4.6.1 Introduction

This section assesses the potential impacts on air quality resulting from implementation of further development accommodated by the Riverside County General Plan, as amended pursuant to the proposed project, GPA No. 960. This includes the potential for the project to conflict with or obstruct implementation of applicable air quality plans; violate an air quality standard or contribute substantially to an existing or projected air quality violation; result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment; expose sensitive receptors to substantial pollutant concentrations; or create objectionable odors that would affect a substantial number of people. Global climate change and greenhouse gas emissions are addressed separately in Section 4.7 (Greenhouse Gases). Air quality modeling results used herein are provided in Appendix EIR-5.

The State CEQA Guidelines require that the project baseline consist of the physical environmental conditions at the project site and vicinity of the project as they exist at the time the notice of preparation (NOP) of the EIR is published or at the time the environmental analysis begins. The NOP for the project was published in 2009, and the existing conditions at that time are the baseline for purposes of the analysis in this section. However, the data used for purposes of calculating those baseline conditions includes multiple years of data, where that data was the most current available. For example, with respect to ambient air quality emissions for the project area, the years 2007 through 2009 were used because that was the most current validated data available at the time of the analysis and provided the most accurate means of assessing air quality conditions across the project area. Similarly, for the analysis of land use-based impacts, data from 2008 was included in the analysis because it was the most complete set of data addressing the project area’s existing conditions in 2009. Because the baseline is built and the existing air quality plans and programs already take the impacts from the baseline into account, the analysis only discussed the effects from the development under the entire General Plan Area as proposed to be built out under GPA No. 960. Air quality impacts are of regional as well as local importance, therefore impacts within this section addressed countywide changes that would occur through build out of Riverside County and not just the areas specifically affected by the changes between the previous General Plan and GPA No. 960.

4.6.2 Existing Environmental Setting – Air Quality

A. Air Basins in Riverside County

Riverside County spans three different air basins: South Coast, Salton Sea and Mojave Desert (Figure 4.6.1 (Air Basins in Riverside County)). The portions of Riverside County within the South Coast and Salton Sea Air Basins
are regulated by the South Coast Air Quality Management District (SCAQMD). SCAQMD also governs Los Angeles and Orange counties, plus a small portion of San Bernardino County. The easternmost third of Riverside County, within the Mojave Desert Air Basin, is under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD), which also governs the desert portion of San Bernardino County.

The three air basins in Riverside County have unique characteristics that affect the air quality in the region. The following sections describe the climate and meteorology of each air basin and the effects these characteristics have on air quality.

1. **South Coast Air Basin**

The South Coast Air Basin (SCAB) is surrounded by mountains trapping the air and its pollutants in the valleys or basins below. This area includes all of Orange County and the non-desert portions of Los Angeles, San Bernardino and Riverside counties. Bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east, the South Coast Air Basin is an area of high air pollution potential. The regional climate within the SCAB is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes and moderate humidity. Air quality within the SCAB is influenced by a wide range of emissions sources – such as dense population centers, heavy vehicular traffic and industry.

The annual average temperature varies throughout the SCAB, ranging from the low to mid 60s to over 100 degrees during the summer, measured in Fahrenheit (°F). Riverside County is located in the inland, eastern portion of the SCAB and experiences more variation in temperature than the coastal areas. The annual average temperature in the SCAB region of Riverside County is approximately 60°F, although temperatures can often exceed 90°F. Typically, the hottest months are July and August with the coldest months being December and January. The majority of the annual rainfall within the SCAB occurs between December and March. Summer rainfall is minimal and generally limited to scattered thundershowers in the coastal regions. Annual average rainfall in the Riverside County SCAB area is 9.1 inches.

The SCAB experiences a persistent temperature inversion, which is characterized by increasing temperature with increasing altitude. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. Aside from a persistent temperature inversion, the vertical dispersion of air contaminants in the basin is also affected by wind conditions. The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. Conversely, on days with no inversion or with high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas in the basin are transported eastward, predominantly into Riverside and San Bernardino counties. Santa Ana winds, which are strong and dry north or northeasterly winds that occur during the fall and winter months, disperse air contaminants differently through the SCAB, generally resulting in worse air conditions in the western parts of the basin. Santa Ana conditions tend to last for several days at a time.

The SCAB has very low average wind speeds; the dominant daily wind pattern is an onshore 8 to 12 mph during the day and offshore 3 to 5 mph winds during the night. These wind patterns are disrupted occasionally by winter storms or strong northeasterly Santa Ana winds from the mountains and deserts northeast of the SCAB.
Figure 4.6.1

AIR QUALITY BASINS

SCAQMD Jurisdiction
Air Quality Basins
Highways
Cities
Waterbodies

South Coast Air Basin
San Diego Air Basin
Salton Sea Air Basin
Mojave Desert Air Basin
Mojave Air Quality Management District

Data Source: California Air Resources Board (2010)
2. Mojave Desert Air Basin

The Mojave Desert Air Basin (MDAB) covers a large portion of easternmost Southern California. The terrain is made up of mountain ranges interspersed with long broad valleys that often contain dry lakes. The MDAB covers most of San Bernardino County and portions of Riverside, Los Angeles and Kern counties. This basin is bordered in the southwest by the San Bernardino Mountains and separated from the San Gabriel Mountains by the Cajon Pass.

The MDAB is an assemblage of mountain ranges rising up to 10,000 feet above long broad valleys. Prevailing winds out of the west and southwest are due to the proximity of the MDAB to coastal and central regions and the presence of the Sierra Nevada Mountains, a natural barrier to the north. The MDAB is separated from the Southern California coastal and central California valley regions by mountains whose passes from the main channels for offshore air masses.

During the summer months, the Pacific Subtropical High Cell that sits off the coast inhibits cloud formation and encourages daytime solar heating. Cold air masses moving south from Canada and Alaska rarely influence the MDAB as these systems are weaker and diffuse before reaching the desert.

Most moisture in the basin arrives from infrequent warm, moist and unstable air masses from the south and averages about 3.9 inches of precipitation per year. Classified as a dry-hot desert climate, with portions classified as dry-very hot desert, the MDAB has at least three months where maximum average temperatures exceed 100°F. Because the basin is a desert, it has many days of high temperatures; the annual average for the Riverside County portion of the MDAB is approximately 71°F with many days during the summer exceeding 100°F. The hottest months for the basin are July and August, while the coldest months are December and January.

Topography of the region affects the local meteorological conditions with wind direction primarily from the west, west-southwest and southwest. The “orographic effect” is responsible for a large portion of the prevailing winds in the MDAB. Because of the “orographic effect,” air is forced over the mountain range and loses moisture as it rises. As it descends, it also compresses and heats up. Similar to the SCAB, pollutants in the MDAB are trapped and accumulate close to ground level through frequent temperature inversions.

3. Salton Sea Air Basin

Air quality conditions in this portion of Riverside County, although in the Salton Sea Air Basin (SSAB), are administered by the SCAQMD. The SSAB covers all of Imperial County and the central portion of Riverside County (the Coachella Valley area). The Riverside County portion of the basin is bordered by the San Jacinto Mountains in the west and the Little San Bernardino Mountains in the east. Similar to the MDAB, the SSAB receives little moisture from the south and averages about 2.8 inches of rain per year. The annual average temperature for the region is 73°F with temperatures often exceeding 100°F during the hottest months of the summer. These hottest months for the SSAB are July and August with the coldest months being December and January.

During the summer, the SSAB is influenced by a Pacific Subtropical High Cell that sits off the coast. Similar to the MDAB, the cell inhibits cloud formation and encourages daytime solar heating. The SSAB is rarely influenced by weakened and diffuse cold air masses moving south from Canada and Alaska. Most desert moisture arrives from infrequent warm, moist and unstable air masses from the south. The SSAB averages between three and seven inches of precipitation per year.
The Salton Sea Air Basin is currently impacted by significant air pollution levels caused by the transport of pollutants from coastal air basins primarily consisting of ozone and PM$_{10}$. As the desert heats up, it draws cooler coastal air through the narrow San Gorgonio Pass, generating strong and sustained winds that cross erosion zones. These winds suspend and transport large quantities of sand and dust, reducing visibility, damaging property and constituting a significant health threat.

**B. Air Pollutants**

Air pollutant emissions within the air basins are generated from stationary, mobile and natural sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at an identified location and are usually associated with manufacturing and industry. Examples are boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and produce many small emissions. Examples of area sources include residential and commercial water heaters, painting operations, portable generators, lawn mowers, agricultural fields, landfills and consumer products, such as barbeque lighter fluid and hair spray. Construction activities such as excavation and grading that create fugitive dust also contribute to area source emissions.

Mobile sources refer to emissions from on- and off-road motor vehicles, including tailpipe and evaporative emissions. On-road sources are vehicles that may be legally operated on roadways and highways. Off-road sources include aircraft, trains and construction equipment. Mobile sources account for the majority of the air pollutant emissions within most air basins. Air pollutants can also be generated by the natural environment, such as when fine dust particles are pulled off the ground surface and suspended in the air during high winds.

To protect the public health and welfare, the federal and state governments have identified five criteria air pollutants and a host of air toxics that have established ambient air quality standards through the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA). Criteria pollutants are those air pollutants for which acceptable levels of exposure have been determined and for which an ambient air quality standard has been set. Also, the U.S. EPA has described its characteristics and potential health effects. The air pollutants for which federal and state standards have been promulgated and which are most relevant to air quality planning and regulation in the air basins include ozone, carbon monoxide, suspended particulate matter, sulfur dioxide and lead.

Air pollutants are typically classified as primary or secondary pollutants. Of the five criteria pollutants listed above, carbon monoxide (CO), particulate matter (PM), sulfur dioxide (SO$_2$) and lead (Pb) are considered primary pollutants because they are emitted directly into the atmosphere. Ozone (O$_3$) is considered a secondary pollutant because it is not directly emitted but formed through a photochemical reaction in the atmosphere when reactive organic gases (ROGs) and nitrogen oxides (NO$_x$) combine in the presence of sunlight and produce O$_3$.

Both the federal and state governments have established ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health. The national and state ambient air quality standards delineate the concentrations that could be generally harmful to human health and welfare in order to protect the most sensitive persons from illness or discomfort, and provide a margin of safety.

**1. Criteria Pollutants**

The criteria pollutants of issue for Riverside County are each described below.
**Section 4.6 Air Quality**

**Ozone (O₃):** A gas that is formed when volatile organic compounds (VOCs) (also referred to as reactive organic gases (ROGs)) and nitrogen oxides (NOₓ), both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. Because of the way ozone is formed, ROGs and NOₓ are known as ozone precursors. Meteorological conditions needed to produce high concentrations of ozone include direct sunshine, early morning stagnation in source areas, high ground surface temperatures, strong and low morning inversions, greatly restricted vertical mixing during the day and daytime air subsidence that strengthens the inversion layer. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind and warm temperature conditions are favorable.

**Carbon Monoxide (CO):** A colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based air inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines and motor vehicles operating at slow speeds are the primary source of CO, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

**Respirable Particulate Matter (PM₁₀) and Fine Particulate Matter (PM₂.₅):** Extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. However, in populated areas, most particulate matter comes from road dust, diesel soot, combustion products, abrasion of tires, abrasion of brakes and construction activities.

**Sulfur dioxide (SO₂):** A colorless, extremely irritating gas or liquid. It enters the atmosphere mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. Although sulfur dioxide concentrations in Southern California have been reduced to levels well below state and national standards, further reductions are desirable because SO₂ is a precursor to sulfates which can also affect human health. Due to regional meteorological features in Southern California, sulfur dioxide converts rapidly to sulfates which are formed through the photochemical oxidation of SO₂.

**Lead (Pb):** Occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne lead in the region. However, since use of leaded gasoline is no longer permitted for on-road motor vehicles, most lead combustion emissions currently arise from off-road vehicles, such as racecars, and some jet fuels. Other sources of lead include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition and secondary lead smelters.

**Toxic Air Contaminants (TACs):** TACs are a diverse group of air pollutants that can affect human health, but do not yet have established ambient air quality standards. Though not fundamentally different from the pollutants discussed above, the effects of TACs tend to be local rather than regional. The California Air Resources Board (CARB) has designated nearly 200 compounds as TACs. Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines.

### 2. Health Effects of Air Pollutants

**Ozone:** Individuals exercising outdoors, children and people with pre-existing lung disease, such as asthma and chronic pulmonary lung disease, are considered to be most susceptible to ozone effects. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of lung tissue and immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increased daily hospital admission rates, as well as
mortality, has been reported. Also, an increased risk for asthma has been found in children who participate in multiple sports and live in communities with high ozone levels.

Ozone exposure while exercising is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes ozone may be more toxic than exposure to ozone alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.

**Reactive Organic Gases:** Reactive organic gases are carbon-containing compounds that typically evaporate into the air where they can react with other chemicals. ROGs contribute to the formation of smog, and in some cases may themselves be toxic. ROGs often have an odor and some examples include chemicals in gasoline, alcohol and the solvents used in paints.

Because ROGs encompass a large range of compounds, the health effects resulting from exposure to the various forms of ROGs range from minor and temporary irritation of the mucous membranes to death. As an example, formaldehyde is an ROG and many building materials such as paints, adhesives, wall boards and ceiling tiles slowly emit formaldehyde, which irritates the mucous membranes and can make a person irritated and uncomfortable when indoor concentrations of formaldehyde build up. By contrast, brief exposure (as little as ten minutes) to high concentrations of benzene (another form of ROG) can cause death. Short-term exposure to lower concentrations of benzene can cause drowsiness, dizziness, rapid heart rate, headaches, tremors, confusion and unconsciousness; in most cases people will stop feeling these effects when they are no longer exposed. People who inhale benzene for long periods of time (months or years) at high enough levels may experience harmful effects in the tissues that form blood cells, especially the bone marrow. Long-term exposure to benzene can cause various forms of cancer. Because benzene is carcinogenic, it is also listed as a toxic air contaminant (TAC). TACs are described in more detail below. These examples give the full range of health effects associated with ROGs. This range of health effects depend upon the concentration, length of exposure and particular species of ROG.

**Nitrogen Dioxide:** Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is associated with long-term exposure to NO$_2$ at levels found in homes with gas stoves. NO$_2$ levels in homes with gas stoves can be higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO$_2$ in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis or emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

In animals, exposure to levels of NO$_2$ considerably higher than ambient concentrations results in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of ozone exposure increases when animals are exposed to a combination of ozone and NO$_2$.

**Carbon Monoxide:** Inhaled CO has no direct toxic effect on the lungs but effects tissues by interfering with oxygen transport and by competing with oxygen in combining with hemoglobin. Hence, individuals that have conditions that restrict oxygen intake can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels and patients with chronic hypoxemia (oxygen deficiency), such as that seen at high altitudes. Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects of CO inhalation include earlier onset of chest pain with exercise and electrocardiograph changes indicative of worsening oxygen supply to the heart.
Reduction in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to CO, resulting in lowered oxygen levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels; these include pre-term births and heart abnormalities.

**Particulate Matter:** A consistent correlation between elevated ambient fine particulate matter (PM$_{10}$ and PM$_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life span and an increased mortality from lung cancer.

Daily fluctuations in PM$_{2.5}$ concentrations have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease and children appear to be more susceptible to the effects of high levels of PM$_{10}$ and PM$_{2.5}$.

**Sulfur Dioxide:** The effects of sulfate exposure at levels above the standard include the aggravation of asthmatic symptoms, an increased risk of cardio-pulmonary disease and a decrease in respiratory function. A few minutes of exposure to low levels of SO$_2$ can result in airway constriction in some asthmatics. In asthmatics, increased lung resistance, as well as reduction in breathing capacity leading to severe breathing difficulties, is observed after acute exposure to SO$_2$. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO$_2$. Animal studies suggest that, despite being a respiratory irritant, SO$_2$ does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO$_2$ levels. In these studies, efforts to separate the effects of SO$_2$ from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.

**Lead:** Fetuses, infants and children are more sensitive than others to the adverse effects of exposure to lead (Pb). Exposure to low levels of lead can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands and lower intelligence. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia, lethargy, seizures and death although it appears that there are no direct effects of lead on the respiratory system. Lead can be stored in the bones from early age environmental exposure and elevated blood lead levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of lead because of previous environmental lead exposure of their mothers. Strict control of stationary sources and reformulation of gasoline in 1980 eliminated lead from stationary source exhaust stacks and vehicle tailpipes. For these reasons, lead concentrations in the atmosphere are negligible countywide and not analyzed further in this evaluation.

**Toxic Air Contaminants (TACs):** Toxic air contaminants are airborne substances that are capable of causing chronic (i.e., of long duration) and acute (i.e., severe but of short duration) adverse effects on human health. TACs are a broad class of substances known to have toxic properties. All airborne materials known to cause cancer are categorized as TACs. Note that benzene used as an example as an ROG is also defined as a TAC.
Any ROG that is carcinogenic is also defined as a TAC. Another form of TAC is diesel particulate matter (DPM). DPM is a fine particulate found within diesel exhaust. What makes DPM different from fine particulate matter is that the outer surface of the DPM particle is coated with a variety of toxic substances including arsenic, benzene and nickel. Long-term exposure to DPM has the potential to contribute to mutations in cells that can lead to cancer. In fact, long-term exposure to DPM poses the highest cancer risk of TAC evaluated by the Office of Environmental Health Hazard Assessment (OEHHA, 2012). CARB estimates that about 70% of the cancer risk that the average Californian faces from breathing toxic air pollutants stems from diesel exhaust particles (SCAQMD, 2008).

TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations and research and teaching facilities.

Because of the carcinogenic nature of TACs, exposure to TACs require additional evaluation in a health risk assessment (HRA) to determine the lifetime cancer risk associated with exposure to TACs. Lifetime cancer risk is defined as the increased chance of contracting cancer over a 70-year period as a result of exposure to a toxic substance or substances. It is the product of the estimated daily exposure of each suspected carcinogen by its respective cancer unit risk. The end result represents a worst-case estimate of cancer risk. Determining the lifetime cancer risk from exposure to TACs in an HRA requires project-specific information on the exact location, amount and type of TAC being emitted and the exact location, exposure rate and duration of exposure at receptors that are being exposed to the TAC. Because of the detailed project-specific information required to make such an assessment, it is impossible to provide an HRA for TACs in this programmatic level analysis of the General Plan update. However, HRAs are required for projects known to emit TACs prior to approval of such projects.

Odors: The science of odor as a health concern is still new. Odors are caused by the release of volatile or reactive organic gases. Merely identifying the hundreds of ROGs that cause offensive odors poses a big challenge. Odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose and throat, which can reduce respiratory volume. Second, the ROGs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

C. Existing Regional Air Quality Emissions

Measurements of ambient concentrations of criteria pollutants are used by the United States Environmental Protection Agency (EPA) and CARB to assess and classify the air quality of each air basin, county or, in some cases, a specific developed area. The classification is determined by comparing monitoring data with national and California air quality standards. If a pollutant concentration in an area is lower than the standard, the area is classified as being in “attainment.” If the pollutant exceeds the standard, the area is in marginal, moderate, serious, severe or extreme “nonattainment,” depending on the magnitude of the exceedance. If there is not enough data available to determine whether the standard is exceeded, the area is designated “unclassified.” The following discussion, along with Table 4.6-A (Ambient Air Quality Reporting for Criteria Pollutants – SCAB (2007-2009) and Table 4.6-B (Ambient Air Quality Reporting for Criteria Pollutants – SSAB (2007-2009)), outlines the air quality data for the basins within Riverside County.
1. South Coast Air Basin

At the federal level, the SCAB is designated as an extreme nonattainment area for ozone and a serious nonattainment area for PM\(_{10}\). The area is also a federal-level nonattainment area for PM\(_{2.5}\). The federal status of the SCAB was recently upgraded from nonattainment to “serious maintenance area” for CO. The SCAB is in attainment for NO\(_2\) and SO\(_2\).

At the state level, the SCAB is also designated as an extreme nonattainment area for ozone and a nonattainment area for PM\(_{2.5}\) and PM\(_{10}\). It is in attainment for the California State CO standard and for SO\(_2\) and NO\(_2\), a subcategory of NO\(_X\). In an effort to monitor the various concentrations of air pollutants throughout the basin, the SCAQMD has divided the region into 38 source receptor areas (SRAs), which are tracked by 32 monitoring stations. The portion of the County of Riverside located in the SCAB is within SRAs 22, 23, 24, 25, 26, 27, 28 and 29.

| Table 4.6-A: Ambient Air Quality Reporting for Criteria Pollutants – SCAB (2007-2009) |
|-------------------------------------------------|---------|---------|---------|
| Air Pollutants Monitored                        | Year    |
|                                                | 2007    | 2008    | 2009    |
| Ozone (O\(_3\))                                |         |
| Maximum 1-hour concentration measured          | 0.139 ppm| 0.146 ppm| 0.128 ppm|
| Number of days exceeding California State 0.09 ppm 1-hour standard | 66 | 65 | 53 |
| Maximum 8-hour concentration measured          | 0.116 ppm| 0.118 ppm| 0.108 ppm|
| Number of days exceeding national 0.075 ppm 8-hour standard | 73 | 77 | 67 |
| Number of days exceeding California State 0.07 ppm 8-hour standard | 88 | 94 | 88 |
| Nitrogen Dioxide (NO\(_2\))                    |         |
| Maximum 1-hour concentration measured          | 0.07 ppm| 0.09 ppm| 0.08 ppm|
| Number of days exceeding California State 0.18 ppm 1-hour standard | 0 | 0 | 0 |
| Annual average                                 | 0.0206 ppm| 0.0258 ppm| 0.0200 ppm|
| Number of days exceeding California State 0.03 ppm annual average | 0 | 0 | 0 |
| Number of days exceeding national 0.0534 ppm annual average | 0 | 0 | 0 |
| Carbon Monoxide (CO)                           |         |
| Maximum 1-hour concentration measured          | 4 ppm   | 7 ppm   | 3 ppm   |
| Number of days exceeding national 35.0 ppm 1-hour standard | 0 | 0 | 0 |
| Number of days exceeding California State 20.0 ppm 1-hour standard | 0 | 0 | 0 |
| Maximum 8-hour concentration measured          | 2.9 ppm | 2 ppm   | 2.4 ppm |
| Number of days exceeding national 9.0 ppm 8-hour standard | 0 | 0 | 0 |
| Number of days exceeding California State 9.0 ppm 8-hour standard | 0 | 0 | 0 |
| Suspended Particulates (PM\(_{10}\))           |         |
| Maximum 24-hour concentration measured         | 142 μg/m\(^3\) | 135 μg/m\(^3\) | 108 μg/m\(^3\) |
| Number of days exceeding national 150 μg/m\(^3\) 24-hour standard | 0 | 0 | 0 |
| Number of days exceeding California State 50.0 μg/m\(^3\) 24-hour standard | 41 | 49 | 33 |
| Annual Average Concentration μg/m\(^3\)        | 68.5 μg/m\(^3\) | 57.4 μg/m\(^3\) | 53.4 μg/m\(^3\) |
| Suspended Particulates (PM\(_{2.5}\))           |         |
| Maximum 24-hour concentration measured         | 75.7 μg/m\(^3\) | 57.7 μg/m\(^3\) | 49.3 μg/m\(^3\) |
| Number of days exceeding national 35 μg/m\(^3\) 24-hour standard | 33 | 14 | 16 |
| Sulfur Dioxide (SO\(_2\))                      |         |
| Maximum 24-hour concentration measured         | 0.002 ppm| 0.003 ppm| 0.003 ppm|
| Number of days exceeding California State 0.04 ppm 24-hour standard | 0 | 0 | 0 |

Key: ppm = parts per million μg/m\(^3\) = micrograms per cubic meter


Table 4.6-B provides a summary of highest ambient air concentrations measured at the three monitoring stations between 2007 and 2009. As identified in the table, the California State 1-hour standard for ozone was exceeded 141 times during the three-year period. The national 8-hour ozone standard was exceeded 202 times, and the California State 8-hour standard was exceeded 271 times. The California State 24-hour standard for PM\(_{10}\) was
exceeded 85 times between 2007 and 2009. CO, NO\textsubscript{X}, PM\textsubscript{2.5} and SO\textsubscript{2} standards were not exceeded during this three-year period.

