

- d. *Be located on a site that is included on a list of hazardous materials sites that complied pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?***

Alternatives 1 and 2—No Impact. According to the ISA that was prepared for the proposed project, the proposed project site is not included on a list of hazardous material sites, and no known hazardous materials or environmental conditions exist on or adjacent to the project site (Kleinfeler West, Inc. 2009). In addition to the ISA, a review of the California Department of Toxic Substances Control's EnviroStor Database was conducted for the project in May 2012 (California Department of Toxic Substances Control 2012). According to the database, there are no hazardous materials sites or cleanup sites within 0.5 mile of the proposed project site that are undergoing remediation or site assessment. No impacts would occur.

- e. *For a project within an airport land use plan or, where such a plan has not been adopted, within 2 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?***

Alternatives 1 and 2—Less-than-Significant Impact. The project site is within the Bermuda Dune Airport Influence Area and is located approximately 1.3 miles southwest of the Bermuda Dunes Airport, a private airport located in the community of Bermuda Dunes. The Riverside County Airport Land Use Commission establishes more stringent land use regulations for areas adjacent to airports that lie within Airport Influence Areas. There are also three safety zones associated with the Bermuda Dunes Airport Influence Area. Properties within these zones are subject to regulations governing such issues as development intensity, density, height of structures, and noise (County of Riverside 2008). The project site is not within one of these safety zones. Impacts would be less than significant since this is a road widening project and would not include the construction of any habitable structures or air traffic hazards.

- f. *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?***

Alternatives 1 and 2—No Impact. The proposed project site is located within the vicinity of a private airstrip; however, it would not include the construction of any habitable structures. No impacts would occur.

- g. *Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?***

Alternatives 1 and 2—Less-than-Significant Impact. Emergency response and evacuation is the responsibility of the Riverside County Fire Department, Riverside County Sheriff's Department, and City of La Quinta Police Department. There are no designated emergency evacuation routes or location-specific goals or policies addressing emergencies that apply to the project site. Specific internal circulation descriptions, project related traffic increase, and potential effects to emergency response related traffic conditions are discussed in Section XVI, "Traffic and Circulation." As described, the project is not expected to generate traffic and would therefore not result in traffic impacts; as such, project related traffic would not impair implementation or interfere with an adopted emergency response plan or emergency evacuation plan.

- h. 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?***

Alternatives 1 and 2—No Impact. The proposed project site is located within an urban developed area and is not located within an identified wildland fire hazard area (RCLIS 2012). Vegetated areas include the nearby golf course. Alternatives 1 and 2 would not place any habitable structure or vulnerable facilities on site. Therefore, the proposed project would not expose people or structures to a significant risk of loss, injury, or death from wildfires.

IX. Hydrology and Water Quality	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding onsite or offsite?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j. Contribute to inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Would the project:

a. *Violate any water quality standards or waste discharge requirements?*

Alternatives 1 and 2—Less-than-Significant Impact. The project site is within the Whitewater River watershed, which is generally situated in Riverside County within the Coachella Valley Planning Area of the Colorado River Basin Regional Water Quality Control Board (RWQCB) (Colorado River Basin RWQCB, 2006). There are no streams, rivers, or groundwater replenishment facilities located near the project. The potential impacts of construction activities on water quality focus primarily on sediments, turbidity, and pollutants associated with sediments. Construction-related activities that expose and move soils are primarily responsible for sediment releases. The project includes removal of existing vegetation, site grading, soil preparation, and site trenching. These project activities could result in wind and rain erosion of the existing onsite soils and could increase the amount of suspended solids contained in storm flows due to erosion of exposed soils. Non-sediment potential contaminants that could enter water runoff from the construction site include paints, solvents, metals, oil, gasoline, petroleum products, concrete-related products, chemicals, and trash. All of these contaminants could contribute to the degradation of water quality.

The County would file a Notification of Intent with the State Water Resources Control Board 30 days prior to the start of construction for coverage under the state-wide NPDES permit for construction-related discharges. The contractor would prepare a SWPPP that sets forth the BMPs that would be implemented on site. Implementation of the SWPPP within the project site is monitored through site inspections by the Colorado River Basin RWQCB (Region 7). Upon completion of all work and the satisfactory stabilization of all disturbed soil area, a Notice of Completion of Construction must be sent to the Colorado River Basin RWQCB. The SWPPP would be required to meet or exceed measures required by the Construction General Permit. As a result, construction of the proposed project would result in less-than-significant impacts related to water quality standards.

According to the ISA, groundwater has been measured from the Coachella Valley Water District wells in the site vicinity at depths greater than 150 below ground surface (Kleinfelder West, Inc. 2009). Due to the depth of groundwater, no impacts on groundwater quality are anticipated. Therefore, no impacts related to groundwater quality would occur from implementation of the proposed project.

Following construction, the amount of impervious surface would increase slightly as the driveways and front yards of some of the residences north of Fred Waring Drive are paved over with the proposed stamped concrete under Alternative 1. Under Alternative 2, the area of impervious surfaces may decrease slightly following the removal of residences. Landscape maintenance following revegetation of exposed surfaces could require the use of water and chemicals (e.g., pesticides and nutrients) and could create gross debris (e.g., clippings). Although the rate and quantity of runoff would result in a slight change in the amount of impervious surface area, the project would have a low potential to impact surface water quality because the increase in runoff would not be considered substantial and the project would be required to incorporate post-construction BMPs. Therefore, Alternatives 1 and 2 would not violate any water quality standards or waste discharge requirements, or otherwise substantially degrade water quality, and impacts, if they occur, would be less than significant.

- b. *Substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted)?***

Alternatives 1 and 2—Less-than-Significant Impact. The Coachella Valley Water District relies on three sources of water to provide service to its customers: groundwater, recycled water, and imported water either through the State Water Project or from the Colorado River via the Coachella Canal, a branch of the All-American Canal. Drinking water comes from the Coachella Valley's own aquifer. This water is pumped from wells up to 1,200 feet deep and stored until needed in more than 50 enclosed reservoirs. From there it is delivered to more than 107,000 homes and businesses via a network of nearly 2,000 miles of distribution piping. To alleviate groundwater overdraft, Coachella Valley Water District and Desert Water Agency oversee various groundwater replenishment facilities within the Coachella Valley.

There are no streams, rivers, or groundwater replenishment facilities located near the project. The proposed project is located in an urban area and is surrounded completely by development, and stormwater discharge from the project would not flow into any groundwater recharge areas.

Following construction, the amount of impervious surface would increase slightly as the driveways and front yards of some of the residences north of Fred Waring Drive are paved over with the proposed stamped concrete under Alternative 1. The addition of paved roadway is not expected to substantially decrease groundwater recharge in the area due to the limited amount of new impervious area that would be constructed. Under Alternative 2, the area of impervious surfaces may decrease slightly following the removal of residences. Alternatives 1 and 2 would not involve the direct withdrawal of groundwater. The proposed project would involve improvements to an existing roadway and would not result in the substantial depletion of groundwater supplies or substantially interfere with groundwater recharge such that there would be net deficit in aquifer volume or lowering of the groundwater table. Impacts related to lowering the groundwater table and groundwater recharge would be less than significant.

- c. *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would result in substantial erosion or siltation on site or off site?***

Alternatives 1 and 2—Less-than-Significant Impact. As mentioned previously, the project site is not adjacent to or in the vicinity of any stream or river. The project would not alter the drainage pattern of the site or area through the alteration of the course of a stream or river, and does not have the potential to result erosion or siltation of any stream or river. As discussed above under IX.a., a required NPDES General Construction permit and a SWPPP would be required to address sediment control and flooding during construction activities. Storm drain improvements would be designed in consultation with the appropriate agencies. Impacts would be less than significant.

- d. *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in flooding on site or off site?***

Alternatives 1 and 2—Less-than-Significant Impact. Refer to IX.c. Construction of the proposed project would occur primarily on an existing roadway and alterations to the drainage pattern of the site would not occur since there are no existing rivers or streams in the vicinity of the project. The

project would construct onsite stormwater infrastructure to connect to the existing adjacent facilities and would not alter the existing drainage pattern or increase runoff in a manner that would result in flooding. Therefore, impacts would be less than significant.

e. Create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Alternatives 1 and 2—Less-than-Significant Impact. The proposed project would develop onsite drainage to direct stormwater to existing storm drains within the surrounding streets. Therefore, the project would result in less-than-significant impacts related to the capacity of existing and planned stormwater drainage systems. In addition, a NPDES General Construction permit and a SWPPP would be required to address sediment control during construction activities. Impacts related to polluted runoff would be less than significant.

f. Otherwise substantially degrade water quality?

Alternatives 1 and 2—Less-than-Significant Impact. As described in IX.a. through IX.e., the proposed project would result in less-than-significant short-term construction and long-term operational impacts to water quality. Construction impacts would be reduced through the implementation of BMPs identified in the SWPPP. Impacts would be less than significant.

g. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

Alternatives 1 and 2—No Impact. The proposed project site is not located within any type of flood zone (including a one-percent annual chance [100-year] flood hazard area) per Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) No. 06065C2232G, Riverside County Unincorporated Areas and Incorporated Areas, August 28, 2008 (FEMA 2008). In addition, the proposed project involves improvements to an existing roadway and would not place housing within a 100-year flood hazard area; therefore, no impacts would occur.

h. Place within a 100-year flood hazard area structures that would impede or redirect flood flows?

Alternatives 1 and 2—No Impact. As discussed in IX.g., the project site is not located within a one-percent annual chance (100-year) flood hazard area as mapped on the FEMA FIRM for the area. No impacts related to a one-percent annual chance (100-year) flood hazard areas would occur with implementation of the proposed project.

i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

Alternatives 1 and 2—No Impact. Implementation of the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam. The project site is not located within the flood inundation zone or within a one-percent annual chance (100-) or 0.2-percent annual chance (500-) year flood zone. As such, the proposed project would not result in any impacts related to exposure of people or structures to a significant risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam.

j. Contribute to inundation by seiche, tsunami, or mudflow?

Alternatives 1 and 2—No Impact. The proposed project site is located over 90 miles away from the Pacific Ocean and is considered too far away to be subject to a tsunami; therefore, the project would not result in impacts related to potential tsunami inundation.

A seiche is a surface wave created when a body of water is shaken, usually by earthquake activity. Seiches are of concern relative to water storage facilities because inundation from a seiche can occur if the wave overflows a containment wall, such as the wall of a reservoir, water storage tank, dam, or other artificial body of water (City of La Quinta 2009). Flood control and reservoir facilities that experience seiching could pose a threat to nearby development by failing and inundating developed lands. Lake Cahuilla and recharge basins southeast of Lake Cahuilla have the potential of seiching (City of La Quinta 2009). However, Lake Cahuilla and the recharge basins are more than seven miles from the project site. Therefore, due to the distance from the project site to these water storage facilities, there would be no impact to the project site as a result of overflow caused by a seiche.

The project site is located within a fully developed area, and on a site with limited topographical relief. The project site is not located downhill from any slope of sufficient size to cause mudflows. Therefore, the project would not result in impacts associated with mudflows.

X. Land Use and Planning	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Would the project:

a. Physically divide an established community?

Alternatives 1 and 2—Less-than-Significant Impact. The surrounding land uses consists of suburban residential lots and some vacant and open space parcels. The existing residential developments along the north and south side of Fred Waring Drive consist of developed single-family residential tracts. There is no direct access to Fred Waring Drive from the developments on the south except for a local street serving the tract west of Dune Palms Road. Access to each lot on the north side is provided by driveways on Fred Waring Drive or on the intersecting streets at Chapelton Drive, Old Harbor Drive, or Port Maria Road. Because Fred Waring Drive is an existing roadway and is surrounded by residences to the south, no physical division would be created by the proposed roadway widening improvements.

Under Alternative 1, a new raised median would be constructed and would provide left-turn pockets at Adams Street, Dune Palms Road, and Chapelton Drive, as well as at the La Quinta Palms development just west of Dune Palms Road. The curb on the north side of the median would be elevated to be consistent with the new roadway profile. Access to the westbound lanes from the La Quinta Palms development would require residents to make a right turn onto the eastbound lanes and a U-turn at Dune Palms Road. Additionally, the existing eastbound left turn movement to Old Harbour Drive would be closed by the extension of the existing median from the east. Access from the eastbound direction to Old Harbour Drive and Port Maria Road would require a U-turn at Calle Esplanade. Traffic signal modifications at Dune Palms Road would be required to accommodate the new lane locations on the north side. At Adams Street, minor modifications (i.e., adjustment of signal heads) may be necessary in order to be consistent with the new lane configuration.

A new deceleration lane (ranging in width from 12 to 21 feet) would be located along the north side of the roadway to provide space for mail delivery vehicles and room for residents to enter and exit their driveways safely. Parking would be permitted within this new lane. The deceleration lane would be constructed of colored concrete to distinguish it from the three westbound travel lanes.

Under Alternative 2, a new 14-foot raised median would provide left-turn pockets at Adams Street and Dune Palms Road. The raised medians would eliminate left turn moves in and out of Chapelton Drive, the access to La Quinta Palms development and Old Harbour Drive. Traffic signal modifications at Dune Palms Road would be required to accommodate the new lane locations on the north side. The northern edge of the roadway would be extended to provide three westbound travel lanes, an eight-foot bike lane, a nine-foot parkway, and a 20-foot sidewalk easement. The acquisition of all residences located immediately north of Fred Waring Drive between Adams Street and Port Maria Road would be required in order to construct the proposed improvements. No right-of-way acquisition would be required on the south side of the roadway.

