

## 4.13 PUBLIC HEALTH AND SAFETY

This section describes the potential risks to human health as a result of exposure to agricultural pesticides, radon emissions, and spores of the *Coccidioides Immitis* Fungus (Valley Fever). This section also describes the means by which hazardous substances are regulated from a federal, state and local perspective and discusses potential adverse impacts to human health and the environment due to exposure to hazardous materials. Finally, this section addresses public safety issues associated with rail line and aircraft overflight hazards. Aircraft overflight hazards address public safety issues with the Meadows Field Airport and Bakersfield Airpark.

### ENVIRONMENTAL SETTING

#### HUMAN HEALTH HAZARDS

##### Agricultural Chemicals

Environmental risks to human health known to exist in the San Joaquin Valley include potential exposure to unsafe agricultural chemicals as a result of development on or adjacent to agricultural lands. According to the Kern County Health Department, potential risks to human health due to pesticide usage can result from contamination of groundwater, inhalation due to crop dusting, and inhalation of contaminated dust, as a result of grading activities. Additionally, pesticide overspray is a potential human health hazard. Pesticide overspray is defined as applying pesticide beyond the boundaries of the target area. Pesticide drift, like overspray, often implies a lack of due care on the part of the pesticide applicator. Drift is defined as the movement of pesticide in air currents or by diffusion onto property beyond the boundaries of the target area. Agricultural pesticides have contaminated certain groundwater basins in the west Bakersfield area; as a result these basins are no longer in use (refer to Section 4.8, *Hydrology and Drainage*).

##### Radon Emissions

Radon is a naturally occurring, invisible, odorless, tasteless, gas that comes from deposits of uranium in soil, rock and water. It is harmlessly dispersed in outdoor air, but when trapped in buildings, can be harmful, especially at elevated levels. Radon is a byproduct of the decay of radium, which is itself a decay product of uranium. Uranium and radium are both common elements found in soils throughout Metropolitan Bakersfield. The primary source of high levels of radon in homes is the surrounding soil. Due to slight differences in air pressure inside houses and outdoors, radon from soils can be drawn into homes. The gas enters through cracks in concrete slab foundations and other openings, such as spaces around plumbing.

Radon gas is a health threat when the radon gas attaches to dust or smoke particles that are inhaled and lodge in the lungs where the radon molecules continue to radiate.<sup>1</sup> Radon is a carcinogen, and as a result can cause lung cancer. The Environmental Protection Agency (EPA) considers the effects of radon to be at least as bad as moderate cigarette smoking. Studies by the EPA suggest that radon may

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<sup>1</sup> Source: Heinly, David, "Radon Testing is a Government Priority," Professional Builder, November 1986, pp.28.

be responsible for between 15,000 and 22,000 lung cancer deaths each year in the United States.<sup>2</sup>

There are four basic ways to control radon gas and its progeny. These include:

Dilution – removing the gas and progeny from the area by ventilation;

Filtration – removing progeny attached to dust and other particles;

Redirection – providing outlets for the gas; and

Source Control – either removing the gas before it enters an area or sealing entryways and covering exposed earth.<sup>3</sup>

### **Valley Fever**

Coccidiomycosis, more commonly known as “Valley Fever”, is an infection caused by inhalation of the spores of the *Coccidioides immitis* fungus, which grows in the soils of the southwestern United States. The fungus is very prevalent in the soils of California’s San Joaquin Valley, particularly in Kern County. The ecological factors that appear to be most conducive to survival and replication of the spores are high summer temperature, mild winters, sparse rainfall, and alkaline, sandy soils.

Based on skin test surveys, the incidence of Valley Fever is between 25,000 and 100,000 new infections per year, with 70 deaths annually in the United States. It is difficult to determine the exact number of primary pulmonary and disseminated (cases in which the spores spread throughout the body) cases contracted annually, since diagnosis and reporting of cases are very incomplete. In Kern County, data from laboratory test reports indicate the occurrence of about 270 symptomatic infections per year, including 12 disseminated cases with an average of 5 deaths annually.

The five major factors that have an effect on the susceptibility to coccidioidal dissemination are race, sex, pregnancy, age, and immunosuppression. In a retrospective study of the Kern County Health Department records, 64 deaths were recorded for the period 1901 to 1936, when the County had a population of 82,570. According to this data, Mexicans were 3.4 times as likely as whites to develop coccidioidal dissemination; blacks were 13.7 times as likely; and Filipinos were 175.5 times as likely. Death due to the disease was five times greater for Mexicans, 23.3 times greater for blacks, and 191.4 times as great for Filipinos than for white patients. Adult white females are ordinarily quite resistant to dissemination of the disease, but if they acquire the infection during the last half of pregnancy, there is a great risk that it will spread beyond the lungs. Children under five and older individuals, perhaps those above fifty, also appear to be more likely to undergo dissemination of the infection.

The highest incidence rates within Kern County have occurred in the area of Northeast Bakersfield, Lamont-Arvin, Taft, and Edwards Air force Base. New residents to the San Joaquin Valley have usually never been exposed to “Valley

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<sup>2</sup> Source: <http://www.epa.gov/iaq/radon/nraw/nraw1.pdf>. Radon Fact Sheet. October 2001.

<sup>3</sup> Binsacca, Richard, “Radon Remedies,” Builder, September 1988, page 95.

Fever,” and as a result are particularly susceptible to the infection. Many longtime residents of the area have at some time been exposed to the fungus, become infected, and have recovered, and are thus immune.

## **HAZARDOUS MATERIALS**

For this EIR, the term “hazardous material” includes any material that, because of its quantity, concentration, or physical, chemical, or biological characteristics, poses a considerable present or potential hazard to human health or safety, or to the environment. It refers generally to hazardous chemicals, radioactive materials, and biohazardous materials. “Hazardous waste,” a subset of hazardous materials, is material that is to be abandoned, discarded, or recycled, and includes chemical, radioactive, and biohazardous waste (including medical waste).

## **REGULATORY SETTING**

### **Federal and State Hazardous Waste Management**

The Environmental Protection Agency (EPA) and the California Department of Toxic Substance Control (DTSC) have developed and continue to update lists of hazardous waste subject to regulation. Regulation of hazardous wastes is provided on both the state and federal levels.

The Office of Environmental Services, in its capacity as state and federal, environmental program regulator, has as a primary objective the prevention of soil and water contamination, as well as prevention of releases of dangerous chemicals that may impact the citizens of Bakersfield. In particular, the protection of California groundwater from contamination due to chemical releases is of prime concern.

