repository, transfer to the tribe, or respectful reinterment in an area designated by the tribe.

PMM-CUL-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to human remains, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. In the event of discovery or recognition of any human remains during construction or excavation activities associated with the project, in any location other than a dedicated cemetery, cease further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until the coroner of the county in which the remains are discovered has been informed and has determined that no investigation of the cause of death is required.
- b. If any discovered remains are of Native American origin, as determined by the county Coroner, an experienced osteologist, or another qualified professional:
 - Contact the County Coroner to contact the NAHC to designate a Native American Most Likely Descendant (MLD). The MLD should make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods. This may include obtaining a qualified archaeologist or team of archaeologists to properly excavate the human remains. In some cases, it is necessary for the Lead Agency,

qualified archaeologist, or developer to also reach out to the NAHC to coordinate and ensure notification in the event the Coroner is not available.

- If the NAHC is unable to identify a MLD, or the MLD fails to make a recommendation within 48 hours after being notified by the commission, or the landowner or his representative rejects the recommendation of the MLD and the mediation by the NAHC fails to provide measures acceptable to the landowner, obtain a culturally affiliated Native American monitor, and an archaeologist, if recommended by the Native American monitor, and rebury the Native American human remains and any associated grave goods, with appropriate dignity, on the property and in a location that is not subject to further subsurface disturbance.

GREENHOUSE GAS EMISSIONS

PMM-GHG-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to greenhouse gas emissions, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Integrate green building measures consistent with CALGreen (California Building Code Title 24), local building codes and other applicable laws, into project design including:
 - i. Use energy efficient materials in building design, construction, rehabilitation, and retrofit.
 - ii. Install energy-efficient lighting, heating, and cooling systems (cogeneration); water heaters; appliances; equipment; and control systems.
 - iii. Reduce lighting, heating, and cooling needs by taking advantage of light-colored roofs, trees for shade, and sunlight.
 - iv. Incorporate passive environmental control systems that account for the characteristics of the natural environment.
 - v. Use high-efficiency lighting and cooking devices.
 - vi. Incorporate passive solar design.
 - vii. Use high-reflectivity building materials and multiple glazing.
 - viii. Prohibit gas-powered landscape maintenance equipment.
 - ix. Install electric vehicle charging stations.
 - x. Reduce wood burning stoves or fireplaces.
 - xi. Provide bike lanes accessibility and parking at residential developments
- b. Reduce emissions resulting from projects through implementation of project features, project design, or other measures, such as those described in Appendix F of the State CEQA Guidelines.
- c. Include off-site measures to mitigate a project's emissions.
- d. Measures that consider incorporation of Best Available Control Technology (BACT) during design, construction and operation of projects to minimize GHG emissions, including but not limited to:
 - i. Use energy and fuel-efficient vehicles and equipment;
 - ii. Deployment of zero- and/or near zero emission technologies;
 - iii. Use lighting systems that are energy efficient, such as LED technology;
 - iv. Use the minimum feasible amount of GHG-emitting construction materials;

- v. Use cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
 - vi. Incorporate design measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse;
 - vii. Incorporate design measures to reduce energy consumption and increase use of renewable energy;
 - viii. Incorporate design measures to reduce water consumption;
 - ix. Use lighter-colored pavement where feasible;
 - x. Recycle construction debris to maximum extent feasible;
 - xi. Plant shade trees in or near construction projects where feasible; and
 - xii. Solicit bids that include concepts listed above.
- e. Measures that encourage transit use, carpooling, bike-share and car-share programs, active transportation, and parking strategies, including, but not limited to the following:
- i. Promote transit-active transportation coordinated strategies;
 - ii. Increase bicycle carrying capacity on transit and rail vehicles;
 - iii. Improve or increase access to transit;
 - iv. Increase access to common goods and services, such as groceries, schools, and day care;
 - v. Incorporate affordable housing into the project;
 - vi. Incorporate the neighborhood electric vehicle network;
 - vii. Orient the project toward transit, bicycle and pedestrian facilities;
 - viii. Improve pedestrian or bicycle networks, or transit service;
 - ix. Provide traffic calming measures;
 - x. Provide bicycle parking;
 - xi. Limit or eliminate park supply;
 - xii. Unbundle parking costs;
 - xiii. Provide parking cash-out programs;
 - xiv. Implement or provide access to commute reduction program.
- f. Incorporate bicycle and pedestrian facilities into project designs, maintaining these facilities, and providing amenities incentivizing their use; and planning for and building local bicycle projects that connect with the regional network;
- g. Improving transit access to rail and bus routes by incentives for construction of transit facilities within developments, and/or providing dedicated shuttle service to transit stations; and
- h. Adopting employer trip reduction measures to reduce employee trips such as vanpool and carpool programs, providing end-of-trip facilities, and telecommuting programs including but not limited to measures that:
- i. Provide car-sharing, bike sharing, and ride-sharing programs;
 - ii. Provide transit passes;
 - iii. Shift single occupancy vehicle trips to carpooling or vanpooling, for example providing ride-matching services;
 - iv. Provide incentives or subsidies that increase that use of modes other than single-occupancy vehicle;
 - v. Provide on-site amenities at places of work, such as priority parking for carpools and vanpools, secure bike parking, and showers and locker rooms;