Implementation of Alternatives 1 and 2 would not diminish access to or the ability to use adjacent residential lots, vacant land, and open spaces, nor would the project physically divide an established community. As mentioned previously, turn movements into and out of some of the neighborhoods may be restricted due to the new median; however, traffic would be redirected and access to neighboring residences would continue to be provided by completing U-turns or using the new turn pockets. These minor changes would not have a significant impact to the existing access to the neighboring residences; therefore, impacts are considered less than significant.

- b. *Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?***

Alternatives 1 and 2—No Impact. The County of Riverside's General Plan Circulation Element designates Fred Waring Drive as an Urban Arterial. Urban Arterials are highways primarily used for through traffic where anticipated traffic volumes exceed four-lane capacity. Access from other streets or highways occurs at approximately 0.25-mile intervals. Urban Arterials are identified as having six or eight lanes with an overall right-of-way width of 152 feet.

The proposed project would widen the existing roadway from four to six lanes to be consistent with the City and County General Plans, which call for a six-lane arterial. The proposed improvements are within the County and City standards of an Urban Arterial and Major Arterial roadway. Therefore, the project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, a general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

- c. *Conflict with any applicable habitat conservation plan or natural community conservation plan?***

Alternatives 1 and 2—No Impact. The project is located within the Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP). The proposed project is listed as a covered project within the Washington Street to Jefferson Street project. The proposed project would be required to comply with measures described in Section 4.4 of the CVMSHCP, as applicable to projects that lie outside conservation areas. Alternatives 1 and 2 would not conflict with any applicable habitat conservation plan or natural community conservation plan adopted for the area; therefore, no impacts would occur.

XI. Mineral Resources	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Would the project:

- a. *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

Alternatives 1 and 2—No Impact. The entire project site and surrounding areas are within a “[Mineral Resource Zone] MRZ 3a” zone, defined as areas where the available geologic information indicates that mineral deposits are likely to exist; however, the significance of the deposit is undetermined. Mineral resources are not expected to be located within the anticipated direct impact area associated with the proposed project due to the developed nature of the project site and surrounding areas. Therefore, no impacts on mineral resources are anticipated.

- b. *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

Alternatives 1 and 2—No Impact. There are no mineral resource recovery sites identified on or adjacent to the project study area; therefore, no impacts on mineral resources are anticipated.

XII. Noise	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Expose persons to or generate noise levels in excess of standards established in a local general plan or noise ordinance or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Expose persons to or generate excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Be located within an airport land use plan area, or, where such a plan has not been adopted, within two miles of a public airport or public use airport and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Be located in the vicinity of a private airstrip and expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

The information in this section was derived from the Technical Noise Report for the Fred Waring Drive Improvement project (May 2012).

Existing Conditions at Project Site

The surrounding land uses consists of suburban residential lots, some vacant lots, and retail/commercial. The existing residential developments along the south side of Fred Waring Drive consist of developed single-family residential tracts.

The residential properties on the north side of Fred Waring Drive are individually developed with single family residences. Most of the properties on the north side of Fred Waring Drive just west of Chapelton Drive to Dune Palms Road are situated up to approximately five feet higher than the adjacent roadway. The four or five lots immediately east of Adams Street and the lots east of Dune Palms Road are generally even with the adjacent road grade. Access to each lot on the north side is provided by driveways on Fred Waring Drive or on the intersecting streets at Chapelton Drive, Old Harbor Drive, or Port Maria Road.

Short-term (one hour or less) attended and long-term (24 hour) sound level measurements were conducted on August 12 and 13, 2009, in the project vicinity in order to establish the existing baseline noise conditions and for use in calibrating the noise model. Short-term noise measurements

were conducted at four locations and long-term noise measurements were conducted at two locations representative of adjacent residential land uses, as shown in Figure 3-1, Noise Measurement and Modeling Locations.

The predominant noise sources during the field measurements consisted of traffic, distant typical neighborhood ambient noise, and distant aircraft. The results of the sound level measurements are summarized in Table 3-6, Short-Term Sound Level Measurement Results. As shown in Table 3-6, measured short-term noise levels reflected in the L_{eq} column in Table 3-6 ranged from approximately 55 dBA L_{eq} (ST-1) to 59 dBA L_{eq} (ST-3) (when rounded to the nearest whole number).

Table 3-6. Short-Term Sound Level Measurement Data

Site ID	Location	Measurement Period			Distance to Centerline (feet)	Noise Sources	Noise Measurement Results (dBA)					
		Date	Start Time	Duration (mm:ss)			L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}
ST-1	44060 Mariposa Court	8-12-09	12:00	15:00	125	Traffic, fountain in distance	54.5	63.2	49.4	50.4	55.4	57.3
ST-2	Lot between 79170 and 79190 Fred Waring Drive	8-12-09	13:30	15:00	90	Traffic, distant aircraft	58.2	68.2	47.2	50.1	56.9	61.7
ST-3	44035 Camino Azul	8-12-09	14:15	15:00	170	Traffic, distant HVAC unit	58.9	72.1	49.8	52.7	56.7	61.8
ST-4	79475 Horizon Palms Circle	8-12-09	15:15	15:00	150	Traffic, rustling leaves	57.2	68.0	51.1	53.2	56.2	59.7

The long-term sound level data was collected over a period beginning Wednesday, August 12, 2009, and ending Thursday, August 13, 2009. The long-term monitoring locations are shown in Figure 3-1.

Changes in traffic noise levels resulting from the project were predicted by the use of FHWA's Traffic Noise Model (TNM®). The TNM® is FHWA's computer program for highway traffic noise prediction and analysis. The most current version of TNM® (Version 2.5) was used for this project. The parameters used to estimate vehicular traffic noise were roadway, receiver, barrier, and topographical geometry in three dimensions; existing and Year 2035 peak-hour traffic volumes and posted speed limits; percentages of automobiles, medium trucks, and heavy trucks; and site conditions (terrain or structural shielding and ground propagation characteristics). The receptor locations were chosen with the goal of achieving a representative sampling of private, exterior noise-sensitive land uses (i.e., side-yard and / or rear-yard). The validity of the noise model was verified using traffic count and noise data collected during the noise measurements. Existing and Year 2035 peak-hour traffic volumes and vehicle mix were based upon the traffic report that was prepared for the project (Urban Crossroads 2009). The vehicle traffic mix uses were as follows: autos 97.9 percent, medium trucks 1.8 percent, and heavy trucks 0.3 percent.

Regulatory Background: Noise Standards and Thresholds of Significance

The area on the south side of Fred Waring Drive is under the jurisdiction of the City of La Quinta, while the area to the north is under the jurisdiction of the County of Riverside. Although noise from

motor vehicle traffic is regulated by state and federal regulations, the City of La Quinta and County of Riverside have established maximum acceptable noise levels for land uses within their jurisdictions, for the purposes of land use compatibility planning and code enforcement. Program 1.1 of the City of La Quinta Noise Section (contained in the Environmental Hazards Section of the City of La Quinta's General Plan) and Policy N1.3 of the County of Riverside's General Plan specify the maximum acceptable noise levels for residential land uses in the City and County. Exterior noise levels for both jurisdictions are limited to a weighted, 24-hour average noise level of 65 dBA community noise equivalent level (CNEL).

Would the project:

- a. *Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Alternatives 1 and 2—Less-than-Significant Impact with Mitigation Incorporated. Impacts related to construction and operation of the proposed project are discussed separately below.

Construction

Construction activities related to development of the project would occur over approximately five to six months, as described in Chapter 2, Project Description. Construction activities would cause short-term elevated noise levels at the surrounding residences. Construction related noise would occur with the inclusion of construction equipment such as concrete mixers, bulldozers, backhoes, and heavy trucks. Table 3-7 below reflects noise levels for construction equipment that would be representative of equipment used on the project site.

Table 3-7. Typical Construction Noise Levels

Equipment	Noise Levels at 15 meters
Front End Loader	85 dBA
Bulldozer	85 dBA
Backhoe	80 dBA
Water Truck (or other heavy truck)	88 dBA
Generator	81 dBA
Concrete Mixer	85 dBA
Tamper/Roller	75 dBA
Paver	87 dBA

Source: Federal Transit Agency (FTA), Transit Noise and Vibration Impact Assessment (1995) and EPA, Noise from Construction Equipment and Operations, Building Equipment and Home Appliances (1971).

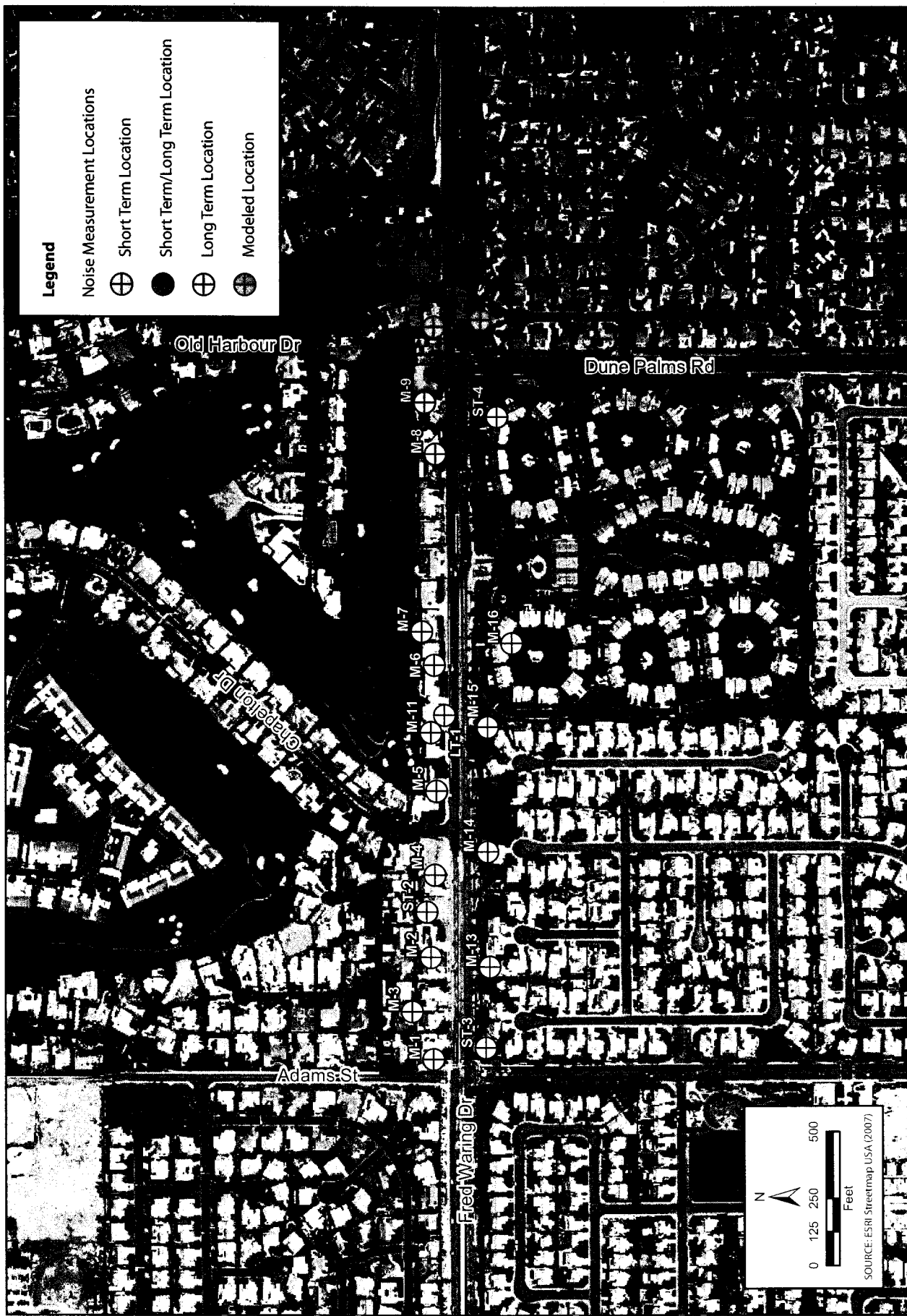


Figure 3-1
Noise Measurement and Modeling Locations
Fred Waring Drive Improvement Project

Based on the types of construction activities and equipment required for the proposed project, noise levels at 15 meters (50 feet) from the center of construction activities would generally range from 80 to 85 dBA during peak periods. Because not all of the equipment would be operating at the same time or for the entire day, the $L_{eq}(h)$ from project construction would be substantially lower. In addition, any increase in the background noise level due to project construction would be temporary. Significant noise impacts would be avoided by the limitation of noise-generating construction activity to within the hours permitted by City of La Quinta municipal code (i.e., 8:00 a.m. to 4:30 p.m.)³. In addition, measure **NOI-1**, which requires implementation of noise control measures, is provided to reduce construction noise levels to a less-than-significant level.

