4 OPERATIONAL CRITERIA AIR POLLUTANT AND PRECURSOR EMISSIONS

4.1 INTRODUCTION

Operational emissions typically represent the majority of a project's air quality impacts. After a project is built, operational emissions are anticipated to occur continuously throughout the project's lifetime. Due to their long-term nature, operational emissions will continually contribute to the criteria air pollutant (CAP) emissions inventory for Sacramento County. Operational activities also have the potential to create concentrations of air pollutants that exceed the California and National Ambient Air Quality Standards (AAQS) and/or expose sensitive receptors to substantial pollutant concentrations. Therefore, lead agencies shall assess emissions generated by project operation and determine if they could result in a significant impact to air quality. If operational emissions will result in a significant impact, lead agencies shall implement all feasible mitigation to reduce the impact.

CAPs and precursors of primary concern from operational activities in California include emissions of reactive organic gases (ROG or VOC) and oxides of nitrogen(NO_X), particulate matter with an aerodynamic resistance diameter of 10 microns or less (PM_{10}), and fine particulate matter with an aerodynamic resistance diameter of 2.5 microns or less ($PM_{2.5}$). Carbon monoxide (CO) is also a concern due to the potential for CO hotspots (i.e., exceedance of the CO AAQS) as result of increased traffic congestion. Other pollutants such as sulfur dioxide and lead are of less concern because operational activities are not likely to generate substantial quantities of these CAPs and the Sacramento Valley Air basin has been in attainment for these CAPs for multiple years.

Land use development projects typically include the following sources of operational CAP and precursor emissions:

- Motor vehicle trips generated by the particular land use (i.e., vehicles arriving and leaving the project site), including those by residents, shoppers, workers, and vendors;
- Fuel combustion from landscape maintenance equipment;
- Natural gas combustion emissions used for space heating, water heating, and cooking;
- Hearth fuel combustion emissions from residential fireplaces and wood stoves;
- Evaporative emissions of ROG associated with the use of consumer products; and

- Evaporative emissions of ROG from application of architectural coatings as part of building maintenance.

Some projects may also involve the operation of stationary equipment such as backup emergency generators with diesel engines.

Operational greenhouse gas (GHG) emissions and toxic air contaminants (TACs) are not discussed in this chapter. Please see Chapter 6 Greenhouse Gas Emissions for further guidance regarding operational GHG emissions and Chapter 5 Toxic Air Contaminant Emissions for further guidance regarding operational TAC emissions.

4.2 ANALYSIS EXPECTATIONS

The District recommends that CEQA analyses addressing the potential impacts of operational-related emissions of CAPs and precursors include the following:

- The nature of operational activities including the emission source types and level of activity associated with each;

- The earliest year where operational emissions are anticipated to commence. If a project will be constructed in phases and portions will become operational after each phase, then lead agencies shall disclose the timing (i.e., year) of each phase;

- Discussion of whether the project's scope and size qualify it to be analyzed using the District's Operational CAP Screening Levels tables for ROG, NOx and PM_{10} and $PM_{2.5}$ which are discussed in Section 4.3.1, Assessing Mass Emissions;

- Discussion of best available control technologies (BACT) for stationary sources and best management practices (BMPs) for land development projects that apply to the project;

- If the analysis cannot be completed using the District's Operational CAP Screening Levels, then a quantification of the maximum daily mass emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ (and annual emissions of PM) that will be generated by the project's operational activities (expressed in pounds per day [lbs./day] and tons per year for PM) is recommended. Projects shall disclose the input parameters, assumptions, and calculations used to estimate these emission levels. If a project will become operational in phases, lead agencies shall quantify the maximum daily operational mass emission levels after construction of each individual phase. (Quantification of mass emission levels of these pollutants is not necessary for projects that can be analyzed using the District's Operational CAP Screening Levels tables, as described in Section 4.3.1, Assessing Mass Emissions.);

- A discussion of whether the maximum daily operational emissions will exceed the District's mass emission thresholds for precursors pollutants