### **Regional and Local Hazardous Waste Management**

The San Joaquin Valley Unified Air Pollution Control District (APCD) works with the California Air Resources Board (CARB) and is responsible for developing and implementing rules and regulations regarding air toxins on a local level. The APCD establishes permitting requirements, inspects emission sources, and enforces measures through educational programs and/or fines.

In the unincorporated portion of Kern County, environmental programs designed to prevent soil and water contamination, similar to those of the Office of Environmental Services, are administered by Kern County Environmental Health. Both the City of Bakersfield and Kern County have completed and maintain a Hazardous Materials Response Plan (area plan) in compliance with the California Health and Safety Code.

In addition to its responsibilities of state and federal hazardous waste management, the Office of Environmental Services also functions as an environmental “Permit Consolidation Zone,” with the City of Bakersfield. As the Zone Administrator, the fire department facilitates all state, County and city environmental permits for those businesses that choose to use this process, enabling them to substitute one “Facility Compliance Plan” for all environmental permit requirements.

**Kern County and Incorporated Cities Hazardous Waste Management Plan.** In response to the growing Statewide concern of hazardous waste management, State Assembly Bill 2948 (Tanner 1986) enacted legislation authorizing local governments to develop comprehensive hazardous waste management plans. The intent of each plan is to assure that adequate treatment and disposal capacity is available to manage the hazardous wastes generated within its jurisdiction.

The Kern County and Incorporated Cities Hazardous Waste Management Plan was first adopted by Kern County and each incorporated City before September 1988, and subsequently approved by The State Department of Health Services. The Plan is an element of the Kern County General Plan, as permitted by Health and Safety Code section 25135.7(b), and thus must be consistent with all other aspects of the County General Plan.

The Kern County and Incorporated Cities Hazardous Waste Management Plan provides policy direction and action programs to address current and future hazardous waste management issues that require local responsibility and involvement in Kern County. In addition, the Plan discusses hazardous waste issues, and analyzes current and future waste generation in the incorporated cities, County, and state and federal lands.

The purpose of the Plan is to coordinate local implementation of a regional action to effect comprehensive hazardous waste management throughout Kern County. The action program focuses on development of programs to equitably site needed hazardous waste management facilities; to promote on-site source reduction, treatment and recycling; and to provide for the collection and treatment of small quantity hazardous waste generators.

An important component of the Plan is the monitoring of hazardous waste management facilities to ensure compliance with Federal and State hazardous waste regulations. The siting criteria and any subsequent environmental documentation required pursuant to CEQA would also ensure the mitigation of adverse impacts associated with the siting of any new hazardous waste facility.

**Disclosure of Hazardous Materials.** The Bakersfield and Kern County Fire Departments require business' to disclose hazardous materials and/or hazardous waste handled or stored on-site. This disclosure information assists emergency responders in planning for and handling emergencies involving hazardous materials. The program objective is to safeguard the responders and the public, and to minimize property loss. Therefore, businesses are required to disclose hazardous materials or waste equal to or in excess of 500 pounds of a solid, 55 gallons of a liquid, and/or 200 cubic feet of a gas over the course of a 12-month period. In response to federal and state mandates, businesses are required to report chemicals listed on the Federal EPA List of Acutely Hazardous Materials (AHM) if the amounts on hand at any given time exceed the "threshold planning quantity" (TPQ), or if they exceed the quantities listed above 500 pounds/55 gallons/200 cubic feet, whichever is less.

**Hazardous Materials Response.** Hazardous material response within Metropolitan Bakersfield is provided by the City of Bakersfield and Kern County Fire Departments. The City has a hazardous materials response team included in the Operation Division, and plans to add a Hazardous Material Truck in the future. The Kern

County Fire Department has a separate hazardous Material Section which oversees 2185 and 2187 “Right to Know” inspections, approves building plans, manages SARA Title III programs as they pertain to the fire department, and reviews the hazardous materials incident report system. The County also has one hazardous material response unit. Also, the Fire Departments implement California’s new Accidental Release Program (CalARP).

## **HAZARDOUS MATERIALS AND TOXICS IN METROPOLITAN BAKERSFIELD**

### **Waste Generators**

Hazardous materials and toxics are most commonly associated with industrial and manufacturing operations. A small number of generators are responsible for the production of the majority of hazardous waste generated in Kern County. The majority of these generators are associated with the petroleum industry. Other contributors to hazardous waste in the County include small quantity generators (SQGs). SQGs refer to generators of less than 1,000 kilograms (kg) of hazardous waste per month, such as gas stations, automotive repair shops, dry cleaners, and photo finishers. Less than three percent of the County’s hazardous waste is classified as “household hazardous waste” which includes waste associated with painting, automobiles, cleaning solvents, and pesticides used for gardening.

### **Existing Disposal Facilities**

Currently, there are no active hazardous waste disposal facilities or hazardous waste underground injection disposal facilities within Metropolitan Bakersfield Planning.

### **Transport of Hazardous Materials**

Due to significant short-term risks to public health and the environment associated with hazardous waste management occurs during transportation of wastes, specific Commercial Hazardous Waste Shipping Routes are designated with the intent of minimizing the distance that wastes are transported and the proximately to vulnerable locations.

In order to minimize the use of County maintained roads and city maintained streets, the Kern County and Incorporated Cities Hazardous Waste Management Plan designates state and federally maintained roads as potential Commercial Hazardous Waste Shipping Routes through Kern County. The commercial shipping of hazardous waste within and through Kern County and any incorporated city is restricted to specified CalTrans posted routes as designated on the Kern County and Incorporated Cities Kern County Hazardous Waste Management Plan, Metropolitan Bakersfield General Plan Update Circulation Element, and in accordance with Vehicle Code Sections 31303 et. seq.

Currently, federal regulations allow transportation of hazardous radioactive materials on all interstate highways. Trucks traveling from the highway to sites that use such materials, such as hospitals or nuclear power plants, are allowed to use the most direct route. (The California Highway Patrol has adopted I-5 as a truck route for transporting hazardous radioactive materials.)

Materials and chemicals that are life threatening in case of spill or other accidents are afforded stricter controls than wastes of lesser toxicity. Emergency response personnel recognition of the type and timing of the transport of extremely hazardous wastes through the County and cities would be valuable in preventing and responding to spills or other accidents.

An important concern relevant to trucking on highways is the vulnerability of schools, school, school buses, and school children. Since many school buses routinely use hazardous waste shipping routes, children may be directly at risk from spills or accidents.