Measure NOI-1: Construction noise would be temporary and limited to the duration of the construction. The following noise control measures will also be incorporated into the project contract specifications in order to minimize construction noise effects:

- All noise-producing project equipment and vehicles using internal combustion engines will be equipped with mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition that meet or exceed original factory specification. Mobile or fixed "package" equipment (e.g., arc-welders, air compressors) will be equipped with shrouds and noise control features that are readily available for that type of equipment.
- All mobile or fixed noise-producing equipment used on the project that is regulated for noise output by a local, state, or federal agency will comply with such regulation while in the course of project activity.
- Electrically powered equipment will be used instead of pneumatic or internal combustion powered equipment, where feasible.
- Material stockpiles and mobile equipment staging, parking, and maintenance areas will be located as far as practicable from noise-sensitive receptors.
- Construction site and access road speed limits will be established and enforced during the construction period.
- The hours of construction, including noisy maintenance activities and all spoils and material transport, will be restricted to the periods and days permitted by the local noise or other applicable ordinance. Noise-producing project activity will comply with local noise control regulations affecting construction activity or obtain exemptions therefrom.
- The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only.
- No project-related public address or music system will be audible at any adjacent receptor.
- The onsite construction supervisor will have the responsibility and authority to receive and resolve noise complaints. A clear appeal process to the owner will be established prior to

³ Section 6.08.050 of the City's Municipal Code prohibits noise-producing construction activities between the weekday hours of 5:30 p.m. and 7 a.m. October 1st through April 30th (7 p.m. and 6 a.m. May 1st through September 30th). Construction on arterial roadways is prohibited between the hours of 4:30 p.m. and 8 a.m. The County's enforcement code (Ordinance No. 847) exempts construction noise from capital improvement projects of a governmental agency. However, the County imposes restrictions on permissible hours of construction activity to prevent and/or mitigate the generation of excessive noise or adverse impacts on surrounding areas. The restricted hours are between 7:00 PM and 7:00 AM on weekdays or between 5:00 PM and 8:00 AM on Saturday, or anytime on Sunday's or federal holidays.

construction commencement that will allow for resolution of noise problems that cannot be immediately solved by the site supervisor.

Operation

Project-Related Traffic Noise. The Traffic Memorandum prepared for the proposed project (Appendix B) was used to determine potential traffic impacts from the proposed project (Urban Crossroads 2009). Existing and Year 2035 peak-hour traffic volumes and the following vehicle mix were used: autos 97.9 percent, medium trucks 1.8 percent, and heavy trucks 0.3 percent. Operational traffic noise for the proposed project was analyzed using the TNM model and analyzing 20 different modeled receivers under existing traffic conditions and comparing representative existing noise levels to 2035 Build Alternatives 1 and 2 build out traffic noise conditions. Table 3-8 shows modeled receptors and the representative noise levels under existing and future build out conditions for Alternatives 1 and 2.

Noise modeling shows that five sensitive receivers (receivers ST-3, M-13, M-14, M-15, and ST-4) would exceed the City and County's 65 dBA CNEL threshold. Figure 3-1 shows the location of modeled receivers throughout the project site.

Table 3-8. Modeled Exterior Traffic Noise Levels

Receiver	Location (North side/ south side of Fred Waring Drive)	dBA CNEL			Change in noise level compared to existing (dB)			65 dBA CNEL standard exceeded?			
		Existing	Alt 1	Alt 2	Alt 1	Alt 2	Alt 3 (Future No-Build)	Existing	Alt 1	Alt 2	Alt 3 (Future No-Build)
M-1	North Side	60	62	n/a	2	n/a	2	No	n/a	n/a	No
M-2	North Side	58	61	n/a	3	n/a	2	No	n/a	n/a	No
M-3 (2nd Row)	North Side	54	58	57	4	3	3	No	No	No	No
M-4	North Side	61	64	n/a	3	n/a	3	No	n/a	n/a	No
M-5	North Side	58	60	n/a	2	n/a	2	No	n/a	n/a	No
M-6	North Side	56	59	n/a	3	n/a	3	No	n/a	n/a	No
M-7	North Side	47	49	n/a	2	n/a	2	No	n/a	n/a	No
M-8	North Side	58	60	n/a	2	n/a	2	No	n/a	n/a	No
M-9	North Side	54	56	n/a	2	n/a	2	No	n/a	n/a	No
M-10	North Side	57	59	n/a	2	n/a	2	No	n/a	n/a	No
M-11	North Side	61	64	n/a	3	n/a	3	No	n/a	n/a	No
M-12	North Side	46	49	n/a	3	n/a	3	No	n/a	n/a	No
ST-3	South Side	65	68	68	3	3	3	No	Yes	Yes	Yes
M-13	South Side	66	69	69	3	3	3	Yes	Yes	Yes	Yes
M-14	South Side	66	69	69	3	3	3	Yes	Yes	Yes	Yes
M-15	South Side	67	70	69	3	2	2	Yes	Yes	Yes	Yes
M-16	South Side	54	58	57	4	3	3	No	No	No	No
ST-4	South Side	63	66	66	3	3	3	No	Yes	Yes	Yes
M-17	South Side	63	65	65	2	2	2	No	No	No	No
ST-1 / LT-2	North Side	61	63	63	2	2	3	No	No	No	No

Note: Bolded noise level indicates that the City of La Quinta and County of Riverside's 65 dBA CNEL planning standard for residential land use is exceeded. n/a—not applicable. Receiver would no longer exist in this location under Alternative 2.

Without noise abatement, future noise levels in the project area are predicted to exceed the City and County planning standard of 65 dBA CNEL for noise compatibility of residential land uses under Alternatives 1 and 2. Noise exceedances would occur at five of the 20 modeled receivers under either Build Alternative 1 or 2. Specifically, the traffic noise levels would be exceeded at the following receivers (all located on the eastbound [south] side of Fred Waring Drive); receivers ST-3, M-13, M-14, M-15, and ST-4. Similarly, under the No-Build Alternative, the 65 dBA CNEL planning standard would be exceeded at the same five of the 20 modeled receptors. Because either Build Alternative 1 or 2 would result in significant increases in noise or result in exceedances of noise standards, measure **NOI-2** is recommended for the operational phase of the project.

The reduction in traffic noise levels resulting from construction of sound walls at receivers impacted by the project was predicted by the use of TNM® Version 2.5. Existing walls along the southern side of Fred Waring Drive in the project area vary in height. From Adams Street east to Dune Palms Road, the effective wall heights are 5 to 5.5 feet. From Dune Palms Road east the wall heights are from 5.5 to 7 feet. In an attempt to reduce noise levels to below the 65 dBA CNEL threshold of significance, sound walls six to eight feet in height were analyzed in one-foot increments (refer to Table 3-9). Analyzed walls were located at the top-of-slope/right-of-way, which is the same location as the existing property-line walls. As Table 3-9 shows, the construction of walls below eight feet would result in traffic noise levels in excess of the 65 dBA CNEL planning standard, while wall heights of eight feet would not exceed the standard. Therefore, soundwall heights of eight feet are recommended at the locations shown in Figure 3-2, Recommended Sound Wall Locations.

Table 3-9. Sound Wall Analysis Results

Receiver	Existing Noise Level (dBA CNEL)	Predicted Traffic Noise Level (dBA CNEL) with Soundwalls			Noise Reduction from Soundwall (dB)		
		6 feet	7 feet	8 feet	6 feet	7 feet	8 feet
ST-3	68	67	65	65	1	3	3
M-13	69	68	66	65	1	3	4
M-14	69	68	66	65	1	3	4
M-15	70	68	67	65	2	3	5
M-16	58	57	57	56	1	1	2
ST-4	66	65	64	63	1	2	3

Inclusion of recommended walls as shown in Figure 3-2, Recommended Sound Wall Locations, would reduce impacts from operational traffic noise to below the 65 dBA CNEL threshold; therefore with inclusion of the recommended sound walls, project impacts would be less than significant. No receivers exceeded the City and County planning standard of 65 dBA on the north side of Fred Waring Drive; therefore, a sound wall would not be needed.

Measure NOI-2: Construct eight-foot sounds walls at the locations as identified in Figure 3-2, Sound Wall Locations.



Figure 3-2
 Recommended Soundwall Locations
 Fred Waring Drive Improvement Project

b. *Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?*

Alternatives 1 and 2—Less-than-Significant Impact with Mitigation Incorporated. Any groundborne noise or vibration would be limited to the construction period and would be short in duration. Significant noise impacts would be avoided by the limitation of noise-generating construction activity to within the hours permitted by City of La Quinta municipal code (i.e., 8:00 a.m. to 4:30 p.m.). In addition, measure **NOI-1**, which requires implementation of noise control measure, would be implemented in order to minimize construction noise impacts.

The proposed project does not involve changes that would result in noticeable increases in groundborne vibration or groundborne noise levels from use or maintenance of the roadway when compared to the No-Build Alternative. Once the project is completed, long-term increases in noise levels from use or maintenance of the roadway would be less than significant.

c. *A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?*

Alternatives 1 and 2—Less-than-Significant Impact with Mitigation Incorporated. Alternatives 1 and 2 could potentially result in a permanent increase in ambient noise levels in the project vicinity above noise thresholds set by the City and County. As stated in XII.a. above, five of the modeled receivers would exceed the 65 dBA CNEL threshold established by the City and County. Table 3-9 shows sound walls ranging in height from six to eight feet in height. An eight-foot wall would provide shielding to affected receptors and would reduce noise levels below the City and County's threshold. Therefore, with the inclusion of the recommended eight foot walls (measure **NOI-2**), impacts would be less than significant.

d. *A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?*

Alternatives 1 and 2—Less-than-Significant Impact with Mitigation Incorporated. Alternatives 1 and 2 could potentially result in a temporary increase in ambient noise levels in the project vicinity associated with construction of the proposed project. As shown in Table 3-7 above in XII.a., construction equipment noise levels range from 77 to 87 dBA. Based on the types of construction activities and equipment required for the proposed project, noise levels at 15 meters (50 feet) from the center of construction activities would generally range from 80 to 85 dBA during peak periods. Because not all of the equipment would be operating at the same time or for the entire day, the $L_{eq}(h)$ from project construction would be substantially lower. In addition, any increase in the background noise level due to project construction would be temporary. Significant noise impacts would be avoided by the limitation of noise-generating construction activity to within the hours permitted by City of La Quinta municipal code (i.e., 8:00 a.m. to 4:30 p.m.). Additionally, implementation of measure **NOI-1** would reduce noise from construction activities to the extent practicable; therefore, impacts would be considered less than significant.

e. *For a project located within an airport land use land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

Alternatives 1 and 2—No Impact. The proposed project site is located within a two-mile radius of a private airport; however, no habitable structures are proposed as part of Alternatives 1 and 2. Therefore, no noise impacts related to air traffic are expected. No impacts would occur.

- f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?*

Alternatives 1 and 2—No Impact. The proposed project site is located in the vicinity of a private airstrip; however, no habitable structures are proposed as part of Alternatives 1 and 2. Therefore, no impacts would occur.

XIII. Population and Housing	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Displace a substantial number of existing housing units, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Displace a substantial number of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Would the project:

- a. *Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure)?*

Alternatives 1 and 2—No Impact. Alternatives 1 and 2 consist of improvements to an existing roadway and are not expected to induce unplanned growth beyond that which is already anticipated by the City and County General Plans. Impacts would not occur.

- b. *Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?*

Alternative 1—No Impact. Alternative 1 would not displace existing housing. Reconstruction of driveways, fences, walls, and front yard improvements would be performed under construction easements or right-of-entries. No impacts would occur since no acquisition of homes is proposed under this alternative.

Alternative 2—Less-than-Significant Impact. Alternative 2 would require the acquisition of 24 residences on the north side of Fred Waring Drive between Adam Street and Port Maria Road. No new right-of-way would be required on the south side of the roadway. A review of real estate listings for a 5-mile radius around the project site indicates that there is sufficient comparable housing within the City of La Quinta and neighboring community of Bermuda Dunes to accommodate the anticipated displacements (Trulia 2012). Since comparable housing is available within reasonable proximity to the project site, the construction of replacement housing would not be needed; therefore, impacts are considered less than significant. CEQA requires conformance to the California Relocation Assistance Act (California Act), which is similar to the Uniform Relocation Assistance and Real Property Acquisition Policies Act (Uniform Act) of 1970. It ensures consistent and fair treatment of owners, expedited acquisition of property by agreement to avoid litigation, and promotion of confidence in the public land acquisitions process. The proposed project will be conducted in compliance with the California Relocation Assistance Act.

c. *Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?*

Alternative 1—No Impact. Alternative 1 would not displace existing housing. Reconstruction of driveways, fences, walls, and front yard improvements would be performed under construction easements or right-of-entries. No impacts would occur since no acquisition of homes is proposed under this alternative.

Alternative 2—Less-than-Significant Impact. Alternative 2 would require the acquisition of 24 residences on the north side of Fred Waring Drive between Adam Street and Port Maria Road. No new right-of-way would be required on the south side of the roadway. A review of real estate listings for a five mile radius around the project site indicates that there is sufficient comparable housing within the City of La Quinta and neighboring community of Bermuda Dunes to accommodate the anticipated displacements (Trulia 2012). Since comparable housing is available within reasonable proximity to the project site, the construction of replacement housing would not be needed; therefore, impacts are considered less than significant. As mentioned previously, the proposed project will be conducted in compliance with the California Relocation Assistance.

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XIV. Public Services				
Would the project:				
a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities or a need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:				
1. Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Discussion

Would the project result in substantial adverse physical impacts associated with:

a1. Fire protection?