ROG, NO_X, and PM_{10} and $PM_{2.5}$, and whether the annual operational emissions will exceed the District's mass emissions thresholds for PM_{10} and $PM_{2.5}$;

- A discussion of whether the operational activities associated with the project will generate air pollutant concentrations of CAPs that will exceed or contribute to an exceedance of the applicable AAQS. This shall include analysis of whether vehicle trips generated by the project will contribute to existing and cumulative traffic volumes that will result in concentrations of CO that exceed the applicable AAQS;

- A significance determination about the operational CAP emissions, without mitigation; and

- A discussion of feasible mitigation necessary to reduce impacts and whether the mitigation will be sufficient to reduce impacts to a less-than-significant level or if the impacts will remain significant and unavoidable.

4.3 METHODOLOGIES

Ground-level ozone is a pollutant of regional concern. Ozone is formed each day when emissions of ozone precursors, ROG and NO_X, react in the presence of sunlight. Because of the diurnal nature of ozone formation, the mass emissions of ozone precursors are analyzed on a daily basis. Additionally, PM_{10} and $PM_{2.5}$ are a local and regional concern, emitted daily from vehicle travel, and therefore analyzed on both a daily basis and an annual basis. The evaluation of a project's daily mass emissions of ROG, NO_X, PM_{10} and $PM_{2.5}$ (and annual emissions of PM) pertains, in part, to the following questions regarding air quality from the Environmental Checklist Form (Appendix G) of the State CEQA Guidelines:

III.a. Will the project conflict with or obstruct implementation of the applicable air quality plan?

III.b. Will the project violate an air quality standard or contribute substantially to an existing or projected air quality violation?

III.c. Will the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

III.d. Expose sensitive receptors to substantial pollutant concentrations?

CO shall be evaluated based on the concentrations generated and receptors exposed to those concentrations. Because CO is a pollutant of localized concern and analyzed on a concentration-based level, the evaluation of CO concentrations pertains, in part, to the following questions from the Environmental Checklist Form (Appendix G) of the State CEQA Guidelines:

III.b. Will the project violate an air quality standard or contribute substantially to an existing or projected air quality violation?

III.d. Expose sensitive receptors to substantial pollutant concentrations?

The District recommends that precursor emissions ROG, NO_X and PM_{10} and $PM_{2.5}$ be discussed separately from CO in environmental impact analyses. Methodologies for addressing mass emissions of ROG, NOx and PM and concentration emissions of CO are discussed separately in greater detail below under Section 4.3.1 and Section 4.3.2, respectively.

4.3.1 Assessing Mass Emissions

Land Use Development Projects

Screening

The District has developed screening levels to help lead agencies analyze operational ROG and NO_X and PM_{10} and $PM_{2.5}$ emissions from projects in Sacramento County. The operational screening levels shown in the Operational CAP Screening Levels table represent the size of development by land use type at which the District's operational emissions thresholds of significance for ROG and NO_X and PM_{10} and $PM_{2.5}$ will not be exceeded. **NOTE:** The screening levels for PM_{10} and $PM_{2.5}$ in the table assume the project includes best management practices (BMPs), which allows the project to apply the non-zero PM thresholds of significance. Therefore, emissions from the operation of projects below the screening levels presented in the table will have a less-than-significant impact on air quality.

Lead agencies are encouraged to use the Operational CAP Screening Levels table; however, the screening levels shall not be considered absolute thresholds and shall not be used to evaluate operational emissions from projects that have one or more of the following characteristics:

- The project will include wood stoves or wood-burning appliances;
- The project does not include BMPs for PM emissions;
- Project trip generation rates are expected to be greater than the default trip rates in CalEEMod. The default trip rates in CalEEMod, which can be viewed in the Operational-Mobile Vehicle Trips tab, are based on standard rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual;
- The vehicle fleet mix for the project is expected to be substantially different from the average vehicle fleet mix for Sacramento County. For example, the fleet mix associated with an industrial land use project will likely consist of a high portion of heavy-duty trucks;

- The project will include mixed-use development; or
- The project will include any industrial land use types (possibly including stationary sources of emissions).