<table>
<thead>
<tr>
<th>Air Pollutants Monitored</th>
<th>Results by Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007</td>
</tr>
<tr>
<td>Ozone (O\textsubscript{3})</td>
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<tr>
<td>Maximum 1-hour concentration measured</td>
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<td>Number of days exceeding California State 0.09 ppm 1-hour standard</td>
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<td>Number of days exceeding California State 0.07 ppm 8-hour standard</td>
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<td>Nitrogen Dioxide (NO\textsubscript{2})</td>
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<td>Maximum 1-hour concentration measured</td>
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<td>Number of days exceeding national 0.0534 ppm annual average</td>
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<td>Carbon Monoxide (CO)</td>
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</tr>
<tr>
<td>Maximum 1-hour concentration measured</td>
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</tr>
<tr>
<td>Number of days exceeding national 35.0 ppm 1-hour standard</td>
<td>0</td>
</tr>
<tr>
<td>Number of days exceeding California State 20.0 ppm 1-hour standard</td>
<td>0</td>
</tr>
<tr>
<td>Maximum 8-hour concentration measured</td>
<td>1 ppm</td>
</tr>
<tr>
<td>Number of days exceeding national 9.0 ppm 8-hour standard</td>
<td>0</td>
</tr>
<tr>
<td>Number of days exceeding California State 9.0 ppm 8-hour standard</td>
<td>0</td>
</tr>
<tr>
<td>Suspended Particles (PM\textsubscript{10})</td>
<td></td>
</tr>
<tr>
<td>Maximum 24-hour concentration measured</td>
<td>146 μg/m\textsuperscript{3}</td>
</tr>
<tr>
<td>Number of days exceeding national 150 μg/m\textsuperscript{3} 24-hour standard</td>
<td>0</td>
</tr>
<tr>
<td>Number of days exceeding California State 50.0 μg/m\textsuperscript{3} 24-hour standard</td>
<td>51</td>
</tr>
<tr>
<td>Annual Average Concentration μg/m\textsuperscript{3}</td>
<td>53.5 μg/m\textsuperscript{3}</td>
</tr>
<tr>
<td>Suspended Particles (PM\textsubscript{2.5})</td>
<td></td>
</tr>
<tr>
<td>Maximum 24-hour concentration measured</td>
<td>32.5 μg/m\textsuperscript{3}</td>
</tr>
<tr>
<td>Number of days exceeding national 35 μg/m\textsuperscript{3} 24-hour standard</td>
<td>0</td>
</tr>
<tr>
<td>Sulfur Dioxide (SO\textsubscript{2})</td>
<td></td>
</tr>
<tr>
<td>Maximum 24-hour concentration measured</td>
<td>---</td>
</tr>
<tr>
<td>Number of days exceeding California State 0.04 ppm 24-hour standard</td>
<td>---</td>
</tr>
</tbody>
</table>

Key: ppm = parts per million  μg/m\textsuperscript{3} = micrograms per cubic meter

2. **Salton Sea Air Basin**

The SSAB is federally designated as a severe nonattainment area for ozone and as a serious nonattainment area for PM\textsubscript{10}. The SSAB is in attainment for both CO and NO\textsubscript{2}, but is unclassified for PM\textsubscript{2.5} and SO\textsubscript{2}. At the state level, the SSAB is designated as a nonattainment area for both ozone and PM\textsubscript{10}. It is in attainment for the California State CO, NO\textsubscript{2} and SO\textsubscript{2} standards, but unclassified for PM\textsubscript{2.5}. Air quality in the Coachella Valley portion of the Salton Sea Air Basin is under the jurisdiction of the SCAQMD, therefore is monitored as part of its program. This portion of Riverside County is located within SRAs 29, 30 and 31, which are monitored by stations in Banning Pass, Palm Springs and Indio.

Table 4.6-B provides a summary of highest ambient air concentrations measured at the three monitoring stations between 2007 and 2009. As identified in the table, the California State 1-hour standard for ozone was exceeded 141 times during the three-year period. The national 8-hour ozone standard was exceeded 202 times, and the California State 8-hour standard was exceeded 271 times. The California State 24-hour standard for PM\textsubscript{10} was
exceeded 85 times between 2007 and 2009. CO, NO\textsubscript{X}, PM\textsubscript{2.5} and SO\textsubscript{2} standards were not exceeded during this three-year period.

3. **Mojave Desert Air Basin**

The MDAB is designated as severe nonattainment for ozone, nonattainment for PM\textsubscript{10}, unclassified/attainment for PM\textsubscript{2.5}, and attainment for CO, NO\textsubscript{2} and SO\textsubscript{2} at the federal level. At the state level, the MDAB is designated as a moderate nonattainment area for ozone and is also in nonattainment for PM\textsubscript{10} and PM\textsubscript{2.5}. It is in attainment for the California State CO, SO\textsubscript{2} (attainment/unclassified) and NO\textsubscript{2}.

The MDAQMD monitors air quality within the MDAB, but does not have a monitoring station within the Riverside County portion of the basin. Due to the geographic difference between the Riverside County portion of the basin and the nearest monitoring station at Twenty-nine Palms, using the monitoring data from the Twenty-nine Palms stations would show markedly different air quality than would be anticipated in Riverside County. Therefore, no monitoring data is reported for this portion of Riverside County.

D. **Toxic Air Contaminants**

CARB has produced a series of estimated inhalation cancer risk maps based on modeled levels of outdoor composite toxic pollutant levels (CARB 2010). The 2010 estimated map indicates that the majority of Riverside County is exposed to a theoretical inhalation cancer risk of less than 250 persons per million. The estimated theoretical inhalation cancer risk shown on the CARB cancer risk maps are based upon the 2008 Multiple Air Toxics Exposure Study (MATES III) conducted by SCAQMD. The northwestern portion of Riverside County that includes portions of the Jurupa, Highgrove, Eastvale, Reche Canyon and Temescal Area Plans are exposed to inhalation cancer risks of greater than 250 persons per million. These risk maps depict theoretical inhalation cancer risk due to modeled outdoor toxic pollutant levels and do not account for cancer risk due to other types of exposure. The largest contributors to inhalation cancer risk are diesel engines.

E. **Sensitive Receptors**

Sensitive receptors are populations that are more susceptible to the effects of air pollution than is the population at large. While the ambient air quality standards are designed to protect public health and are generally regarded as conservative for healthy adults, there is greater concern for protecting adults who are ill or have long-term respiratory problems and young children whose lungs are not fully developed. According to CARB, sensitive receptors include children less than 14 years of age, the elderly over 65 years of age, athletes and people with cardiovascular and chronic respiratory diseases.

The SCAQMD and the MDAQMD identify the following as locations as tending to contain high concentration of sensitive receptors: long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools, playgrounds, childcare centers and athletic facilities. The County of Riverside, which has built-out urban as well as rural communities, contains many of each of these sensitive land uses.

F. **General Plan Update and Air Quality**

The location and densities of development affect the amount of air pollutants generated by communities. Land uses that are spread throughout a community increase the number and length of motor vehicle trips and associated air pollutant emissions. This is due to the relatively few opportunities to walk, ride bicycles and use
public transportation between such uses as homes and work or shopping. Compact communities often mix residential uses with or near commercial, business and employment uses, thereby reducing dependence on motor vehicles and reducing necessary vehicle trips. Smaller, higher density uses also produce less air emissions from natural gas on a per-unit basis.

### 4.6.3 Policies and Regulations Addressing Air Quality

#### A. State and Federal Regulations

Air quality within Riverside County is addressed through the efforts of various federal, state, regional and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy-making, education and a variety of programs. The agencies responsible for improving the air quality within the air basins, and their key regulatory efforts, are discussed below.

1. **U.S. Environmental Protection Agency**

The CAA of 1970 and the CAA Amendments of 1971 required the EPA to establish National Ambient Air Quality Standards (NAAQS), with states retaining the option to adopt more stringent standards or to include other specific pollutants. NAAQS are the levels of air quality considered safe, along with an adequate margin of safety to protect the public health and welfare. They are designed to protect those sensitive receptors most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The CAA Amendments dictate that states containing areas violating the NAAQS must revise their SIPs to include extra control measures to reduce air pollution. California’s SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SIP is periodically modified to reflect the latest emissions inventories, plans and rules and regulations of the various agencies with jurisdiction over the state’s air basins. The EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

2. **California Air Resources Board**

The California Air Resources Board (CARB), a part of the California EPA (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards, CAAQS), compiles emission inventories, develops suggested control measures and provides oversight of local programs. CARB also establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints and barbecue lighter fluid) and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California’s SIP and works closely with the federal government and the local air districts.
3. Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a council of governments for Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura counties. It is a regional planning agency and serves as a forum for regional issues relating to transportation, the economy, community development and the environment.

Although SCAG is not an air quality management agency, it is responsible for developing transportation, land use and energy conservation measures that affect air quality. SCAG’s Regional Comprehensive Plan and Guide (RCPG) provide growth forecasts that are used in the development of air quality related land use and transportation control strategies by the SCAQMD. The RCPG is a framework for decision-making for local governments, assisting them in meeting federal and state mandates for growth management, mobility and environmental standards, while maintaining consistency with regional goals regarding growth and changes through the year 2015 and beyond. Policies within the RCPG address air quality, land use, transportation and economic relationships at all levels of government. SCAG is also charged with developing and implementing Senate Bill 375 (SB 375) with participation from Riverside County and the other local cities and counties of SCAG. See Section 4.7 for further information on SB 375.

B. Regional Air Quality Management

The three air basins that cover parts of Riverside County are managed by the following two air quality management districts pursuant to State of California regulations.

1. South Coast Air Quality Management District

The SCAQMD is the agency responsible for comprehensive air pollution control in the South Coast Air Basin, as well as the Coachella Valley portion of the Salton Sea Air Basin. Towards that end, the SCAQMD works directly with SCAG, county transportation commissions and local governments and also cooperates actively with federal and state agencies. The SCAQMD develops rules and regulations, establishes permitting requirements, inspects emission sources and enforces such reductions through educational programs or fines when necessary.

The SCAQMD is directly responsible for reducing emissions from stationary (area and point), mobile and natural sources. To do so, it uses a series of Air Quality Management Plans (AQMPs). The most recent of which, AQMP 2007, was adopted by the Governing Board of SCAQMD on June 1, 2007. The 2007 AQMP was prepared to comply with the federal and state Clean Air Acts and to accommodate growth, reduce high pollutant levels, meet federal and state ambient air quality standards and to minimize the fiscal impact of pollution control measures on the local economy. It identifies the control measures to be implemented to reduce major sources of pollutants. These planning efforts have substantially decreased the population’s exposure to unhealthful levels of pollutants, even while substantial population growth has occurred within the SCAQMD’s jurisdictional boundaries.

The SCAQMD is principally responsible for comprehensive air pollution control in the South Coast Air Basin and the Coachella Valley portion of the Salton Sea Air Basin and recommends that projects should be evaluated in terms of air pollution control thresholds established by the SCAQMD and published in the CEQA Air Quality Handbook. These thresholds were developed by the SCAQMD to provide quantifiable significance levels for individual with projects. Future development proposals within the SCAAB would be reviewed against the following SCAQMD thresholds. Future development within the Coachella Valley portion of the SSAB would be assessed similarly against the SSAB thresholds, which the SCAQMD has jurisdiction over. For the majority of the
Coachella Valley, the SCAQMD thresholds apply; however, for those thresholds that are different, they are distinguished within parentheses.

**Construction Emissions Thresholds:** The SCAQMD currently recommends that projects with construction-related emissions that exceed any of the following emissions thresholds should be considered potentially significant.

- 550 pounds per day of carbon monoxide (CO)
- 75 pounds per day of reactive organic gases (ROG)
- 100 pounds per day of nitrogen oxides (NO\(_X\))
- 150 pounds per day of sulfur oxides (SO\(_X\))
- 150 pounds per day of respirable particulate matter (PM\(_{10}\))
- 55 pounds per day of fine particulate matter (PM\(_{2.5}\))

**Operational Emissions Thresholds:** The SCAQMD currently recommends that projects with operational emissions that exceed any of the following emissions thresholds should be considered potentially significant.

- 550 pounds per day of CO
- 55 pounds per day of ROG in the SCAB (75 pounds per day in the SSAB)
- 55 pounds per day of NO\(_X\) in the SCAB (100 pounds per day in the SSAB)
- 150 pounds per day of SO\(_X\)
- 150 pounds per day of PM\(_{10}\)
- 55 pounds per day of PM\(_{2.5}\).

**Localized Significance Thresholds:** Localized Significance Thresholds (LSTs) were developed in response to the SCAQMD Governing Board’s Environmental Justice Enhancement Initiative (I-4). LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor.

LSTs, which are voluntary, only apply to CO, NO\(_2\), PM\(_{10}\) and PM\(_{2.5}\) emissions during construction and operation at the discretion of the lead agency. Screening-level analysis of LSTs is only recommended for construction activities at project sites that are 5 acres or less and within the SCAQMD jurisdiction. The SCAQMD recommends that operational activities and construction for any project over 5 acres should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors. Some of the individual projects accommodated in GPA No. 960 would cover areas greater than 5 acres. For future development proposals of more than 5 acres under SCAQMD jurisdiction, dispersion modeling would be required for CO\(_2\), NO\(_X\), PM\(_{10}\) and PM\(_{2.5}\) emissions. NO\(_X\) to NO\(_2\) conversion would be used to determine the maximum NO\(_2\) concentrations at the nearest sensitive receptors. The following LSTs apply to new development:
• 20 ppm for 1-hour CO concentrations
• 9 ppm for 8-hour CO concentrations
• 0.18 ppm for 1-hour NO\(_2\) concentrations
• 0.03 ppm for annual NO\(_2\) concentrations

As the Basin is in nonattainment for PM\(_{10}\) and PM\(_{2.5}\), the SCAQMD has established the following LSTs for PM\(_{10}\) and PM\(_{2.5}\) concentrations during construction:

• 10.4 µg/m\(^3\) for 24-hour PM\(_{10}\) concentrations
• 2.5 µg/m\(^3\) for 24-hour PM\(_{2.5}\) concentrations

In order to assess cumulative impacts, the SCAQMD recommends that projects be evaluated to determine whether they would be consistent with 2007 AQMP performance standards and project-specific emissions thresholds. In the case of the proposed project, air pollutant emissions would be considered to be cumulatively considerable if the new sources of emissions exceeded SCAQMD emissions thresholds.

### 2. Mojave Desert Air Quality Management District

The Mojave Desert Air Quality Management District (MDAQMD) has jurisdiction over the desert portions of San Bernardino County and the far eastern portion of Riverside County. MDAQMD jurisdiction includes the incorporated communities of Blythe in Riverside County, plus the cities of Adelanto, Apple Valley, Barstow, Hesperia, Needles, Twenty-nine Palms, Victorville and Yucca Valley in San Bernardino County.

Similar to the SCAQMD, the MDAQMD is responsible for reducing emissions within its jurisdictional boundaries. To that end, the MDAQMD has adopted the federal attainment plans for ozone and PM\(_{10}\). The most recent such plan approved by the EPA is the Attainment Demonstration Plan adopted in 1994. The most recently adopted state plan is the 1996 Triennial Revision to the 1991 Air Quality Attainment Plan (AQAP). A number of plans are in place for the reduction of air pollutants in the MDAB, however only two are applicable to the Riverside County portion of the MDAQMD. The first is the 1996 MDAQMD Triennial Revision to the 1991 Air Quality Attainment Plan (AQAP) which indicates that the main source of O\(_3\) in the MDAB is O\(_3\) transported by the wind from the South Coast Air Basin to the MDAB.

The second plan is the 2004 Ozone Attainment Plan. The MDAQMD has experienced ambient ozone concentrations in excess of the one-hour ozone NAAQS and the ozone CAAQS. Thus, the plan was developed to demonstrate how the MDAQMD would meet required primary federal ozone planning milestones, including attainment of the ozone NAAQS by the end of 2007. It also outlines the progress the MDAQMD is making towards meeting all required state ozone planning milestones, including attainment of the ozone CAAQS. In addition, it discusses the 8-hour ozone NAAQS, preparatory to an expected non-attainment designation for the new NAAQS.

The MDAQMD is principally responsible for comprehensive air pollution control in the Mojave Desert Air Basin and recommends that projects should be evaluated in terms of the MDAQMD air pollution control thresholds published in the MDAQMD’s California Environmental Quality Act and Federal Conformity Guidelines. These thresholds were developed by the MDAQMD to provide quantifiable significance levels for comparison with
projects and would apply to all future development projects in the MDAB. Under the MDAQMD, a project is considered significant if it does any of the following:

a. Generates total emissions (direct and indirect) in excess of:
   - 548 lbs/day or 100 tons/year CO
   - 137 lbs/day or 25 tons/year NO
   - 137 lbs/day or 25 tons/year ROG
   - 137 lbs/day or 25 tons/year SO
   - 82 lbs/day or 15 tons/year PM\textsubscript{10}
   - 82 lbs/day or 15 tons/year PM\textsubscript{2.5}

b. Generates a violation of any ambient air quality standard when added to the local background.

c. Does not conform with the applicable attainment or maintenance plan(s).

d. Exposes sensitive receptors to substantial pollutant concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index greater than or equal to 1. This threshold is applicable to projects that are within the following specified distances from existing or zoned sensitive receptor lands:
   - Any industrial project within 1,000 feet.
   - A distribution center (40 or more trucks per day) within 1,000 feet.
   - A major transportation project (50,000 or more vehicles per day) within 1,000 feet.
   - A dry cleaner using perchloroethylene within 500 feet.
   - A gasoline dispensing facility within 300 feet.

C. Riverside County Regulations

Within Riverside County, local pollution controls are exerted in a variety of ways. The following County of Riverside ordinances address air quality.

**Ordinance No. 706 - Mobile Source Air Pollution Reduction Programs (Funding):** This ordinance supports the SCAQMD's imposition of the vehicle registration fee and brings the County of Riverside into compliance with requirements of the California Health and Safety Code in order to receive fee revenues for the purpose of implementing programs to reduce air pollution from motor vehicles.

**Ordinance No. 726 - Transportation Demand Management for New Development:** This ordinance sets the following goals related to efficiently utilizing the existing and planned transportation system and reducing vehicle emissions:
Section 4.6 Air Quality

- Reduce vehicle trips generated by new development by 12% commencing in 1994, by 20% commencing in 2000 and by 30% commencing in 2006.

- Reduce overall projected 1994 vehicle trips emanating from Riverside County by 7%.

- Relieve traffic congestion in an effort to improve air quality.

- Produce an efficient transportation demand management system which utilizes the existing system to its best potential.

- Maintain or achieve minimum Level of Service of “C” for all new development projects.

The ordinance further requires that proposed projects prepare a traffic impact analysis, which must include a Transportation Demand Management Plan describing proposed trip levels and outlining proposed transportation demand management measures for new development projects to achieve the trip level proposed.

**Ordinance No. 748 - Mitigation of Traffic Congestion Through Signalization:** This ordinance sets policies, regulations and fees related to the funding and installation of traffic signals to mitigate the cumulative environmental impacts (traffic congestion) generated by new development. This ordinance aims to reduce idling time of vehicles, which in turn reduces fuel consumption of vehicles and reduces pollutant emissions.

**Ordinance No. 782 - Golf Cart Transportation Plan:** This ordinance establishes a golf cart transportation program within Riverside County. The golf cart transportation plan, authorized by the Streets and Highways Code of the State of California, extends the use of golf carts for transportation beyond access to golf courses. Utilizing golf carts reduces automobile trips and vehicular emissions because golf carts are typically electric-powered and thus do not emit criteria pollutants through the direct combustion of fossil fuel.

**Ordinance No. 824 - Western Riverside County Traffic Uniform Mitigation Fee (TUMF) Program:** This ordinance authorizes Riverside County’s participation in the Western Riverside Council of Government (WRCOG) Transportation Uniform Mitigation Fee (TUMF) Program. The purpose of the TUMF Program is to fund certain improvements to the regional system of highways and arterials of western Riverside County. WRCOG studies have shown that future development within western Riverside County and its cities will result in traffic volumes exceeding the capacity of the regional system as it presently exists. The TUMF program works to reduce traffic congestion by funding improvements to the regional system. Increased traffic flow and decreased idling time that result will decrease vehicle fuel consumption and the emissions associated with its combustion.

**Ordinance No. 659 - Development Impact Fee Program for Residential Development:** This ordinance establishes a development impact fee (DIF) that is paid for each new residential unit, development project or portion constructed. The fees provide revenue to acquire or construct public facilities, purchase regional parkland and preserve habitat and open space. Constructing public facilities and preserving open space is necessary to promote public health, safety, comfort and welfare. Specifically, air pollutant emissions are mitigated by preserving open space and locating public facilities in close proximity to new developments. This reduces vehicle travel required to reach recreational areas and also maintains existing trees and provides for additional trees, both of which sequester some air pollutants (e.g., carbon dioxide).

**D. Existing Riverside County General Plan Policies**

The following policies are already part of the General Plan and are not part of the project, GPA No. 960. Rather, these policies help ensure potential environmental effects are avoided, reduced or minimized through their
application on a case-by-case basis. The County of Riverside has existing programs in place to impose applicable policies once a development proposal triggers the need. The need for specific policies is determined through subsequent CEQA analysis performed for site-specific projects. These measures are implemented, enforced and verified through their inclusion in project Conditions of Approval. The following existing General Plan policies address air quality issues.

1. **Land Use (LU) Element**

**Policy LU 2.1:** Accommodate land use development in accordance with the patterns and distribution of use and density depicted on the General Plan Land Use Map (Figure LU-1) and the Area Plan Land Use Maps, in accordance with the following:

   a. Provide a land use mix at the countywide and area plan levels based on projected need and supported by evaluation of impacts to the environment, economy, infrastructure and services.

   b. Accommodate a range of community types and character, from agricultural and rural enclaves to urban and suburban communities.

   c. Provide for a broad range of land uses, intensities and densities, including a range of residential, commercial, business, industry, open space, recreation and public facilities uses.

   d. Concentrate growth near community centers that provide a mixture of commercial, employment, entertainment, recreation, civic and cultural uses to the greatest extent possible.

   e. Concentrate growth near or within existing urban and suburban areas to maintain the rural and open space character of Riverside County to the greatest extent possible.

   f. Site development to capitalize upon multi-modal transportation opportunities and promote compatible land use arrangements that reduce reliance on the automobile.

   g. Prevent inappropriate development in areas that are environmentally sensitive or subject to severe natural hazards.

**Policy LU 8.12 (Previously LU 7.12):** Improve the relationship and ratio between jobs and housing so that residents have an opportunity to live and work within the county.

**Policy LU 11.1 (Previously LU 10.1):** Provide sufficient commercial and industrial development opportunities in order to increase local employment levels and thereby minimize long-distance commuting.

**Policy LU 11.3 (Previously LU 10.3):** Accommodate the development of community centers and concentrations of development to reduce reliance on the automobile and help improve air quality.

**Policy LU 11.4 (Previously LU 10.4):** Provide options to the automobile in communities, such as transit, bicycle and pedestrian trails, to help improve air quality.

**Policy LU 13.1 (Previously LU 12.1):** Provide land use arrangements that reduce reliance on the automobile and improve opportunities for pedestrian, bicycle and transit use in order to minimize congestion and air pollution.
Policy LU 13.2 (Previously LU 12.2): Locate employment and service uses in areas that are easily accessible to existing or planned transportation facilities.

Policy LU 13.3 (Previously LU 12.3): Locate transit stations in community centers and at places of public, employment, entertainment, recreation and residential concentrations.

Policy LU 13.4 (Previously LU 12.4): Incorporate safe and direct multi-modal linkages in the design and development of projects, as appropriate.

2. Circulation (C) Element

Policy C 1.2: Support development of a variety of transportation options for major employment and activity centers including direct access to transit routes, primary arterial highways, bikeways, park-and-ride facilities and pedestrian facilities.

Policy C 1.7: Encourage and support the development of projects that facilitate and enhance the use of alternative modes of transportation, including pedestrian-oriented retail and activity centers, dedicated bicycle lanes and paths and mixed-use community

Policy C 4.1: Provide facilities for the safe movement of pedestrians within developments, as specified in the County ordinance regulating the division of land of the County of Riverside.

Policy C 11.2: Incorporate the potential for public transit service in the design of developments that are identified as major trip attractions (i.e., community centers, tourist and employment centers), as indicated in ordinances regulating the division of land of the County of Riverside.

Policy C 11.4: Offer incentives to new development to encourage it to locate in a transit-oriented area such as a community center or along a designated transit corridor near a station.

Policy C 11.5: Accommodate transit through higher densities, innovative design and right-of-way dedication.

Policy C 11.6 (Previously C 11.7): Promote development of transit centers and park-n-rides for use by all transit operators, including development of multi-modal facilities.

Policy C 12.1: Support the development and implementation of the Transit Oasis concept in conjunction with RCTC, local transit operators and cities.

Policy C 12.3: Establish a system of transit priority treatments or dedicated travel lanes to facilitate movement by the Transit Oasis vehicles within community centers and other major nodes of activity, where feasible.

Policy C 13.1: Support continued development and implementation of the Riverside County Transportation Commission Rail Program including new rail lines and stations, the proposed California High Speed Rail System with at least two stations in Riverside County, the Coachella Valley Commuter Rail Service and the proposed Intercity Rail Corridor between Calexico and Los Angeles.

Policy C 13.2: Support continued improvements to AMTRAK and MetroLink rail passenger service within Riverside County and throughout the Southern California region.
Policy C 20.14 (Previously C 20.12): Encourage the use of alternative non-motorized transportation and the use of non-polluting vehicles.

Policy C 21.7 (Previously C 21.9): Encourage development of bus-only lanes and signal synchronization so that transit can help to alleviate congestion.

3. Multipurpose Open Space (OS) Element

Policy OS 12.1: Allow for the development of non-electrical, direct heat uses of geothermal heat and fluids for space, agricultural and industrial heating in situations and localities where naturally occurring hydrothermal features will not be degraded.