Alternatives 1 and 2—Less-than-Significant Impact. Fire protection service is provided by the Riverside County Fire Department. The closest station to the project site is Station 93 (North La Quinta) located at 44555 Adams Street, approximately 0.25 south of the project site. During the six month construction period, traffic would be shifted to one lane in each direction for approximately three months to make room for construction of the new pavement along the north side of Fred Waring Drive. This partial lane closure could affect the response times for fire service providers; however, access would continue to be provided along Fred Waring Drive and there are enough alternative access routes that fire services providers would still have ample access to all areas of the City and neighboring communities. Project construction activities would be temporary in duration and would not likely have effects that are substantially different than the same types of nuisance-like effects associated with typical construction activities in Southern California. In order to minimize potential impacts to response times, a construction-period traffic management plan (TMP) (see measure TRF-1 in XVI.e.), which is prepared for all County roadway projects, would be prepared to inform the community and public services providers about project construction activities. The TMP would also ensure that access is maintained to and from the project area during construction and is expected to satisfactorily minimize potential impacts. Impact would be less than significant.

The proposed project involves improvements to an existing roadway. The proposed project would not result in an increase in population, and thus would not increase demand for community services. No fire stations would be acquired or displaced and therefore, there would be no new demand for fire services. The proposed project would not induce growth or increase population in the study

area or the greater community beyond that which has been previously planned for and would not result in the need for additional fire protection. No impacts from operation of the proposed project would occur. The improved roadway would likely improve emergency access through the project area, which would be a beneficial impact.

a2. Police protection?

Alternatives 1 and 2—Less-than-Significant Impact. The City of La Quinta has recently elected to create its own Police Department, with the assistance of the Riverside County Sheriff's Department (City of La Quinta Police 2012). There are two stations within the City and the nearest station to the project site is the Business District Station located at 79-440 Corporate Center Drive, in the City of La Quinta. The Riverside County Sheriff's Department also provides crime protection to the community of Bermuda Dunes. As mentioned previously in XIV.a., the partial lane closure could affect the response times for police service providers; however, access would continue to be provided along Fred Waring Drive and there are enough alternative access routes that police services providers would still have ample access to all areas of the City and neighboring communities. In addition, implementation of a construction-period TMP (measure TRF-1 in XVI.e.), which is prepared for all County roadway project, would ensure that access is maintained to and from the project area and that the police service providers are notified prior to the start of construction activities. Impact would be considered less than significant.

As mentioned previously, the proposed project would not induce population growth in the area beyond that which has been previously planned for and would not result in the need for additional police protection. No impacts from operation of the proposed project would occur. The improved roadway would likely improve emergency access through the project area, which would be a beneficial impact.

a3. Schools?

Alternatives 1 and 2—Less-than-Significant Impact. School services are provided by the Desert Sands Unified School District for students west of Jefferson Street and north of Avenue 48, and by the Coachella Valley Unified School District for students east of Jefferson Street and south of Avenue 48. There are two school bus stops for James Monroe Elementary located along this segment of Fred Waring Drive (Desert Sands Unified School District 2012). Construction activities would result in temporary, localized, site-specific disruptions to the local schools in the proposed project area, primarily related to construction-related traffic changes from trucks and equipment in the area, partial street and lane closures, increased noise and vibration, lighting, and increases in fugitive dust. The lane closure may result in slightly longer travel distances and travel times for school buses; however, there are enough alternative access routes in the surrounding neighborhoods to reach local schools. In addition, implementation of the TMP (measure TRF-1 in XVI.e.), which is prepared for all County roadway projects would ensure that access is maintained to and from the project area and that local schools are notified prior to the start of construction activities. Construction activities may also affect the walking routes along Fred Waring Drive; however, there are enough alternative pedestrian access routes in the surrounding neighborhoods that can also be used by students to reach local schools. The proposed project would include standard safety measures in compliance with County design standards to ensure pedestrians are protected from nearby construction activities. Impacts would be less than significant.

As mentioned previously, the proposed project would not induce population growth in the area beyond that which has been previously planned and would not result in the need for a new or physically altered school. No impacts from operation of the proposed project are anticipated.

a4. Parks?

Alternatives 1 and 2—No Impact. There are no parks or recreational facilities within the project limits. The Bermuda Dunes Golf Course is located north of the project site, outside of the construction limits. No impacts to park from construction of the project would occur. The proposed project would not induce population growth in the area beyond that which has been previously planned for or would necessitate the need for new or physically altered park. No impacts from operation of the proposed project would occur.

a5. Other public facilities?

Alternatives 1 and 2—Less-than-Significant Impact. Construction activities would result in temporary, localized, site-specific disruptions to the local community facilities and services in the proposed project area, primarily related to construction-related traffic changes from trucks and equipment in the area, partial lane closures, increased noise and vibration, lighting, and increases in fugitive dust. Because the project construction activities would be temporary in duration (five to six months) and would not likely have effects that are substantially different than the same types of nuisance-like effects associated with typical construction activities in Southern California, impacts would be considered less than significant.

The proposed project would not result in the generation of residents on the project site. As a result the proposed project would not result in substantial adverse physical impacts associated with the provision of any other public services, such as library services, and would not require new or physically altered governmental facilities, in order to maintain acceptable service ratios, response times, or other performance objectives for any other public facilities not discussed above.

XV. Recreation	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Would the project:

- a. *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

Alternatives 1 and 2—No Impact. There are no parks or recreational facilities within the project limits. The Bermuda Dunes Golf Course is located north of the project site, outside of the construction limits. Alternatives 1 and 2 would not result in the increased use of any existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would be accelerated. Impacts would not occur.

- b. *Include recreational facilities or require the construction of or expansion of recreational facilities that might have an adverse physical effect on the environment?*

Alternatives 1 and 2—No Impact. Alternatives 1 and 2 do not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Impacts would not occur.

XVI. Transportation/Traffic	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
Would the project:				
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

The information in this section was derived from the *Traffic Impact Memorandum* for the Fred Waring Drive Improvement project (2009 and 2012).

Discussion

Would the project:

- a. ***Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?***

Alternatives 1 and 2—Less-than-Significant Impact. Traffic Studies were prepared for the proposed project documenting the existing (2009), Opening Year (2013) and Horizon Year (2035)

(Urban Crossroads 2012 and 2009). A “No-Build”, in addition to the two build alternative scenarios were evaluated for Opening Year (2013) conditions and Horizon Year (2035).

The intersection analysis locations include all Riverside County General Plan Circulation Element facilities in the study area. The intersection analysis locations have been reviewed and approved by the local responsible agency (County of Riverside). A total of three intersections have been analyzed. Intersection turning movement counts have been collected by vehicle classification (i.e., passenger vehicles, 2-axle trucks, 3-axle trucks, and 4+axle trucks) at the intersections listed below:

- Adams Street (north-south [NS]) at Fred Waring Drive (east-west [EW])
- Dune Palms Road (NS) at Fred Waring Drive (EW)
- Jefferson Street (NS) at Fred Waring Drive (EW)

Opening Year (2013) No-Build traffic volumes have been based on straight line growth interpolation between the Existing (2009) traffic volumes and the Horizon Year (2035) No-Build traffic volumes.

Traffic Operations Analysis

Intersection capacity analyses were performed using the 2000 Highway Capacity Manual (HCM) methodology. The computer software program, Traffix, used to calculate the intersection delay values and resulting Levels of Service (LOS). Traffix is a traffic analysis software that is capable of performing intersection delay analyses using various methodologies, including the HCM method.

HCM defines LOS as a qualitative measure which describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate LOS conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted.

The definitions of LOS for uninterrupted flow (flow unrestrained by the existence of traffic control devices) are:

- LOS “A” represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.
- LOS “B” is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.
- LOS “C” is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.
- LOS “D” represents high-density but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.
- LOS “E” represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.
- LOS “F” is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations.

The definitions of LOS for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control. The LOS is typically dependent on the quality of traffic flow at the intersections along a roadway. The HCM methodology expresses the LOS at an intersection in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control. The LOS for the proposed project was determined using the HCM methodology.

For signalized intersections, average total delay per vehicle for the overall intersection is used to determine LOS. LOS at the signalized study area intersection have been evaluated using an HCM intersection analysis program. The intersection LOS are defined for the various analysis methodologies as follows:

Table 3-10. Signalized Intersections Level of Service (LOS Thresholds)

Levels of Service	Average Total Delay Per Vehicles (Seconds)
A	0 to 10.00
B	10.01 to 20.00
C	20.01 to 35.00
D	35.01 to 55.00
E	55.01 to 80.00
F	80.01 and up

2009 Existing Conditions

Table 3-11 summarizes the peak hour intersection operations analysis results for Existing (2009) conditions. The data used in this analysis reflect Existing (2009) traffic volumes and existing intersection lane configurations. As indicated in Table 3-11, all of the study area intersections are currently operating at an acceptable LOS, which is considered to be LOS “D” or better.

Table 3-11. Existing (2009) Conditions Intersection Analysis Summary

ID	Intersection	Delays ¹ (sec)		LOS	
		AM	PM	AM	PM
1	Adams Street (NS) at Fred Waring Drive (EW)]	42.1	38.4	D	D
2	Dune Palms Road (NS) at Fred Waring Drive (EW)	30.7	21.7	C	C
3	Jefferson Street (NS) at Fred Waring Drive (EW)	33.1	31.2	C	C

¹ Delay and level of service calculated using the following analysis software: Traffix (Version 8.0 R1, 2008) for signalized and unsignalized intersections.

Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control.

Source: Urban Crossroads, Inc. 2012,

Opening Year (2013) No-Build and Build Conditions

Table 3-12 summarizes the peak hour intersection operations analysis results for Opening Year (2013) No-Build conditions. The analysis results indicate that all of the study area intersections would operate at an acceptable LOS.

The peak hour intersection operations analysis results for Opening Year (2013) Build conditions is also shown in Table 3-12. The analysis results indicate that all intersections would operate at

acceptable LOS "D" or better. The proposed improvements would generally result in a reduction in delay at the various intersections. The only exception is the PM peak hour at the intersection of Dune Palms Road (NS) at Fred Waring Drive (EW). Delay increases slightly at this location due to the increase in pedestrian minimum green times that would be required in association with the widening of Fred Waring Drive. The Build condition is applicable to both Build Alternatives 1 and 2.

Table 3-12. Opening Year (2013) Build and No-Build Conditions Intersection Analysis Summary

ID	Intersection	No-Build		Build					
		Delays ¹ (sec)		LOS		Delays ¹ (sec)		LOS	
		AM	PM	AM	PM	AM	PM	AM	PM
1	Adams Street (NS) at Fred Waring Drive (EW)	44.2	41.3	D	D	38.6	38.9	D	D
2	Dune Palms Road (NS) at Fred Waring Drive (EW)	34.4	23.8	C	C	23.7	25.4	C	C
3	Jefferson Street (NS) at Fred Waring Drive (EW)	33.6	31.8	C	C	31.8	30.9	C	C

¹ Delay and level of service calculated using the following analysis software: Traffix (Version 8.0 R1, 2008) for signalized and unsignalized intersections.
 Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control.
 Source: Urban Crossroads, Inc. 2012

Travel Speeds and Vehicle Classification Data

The travel speeds for AM peak hour, PM peak hour, and remainder day are presented on Table 3-13. The speeds have been calculated based on estimated 50 percent travel speeds for roadway segments and estimated delays at the major intersections evaluated in this analysis. Speeds have also been adjusted based on the change in overall volume to capacity ratio once the proposed project improvements have been constructed. The proposed project is expected to result in improved travel speeds within the study area under Opening Year (2013) conditions. Average travel speeds range between 23.2 and 36.0 mph for the various scenarios and segments.

Table 3-13. Average Travel Speed

Segment	Scenario	Time of Day	Direction	Average Speed (mph)	Final Average Speed (mph)
Fred Waring Drive between Adams Street and Dune Palms Road	Existing (2009)	AM	EB	45	25.5
			WB	25.0	
		PM	EB	45	26.0
			WB	28.0	
	Rest of the Day	EB	45	33.0	
		WB	35.0		
	2013 Without Project	AM	EB	45	25.3
			WB	23.0	
		PM	EB	45	25.0
			WB	28.0	
Rest of	EB	45	32.0		

		the Day	WB		34.0
Fred Waring Dr., between Dune Palms Rd. and Jefferson St.	2013 With Project	AM	EB	48	26.7
			WB		27.7
		PM	EB	48	26.0
			WB		27.0
		Rest of the Day	EB	48	34.0
			WB		35.0
	Existing (2009)	AM	EB	45	26.8
			WB		
		PM	EB	45	24.8
			WB		
		Rest of the Day	EB	45	28.0
			WB		
2013 Without Project	AM	EB	45	26.9	
		WB		23.2	
	PM	EB	45	27.0	
		WB			
	Rest of the Day	EB	45	28.0	
		WB		34.0	
2013 With Project	AM	EB	48	28.0	
		WB		28.4	
	PM	EB	48	28.0	
		WB		27.0	
	Rest of the Day	EB	48	35.0	
		WB		36.0	

Source: Urban Crossroads, Inc. 2012

Horizon Year (2035) No-Build and Build Conditions

Table 3-14 summarizes the peak hour intersection operations analysis results for Horizon Year (2035) No-Build conditions. The analysis results indicate that two of the study area intersections would operate at below an acceptable LOS under the No-Build condition.

The peak hour intersection operations analysis results for Horizon Year (2035) Build conditions are also shown in Table 3-14. The analysis results indicate that all intersections with the exception of one intersection would operate at acceptable LOS "D" or better. The intersection of Adams Street (NS) at Fred Waring Drive (EW) would operate at LOD "F". The proposed improvements would generally result in a reduction in delay at the various intersections compared to the No-Build conditions and would result in improved LOS.