CalEEMod

Emissions associated with the operation of land use development projects shall be estimated using the most recent version of CalEEMod, in accordance with the CalEEMod User's Guide and District-specific User Tips. The District generally recommends using the default values CalEEMod provides if detailed information about the project's parameters is not known at the time of analysis. Using the default values in the CalEEMod data fields typically results in a more conservative estimate of emissions. Therefore, when possible, users shall obtain project-specific information (especially traffic studies or travel demand model runs) to more accurately estimate operational emissions.

STATIONARY-SOURCE FACILITIES

An emissions unit consists of a single emission source with an identified emission point, such as a stack, at a facility. Facilities can have multiple emission units located on-site and sometimes the facility as a whole is referred to as a "stationary source." Stationary sources are typically associated with industrial processes. Examples include boilers, heaters, flares, cement plants, and other types of combustion equipment. The District is responsible for issuing permits to stationary-source facilities to reduce air pollution and to attain (or maintain) the AAQS. Permitted stationary-source facilities are required to implement Best Available Control Technology (BACT), which may include the installation of emissions control equipment or implementation of administrative practices to reduce emissions. Stationary-source facilities may also be required to offset their emissions of CAPs in order to be permitted. This may entail shutting down or augmenting another stationary source at the same facility. Facilities also may purchase emission reduction credits to offset emissions.

A stationary source is considered to have a less than significant impact with respect to ozone precursors, PM_{10} or $PM_{2.5}$ when the source is:

- Subject to either District-level [District Rule 202] or the federal New Source Review program stationary permitting requirements and, when combined with any associated mobile and area source emissions, the daily emissions of ROG, NO_X, PM_{10} or $PM_{2.5}$ are below the District's CEQA thresholds of significance for operational emissions; or
- Subject to permitting and emits levels of ROG, NO_X, PM_{10} or $PM_{2.5}$ that exceed the District CEQA thresholds of significance for operational emissions, but complies with the District's BACT and emissions offset requirements and reduces its combined stationary, mobile and area source

emissions below the District CEQA thresholds of significance for operational emissions; or

- Exempt from the District permitting program, including the BACT and offset requirements, and its combined stationary, mobile and area source emissions are below or reduced to below the District CEQA thresholds of significance for operational emissions.

The District's permitting requirements are applicable to CAP emissions from stationary sources. Mobile and area sources of CAP emissions from stationary sources must be analyzed and mitigated when necessary. Other potential air quality impacts of a stationary source will also need to be analyzed (e.g., air toxics, GHG and odors). Guidance for analyzing other types of potential impacts of operational emissions to air quality is provided in Chapter 5 (Toxic Air Contaminants), Chapter 6 (Greenhouse Gas Emissions), and Chapter 7 (Odors).

It is important for lead agencies to recognize that the District will be a Responsible Agency under CEQA for projects that include emissions units requiring a District permit. A discussion of the District's role as a Responsible Agency is described in Chapter 2, Environmental Review and Thresholds of Significance. The District intends to utilize the environmental document prepared by the lead agency to support the issuance of District permits.

Estimating Stationary Source Emissions

CalEEMod is not equipped to estimate emissions generated by stationary sources. If it is known at the time of environmental analysis that stationary sources will be included in the project the District's Permitting staff should be consulted for guidance on estimating emissions. Emission factors that have a high level of confidence for particular industrial processes and equipment are EPA- or CARB-certified factors. If certified factors are unavailable then the manufacturer's guaranteed emission factors should be used. If neither of those two sources of emission factors is available then the more general EPA AP-42 emission factors may be used. To the extent possible, the District recommends that the methodology used to estimate stationary-source emissions be consistent with calculations that will need to be performed to fulfill requirements of the permitting process, which will typically take place subsequent to CEQA review of the project.