Policy OS 16.2: Specify energy efficient materials and systems, including shade design technologies, for County buildings.

Policy OS 16.3: Implement public transportation systems that utilize alternative fuels when possible, as well as associated urban design measures that support alternatives to private automobile use.

Policy OS 16.4: Undertake proper maintenance of County physical facilities to ensure that optimum energy conservation is achieved.

Policy OS 16.5: Utilize federal, State and utility company programs that encourage energy conservation.

Policy OS 16.6: Assist public buildings and institutions in converting asphalt to greenspace to address the heat island effect.

Policy OS 16.8: Promote coordination of new public facilities with mass transit service and other alternative transportation services, including bicycles and design structures to enhance mass transit, bicycle and pedestrian use.

4. Air Quality (AQ) Element

Policy AQ 1.1: Promote and participate with regional and local agencies, both public and private, to protect and improve air quality.

Policy AQ 1.2: Support the Southern California Association of Government’s (SCAG) Regional Growth Management Plan by developing intergovernmental agreements with appropriate governmental entities such as the Western Riverside Council of Governments (WRCOG), the Coachella Valley Association of Governments (CVAG), sanitation districts, water districts and those subregional entities identified in the Regional Growth Management Plan.

Policy AQ 1.3: Participate in development and update of those regional air quality management plans required under federal and State law and meet all standards established for clean air in these plans.

Policy AQ 1.4: Coordinate with the SCAQMD and MDAQMD to ensure that all elements of air quality plans regarding reduction of air pollutant emissions are being enforced.
Policy AQ 1.5: Establish and implement air quality, land use and circulation measures that improve not only the county’s environment but the entire region.

Policy AQ 1.6: Establish a level playing field by working with local jurisdictions to simultaneously adopt policies similar to those in this Air Quality Element.

Policy AQ 1.7: Support legislation which promotes cleaner industry, clean fuel vehicles and more efficient burning engines and fuels.

Policy AQ 1.8: Support the introduction of federal, State or regional enabling legislation to permit the County to promote inventive air quality programs, which otherwise could not be implemented.

Policy AQ 1.9: Encourage, publicly recognize and reward innovative approaches that improve air quality.

Policy AQ 1.10 Work with regional and local agencies to evaluate the feasibility of implementing a system of charges (e.g., pollution charges, user fees, congestion pricing and toll roads) that requires individuals who undertake polluting activities to bear the economic cost of their actions where possible.

Policy AQ 1.11 Involve environmental groups, the business community, special interests, and the general public in the formulation and implementation of programs that effectively reduce airborne pollutants.

Policy AQ 2.1: The County land use planning efforts shall assure that sensitive receptors are separated and protected from polluting point sources to the greatest extent possible.

Policy AQ 2.2: Require site plan designs to protect people and land uses sensitive to air pollution through the use of barriers and/or distance from emissions sources when possible.

Policy AQ 2.3: Encourage the use of pollution control measures such as landscaping, vegetation and other materials, which trap particulate matter or control pollution.

Policy AQ 2.4: Consider creating a program to plant urban trees on an Area Plan basis that removes pollutants from the air, provides shade and decreases the negative impacts of heat on the air.

Policy AQ 3.1 Allow the marketplace, as much as possible, to determine the most economical approach to relieve congestion and cut emissions.

Policy AQ 3.2: Seek new cooperative relationships between employers and employees to reduce vehicle miles traveled.

Policy AQ 3.3: Encourage large employers and commercial/industrial complexes to create Transportation Management Associations.

Policy AQ 3.4: Encourage employee rideshares and transit incentives for employers with more than 25 employees at a single location.

Policy AQ 4.5: Require stationary pollution sources to minimize the release of toxic pollutants through:

- Design features;
- Operating procedures;
- Preventive maintenance;
- Operator training; and
- Emergency response planning.

Policy AQ 4.6: Require stationary air pollution sources to comply with applicable air district rules and control measures.

Policy AQ 4.8: Expand, as appropriate, measures contained in the County’s Fugitive Dust Reduction Program for the Coachella Valley to the entire county.

Policy AQ 4.9: Require compliance with SCAQMD Rules 403 and 403.1, and support appropriate future measures to reduce fugitive dust emanating from construction sites.

Policy AQ 4.10: Coordinate with the SCAQMD and MDAQMD to create a communications plan to alert those conducting grading operations in the county of first, second and third stage smog alerts and when wind speeds exceed 25 miles per hour. During these instances, all grading operations should be suspended.

Policy AQ 5.1: Utilize source reduction, recycling and other appropriate measures to reduce the amount of solid waste disposed of in landfills.

Policy AQ 5.2: Adopt incentives and/or regulations to enact energy conservation requirements for private and public developments.

Policy AQ 5.3: Update, when necessary, the County’s Policy Manual for Energy Conservation to reflect revisions to the County Energy Conservation Program.

Policy AQ 5.4: Encourage the incorporation of energy-efficient design elements, including appropriate site orientation and the use of shade and wind-break trees to reduce fuel consumption for heating and cooling.

Policy AQ 6.1 Assist small business by developing education and job training programs, especially in job-poor areas.

Policy AQ 6.2 Collaborate with local colleges and universities to develop appropriate education programs to assist residents in obtaining job skills to meet market demands.

Policy AQ 7.1: Provide incentives to encourage new firms to locate within the county and existing firms to expand operations.

Policy AQ 7.2: Work with the SCAQMD and the MDAQMD to develop a means to encourage the location of new commercial and industrial development in those localities where jobs are most needed.

Policy AQ 7.3 Create a loan program to encourage small businesses to locate within the County.

Policy AQ 7.4: Offer incentives to businesses to control emissions and implement the AQMP.
Policy AQ 7.5: Reduce regulations on small businesses wherever possible and thereby encourage small business development and job creation. The County shall set performance standards as well as design standards, thus giving small business owners as many options as possible to comply with County regulations.

Policy AQ 7.6: Adopt policies freeing small businesses from unnecessary and duplicative paperwork.

Policy AQ 7.7: Assemble information collected from County agencies and departments concerning the business community to develop programs that better serve their needs.

Policy AQ 8.1: Locate new public facilities in job-poor areas of the county.

Policy AQ 8.2: Emphasize job creation and reductions in vehicle miles traveled in job poor areas to improve air quality over other less efficient methods.

Policy AQ 8.3: Time and locate public facilities and services so that they further enhance job creation opportunities.

Policy AQ 8.4: Support new mixed-use land use patterns and community centers which encourage community self-sufficiency and containment and discourage automobile dependency.

Policy AQ 8.5: Develop community centers in conformance with policies contained in the Land Use Element.

Policy AQ 8.6: Encourage employment centers in close proximity to residential uses.

Policy AQ 8.7: Implement zoning code provisions which encourage community centers, telecommuting and home-based businesses.

Policy AQ 8.8: Promote land use patterns which reduce the number and length of motor vehicle trips.

Policy AQ 8.9: Promote land use patterns that promote alternative modes of travel.

Policy AQ 9.1: Cooperate with local, regional, State and federal jurisdictions to reduce vehicle miles traveled and motor vehicle emissions through job creation.

Policy AQ 9.2: Attain performance goals and/or VMT (vehicle miles traveled) reductions which are consistent with SCAG’s Growth Management Plan.

Policy AQ 10.1: Encourage trip reduction plans to promote alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education and preferential parking.

Policy AQ 10.2: Use incentives, regulations and Transportation Demand Management in cooperation with surrounding jurisdictions when possible to eliminate vehicle trips which would otherwise be made.

Policy AQ 10.3: Assist merchants in encouraging their customers to shift from single-occupancy vehicles to transit, carpools, bicycles or foot.

Policy AQ 10.4: Continue to enforce the County’s Transportation Demand Management Ordinance and update as necessary.
Policy AQ 11.1. 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 to practicable to the event site, and the operator should supply shuttle services.

Policy AQ 11.2. Promote the use of peripheral parking by increasing on-site parking rates and offering reduced rates to peripheral parking with tickets sold for non-ridesharing patrons.

Policy AQ 11.3. Encourage special event center operators to advertise and offer discounted transit passes with event tickets.

Policy AQ 11.4. Encourage special event center operators to advertise and offer discount parking incentives to carpooling patrons, with two or more persons per vehicle, for on-site parking facilities.

Policy AQ 12.1. Manage traffic flow through signal synchronization, while coordinating with and permitting the free flow of mass transit vehicles, when possible.

Policy AQ 12.2. Synchronize signals throughout the County with those of its cities, adjoining counties and the California Department of Transportation.

Policy AQ 12.3. Construct and improve traffic signals with channelization and Automated Traffic Surveillance and Control systems at appropriate intersections.

Policy AQ 12.4. Eliminate traffic hazards and delays through highway maintenance, rapid emergency response, debris removal and elimination of at-grade railroad crossings, when possible.

Policy AQ 12.5. Encourage business owners to schedule deliveries at off-peak traffic periods.

Policy AQ 13.1. Manage the County of Riverside transportation fleet fueling standards to achieve an appropriate alternate fuel fleet mix.

Policy AQ 13.2. Cooperate with local, regional, State and federal jurisdictions to better manage transportation facilities and fleets.

Policy AQ 13.3. Encourage the construction of high-occupancy-vehicle (HOV) lanes whenever possible to relieve congestion, safety hazards and air pollution as described in the AQMP.

Policy AQ 14.1. Emphasize the use of high occupancy vehicle lanes, light rail and bus routes and pedestrian and bicycle facilities when using transportation facility development to improve mobility and air quality.

Policy AQ 14.2. When developing new capital facility improvement plans, also consider measures such as Transportation Demand Management, Transportation Systems Management, or job/housing balance strategies.

Policy AQ 14.3. Monitor traffic and congestion to determine when and where the county needs new transportation facilities to achieve increased mobility efficiency.

Policy AQ 14.4. Preserve transportation corridors with high demand potential or regional significance for future expansion to meet project demand.
Policy AQ 15.1: Identify and monitor sources, enforce existing regulations and promote stronger controls to reduce particulate matter.

Policy AQ 16.1: Cooperate with local, regional, State and federal jurisdictions to better control particulate matter.

Policy AQ 16.2: Encourage stricter state and federal legislation on bias belted tires, smoking vehicles that spill debris on streets and highways, to better control particulate matter.

Policy AQ 16.3: Collaborate with the SCAQMD and the MDAQMD to require and/or encourage the adoption of regulations or incentives to limit the amount of time trucks may idle.

Policy AQ 16.4: Collaborate with the EPA, SCAQMD, MDAQMD and warehouse owners and operators to create regulations and programs to reduce the amount of diesel fumes released due to warehousing operations.

Policy AQ 17.1: Reduce particulate matter from agriculture, construction, demolition, debris hauling, street cleaning, utility maintenance, railroad rights-of-way and off-road vehicles to the extent possible.

Policy AQ 17.2: Enforce regulations against illegal fires.

Policy AQ 17.3: Identify and create a control plan for areas within the county prone to wind erosion of soil.

Policy AQ 17.4: Adopt incentives, regulations and/or procedures to manage paved and unpaved roads and parking lots so they produce the minimum practicable level of particulates.

Policy AQ 17.5: Adopt incentives and/or procedures to limit dust from agricultural lands and operations, where applicable.

Policy AQ 17.6: Reduce emissions from building materials and methods that generate excessive pollutants, through incentives and/or regulations.

Policy AQ 17.7: Separate trucks from other vehicles in industrial areas of the county with the creation of truck-only access lanes to promote the free flow of traffic.

Policy AQ 17.8: Adopt regulations and programs necessary to meet State and federal guidelines for diesel emissions.

Policy AQ 17.9: Encourage the installation and use of electric service units at truck stops and distribution centers for heating and cooling truck cabs and particularly for powering refrigeration trucks in lieu of idling of engines for power.

Policy AQ 17.10: Promote and encourage the use of natural gas and electric vehicles in distribution centers.

Policy AQ 17.11: Create and implement street-sweeping plans, as appropriate, in areas of the county disproportionately affected by particulate matter pollution.

E. Proposed New or Revised Riverside County General Plan Policies

The incorporation of these policies would reduce vehicle miles traveled, improve energy efficiency, reduce energy consumption and increase renewable energy generation. While some of these proposed policies were introduced
to specifically address greenhouse gas emissions, they would also provide a reduction in criteria pollutant emissions.

1. **Land Use (LU) Element**

**Policy LU 1.5:** The County shall participate in regional efforts to address issues of mobility, transportation, traffic congestion, economic development, air and water quality, and watershed and habitat management, child care with cities, local and regional agencies, stakeholders, Indian nations and surrounding jurisdictions.

**Policy LU 4.1:** Require that new developments be located and designed to visually enhance, not degrade the character of the surrounding area through consideration of the following concepts:

- a. Compliance with the design standards of the appropriate area plan land use category.
- b. Require that structures be constructed in accordance with the requirements of the County’s zoning, building and other pertinent codes and regulations.
- c. Require that an appropriate landscape plan be submitted and implemented for development projects subject to discretionary review.
- d. Require that new development utilize drought-tolerant landscaping and incorporate adequate drought-conscious irrigation systems.
- e. Pursue energy efficiency through street configuration, building orientation and landscaping to capitalize on shading and facilitate solar energy, as provided for in Title 24, Part 6 and/or Part 11, of the California Administrative Code of Regulations (CCR).
- f. Incorporate water conservation techniques, such as groundwater recharge basins, use of porous pavement, drought-tolerant landscaping and water recycling, as appropriate.
- g. Encourage innovative and creative design concepts.
- h. Encourage the provision of public art that enhances the community’s identity, which may include elements of historical significance and creative use of children’s art.
- i. Include consistent and well-designed signage that is integrated with the building’s architectural character.
- j. Provide safe and convenient vehicular access and reciprocal access between adjacent commercial uses.
- k. Locate site entries and storage bays to minimize conflicts with adjacent residential neighborhoods.
- l. Mitigate noise, odor, lighting and other impacts on surrounding properties.
- m. Provide and maintain landscaping in open spaces and parking lots.
- n. Include extensive landscaping.
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o. Preserve natural features, such as unique natural terrain, *arroyos, canyons and other* drainage ways and native vegetation, wherever possible, particularly where they provide continuity with more extensive regional systems.

p. Require that new development be designed to provide adequate space for pedestrian connectivity and access, recreational trails, vehicular access and parking, supporting functions, open space and other pertinent elements.

q. Design parking lots and structures to be functionally and visually integrated and connected.

r. Site buildings access points along sidewalks, pedestrian areas and bicycle routes and include amenities that encourage pedestrian activity.

s. Establish safe and frequent pedestrian crossings.

t. Create a human-scale ground floor environment that includes public open areas that separate pedestrian space from auto traffic or where mixed, it does so with special regard to pedestrian safety.

u. Recognize open space, including hillsides, arroyos, riparian areas and other natural features, as amenities that add community identity, beauty, recreational opportunities and monetary value to adjacent developed areas.

v. Manage wild land fire hazards in the design of development proposals located adjacent to natural open space.

2. Circulation (C) Element

Policy C 4.8 (Previously C 4.9): Coordinate with all transit operators to ensure that *ADA compliant* pedestrian facilities are provided along and/or near all transit routes, whenever feasible. New land developments may be required to provide pedestrian facilities due to existing or future planned transit routes even if demand for pedestrian facility is may not be otherwise warranted.

Policy C 9.2: Support the expansion and enhancement of Metrolink service and transit operators’ programs to foster increase transit usage to implement bus rapid transit (BRT) services, and to make other express and local bus service improvements.

Policy C 12.2: Support the development of high-speed transit linkages, bus rapid transit (BRT) or express routes, between community centers and other major nodes of activity.

Policy C 13.3: Support implementation of the San Jacinto Branch Line to serve planned industrial development commuter uses.

Policy C 17.3: Ensure that the bikeway system incorporates the following:

a. Interconnection throughout and between of cities and unincorporated communities.

b. * Provision of Appropriate* lanes to specific destinations such as state or county parks;

c. * Provision for Appropriate opportunities for recreational bicycle riding and bicycle touring*;

d. * Encouragement of Opportunities for bicycle commuting* and golf cart commuting within a community, as appropriate for the terrain, traffic levels and proximity to surrounding destinations.
e. Bikeways connecting to all urban transit centers and systems (bus stops and Metrolink stations) in the vicinity.

f. Bicycle parking at transit stops and park-and-ride lots.

Policy C 17.4: Ensure that alternative modes of motorized transportation, such as buses, trains, taxi cabs, etc., plan and provide for transportation of recreational and commuting bicyclists and bicycles on public transportation systems. Coordinate with all transit operators to ensure that bicycle facilities are provided along and/or near all transit routes, whenever feasible. New land developments shall be required to provide bicycle facilities due to existing or future planned transit routes.

Policy C 21.1: Encourage the installation and use of HOV lanes. Such lanes should be continuous, linking major population centers with employment centers. If HOV lanes are used, consider making them available for mixed-flow traffic during non-peak periods when warranted and feasible. Consider and implement, where feasible and needed, direct HOV connections between freeways and arterial to freeway exclusive HOV ingress/egress ramps.

3. Multipurpose Open Space (OS) Element

Policy OS 16.1: Continue to implement Title 24 of the State Building Code, California Code of Regulations (the “California Building Standards Code”), particularly Part 6 (the California Energy Code) and Part 11 (the California Green Building Standards Code), as amended and adopted pursuant to County ordinance. Establish mechanisms and incentives to encourage architects and builders to exceed the energy efficiency standards of within CCR Title 24.

4. Air Quality (AQ) Element

Policy AQ 4.1: Require Encourage the use of all feasible building materials/methods which reduce emissions.

Policy AQ 4.2: Require Encourage the use of all feasible efficient heating equipment and other appliances, such as water heaters, swimming pool heaters, cooking equipment, refrigerators, furnaces and boiler units.

Policy AQ 4.3: Require Encourage centrally heated facilities to utilize automated time clocks or occupant sensors to control heating where feasible.

Policy AQ 4.4: Require residential building construction to comply with energy use guidelines detailed in Part 6 (California Energy Code) and/or Part 11 (California Green Building Standards Code) of Title 24 of the California Administrative Code of Regulations.

Policy AQ 4.7: To the greatest extent possible, require every project to mitigate any of its anticipated emissions which exceed allowable emissions as established by the SCAQMD, MDAQMD, SCAB, the Environmental Protection Agency and the California Air Resources Board.

NEW Policy AQ 18.1: Baseline emissions inventory and forecast. Riverside County CAP has included baseline emissions inventory with data from the County’s CO2e emissions for specific sectors and specific years. The carbon inventory greatly aids the process of determining the type, scope and number of GHG reduction policies needed. It also facilitates the tracking of policy implementation and effectiveness. The carbon inventory for the county consists of two distinct components; one inventory is for the county as a whole, as defined by its geographical borders and the other inventory is for the emissions resulting from the County’s municipal operations.

NEW Policy AQ 18.2: Adopt GHG emissions reduction targets. Pursuant to the results of the Carbon Inventory and Greenhouse Gas Analysis for Riverside County, future development proposed as a discretionary project pursuant to the General Plan
shall achieve a greenhouse gas emissions reduction of 25% compared to Business As Usual (BAU) project in order to be found consistent with the County’s Climate Action Plan (CAP).

**NEW Policy AQ 18.3:** Develop a Climate Action Plan for reducing GHG emissions. The Riverside County CAP has been developed to formalize the measures necessary to achieve county GHG emissions reduction targets. The CAP includes both the policies necessary to meet stated targets and objectives. These targets, objectives and Implementation Measures may be refined, superseded or supplemented as warranted in the future.

**NEW Policy AQ 18.4:** Implement policies and measures to achieve reduction targets. The County shall implement the greenhouse gas reduction policies and measures established under the County Climate Action Plan for all new discretionary development proposals.

**NEW Policy AQ 18.5:** Monitor and verify results. The County shall monitor and verify the progress and results of the CAP periodically. When necessary, the CAP’s “feedback” provisions shall be used to ensure that any changes needed to stay “on target” with stated goals are accomplished.

**NEW Policy AQ 19.1:** Continue to coordinate with CARB, SCAQMD and the State Attorney General’s office to ensure that the milestones and reduction strategies presented in the General Plan and the CAP adequately address the county’s greenhouse gas emissions.

**NEW Policy AQ 19.2:** Utilize the County’s CAP as the guiding document for determining the County’s greenhouse gas reduction thresholds and implementation programs. Implementation of the CAP and its monitoring program shall include the ability to expand upon or, where appropriate, update or replace the Implementation Measures established herein so that the implementation of the CAP accomplishes the greenhouse gas reduction targets.

**NEW Policy AQ 19.3:** Require new development projects subject to County discretionary approval to achieve the greenhouse gas reduction targets established in the CAP either through:

a. Garnishing 100 points through the Implementation Measures found the County’s CAP; or

b. Requiring quantification of project-specific GHG emissions and reduction of GHG emissions to, at minimum, the applicable GHG reduction threshold established in the CAP.

**NEW Policy AQ 19.4:** All discretionary project proposals shall analyze their project-specific GHG reduction targets in comparison to the “business as usual” (BAU) scenario for the development’s operational life, and the “operational life” of a new development shall be defined as a 30-year span. Other methods for calculating BAU and showing GHG emissions reductions may be used provided such methods are both scientifically defensible and show actual emission reduction measures incorporated into project design, mitigation or alternative selection. Alternatively, a project may use the CAP Screening Tables to show the attainment of the applicable number of points needed to ensure adequate GHG reductions and CAP compliance.

**NEW Policy AQ 20.1:** Reduce VMT by requiring expanded multi-modal facilities and services that provide transportation alternatives, such as transit, bicycle and pedestrian modes. Improve connectivity of the multi-modal facilities by providing linkages between various uses in the developments.

**NEW Policy AQ 20.2:** Reduce VMT by facilitating an increase in transit options. In particular, coordinate with adjacent municipalities, transit providers and regional transportation planning agencies to develop mutual policies and funding mechanisms to increase the use of alternative transportation.

**NEW Policy AQ 20.3:** Reduce VMT and GHG emissions by improving circulation network efficiency.
NEW Policy AQ 20.4: Reduce VMT and traffic through programs that increase carpooling and public transit use, decrease trips and commute times, and increase use of alternative-fuel vehicles.

NEW Policy AQ 20.5: Reduce emissions from standard gasoline vehicles, through VMT, by requiring all new residential units to install circuits and provide capacity for electric vehicle charging stations.

NEW Policy AQ 20.6: Reduce emissions from commercial vehicles through VMT, by requiring all new commercial buildings, in excess of 162,000 square feet, to install circuits and provide capacity for electric vehicle charging stations.

NEW Policy AQ 20.7: Reduce VMT through increased densities in urban centers and encouraging emphasis on mixed use to provide residential, commercial and employment opportunities in closer proximity to each other. Such measures will also support achieving the appropriate jobs-housing balance within the communities.

NEW Policy AQ 20.8: Reduce VMT by increasing options for non-vehicular access through urban design principles that promotes higher residential densities with easily accessible parks and recreation opportunities nearby.

NEW Policy AQ 20.9: Reduce urban sprawl in order to minimize energy costs associated with infrastructure construction and transmission to distant locations, and to maximize protection of open space.

NEW Policy AQ 20.10: Reduce energy consumption of the new developments (residential, commercial and industrial) through efficient site design that takes into consideration solar orientation and shading as well as passive solar design.

NEW Policy AQ 20.11: Increase energy efficiency of the new developments through efficient use of utilities (water, electricity, natural gas) and infrastructure design. Also, increase energy efficiency through use of energy-efficient mechanical systems and equipment.

NEW Policy AQ 20.12: Support programs to assist the energy-efficient retrofitting of older affordable housing units, particularly residential units built prior to 1978 when Title 24 energy requirements went into effect.

NEW Policy AQ 20.13: Reduce water use and wastewater generation in both new and existing housing, commercial and industrial uses. Encourage increased efficiency of water use for agricultural activities.

NEW Policy AQ 20.14: Reduce the amount of water used for landscaping irrigation through implementation of County Ordinance 859 and increase use of non-potable water.

NEW Policy AQ 20.15: Decrease energy costs associated with treatment of urban runoff water through greater use of bioswales and other biological systems.

NEW Policy AQ 20.16: Preserve and promote forest lands and other suitable natural and artificial vegetation areas to maintain and increase the carbon sequestration capacity of such areas within the County. Artificial vegetation could include urban forestry and reforestation, development of parks and recreation areas and preserving unique farmlands that provide additional carbon sequestration potential.

NEW Policy AQ 20.17: Protect vegetation from increased fire risk associated with drought conditions to ensure biological carbon remains sequestered in vegetation and not released to the atmosphere through wildfires.

NEW Policy AQ 20.18: Encourage the installation of solar panels and other energy-efficient improvements and facilitate residential and commercial renewable energy facilities (solar array installations, individual wind energy generators, etc.).
NEW Policy AQ 20.19: Facilitate development of siting of renewable energy facilities and transmission lines in appropriate locations.

NEW Policy AQ 20.20: Reduce the amount of solid waste generation by increasing solid waste recycle, maximizing waste diversion, and composting for residential and commercial generators. Reduction in decomposable organic solid waste will reduce the methane emissions at County landfills.