Table 3-14. Horizon Year (2035) Build and No-Build Conditions Intersection Analysis Summary

ID	Intersection	No-Build		Build					
		Delays ¹ (sec)		LOS		Delays ¹ (sec)		LOS	
		AM	PM	AM	PM	AM	PM	AM	PM
1	Adams Street (NS) at Fred Waring Drive (EW)	46.1	90.9	D	F	41.3	76.2	D	E
2	Dune Palms Road (NS) at Fred Waring Drive (EW)	42.9	55.2	D	E	20.4	24.2	C	C
3	Jefferson Street (NS) at Fred Waring Drive (EW)	36.2	36.7	D	D	34.8	34.8	C	C

¹ Delay and level of service calculated using the following analysis software: Traffix (Version 8.0 R1, 2008) for signalized and unsignalized intersections.
 Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with a traffic signal or all way stop control.
 Source: Urban Crossroads, Inc. 2012

- b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

Alternatives 1 and 2—No Impact.

The proposed project would not cause an increase in traffic since there would be no trip generation (i.e., no new vehicle trips attributed to the proposed project). This is because the proposed project would not construct, nor facilitate the construction of, any new homes or businesses that would generate new vehicle trips. Project development would simply better facilitate existing traffic flow.

The City of La Quinta Engineering Bulletin #06-13 (September 22, 2010) states that the City strives to maintain a minimum LOS for its intersections, which is LOS D (Iteris, Inc. 2012). At intersections along roadways contained in the Riverside County Congestion Management Program (CMP) System of Highway and Roadways, the minimum level of service threshold is LOS “E”. Within the City of La Quinta, Highway 111 is the only designated CMP facility. As shown in above in response XVI.a, it is predicated that all study area intersections would operate at LOS “D” or better in the AM and PM peak hours in 2013 and 2035, with the exception of the Adams Street (NS) at Fred Waring Drive (EW) intersection in the PM peak hour which would operate at LOS “E”. The City of La Quinta is proposing a separate and independent project at the Adams Street (NS) at Fred Waring Drive (EW) intersection that would include restriping and intersection improvements. Implementation of this future project would improve traffic conditions and level of service at this intersection. The proposed project would generally improve LOS and reduce congestions when compared to the No-Build conditions and would not conflict with adopted City or County CMP performance standards.

- c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

Alternatives 1 and 2—No Impact. The project site is located 1.3 miles southwest of the Bermuda Dunes Airport, a private airport located in the community of Bermuda Dunes. The project site is within the Bermuda Dune Airport Influence Area. The Riverside County Airport Land Use Commission establishes more stringent land use regulations for areas adjacent to airports that lie within Airport Influence Areas. There are also three safety zones associated with the Bermuda Dunes Airport Influence Area. Properties within these zones are subject to regulations governing

such issues as development intensity, density, height of structures, and noise (County of Riverside 2008). The project site is not within one of these safety zones. The proposed project would add additional travel lanes to an existing roadway; however, the roadway is not within either of the safety zones designated for the Bermuda Dunes Airport Influence Area. In addition, the project does not include any structures that would affect aircraft circulation, change air traffic patterns, or otherwise result in a safety risk. Therefore, no impacts would occur.

d. Substantially increase hazards because of a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Alternatives 1 and 2—No Impact. The evaluation of potential increases in hazards because of a design feature typically involve determining if any project-related features would result in changes to the circulation system that could result in physical impacts to automobile traffic or pedestrians. Some examples include poor sight-distance at intersections, sharp roadway curves, and placing a driveway/site-access along a high-speed roadway. Alternatives 1 and 2 would widen the roadway to match the existing roadway improvements to the east and west of the project site. The improvements are intended to help the safety and operation of the existing roadway. Alternatives 1 and 2 would not have any design features or incompatible uses that would increase hazards associated with traffic; therefore, no impacts would occur.

e. Result in inadequate emergency access?

Alternatives 1 and 2—Less-than-Significant Impact.

Construction Impacts

Some traffic would be generated during project construction from construction vehicles; however, the amount of construction-related trips is anticipated to be small in comparison to the overall traffic volume carried by Fred Waring Drive. During construction, emergency vehicle access could be affected from partial lane closures. Under Alternative 1, traffic would be shifted to one lane in each direction for approximately three to four months to make room for construction of the new pavement north of Fred Waring Drive and construction of the medians. Access to the individual properties on the north side of the street would be maintained by using temporary gravel driveways. Under Alternative 2, construction is anticipated to last approximately five to six months. Traffic would be shifted to one lane in each direction for approximately three months to make room for construction of the new pavement along the north side of Fred Waring Drive. A TMP, which is prepared for all County roadway projects, shall be prepared implemented, which would address vehicular access and would be coordinated with emergency service providers. Impacts would be less than significant.

Measure TRF-1: Prepare and implement a Traffic Management Plan (TMP). The TMP will be provided to emergency service providers and school officials with construction plans prior to commencement of construction. The following will be included in the TMP or carried out in coordination with the TMP.

- Implement a construction management program that maintains access to and from the project area community through signage, detours, flagmen, etc.
- Coordinate with emergency services providers to ensure that alternative response routes to and from the project area community are in place during construction of the proposed project.

- Provide access to all fire hydrants along all access routes and provide and maintain fire department vehicle access roads along project site.
- Consult with local school officials to identify safe vehicular routes and pedestrian crossing for students traveling to and from schools in the project area community during construction of the proposed project.
- Coordinate with the utility providers for relocation of utility lines and inform the utility users in advance about the date and timings of service disruptions.
- Prepare temporary detour plans during the Plans, Specifications, and Estimates (PS&E) phase.
- Provide notification to be sent to emergency service providers, local school officials, and any residents that may be substantially affected by any street closures (including partial and/or full closures) or traffic diversions at least two weeks in advance of the planned closure or diversion.

Operational Impacts

It is anticipated that construction of Alternatives 1 and 2 would have a beneficial effect on emergency vehicle response times due to the new traffic lanes and roadway improvements. The improvements are intended to help the safety and operation of the existing roadway. No negative long-term operational impacts are anticipated.

f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

Alternatives 1 and 2—No Impact. SunLine Transit Agency provides transit services and bus stops within the immediate vicinity of the project site. There are no bus stops or bus line within the project study area. The closest bus stop to the project is located near Highway 111 and Adams Street (SunLine Transit Agency 2012). The proposed project would not alter or conflict with existing bus stops and schedules, and impacts related to SunLine transit services would not occur.

The City of La Quinta Circulation Element identifies a Class II Bicycle Trail and Pedestrian/Hiking Trail along Fred Waring Drive between Washington Street and Jefferson Street. The County's Draft Western Coachella Valley Area Plan's Trails and Bikeway System Map (Riverside County Parks 2010) also identifies a Class 2 Bike Path along this segment of Fred Waring Drive. Both alternatives include the construction of pedestrian sidewalks and bike lane. The proposed project would be consistent with future plans to provide a bicycle and pedestrian facilities along Fred Waring Drive. The proposed project would not conflict adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities and would not decrease the performance or safety of any facilities. No impacts would occur.

	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
XVII. Utilities and Service Systems				
Would the project:				
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Discussion

Would the project:

- a. ***Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?***

Alternatives 1 and 2—No Impact. Coachella Valley Water District (CVWD) provides sewage collection and treatment service to the project study area. Wastewater treatment at the CVWD facility is required to meet applicable regional water quality control board standards. Alternatives 1 and 2 do not include any use that would increase demand for wastewater treatment. Alternatives 1 and 2 would not exceed wastewater treatment requirements of the RWQCB, and impacts would not occur.

- b. *Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?***

Alternatives 1 and 2—No Impact. As mentioned previously, the CVWD provides wastewater treatment for the City. Alternatives 1 and 2 would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. Impacts would not occur.

- c. *Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?***

Alternatives 1 and 2—Less-than-Significant Impact. The CVWD operates and maintains regional stormwater management facilities extending from Cathedral City to Salton City, including the City of La Quinta (City of Coachella 2009). The backbone of the CVWD stormwater system is 25 miles of naturally occurring Whitewater River bed and the 24.5-mile Coachella Valley Stormwater Channel (City of Coachella 2009). The Whitewater River and Coachella Valley Stormwater Channel are fed by several smaller channels, dikes, and levees designed and built to collect rapidly moving floodwater as it pours from the adjacent mountains onto the valley floor (City of Coachella 2009). Within CVWD's boundaries there are 16 stormwater protection channels. These and other facilities have a length of 133 miles. No new facilities or expansion of existing infrastructure is needed outside of standard improvements associated with roadway construction, such as curb and gutter sections and storm drain structures. Impacts on the existing stormwater drainage facilities would be considered less than significant.

- d. *Have sufficient water supplies available to serve the project from existing entitlements and resources, or would new or expanded entitlements be needed?***

Alternatives 1 and 2—No Impact. The principal water supplies of the Coachella Valley are local groundwater and Colorado River water imported through the Coachella Canal. Alternatives 1 and 2 do not contain any components that would require any long-term water services. No impacts would occur.

- e. *Result in a determination by the wastewater treatment provider that serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

Alternatives 1 and 2—No Impact. As mentioned previously, the CVWD provides wastewater treatment for the City. Alternatives 1 and 2 do not contain any components that would generate any wastewater that would require treatment at a water treatment plant. No impacts would occur.

- f. *Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?***

Alternatives 1 and 2—Less-than-Significant Impact. The predominant receiving landfill in the study area is the Lamb Canyon Sanitary Landfill at 16411 State Route 79 in the City of Beaumont, Riverside County (City of Coachella 2009). Other landfills in Riverside County used by the City are the El Sobrante Landfill in Moreno Valley and Badlands Sanitary Landfill. The Lamb Canyon Sanitary Landfill has a permitted maximum disposal capacity of 3,000 tons per day and is scheduled to close in 2023 (City of Coachella 2009). Alternatives 1 and 2 would not result in the considerable production of solid waste. During construction, the project would generate some construction waste. Solid waste generated during construction would be considered minimal, and disposal of this

material would be contracted to a private disposal company and disposed of following applicable regulations. It is not anticipated that the amount of construction waste would exceed the capacity of local landfills. Impacts are considered less than significant.

g. Comply with federal, state, and local statutes and regulations related to solid waste?

Alternatives 1 and 2—No Impact. Alternatives 1 and 2 would comply with federal, state, and local statutes and regulations related to solid waste. No impacts are anticipated.

XVIII. Mandatory Findings of Significance	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Does the project have impacts that are individually limited but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Discussion

Would the project:

- a. *Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?*

Alternatives 1 and 2—Less-than-Significant Impact with Mitigation Incorporated. The existing project site is nearly completely developed and consists of an existing roadway. The south side is improved with asphalt paving, curb, gutter, and sidewalk while the north side consists of asphalt paving without curb, gutter, and sidewalk. The roadway is surrounded by residential development and associated landscaping. A golf course (Bermuda Dunes Golf Course) occurs just north of the study area. No native plant communities occur within the study area. The study area is nearly completely developed; however, there are three small vacant lots with ruderal vegetation. Ruderal habitat is typically dominated by plant species that are particularly suitable for disturbance. Portions of the project study area, including the landscape vegetation on the residential lots and along the roadside and the ruderal vegetation on the three vacant lots, contain suitable nesting habitat for a number of avian species. Much of the areas that are suitable for nesting are within the buffer area and not within the proposed impact area. Regardless, nesting birds can be indirectly affected by noise and/or other activities in the vicinity of a nest. As such, there is the possibility that clearing and grubbing could impact nesting birds in the study area if they occur during the avian

nesting season (February through August). As such, measure **BIO-1** would be implemented in order to minimize potential impacts to nesting birds.

Regarding California history or prehistory, the project site is vacant, undeveloped, and graded, and does not contain any known historical resources or any documented paleontological resources, and no potentially significant impacts were identified in Section V, Cultural Resources. Therefore, no project impacts to the quality of the environment related to cultural resources would occur.

- b. Does the project have impacts that are individually limited but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)**

Alternatives 1 and 2—Less-than-Significant Impact with Mitigation Incorporated. As described in the previous sections of this environmental checklist, the proposed project would result in less-than-significant impacts with mitigation measures on biological resources, hazards/hazardous wastes, and noise. Implementation of mitigation measures identified in the aforementioned resource areas of this document are required to reduce impacts to a less-than-significant level.

A cumulative impact could occur if the project would result in an incrementally considerable contribution to a significant cumulative impact in consideration of past, present, and reasonably foreseeable future projects for each resource area. The cumulative study area is generally confined to the area includes the La Quinta Planning Area, City of Palm Desert to the northwest, City of Indio to the north, the City of Coachella to the northeast, unincorporated County lands to the east and south, and the City of Indian Wells to the west. A review of the City and County’s websites was conducted in order to compile a list of past, present, and reasonably foreseeable future projects. These cumulative projects listed in Table 3-15. Although for some resources, cumulative impacts are considered over a greater area, and are addressed accordingly.