Large projects with high levels of PM_{10} and $PM_{2.5}$ emissions may require concentration modeling to determine if the project alone will exceed the AAQS. Projects that exceed the AAQS are considered to have a significant impact.

Determining Level of Significance

Lead agencies shall estimate and present a project's operational emissions for both the summer and winter seasons, and annually. Lead agencies shall compare the project's maximum daily operational emissions of precursors ROG, NO_X, PM_{10} and $PM_{2.5}$ during both seasons and annual emissions of PM to the District's

thresholds of significance. **NOTE:** Best available control technologies (for stationary sources) and best management practices for PM_{10} and $PM_{2.5}$ emissions must be included in the project for the lead agency to apply the non-zero PM thresholds of significance. If the project's maximum daily emissions of ROG, NO_X, PM_{10} or $PM_{2.5}$ during either summer or winter or annual emissions of PM will exceed the District's thresholds of significance, then the project will have a significant impact to air quality. By exceeding the District's mass emission thresholds for operational emissions of ROG, NO_X, PM_{10} or $PM_{2.5}$, the project will be considered to conflict with or obstruct implementation of the District's air quality planning efforts. Furthermore, the project will result in a cumulatively considerable net increase in precursor and PM emissions, for which Sacramento County is nonattainment with respect to one or more of the state and national AAQS. For projects that exceed the District's thresholds of significance, lead agencies shall implement all feasible mitigation to reduce ROG, NOx and PM emissions.

If a proposed project involves the removal of existing emission sources on the same site as the proposed land use, then the District recommends subtracting the existing emissions levels from the emissions levels estimated for the new proposed land use. This "net" calculation is permissible only if the existing emission sources were operational at the time that the Notice of Preparation (NOP) for the CEQA project was circulated and will continue if the proposed redevelopment project is not approved. This "net calculation" is not permitted for emission sources that ceased to operate (or the land uses were vacated and/or demolished) prior to circulation of the NOP.

4.3.2 Assessing Local Emission Concentrations

Except for CO, land use development projects do not typically have the potential to result in localized concentrations of CAPs that exceed or contribute to an exceedance of the respective AAQS. This is because CAPs are predominantly generated in the form of mobile-source exhaust from vehicle trips associated with the land use development project. These vehicle trips occur throughout a paved network of roads, and, therefore, associated exhaust emissions of CAPs are not generated in a single location where high concentrations could be formed. However, there may be large projects with high levels of PM_{10} and $PM_{2.5}$ emissions that may require concentration modeling to determine if the project alone will exceed the AAQS for PM. Projects that exceed the AAQS are considered to have a significant impact.

Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed, and delay. Long-distance transport of CO is extremely limited because it disperses rapidly with distance from the source under normal meteorological conditions. Under specific meteorological conditions and traffic conditions, CO concentrations at receptors located near roadway intersections may reach unhealthy levels, when combined with background CO level.

Emissions and ambient concentrations of CO have decreased dramatically in the Sacramento Valley Air Basin with the introduction of the catalytic converter

emission control technology for on-road motor vehicles in 1975 and reformulated fuels required by the 1990 Clean Air Act amendments. No exceedances of the CAAQS or NAAQS for CO have been recorded at a monitoring station in Sacramento County since 1993. Both CARB and EPA have redesignated the Sacramento Valley Air Basin as an attainment area for CO, for the CAAQS in 1997 and the NAAQS on June 1, 1998, respectively. However, elevated localized concentrations of CO still warrant consideration in the environmental review process. Occurrences of localized CO concentrations (i.e., "hotspots") are often associated with heavy traffic congestion, which most frequently occur at signalized intersections of high-volume roadways.

More detailed guidance for analyzing CO concentrations, using screening criteria and dispersion modeling, are discussed below.