NEW Policy AQ 20.21: Provide homeowner education programs on the various voluntary ways in which they may reduce their homes’ GHG emissions, e.g. improving home insulation, adding solar energy capabilities, and providing information on energy-saving landscaping techniques.

NEW Policy AQ 20.22: Develop motorist education programs on reducing VMT, idling and vehicle maintenance, while increasing carpooling and public transit usage.

NEW Policy AQ 20.23: Develop education programs about green purchasing and waste reduction measures, e.g., use of sustainable materials, recycling, and composting.

NEW Policy AQ 20.24: Develop programs to improve job-housing balances, such as through small business development, for areas that are housing rich but jobs poor.

NEW Policy AQ 20.25: Coordinate County GHG emissions reduction efforts with those of other regional agencies and plans, i.e., SCAG’s Compass Blueprint, Regional Transportation Plan (RTP) and SCAQMD’s Air Quality Management Plans. In addition, coordinate with cities and sub-regional planning agencies, particularly WRCOG and CVAG, on efforts that jointly affect the County and the cities. Also, coordinate with utility and service providers to develop programs to improve energy efficiency, water efficiency and delivery or structural improvements to reduce demand or better coordinate infrastructure development, as appropriate.

NEW Policy AQ 20.26: Voluntary GHG reduction objectives for the community sector shall be achieved through development and implementation of specific implementation measures, as determined appropriate and feasible by the County.

NEW Policy AQ 20.27: Increase the average fuel efficiency of County-owned vehicles powered by gasoline and diesel through fleet transitioning programs. Also, reduce total vehicle miles travel by County employees, both community to work sites and travel for the conduction of County activities.

NEW Policy AQ 20.28: Increase the energy efficiency of all existing and new County buildings and infrastructure operations (roads, water, waste disposal and treatment, buildings, etc.). Also, decrease energy use through incorporating renewable energy facilities (such as solar array installations, individual wind energy generators, geothermal heat sources) on County facilities where feasible and appropriate.

NEW Policy AQ 20.29: Establish purchasing and procurement policies that support the use of green products and services, minimize waste, and promote sustainability.

NEW Policy AQ 20.30: Reduce potable water use, wastewater and solid generation, and urban runoff at both new and existing County facilities and operations. Also, increase the amount of materials recycled from County facilities.

NEW Policy AQ 21.1: The County shall require new development projects subject to County discretionary approval to incorporate measures to achieve 100 points through incorporation of the Implementation Measures (IMs) found in the Screening Tables within the Riverside County Climate Action Plan. One hundred points represent a project’s fair-share of reduction in operational emissions associated with the developed use needed to reduce emissions down to the CAP Reduction Target.
a. This reduction shall be measured in comparison to the “business as usual” (BAU) scenario for the development’s operational life. The BAU scenario shall be consistent with the General Plan build out assumptions detailed in Appendix E-1 of the General Plan.

b. For the purposes of this policy, the “operational life” of a new development shall be defined as a 30-year span with construction emissions amortized over the 30 years.

c. For the purposes of this policy, “new development” refers to private development occurring pursuant to a discretionary land use approval issued by the County of Riverside and subject to binding Conditions of Approval. This definition generally corresponds to projects found non-exempt pursuant to the California Environmental Quality Act (CEQA), but is nevertheless subject to the sole discretion of the County of Riverside as lead agency.

d. Other methods for calculating BAU and showing GHG emissions reductions may be used provided such methods are both scientifically defensible and show actual emission reduction measures incorporated into project design, mitigation or alternative selection. That is, reductions must not be illusory “paper” reductions achieved merely through baseline manipulation.

e. Nothing in this policy shall be construed as accepting any proposed discretionary project from any legally applicable CEQA requirements or explicitly limiting the scope any analyses required to show CEQA compliance.

**NEW Policy AQ 21.2:** Implementation Measures found necessary for a given project pursuant to the CAP Screening Tables shall be incorporated into a project’s Conditions of Approval issued by the County to ensure the measures are implemented appropriately.

**NEW Policy AQ 21.3:** Discretionary Measures - Because of the varied nature of the private development proposals reviewed by the County, in some cases, the Implementing Measures in the CAP may not provide the most appropriate means for achieving the required Interim GHG reductions. In such cases, the following alternate measures may be utilized, at the County’s discretion:

a. For large-scale developments, such as specific plans, business parks, industrial centers and those triggering a full environmental impact report, a custom GHG analysis may be warranted to both assure compliance with the applicable targets herein and to provide a customized array of appropriate reduction measures.

b. In such cases, the resultant GHG analysis may be used to develop customized GHG reduction measures in place of the CAP’s Implementing Measures provided they achieve the stated targets or implement all feasible mitigation short of achieving the applicable targets.

c. Project-specific analysis may be particularly valuable when assessing large-scale mixed use developments. In such developments, significant energy efficiencies and VMT reductions can result from smart growth design features, such as provision of housing, jobs, services and recreation within a 5- to 10-minute walking radius. Project-specific analysis in these cases may result in the need for fewer add-on Implementing Measures and potentially yield substantial savings on construction costs.

**NEW Policy AQ 21.4:** Implementation of the Climate Action Plan (CAP) and monitoring progress toward the CAP reduction targets shall include the ability to expand upon or, where appropriate, update or replace the Implementation Measures established herein such that the implementation of the CAP accomplishes the county’s GHG reduction targets.

**NEW Policy AQ 22.1:** The County shall implement programs and requirements to achieve the following objectives related to reducing greenhouse gas emissions associated with transportation:
a. Reduce vehicle miles traveled by providing or requiring expanded multi-modal facilities and services that provide transportation alternatives, such as transit, bicycle and pedestrian modes.

b. Reduce vehicle miles traveled by facilitating an increase in transit options. In particular, coordinate with adjacent municipalities, transit providers and regional transportation planning agencies to develop mutual policies and funding mechanisms to increase the use of alternative transportation.

c. Improve connectivity by requiring pedestrian linkages between developments and transportation facilities, as well as between residential and commercial, recreational and other adjacent land uses.

d. Reduce air pollution and greenhouse gas emissions by improving circulation network efficiency.

e. Reduce traffic through programs that increase carpooling and public transit use, decrease trips and commute times and increase use of alternative-fuel vehicles.

f. Preserve transportation corridors for renewable energy transmission lines and for new transit lines, where appropriate.

**NEW Policy AQ 23.1:** The County shall implement programs and requirements to achieve the following objectives related to reducing greenhouse gas emissions associated with land use patterns:

- a. Reduce vehicle miles traveled (VMT) through increased densities in urban centers and emphasis on mixed use to provide localized residential, commercial and employment opportunities in closer proximity to each other.

- b. Prevent urban sprawl in order to minimize energy costs associated with infrastructure construction and transmission to distant locations and to maximize protection of open space, particularly forests, which provide carbon sequestration potential.

- c. Conserve energy by increasing the efficiency of delivery of services through the adoption and implementation of smart growth principles and policies.

- d. Reduce vehicle miles traveled by commuters through implementation of planning measures that provide appropriate jobs-housing balances within communities.

- e. Reduce vehicle miles traveled by increasing options for non-vehicular access through urban design principles that promote higher residential densities in attractive forms with easily accessible parks and recreation opportunities nearby.

- f. Improve energy efficiency through implementation of standards for new residential and commercial buildings that achieve energy efficiencies beyond that required under Title 24 of the California Code of Regulations.

- g. Reduce vehicle miles traveled by identifying sites for affordable housing for workers close to employment centers and encouraging development of such sites.

**NEW Policy AQ 23.2:** For discretionary actions, land use-related greenhouse gas reduction objectives shall be achieved through development and implementation of the appropriate Implementation Measures of the Climate Action Plan for individual future projects. County programs shall also be developed and implemented to address land use-related reductions for County operations and voluntary community efforts.

**NEW Policy AQ 24.1:** The County shall implement programs and requirements to achieve the following objectives related to reducing greenhouse gas emissions achieved through improving energy efficiency and increasing energy conservation:
a. Require new development (residential, commercial and industrial) to reduce energy consumption through efficient site design that takes into consideration solar orientation and shading, as well as passive solar design. Passive solar design addressed the innate heating and cooling effects achieved through building design, such as selective use of deep eaves for shading, operable windows for cross-ventilation, reflective surfaces for heat reduction and expanses of brick for thermal mass (passive radiant heating).

b. Require new development (residential, commercial and industrial) to design energy efficiency into the project through efficient use of utilities (water, electricity, natural gas) and infrastructure design.

c. Require new development (residential, commercial and industrial) to reduce energy consumption through use of energy-efficient mechanical systems and equipment.

d. Establish or support programs to assist in the retrofitting of older affordable housing units to improve energy efficiency.

e. Actively seek out existing or develop new programs to achieve energy efficiency for existing structures, particularly residential units built prior to 1978 when CCR Title 24 energy efficiency requirements went into effect.

f. Balance additional upfront costs for energy efficiency and affordable housing economic considerations by providing or supporting programs to finance energy-efficient housing.

**NEW Policy AQ 24.2:** For discretionary actions, energy efficiency and conservation objectives shall be achieved through development and implementation of the appropriate Implementation Measures of the Climate Action Plan for all new development approvals. County programs shall also be developed and implemented to address energy efficiency and conservation efforts for County operations and the community.

**NEW Policy AQ 25.1:** The County shall implement programs and requirements to achieve the following objectives related to reducing greenhouse gas emissions through water conservation:

a. Reduce water use in both new and existing housing, commercial and industrial uses.

b. Reduce wastewater generation in both new and existing housing, commercial and industrial uses.

c. Reduce the amount of water used for landscaping irrigation through implementation of County Ordinance No. 859.

d. Increase use of non-potable water where appropriate, such as for landscaping and agricultural uses.

e. Encourage increased efficiency of water use for agricultural activities.

f. Decrease energy costs associated with treatment of urban runoff water through greater use of bioswales and other biological systems.

**NEW Policy AQ 25.2:** The County shall implement programs and requirements to achieve the following objectives related to reducing greenhouse gas emissions through biota conservation:

a. Conserve biota that provides carbon sequestration through implementation of the Multiple Species Habitat Conservation Plans for western and eastern Riverside County.

b. Preserve forest lands and other suitable natural vegetation areas to maintain the carbon sequestration capacity of such areas within the county.
c. Promote establishment of vegetated recreational uses, such as local and regional parks, that provide carbon sequestration potential in addition to opportunities for healthy recreation.

d. Promote urban forestry and reforestation, as feasible, to provide additional carbon sequestration potential.

e. Promote the voluntary preservation of farmlands for carbon sequestration purposes. In particular, protect important farmlands and open space from conversion and encroachment by urban uses. Also, seek to retain large parcels of agricultural lands to enhance the viability of local agriculture and prevent the encroachment of sprawl into rural areas.

f. Promote the voluntary preservation of areas of native vegetation that may contribute to biological carbon sequestration functions.

g. Protect vegetation from increased fire risks associated with drought conditions to ensure biological carbon remains sequestered in vegetation and not released to the atmosphere through wildfires. In particular, prevent unnecessary intrusion of people, vehicles and development into natural open space areas to lessen risk of wildfire from human activities.

**NEW Policy AQ 25.3:** For discretionary actions, greenhouse gas reduction objectives related to water and biota conservation shall be achieved through development and implementation of the applicable Implementation Measures of the Climate Action Plan. County programs shall also be developed and implemented to address conservation issues related to County operations and voluntary community efforts.

**NEW Policy AQ 26.1:** The County shall implement programs and requirements to achieve the following objectives related to reducing greenhouse gas emissions derived from energy generation:

a. Encourage the installation of solar panels and other energy-efficient improvements.

b. Facilitate residential and commercial renewable energy facilities (solar array installations, individual wind energy generators, etc.).

c. Facilitate development of renewable energy facilities and transmission lines in appropriate locations.

d. Facilitate renewable energy facilities and transmission line siting.

e. Provide incentives for development of local green technology businesses and locally produced green products.

f. Provide incentives for investment in residential and commercial energy efficiency improvements.

g. Identify lands suitable for wind power generation or geothermal production and encourage development of these alternative energy sources.

**NEW Policy AQ 26.2:** For discretionary actions, the objectives for greenhouse gas reduction through increased use of alternative energy sources shall be achieved through development and implementation of the applicable Implementation Measures of the Climate Action Plan. County programs shall also be developed and implemented to address use of alternative energy for County operations and within the community.

**NEW Policy AQ 27.1:** The County shall implement programs and requirements to achieve the following objectives related to reducing greenhouse gas emissions associated with wastes:
a. Reduce the amount of solid waste generated.
b. Increase the amount of solid waste recycled by maximizing waste diversion, composting and recycling for residential and commercial generators.
c. Promote reductions in material consumption.
d. Decrease wastewater generation.
e. Reduce fugitive methane emissions and increase methane conversion to alternative energies at County landfills.

**NEW Policy AQ 27.2:** Greenhouse gas reduction through the above waste reduction objectives shall be achieved through development and implementation of the applicable Implementation Measures of the Climate Action Plan for new development. County programs shall also be developed and implemented to address waste reductions for County operations and voluntary community efforts.

**NEW Policy AQ 28.1:** The County shall implement programs and requirements to achieve voluntary greenhouse gas emissions reductions through the following public education and outreach objectives:

a. Provide homeowner education programs on the various voluntary ways in which they may reduce their homes’ GHG emissions.

b. Develop and implement motorist education programs on reducing vehicle miles traveled (VMT), idling, vehicle maintenance, etc.

c. Develop and implement incentive programs for increasing carpooling, public transit use and other similar means.

d. Develop and implement incentive programs for residential energy conservation, such as through retrofitting to improve insulation values, adding solar energy capabilities, planting deciduous trees to provide summer shade, etc.

e. Develop and implement programs designed to decrease transportation emissions, such as hybrid vehicle rebates, alternate fuel discounts, carpooling incentives, van pools, etc.

f. Develop and implement education programs about green purchasing and waste reduction measures, consistent with the County’s Climate Action Plan e.g., use of sustainable materials, composting and such.

g. Develop and implement programs to improve job-housing balances, such as through small business development, for areas that are housing rich but jobs poor.

b. Develop and implement programs, consistent with the County’s Climate Action Plan to incentive recycling and other waste reduction programs.

**NEW Policy AQ 28.2:** The County shall implement programs and requirements to achieve greenhouse gas emissions reductions through the following interagency coordination objectives:

a. Coordinate County regional GHG reduction efforts with those of other regional agencies and plans, i.e.:

- SCAG Regional Blueprint Plan
- SCAG Regional Transportation Plan (which will address SB 375)
SCAQMD Air Quality Management Plans

SB 375 Coordination and “Sustainable Communities Strategies”

b. Coordinate with constituent cities and sub-regional planning agencies, particularly WRCOG and CVAG, on GHG reduction efforts that jointly affect the county and these cities.

c. Coordinate with utility and service providers serving the county to develop programs to improve energy efficiency, water efficiency and delivery or structural improvements to reduce demand or better coordinate infrastructure development, as appropriate.

d. Coordinate with regional agencies responsible for developing utility corridors, particularly for electricity transmission, to ensure alternate energy sources available to the county are used to their fullest extent.

NEW Policy AQ 28.3: Voluntary greenhouse gas reduction objectives for the community sector shall be achieved through development and implementation of specific implementation measures, as determined appropriate and feasible by the County.

NEW Policy AQ 29.1: The County shall implement programs and requirements to achieve the following objectives related to reducing greenhouse gas emissions from County transportation, such as fleet composition, construction equipment, employee commuting and travel on County business:

a. Increase the average fuel efficiency of County-owned vehicles powered by gasoline and diesel.

b. Increase use of alternative and lower carbon fuels in the County vehicle fleet.

c. Reduce total vehicle miles traveled by County employees, both commuting to work sites and traveling for the conduction of County activities.

NEW Policy AQ 29.2: The County shall implement programs and requirements to achieve the following objectives related to reducing greenhouse gas emissions through improving energy efficiency for County facilities and operations:

a. Improve the energy efficiency of all existing and new County buildings.

b. Improve the energy efficiency of County infrastructure operation (roads, water, waste disposal and treatment, buildings, etc.).

c. Decrease energy use through incorporating renewable energy facilities (such as, solar array installations, individual wind energy generators, geothermal heat sources) on County facilities where feasible and appropriate.

NEW Policy AQ 29.3: The County shall implement programs and requirements to achieve the following objectives related to reducing greenhouse gas emissions through achieving waste reduction and resource efficiency for County facilities and operations:

a. Establish purchasing and procurement policies that support the use of green products and services, minimize waste and promote sustainability.

b. Reduce potable water use at both new and existing County facilities and operations.

c. Reduce wastewater generation and urban runoff in both new and existing County facilities and operations.
d. Increase the amount of materials recycled from County facilities while decreasing the amount of solid waste generated by County facilities that requires landfill disposal.

NEW Policy AQ 29.4: Greenhouse gas emissions reduction objectives for County operations and facilities shall be achieved through development and implementation of enforceable and binding internal County policies, programs or similar means.

4.6.4 Thresholds of Significance for Air Quality

The project would result in a significant air quality resource impact if it would:

A. Conflict with or obstruct implementation of the applicable air quality plan.

B. Violate any air quality standard or contribute substantially to an existing or projected air quality violation. (See below.)

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

D. Expose sensitive receptors to substantial pollutant concentrations.

E. Create objectionable odors affecting a substantial number of people.

In regards to Threshold B, above, the SCAQMD and MDAQMD emission levels outlined in Table 4.6-C (Emission Thresholds for Air Basins in Riverside County), below, were used to gauge the significance of potential emissions within the three air basins of Riverside County. Emissions standards for each air basin are discussed by air district in Section 4.6.3 (Policies and Regulations Addressing Air Quality).

Table 4.6-C: Emission Thresholds for Air Basins in Riverside County

<table>
<thead>
<tr>
<th>Air Basin / Units</th>
<th>CO</th>
<th>ROG</th>
<th>NOX(1)</th>
<th>SOX</th>
<th>PM10</th>
<th>PM2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Construction</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCAB (2) (lbs/day)</td>
<td>550</td>
<td>75</td>
<td>100</td>
<td>150</td>
<td>150</td>
<td>55</td>
</tr>
<tr>
<td>SSAB (2) (lbs/day)</td>
<td>550</td>
<td>75</td>
<td>100</td>
<td>150</td>
<td>150</td>
<td>55</td>
</tr>
<tr>
<td>MDAB (4) (lbs/day)/(tons/year)</td>
<td>548/100</td>
<td>137/25</td>
<td>137/25</td>
<td>137/25</td>
<td>82/15</td>
<td>82/15</td>
</tr>
<tr>
<td><strong>Operational</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCAB (2) (lbs/day)</td>
<td>550</td>
<td>55</td>
<td>100</td>
<td>150</td>
<td>150</td>
<td>55</td>
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<tr>
<td>SSAB (2) (lbs/day)</td>
<td>550</td>
<td>75</td>
<td>100</td>
<td>150</td>
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<td>55</td>
</tr>
<tr>
<td>MDAB (4) (lbs/day)/(tons/year)</td>
<td>548/100</td>
<td>137/25</td>
<td>137/25</td>
<td>137/25</td>
<td>82/15</td>
<td>82/15</td>
</tr>
<tr>
<td><strong>Localized Significance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCAB (2) and SSAB (2)</td>
<td>20 ppm (5) / 9 ppm (6)</td>
<td>---</td>
<td>0.18 ppm (5) / 0.03 ppm (6)</td>
<td>---</td>
<td>10.4 (7) μg/m³</td>
<td>2.5 (7) μg/m³</td>
</tr>
</tbody>
</table>

Footnotes:
1. NOx for the localized standards (in ppm); NOx for the rest.
2. Regulated by the SCAQMD.
3. Voluntary standards; only appropriate for sites 5 acres or smaller.
4. Regulated by the MDAQMD.
5. One-hour standard.
7. 24-hour standard.

Source: Atkins, Air Quality Study for General Plan Update, 2011. (See Appendix EIR-5)
4.6.5 Effect of GPA No. 960 on the General Plan and on Air Quality

In this section, the air quality-related changes to the General Plan are outlined and the effects of these proposed changes relative to air quality are discussed. For this resource, air quality modeling was used to estimate both baseline and build out conditions (with and without the project) for air pollutants in Riverside County, as discussed further below. Specific impacts and mitigation are then evaluated according to identified significance thresholds in the subsequent section (4.6.6).

A. Proposed Changes to the General Plan Related to Air Quality

As part of the project review process, land use and demographic data in the General Plan were updated and policies reviewed and revised where necessary. The existing General Plan addresses air quality mainly through the Air Quality (AQ) Element. GPA No. 960 includes revised air quality standards and policies related to pollution control. For full texts of the General Plan policies cited here, see Section 4.6.3.D.

Air Quality Standards: Text was added to address changes in the State of California and federal standards since the adoption of the 2003 General Plan. Further, modifications were included that would address the specific requirements of SB 375, AB 32 and Governor Schwarzenegger’s Executive Order of June 2005 (relating to greenhouse gases; see Section 4.7 for more details).

GHG Emission Reduction: GPA No. 960 introduces Riverside County’s first GHG Emission Reduction Strategy and includes Table AQ-7, 2008 Baseline GHG Emissions Inventory for Unincorporated Riverside County. The new table presents a baseline inventory of GHG emissions currently being produced by Riverside County residents, businesses and government (County of Riverside) operations. The GHG Emission Reduction Strategy identifies GHG reduction categories and objectives, references a new Climate Action Plan (CAP) and adds new policies to the AQ Element to achieve the greenhouse gas reduction objectives.

A variety of LUD and policy area changes proposed as per the descriptions in Section 3.0 (Project Description) of the EIR and associated Figure 3-1 (and corresponding maps within each Area Plan) may indirectly affect air quality. Such changes would lead to either an increase or decrease in development potential (density or intensity). Introducing new people and property into areas would incrementally affect air quality in the region as well. GPA No. 960 also includes new and revised policies which would be implemented at a future time in locations not foreseeable at present; for example, the new incidental rural Retail-Commercial policy, Indian fee land policies and others, as described in EIR Section 3.0.

Infrastructure and utilities, such as roads, power transmission lines, water and sewer lines, are developed based on the providing agency’s existing and future levels of service and need assessments and forecasts; typically based on five-year capital improvement plans. Generally, however, such improvements are not proposed until either specific new developments or overall growth within an area triggers their need. Accordingly, specific locations and timing of future infrastructure, including power and natural gas transmission lines, water and sewer lines and pumps, as well as roads, schools and other public services, are not presently foreseeable beyond the master countywide level (as addressed previously in EIR No. 441). These improvements would require site-specific analyses and mitigation when proposed as part of (or to serve) future development as the project and the General Plan build out. As such, future impacts and mitigation must be assessed programmatically pursuant to the performance standards outlined in this EIR, as well as EIR No. 441, with project-specific analysis and mitigation developed at the later individual project stage. Nevertheless, this chapter presents theoretical air emission estimates for both existing and build out conditions. Each of these scenarios is outlined separately, below.
B. Analysis of the Effect of GPA No. 960 on Air Quality

The proposed project would have spatial effects where it involves a variety of specific General Plan Land Use Designation (LUD) corrections and changes, several Policy Area, Study Area and overlay changes, proposals for new trail and road alignments and standards, and an incidental commercial policy for rural areas. In addition, GPA No. 960 includes a number of updates to proposed roadway alignments and intersection locations, as well as functional classifications (widths, number of lanes, level of service targets, etc.), where needed throughout unincorporated Riverside County.

Accordingly, air quality effects are most often determined on the basis traffic patterns, including those resulting from land use, population and employment sources. Air quality effects are also based on growth projections and patterns. Predictive modeling tools such as URBEMIS2007 are used to calculate emissions based off these projections. As a result, future air quality impacts can be modeled (estimated) for a variety of future scenarios, such as the “build out scenario,” which is a theoretical point in time when all of the land uses planned would have been built. As detailed in Section 4.1 (Environmental Assumptions and Methodology), the theoretical build out point used in this EIR for the General Plan and GPA No. 960 is approximately 2060. The theoretical build out for GPA No. 960 occurs at such a time when unincorporated Riverside County has developed land uses to the point that they are “built out” to the density for each land use type designated in GPA No. 960. The year 2060 was based upon the estimated time needed to achieve “build out” using the population and growth projections for the unincorporated area of Riverside County.

It should be noted, however, that build out is a theoretical point in time, fixed in order to allow comparison between two differing outcomes. The ultimate outcome, that is, what actually gets built in the real world, is subject to many complex and varying factors over time. Hence, the theoretical approximation is more of a likely best (or worst) case scenario, rather than a precise acre-by-acre prediction. Also, these calculations do not take into account any potential future annexations of unincorporated Riverside County areas into existing (or new) cities or public facility districts, which could lead to other agencies being responsible for provision of the public services. This is appropriate because doing so means the public service needs of the unincorporated county are, at worst, over-estimated so that, in an abundance of caution, mitigation needs are similarly over-estimated.