### **Pipelines**

A number of underground pipelines cross through Metropolitan Bakersfield. These lines transport gas, crude oil, and oil. The Transportation Research Board of the National Research Council has published a special report (#219) entitled Pipelines and Public Safety that discusses the dangers associated with natural gas, crude oil and oil. The following excerpt is from this document:

*“The primary constituent of natural gas, methane, is flammable when mixed with air (Federal Power Commission 1966, 3). Natural Gas may leak in relatively small quantities from cracks, flaws, or damaged areas of the pipeline, and not create a serious incident if the operator finds the leak and repairs the line in a timely manner. However, if significant quantities of gas are released into the atmosphere from a rupture of a pipe wall, the gas will burn and can explode if ignite in a confined space (Associated Pullman Kellogg Limited 1981, 7.1).*

*Crude oil and petroleum products are heavier than air. Crude oil may burn with intense heat if ignited and may contaminate the environment. Petroleum fuels such as gasoline and jet fuel, which are transported in their natural liquid state, also pose a fire and pollution hazard.”*

### **Superfund Sites**

A search of the US EPA’s database of Superfund sites revealed two sites within Kern County that have been placed on the National Priorities List.<sup>4</sup> The sites are Edwards Airforce Base and Brown and Bryant, Inc. (Arvin plant), located in Arvin, CA. The search listed a total of 23 active hazardous waste sites in Kern County.

### **Underground Storage Tank Leaks**

Currently, there are at least 12 sites located throughout the Metropolitan Bakersfield which are participating in underground storage tank clean-up programs and/or are under investigation for leaking underground storage tanks enforced by the City of Bakersfield Fire Department.<sup>5</sup> Also, according to the County of Kern Environmental Health Services Department, the County (excluding the City of Bakersfield) currently

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<sup>4</sup> Source: <http://www.epa.gov/superfund>.

<sup>5</sup> Telephone correspondence with the Bakersfield Fire Department, Steve Underwood, Inspector, Sept. 21, 2001.

contains 136 underground storage tank sites that actively undergoing remediation for prior leaks.<sup>6</sup>

## **AIR TRAFFIC AND RAIL LINE HAZARDS**

### **Aircraft Overflight Hazards**

Two airports lie within Metropolitan Bakersfield. First, Meadows Field-Kern County Airport, the largest and busiest, is a County facility serving passenger and cargo needs. It handles commercial airlines and general aviation. Meadows Field comprises 1,400 acres, with the passenger terminal located on Airport Drive, north of Norris Road. Second, Bakersfield Airpark is a general aviation airport owned by the City of Bakersfield. Bakersfield Airpark is located on Union Avenue, north of Planz Road and comprises 93 acres.

Both airports have master plans prepared which call for runway expansion and improvements. In addition, Meadows Field plans to construct a new passenger terminal northwest of its existing location. The two airports would retain their current functions. Bakersfield Airpark would be a general aviation airport, and Meadows Field would be the commercial air carrier airport for Kern County.<sup>7</sup>

In 1996, the City and the County adopted the Airport Land Use Compatibility Plan (ALUCP). The ALUCP seeks to protect the public from the adverse effects of aircraft noise and ensure that people and facilities are not concentrated in areas susceptible to aircraft accidents and that no structures or activities adversely affect navigable airspace. Additionally, specific Federal Aviation Administration (FAA) regulations involving land use, imaginary surfaces, aircraft noise and building heights have been implemented.

The ALUCP identifies different zones in the vicinity of an airport and assigns a level of risk to each zone. Table 4.13-1, *Compatibility Criteria*, provides a description of each zone and the assigned levels of risk.

The following is a general description of land uses within each zone, as indicated in the ALUCP, in the vicinity of the Meadows Field-Kern County Airport and the Bakersfield Airpark.

#### Meadows Field-Kern County Airport

- Zone A: Consists primarily of Public Facility uses (runways, apron, etc).
- Zone B1: Consists primarily of Public Facility and Commercial/Industrial land uses. Zone B1 also contains limited amounts of Agricultural/Open Land and High- and Medium-Density Residential land uses.
- Zone B2: Consists primarily of High-Density Residential land uses and limited amounts of Commercial/Industrial land uses.
- Zone C: Consists of a variety of land uses, including Agricultural/Open Land, Commercial/Residential, and High-, Medium- and Low-Density Residential land uses.

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<sup>6</sup> Telephone correspondence with County of Kern Environmental Health Services Department, Amy Green (Hazardous Materials Specialist), October 1, 2001.

<sup>7</sup> Bakersfield General Plan Update, Circulation Element.

- Zone D: Refer to Zone C.

**TABLE 4.13-1  
COMPATIBILITY CRITERIA**

Zone	Location	Impact Elements	Maximum Densities	
			Residential (du/acre)	Other Uses (people/acre)
A	Runway Protection Zone or within Building Restriction Line	<ul style="list-style-type: none"> <li>• High Risk</li> <li>• High Noise Levels</li> </ul>	0	10
B1	Approach/Departure Zone and Adjacent to Runway	<ul style="list-style-type: none"> <li>• Substantial Risk – aircraft commonly below 400 ft. AGL or within 1,000 ft. of runway</li> <li>• Substantial Noise</li> </ul>	0.1	60
B2	Extended Approach/Departure/ Zone	<ul style="list-style-type: none"> <li>• Significant Risk – aircraft commonly below 800 ft. AGL</li> <li>• Significant Noise</li> </ul>	0.5	60
C	Common Traffic pattern	<ul style="list-style-type: none"> <li>• Limited Risk – aircraft at or below 1,000 ft. AGL</li> <li>• Frequent noise intrusion</li> </ul>	15	150
D	Other Airport Environs	<ul style="list-style-type: none"> <li>• Negligible Risk</li> <li>• Potential for annoyance from overflights</li> </ul>	No Limit	No Limit
Notes: du = dwelling units AGL = above ground level				
Source: <i>Kern County Airport Land Use Compatibility Plan, Table 2A – Compatibility Criteria.</i>				

### Bakersfield Airpark

- Zone A: Consists primarily of Public Facility uses (runways, apron, etc).
- Zone B1: Consists primarily of Public Facility and Commercial/Industrial land uses. Zone B1 also contains limited amounts of Medium- and Low-Density Residential land uses.
- Zone B2: Consists primarily of Medium-Density Residential land uses and limited amounts of Commercial/Industrial land uses.
- Zone C: Consists of a variety of land uses, including Agricultural/Open Land, Commercial/Residential, and High-, Medium- and Low-Density Residential land uses.
- Zone D: Refer to Zone C.