Screening Criteria for Carbon Monoxide Hot Spots

This preliminary screening methodology provides lead agencies with a conservative indication of whether project-generated vehicle trips will result in the generation of CO emissions that contribute to an exceedance of the thresholds of significance. The District's recommended screening criteria are divided into two tiers, as described below. The screening criteria have been developed to help lead agencies analyze potential CO impacts and identify when site-specific CO dispersion modeling is not necessary.

First Tier

The proposed project will result in a less-than-significant impact to air quality for local CO if:

- Traffic generated by the proposed project will not result in deterioration of intersection level of service (LOS) to LOS E or F; and
- The project will not contribute additional traffic to an intersection that already operates at LOS of E or F.

If the first tier of screening criteria is not met then the second tier of screening criteria shall be examined.

Second Tier

If all of the following criteria are met, the proposed project will result in a less-than-significant impact to air quality for local CO.

- The project will not result in an affected intersection experiencing more than 31,600 vehicles per hour;
- The project will not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, or below-grade roadway; or other locations where horizontal or vertical mixing of air will be substantially limited; and

- The mix of vehicle types at the intersection is not anticipated to be substantially different from the County average (as identified by the EMFAC or CalEEMod models).

Lead agencies shall perform dispersion modeling to estimate CO concentrations at sensitive receptors near congested intersections (LOS E or F) or other locations of traffic congestion that do not meet the above screening criteria. Detailed guidance about how dispersion modeling shall be performed is provided in the District's Carbon Monoxide Dispersion Modeling Guidance. This guidance explains how to estimate the local CO concentrations that will be generated at a congested intersection and how to determine the local background CO concentration.

Determining Level of Significance

Following quantification of local CO emissions in accordance with the District's Carbon Monoxide Dispersion Modeling Guidance, the lead agency shall compare the total estimated worst-case 1-hour and 8-hour CO concentrations with the applicable threshold of significance. If the modeled 1-hour and 8-hour CO concentrations will not exceed the respective thresholds of significance, the project will have a less-than-significant impact to air quality. If modeled concentrations will exceed any applicable threshold of significance, the proposed project will result in a significant impact, and all feasible mitigation measures will need to be implemented to reduce the high CO concentrations. Potential mitigation measures for reducing CO impacts are discussed in Section 4.4.2, Reducing Carbon Monoxide Concentrations.

4.3.3 Conformity Analyses for Large Infrastructure Projects

Pursuant to the Federal Clean Air Act, transportation and non-transportation projects in Sacramento County that are supported by federal funding or approval and not subject to special exemptions will be required to comply with the Code of Federal Regulations on conformity (40 CFR 93). More specifically, as explained on the EPA's General Conformity web page and Federal Highway Administration' Transportation Conformity web page, transportation infrastructure projects (e.g. lane widening, change to existing road configuration, new freeway exit) are subject to EPA's Transportation Conformity Regulations and will require a Transportation Conformity analysis; and non-transportation projects are subject to EPA's General Conformity Regulations (e.g. dams, levees and other water infrastructure) will require a General Conformity analysis. De Minimis emission levels that trigger a general conformity analysis can be found on the EPA's web page or 40 CFR 93 §153.

As part of the Transportation Conformity analysis for transportation infrastructure projects in Sacramento County, the California Department of Transportation (Caltrans) determines if an infrastructure project was included in the Regional Transportation Plan (RTP) or Regional Transportation Improvement Plan (RTIP), including the associated plan-level conformity analysis (as explained in Caltrans guidance on conformity analysis and EPA guidance on conformity analysis).

Transportation infrastructure projects that have been accounted for in the RTP and/or RTIP that have approved conformity determinations from the U.S. Department of Transportation will meet the Transportation Conformity requirements and will not be considered to conflict with the State Implementation Plan (SIP). Similarly, non-transportation infrastructure projects are subject to the General Conformity Regulations.