Table 3-15. Cumulative Projects List

No.	Project	Location/Address	Description	Distance From Site
<i>City of La Quinta</i>				
1	City of La Quinta General Plan Update	Citywide	General Plan Update	Within the project
2	Lenity Group- Retirement Community	19 acres of vacant land located on southeast corner of Seeley Drive and Miles Avenue.	Phase 1 will include development of 5 single story buildings with 124 suites; Phase 2 will develop 72 suites for assisted living and 32 bed memory care facility. Under entitlement review.	0.7 miles southwest
3	Lenity Group- Memory Care Facility	3.8 acres of undeveloped land east of Washington Street, between Avenue 48 and Via Marquessa.	Construction of 31,000 square foot, 66-bed memory care facility. Under entitlement review.	1.9 miles southwest

No.	Project	Location/Address	Description	Distance From Site
4	Alta Verde Coral Mountain Residences	Northwest corner of Avenue 58 and Madison Street.	67 single-family residences. Under entitlement review.	7.2 miles southeast
5	Washington Street Apartments	Southeast corner of Washington Street and Hidden River Road.	Rehabilitate 72 apartments and construct additional 26 apartments for low income senior and disabled. Under entitlement review.	1.2 miles northwest
6	Renditions (formerly known as Palazzado)	Southeast corner of Monroe Street and Avenue 60.	418 single family residence. Under entitlement review.	8.5 miles southeast
7	Core Homes	Along Madison Street, north of Avenue 52.	7 single family residence on 4.3 acres. Under entitlement review	4.4 miles southeast
8	Pedcor Properties, LLC	Southwest corner of Vista Bonita Trail and Madison Street	11 single family residence on 9 acres. Under entitlement review.	4.1 miles southeast
9	Traventine	965 acres, south of Avenue 60, east of Jefferson Street.	945 single-family residential, 300 unit hotel, golf course. Under entitlement review.	8.5 miles south
10	Eden Rock	Located within PGA West at terminus of PGA Boulevard.	292 residential units on 42 units. Entitled- Not Under Construction.	6.1 miles south
11	La Paloma	Northeast corner of Washington Street and Avenue 50.	209-unit full service senior living/retirement community on 14 acres. Entitled- Not Under Construction.	3.1 miles southwest
12	Coral Mountain Apartments	10.32 acres on the south side of Highway 111, approximately 660 feet from Dune Palms Road, north of the DSUSD Administration Complex.	176-unit, City sponsored affordable apartments. Entitled- Not Under Construction.	1.4 miles south
13	Village at Coral Mountain	Southwest corner of Madison Street and Avenue 58.	85 single-family residential lots on 33 acres. Site is partially graded. Site development permit has expired.	7.2 miles south
14	Diamante	Northwest corner of Jefferson Street and	47 single family residences on 14	4 miles

No.	Project	Location/Address	Description	Distance From Site
15	Dolphin La Quinta	Avenue 52. North of Seeley Drive and east of Washington Street.	acres. 164 condo development. Under construction.	south 1.0 mile southwest
16	East of Madison (TTM 34968)	Located within the Madison Club, along Avenue 52 and Madison Street.	19 single family residential lots and one golf lot. Under construction.	4.3 mile southeast
17	Stone Creek	Avenue 52, west of Madison Street.	76 single-family residential lots on 29 acres. Under construction.	4.2 miles southeast
18	Andulasia	Avenue 58 and Madison Street.	Specific plan includes a private golf course and 1,400 single family custom home sites on 934 acres. Under construction	7.2 miles south
19	Madison Club	Southeast corner of Madison Street and Avenue 52.	193 custom home sites and private golf course on 470 acres. Under construction.	4.25 mile southeast
20	The Hideaway	Southwest corner of Madison Street and Avenue 52.	467 single family residential lots and private golf course on 530 acres. Under construction.	4.25 miles southeast
21	Rancho Santana	Southwest corner of Avenue 52 and Monroe Street.	201 single family residences on 77 acres. Under construction.	4.5 miles southeast
22	Griffin Ranch	Southeast corner of Madison Street and Avenue 54.	Equestrian community consisting of 393 single family residences on 245 acres. Under construction.	5.25 miles south
23	Codorniz	Southeast corner of Jefferson Street and Avenue 52.	145 single family residences on 15 acres. Under construction.	4 miles south
24	Santerra	Northwest corner of Avenue 58 and Madison Street.	29 single family residences on 8 acres. Under construction.	7.10 miles southeast
25	Marchmonte	Along Monroe Street, near southwest corner of Avenue 54.	201 single family residences on 77 acres. Under construction.	5.4 miles southeast
26	The Tradition	Washington Street and Avenue 52.	Private golf course and clubhouse, 292	3.9 miles south

No.	Project	Location/Address	Description	Distance From Site
			custom single family residences on 746 acres. Under construction.	
27	Watermark Villas	Northwest corner of Avenue 52 and Jefferson Street.	250 condo units on 19 acres. Under construction.	4.2 miles south
28	Malaga Estates	Southwest corner of Madison Street and Avenue 60.	57 single family residences on 23 acres. Under construction.	8.2 miles south
29	Point Happy Estates	Northwest intersection of Spring Court and Washington Street, south of Highway 111.	72 single family residences on 38 acres. Under construction.	1.5 miles southwest
30	Piazza Serena	Northwest corner of Avenue 58 and Monroe Street.	97 single family residences on 37 acres. Under construction.	7.7 miles southeast
31	Lion's Gate	Northwest corner of Avenue 58 and Madison Street.	25 single family residences on 19 acres. Under construction.	7.1 miles south
32	Carmela	Northwest corner of Avenue 53 and Monroe Street.	101 single family residences on 38 acres. Under construction.	5.3 mile southeast
33	Capistrano	West side of Monroe Street, Avenue 58.	132 single family residences on 39 acres. Under construction.	7.4 miles southwest
34	Palo Verde	North side of Avenue 58, west of Madison Street.	31 single family residences on 10 acres. Under construction.	7.0 miles south
35	Kent Stowell	Southeast corner of Highway 111 and Adams Street.	Automobile dealership. Project has been submitted for entitlement review.	1.0 mile south
36	Lee Building	Avenida Bermudas and Avenida La Fonda.	10,567 square foot commercial/office building. Project has been submitted for entitlement review.	3.8 miles southwest
37	Torres Nissan	Southeast corner of Highway 111 and N. Auto Centre Way.	Expansion and remodel of existing car dealership. Entitled, not under construction.	1.6 miles south
38	Mayer Villa Capri	Northeast corner of Washington Street and Fred Waring Drive.	103,972 square feet of retail and 130,450 square feet of medical	0.7 miles

No.	Project	Location/Address	Description	Distance From Site
			office use. Entitled, not under construction.	
39	Dune Palms/Highway 111 Multi-use	South of Highway 111, east of Dune Palms Road and adjacent to Komar Desert Center.	Three car dealerships and 200 affordable housing units on 20 acres. Entitled, not under construction.	1.5 miles south
40	Jefferson Square	Southwest corner of Fred Waring Drive and Jefferson Street.	102,402 square feet of retail. Only 38,482 square feet of retail has been constructed.	Immediately adjacent
41	Washington Park	Northeast corner of Avenue 47 and Washington Street, with frontage along Highway 111.	Retail on 66 acres. Project is in various phases of construction.	1.25 mile south
42	Centre Point	Southeast corner of Washington Street and Miles Avenue.	Commercial, affordable housing, park, medical offices on 55 acre site.	0.90 southwest
<i>City of Indio</i>				
43	College of the Desert, Indio Educational Center	The campus will occupy a downtown city block Oasis Street on the west, Requa Avenue of the south, Civic Center Drive on the north and Towne Street on the east.	41,542 square feet of classrooms, laboratory space, multi-purpose/conference center and administrative offices, and 10,000 square feet of ground floor retail commercial services. Final EIR approved January 2012.	3.25 miles southeast
44	Arco AM/PM	Avenue 42 and Jackson Street.	58,835 square foot Arco AM/PM. Under entitlement review.	3.30 miles northeast

Sources: City of La Quinta Planning Department: Residential Case Activity Report and Commercial Case Activity Report- January 2012.

City of Indio Development Status Reports (available at <http://www.indio.org/index.aspx?page=123>) and Maps, Plans and Studies (available at <http://www.indio.org/index.aspx?page=202>)

Riverside County Land Management Information System, City of Palm Desert Non-Residential Projects and Residential Projects List

The following analysis evaluates the project's potential to contribute considerably to a cumulative impact.

As discussed previously, the proposed project would have no effect on agricultural and forest resources, mineral resources, and recreation; and would not contribute either directly or indirectly

to a cumulatively considerable impact in these resource areas. The potential for the proposed project to result in cumulatively impacts that would be considered significant in the above mentioned resource areas is considered low, and the proposed project does not have the potential to result in a cumulative impact that would affect the health or sustainability of any of these resource areas..

For resources identified as having a less than significant impact with mitigation or a less than significant impact, a preliminary review of the potential impacts identified was conducted to determine if a reasonably foreseeable cumulative impact could occur. Based on this review it was determined that the resources that could potentially contribute to significant cumulative impacts to a considerable degree when combined with the past, present, and reasonably foreseeable cumulative projects are: air quality, aesthetics, biological resources, cultural resources, hazard/hazardous materials, hydrology and water quality, geology/soils, land use and planning, noise, population and housing, public services and utilities, and transportation/traffic. A cumulative evaluation for these environmental resource areas is provided below.

Air Quality

The Resource Study Area for the project is the southeastern portion of the Salton Sea Air Basin (SSAB or Basin), which includes the Coachella Valley portion of Riverside County and all of Imperial County. The project site is located in the SCAQMD's Coachella Valley Monitoring Area (i.e., Source Receptor Area [SRA] Number 30). The nearest monitoring station to this area is the Palm Springs Fire Station site, which is located within the Coachella Valley. Criteria pollutants monitored at this station include O₃, CO, NO₂, PM₁₀ and PM_{2.5}. Monitoring data, shown in Table 3-1, from the Palm Springs monitoring station summarizes the local levels of O₃, CO, NO₂, PM₁₀, and PM_{2.5} and compares them to national and state air quality standards. The State of California has designated the SSAB as being a nonattainment area for O₃ (one-hour and eight-hour standards) and PM₁₀ (24-hour standard). The federal EPA has designated this area as being a nonattainment area for O₃ (eight-hour standard), PM₁₀ (24-hour standard) (see Table 3-2).

The air quality analysis concluded that the proposed project would not conflict with or obstruct implementation of the applicable air quality management plan, violate any air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard. Measures for dust control during construction, as stipulated by SCAQMD's Rule 403, would be implemented to ensure the proposed project does not substantially contribute to cumulative impacts on air quality. Adherence to these regulations by each of the projects in the project vicinity would also be required. Cumulative effects, if they occur, would be minor and temporary.

Aesthetics

The cumulative study area for aesthetics is considered to be the area within one mile of the project location. The typical land uses within this area include residential, commercial, and recreational. Within the cumulative study area there are two planned commercial projects, one of which is partially completed (Jefferson Square). There are many large residential and commercial projects planned outside of the aesthetic cumulative study area. It is expected that each of these projects would individually include an analysis of visual impacts and would provide avoidance, minimization, and/or mitigation measures as needed. Although the individual projects may not result in significant visual impacts, the loss of substantial mature vegetation and open space caused by

recently completed projects and potential impacts due to the proposed project (the addition of hard surfaces, removal of vegetation, etc.), as well as future planned projects could noticeably alter existing visual character and result in a net loss of existing visual quality without the incorporation of landscape design measures.

In the future, given the proposed new residential and commercial development in the study area and greater region, an overall increase in ambient nighttime lighting levels may result. However, the project's contribution toward the increase in nighttime lighting levels would not increase since no new lighting is proposed. It is assumed that through the county and city's design review processes, lighting would also be placed to ensure that it illuminates only the intended areas and does not penetrate into residential communities; therefore, potential significant cumulative impacts associated with the substantial creation of light or glare, such that it adversely affects daytime or nighttime views in the area, would be minimized.

The region is undergoing a transition from rural to urban uses and as population growth continues, visual character and quality of the region would continue to change; however, it is anticipated that these projects would be implemented in a manner consistent with City and County landscape and design policies, thereby minimizing the potential for cumulative impacts on visual quality.

Biological Resources

The cumulative study area for biological resources includes the Western Coachella Valley Area. The proposed project setting is urbanized and limited biological resources remain in the majority of the surrounding areas. Existing urban development and recreational uses (golf course) have eliminated the majority of undisturbed lands within City and surrounding areas. Natural habitat remains on the undevelopable and protected slopes of the nearby mountains. In addition, there are likely pockets of sensitive habitat that remain within portions of the Western Coachella Valley Area, primarily within the less developed areas. Implementation of the projects listed in Table 3-15 will facilitate new growth and development on undeveloped lands that may contain sensitive habitat or species. Increased population growth as permitted by the City and County's General Plan and growth expected to occur in surrounding jurisdictions would increase disturbance on open space lands from human use, vehicle travel, garbage dumping, and domestic and opportunistic animals. The introduction of non-native plants and animal species also may create adverse impacts to native species. New growth would also contribute to the cumulative loss of sensitive habitat and associated species (City of La Quinta 2012).

The preservation of land through designated open space areas within the La Quinta Planning Area, and the Coachella Valley Multiple Species Habitat Conservation Plan would limit any cumulatively considerable regional disruption of wildlife. Policies and programs in the proposed La Quinta General Plan Update include the integration of open space areas and wildlife corridors (City of La Quinta 2012). Given that sensitive species currently occur within the cumulative study area, development proposals will be required to adequately mitigate impacts to wildlife and habitat before development is permitted. Participation and enforcement of the Multiple Species Habitat Conservation Plan will reduce cumulative impacts to sensitive species, and its implementation will protect habitats for these species. These activities would reduce the cumulative impacts to biological resources to less-than-significant levels. In addition, present and future projects would comply with requirements of the MBTA to avoid and/or mitigation potential impacts to protected nests and pursuant to existing federal and state regulations would be required to implement restoration and replacement efforts for any impacts to special-status plants and wildlife. After the incorporation of

the measures provided herein related to biological resources, the project's incremental contribution would not result in a cumulatively considerable impact.