These build out projections are valuable because they provide a snapshot of how the County of Riverside might look if all of the land uses mapped in the existing (2008) General Plan were built as planned. And, they enable a comparison of the possible outcome of the changes proposed by the project. In each of the subsections that follow details are provided on how the specific projections were developed, as well as the data sources and methods uses.

1. Future Development Construction Emissions

Air pollutant emissions are generally associated with two types of activities: construction and operation. Construction activities include the clearing and grading of land, building of structures and the installation of utilities and road, painting and paving as well as the vehicle trips associated with the site’s workers, deliveries of build materials, etc., associated with individual developments. Accordingly, the emissions associated with construction tend to be site specific and depend upon the type of construction and development proposed, as well as the location, time of year and duration, among other things. Because these factors can vary so widely (and would occur over a roughly 50-year time span), estimating all of the construction emissions or impacts for future development expected as the County of Riverside builds out according to the General Plan (existing or proposed) is infeasible. Nevertheless, to provide a reference of the types of air quality emissions associated with “typical”
individual construction activities, several hypothetical scenarios were modeled for three types of residential development. See Table 4.6-D (Typical Project Construction Emission Estimates), below.

### Table 4.6-D: Typical Project Construction Emission Estimates

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>Example Development Projects</th>
<th>AQ Construction Thresholds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5 Acres with 190 MFR</td>
<td>25 Acres with 75 SFR</td>
</tr>
<tr>
<td>ROG</td>
<td>66.01</td>
<td>55.51</td>
</tr>
<tr>
<td>NOx</td>
<td>22.00</td>
<td>29.68</td>
</tr>
<tr>
<td>CO</td>
<td>26.69</td>
<td>22.22</td>
</tr>
<tr>
<td>PM₁₀</td>
<td>26.08</td>
<td>156.55</td>
</tr>
<tr>
<td>PM₂.⁵</td>
<td>6.21</td>
<td>27.53</td>
</tr>
</tbody>
</table>

Key: lbs/day = pounds per day  
MFR = Multi-family residential units  
SFR = Single-family residential units

Footnotes:
1. Thresholds for these basins from SCAQMD.  
2. Thresholds for this basin from MDAQMD.

Source: Atkins, Air Quality Study for General Plan Update, 2011. (See Appendix EIR-5)

Residential development acreages can range from less than an acre to well over a hundred in some cases. Keeping in mind that a variety of projects would be undertaken, examples of construction of residential development on 5, 25 and 50 acres were modeled. These construction emission estimates were based on the default construction phase lengths and equipment usage included in the URBEMIS2007 model. Construction estimates for commercial and industrial uses were not modeled as such uses vary too widely to be accurately typified.

For the residential examples analyzed above, emissions would result from onsite grading activities, transport of materials to and from the site and the actual building construction, painting and paving associated with the individual developments. Table 4.6-D shows that the SCAQMD and MDAQMD thresholds for PM₁₀ are exceeded with the disturbance of between 25 and 50 acres. In addition, the construction of 150 single family residential units or more is anticipated to exceed the SCAQMD threshold for ROG. Because the residential examples analyzed above demonstrate that the thresholds are exceeded, construction air quality impacts would be considered significant for such individual projects. And, for GPA No. 960, since the precise timing of future development cannot be controlled to avoid multiple projects below the thresholds from occurring simultaneously, construction air quality impacts are also considered cumulatively considerable. See Section 5.5 (Cumulative Impacts) for more details.

Further, because construction impacts are modeled from a myriad of variables unique to each project, it is impossible to develop a reasonably foreseeable forecast of construction-related air quality impacts resulting from future development accommodated by GPA No. 960. Thus air quality impacts as a result of construction must be addressed on a case-by-case basis for each development project.

### 2. Future Development Operational Emissions

Operational emissions based on future conditions were calculated using URBEMIS for stationary and mobile source emissions. Project-specific data for the types and amounts of various land use development planned were entered into URBEMIS to determine the pollutant emissions anticipated at full build out. This data includes the number of residential dwelling units, square footage of non-residential land uses, average daily trips, vehicle miles traveled and average trip lengths. Where project-specific data was not available, URBEMIS defaults provided for the County of Riverside were used. The specific land use and mobile source assumptions included in the modeling are detailed in Appendix EIR-5 Air Quality Data Section A—Modeling Assumptions.
Baseline conditions for operational emissions are the pollutant levels associated with the existing development and land uses. Because there are changes in land use type and density, a simple calculation of new development emissions would not accurately assess the changes in pollutant emissions being proposed. Therefore, in order to determine pollutant concentrations anticipated from project implementation, the emissions from the baseline condition are subtracted from the total anticipated emissions at project build out under the proposed General Plan. It should be noted the existing and future levels depicted in Tables 4.6-E, 4.6-F, 4.6-G and 4.6-H represent emissions for lands reasonably foreseeable as being spatially affected by GPA No. 960 changes only; not countywide General Plan build out scenarios. (See Section 4.7 for countywide scenarios.)

Table 4.6-E (Comparison of Unmitigated Project Operational Emissions – SCAQMD) and Table 4.6-F (Comparison of Unmitigated Project Operational Emissions – MDAQMD) show the anticipated unmitigated emissions under the proposed GPA No. 960 respectively according to the portions of Riverside County under jurisdiction of the SCAQMD and MDAQMD. As shown, the project would result in net emissions that would exceed SCAQMD and MDAQMD thresholds of significance for CO, ROG, SOX, PM10 and PM2.5 but would be less than significant for NOX emissions. The negative net emissions associated with NOX is due to the substantial decrease in anticipated emissions from vehicles mandated by increased efficiency requirements in current federal and California State law that have been implemented and will continue to affect the motor vehicle fleet between the existing year and 2040.

Although build out is anticipated to be well beyond 2040, the URBEMIS model does not have emission factors beyond 2040. Thus, these analyses represent a conservative prediction of emissions for build out. Note that the NOX negative net emissions are due to the substantial decrease in anticipated vehicle emissions due to increased State of California efficiency requirements between the existing year and 2040.

Tables 4.6-E and 4.6-F show that although future development accommodated under the proposed project is designed for decreased density/intensity overall, its implementation would still result in daily emissions above both the SCAQMD and MDAQMD thresholds. While some of the individual development may be able to incorporate project designs and reduction features that would reduce emissions to below the regulatory threshold, the project must be considered in total for significance consideration. Because emissions of the majority of the criteria pollutants exceed the regulatory thresholds, impacts with respect to stationary and mobile sources are considered potentially significant before the implementation of regulations, policies and mitigation.

### Table 4.6-E: Comparison of Unmitigated Project Operational Emissions – SCAQMD

<table>
<thead>
<tr>
<th>Source 1, 6</th>
<th>CO (lbs/day) 1</th>
<th>NOx (lbs/day) 1</th>
<th>ROG (lbs/day) 1</th>
<th>SOx (lbs/day) 1</th>
<th>PM10 (lbs/day) 1</th>
<th>PM2.5 (lbs/day) 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing Emissions 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile Source</td>
<td>196,880</td>
<td>31,670</td>
<td>18,320</td>
<td>160</td>
<td>25,020</td>
<td>5,100</td>
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<tr>
<td>Area Source</td>
<td>44,370</td>
<td>3,480</td>
<td>22,130</td>
<td>120</td>
<td>6,720</td>
<td>6,470</td>
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<tr>
<td>Total Existing Emissions</td>
<td>241,250</td>
<td>35,140</td>
<td>40,445</td>
<td>280</td>
<td>31,740</td>
<td>11,570</td>
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<tr>
<td>Project Emission at Build Out 3</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Mobile Source</td>
<td>185,490</td>
<td>21,480</td>
<td>18,750</td>
<td>700</td>
<td>109,480</td>
<td>21,340</td>
</tr>
<tr>
<td>Area Emissions</td>
<td>151,790</td>
<td>9,770</td>
<td>66,690</td>
<td>390</td>
<td>21,330</td>
<td>20,530</td>
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<tr>
<td>Total GPA No. 960 Build Out Emissions</td>
<td>332,200</td>
<td>31,250</td>
<td>87,430</td>
<td>1,090</td>
<td>130,810</td>
<td>41,870</td>
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<tr>
<td>Net Emissions 4</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Mobile Source</td>
<td>-11,390</td>
<td>-10,190</td>
<td>+430</td>
<td>+550</td>
<td>+84,460</td>
<td>+16,240</td>
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<tr>
<td>Area Source</td>
<td>+102,810</td>
<td>+6,390</td>
<td>+47,890</td>
<td>+270</td>
<td>+14,610</td>
<td>+14,060</td>
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<tr>
<td>Net Change in Emissions 5</td>
<td>+91,420</td>
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<td>+48,320</td>
<td>+810</td>
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<td>SCAQMD SCAB Thresholds</td>
<td>550</td>
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</table>
Section 4.6  Air Quality

### Table 4.6-F: Comparison of Unmitigated Project Operational Emissions – MDAQMD

<table>
<thead>
<tr>
<th>Source</th>
<th>CO (tons/yr)</th>
<th>NOx (tons/yr)</th>
<th>ROG (tons/yr)</th>
<th>SOx (tons/yr)</th>
<th>PM10 (tons/yr)</th>
<th>PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Existing Emissions</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Mobile Source</td>
<td>21,950</td>
<td>3,190</td>
<td>1,940</td>
<td>20</td>
<td>2,820</td>
<td>580</td>
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<tr>
<td>Area Source</td>
<td>990</td>
<td>260</td>
<td>970</td>
<td>1</td>
<td>50</td>
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<tr>
<td><strong>Total Existing Emissions</strong></td>
<td>22,940</td>
<td>3,450</td>
<td>2,910</td>
<td>20</td>
<td>2,870</td>
<td>630</td>
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<td><strong>Proposed GPA No. 960 (Project) Emissions at Build Out</strong></td>
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<tr>
<td>Mobile Source</td>
<td>21,420</td>
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<td>2,020</td>
<td>80</td>
<td>12,970</td>
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<tr>
<td>Area Emissions</td>
<td>2,840</td>
<td>690</td>
<td>3,030</td>
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<td>170</td>
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<td><strong>GPA No. 960 Build Out Emissions</strong></td>
<td>24,260</td>
<td>2,960</td>
<td>5,050</td>
<td>80</td>
<td>13,150</td>
<td>2,700</td>
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<td><strong>Net GPA No. 960 Emissions (Project Emissions minus Existing Emissions)</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mobile Source</td>
<td>-530</td>
<td>-920</td>
<td>+80</td>
<td>+60</td>
<td>+10,150</td>
<td>+1,950</td>
</tr>
<tr>
<td>Area Source</td>
<td>+1,860</td>
<td>+430</td>
<td>+2,060</td>
<td>+2</td>
<td>+120</td>
<td>+120</td>
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<tr>
<td><strong>Net Plan Emissions</strong></td>
<td>+1,330</td>
<td>-490</td>
<td>+2,140</td>
<td>+60</td>
<td>+10,270</td>
<td>+2,070</td>
</tr>
<tr>
<td><strong>MDAQMD Thresholds</strong></td>
<td>100</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td><strong>Significant Impact?</strong></td>
<td>YES</td>
<td>NO</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
<td>YES</td>
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</tbody>
</table>

Footnotes:
1. Net emissions are those attributed to the growth anticipated between existing year and full project build out.
2. Net emissions is gross level of emissions minus existing emissions, which equals the project increment.
3. Although build out is anticipated to be well beyond 2040, the air quality model does not have emission factors beyond 2040. This will represent a conservative analysis of emissions for build out.

Source: Atkins, Air Quality Study for General Plan Update, 2011. (See Appendix EIR-5)

The existing General Plan policies and mitigation along with new General Plan policies and mitigation measures would reduce emissions from operational activities. Table 4.6-G (Mitigated Net Project Operational Emissions – SCAQMD) and Table 4.6-H (Mitigated Net Project Operational Emissions – MDAQMD) show the anticipated project build out emissions after reductions are implemented. However, because the exact nature and location of the build out of the proposed project is unknown, the extent of reductions available from all measures is not fully known and therefore is not included in the calculated reductions.

Reductions included in Tables 4.6-G and 4.6-H are associated with low VOC paint requirements, increased energy efficiencies and transportation reductions. As can be seen, even with these reductions, emissions are anticipated to be above thresholds for all criteria pollutants except CO (SCAQMD only) and NOx (SCAQMD and MDAQMD). While some of the emissions reductions could not be quantified, it is not anticipated that their reductions would be sufficient to reduce emissions by the 50% to 99% required to achieve the regulatory thresholds.

It can be assumed that various sizes and types of project would be developed, however. And, because of the increased density seen for the land uses and desired proximity of residential land uses to both transit and...
commercial centers, it can be assumed that both construction and operation of commercial and potentially industrial sources would be developed relatively close to sensitive receptors such as residences or schools. Each individual future commercial or industrial development would require an environmental analysis because the emissions with respect to countywide sensitive receptors cannot be determined. For projects within SCAQMD’s jurisdiction, the analysis shall include an LST evaluation using the screening level analysis for projects at or under 5 acres in size and a more detailed analysis for projects over 5 acres. (See Impact 4.6.D.)

<table>
<thead>
<tr>
<th>Emission Sources</th>
<th>CO (lbs/day)</th>
<th>NOx (lbs/day)</th>
<th>ROG (lbs/day)</th>
<th>SOx (lbs/day)</th>
<th>PM10 (lbs/day)</th>
<th>PM2.5 (lbs/day)</th>
</tr>
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<tbody>
<tr>
<td><strong>Net Project Emissions (GPA No. 960 Emissions minus Existing Emissions)</strong></td>
<td>From Table 4.6-E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Mobile Source</td>
<td>-11,390</td>
<td>-10,190</td>
<td>430</td>
<td>550</td>
<td>84,460</td>
<td>16,240</td>
</tr>
<tr>
<td>Area Source</td>
<td>102,810</td>
<td>6,390</td>
<td>47,890</td>
<td>270</td>
<td>14,610</td>
<td>14,090</td>
</tr>
<tr>
<td><strong>Net Plan Emissions</strong></td>
<td>91,420</td>
<td>-3,800</td>
<td>48,320</td>
<td>810</td>
<td>99,070</td>
<td>30,300</td>
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</table>

**Reductions Associated with Mitigation**

<table>
<thead>
<tr>
<th>Emission Sources</th>
<th>CO (lbs/day)</th>
<th>NOx (lbs/day)</th>
<th>ROG (lbs/day)</th>
<th>SOx (lbs/day)</th>
<th>PM10 (lbs/day)</th>
<th>PM2.5 (lbs/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Source</td>
<td>-4,070</td>
<td>-3,640</td>
<td>-150</td>
<td>-200</td>
<td>-30,180</td>
<td>-5,800</td>
</tr>
<tr>
<td>Area Source</td>
<td>-93,690</td>
<td>-2,230</td>
<td>-33,940</td>
<td>-260</td>
<td>-14,470</td>
<td>-13,920</td>
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</table>

**Net Mitigated Plan Emissions (Net Plan Emissions minus Reduction)**

<table>
<thead>
<tr>
<th>Emission Sources</th>
<th>CO (lbs/day)</th>
<th>NOx (lbs/day)</th>
<th>ROG (lbs/day)</th>
<th>SOx (lbs/day)</th>
<th>PM10 (lbs/day)</th>
<th>PM2.5 (lbs/day)</th>
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</thead>
<tbody>
<tr>
<td>Mobile Source</td>
<td>-15,460</td>
<td>-13,830</td>
<td>+280</td>
<td>+350</td>
<td>+54,280</td>
<td>+10,440</td>
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<td>Area Source</td>
<td>+9,120</td>
<td>+4,160</td>
<td>+13,950</td>
<td>+10</td>
<td>+140</td>
<td>+140</td>
</tr>
<tr>
<td><strong>Net Mitigated Plan Emissions</strong></td>
<td>-6,340</td>
<td>-9,660</td>
<td>+14,230</td>
<td>+360</td>
<td>+54,420</td>
<td>+10,570</td>
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</tbody>
</table>

**SCAQMD SCAB Thresholds**

<table>
<thead>
<tr>
<th>Source</th>
<th>CO (tons/yr)</th>
<th>NOx (tons/yr)</th>
<th>ROG (tons/yr)</th>
<th>SOx (tons/yr)</th>
<th>PM10 (tons/yr)</th>
<th>PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SCAQMD SCAB Thresholds</strong></td>
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<td></td>
<td></td>
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</tr>
</tbody>
</table>

**SCAQMD SSAB Thresholds**

<table>
<thead>
<tr>
<th>Source</th>
<th>CO (tons/yr)</th>
<th>NOx (tons/yr)</th>
<th>ROG (tons/yr)</th>
<th>SOx (tons/yr)</th>
<th>PM10 (tons/yr)</th>
<th>PM2.5 (tons/yr)</th>
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<tbody>
<tr>
<td><strong>SCAQMD SSAB Thresholds</strong></td>
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<td></td>
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<td>100</td>
<td>75</td>
<td>150</td>
<td>150</td>
<td>55</td>
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</tr>
</tbody>
</table>

**Source:** Atkins, Air Quality Study for General Plan Update, 2011. (See Appendix EIR-5)

**Table 4.6-H: Mitigated Net Project Operational Emissions – MDAQMD**

<table>
<thead>
<tr>
<th>Source</th>
<th>CO (tons/yr)</th>
<th>NOx (tons/yr)</th>
<th>ROG (tons/yr)</th>
<th>SOx (tons/yr)</th>
<th>PM10 (tons/yr)</th>
<th>PM2.5 (tons/yr)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MDAQMD Thresholds</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>100</td>
<td>25</td>
<td>25</td>
<td>25</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
</tbody>
</table>

**Source:** Atkins, Air Quality Study for General Plan Update, 2011. (See Appendix EIR-5)

### 3. Localized Significance Thresholds (LSTs)

Due to the programmatic nature of the General Plan and the proposed project, detailed construction phasing, equipment and intensities are not available for the development area. Further, the exact size and location of future development within Riverside County is unknown at this time. Therefore, project-level analysis for impacts to sensitive receptors and population groups cannot be accurately determined using LST analysis and would be inappropriate under the SCAQMD’s LST methodology, because specific acreages, uses and distances to
Sensitive receptors are required in order to calculate localized pollutant concentrations at sensitive receptors. Sensitive population groups include children, the elderly, the acutely ill and the chronically ill, especially those with cardio-respiratory diseases. Sensitive receptors are those areas where sensitive populations may be for extended periods of time, resulting in sustained exposure to any pollutants present.

Localized significance thresholds (LSTs) were developed by the SCAQMD to determine maximum allowable concentrations of criteria air pollutants during construction or operation for individual developments. Methodology for determining significance of project impacts with respect to sensitive receptors provides screening levels for those projects of less than 5 acres but requires more in-depth dispersion modeling for project sites greater than 5 acres. The screening process results in a conservative estimate of emissions due to the general information that is used to determine emissions. While dispersion modeling is more time intensive, it provides for a project-specific analysis which takes into account not only the size of the project, but also can account for wind direction, topography and additional barriers, such as buildings.

To provide a reference of the types of emissions associated with “typical” construction and operation activities, a hypothetical 5-acre analysis is presented in Table 4.6-I (Localized Significant Analysis for 5-Acre Site – Construction) and Table 4.6-J (Localized Significant Analysis for 5-Acre Site – Operational) below. For projects less than 5 acres in size, screening analyses would occur using the concentrations identified in the LST lookup tables developed by the SCAQMD. Each source receptor area (SRA) within the SCAB has a unique LST for CO, NO\textsubscript{X}, PM\textsubscript{10} and PM\textsubscript{2.5}. While the project’s build out area is much greater than 5 acres, it is possible that some of the individual developments that occur would disturb less than 5 acres. For an assumed 5-acre development project located within SRA 24 (Perris Valley area), the lookup tables can be used to determine what the allowable emission concentrations would be at various distances from the construction site. Table 4.6-I shows the LST thresholds for a 5-acre site in SRA 24 in comparison to the emissions estimates detailed previously in Table 4.6-D, above.

| Table 4.6-I: Localized Significant Analysis for 5-Acre Site – Construction |
|------------------|---|---|---|---|
| Distance from Site | CO | NO\textsubscript{X} | PM\textsubscript{10} | PM\textsubscript{2.5} |
| 25 meters Threshold | 1,577 | 270 | 13 | 8 |
| 50 meters Threshold | 2,176 | 302 | 40 | 10 |
| 100 meters Threshold | 3,457 | 378 | 59 | 16 |
| 200 meters Threshold | 6,860 | 488 | 96 | 31 |
| 500 meters Threshold | 22,530 | 780 | 207 | 105 |
| Project Emissions | 26.69 | 22.00 | 26.08 | 6.21 |

Footnote: All values in pounds per day
Source: Atkins, Air Quality Study for General Plan Update, 2011. (See Appendix EIR-5)

| Table 4.6-J: Localized Significant Analysis for 5-Acre Site – Operational |
|------------------|---|---|---|---|
| Distance from Site | CO | NO\textsubscript{X} | PM\textsubscript{10} | PM\textsubscript{2.5} |
| 25 meters Threshold | 1,577 | 270 | 4 | 2 |
| 50 meters Threshold | 2,176 | 302 | 10 | 3 |
| 100 meters Threshold | 3,457 | 378 | 14 | 4 |
| 200 meters Threshold | 6,860 | 488 | 23 | 8 |
| 500 meters Threshold | 22,530 | 780 | 50 | 26 |
| Project Emissions | 2.43 | 1.88 | 0.01 | 0.01 |

Footnote: All values in pounds per day
Source: Atkins, Air Quality Study for General Plan Update, 2011. (See Appendix EIR-5)

The same methodology would also apply to operational emissions from the project site. Assuming that the same 5-acre development was for 190 multi-family residential units and the URBEMIS defaults were used, the site’s operational emissions could be compared to the LST lookup tables for operational emissions. Table 4.6-J shows the operational LST thresholds in comparison with the anticipated emissions from the theoretical project. The
theoretical 5-acre site project is below all the applicable LST thresholds during construction and operation using the SCAQMD screening level analysis.

These thresholds do not include the mobile sources associated with offsite traffic. However, onsite traffic must also be considered, especially where diesel particulate matter is concerned such as with the operation of a warehouse with numerous loading docks and large volumes of truck traffic. In addition to criteria pollutant analysis, localized emissions of toxic air contaminants (TAC) are also of concern with respect to sensitive receptors. Sources of TACs include diesel particulate matter from railroads, emissions from the combustion of airplane fuel, benzene emissions in close proximity to gasoline dispensing stations, dry cleaners and film processing services that use perchloroethylene, auto body shops due to various solvents, furniture manufacturers and repair facilities that use methylene chloride and print shops that use various solvents.

The primary source of TACs within Riverside County is diesel-fueled trucks and other vehicles traveling the freeways and major roadways. In 2005, CARB published the “Air Quality and Land Use Handbook – A Community Health Perspective,” to provide guidance on how to analyze these TAC emission sources in a general plan update and how to apply program-level mitigation. In particular, the CARB Guidance uses buffer zones to insulate sensitive receptors from sources of TACs.

Due to the programmatic nature of the General Plan and GPA No. 960, detailed construction phasing, equipment and intensities are not available. Further, the exact size and location of future development within Riverside County and, in particular, its timing, is unknown at this time. Therefore, project-level analysis for impacts to sensitive receptors cannot be accurately determined. It can, however, be assumed that various sizes and types of projects will be developed and, because of the increased density seen for the land uses and desired proximity of residential land uses to both transit and commercial centers, it can be assumed that both construction and operation of commercial and potentially industrial sources would be developed relatively close to sensitive receptors such as residences or schools.

4.6.6 Air Quality - Impacts and Mitigation

A. Air Quality Plan Conflicts: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Impact 4.6.A – Cause Inconsistency With Air Quality Plans: As outlined in Section 4.3 (Population and Housing), future development associated with GPA No. 960 represents a reduction in Riverside County capacity and yields lower population growth forecasts, both compared to the existing General Plan and to current SCAG (2008 RTP) projections. Since air quality management plans (AQMPs) are developed using growth forecasts issued by the applicable regional association of governments (SCAG, etc.), a project that is consistent with the applicable growth forecast would generally be consistent with the AQMP. This is the case for GPA No. 960. Further, it includes a number of new policies and programs related to greenhouse gas reductions that would also improve air quality for a variety of criteria pollutants addressed in AQMPs. Compliance with existing regulatory programs, Riverside County ordinances and General Plan policies, as well as new ones included in GPA No. 960, would further reduce this impact by reducing conflicts with or obstruction of the AQMP. However, while the existing General Plan policies and new ones included in GPA No. 960 may reduce conflicts and obstruction of any AQMP, the combined emissions from all proposed General Plan development would exceed the SCAQMD and MDAQMD significance thresholds for criteria pollutants. Exceeding these thresholds has the potential to hinder the region’s compliance with each AQMP. Therefore, this impact is significant and unavoidable.
1. Analysis of Impact 4.6.A

As outlined in Section 4.3, in terms of direct growth, GPA No. 960’s land use changes would serve to limit and slightly reduce the development capacity of Riverside County, yielding 1.4% less population growth than that projected for the existing General Plan, 2.0% fewer dwelling units and 5.6% fewer jobs. Similarly, traffic volumes also decrease proportionally.