4.4 MITIGATION

State CEQA Guidelines, Section 21002.1(b) requires lead agencies to mitigate or avoid significant environmental impacts associated with discretionary projects whenever it is feasible. Environmental documents for projects that have significant environmental impacts must identify feasible mitigation measures or alternatives to reduce the impacts. **NOTE:** Best available control technologies (for stationary sources) and best management practices for operational emissions should be disclosed in the environmental document although most are required by regulations. If, after the identification of all feasible mitigation measures, a project is still deemed to have significant environmental impacts, the lead agency can approve a project, but must adopt a Statement of Overriding Consideration to explain why further mitigation measures are not feasible, and why approval of a project with significant unavoidable impacts is warranted. This section describes what the District considers to be feasible mitigation in light of existing regulations and research.

The District recognizes that the final determination of feasibility is made by the lead agency. In addition to CEQA requirements, mitigation of air quality impacts is needed to achieve the AAQS. All incremental emission sources, including those associated with land use development projects must be mitigated to the greatest extent possible in order to achieve and maintain the health-based AAQS. Failure to attain commitments of the State Implementation Plan (SIP) and AAQS could result in federal sanctions placed on the region such as the loss of federal transportation funds for local roadway projects and implementation of more stringent emission offset requirements on new and modified stationary sources.

Recognizing that direct and indirect emissions from land use development projects can significantly impact the region's air quality, the County of Sacramento and many incorporated cities in the county have adopted land use review requirements in their respective General Plans. These land use review policies require that projects with significant operational air quality impacts from ozone precursors reduce ROG and NO_X emissions by a minimum of 15% by selecting and implementing mitigation measures. Many general plan policies are also supportive of reducing PM emissions in Sacramento County but have not prescribed a level of reduction. The role of the District is to assist the lead agencies in the creation, verification and implementation of mitigation measures for ozone precursor and PM emissions.

Operational emission reduction measures must, by definition, reduce emissions beyond existing regulations. Regulatory programs are in place at the federal, state

and District level to reduce air pollutant emissions from nearly all sources; however, they are not always sufficient to eliminate impacts to air quality. For example, ARB's motor vehicle programs have dramatically reduced average tailpipe emissions from the state's vehicle fleet but motor vehicle emissions will continue to be a predominant source of ozone precursor emissions in the Sacramento Valley Air Basin due to growth in the number of vehicles and in vehicle miles traveled.

If a project's long-term emissions will remain above the applicable threshold of significance after implementation of all feasible on-site mitigation measures, the lead agency can implement a District-approved off-site mitigation strategy to further reduce long-term air quality impacts below the applicable threshold of significance. Each off-site mitigation strategy shall be developed in consultation with, and approved by, the District. An off-site mitigation strategy may only be implemented after all other on-site feasible operational emission reduction measures have been implemented.

For every operational emission reduction measure included in a CEQA document the District recommends that the text be as detailed as possible and clearly identify who is responsible for implementation, funding, enforcement, and any required maintenance activities. The lead agency shall also explain why the measure will be effective in reducing emissions and why each measure is considered to be feasible. In the case that operational emission reduction measures relate directly or indirectly to policies in the local jurisdiction's General Plan, the District encourages the explanation of these relationships also be included.

Detailed guidance about reducing mass emissions of CAP and precursors from land use development projects, CO concentrations, and CAP and precursors from stationary-source emissions is provided in section 4.4.1, 4.4.2 and 4.4.3, respectively.

4.4.1 Reducing Mass Emissions from Land Use Development Projects

For land use development projects that will exceed the District's operational emissions thresholds of significance for ROG, NO_X, or PM the District recommends the project proponent develop an Air Quality Mitigation Plan (AQMP) describing how the project will reduce operational emissions.

The District's Guidance for Land Use Emission Reductions (District Guidance) provides a description of the most current feasible mitigation measures to reduce operational emissions. The District Guidance provides detailed information on how to utilize CalEEMod to select the most appropriate mitigation measures for the project and quantify emission reductions from the mitigation measures selected. If project specific traffic study or travel demand model information was used in the CalEEMod run, mitigation measures must be reviewed to ensure no emission reductions are double counted. All of the measures in the District Guidance include information about the targeted reductions that might be

achieved by each measure. The measures and reductions have been substantiated through research identified by a comprehensive literature review. Lead agencies and project proponents can also research and develop additional measures, in consultation with the District, which have reductions that are both quantifiable and substantiated.