Cultural, Historical and Paleontological Resources

No impacts to cultural resources, including historic and paleontologic resources have would occur from the proposed project. Cultural resources are generally not considered subject to cumulative effects because they are either individually directly or indirectly affected in a way that changes the significance of the property, or they are not affected in a way that changes the significance of the property.

Development in the City, County, and adjacent jurisdictions would require grading and excavation that could potentially affect archaeological and paleontological resources, including human remains. It is possible that these projects could cause a significant impact on historic properties and unidentified buried archaeological resources, including buried human remains, through possible ground disturbance associated with construction activities. CEQA requirements for protecting archaeological resources and CEQA and Health Code requirements related to the treatment of human remains are applicable to development in the City and adjacent jurisdictions, as are local cultural resource protection provisions. If subsurface cultural resources are protected upon discovery as required by law, impacts to those resources would be less than significant. Further, with the mitigation measures that would be imposed and enforced throughout construction of the proposed project, the contribution of the proposed project to the cumulative destruction of subsurface cultural resources throughout the City and the region would not be cumulatively considerable.

Hazards/Hazardous Materials

The cumulative study area for hazards/hazardous materials includes the area within 0.25 miles of the project site. According to the ISA, there are no known or suspected hazardous material sources, such as underground fuel storage tanks, located within the study area. It was determined that proposed project, could potentially expose the public to hazardous materials such as ACMs, LBP, PCBs, and pesticides during construction activities if these materials are present. If construction of other planned projects within the cumulative study area were to occur at the same time, there could be potential for additional exposure. Adherence to project-specific requirements and measures **HAZ-1** through **HAZ-4** would limit the potential of simultaneous exposure from the proposed project. Additionally, future projects identified would be required to undergo investigations similar to the proposed project and would be required to implement mitigation measures to remediate or otherwise avoid release of hazardous materials into the environment. The proposed project's incremental contribution to cumulative impacts from hazards and hazardous materials, when combined with past, present, and reasonable foreseeable projects, would be less than cumulatively considerable.

Hydrology and Water Quality

The cumulative study area for hydrology and water quality is the Whitewater River watershed, which is generally situated in Riverside County within the Coachella Valley Planning Area of the Colorado River Basin Regional Water Quality Control Board (RWQCB) (Colorado River Basin RWQCB 2006). The Whitewater River watershed include the cities of Banning, La Quinta, Palm Desert, Cathedral City, Coachella, Palm Springs, Desert Hot Springs, Rancho Mirage, Indian Wells, and Indio, Coachella Valley Water District; and Riverside County. The Whitewater River is the major

drainage course in the Coachella Valley Planning Area. There is perennial flow in the mountains, but because of diversions and percolation into the basin, the River becomes dry further downstream. There are no streams, rivers, or groundwater replenishment facilities located near the project. According to the ISA, groundwater has been measured from the Coachella Valley Water District wells in the site vicinity at depths greater than 150 below ground surface (Kleinfelder West Inc.2009).

The proposed project and other planned projects within the watersheds are subject to compliance with the RWQCB's Colorado River Basin Plan, NPDES Permits, Riverside County codes, pertinent city codes. Compliance with these plans and regulations would help minimize impacts to surface water runoff, groundwater recharge, groundwater elevations, and water quality impacts

The proposed project, in conjunction with other planned projects, would contribute to an increase in impervious surfaces in the project area, which would result in an increase in stormwater runoff. Existing drainage culverts may not be able to accommodate this additional runoff. The size and location of the floodplain associated with local creeks may change if drainage accommodations are not made. The increase in impervious surface over time could also increase the frequency of flooding. Each project will be required to evaluate specific impacts on local hydrology and flooding and to implement measures to address impacts, if identified. Therefore, the proposed project, when combined with other projects, would not result in substantial cumulative impacts related to hydrology and flooding.

The proposed project, in conjunction with other development projects in the area, would contribute to increased pollutants in stormwater runoff that, if not mitigated, could adversely affect local and regional surface water quality. BMPs would be implemented in compliance with the NPDES permit requirement to minimize the potential for impacts to water quality, including the violation of any water quality standard or waste discharge requirement. It is not anticipated that there would be a measurable increase in the amount of waterborne pollutants existing on the proposed project site; therefore, the potential for cumulative impacts resulting from the proposed project would be minimal. It is further assumed that other projects would be required to obtain an NPDES permit and to comply with the provision of that permit, thus reducing their potential for water quality impacts. Therefore, the proposed project, when combined with other projects, would not result in substantial cumulative impacts related to local and regional surface water quality.

Geology/Soils

The cumulative study area for geology includes the Western Coachella Valley Area. Development within this seismically active region could place people and structures at risk from a wide range of earthquake-related effects, including seismic ground shaking and seismically induced landslides. The existing level of seismic risk exposure represents a significant cumulative impact. However, there are various mechanisms in place to reduce risks at the project level, including project-specific hazards evaluation processes mandated by the Seismic Hazards Mapping Act, as well as the seismic design standards promulgated by the County and City building codes. Although there would be some residual level of risk because seismic hazards cannot be entirely avoided, the proposed project would not contribute considerably to the existing cumulative impact related to seismic hazards.

Potentially adverse environmental effects associated with seismic hazards, as well as those associated with expansive soils, topographic alteration, and erosion, usually are site-specific and generally do not combine with similar effects that could occur with other projects in the cumulative study area. Implementation of the provisions of the County, City and California's Building Code, and

the NPDES permit requirements would ensure that potential site-specific conditions would be addressed fully in the design of the project and other planned projects and that potential impacts would be mitigated to less-than-significant levels. The proposed project would not contribute to adverse soils, geologic, or seismic cumulative impacts effects.

Land Use and Planning

The proposed project and other planned projects listed in Table 3-15, would be required to undergo environmental review under CEQA, which would include analyzing the potential environmental impacts and identification of mitigation measures in the event significant environmental impacts are identified. It is anticipated that development of future projects and general regional growth would be reviewed for consistency with adopted and applicable land use plans and policies, in accordance with the requirements of CEQA, the state Zoning and Planning Law, and the state Subdivision Map Act, all of which require findings of plan and policy consistency prior to approval of entitlements for development. For this reason, cumulative impacts associated with inconsistency of future development with adopted plans and policies would be less than significant.

The proposed project is consistent with the County and City General Plans. The proposed project would not conflict with adjacent land uses, or create impacts to such a magnitude that the conflict would preclude the use of the land as it was intended by the City and County General Plans. The proposed project would not conflict with the existing CVMSHCP, and therefore would not result in cumulative impact regarding the existing policies and provisions of the CVMSHCP. When combined with past, present, and reasonably foreseeable future projects, the land use and planning impacts of the proposed project would not be cumulatively considerable.

Noise

The cumulative study area for noise includes all the project areas listed on the cumulative projects list (Table 3-15) within 0.50 miles of the proposed project. Increases in noise in the vicinity of sensitive uses would occur during construction of the proposed project. Simultaneous construction of the proposed projects and related projects in the vicinity of the proposed project area is not anticipated. As shown on Table 3-15, there is only one project (Jefferson Square) within 0.5 miles of the project site and this project has partially completed construction. There is the potential that construction noise from this project may combine with construction noise from the other project, and construction noise from the proposed project may be cumulatively considerable. Compliance with the City and County Municipal Codes would place limits on construction activities and would also prohibits construction activities on Sundays and public holidays. Because compliance with this construction time limit is required by the City and County Municipal Codes, the proposed project and all other cumulative development would be exempt, and the cumulative impact associated with construction noise would be considered less than significant. Lastly, because construction-related noise generated under the proposed project would be addressed by implementation of the noise control measures provided in **NOI-1**, construction related impacts from the proposed project would not result in a cumulatively considerable impact.

Cumulative noise impacts are considered for the year 2035. Without noise abatement, future noise levels in the project area are predicted to exceed the City and County planning standard of 65 dBA CNEL for noise compatibility of residential land uses under Alternatives 1 and 2. Noise exceedances would occur at five of the 20 modeled receivers under either Alternative 1 or 2. Specifically, the traffic noise levels would be exceeded at the following receivers (all located on the eastbound (south) side of Fred Waring Drive: receivers ST-3, M-13, M-14, M-15, and ST-4. Similarly, under the

No-Build Alternative, the 65 dBA CNEL planning standard would be exceeded at the same five of the 20 modeled receptors. Because either Build Alternative 1 or 2 would result in significant increases in noise or result in exceedances of noise standards, measure **NOI-2** shall be implemented. Inclusion of recommended walls as shown in Figure 3-2, Recommended Sound Wall Locations, would reduce impacts from operational traffic noise to below the 65 dBA CNEL threshold; therefore with inclusion of the recommended sound walls, impacts would be less than significant. In addition, there are no other projects that are currently planned that would contribute to higher noise levels at these identified receptors. Therefore, with implementation of **NOI-2**, operation of the project would not result in a cumulatively considerable noise impact.

Traffic/Transportation

The traffic analysis for the proposed project is based on future traffic conditions in the year 2035, which accounts for future development in the project area and General Plan Buildout. As a result, the analysis contained in Section XVI. Transportation/Traffic, constitutes the operational cumulative analysis for the project. Future 2035 conditions for the study area, for the No-Build and Build conditions were assessed based on intersection LOS. Results of the capacity analysis show that two of the three study area intersections would be operating at LOS "E" and "F" in the AM and PM peak hour under the 2035 No-Build conditions. In 2035, all of the study area intersections, with the exception of one would operate at an acceptable LOS "D" or better following implementation of the proposed project. The Adams Street at Fred Waring Drive intersection would operate at LOS "E" in the PM peak hour. The proposed project would generally reduce vehicle delays and improve LOS in the study area and would not result in increased vehicle trips. Therefore, the proposed project is not anticipated to contribute to permanent cumulative impacts that affect mobility in the project area.

Other construction projects in the area may be under construction in the same time frame as the proposed project. To the extent that construction periods overlap, there is a potential for cumulative local level traffic impacts from multiple project detours and lane reductions occurring simultaneously in and adjacent to the study area, potentially resulting in deterioration of traffic operations on area local roadways. The City and County would coordinate the timing of project detours and lane closures for all projects in the area in order to minimize cumulative traffic impacts. With the minimization measures **TRF-1** identified in Section XVI. Transportation/Traffic, the proposed project would have no adverse short-term impacts on traffic/transportation; therefore, the project would not contribute either directly or indirectly to a cumulatively considerable impact to this resource area.

Public Services and Utilities

The Resource Study Area for the project includes the project site and properties immediately adjacent to the project site. Construction activities of one or more projects at the same time in the project area could result in temporary, localized, site-specific disruptions, including partial and/or complete street and lane closures, and detours. This could lead to an increase in delay times for emergency response vehicles during construction. The potential for disruption or obstruction of emergency services access in the project area to occur as a result of construction activities would be avoided with measure **TRF-1**—the preparation of a TMP that takes into consideration other projects in the project area. The TMP would include provisions to notify the local fire station and any potentially affected residents at least two weeks in advance of any planned street closures (including partial and/or full closures) or traffic diversions. Cumulative effects of construction, if

they occur, would be minor and temporary. In addition, there is only one other planned project within 0.25 miles of the project (Jefferson Square) and this project is partially completed. Therefore, the proposed project, when combined with other projects, would not result in significant cumulative impacts related to emergency public services.

The proposed project would not place an increased demand on utilities. Development of other future development project the CVWD service area would demand additional quantities of water. Development of the proposed project in conjunction with other cumulative projects within the CVWD service area would generate additional quantities of wastewater, depending on net increases in population, square footage, and intensification of uses. These projects would contribute to the overall regional demand for wastewater treatment service. Cumulative growth in the CVWD service area could result in the need for additional conveyance infrastructure, and due to the partially developed nature of the service area, it is expected that such expansion of conveyance infrastructure could result in significant cumulative environmental effects. The contribution of the proposed project would not be cumulatively considerable, and the project's cumulative impact would be less than significant.

c. Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Alternatives 1 and 2—Less-than-Significant Impact with Mitigation Incorporated. Based on the analysis of the above-listed topics, the proposed project would have potentially significant environmental effects on biological resources, hazards/hazardous materials and noise that could cause substantial adverse effects on human beings, either directly or indirectly. However, implementation of measures as provided within each of these resource topic sections of this environmental checklist would reduce project related potentially significant impacts to a less-than-significant level. Therefore, after implementation of the measures, the proposed project would result in a less-than-significant environmental impact to human beings.