Air quality management plans (AQMPs) are developed using growth forecasts issued by the applicable regional association of governments (SCAG, etc.). Thus, a project that is consistent with the applicable growth forecast would generally be consistent with the AQMP. Thus, overall GPA No. 960 represents a reduction in county capacity and yields lower population growth forecasts, both compared to the existing General Plan and to current SCAG (2008 RTP) projections.

SCAG’s Regional Comprehensive Plan and Guide (RCP) includes growth forecasts that are used in the development of air quality-related land use and transportation control strategies. In Southern California, a reduction in vehicle miles traveled correlates with a reduction in emissions of criteria pollutants (and greenhouse gases). As stated earlier, the project’s effect on the build out of Riverside County would be to lessen its ultimate density and intensity. For example, the SCAG-projected population for Riverside County in 2035 is 1,243,632. The projected 2035 population resulting from implementation of GPA No. 960 would be 909,072. Similar reductions are seen for housing and employment as well. Thus, Riverside County projections would fall within SCAG projections for 2035.

The 2007 Air Quality Management Plan (AQMP) discussed in Section 4.6.3 was prepared to accommodate growth, to reduce the high levels of pollutants within areas under the jurisdiction of SCAQMD, to return clean air to the region and to minimize the impact of reduced air quality on the economy. Projects that are considered to be consistent with the AQMP would not interfere with attainment because this growth is included in the projections used during the preparation of the AQMP. Therefore, projects, uses and activities that are consistent with the applicable assumptions used in the development of the AQMP would not jeopardize attainment of the air quality levels identified in the AQMP, even if they exceed the SCAQMD’s recommended daily emissions thresholds.

The MDAQMD states that a General Plan amendment or similar land use plan change which does not increase dwelling unit density, vehicle trips or vehicle miles traveled would be considered to conform with attainment of the Air Quality Attainment and Ozone Attainment Plans. GPA No. 960 represents a population reduction of 1.4% by 2035 and an approximate 18% reduction in VMT by 2035 (extrapolated from the 35% reduction anticipated by 2060 as part of the Climate Action Plan requirements).

Projects that are consistent with the employment, population, housing and VMT projections identified in the Growth Management chapter of the Regional Comprehensive Plan and Guide (RCPG) prepared by the Southern California Association of Governments are considered consistent with the growth projections used by the Air Districts to anticipate future pollutant concentrations and determine reductions needed to reach federal and state ambient air quality standards.

Additionally, GPA No. 960 is consistent with SCAG’s Regional Growth Management Plan and the rate of growth and vehicle miles traveled for build out of the General Plan as modified by the project is also consistent with SCAG’s projected population growth. In addition, because of other traffic and vehicle-related changes associated with the proposed Climate Action Plan and Circulation Element revisions, it is anticipated that GPA No. 960 would also be consistent with SCAG’s Regional Mobility Plan, the locally adopted Congestion Management Plan, as well as the Coachella Valley PM_{10} Plan.
Thus, through implementation of the project’s proposed changes to the General Plan, including reductions in population, housing, employment and vehicle miles traveled, GPA No. 960 would be consistent with all of the applicable air quality plans. Further, compliance with existing regulatory programs, Riverside County ordinances and General Plan policies, as well as new ones included in GPA No. 960, would ensure that the project reduces conflicts with or obstruction of any AQMP.

However, while the existing General Plan policies and new ones included in GPA No. 960 may reduce conflicts and obstruction of any AQMP, the combined emissions from all proposed General Plan development would exceed both the SCAQMD and MDAQMD significance thresholds for criteria pollutants. These exceedances have the potential to hinder the region’s compliance with each AQMP. Therefore, without mitigation this impact is significant.

2. Regulatory Compliance for Impact 4.6.A

Consistency with applicable air quality plans would be further ensured or enhanced through the following regulations, programs and policies.

a. Compliance With Federal, State and County Regulations

Riverside County Ordinance No. 706 and Ordinance No. 726, as detailed in Section 4.6.3, above, would help reduce motor vehicle emissions of criteria pollutants through reduction of vehicle miles traveled. This would also ensure consistency with the SCAQMD and MDAQMD’s pollution reduction goals.

b. Compliance with Existing General Plan Policies

The following policies are already part of the General Plan and are not part of the project, GPA No. 960. Rather, these policies are considered to play a role in ensuring any potential environmental effects are avoided, reduced or minimized through their application on a case-by-case basis. The County of Riverside has existing programs in place that ensure applicable policies are imposed once a development proposal triggers a specific policy or policies. The need for specific policies is determined through subsequent CEQA analysis performed for site-specific projects. These measures are implemented, enforced and verified through their inclusion into project Conditions of Approval. See Section 4.6.3.D for full text of each of these policies.

Policy LU 2.1: This policy promotes the reduction of criteria pollutant emission through the development and enforcement of plans, policies and regulations. These policies limit emissions from operation through site placement and design.

Policies LU 8.12, 11.1-11.4 and 13.1-13.4: These policies promote the reduction in mobile source emissions by shortening commute distances and encouraging the use of alternate modes of transportation.

Policies C 1.2, 1.7, 4.1, 4.8, 9.2, 11.2, 11.4, 11.5, 11.7, 13.1 and 20.14: These policies promote the reduction in mobile source emissions by shortening commute distances and encouraging the use of alternate modes of transportation.

Policies AQ 1.1-1.9, 2.3, 2.4, 4.6, 7.4, 10.4, 15.1, 16.1-16.4, 17.1-17.5, 17.8 and 17.11: These policies promote the reduction of criteria pollutant emission through the development and enforcement of plans, policies and regulations and fees. These policies limit the allowable levels of emissions, encourage the use of alternate sources and increased efficiencies, and enhanced community involvement.
Policy AQ 5.1: This policy encourages the use of building operations to use and reuse materials to reduce the amount of energy used and waste generated during daily operations.

Policies AQ 3.2-3.4, 4.5, 10.1, 10.2 and 10.3: These policies promote the reduction of mobile source emissions through employer and employee education and implementation of transportation demand measures that would reduce vehicle miles traveled.

Policies AQ 4.4, 5.2-5.4, 17.9 and 17.10: These policies promote the reduction of criteria pollutants through the use of energy efficiency measures and site design, including use of alternate energy sources for vehicles, heating and cooling.

Policies AQ 7.1-7.3, 8.2, 8.4, 8.6-8.9, 9.1, 9.2, 11.3 and 11.4: These policies promote the reduction in vehicle miles traveled through the location of new employment centers, residential land uses and transit centers in close proximity. Further reductions are encouraged through public event incentives such as reduced transit pass costs.

Policies AQ 13.1-13.3, 14.1, 14.2 and 14.4: These policies encourage the County of Riverside to reduce vehicle miles traveled through enhancement of transportation fleet mixes, planning for new transportation/land use balance and enhancing and preserving existing transit corridors.

c. Compliance with Proposed New or Revised General Plan Policies

The following proposed policies of the Riverside County General Plan would also further ensure that impacts with respect to air quality plan compliance are less than significant. While these proposed air quality policies were introduced to specifically address greenhouse gas emissions, these policies would also provide a reduction in criteria pollutant emissions and so are included herein. See Section 4.6.3.D for full text of each General Plan policy mentioned.

Policy LU 1.5: This policy promotes the reduction of criteria pollutant emission through the development and enforcement of plans, policies and regulations. These policies limit emissions from operation through site placement and design.

Policies C 12.2 and 17.4: These policies promote the reduction in mobile source emissions by shortening commute distances and encouraging the use of alternate modes of transportation.

Policies AQ 4.2 and 4.3: Together, these policies promote the reduction of criteria pollutants through the use of energy efficiency measures and site design, including use of alternate energy sources for vehicles, heating and cooling.

Policy AQ 4.7: This policy promotes the reduction of criteria pollutant emission through the development and enforcement of plans, policies and regulations and fees. These policies limit the allowable levels of emissions, encourage the use of alternate sources and increased efficiencies, and enhanced community involvement.

Policies AQ 22.1 and 29.1: These policies implement requirements to reduce greenhouse gases emissions associated with transportation through the reduction in vehicle miles traveled.

Policies AQ 23.1 and 28.1: These policies help reduce GHG emissions through land use planning.

Policies AQ 24.1, 25.1, 26.1, 27.1, 28.1, 29.2 and 29.3: These policies implement programs and requirements to reduce greenhouse gas emissions through increased energy efficiency, resource conservation and waste reduction.
3. Additional Project-Specific Mitigation for Impact 4.6.A

Additional project-specific mitigation measures are necessary to further avoid, reduce or minimize impacts from operational pollutant emissions. The following mitigation measures from EIR Section 4.7 would also reduce air pollution by reducing energy use and vehicle miles traveled and ensure county compliance with applicable air quality management and attainment plans.

**NEW Mitigation Measure 4.7.A-N1:** To ensure GHG emissions resulting from new development are reduced to levels necessary to meet California State targets, the County of Riverside shall require all new discretionary development to comply with the Implementation Measures of the Riverside County Climate Action Plan or provide comparable custom measure backed by a project GHG study (for example, using CalEEMod modeling) demonstrating achievement of the same target. The target to be met is a GHG emissions reduction of 25% below emissions for the adjusted BAU scenario for residential, commercial, industrial, institutional and mixed-use projects. The adjusted BAU is based upon the 2020 BAU found in the Final Supplement to the AB 32 Scoping Plan (CARB 2011).

**NEW Mitigation Measure 4.7.A-N2:** In lieu of a project-specific GHG analysis per Mitigation Measures 4.7.A-N1, a future discretionary project pursuant to the Riverside County General Plan shall incorporate into the project design, operational features and/or Implementing Measures from the County Climate Action Plan, in such a manner as to garnish at least 100 points. The point values within the CAP’s Screening Tables constitute GHG emission reductions.

4. Finding on Significance for Impact 4.6.A

With implementation of and compliance with the above-listed regulatory programs, Riverside County ordinances, existing and proposed General Plan policies, as well as proposed new Mitigation Measures 4.7.A-N1 and N2, air pollutant emissions from future development accommodated by GPA No. 960 would be reduced but still exceed regulatory thresholds for the SCAB, SSAB and MDAB. Exceedance of regulatory thresholds would conflict with the implementation of the applicable air quality plans. Implementation of greenhouse gas reduction measures would afford additional reductions in criteria air pollutants; however, it would not reduce criteria pollutant impacts to below regulatory thresholds. Thus, impacts associated with implementation of the proposed project would remain significant and unavoidable with respect to regional air quality plans.

B. Significant Air Emissions: Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

**Impact 4.6.B(1) – Cause Significant Construction (Short-Term) Air Emissions:** Future development accommodated by the proposed project, GPA No. 960, would result in construction activities generating air quality emissions that may be quantified based on the level of daily disturbance. However, since GPA No. 960 would be implemented through many (perhaps thousands) of individual projects occurring throughout Riverside County over next roughly 50 years, the level of daily disturbance for GPA No. 960 cannot be calculated and, therefore, the associated construction emissions cannot be quantified. Although implementing projects may be individually consistent with air quality standards, because of the cumulative nature of air emissions, such projects may nonetheless cumulatively exceed an air quality standard. Thus, even with implementation of the regulations, existing policies and mitigation measures outlined herein that reduce emissions, it cannot be guaranteed that they would be cumulatively reduced to below applicable thresholds. Thus, this impact would be significant and unavoidable with respect to violations of air quality standards for construction activities.
1. Analysis of Impact 4.6.B(1)

Construction activities typically result in temporary air emissions (and air quality impacts) due to onsite grading activities, transport of materials to and from the site and construction of the actual building(s), including emissions from the gluing, painting and paving associated with them.

As discussed in detail in Section 4.6.2 (Existing Environmental Setting – Air Quality), the air districts have developed thresholds by which project impacts can be compared to determine significance. These thresholds are summarized in Table 4.6-C in Section 4.6.3. Thus, while the exact nature of future development is unknown, estimates of emissions and impacts associated with specific sizes of individual development activities can be predicted. Accordingly, as shown in Table 4.6-D, the MDAQMD construction emissions threshold for PM$_{10}$ would be exceeded with the disturbance of as little as 5 acres and between 25 and 50 acres for the SCAQMD thresholds. Similarly, construction of between 75 and 150 single-family residential units would exceed the SCAQMD threshold for ROG. Thus, some projects could be large enough on their own to generate emissions that exceed these thresholds.

The project would result in future development occurring via numerous individual actions scattered across the entirety of Riverside County and at various unforeseeable intervals over the next roughly 50 years. Although the revisions proposed to the General Plan would lower the build out capacity of Riverside County, there would still be development on lands that are currently vacant or under-utilized. Such development would result in new temporary construction emissions being generated. Unlike an individual project for which project-specific construction information available, it is infeasible to quantify all of the individual projects that would contribute incrementally to construction emissions across Riverside County. However, generally speaking, construction equipment emit both criteria pollutants and diesel particulate matter (DPM), which is a Toxic Air Contaminant (TAC), and construction activities such as grading generate fugitive dust emissions including PM$_{10}$ and PM$_{2.5}$. The cumulative emissions of criteria pollutants and DPM resulting from all construction activities throughout Riverside County will potentially affect the health of residents within Riverside County. In the absence of data to prove otherwise, it is therefore assumed that future development accommodated by the proposed project would result in varying amounts of construction on a daily and annual basis through build out that would be cumulatively significant, even if individually consistent with applicable construction thresholds.

2. Regulatory Compliance for Impact 4.6.B(1)

The adverse effects associated with criteria pollutant emissions from future development would be reduced or minimized through adherence to or compliance with the following regulations and policies.

a. Compliance With Federal, State and County Regulations

The 2007 Air Quality Management Plan (AQMP) is intended to accommodate growth within the region while introducing enforceable strategies to reduce the high levels of pollutants within areas under the jurisdiction of SCAQMD. In order to help reduce pollutant levels as required in the AQMP, the SCAQMD has implemented regulatory thresholds for the criteria air pollutants. These thresholds were established to provide for future development while reducing regional concentrations of air pollutants.

MDAQMD Attainment Plans are intended to accommodate growth within the Mojave Desert Air Basin while introducing enforceable strategies to attain the national air quality standards for the MDAQMD jurisdictional areas. As with the SCAQMD, the MDAQMD has implemented regulatory thresholds for the criteria air...
pollutants to provide for future development while reducing concentrations of air pollutants consistent with their regional attainment plans.

b. Compliance with Existing General Plan Policies

The following existing policies of the Riverside County General Plan would also contribute to reducing construction-related pollutant emissions. See Section 4.6.3.D for full text of each.

Policies AQ 1.1-1.4, 1.10, 2.1, 4.8-4.10, 15.1, 16.1, 16.3, 17.1, 17.3, 17.4, 17.6, 17.8 and 17.11: These policies promote the reduction of criteria pollutant emission through the development and enforcement of plans, policies and regulations and fees. These policies limit the allowable levels of emissions from construction-related activities, or limit the level of construction activities that can be undertaken on a daily or annual basis.

Policy AQ 5.1: This policy encourages the use of building methods and use/reuse of materials to reduce the amount of emissions generated during the use or disposal of construction materials.

c. Compliance with Proposed New or Revised General Plan Policies

The following proposed policies of the Riverside County General Plan would ensure that impacts with respect to construction emissions are less than significant. Implementation of these policies would provide for a reduction in criteria pollutant emissions. See Section 4.6.3.D for full text of each.

Policy AQ 4.7: This policy promotes the reduction of criteria pollutant emission through the development and enforcement of plans, policies and regulations and fees. These policies limit the allowable levels of emissions from construction-related activities, or limit the level of construction activities that can be undertaken on a daily or annual basis.

Policy AQ 4.1: This policy requires the use of building methods and use/reuse of materials to reduce the amount of emissions generated during the use or disposal of construction materials.

d. Compliance with Existing Mitigation Measures from EIR No. 441

In EIR No. 441, prepared for the 2003 RCIP General Plan, Mitigation Measures 4.5.1A, 4.5.1B and 4.5.1C were imposed to reduce impacts to air quality. These measures remain applicable to this project and would lessen impacts to air quality by minimizing fugitive dust during construction and reducing pollution resulting from construction equipment.

Existing Mitigation Measure 4.5.1A: Applicable Rule 403 Measures: Apply nontoxic chemical soil stabilizers according to manufacturers’ specifications to all inactive construction areas (previously graded areas inactive for ten days or more).

- Water active sites at least twice daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered, or should maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code (CVC) Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
• Pave construction access roads at least 100 feet onto the site from main road.

• Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.

**Existing Mitigation Measure 4.5.1B:** [Implement the following] additional SCAQMD CEQA Air Quality Handbook dust measures:

• Revegetate disturbed areas as quickly as possible.

• All excavating and grading operations shall be suspended when wind speeds (as instantaneous gusts) exceed 25 mph.

• All streets shall be swept once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water).

• Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.

**Existing Mitigation Measure 4.5.1C:** [Implement the following] mitigation measures for construction equipment and vehicles exhaust emissions:

• The construction contractor shall select the construction equipment used on site based on low emission factors and high energy efficiency.

• The construction contractor shall ensure that construction grading plans include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturer’s specifications.

• The construction contractor shall utilize electric- or diesel-powered equipment, in lieu of gasoline-powered engines, where feasible.

• The construction contractor shall ensure that construction grading plans include a statement that work crews will shut off equipment when not in use. During smog season (May through October), the overall length of the construction period will be extended, thereby decreasing the size of the area prepared each day, to minimize vehicles and equipment operating at the same time.

• The construction contractor shall time the construction activities so as to not interfere with peak hour traffic and minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flagperson shall be retained to maintain safety adjacent to existing roadways.

• The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew.

• Dust generated by the development activities shall be retained on-site and kept to a minimum by following the dust control measures listed below.

  a. During clearing, grading, earthmoving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day’s activities cease.
b. During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas in the late morning, after work is completed for the day and whenever wind exceeds 15 miles per hour.

c. Immediately after clearing, grading, earthmoving, or excavation is completed, the entire area of disturbed soil shall be treated until the area is paved or otherwise developed so that dust generation will not occur.

d. Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation.

e. Trucks transporting soil, sand, cut or fill materials and/or construction debris to or from the site shall be tarped from the point of origin.

3. Additional Project-Specific Mitigation for Impact 4.6.B(1)

Despite all of the above measures that lessen impacts from construction, additional project-specific mitigation measures would be necessary to ensure that impacts are less than significant. New Mitigation Measure 4.6.B-N1 would lessen the impact by reducing fugitive emissions of particulate matter. New Mitigation Measures 4.6.B-N2 and 4.6.B-N3 would reduce impacts by limiting the amount of emissions generated by internal combustion engines. Implementation of these additional mitigation measures would further reduce project impacts, although it would not be guaranteed that the impacts would be cumulatively reduced to below threshold levels (even if individual emissions were reduced). Therefore, impacts from construction activities would still be significant and unavoidable.

NEW Mitigation Measure 4.6.B-N1: The construction contractor shall ensure that all disturbed areas and stock piles are watered at least three times per day or soil stabilizers are applied as necessary to prevent visible dust plumes from these areas. Stock piles not in use may be covered with a tarp to eliminate the need for watering or other stabilizers.

NEW Mitigation Measure 4.6.B-N2: All construction equipment shall have EPA rated engines of Tier 3 or better.

NEW Mitigation Measure 4.6.B-N3: As soon as electric utilities are available at construction sites, the construction site shall be supplied with electricity from the local utility and all equipment that can be electrically operated shall use the electric utility rather than portable generators.

4. Finding on Significance for Impact 4.6.B(1)

In addition to site-specific mitigation that would be determined on a project-by-project basis, existing Riverside County practices, SCAQMD and MDAQMD rules, would reduce construction-related impacts by reducing air pollutant emissions from construction activities. However, even where such measures would reduce an individual project’s emissions to less-than-significant levels, none of the measures herein serve to prevent individual actions from being constructed concurrently and thus resulting in be cumulatively significant impacts. Additionally, neither the amount of construction occurring nor the exact location within the county is foreseeable, thus, it cannot be determined if the resultant construction emissions could be adequately controlled or reduced to below regulatory thresholds. Without such information, it is not possible to conclude that air pollutant emissions
resulting from construction activities would be adequately reduced and, therefore, this impact must be assumed to remain significant and unavoidable.

**Impact 4.6.B(2) – Cause Significant Operational (Long-Term) Air Emissions:** Stationary and mobile sources would emit criteria pollutants based on the level of daily operation. Modeling results indicate that such emissions would be large, both for individual future projects and cumulatively due to the countywide scale of GPA No. 960. Even with the implementation of regulations, ordinances and existing and proposed General Plan policies, in addition to new mitigation measures, criteria pollutant emissions would not be reduced below regulatory thresholds. Thus, this impact would remain significant and unavoidable with respect to violations of air quality standards for operational activities.

### 1. Analysis of Impact 4.6.B(2)

Air emissions associated with the project would occur as a result of operation of new developed uses. Operational emissions generated by both stationary and mobile sources would result from normal day-to-day activities within the proposed plan area. Stationary source emissions would be generated by the consumption of natural gas for space and water heating devices, the operation of landscape maintenance equipment and the general operation of industrial and agricultural land uses. Mobile emissions would be generated by the motor vehicles traveling to, within and from land uses unincorporated Riverside County.

Both the SCAQMD and MDAQMD have developed thresholds by which the operational emissions of criteria pollutant impacts can be compared to determine significance. These thresholds are detailed in Section 4.6.2 and summarized in Table 4.6-C in Section 4.6.3. While the exact nature and location of future development is unknown, emission estimates can be made with respect to the amount of development currently existing and at project build out.

As shown in Tables 4.6-E, 4.6-F, 4.6-G and 4.6-H, operational emissions were calculated for existing baseline (2008) and build out (2060) conditions using URBEMIS for stationary and mobile source emissions. The tables show modeled emissions for each of the air basins within Riverside County; SCAB and SSAB under the SCAQMD and the MDAB for MDAQMD. Tables 4.6-E and 4.6-F show emissions without proposed mitigation measures; the remaining two tables show emissions with mitigation.

The tables indicate that GPA No. 960 would result in net emissions that would exceed SCAQMD and MDAQMD thresholds of significance for CO, ROG, SO\(_X\), PM\(_{10}\) and PM\(_{2.5}\), but would be less than significant for NO\(_X\) emissions. The negative net emissions associated with NO\(_X\) are due to the substantial decrease in anticipated emissions from vehicles due to increased State of California efficiency requirements that have been or will be implemented between the existing year and 2040.

Tables 4.6-E and 4.6-F show that although development under the proposed General Plan is designed for increased density, its implementation would still result in daily emissions above both the SCAQMD and MDAQMD thresholds. While some of the individual development may be able to incorporate project designs and reduction features that would reduce emissions to below the regulatory threshold, the project must be taken in total for significance consideration. Because the majority of the criteria pollutants’ emissions exceed regulatory thresholds, impacts from stationary and mobile sources are considered potentially significant before the implementation of regulations, policies and mitigation.

The existing General Plan policies and mitigation along with new General Plan policies and mitigation measures would reduce emissions from operational activities. Tables 4.6-G and 4.6-H show the anticipated emissions after reductions are implemented. However, because the exact nature and location of the build out of the proposed
The extent of reductions available from all measures is not fully known and therefore is not included in the calculated reductions. Reductions included in Tables 4.6-G and 4.6-H are associated with low VOC paint requirements, increased energy efficiencies and transportation reductions. As can be seen, even with these reductions emissions are anticipated to be above the SCAQMD and MDAQMD thresholds for all criteria pollutants except CO (SCAQMD only) and NO\(_X\) (SCAQMD and MDAQMD). While some of the emissions reductions could not be quantified, it is not anticipated that their reductions would be sufficient to reduce emissions by the 50-99% required to get below the regulatory thresholds. Because operational emissions of ROG, an ozone precursor, SOx, PM\(_{10}\) and PM\(_{2.5}\) are all above the thresholds for both air basins and CO emissions are above the thresholds in the MDAB, these emissions will continue to contribute toward violations of the ambient air quality standards, which will adversely affect the residents within Riverside County.


As detailed below, compliance with the following existing laws, regulatory programs, General Plan Policies and existing mitigation measures would lessen the adverse effects associated with emissions from the operation of future development accommodated by GPA No. 960.

a. **Compliance With Federal, State and County Regulations**

Through the implementation of criteria pollutant thresholds, the SCAQMD can accommodate growth within the region while reducing air quality impacts and thereby comply with the 2007 Air Quality Management Plan (AQMP). While it is anticipated that the operation of individual developments under the proposed General Plan may meet or exceed the SCAQMD thresholds, the combined emissions from all proposed General Plan development within the SCAQMD’s jurisdiction would exceed these thresholds. This exceedance has the potential to hinder the region’s compliance with the AQMP.

Similar to the SCAQMD, the MDAQMD has implemented thresholds for criteria pollutants through which it can reach and maintain pollutant levels anticipated in the Attainment Plans. While the plans are intended to accommodate growth within the Mojave Desert Air Basin, the operation of the entire General Plan area would exceed these regulatory thresholds and may hinder the region’s ability to comply with the MDAQMD attainment plans.