The District has determined that a minimum of 15% reduction in mobile source ozone precursor emissions from a project (that is consistent with the State Implementation Plan) can be achieved in a manner that is both administratively and economically feasible. Sacramento County and many incorporated cities have adopted language in their general plans requiring operationally significant projects for ozone precursors to achieve this level of mitigation. Projects with PM emissions that exceed the District's thresholds of significance must incorporate all feasible mitigation in the AQMP.

In order to satisfy Section 21002.1(b) of the State CEQA Guidelines, however, which requires lead agencies to mitigate or avoid significant environmental impacts associated with discretionary projects whenever it is feasible to do, the AQMP developed for a land use development project will be required to reduce operational emissions by more than 15% if implementation of additional feasible mitigation is possible. Additionally, if the project is not consistent with the land use assumptions in the State Implementation Plan and Metropolitan Transportation Plan/Sustainable Communities Strategy, the District has determined that a 35% reduction is feasible.

To assist in documenting, quantifying, and monitoring the mitigation measures selected by the project proponent, the District has prescribed that the selected operational mitigation measures be explained in the context of an AQMP. The AQMP can be a standalone document or incorporated into the environmental document. During the environmental review process, and before certification of the CEQA environmental document by the lead agency, the District independently confirms the benefits of the selected measures in the AQMP with a verification letter. The AQMP shall then be referenced in the CEQA document as an air quality mitigation measure, appended to the document, and referenced as a condition of approval by the lead agency.

4.4.2 Reducing Carbon Monoxide Concentrations

The following section describes District-recommended mitigation measures for reducing local CO impacts. Lead agencies shall consider implementation of the following measures, as feasible, for reducing project-generated hourly traffic volumes (and associated CO emissions) at affected intersections. The emission reductions achieved by implementation of these measures shall be supported by project-specific transportation modeling.

- Synchronize traffic signals to improve traffic flow and minimize traffic congestion,

- Install additional traffic signals (such as light metering) to relocate congested traffic farther away from receptors,
- Improve public transit service (e.g., increase transit headway frequency) to reduce vehicle traffic and increase public transit mode share during peak traffic congestion periods,
- Improve bicycle and pedestrian infrastructure (e.g., install class I or II bike lanes, install or widen sidewalks, implement traffic calming features around pedestrian crosswalks) to reduce vehicle traffic and increase bicycle and pedestrian mode share during peak traffic congestion periods,
- Adjust pedestrian crosswalk signal timing to minimize waiting time for vehicles turning right (or otherwise sharing green time with pedestrians) by giving pedestrians a head start (pedestrian signal changes to green before traffic signal),
- Where pedestrian traffic is high, implement pedestrian crosswalks with multi-directional crossings (where vehicle signals are red in all directions simultaneously) allowing pedestrians to cross intersections diagonally,
- Limit heavy-duty truck traffic during peak hours and designate truck routes that divert truck traffic away from congested intersections,
- Prohibit left turns, U-turns, or other maneuvers during peak hours that add to congestion,
- Limit on-street parking during peak hours, to allow for added vehicle capacity, and/or
- Implement traffic congestion-alleviating mitigation measures as identified by a traffic engineer.

4.4.3 Reducing Emissions from Stationary Sources

Mitigation measures developed for reducing CAP and precursor emissions from stationary-source facilities shall be developed on a case-by-case basis in coordination with the District's permitting staff. If best available control technologies (BACT) are required, they should be disclosed. Area- and mobile-source emissions shall be mitigated in the same ways as land use development projects, as discussed in Section 4.4.1. Additional offsets could be implemented, including but not limited to the purchase of emission reduction credits to ensure that a facility's CAP emissions are reduced to a less-than-significant level.