- vi. Provide employee transportation coordinators at employment sites;
- vii. Provide a guaranteed ride home service to users of non-auto modes.
- i. Designate a percentage of parking spaces for ride-sharing vehicles or high-occupancy vehicles, and provide adequate passenger loading and unloading for those vehicles;
- j. Land use siting and design measures that reduce GHG emissions, including:
 - i. Developing on infill and brownfields sites;
 - ii. Building compact and mixed-use developments near transit;
 - iii. Retaining on-site mature trees and vegetation, and planting new canopy trees;
 - iv. Measures that increase vehicle efficiency, encourage use of zero and low emissions vehicles, or reduce the carbon content of fuels, including constructing or encouraging construction of electric vehicle charging stations or neighborhood electric vehicle networks, or charging for electric bicycles; and
 - v. Measures to reduce GHG emissions from solid waste management through encouraging solid waste recycling and reuse.
- k. Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities. The measures provided above are also intended to be applied in low income and minority communities as applicable and feasible.

HAZARDS AND HAZARDOUS MATERIALS

PMM-HAZ-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to the routine transport, use, or disposal of hazardous materials, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Where the construction or operation of projects involves the transport of hazardous material, provide a written plan of proposed routes of travel demonstrating use of roadways designated for the transport of such materials.
- b. Specify Project requirements for interim storage and disposal of hazardous materials during construction and operation. Storage and disposal strategies must be consistent with applicable federal, state, and local statutes and regulations. Specify the appropriate procedures for interim storage and disposal of hazardous materials, anticipated to be required in support of operations and maintenance activities, in conformance with applicable federal, state, and local statutes and regulations, in the business plan for projects as applicable and appropriate.
- c. Submit a Hazardous Materials Business/Operations Plan for review and approval by the appropriate local agency. Once approved, keep the plan on file with the Lead Agency (or other appropriate government agency) and update, as applicable. The purpose of the Hazardous Materials Business/Operations Plan is to ensure that employees are adequately trained to handle the materials and provides information to the local fire protection agency should emergency response be required. The Hazardous Materials Business/Operations Plan should include the following:
 - The types of hazardous materials or chemicals stored and/or used on-site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids.
 - The location of such hazardous materials.

- An emergency response plan including employee training information.
- A plan that describes the way these materials are handled, transported and disposed
- d. Follow manufacturer’s recommendations on use, storage, and disposal of chemical products used in construction.
- e. Avoid overtopping construction equipment fuel gas tanks.
- f. Properly contain and remove grease and oils during routine maintenance of construction equipment.
- g. Properly dispose of discarded containers of fuels and other chemicals.
- h. Prior to shipment remove the most volatile elements, including flammable natural gas liquids, as feasible.
- i. Identify and implement more stringent tank car safety standards.
- j. Improve rail transportation route analysis, and modification of routes based on that analysis.
- k. Use the best available inspection equipment and protocols and implement positive train control.
- l. Reduce train car speeds to 40 miles per hour when passing through urbanized areas of any size.
- m. Limit storage of crude oil tank cars in urbanized areas of any size and provide appropriate security in storage yards for all shipments.
- n. Notify in advance county and city emergency operations offices of all crude oil shipments, including a contact number that can provide real-time information in the event of an oil train derailment or accident.
- o. Report quarterly hazardous commodity flow information, including classification and characterization of materials being transported, to all first response agencies (49 Code Fed. Regs. 15.5) along the mainline rail routes used by trains carrying crude oil identified.
- p. Fund training and outfitting emergency response crews that includes the cost of backfilling personnel while in training.
- q. Undertake annual emergency responses scenario/field based training including Emergency Operations Center Training activations with local emergency response agencies.

NOISE

PMM-NOISE-1: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects that physically divide a community, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. Install temporary noise barriers during construction.
- b. Include permanent noise barriers and sound-attenuating features as part of the project design. Barriers could be in the form of outdoor barriers, sound walls, buildings, or earth berms to attenuate noise at adjacent sensitive uses.
- c. Schedule construction activities consistent with the allowable hours pursuant to applicable general plan noise element or noise ordinance
- d. Post procedures and phone numbers at the construction site for notifying the Lead Agency staff, local Police Department, and construction contractor (during regular construction hours and off hours), along with permitted construction days and hours, complaint procedures, and who to notify in the event of a problem.