Specific Federal Aviation Administration (FAA) regulations involving land use, imaginary surfaces, aircraft noise and building heights have been implemented to regulate development.

### **Rail Line Hazards**

AMTRAK provides rail service to and from Bakersfield and the Central Valley cities to the north. The AMTRAK station is located at Truxtun Avenue and S Street.

Two major railroads provide freight service to Bakersfield: Burlington Northern-Santa Fe and Southern Pacific. The Burlington Northern-Santa Fe yard is located downtown between Truxtun and California Avenues, and the Southern Pacific yard is located in East Bakersfield between Kentucky and Sumner Streets.

Public Safety hazards typically associated with train operations include:

- Accidents associated with population exposure to rail operations (i.e., transitioning pedestrian or vehicle); and
- Accidents involving the trains themselves (i.e., derailments). A major train accident could encompass many threats, such as hazardous materials incident, fire, and severe damage to either adjacent buildings or vehicles, and the potential loss of life to people in the affected area.

## STANDARDS OF SIGNIFICANCE

### SIGNIFICANCE CRITERIA

In accordance with CEQA, the effects of a project are evaluated to determine if they would result in a significant adverse impact on the environment. An EIR is required to focus on these effects and offer mitigation measures to reduce or avoid any significant impacts that are identified. The criteria, or standards, used to determine the significance of impacts might vary depending on the nature of the project. Public health and safety impacts resulting from the implementation of the General Plan Update could be considered significant if they cause any of the following results:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment (refer to Section 10.0, *Effects Found Not To Be Significant*);
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area;

- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area (refer to Section 4.1, *Land Use*);
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation (refer to Section 4.11, *Public Services and Facilities*); and/or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands (refer to Section 4.11, *Public Services and Facilities*).

Based on these standards, the effects of the General Plan Update have been categorized as either a “less than significant impact” or a “potentially significant impact.” If a potentially significant impact cannot be reduced to a less than significant level through the application of goals, policies, standards or mitigation, it is categorized as a significant and unavoidable impact. The standards used to evaluate the significance of impact are often qualitative rather than quantitative because appropriate quantitative standards are either not available for many types of impacts or are not applicable for some types of projects.

## IMPACTS AND MITIGATION MEASURES

### AGRICULTURAL CHEMICALS

- **BUILDOUT OF METROPOLITAN BAKERSFIELD IN ACCORDANCE WITH THE GENERAL PLAN UPDATE MAY RESULT IN HUMAN HEALTH IMPACTS ASSOCIATED WITH EXPOSURE TO AGRICULTURAL CHEMICALS.**

**Level of Significance Before Policies/Mitigation:** Potentially Significant Impact.

**Impact Analysis:** The General Plan Update does not specifically address the environmental risks to human health associated with exposure to agricultural chemicals. However, certain geographic areas anticipated for development by the General Plan Update are currently in agricultural use and as a result have the potential to contain concentrations of agricultural chemicals due to the long-term application of pesticides. General Plan land use categories which are currently in agricultural production areas include residential, commercial, as well as industrial uses.

Human health impacts may be caused by pesticide overspray, pesticide drift, inadvertent cropdusting of homes, and inhalation of pesticides by agricultural workers. However, according to the Kern County Health Department, it is unlikely that development in accordance with the General Plan Update would expose future residents to the affects of agricultural chemicals because of the short half-lives of currently used pesticides, and the fact that future developments would be hooked up to a central water supply which is monitored for contaminants. Nonetheless, potential risks may exist for development adjacent to agricultural land and estate residential uses that may use existing contaminated wells. Also, potential risks to construction workers may exist as a result of the inhalation of dust generated by grading activities.

The potential impact of the continued use of agricultural chemicals within development areas would be reduced to less than significant levels with implementation of the following established standards: 1) agricultural chemicals are required to be used and stored in accordance with all applicable Federal, State and local regulations and guidelines; and 2) the use of buffers and barriers between agricultural and urban uses would provide a separation during pesticide application operations. These buffers or barriers can take the form of open space, roadways, utility corridors, canals, easements, masonry or landscape setbacks. Pursuant to Section 17.08.150(a) of the Bakersfield Municipal Code, residential structures are required to be setback a minimum of 50 feet from all agricultural zones.

Implementation of the General Plan Update may result in human health impacts as a result of exposure to agriculture chemicals. However, all new development projects would be subject to environmental and design review on a site-specific, project-by-project basis and would include a soils review to ensure human health affects are limited to the extent possible. Therefore, impacts would be reduced to less than significant levels with implementation of the specified mitigation.

**Goals and Policies in the General Plan Update:** The Safety Element includes the following goal:

SAF/PS-G-1      Ensure that the Bakersfield metropolitan area maintains a high level of public safety for its citizenry.

**Mitigation Measures:** In addition to the goals, policies and implementation measures identified in the General Plan Update, the following mitigation measures have been identified to reduce potential impacts to less than significant levels.

- 4.13-1    Where recommended by appropriate local, State or Federal agencies for discretionary projects, soils shall be tested for concentrations of agricultural chemicals prior to grading permit approval, whenever feasible. Contaminated soils shall be excavated and disposed of at a certified hazardous waste disposal facility whenever necessary.
- 4.13-2    Fugitive dust emissions shall be controlled through applicable requirements (Regulation VIII) set forth by the San Joaquin Valley Unified Air Pollution Control District, including but not limited to; irrigation, paving of construction roads, and limiting grading activities during periods of high wind. These practices would reduce potential adverse health effects resulting from the development of agricultural property.
- 4.13-3    Establish buffer zones adjacent to urban development proposals located adjacent to agricultural areas, as recommended by the Kern County Agricultural Commission.

**Level of Significance After Policies/Mitigation:** Less Than Significant Impact.

## **RADON EMISSIONS**

- **BUILDOUT OF METROPOLITAN BAKERSFIELD IN ACCORDANCE WITH THE GENERAL PLAN UPDATE MAY RESULT IN HUMAN HEALTH IMPACTS ASSOCIATED WITH EXPOSURE TO RADON EMISSIONS.**

**Level of Significance Before Policies/Mitigation:** Less Than Significant Impact.

**Impact Analysis:** In 1993, the United States Environmental Protection Agency and the United States Geological Survey released the California Chapter of the Radon Potential Map of the United States (EPA's Map of Radon Zones, California, September, 1993). This report identified the radon potential for each county in California. Radon potential is classified into one of three designations or zones.