Riverside County Ordinances No. 706, 726, 782 and 824 are detailed in the regulatory section above. They would minimize impacts to air quality by reducing motor vehicle emissions through the reduction of vehicle miles traveled, vehicle idling times and by increasing vehicle fuel efficiencies.

b. **Compliance with Existing General Plan Policies**

The following existing policies of the Riverside County General Plan would further contribute to reducing air quality impacts through compliance with applicable air quality plans. See Section 4.6.3.D for full text of these policies.

Policy LU 2.1: This policy promotes the reduction of criteria pollutant emissions through the development and enforcement of plans, policies and regulations. These policies limit emissions from operation through site placement and design.

Policies LU 8.12, 11.1, 11.3, 11.4 and 13.1-13.4: These policies promote the reduction in mobile source emissions by shortening commute distances and encouraging the use of alternate modes of transportation.
Policies C 1.2, 1.7, 4.1, 11.2, 11.4-11.7, 12.1, 12.3, 13.1, 13.2 and 20.14: These policies promote the reduction in mobile source emissions by shortening commute distances and encouraging the use of alternate modes of transportation.

Policy OS 12.1: This policy promotes the reduction in emissions through the use of renewable energy sources such as geothermal for heating.

Policies OS 16.2 and 16.4-16.6: These policies enhance the reduction in criteria pollutant emissions by promoting the use of energy efficient products and resources.

Policies OS 16.3 and 16.8: These policies promote the reduction in mobile source emissions by encouraging the use of alternative fuels and locating land uses close to transit centers.

Policies AQ 1.1-1.11, 2.1, 2.3, 2.4, 4.6, 4.8, 7.4, 10.4, 15.1, 16.1-16.4, 17.1-17.5, 17.8 and 17.11: These policies promote the reduction of criteria pollutant emissions through the development and enforcement of plans, policies, regulations and fees. These policies limit allowable levels of emissions, encourage use of alternate sources, increased efficiencies and enhanced community involvement.

Policy AQ 5.1: This policy encourages the use of building operations to use and reuse materials to reduce the amount of energy used and waste generated during daily operations.

Policies AQ 3.1-3.4, 4.5 and 10.1-10.3: These policies promote the reduction of mobile source emissions through employer and employee education and implementation of transportation demand measures that would reduce vehicle miles traveled.

Policies AQ 5.2-5.4, 17.9 and 17.10: These policies promote the reduction of criteria pollutants through the use of energy efficiency measures and site design, including use of alternate energy sources for vehicles, heating and cooling.

Policies AQ 7.1-7.3, 8.2, 8.4, 8.6-8.9, 9.1, 9.2, 11.3 and 11.4: These policies promote the reduction in vehicle miles traveled through the location of new employment centers, residential land uses and transit centers in close proximity. Further reductions are encouraged through public event incentives such as reduced transit pass costs.

Policies AQ 13.1-13.3, 14.1, 14.2 and 14.4: These policies encourage the County of Riverside to reduce vehicle miles traveled through enhancement of transportation fleet mixes, planning for new transportation/land use balance and enhancing and preserving existing transit corridors.

c. Compliance with Proposed New or Revised General Plan Policies

The following revised or proposed policies of the Riverside County General Plan would contribute to the reduction of impacts from operational pollutant emissions. While these proposed air quality policies were introduced to specifically address greenhouse gas emissions, these policies would also provide criteria pollutant reductions and so are included herein. See Section 4.6.3.D for full text of each.

Policies LU 1.5 and 4.1: These policies promote the reduction of criteria pollutant emission through the development and enforcement of plans, policies and regulations. These policies limit emissions from operation through site placement and design.
Policies C 4.8, 9.2 and 13.3: These policies promote the reduction in mobile source emissions by shortening commute distances and encouraging the use of alternate modes of transportation.

Policies C 12.2, 17.3, 17.4 and 21.1: These policies promote the reduction in mobile source emissions by shortening commute distances and encouraging the use of alternate modes of transportation.

Policies OS 16.1: This policy enhances the reduction in criteria pollutant emissions by promoting the use of energy efficient products and resources.

Policies AQ 4.2 and 4.3: These policies promote the reduction of criteria pollutants through the use of energy efficiency measures and site design, including use of alternate energy sources for vehicles, heating and cooling.

Policies AQ 4.4: This policy promotes the reduction of criteria pollutants through the use of energy efficiency measures and site design, including use of alternate energy sources for vehicles, heating and cooling.

Policy AQ 4.7: This policy promotes the reduction of criteria pollutant emissions through the development and enforcement of plans, policies and regulations and fees. These policies limit the allowable levels of emissions, encourage the use of alternate sources and increased efficiencies, and enhanced community involvement.

Policies AQ 19.1, 25.1 and 26.1: These policies implement programs and requirements to reduce GHG emissions associated with transportation through the reduction in vehicle miles traveled.

Policies AQ 20.1 and 25.1: These policies implement programs and requirements to reduce greenhouse gas emissions through land use planning.

Policies AQ 22.1, 23.1, 24.1, 25.1 and 26.2: These policies implement programs and requirements to reduce greenhouse gas emissions through increased energy efficiency, resource conservation and waste reduction.

Policy AQ 22.1: This policy implements programs and requirements for reducing greenhouse gas emissions through land use planning.

3. Additional Project-Specific Mitigation for Impact 4.6.B(2)

Additional project-specific mitigation measures, found in the climate change section (Section 4.7) of this document, will also reduce air pollutants and further avoid, reduce or minimize impacts from operational pollutant emissions. Mitigation Measure 4.7.A-N1 would lessen the impact by requiring new development projects to reduce their individual project emissions. Mitigation Measure 4.7.A-N2 would lessen the impact by allowing projects to demonstrate compliance with the Implementation Measures of the CAP by utilizing the Screening Tables. In addition, Mitigation Measures 4.6.B-N4 and 4.6.B-N5 would contribute to the reduction of impacts from operational pollutant emissions.

NEW Mitigation Measure 4.7.A-N1: To ensure GHG emissions resulting from new development are reduced to levels necessary to meet State of California targets, the County of Riverside shall require all new discretionary development to comply with the Implementation Measures of the Riverside County Climate Action Plan or provide comparable custom measures backed by a project GHG study (for example, using CalEEMod modeling) demonstrating achievement of the same target. The target to be met is a GHG emissions reduction of 25% below emissions for the adjusted BAU scenario for residential, commercial, industrial, institutional and mixed-use projects. The adjusted BAU is based upon the 2020 BAU found in the Final Supplement to the AB 32 Scoping Plan (CARB 2011).
NEW Mitigation Measure 4.7.A-N2: In lieu of a project-specific analysis per Mitigation Measure 4.7.A-N1, a future discretionary project proposed pursuant to the Riverside County General Plan shall incorporate into the project design, operational features and/or Implementing Measures from the Riverside County Climate Action Plan, in such a manner as to garnish at least 100 points. The point values within the CAP’s Screening Tables constitute GHG emission reductions.

NEW Mitigation Measure 4.6.B-N4: All new development shall ensure that all interior and exterior architectural coatings used are low in reactive organic gases.

NEW Mitigation Measure 4.6.B-N5: If hearths are included in new residential developments, they shall be energy-efficient natural gas appliances. No wood-burning hearths or stoves shall be permitted in new residential developments.

4. Finding on Significance for Impact 4.6.B(2)

Existing regulations and ordinances would reduce operation-related impacts by reducing air pollutant emissions from stationary and mobile sources. Even with the implementation of new mitigation measures, the operational emissions under the proposed project would likely exceed both SCAQMD and MDAQMD thresholds. Therefore, the implementation of proposed GPA No. 960 would result in significant and unavoidable impacts with respect to the emission of criteria pollutants.

C. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state ambient air quality standard?

Impact 4.6.C – Cause Cumulatively Significant Project Air Quality Impacts: Future development accommodated by GPA No. 960 would result in the emission of criteria pollutants for which the project is in non-attainment during both construction and operation of the new development. However, the exact location and level of activity for development projects under proposed GPA No. 960 is unknown and therefore cumulatively considerable increases to criteria pollutant levels cannot be quantified. Even with compliance with existing regulations and policies and the implementation of existing and new mitigation measures, the proposed project would result in significant and unavoidable cumulative impacts.

1. Analysis of Impact 4.6.C

The cumulative context for consideration of most air pollutants is the basin in which the project is located because the air basin is the natural limit for most air pollutants. Air basins are defined based upon the topographic and meteorological conditions that limit further dispersion of air pollution. For the reasons discussed under Impact 4.6.B(1) and (2), above, the future development accommodated by the project would contribute incrementally to potentially significant air quality pollutant levels in Riverside County.

As outlined in Section 4.6.1 (Introduction), the South Coast Air Basin, Salton Sea Air Basin and Mojave Desert Air Basin are in non-attainment for ozone and PM10. In addition, the SCAB is in nonattainment for PM2.5. Neither air basin has a set numerical threshold, nor do they provide methodology or qualitative thresholds to be used to assess cumulative significance. Therefore, as recommended by the SCAQMD, significance for cumulative impacts would be assessed using the same significance criteria as the project-specific analysis. A cumulative significant is indicated for Riverside County if the project would add a cumulatively considerable contribution of a federal or State of California nonattainment pollutant.
As discussed in Impact 4.6.B, even when individual projects can mitigate construction or operational impacts to below regional thresholds, when emissions from all of the individual developments are considered together as one project, the regional thresholds would be exceeded as shown in Tables 4.6-E and 4.6-F. The measures outlined in Impact 4.6.B would aid in reducing cumulative project impacts. However, mitigated emissions shown in Tables 4.6-G and 4.6-H clearly demonstrate that combined emissions associated with GPA No. 960 are above the thresholds of significance and even with the implementation of reductions, emissions of criteria pollutants are not reduced to below regulatory thresholds due to the level of residential and non-residential growth. Therefore, impacts associated with future development accommodated by the project would be cumulatively considerable and result in a significant and unavoidable impact.

2. Regulatory Compliance for Impact 4.6.C

As detailed and explained below, compliance with the following existing laws, regulatory programs, General Plan policies and existing mitigation measures would lessen a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or State of California ambient air quality standard.

a. Compliance With Federal, State and County Regulations

Through the implementation of criteria pollutant thresholds, the SCAQMD can accommodate growth within the region while continuing to reduce air quality impacts and thereby comply with the 2007 AQMP. While it is anticipated that individual developments under the proposed General Plan may meet or exceed the SCAQMD thresholds, the combined emissions from all proposed General Plan development within the SCAQMD’s jurisdiction would exceed these thresholds. This exceedance has the potential to hinder the region’s compliance with the AQMP.

Similar to the SCAQMD, the MDAQMD has implemented thresholds for criteria pollutants through which it can reach and maintain pollutant levels anticipated in the Attainment Plans. While the plans are intended to accommodate growth within the Mojave Desert Air Basin, the build out of the entire General Plan area would exceed these regulatory thresholds and may hinder the region’s ability to comply with the MDAQMD attainment plans.

Riverside County Ordinances No. 706, 726, 782 and 824, as detailed in the regulatory section above, are intended to reduce motor vehicle emissions of criteria pollutants through the reduction of vehicle miles traveled, vehicle idling times and by increasing vehicle fuel efficiencies. Because motor vehicles represent the largest source of criteria pollutant emissions, a reduction in motor vehicle emissions would reduce cumulative impacts.

b. Compliance with Existing General Plan Policies

The following existing policies of the Riverside County General Plan would further contribute to compliance with applicable air quality plans. See Section 4.6.3.D for full text of each.

Policy LU 2.1: This policy promotes the reduction of criteria pollutant emission through the development and enforcement of plans, policies and regulations. These policies limit emissions from operation through site placement and design.

Policies LU 8.12, 11.1, 11.3, 11.4 and 13.1-13.4: These policies promote the reduction in mobile source emissions by shortening commute distances and encouraging the use of alternate modes of transportation.
Policies C 1.2, 1.7, 4.1, 11.2, 11.4-11.7, 12.1, 12.3, 13.1, 13.2 and 20.14: These policies promote the reduction in mobile source emissions by shortening commute distances and encouraging the use of alternate modes of transportation.

Policy OS 12.1: This policy promotes the reduction in emissions through the use of renewable energy sources such as geothermal for heating.

Policies OS 16.1, 16.2 and 16.4-16.6: These policies promote the reduction in criteria pollutant emissions by promoting the use of energy efficient products and resources.

Policies OS 16.3 and 16.8: These policies promote the reduction in mobile source emissions by encouraging the use of alternative fuels and locating land uses close to transit centers.

Policies AQ 1.1-1.11, 2.1, 2.3, 2.4, 4.6, 4.8-4.10, 7.4, 10.4, 15.1, 16.1-16.4, 17.1, 17.5, 17.8 and 17.11: These policies promote the reduction of criteria pollutant emissions through development and enforcement of plans, policies and regulations and fees. These policies limit the allowable levels of emissions, encourage use of alternate sources, increase efficiencies and enhance community involvement.

Policies AQ 4.1, 5.1 and 17.6: These policies encourage the use of building operations to use and reuse materials to reduce the amount of energy used and waste generated during daily operations.

Policies AQ 3.1-3.4, 4.5 and 10.1-10.3: These policies promote the reduction of mobile source emissions through employer and employee education and implementation of transportation demand measures that would reduce vehicle miles traveled.

Policies AQ 4.4, 5.2, 5.3, 5.4, 17.9 and 17.10: These policies promote the reduction of criteria pollutants through the use of energy efficiency measures and site design, including use of alternate energy sources for vehicles, heating and cooling.

Policies AQ 7.1-7.3, 8.2, 8.4, 8.6-8.9, 9.1, 9.2, 11.3 and 11.4: These policies promote the reduction in vehicle miles traveled through the location of new employment centers, residential land uses and transit centers in close proximity. Further reductions are encouraged through public event incentives such as reduced transit pass costs.

Policies AQ 13.1-13.3, 14.1, 14.2 and 14.4: These policies encourage the County of Riverside to reduce vehicle miles traveled through enhancement of transportation fleet mixes, planning for new transportation/land use balance and enhancing and preserving existing transit corridors.

c. Compliance with Proposed New or Revised General Plan Policies

The following proposed policies of the Riverside County General Plan would contribute to the reduction of criteria pollutant emissions. While these proposed air quality policies were introduced to specifically address greenhouse gas emissions, these policies would also provide a reduction in criteria pollutant emissions and so are included herein. See Section 4.6.3.D for full text of each.

Policies LU 1.5 and 4.1: These policies promote the reduction of criteria pollutant emission through the development and enforcement of plans, policies and regulations. These policies limit emissions from operation through site placement and design.
Policies C 4.8, 9.2 and 13.3: These policies promote the reduction in mobile source emissions by shortening commute distances and encouraging the use of alternate modes of transportation.

Policies C 12.2, 17.3, 17.4 and 21.1: These policies promote the reduction in mobile source emissions by shortening commute distances and encouraging the use of alternate modes of transportation.

Policies AQ 4.2 and 4.3: These policies promote the reduction of criteria pollutants through the use of energy efficiency measures and site design, including use of alternate energy sources for vehicles, heating and cooling.

Policy AQ 4.7: This policy promotes the reduction of criteria pollutant emission through the development and enforcement of plans, policies and regulations and fees. These policies limit the allowable levels of emissions, encourage the use of alternate sources and increased efficiencies, and enhanced community involvement.

Policies AQ 19.1, 25.1 and 26.1: These policies implement programs and requirements to reduce greenhouse gases emissions associated with transportation through the reduction in vehicle miles traveled.

Policies AQ 20.10 and 25.1: These policies implement programs and requirements to reduce greenhouse gas emissions through land use planning.

Policies AQ 22.1, 23.1, 24.1, 25.1 and 26.2: These policies implement programs and requirements to reduce greenhouse gas emissions through increased energy efficiency, resource conservation and waste reduction.

d. Compliance with Existing Mitigation Measures from EIR No. 441

In EIR No. 441, prepared for the 2003 RCIP General Plan, Mitigation Measures 4.5.1A, 4.5.1B and 4.5.1C were imposed to reduce impacts to air quality. These measures remain applicable to this project and would lessen impacts to air quality by minimizing fugitive dust during construction and reducing pollution resulting from construction equipment. The measures read as follows:

Existing Mitigation Measure 4.5.1A: Applicable [SCAQMD] Rule 403 Measures: Apply nontoxic chemical soil stabilizers according to manufacturers’ specifications to all inactive construction areas (previously graded areas inactive for ten days or more).

- Water active sites at least twice daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered, or should maintain at least two feet of freeboard in accordance with the requirements of California Vehicle Code (CVC) Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).
- Pave construction access roads at least 100 feet onto the site from main road.
- Traffic speeds on all unpaved roads shall be reduced to 15 mph or less.

Existing Mitigation Measure 4.5.1B: [Implement the following] additional SCAQMD CEQA Air Quality Handbook dust measures:

- Revegetate disturbed areas as quickly as possible.
Section 4.6  Air Quality

- All excavating and grading operations shall be suspended when wind speeds (as instantaneous gusts) exceed 25 mph.
- All streets shall be swept once a day if visible soil materials are carried to adjacent streets (recommend water sweepers with reclaimed water).
- Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.

Existing Mitigation Measure 4.5.1C: [Implement the following] mitigation measures for construction equipment and vehicles exhaust emissions:

- The construction contractor shall select the construction equipment used on site based on low emission factors and high energy efficiency.
- The construction contractor shall ensure that construction grading plans include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturer’s specifications.
- The construction contractor shall utilize electric- or diesel-powered equipment, in lieu of gasoline-powered engines, where feasible.
- The construction contractor shall ensure that construction grading plans include a statement that work crews will shut off equipment when not in use. During smog season (May through October), the overall length of the construction period will be extended, thereby decreasing the size of the area prepared each day, to minimize vehicles and equipment operating at the same time.
- The construction contractor shall time the construction activities so as to not interfere with peak hour traffic and minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flagperson shall be retained to maintain safety adjacent to existing roadways.
- The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew.
- Dust generated by the development activities shall be retained on-site and kept to a minimum by following the dust control measures listed below.
  a. During clearing, grading, earthmoving, excavation, or transportation of cut or fill materials, water trucks or sprinkler systems shall be used to prevent dust from leaving the site and to create a crust after each day’s activities cease.
  b. During construction, water trucks or sprinkler systems shall be used to keep all areas of vehicle movement damp enough to prevent dust from leaving the site. At a minimum, this would include wetting down such areas in the late morning, after work is completed for the day and whenever wind exceeds 15 miles per hour.
  c. Immediately after clearing, grading, earthmoving, or excavation is completed, the entire area of disturbed soil shall be treated until the area is paved or otherwise developed so that dust generation will not occur.
d. Soil stockpiled for more than two days shall be covered, kept moist, or treated with soil binders to prevent dust generation.

e. Trucks transporting soil, sand, cut or fill materials and/or construction debris to or from the site shall be tarped from the point of origin.

3. Additional Project-Specific Mitigation for Impact 4.6.C

Where future development accommodated by GPA No. 960 would exceed regulatory thresholds for construction emissions, new Mitigation Measures 4.6.B-N1, 4.6B-N2 and 4.6.B-N3 (as listed under Impact 4.6.B) would be implemented to further reduce construction emissions. In addition, new Mitigation Measures 4.7.A-N1 and 4.7.A-N2, as well as 4.6.B-N4 and 4.6.B-N5 (as listed under Impact 4.6.B) would also be implemented for future development to further reduce criteria pollutant emissions from operational activities. Because these mitigation measures reduce emissions associated with all future development projects within the unincorporated Riverside County area, the mitigation measures will also reduce the cumulative air quality impacts associated with all future development projects within the unincorporated Riverside County area, but not to a level of less than significant.

4. Finding on Significance for Impact 4.6.C

For the reasons presented above, implementation and compliance with the above-listed existing regulations, General Plan policies and existing Mitigation Measures 4.5.1A, 4.5.1B and 4.5.1C from EIR No. 441, as well as new Mitigation Measures 4.6.B-N1, 4.6B-N2, 4.6.B-N3, 4.7.A-N1, 4.7.A-N2, 4.6.B-N4 and 4.6.B-N5 would reduce construction and operation-related air quality impacts. However, even with these mitigation measures, future construction and operational emissions would likely exceed SCAQMD and MDAQMD thresholds. As a result, the project would result in significant and unavoidable cumulative impacts with respect to the emission of criteria pollutants.

D. Would the project expose sensitive receptors to substantial pollutant concentrations?

**Impact 4.6.D – Expose Sensitive Receptors to Air Pollutants:** Future development accommodated by GPA No. 960 would expose sensitive receptors to pollutant emissions from both construction and operational activities. The degree of impact would depend on the type of operation, distance from sensitive receptors and the level of activity at each site. However, as the exact location, timing and level of future development activities arising from GPA No. 960 is unforeseeable, specific impacts to sensitive receptors cannot be quantified. Thus, even after complying with regulations, existing policies and mitigation measures, as well as specific new mitigation measures, impacts cannot be guaranteed to be reduced to below applicable agency thresholds. Thus, this impact would be significant and unavoidable with respect to exposure of sensitive receptors.

1. Analysis of Impact 4.6.D

Sensitive population groups include children, the elderly, the acutely ill and the chronically ill, especially those with cardio-respiratory diseases. Sensitive receptors are those areas where sensitive populations may be for extended periods of time, resulting in sustained exposure to any pollutants present. As mentioned in Section 4.6.4 (Thresholds of Significance for Air Quality), localized significance thresholds (LSTs) have been developed by the SCAQMD to determine maximum allowable concentrations of criteria air pollutants during construction and operation of a project. Table 4.6-I shows the LST thresholds for a 5-acre site in SRA 24 in comparison to the
emissions estimates detailed under Impact 4.6.2 above. As can be seen from the table, this individual project would be less than significant for CO, NO\textsubscript{X} and PM\textsubscript{2.5} regardless of the distance from the sensitive receptor, however for PM\textsubscript{10} the construction activities would need to be a minimum of 50 meters from the nearest sensitive receptor in order to be less than significant.

Table 4.6-J shows the operational LST thresholds in comparison with the anticipated emissions from the theoretical project. As can be seen from the table, this individual project would be less than significant for all criteria pollutants regardless of the distance from the sensitive receptor. This is typical for residential land uses where onsite area sources do not emit substantial criteria pollutants. Industrial land uses where there are large stationary sources are more likely to emit levels of criteria pollutants above these thresholds.

As indicated previously, the thresholds identified in Table 4.6-J do not include the mobile sources associated with offsite traffic. However, onsite traffic must be considered, especially where diesel particulate matter is concerned such as with the operation of a warehouse with numerous loading docks and large volumes of truck traffic. In addition to criteria pollutants, localized emissions of toxic air contaminants (TAC) are also of concern with respect to sensitive receptors. Sources of TACs include diesel particulate matter from railroads, emissions from the combustion of airplane fuel, benzene emissions in close proximity to gasoline dispensing stations, dry cleaners and film processing services that use perchloroethylene, auto body shops due to various solvents, furniture manufacturers and repair facilities that use methylene chloride and print shops that use various solvents.

The primary source of TACs within the County of Riverside is from diesel-fueled trucks and other vehicles using the freeways and major roadways throughout the county. The CARB Guidance uses buffer zones to insulate sensitive receptors from sources of TACs. Through compliance with new Mitigation Measures 4.6.D-N1 and 4.6.D-N2, impacts from TACs on sensitive receptors would be minimized to the extent feasible, although residual impacts would remain significant and unavoidable.

Due to the programmatic nature of the project, detailed construction phasing, equipment and intensities cannot be foreseen with reasonable accuracy at this time. Further, the expected future development would occur across the entirety of Riverside County over roughly 50 years’ time, making exact sizes and locations similarly unknowable at this time. Thus, site-specific impacts to sensitive receptors cannot be determined at present. It can, however, be assumed that various sizes and types of project would be developed. And, because of the increased density seen for the land uses and desired proximity of residential land uses to both transit and commercial centers, it can be assumed that both construction and operation of commercial and potentially industrial sources would be developed relatively close to sensitive receptors such as residences or schools. Thus, effects of project emissions on sensitive receptors throughout the county must be considered significant and unavoidable.

While this analysis cannot determine the concentration of air pollutants that sensitive receptors will be exposed to as a result of land use development within GPA No. 960, Tables 4.6-E and 4.6-F demonstrate that emissions of criteria pollutants substantially exceed the regulatory thresholds and because the regulatory thresholds are meant to protect the air quality within the project area, the exceedance of these thresholds demonstrates that substantial concentrations of air pollution may occur. In particular, ROG emissions, an ozone precursor, above the threshold may result in substantial concentrations of ozone which could affect sensitive receptors. The impact of ozone on sensitive receptors include breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of lung tissue and immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increased daily hospital admission rates, as well as mortality have been reported. Also an increased risk for asthma has been found in children who participate in multiple sports and live in communities with high ozone levels.
In addition, Tables 4.6-E and 4.6-F demonstrate that build out of GPA No. 960 will result in exceeding the regulatory thresholds for particulate matter (both PM$_{10}$ and PM$_{2.5}$). Particulate matter exceeding the regulatory threshold may expose sensitive receptors to high concentrations of these pollutants. The impact of elevated concentrations of particulate matter on sensitive receptors include an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions. Daily fluctuations in PM$_{2.5}$ concentrations have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease and children appear to be more susceptible to the effects of high levels of PM$_{10}$ and PM$_{2.5}$.