- e. Notify neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of anticipated times when noise levels are expected to exceed limits established in the noise element of the general plan or noise ordinance.
- f. Designate an on-site construction complaint and enforcement manager for the project.
- g. Ensure that construction equipment are properly maintained per manufacturers' specifications and fitted with the best available noise suppression devices (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds silencers, wraps). All intake and exhaust ports on power equipment shall be muffled or shielded.
- h. Use hydraulically or electrically powered tools (e.g., jack hammers, pavement breakers, and rock drills) for project construction to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust should be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves should be used, if such jackets are commercially available, and this could achieve a further reduction of 5 dBA. Quieter procedures should be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.
- i. Where feasible, design projects so that they are depressed below the grade of the existing noise sensitive receptor, creating an effective barrier between the roadway and sensitive receptors.
- j. Where feasible, improve the acoustical insulation of dwelling units where setbacks and sound barriers do not provide sufficient noise reduction.
- k. Using rubberized asphalt or "quiet pavement" to reduce road noise for new roadway segments, roadways in which widening or other modifications require re-pavement, or normal reconstruction of roadways where re-pavement is planned
- l. Projects that require pile driving or other construction noise above 90 dBA in proximity to sensitive receptors, should reduce potential pier drilling, pile driving and/or other extreme noise generating construction impacts greater than 90 dBA; a set of site-specific noise attenuation measures should be completed under the supervision of a qualified acoustical consultant.
- m. Use land use planning measures, such as zoning, restrictions on development, site design, and buffers to ensure that future development is compatible with adjacent transportation facilities and land uses;
- n. Monitor the effectiveness of noise reduction measures by taking noise measurements and installing adaptive mitigation measures to achieve the standards for ambient noise levels established by the noise element of the general plan or noise ordinance.
- o. Use equipment and trucks with the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible) for project construction.
- p. Stationary noise sources can and should be located as far from adjacent sensitive receptors as possible and they should be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the Lead Agency (or other appropriate government agency) to provide equivalent noise reduction.
- q. Use of portable barriers in the vicinity of sensitive receptors during construction.

- r. Implement noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings (for instance by the use of sound blankets), and implement if such measures are feasible and would noticeably reduce noise impacts.
- s. Monitor the effectiveness of noise attenuation measures by taking noise measurements.
- t. Maximize the distance between noise-sensitive land uses and new roadway lanes, roadways, rail lines, transit centers, park-and-ride lots, and other new noise-generating facilities.
- u. Construct sound reducing barriers between noise sources and noise-sensitive land uses.
- v. Stationary noise sources can and should be located as far from adjacent sensitive receptors as possible and they should be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the Lead Agency (or other appropriate government agency) to provide equivalent noise reduction.
- w. Use techniques such as grade separation, buffer zones, landscaped berms, dense plantings, sound walls, reduced-noise paving materials, and traffic calming measures.
- x. Locate transit-related passenger stations, central maintenance facilities, decentralized maintenance facilities, and electric substations away from sensitive receptors to the maximum extent feasible.
- y. Consult the SCAG Environmental Justice Toolbox for potential measures to address impacts to low-income and/or minority communities.

PMM-NOISE-2: In accordance with provisions of sections 15091(a)(2) and 15126.4(a)(1)(B) of the State CEQA Guidelines, a Lead Agency for a project can and should consider mitigation measures to reduce substantial adverse effects related to violating air quality standards, as applicable and feasible. Such measures may include the following or other comparable measures identified by the Lead Agency:

- a. For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the potential vibration impacts to the structural integrity of the adjacent buildings within 50 feet of pile driving locations.
- b. For projects that require pile driving or other construction techniques that result in excessive vibration, such as blasting, determine the threshold levels of vibration and cracking that could damage adjacent historic or other structure, and design means and construction methods to not exceed the thresholds.
- c. For projects where pile driving would be necessary for construction due to geological conditions, utilize quiet pile driving techniques such as predrilling the piles to the maximum feasible depth, where feasible. Predrilling pile holes will reduce the number of blows required to completely seat the pile and will concentrate the pile driving activity closer to the ground where pile driving noise can be shielded more effectively by a noise barrier/curtain.
- d. Restrict construction activities to permitted hours in accordance with local jurisdiction regulation.
- e. Properly maintain construction equipment and outfit construction equipment with the best available noise suppression devices (e.g., mufflers, silences, wraps).
- f. Prohibit idling of construction equipment for extended periods of time in the vicinity of sensitive receptors.