Counties in which potential radon levels are predicted to exceed indoor screening levels of 4 pico curies per liter (pCi/L) are considered to be in Zone 1. The recommended level at which corrective action to minimize exposure should be initiated to reduce radon in structures is 4 pCi/L. Counties with predicted indoor radon screening levels between 2 and 4 pCi/L are in Zone 2, while those with predicted indoor screening levels below 2 pCi/L are in Zone 3. Kern County is categorized in Zone 2 which is below the level recommended for corrective action. The radon potential map provides a generalized indication of radon levels in California. Determining actual radon levels in buildings requires detailed testing.

The General Plan Update does not specifically address environmental risks to human health associated with exposure to radon emissions. Because of the aforementioned EPA Study, the Kern County Environmental Health Services Department does not believe there to be a serious radon exposure problem within the Metropolitan Bakersfield area.

**Goals and Policies in the General Plan Update:** The Safety Element includes the following goal:

SAF/PS-G-1      Ensure that the Bakersfield metropolitan area maintains a high level of public safety for its citizenry.

**Mitigation Measures:** No mitigation measures beyond the goals, policies and implementation identified in the General Plan Update are recommended.

**Level of Significance After Policies/Mitigation:** Less Than Significant Impact.

#### **VALLEY FEVER**

- **BUILDOUT OF METROPOLITAN BAKERSFIELD IN ACCORDANCE WITH THE GENERAL PLAN UPDATE MAY RESULT IN HUMAN HEALTH IMPACTS ASSOCIATED WITH EXPOSURE TO FUNGUS SPORES WHICH CAUSE VALLEY FEVER.**

**Level of Significance Before Policies/Mitigation:** Potentially Significant Impact.

**Impact Analysis:** The General Plan Update does not specifically address the environmental risks to human health associated with exposure to fungus spores which cause Coccidioimycosis, commonly referred to as Valley Fever. Development in accordance with the General Plan Update could potentially expose the population

to Valley Fever. Grading activities associated with development have the potential to release the fungus into the air, increasing the risk of infection to the surrounding population. Much of the population generated by increased development would likely be from areas outside the San Joaquin Valley and would be at greater risk of contracting the disease than current Metropolitan Bakersfield residents due to a relatively lower immunity.

Measures to reduce exposure to the fungus have had only limited success, due to the vastness of the area in which the fungus inhabits. However, paving roads, planting grass, and other measures that reduce dust where people live, work, or engage in recreation, have been shown to reduce the incidence of infection. Sufficient wetting of the soil prior to grading activities can also reduce exposure to airborne spores of the fungus.

Development in accordance with the General Plan Update could put future residents at a greater risk of exposure to Valley Fever; however, because fungus spores need to become airborne in order to enter the respiratory tract of humans, and landscaping, building pads, and streets associated with development would eliminate most fugitive dust, the threat is more serious for construction workers than for residents. New residents to the area are by nature at higher risk of being exposed to the disease for the reasons listed previously. As a result, measures should be taken to reduce the potential for exposure of the disease to future residents and construction workers. These include measures to control dust through irrigation, landscaping, and use of concrete, and prevention through public education.

Thus, implementation of the General Plan Update may result in human health impacts due to exposure to fungus spores which cause Valley Fever. However, impacts would be reduced to less than significant levels with implementation of the specified mitigation.

**Goals and Policies in the General Plan Update:** The Safety Element includes the following goal:

SAF/PS-G-1      Ensure that the Bakersfield metropolitan area maintains a high level of public safety for its citizenry.

**Mitigation Measures:** In addition to the goals and policies identified in the General Plan Update, the following mitigation measure have been identified to reduce potential impacts to less than significant levels.

4.13-4      Fugitive dust emissions shall be controlled through applicable requirements set forth by the San Joaquin Valley Unified Air Pollution Control District (Regulation VIII), including but not limited to; irrigation, paving of construction roads, and limiting grading activities during periods of high wind. These practices would reduce potential adverse health effects as a result of exposure to Coccidioidomycosis.

**Level of Significance After Policies/Mitigation:** Less Than Significant Impact.

## **HAZARDOUS MATERIALS USE, GENERATION AND TRANSPORT**

- **BUILDOUT OF METROPOLITAN BAKERSFIELD IN ACCORDANCE WITH THE GENERAL PLAN UPDATE MAY RESULT IN INCREASED RISK OF UPSET ASSOCIATED WITH THE ROUTINE USE, GENERATION, AND TRANSPORTATION OF HAZARDOUS MATERIALS, WHICH MAY POTENTIALLY POSE A HEALTH OR SAFETY HAZARD.**

**Level of Significance Before Policies/Mitigation:** Potentially Significant Impact.

**Impact Analysis:** Many types of businesses utilize hazardous substances as part of their routine operations. Currently, there are a variety of existing business operations in the Metropolitan Bakersfield that use, store, or transport hazardous substances, as well as generate hazardous waste. New non-residential development within Metropolitan Bakersfield may result in an increase in commercial and industrial land uses involving the use of hazardous materials or generation of hazardous waste. The types and quantities of hazardous materials utilized by the various types of businesses that could locate in Metropolitan Bakersfield would vary tremendously and, as a result, the nature of potential hazards would also be varied. Such substances can range from common automobile oil and household pesticides to chlorine, dry-cleaning solutions, ammonia, or substances used in commercial and industrial operations. Since the General Plan Update does not include any specific development projects, no specific type of hazard associated with these materials can be identified and the likelihood of a hazard presenting a serious health or safety to the public cannot be determined at this time. However, it can be generally concluded that any additional non-residential development within Metropolitan Bakersfield would result in an increase in the use and transport of hazardous materials and an increase in generation of hazardous waste. The consequence of this increased presence of hazardous materials in Metropolitan Bakersfield is an increase in the potential for human exposure to these substances, with possible public health and safety consequences.

Development based on the General Plan Update should have very little effect on the amount of wastes associated with oil production since oil production is dependent upon worldwide and not regional demand. Development in accordance with the General Plan Update would slightly reduce the amount of wastes associated with agricultural pesticides because development would reduce agricultural lands within Metropolitan Bakersfield. Assuming that present hazardous waste generation rates remain the same, implementation of the General Plan Update could increase industrial waste and household hazardous waste. However, the County's Hazardous Waste Management Plan (HWMP) includes waste reduction methods that would serve to reduce the amount of waste generated.