2. Regulatory Compliance for Impact 4.6.D

As detailed and explained below, compliance with the following existing laws, regulatory programs, General Plan policies and existing mitigation measures would lessen the adverse effects associated with emissions from future development.

a. Compliance With Federal, State and County Regulations

The California Air Resources Board has determined that exposure to toxic air contaminants can have significant health effects on sensitive receptors. CARB has recommended various buffer zones which are intended to reduce the potential exposure of sensitive receptors to safe levels. By implementing the proposed mitigation, the General Plan would be in compliance with the CARB regulations, at least on the individual project basis. Further, SCAQMD has implemented thresholds for criteria pollutants in order to minimize the exposure of sensitive receptors to impacts from construction and operational activities of new development. However, while individual developments may be able to successfully reduce emissions below these thresholds, they would also contribute incrementally to emissions within Riverside County as a whole. In the absence of site-specific analysis, such emissions must be assumed to be significant and avoidable.

b. Compliance with Existing General Plan Policies

The following existing policies of the Riverside County General Plan would help reduce emission exposures to sensitive receptors. See Section 4.6.3.D for full text of each.

Policies AQ 1.1, 1.3, 1.4, 1.7, 1.10, 2.1-2.4, 4.6, 4.8-4.10, 15.1, 16.1, 16.3, 17.1, 17.3, 17.4, 17.6, 17.8 and 17.11: These policies promote the reduction of criteria pollutant emission through the development and enforcement of plans, policies, regulations and fees. These policies limit the allowable levels of emissions, encourage the use of alternate sources and increased efficiencies and enhanced community involvement.

Policy AQ 5.1: This policy encourages the use of building operations to use and reuse materials and reduce the amount of energy used and waste generated during daily operations.

Policy AQ 4.5: This policy promotes the reduction of mobile source emissions through employer and employee education and implementation of transportation demand measures that would reduce vehicle miles traveled.

Policies AQ 17.9 and 17.10: These policies promote the reduction of criteria pollutants through the use of energy efficiency measures and site design, including use of alternate energy sources for vehicles, heating and cooling.
c. Compliance with Proposed New or Revised General Plan Policies

The following proposed policies of the Riverside County General Plan would help reduce pollutant concentrations near sensitive receptors. While these proposed air quality policies were introduced to specifically address greenhouse gas emissions, these policies would also provide a reduction in criteria pollutant emissions and so are included herein. See Section 4.6.3.D for full text of each.

Policy AQ 4.1: This policy encourages the use of building operations to use and reuse materials and reduce the amount of energy used and waste generated during daily operations.

Policy AQ 4.7: This policy promotes the reduction of criteria pollutant emission through the development and enforcement of plans, policies and regulations and fees. These policies limit the allowable levels of emissions, encourage the use of alternate sources and increased efficiencies and enhanced community involvement.

d. Compliance with Existing Mitigation Measures from EIR No. 441

In EIR No. 441, prepared for the 2003 RCIP General Plan, Mitigation Measures 4.5.1A, 4.5.1B and 4.5.1C were imposed to reduce impacts to air quality. These measures, as listed under Impact 4.6.B, above, are also applicable to this impact. They would lessen impacts to air quality by minimizing fugitive dust during construction and reducing pollution resulting from construction equipment.

3. Additional Project-Specific Mitigation for Impact 4.6.D

Despite all of the above measures to lessen impacts to air quality, additional project-specific mitigation measures would be necessary to further avoid, reduce or minimize impacts. For future development accommodated by GPA No. 960 that exceeds regulatory thresholds for construction or operational emissions (even after the inclusion of existing policies and regulations), the following new Mitigation Measures 4.6.D-N1 and 4.6.D-N2 shall be implemented. Additionally, implementation of new Mitigation Measures 4.6.B-N1, 4.6.B-N2 and 4.6.B-N3 (as listed under impact 4.6.B) would further reduce construction or operational emissions, which in turn will reduce the concentration of air pollutants sensitive receptors will be exposed to within the county.

**NEW Mitigation Measure 4.6.D-N1:** New developments shall include the following requirements to reduce emissions associated with toxic air contaminants (TACs):

a. Electrical outlets shall be included in the building design of any loading docks to allow use by refrigerated delivery trucks. Signage shall also be installed, instructing commercial vehicles to limit idling times to five minutes or less. If loading and/or unloading of perishable goods would occur for more than five minutes and continual refrigeration is required, all refrigerated delivery trucks shall use the electrical outlets to continue powering the truck refrigeration units when the delivery truck engine is turned off.

b. Electrical outlets shall be installed on the exterior of new structures for use with electrical landscaping equipment. Further, the property owner(s) shall ensure that the hired landscape companies use electric-powered equipment where available to a minimum of 20% of the equipment used.

**NEW Mitigation Measure 4.6.D-N2:** The County of Riverside shall require minimum distances between potentially incompatible land uses, as described below, unless a project-specific evaluation of human health risks defines, quantifies and reduces the potential incremental health risks through site design or the implementation of additional reduction measures to levels below applicable standards. (e.g., standards recommended or required by CARB, SCAQMD or MDAQMD).
SCAQMD Jurisdiction:

a. Proposed dry cleaners and film processing services that use perchloroethylene must be sited at least 500 feet from existing sensitive land uses including residential, schools, day care facilities, congregate care facilities, hospitals or other places of long-term residency for people.

b. Proposed auto body repair services shall be sited at least 500 feet from existing sensitive land uses.

c. Proposed gasoline dispensing stations with an annual throughput of less than 3.6 million gallons shall be sited at least 50 feet from existing sensitive land uses. Proposed gasoline dispensing stations with an annual throughput at or above 3.6 million gallons shall be sited at least 300 feet from existing sensitive land uses.

d. Other proposed sources of TACs including furniture manufacturing and repair services that use methylene chloride or other solvents identified as a TAC shall be sited at least 300 feet from existing sensitive land uses.

e. Avoid siting distribution centers that accommodate more than 100 truck trips per day (or more than 40 truck trips operating transport refrigeration units per day, or where transportation refrigeration units operate more than 300 hours per week) within 1,000 feet of existing sensitive land uses.

f. Proposed sensitive land uses shall be sited at least 500 feet from existing freeways, major urban roadways with 100,000 vehicles per day or more and major rural roadways with 50,000 vehicles per day or more.

g. Proposed sensitive land uses shall be sited at least 500 feet from existing dry cleaners and film processing services that use perchloroethylene.

h. Proposed sensitive land uses shall be sited at least 500 feet from existing auto body repair services.

i. Proposed sensitive land uses shall be sited at least 50 feet from existing gasoline dispensing stations with an annual throughput of less than 3.6 million gallons and 300 feet from existing gasoline dispensing stations with an annual throughput at or above 3.6 million gallons.

j. Proposed sensitive land uses shall be sited at least 300 feet from existing land uses that use methylene chloride or other solvents identified as a TAC.

k. Proposed sensitive land uses shall be sited at least 1,000 feet from existing distribution centers that accommodate more than 100 trucks per day, accommodate more than 40 trucks per day with transportation refrigeration units, or where transportation refrigeration units operate more than 300 hours per week.

MDAQMD Jurisdiction:

a. Proposed industrial projects must be sited at least 1,000 feet from existing sensitive land uses.

b. Proposed distribution centers with 40 or more truck per day shall be sited at least 1,000 feet from existing sensitive land uses.

c. Proposed dry cleaner using perchloroethylene shall be sited at least 500 feet from existing sensitive land uses.
d. Proposed gasoline dispensing facility shall be sited at least 300 feet from existing sensitive land uses.

e. Proposed sensitive land uses shall be sited at least 500 feet from existing freeways, major urban roadways with 100,000 vehicles per day or more and major rural roadways with 50,000 vehicles per day or more.

f. Proposed sensitive land uses shall be sited at least 1,000 feet from existing industrial facilities or distribution centers with more than 40 trucks per day.

g. Proposed sensitive land uses shall be sited at least 500 feet from existing dry cleaners using perchloroethylene.

h. Proposed sensitive land uses shall be sited at least 300 feet from existing gasoline dispensing stations.

4. Finding on Significance for Impact 4.6.D

The existing Riverside County ordinances, policies and programs to implement and comply with SCAQMD and MDAQMD rules would reduce construction and operation related impacts. However, the project would result in the future development of numerous projects each contributing incrementally to air emissions affecting sensitive receptors. Thus, it is possible that the project would result in cumulatively significant impacts to sensitive receptors, even if individual projects were each less than significant. This is particularly likely since none of the measures herein would prevent multiple development projects from being constructed concurrently within close proximity to sensitive receptors in such a manner as to cause substantial concentrations within the area. Further, neither the amount of construction occurring nor the exact location within the county is foreseeable and, as such, it cannot be determined if the resultant construction emissions could be adequately controlled or reduced to below regulatory thresholds. Without such information, it is not possible to conclude that air pollutant emissions resulting from construction activities would be adequately reduced to the point that sensitive receptors are not exposed to substantial concentrations of air pollutants, and thus a significant and unavoidable impact may result.

Existing regulations and ordinances would reduce operation-related impacts by reducing air pollutant emissions from stationary and mobile sources. Even with the implementation of new project-specific mitigation measures, cumulative operational emissions resulting from future development would likely exceed both the SCAQMD and MDAQMD thresholds. Therefore, the implementation of GPA No. 960 would result in significant and unavoidable impacts to sensitive receptors.

E. Would the project create objectionable odors affecting a substantial number of people?

Impact 4.6.E – Cause or Expose People to Objectionable Odors: Future development accommodated by the proposed project would not create objectionable odors that would affect a substantial number of people. Additionally, compliance with existing regulatory programs and General Plan policies, as well as new Mitigation Measures 4.6.E-N1, 4.6.E-N2 and 4.6.E-N3 would further reduce objectionable odors. For these reasons odor impacts are less than significant.

1. Analysis of Impact 4.6.E

Odors emanate from trace substances within the air that can be perceived by the sense of smell. This analysis focuses on objectionable odors. Although almost any land use has the potential to emit odors, some land uses are more likely to produce odors because of their operations. Land uses known to have odor-emitting potential
include: agriculture, chemical plants, composting operations, dairies, fiberglass-molding operations, landfills, refineries, rendering plants, rail yards and wastewater treatment plants.

Construction activities associated with project implementation would generate airborne odors as a result of operation of construction vehicles (i.e., diesel exhaust), paving with hot asphalt and the application of architectural coatings. Because of the volatile nature of odor compounds, they either react quickly in the atmosphere or are diluted as they are carried away from the odor source. Therefore, construction odors are generally isolated and limited to the duration of construction and its immediate site vicinity. As such, they would not affect a substantial number of people as impacts related to these odors are limited to the number of people living and working nearby the source. While some components of asphalt and diesel emissions are considered toxic air contaminants, construction activities do not generally cause significant odor impacts because of the duration of exposure.

Because of the specific uses that would be accommodated by GPA No. 960, there is the potential for odor emissions from new development operations. While none of the land uses known to emit odors are specifically planned as part of GPA No. 960, neither are they specifically prohibited or restricted. For example, as development occurs through the county it is reasonable to assume that additional wastewater treatment facilities would be needed.

Likewise, although new agricultural land uses are not specifically planned as part of GPA No. 960, the conversion of existing agricultural land uses to other types of land use (for example, the Northeast Business Park Overlay) would result in the development of vacant agricultural lands; possibly including those in the vicinity of operating dairies. In such locations, there would be a substantial potential for airborne odors to emanate from the existing dairies. Likewise, other agricultural odors, up to and including from manures or other fertilizers could also result in odors that affect the newly developed areas. And, while agricultural odors typically do not pose a health risk, they can be still be strong enough to prove a nuisance. Because there is the potential for development of odor-emitting uses as a result of GPA No. 960, each individual development project proposed would be required to evaluate impacts to their surroundings with respect to odors. By evaluating potential odor impacts early in the development process, odor sources can be situated away from sensitive receptors or reduced to a level where odors are not objectionable through similar such site-design measures. (See new mitigation measures, below).


Compliance with existing regulatory requirements and General Plan policies would reduce odor impacts to less than significant levels with respect to sensitive receptors.

a. Compliance With Federal, State and County Regulations

SCAQMD Rule 402 (Nuisance), Rule 410 (odors from transfer stations and material recovery stations) and Rule 1179 (Public owned treatment works operations) place conditions and compliance measures for odor emissions from the identified sources in order to reduce exposure to the surrounding area.

Riverside County Ordinance No. 706, as detailed under Section 4.6.3, would reduce motor vehicle emissions of criteria pollutants through the reduction of vehicle miles traveled. A reduction in motor vehicle emissions would proportionally result in a reduction in emissions from diesel combustion engines, which are responsible for the most noticeable of the mobile source odors.
b. Compliance with Existing General Plan Policies

The implementation following existing policies of the Riverside County General Plan would further contribute to complying with applicable air quality plans, however the anticipated contribution of each policy is not quantifiable. See Section 4.6.3.D for full text of each of these policies.

Policies AQ 1.5, 1.7, 16.3 and 17.7-17.10: These policies would reduce potential odor impacts from vehicles by reducing operating time or switching from diesel combustion to alternative fuels.

Policies AQ 2.1-2.4: These policies would reduce potential odor impacts through the use of distance, site design and barriers between sources and receptors.

Policy AQ 4.6: This policy would reduce the potential for odor impacts on surrounding uses by requiring compliance with air district regulations on siting odor-emitting uses.

Policy AQ 5.1: This policy would reduce potential odor impacts from landfills by emphasizing recycling. Less waste being sent to landfills, would mean less decomposition and less associated odors.

3. Additional Project-Specific Mitigation for Impact 4.6.E

Additional project-specific mitigation measures would further avoid, reduce or minimize odor impacts. New Mitigation Measures 4.6.E-N1, 4.6.E-N2 and 4.6.E-N3 would lessen potential odor impacts by affecting the location and design of odor-generating uses. Implementation of these mitigation measures would ensure that project impacts from odor sources are mitigated to less than significant.

**NEW Mitigation Measure 4.6.E-N1:** Locate potential new odor sources predominantly down- or cross-wind from existing sensitive receptors and potential new sensitive receptors predominantly upwind from existing odor sources. As indicated by the “Right-to-Farm” ordinance, agricultural uses that have been operated for more than three years cannot be re-classified as a public or private nuisance by new development.

**NEW Mitigation Measure 4.6.E-N2:** Maintain an adequate buffer between potential new odor sources and receptors such that emitted odors are dissipated before reaching the receptors (minimum of 500 feet depending on odor source). As indicated by the “right-to-farm” ordinance, agricultural uses that have been operated for more than three years cannot be re-classified as a public or private nuisance by new development.

**NEW Mitigation Measure 4.6.E-N3:** Design odor-emitting facilities such that odor emitters are located as far from potential receptors as possible. Also, balance stack heights to provide the maximum dispersion of odor between the stack and the nearest sensitive receptor.


As discussed above, implementation of and compliance with the above-listed regulatory programs, as well as new Mitigation Measures 4.6.E-N1, 4.6.E-N2 and 4.6.E-N3, would ensure that future development accommodated by GPA No. 960 would have less than significant odor impacts.
4.6.7 Significance After Mitigation for Air Quality

Implementation of, and compliance with, the above regulations, policies and mitigation measures (existing and proposed) would ensure that future development accommodated by the proposed project, GPA No. 960, would reduce obstructions to and increase compliance with applicable air quality management plans. Compliance with existing mitigation measures from EIR No. 441 would also ensure that future development activities minimize or avoid significant impacts to sensitive receptors from toxic air contaminants and odors. However, even with all of the above measures, future development would likely result in significant and unavoidable air quality impacts, particularly due to cumulatively significant emissions. Significant impacts would result from construction and operational emissions of criteria pollutants, associated violations of air quality standards or thresholds and effects to sensitive receptors, both locally and regionally. Even where individual future development projects were successfully mitigated to less than significant levels, they would still be liable to contribute incrementally to cumulatively significant air quality impacts. Because there is no feasible mechanism for the County of Riverside to control individual projects with respect to their incremental pollutant contributions, impacts to air quality would remain significant and unavoidable.

Health Impacts from Significant Emissions of Criteria Pollutants

Air quality impacts occur at a cumulative level, meaning that the concentration of air pollution in the air is the result of emissions from many sources and continued exposure to air pollution over many years. Therefore, health effects are linked to the cumulative emissions of existing and future criteria pollutant sources. Regional criteria pollutant modeling cannot accurately capture the project-level effects on ambient pollutant concentrations beyond the uncertainty level of the modeling because the emissions from typical projects analyzed under CEQA are relatively small and are localized rather than spread out over the entire region. The following table shows a comparison of project related emissions to regional emissions for each of the air basins. As shown, even a project of this size is a relatively low percentage of the total emissions within the current air basin. NO\textsubscript{X} emissions are reduced in both air basins, as is CO in the SCAB.

<table>
<thead>
<tr>
<th></th>
<th>CO</th>
<th>NO\textsubscript{X}</th>
<th>ROG</th>
<th>SO\textsubscript{X}</th>
<th>PM\textsubscript{10}</th>
<th>PM\textsubscript{2.5}</th>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GPA</td>
<td>-3.17</td>
<td>-4.83</td>
<td>7.115</td>
<td>0.18</td>
<td>27.21</td>
<td>5.285</td>
</tr>
<tr>
<td>SCAB</td>
<td>2271.8</td>
<td>512</td>
<td>466.4</td>
<td>174.6</td>
<td>153.6</td>
<td>68.4</td>
</tr>
<tr>
<td>% of basin</td>
<td>-0.14%</td>
<td>-0.94%</td>
<td>1.53%</td>
<td>0.10%</td>
<td>17.71%</td>
<td>7.73%</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>CO</th>
<th>NO\textsubscript{X}</th>
<th>ROG</th>
<th>SO\textsubscript{X}</th>
<th>PM\textsubscript{10}</th>
<th>PM\textsubscript{2.5}</th>
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<tbody>
<tr>
<td><strong>Mojave Desert Air Basin (tons/day)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>GPA</td>
<td>3.10</td>
<td>-2.25</td>
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<td>0.11</td>
<td>18.27</td>
<td>3.76</td>
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<tr>
<td>MDAB</td>
<td>309.2</td>
<td>173.8</td>
<td>65.5</td>
<td>7.7</td>
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<tr>
<td>% of basin</td>
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<td>-1.30%</td>
<td>8.85%</td>
<td>1.43%</td>
<td>13.92%</td>
<td>10.43%</td>
</tr>
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</table>


As is shown, there will be an increase in some criteria pollutants and while more criteria pollutant emissions will contribute to greater health effects regionally, specifically attributing the projects emissions to a defined quantitative or geographic health effect is beyond the ability of the current modeling tools. The following is a qualitative discussion correlating each air pollutant emissions level resulting from GPA No. 960 with potential health impacts that may occur from exposure to increased regional levels of these air pollutants.

**Ozone:** Ozone is the result of a chemical reaction between precursors such as NO\textsubscript{X} and ROGs. Short-term exposure (lasting for a few hours) can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of
lung tissue and immunological changes. Elevated ozone levels are associated with increased school absences. In recent years, a correlation between elevated ambient ozone levels and increased daily hospital admission rates, as well as mortality have been reported. Also an increased risk for asthma has been found in children who participate in multiple sports and live in communities with high ozone levels.

Buildout of GPA No. 960 will not directly emit ozone. However, buildout of GPA No. 960 will add significant concentrations of ROGs to the atmosphere, which when combined in the presence of sunlight can result in increased ozone concentrations. Currently all three air basins are in severe non-attainment for ozone. Buildout of GPA No. 960 has the potential to indirectly result in increased concentrations of Ozone and may result in belated impacts including breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of lung tissue and immunological changes. Elevated ozone levels are associated with increased school absences. Because this impact may adversely affect the health of individuals, the impact is considered Significant and Unavoidable.

**Reactive Organic Gases:** Health effects resulting from exposure to the various forms of ROGs range from minor and temporary irritation of the mucous membranes to death. As an example, formaldehyde is an ROG and many building materials such as paints, adhesives, wall boards, and ceiling tiles slowly emit formaldehyde, which irritates the mucous membranes and can make a person irritable and uncomfortable when indoor concentrations of formaldehyde build up. By contrast, brief exposure (as little as ten minutes) to high concentrations of benzene (another form of ROG) can cause death. Short-term exposure to lower concentrations of benzene can cause drowsiness, dizziness, rapid heart rate, headache, tremors, confusion and unconsciousness; in most cases people will stop feeling these effects when they are no longer exposed. People who inhale benzene for long periods of time (months or years) at high enough levels may experience harmful effects in the tissues that form blood cells, especially the bone marrow. Long-term exposure to benzene can cause various forms a cancer.

Emissions of ROGs resulting from buildout of GPA No. 960 exceed the thresholds established by the SCAQMD and the MDAQMD. Those thresholds are based upon the definition of a major source in the Federal Clean Air Act. Major sources of ROGs have the potential to adversely impact the air basin with higher concentrations of this pollutant. The amount of ROGs emitted per day may potentially contribute to long term exposure of benzene and other ROGs which is known to cause cancer. Because this impact may adversely affect the health of individuals, the impact is considered Significant and Unavoidable.

**Nitrogen Dioxide:** Increase in resistance to air flow and airway contraction is observed after short-term exposure to \( \text{NO}_2 \) in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis or emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups.

With the mitigation measures in place implementation of GPA No. 960 will reduce nitrogen dioxide emissions compared to the no project condition and, therefore, modestly improve ambient air quality with regard to this air pollutant. Therefore, GPA No. 960 will not impact the health of individuals through emissions of nitrogen dioxide. Impacts are less than significant for this pollutant.

**Carbon Monoxide:** Inhaled CO has no direct toxic effect on the lungs but affects tissues by interfering with oxygen transport and by competing with oxygen in combining with hemoglobin. Hence, individuals that have conditions that restrict oxygen intake can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels and patients with chronic hypoxemia (oxygen deficiency), such as that seen at high altitudes. Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects of CO inhalation include earlier onset of chest pain with exercise and electrocardiograph changes indicative of worsening oxygen supply to the heart.

Emissions of CO resulting from buildout of GPA No. 960 exceed the thresholds established by the MDAQMD for the Mojave Air Basin. The threshold is based upon the definition of a major source in the Federal Clean Air Act. Major sources of CO have the potential to adversely impact the air basin with higher concentrations of this pollutant. A CO Hotspot analysis determined that the concentration of CO will not exceed the ambient air quality standards within the three air basins. Therefore, the impact will not
adversely affect the health of individuals. However, because the emissions exceed the thresholds for the Mojave Air Basin the impact is considered Significant and Unavoidable.

**Particulate Matter:** A consistent correlation between elevated ambient fine particulate matter (PM$_{10}$ and PM$_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in life span and an increased mortality from lung cancer.

Daily fluctuations in PM$_{2.5}$ concentrations have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long-term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease and children appear to be more susceptible to the effects of high levels of PM$_{10}$ and PM$_{2.5}$.

Emissions of PM$_{10}$ and PM$_{2.5}$ resulting from buildout of GPA No. 960 exceed the thresholds established by the SCAQMD and the MDAQMD. Those thresholds are based upon the definition of a major source in the Federal Clean Air Act. Major sources of particulates have the potential to adversely impact the air basin with higher concentrations of this pollutant. All three air basins are in non attainment for both PM$_{10}$ and PM$_{2.5}$. The amount of both PM$_{10}$ and PM$_{2.5}$ emitted per day may potentially cause respiratory infections, number and severity of asthma attacks, and number of hospital admissions. Because this impact may contribute to the non attainment status of all three air basins and adversely affect the health of individuals, the impact is considered Significant and Unavoidable.

**Sulfur Dioxide:** The effects of sulfate exposure at levels above the standard include the aggravation of asthmatic symptoms, an increased risk of cardio-pulmonary disease and a decrease in respiratory function. A few minutes of exposure to low levels of SO$_2$ can result in airway constriction in some asthmatics. In asthmatics, increased lung resistance as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO$_2$. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO$_2$. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage and sloughing off of cells lining the respiratory tract.

Emissions of Sulfur Dioxide resulting from buildout of GPA No. 960 exceed the thresholds established by the SCAQMD and the MDAQMD. Those thresholds are based upon the definition of a major source in the Federal Clean Air Act. Major sources of Sulfur Dioxide have the potential to adversely impact the air basin with higher concentrations of this pollutant. The amount of Sulfur Dioxide emitted per day may potentially cause aggravation of asthmatic symptoms including airway constriction, but given the current very low concentrations of Sulfur Dioxide in the atmosphere, future concentrations as a result of GPA No. 960 are unlikely to exceed the ambient air quality standards set of this pollutant. The ambient air quality standard is set to protect health. As such exposure levels in all three air basins will remain low and impacts to health will be restricted to mild symptoms of asthmatics and other individuals extremely sensitive to air quality impacts. Because this impact may adversely affect the health of some individuals, the impact is considered Significant and Unavoidable.