New development that locates near residential areas or within ¼-mile from a school could expose these sensitive land uses to greater risk of exposure to hazardous materials, wastes or emissions. In most instances, a buffer in the form of a major street, channel, or intervening land use separates residential areas from industrial areas. Also, the General Plan Update Land Use Element has located industrial areas near State and/or Federally maintained roads to avoid transport of hazardous wastes through residential or other highly populated areas.

The Kern County and Incorporated Cities Hazardous Waste Management Plan (HWMP) lists goals and policies regarding the transport of hazardous wastes. The

HWMP recognizes that transportation of hazardous waste on roads poses a short-term threat to public health; of prime concern is the safety of the transportation system for hazardous waste, especially extremely hazardous waste, in and through Kern County. The HWMP seeks to establish State and Federally maintained roads as candidate Commercial Hazardous Waste Shipping Routes in and through the County (except those necessary to collect locally generated hazardous wastes). Also, implementation of the HWMP would potentially allow the County to further restrict hazardous waste shipping on routes which pose a threat to surface water bodies or aqueducts, or on roads which are generally unsafe as determined by specified hazardous waste facility applicants' transportation risk assessments and by guidelines afforded by the State of California Department of Health Services and Vehicle Code Section 31304, and CCR Title 26 Division 6 provisions.

While the risk of exposure to hazardous materials cannot be eliminated, measures can be implemented to maintain risks to acceptable levels. As described in the Settings section, there are several federal, state and local regulatory agencies that oversee hazardous materials handling and management. Oversight by the appropriate agencies and compliance with applicable regulations are considered adequate to offset the negative effects related to the use and transport of hazardous materials in Metropolitan Bakersfield.

In addition, the following General Plan Update goals and policies would further reduce hazardous materials impacts to a less than significant level.

**Goals and Policies in the General Plan Update:** The Safety and Land Use Elements include the following goals and policies:

- |            |                                                                                                                                                                                                   |
|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SAF/PS-G-1 | Ensure that the Bakersfield metropolitan area maintains a high level of public safety for its citizenry.                                                                                          |
| SAF/PS-G-4 | Assure that fire, hazardous substance regulation and emergency medical service problems are continuously identified and addressed in a proactive way, in order to optimize safety and efficiency. |
| SAF/PS-P-7 | Enforce ordinances regulating the use/manufacture/sale/transport/disposal of hazardous substances, and require compliance with state and federal laws regulating such substances.                 |
| SAF/PS-P-8 | The Kern County and Incorporated Cities Hazardous Waste Management Plan and Final Environmental Impact Report serves as the policy document guiding all facets of hazardous waste.                |
| LU-P-14    | Require all multi-family residential land uses be adequately set back from the street.                                                                                                            |
| LU-P-38    | Minimize impacts of industrial traffic on adjacent residential parcels through the use of site plan review and improvement standards.                                                             |

**Mitigation Measures:** No mitigation measures beyond the goals, policies and implementation identified in the General Plan Update are proposed.

**Level of Significance After Policies/Mitigation:** Less Than Significant Impact.

## ACCIDENTAL RELEASE OF HAZARDOUS MATERIALS

- **ACCIDENTAL RELEASE OF HAZARDOUS MATERIALS USES, STORED, OR TRANSPORTED IN METROPOLITAN BAKERSFIELD MAY RESULT IN A PUBLIC HEALTH RISK.**

**Level of Significance Before Policies/Mitigation:** Potentially Significant Impact.

**Impact Analysis:** As described previously, new commercial and industrial development or expansion of commercial and industrial uses would result in an increase in the use and transport of hazardous materials in Metropolitan Bakersfield. The increased use and transport of hazardous materials in Metropolitan Bakersfield increases the potential for accidental releases of hazardous materials. Typical incidents that could result in accidental release of hazardous materials including leaking underground storage tanks, accidents during transport causing a “spill” of a hazardous material, and/or natural disasters causing the unauthorized release of a substance. These and other types of incidents could cause contamination of soil, surface water, and groundwater, in addition to any toxic fumes that might be generated. If not cleaned up immediately and completely, the same hazardous substances could migrate into the soil or enter a local stream channel causing contamination of soil and water. Contamination of the local groundwater table could also occur. Depending on the nature and extent of the contamination, groundwater supplies could become unsuitable for use as a domestic water source. Human exposure to contaminated soil or water could have potential health effects depending on a variety of factors, including the nature of the contaminant and the degree of exposure.

Accidental releases would most likely occur in the commercial and industrial areas and along transport routes leading to and from these areas. Commercial and industrial areas are distributed through Metropolitan Bakersfield, including concentrations of businesses located in the Oildale, East Bakersfield, Urban Northwest, Urban Southeast and Urban Southwest areas. Transportation routes include freeways and main surface streets.

The use and storage of hazardous substances is regulated by CalEPA, the State Water Resources Control Board, Bakersfield Fire Department, Kern County Fire Department and the Kern County Environmental Health Services Department. The California Highway Patrol and the California Department of Transportation enforce hazardous substance transportation regulations. The Bakersfield and Kern County Fire Departments provide emergency response to accidental release of hazardous substances. The Hazardous Materials Release Response Plans and Inventory Law of 1985 (or the Business Plan Act) requires that a business that uses, handles, or stores hazardous materials above a certain quantity prepare a plan which must include an inventory of hazardous substances on the premises. A Risk Management and Prevention Plan (RMPP) may be required for businesses that use acutely hazardous substances and are located in proximity to sensitive land uses. As part of the RMPP, businesses that handle acutely hazardous materials must include a hazard and operability study (HAZOP) which analyze potential hazards to sensitive populations in the vicinity. The Bakersfield and Kern County Fire Departments oversee the submittal of Business Emergency Plans, which are intended to mitigate potential releases of hazardous substances and minimize potential harm or damage.

Oversight by the appropriate agencies and compliance with applicable regulations are considered adequate to offset the negative effects related to the accidental release of hazardous materials in Metropolitan Bakersfield. In addition, the following General Plan Update goals and policies would further reduce hazardous materials impacts to a less than significant level.

**Goals and Policies in the General Plan Update:** The Safety Element and Land Use Element include the following goals and policies:

- SAF/PS-G-1      Ensure that the Bakersfield metropolitan area maintains a high level of public safety for its citizenry.
  
- SAF/PS-G-4      Assure that fire, hazardous substance regulation and emergency medical service problems are continuously identified and addressed in a proactive way, in order to optimize safety and efficiency.
  
- SAF/PS-P-7      Enforce ordinances regulating the use/manufacture/sale/transport/disposal of hazardous substances, and require compliance with state and federal laws regulating such substances.
  
- SAF/PS-P-8      The Kern County and Incorporated Cities Hazardous Waste Management Plan and Final Environmental Impact Report serves as the policy document guiding all facets of hazardous waste.
  
- LU-P-14          Require all multi-family residential land uses be adequately set back from the street.
  
- LU-P-38          Minimize impacts of industrial traffic on adjacent residential parcels through the use of site plan review and improvement standards.

**Mitigation Measures:** No mitigation measures beyond the goals, policies and implementation identified in the General Plan Update are proposed.

**Level of Significance After Policies/Mitigation:** Less Than Significant Impact.

#### **INCREASED AIR TOXIC EMISSIONS**

- BUILDOUT OF METROPOLITAN BAKERSFIELD IN ACCORDANCE WITH THE GENERAL PLAN UPDATE MAY RESULT IN ADDITIONAL SOURCES OF AIR TOXIC EMISSIONS, POTENTIALLY INCREASING EXPOSURE OF RESIDENTS AND EMPLOYEES TO AIR TOXICS.**

**Level of Significance Before Policies/Mitigation:** Potentially Significant Impact.

**Impact Analysis:** As a result of buildout of the General Plan Update, new commercial and industrial uses developed in Metropolitan Bakersfield would increase the potential sources of air toxic emissions. Additional sources of air toxic emissions in Metropolitan Bakersfield would contribute to risk of human exposure to toxic substances. Human exposure to toxic air emissions could have potential health effects depending on a variety of factors, including the nature and concentration of

the toxic substance and the degree of exposure. As with other toxic substances, people who face the greatest potential for exposure to toxic air emissions are those who reside or work in close proximity to emission sources. Toxic air emissions differ from other hazardous substances in that air currents can easily transport them. While this allows these emissions to be quickly carried over relatively large distances when released into the open air (depending on atmosphere conditions), it can also cause the emissions to be readily dispersed into lower concentrations.

The San Joaquin Valley Unified Air Pollution Control District (APCD) works with the California Air Resources Board (CARB) and is responsible for developing and implementing rules and regulations regarding air toxics on a local level. The APCD establishes permitting requirements, inspects emission sources (commercial and industrial facilities), and enforces measures through educational programs and/or fines. Existing regulations, permitting requirements, and facility inspections by the APCD are considered adequate to reduce this impact to a less than significant level. In addition, the following General Plan Update goals and policies would further reduce impacts to a less than significant level.

**Goals and Policies in the General Plan Update:** The Safety Element and Conservation Element include the following goals and policies:

- SAF/PS-G-1      Ensure that the Bakersfield metropolitan area maintains a high level of public safety for its citizenry.
- CON/AQ-G-1      Promote air quality that is compatible with health, well being, and enjoyment of life by controlling point sources and minimizing vehicular trips to reduce air pollutants.
- CON/AQ-G-2      Continue working toward attainment of Federal, State and Local standards as enforced by the San Joaquin Valley Unified Air Pollution Control District.
- CON/AQ-G-3      Reduce the amount of vehicular emissions in the Planning area.
- CON/AQ-G-4      Reduce air pollution associated with agricultural activities.
- SAF/PS-G-4      Assure that fire, hazardous substance regulation and emergency medical service problems are continuously identified and addressed in a proactive way, in order to optimize safety and efficiency.
- CON/AQ-P-1      Comply with and promote San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) control measures regarding Reactive Organic Gases (ROG). Such measures are focused on: (a) steam driven well vents, (b) Pseudo-cyclic wells, (c) natural gas processing plant fugitives, (d) heavy oil test stations, (e) light oil production fugitives, (f) refinery pumps and compressors, and (g) vehicle inspection and maintenance.
- CON/AQ-P-2      Encourage land uses and land use practices which do not contribute significantly to air quality degradation.

- CON/AQ-P-5 Consider the location of sensitive receptors such as schools, hospitals, and housing developments when locating industrial uses to minimize the impact of industrial sources of air pollution.
- CON/AQ-P-6 Participate in alternative fuel programs.
- CON/AQ-P-7 Participate in regional air quality studies and comprehensive programs for air pollution reduction.
- CON/AQ-P-8 Promote and assist in the development and implementation of the San Joaquin Valleywide Air Quality Study.
- CON/AQ-P-9 Promote public education regarding air quality issues and alternative transportation.
- SAF/PS-P-7 Enforce ordinances regulating the use/manufacture/sale/transport/disposal of hazardous substances, and require compliance with state and federal laws regulating such substances.
- SAF/PS-P-8 The Kern County and Incorporated Cities Hazardous Waste Management Plan and Final Environmental Impact Report serves as the policy document guiding all facets of hazardous waste.

**Mitigation Measures:** No mitigation measures beyond the goals, policies and implementation identified in the General Plan Update are proposed.

**Level of Significance After Policies/Mitigation:** Less Than Significant Impact.

#### **HAZARDOUS MATERIALS CONTAMINATION**

- DEVELOPMENT ALLOWED UNDER IMPLEMENTATION OF THE GENERAL PLAN UPDATE MAY EXPOSE PEOPLE TO EXISTING AREAS OF HAZARDOUS CONTAMINATION DURING CONSTRUCTION ACTIVITIES, DEPENDING ON THE SPECIFIC DEVELOPMENT SITE.**

**Level of Significance Before Policies/Mitigation:** Potentially Significant Impact.

**Impact Analysis:** There are numerous sites within Metropolitan Bakersfield that are identified on one or more hazardous materials records list. Some of these sites may have contained or currently contain hazardous materials sources, such as leaking underground storage tanks. Hazardous materials releases from some of these sites may have affected soils and groundwater in Metropolitan Bakersfield. Releases that affect groundwater have the potential to migrate off each individual contamination site and onto adjacent properties and/or public right-of-way. Construction activities associated with development under the General Plan Update may adversely disturb soils or ground water containing hazardous concentrations of contaminants.

For those buildings to be removed as a result of the General Plan Update redevelopment which were constructed prior to 1978, the potential for asbestos containing material (ACM) and/or lead based paint to be-found on-site is likely. Demolition of these structures may produce solid waste containing asbestos and/or

lead-based paint. Improper handling and disposal of asbestos and/or lead-based paint associated with demolition waste may pose a potential health risk to people.

Future projects resulting from development of the of the General Plan Update shall be required to comply with all applicable local, state and federal regulations and policies regarding hazardous materials. Required hazardous materials review may include additional analysis of hazardous materials records and/or preparation of an Environmental Site Assessment (ESA) to identify and document potential health risks as a result of the presence of hazardous materials in the vicinity of the site, in accordance with the American Society for Testing and Materials (ASTM) Standard Practice E 1527-94. In addition, the following General Plan Update goals, policies and mitigation measures would further reduce hazardous materials impacts to a less than significant level.

**Goals and Policies in the General Plan Update:** The Safety and Conservation Elements include the following goals and policies:

- SAF/PS-G-1      Ensure that the Bakersfield metropolitan area maintains a high level of public safety for its citizenry.
  
- SAF/PS-G-4      Assure that fire, hazardous substance regulation and emergency medical service problems are continuously identified and addressed in a proactive way, in order to optimize safety and efficiency.
  
- SAF/PS-P-7      Enforce ordinances regulating the use/manufacture/sale/transport/disposal of hazardous substances, and require compliance with state and federal laws regulating such substances.
  
- SAF/PS-P-8      The Kern County and Incorporated Cities Hazardous Waste Management Plan and Final Environmental Impact Report serves as the policy document guiding all facets of hazardous waste.

**Mitigation Measures:** In addition to the goals and policies identified in the General Plan Update, the following mitigation measure has been identified to reduce potential impacts to less than significant levels.

- 4.13-5 All new discretionary development projects shall be subject to environmental and design review on a site-specific, project-by-project basis, including but not limited to, an assessment to determine whether hazardous materials present potential health affects to human health as required by the Department of Environmental Services.

**Level of Significance After Policies/Mitigation:** Less Than Significant Impact.

## AIRCRAFT OVERFLIGHT

- **THE ACCIDENT POTENTIAL FROM AIRCRAFT OVERFLIGHTS MAY IMPACT STRUCTURES AND INDIVIDUALS WITHIN THE FLIGHT PATTERN OF MEADOWS FIELD AIRPORT AND BAKERSFIELD AIRPARK.**

**Level of Significance Before Policies/Mitigation:** Potentially Significant Impact.

**Impact Analysis:**

As a result of buildout of the General Plan Update, structures and individuals within the vicinity of the Meadows Field Airport and the Bakersfield Airpark could be subjected to the potential of off-airport accidents. The Kern County Airport Land Use Compatibility Plan (ALUCP) has established Runway Protection (Zone A), Approach/Departure (Zone B1), Extended Approach/Departure (Zone B2), Common Traffic Pattern (Zone C) and Other Airport Environs (Zone C) Zones for the Meadows Field Airport and Bakersfield Airpark. These zone designations are identified by various levels of risk depending on proximity to runways and specify maximum land use densities and required amounts of open land. According to the ALUCP, Zones B1 and B2 present “substantial” and “significant” levels of risk, respectively. Within Zone C, land uses are subject to a “limited” level of risk. Additionally, a “negligible” level of risk is associated within Zone D. At both airports, residential and commercial/industrial uses occur within Zones B1, B2, C and D.

Development within each of the zones at these airports is regulated to ensure that land uses are not people intensive, as demonstrated by the City’s and County’s commitment to prohibiting new residential development in noise impact areas and avoiding excessively tall buildings or large concentrations of people in areas detrimental to the airport. The land use restrictions in the various zones provide the necessary limitations to reduce the potential impacts of off-airport accidents to persons and property on the ground. Specific land use regulations regarding FAA notification imaginary surfaces, aircraft noise and building heights have been implemented according to the ALUCP to reduce impacts due to aircraft overflight to a less than significant level.

The goals and policies, as stated below, would further reduce potentially significant impacts to public health and safety from aircraft overflight to less than significant levels.

**Goals and Policies in the General Plan Update:** The Safety and Circulation Elements include the following goals and policies:

- |            |                                                                                                          |
|------------|----------------------------------------------------------------------------------------------------------|
| SAF/PS-G-1 | Ensure that the Bakersfield metropolitan area maintains a high level of public safety for its citizenry. |
| CIR/AP-P-1 | Maintain master plans for Meadows Field and Bakersfield Airpark.                                         |
| CIR/AP-P-2 | Ensure compatibility between the general plan, airport master plans and airport land use plans.          |
| CIR/AP-P-3 | Allow for the establishment of private airports and heliports/helipads.                                  |

CIR/AP-P-4 Encourage and provide for the orderly development of public use airports within the Planning area and prevent the creation of new noise and safety impacts.

**Mitigation Measures:** No mitigation measures beyond the goals, policies and implementation identified in the General Plan Update are proposed.

**Level of Significance After Policies/Mitigation:** Less Than Significant Impact.

#### **RAIL LINE HAZARDS**

- **BUILDOUT OF METROPOLITAN BAKERSFIELD IN ACCORDANCE WITH THE GENERAL PLAN UPDATE MAY RESULT IN AN INCREASE HAZARD ASSOCIATED WITH TRAIN OPERATIONS.**

**Level of Significance Before Policies/Mitigation:** Potentially Significant Impact.

**Impact Analysis:** There are a number of safety issues that would typically face the general public and rail operators from daily rail operations. These issues include the potential for accidents between vehicles and trains at grade crossings and accidents involving pedestrians and trains. The established railroad right-of-way provides separation from the rail lines to existing and future land uses, thereby reducing the potential impact of a train derailment. Future structures constructed according to land uses designations would provide additional physical separation from rail lines.

Adherence with applicable Federal, State and local regulations related to carrier operation procedures would reduce the significance of potential impacts associated with rail operations. The goals and policies, as stated below, would further reduce potentially significant impacts to public health and safety from a derailment to less than significant levels.

**Goals and Policies in the General Plan Update:** The Safety Element and Circulation Element include the following goals and policies:

SAF/PS-G-1 Ensure that the Bakersfield metropolitan area maintains a high level of public safety for its citizenry.

SAF/PS-G-4 Assure that fire, hazardous substance regulation and emergency medical service problems are continuously identified and addressed in a proactive way, in order to optimize safety and efficiency.

CIR/TR-P-10 Work with AMTRAK to maintain and improve rail passenger service and facilities in Bakersfield.

CIR/TR-P-11 Work to provide grade separations at all arterial/railroad crossings.

**Mitigation Measures:** No mitigation measures beyond the goals, policies and implementation identified in the General Plan Update are proposed.

**Level of Significance After Policies/Mitigation:** Less Than Significant Impact.

#### **UNAVOIDABLE SIGNIFICANT IMPACTS**

With implementation of General Plan Update goals, policies and mitigation, public health and safety impacts would not be significant. The General Plan Update would not result in any significant and unavoidable public health and safety impacts.