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Appendix A
Roadway Construction Emissions Model Sheets

Road Construction Emissions Model, Version 7.1.1

Emission Estimates for -> Fred Waring Alt. 1										
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	0.7	3.0	3.2	5.2	0.2	5.0	1.2	0.2	1.0	519.4
Grading/Excavation	1.1	4.7	14.1	5.5	0.5	5.0	1.5	0.4	1.0	2,201.8
Drainage/Utilities/Sub-Grade	0.7	3.0	3.0	5.2	0.2	5.0	1.2	0.2	1.0	503.4
Paving	0.7	3.0	2.1	0.2	0.2	-	0.2	0.2	-	421.0
Maximum (pounds/day)	1.1	4.7	14.1	5.5	0.5	5.0	1.5	0.4	1.0	2,201.8
Total (tons/construction project)	0.1	0.2	0.5	0.3	0.0	0.3	0.1	0.0	0.1	80.3

Notes: Project Start Year -> 2013

- Project Length (months) -> 6
- Total Project Area (acres) -> 13
- Maximum Area Disturbed/Day (acres) -> 1
- Total Soil Imported/Exported (yd³/day)-> 300

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in Column J. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Fred Waring Alt. 1										
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	0.3	1.4	1.5	2.4	0.1	2.3	0.6	0.1	0.5	236.1
Grading/Excavation	0.5	2.1	6.4	2.5	0.2	2.3	0.7	0.2	0.5	1,000.8
Drainage/Utilities/Sub-Grade	0.3	1.4	1.4	2.4	0.1	2.3	0.6	0.1	0.5	228.8
Paving	0.3	1.3	1.0	0.1	0.1	-	0.1	0.1	-	191.4
Maximum (kilograms/day)	0.5	2.1	6.4	2.5	0.2	2.3	0.7	0.2	0.5	1,000.8
Total (megagrams/construction project)	0.1	0.2	0.5	0.3	0.0	0.3	0.1	0.0	0.1	72.9

Notes: Project Start Year -> 2013

- Project Length (months) -> 6
- Total Project Area (hectares) -> 5
- Maximum Area Disturbed/Day (hectares) -> 0
- Total Soil Imported/Exported (meters³/day)-> 229

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Road Construction Emissions Model

Version 7.1.1

Data Entry Worksheet

Note: Required data input sections have a yellow background. Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background. The user is required to enter information in cells C:10 through C:25.



Input Type	Fred Waring Alt. 1
Project Name	2013
Construction Start Year	2013 (inclusive)
Project Type	1 New Road Construction 2 Road Widening 3 Bridge/Overpass Construction
Project Construction Time	6.0 months
Predominant Soil/Site Type: Enter 1, 2, or 3	1. Sand Gravel 2. Weathered Rock-Earth 3. Blasted Rock
Project Length	0.65 miles
Total Project Area	12.8 acres
Maximum Area Disturbed/Day	0.5 acres
Water Trucks Used?	1. Yes 2. No
Soil Imported	100.0 yd ³ /day
Soil Exported	200.0 yd ³ /day
Average Truck Capacity	20.0 yd ³ (assume 20 if unknown)

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C:34 through C:37.

Construction Periods	User Override of		Program Calculated
	Construction Months	Months	
Grubbing/Land Clearing		0.60	
Grading/Excavation		2.40	
Drainage/Utilities/Sub-Grade		2.10	
Paving		0.90	
Totals	0.00	6.00	

Year	2009	2010	2011	2012	2013	2014	2015
Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.60	0.00	0.00
Grading/Excavation	0.00	0.00	0.00	0.00	2.40	0.00	0.00
Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	2.10	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.90	0.00	0.00
Totals	0.00	0.00	0.00	0.00	6.00	0.00	0.00

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles Program-estimate	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Dozers	0.04	0.14	0.47	0.02	0.02	30.12
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	0.01	0.03	0.07	0.00	0.00	5.88
		Signal Boards	0.53	1.60	1.58	0.14	0.13	167.57
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
		Grubbing/Land Clearing	0.6	1.8	2.1	0.2	0.1	203.6
		(Grubbing/Land Clearing	0.0	0.0	0.0	0.0	0.0	1.3

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles Program-estimate	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Excavators	0.00	0.01	0.02	0.00	0.00	2.54
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.01	0.02	0.07	0.00	0.00	4.31
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
	0	Other Construction Equipment	0.00	0.00	0.01	0.00	0.00	0.82
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Loaders	0.00	0.01	0.03	0.00	0.00	3.09
	1	Scrapers	0.01	0.03	0.07	0.00	0.00	5.88
	1	Signal Boards	0.53	1.60	1.58	0.14	0.13	167.57
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
			0.6	1.7	1.8	0.1	0.1	184.2
	Grading/Excavation (Grading)		0.0	0.0	0.0	0.0	0.0	4.9

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles Program-estimate	ROG pounds/day	CO pounds/day	NOX pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		0.00	0.00	0.00	0.00	0.00	0.00
	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	Excavators	0.00	0.00	0.00	0.00	0.00	0.00
	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	Graders	0.01	0.02	0.07	0.00	0.00	4.31
	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	Pavers	0.00	0.00	0.00	0.00	0.00	0.00
	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	Plate Compactors	0.00	0.01	0.01	0.00	0.00	1.23
	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
	Pumps	0.00	0.00	0.00	0.00	0.00	0.00
	Rollers	0.00	0.00	0.00	0.00	0.00	0.00
	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	Scrapers	0.01	0.03	0.07	0.00	0.00	5.88
	Signal Boards	0.53	1.60	1.58	0.14	0.13	167.57
	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
	Trenchers	0.01	0.05	0.12	0.01	0.01	8.60
	Welders	0.00	0.00	0.00	0.00	0.00	0.00
		0.6	1.7	1.9	0.2	0.1	187.6
Drainage	pounds per day						
Drainage	tons per phase	0.0	0.0	0.0	0.0	0.0	4.3

Equipment default values for horsepower and hours/day can be overridden in cells C289 through C322 and E289 through E322.

Equipment	Default Values Horsepower	Default Values Hours/day
Aerial Lifts	63	8
Air Compressors	106	8
Bore/Drill Rigs	206	8
Cement and Mortar Mixers	10	8
Concrete/Industrial Saws	64	8
Cranes	226	8
Crawler Tractors	208	8
Crushing/Proc. Equipment	142	8
Excavators	163	8
Forklifts	89	8
Generator Sets	66	8
Graders	175	8
Off-Highway Tractors	123	8
Off-Highway Trucks	400	8
Other Construction Equipment	172	8
Other General Industrial Equipment	88	8
Other Material Handling Equipment	167	8
Pavers	126	8
Paving Equipment	131	8
Plate Compactors	8	8
Pressure Washers	26	8
Pumps	53	8
Rollers	81	8
Rough Terrain Forklifts	100	8
Rubber Tired Dozers	255	8
Rubber Tired Loaders	200	8
Scrapers	362	8
Signal Boards	20	8
Skid Steer Loaders	65	8
Surfacing Equipment	254	8
Sweepers/Scrubbers	64	8
Tractors/Loaders/Backhoes	98	8
Trenchers	81	8
Welders	45	8

END OF DATA ENTRY SHEET

Road Construction Emissions Model, Version 7.1.1

Emission Estimates for -> Fred Waring Alt. 2											
Project Phases (English Units)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	Total PM10 (lbs/day)	Exhaust PM10 (lbs/day)	Fugitive Dust PM10 (lbs/day)	Total PM2.5 (lbs/day)	Exhaust PM2.5 (lbs/day)	Fugitive Dust PM2.5 (lbs/day)	CO2 (lbs/day)
Grubbing/Land Clearing	0.7	3.0	3.2	5.2	5.2	0.2	5.0	1.2	0.2	1.0	519.4
Grading/Excavation	0.8	3.7	7.4	5.3	5.3	0.3	5.0	1.3	0.3	1.0	1,180.7
Drainage/Utilities/Sub-Grade	0.7	3.0	3.0	5.2	5.2	0.2	5.0	1.2	0.2	1.0	503.4
Paving	0.7	3.0	2.1	0.2	0.2	0.2	-	0.2	0.2	-	421.0
Maximum (pounds/day)	0.8	3.7	7.4	5.3	5.3	0.3	5.0	1.3	0.3	1.0	1,180.7
Total (tons/construction project)	0.0	0.2	0.3	0.2	0.2	0.0	0.2	0.1	0.0	0.0	44.5

Notes: Project Start Year -> 2013

Project Length (months) -> 5

Total Project Area (acres) -> 20

Maximum Area Disturbed/Day (acres) -> 1

Total Soil Imported/Exported (yd³/day) -> 120

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

Emission Estimates for -> Fred Waring Alt. 2											
Project Phases (Metric Units)	ROG (kgs/day)	CO (kgs/day)	NOx (kgs/day)	PM10 (kgs/day)	Total PM10 (kgs/day)	Exhaust PM10 (kgs/day)	Fugitive Dust PM10 (kgs/day)	Total PM2.5 (kgs/day)	Exhaust PM2.5 (kgs/day)	Fugitive Dust PM2.5 (kgs/day)	CO2 (kgs/day)
Grubbing/Land Clearing	0.3	1.4	1.5	2.4	2.4	0.1	2.3	0.6	0.1	0.5	236.1
Grading/Excavation	0.4	1.7	3.4	2.4	2.4	0.2	2.3	0.6	0.1	0.5	536.7
Drainage/Utilities/Sub-Grade	0.3	1.4	1.4	2.4	2.4	0.1	2.3	0.6	0.1	0.5	228.8
Paving	0.3	1.3	1.0	0.1	0.1	0.1	-	0.1	0.1	-	191.4
Maximum (kilograms/day)	0.4	1.7	3.4	2.4	2.4	0.2	2.3	0.6	0.1	0.5	536.7
Total (megagrams/construction project)	0.0	0.2	0.2	0.2	0.2	0.0	0.2	0.1	0.0	0.0	40.4

Notes: Project Start Year -> 2013

Project Length (months) -> 5

Total Project Area (hectares) -> 8

Maximum Area Disturbed/Day (hectares) -> 0

Total Soil Imported/Exported (meters³/day) -> 92

PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.

Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns H and I. Total PM2.5 emissions shown in Column J are the sum of exhaust and fugitive dust emissions shown in columns K and L.

**Road Construction Emissions Model
Data Entry Worksheet**

Note: Required data input sections have a yellow background. Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background. The user is required to enter information in cells C:10 through C:25.



Input Type	Fred Waring Alt. 2
Project Name	
Construction Start Year	2013
Project Type	2
Project Construction Time	5.0
Predominant Soil/Site Type: Enter 1, 2, or 3	1
Project Length	0.65
Total Project Area	19.9
Maximum Area Disturbed/Day	0.5
Water Trucks Used?	1
Soil Imported	0.0
Soil Exported	120.0
Average Truck Capacity	20.0

Enter a Year between 2009 and 2025 (inclusive)

1 New Road Construction
2 Road Widening
3 Bridge/Overpass Construction

months

1. Sand Gravel
2. Weathered Rock-Earth
3. Blasted Rock

miles
acres
acres

1. Yes
2. No

yd³/day
yd³/day
yd³ (assume 20 if unknown)

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

The remaining sections of this sheet contain areas that can be modified by the user, although those modifications are optional.

Note: The program's estimates of construction period phase length can be overridden in cells C:34 through C:37.

Construction Periods	User Override of	Program
	Construction Months	Calculated Months
Grubbing/Land Clearing	0.50	0.50
Grading/Excavation	2.00	2.00
Drainage/Utilities/Sub-Grade	1.75	1.75
Paving	0.75	0.75
Totals	0.00	5.00

Hauling emission default values can be overridden in cells C45 through C46.

Soil Hauling Emissions		User Override of Soil Hauling Defaults		Default Values	
User Input		ROG	NOx	CO	CO2
Miles/round trip		0.40	11.32	1.78	1716.84
Round trips/day	30	0.00	0.00	0.00	0.00
Vehicle miles traveled/day (calculated)	6	0.2	4.5	0.7	680.7
	180	0.00	0.10	0.02	14.98

Worker commute default values can be overridden in cells C60 through C65.

Worker Commute Emissions		User Override of Worker Commute Default Values		Default Values	
		ROG	NOx	CO	CO2
Miles/one-way trip		0.204	0.283	2.490	443.262
One-way trips/day	20	0.204	0.283	2.490	443.262
No. of employees: Grubbing/Land Clearing	2	0.204	0.283	2.490	443.262
No. of employees: Grading/Excavation	4	0.678	0.455	5.753	95.442
No. of employees: Drains/Utilities/Sub-Grade	7	0.678	0.455	5.753	95.442
No. of employees: Paving	5	0.099	0.119	1.114	164.566
Emission rate - Grubbing/Land Clearing (grams/mile)		0.204	0.283	2.490	443.262
Emission rate - Grading/Excavation (grams/mile)		0.204	0.283	2.490	443.262
Emission rate - Draining/Utilities/Sub-Grade (g/mile)		0.678	0.455	5.753	95.442
Emission rate - Grubbing/Land Clearing (grams/trip)		0.678	0.455	5.753	95.442
Emission rate - Grading/Excavation (grams/trip)		0.678	0.455	5.753	95.442
Emission rate - Draining/Utilities/Sub-Grade (g/trip)		0.099	0.119	1.114	164.566
Pounds per day - Grubbing/Land Clearing		0.001	0.001	0.006	0.905
Tons per const. Period - Grub/Land Clear		0.099	0.119	1.114	164.566
Pounds per day - Grading/Excavation		0.002	0.003	0.025	3.620
Tons per const. Period - Grading/Excavation		0.099	0.119	1.114	164.566
Pounds per day - Drains/Utilities/Sub-Grade		0.002	0.002	0.021	3.168
Tons per const. Period - Drain/Util/Sub-Grade		0.121	0.119	1.114	213.384
Pounds per day - Paving		0.001	0.001	0.009	1.760
Tons per const. Period - Paving		0.006	0.007	0.061	9.454

Water truck default values can be overridden in cells C93 through C93 and E91 through E93.

Water Truck Emissions	User Override of Default # Water Trucks		Program Estimate of Number of Water Trucks		User Override of Truck Miles Traveled/Day		Default Values Miles Traveled/Day	
	Default # Water Trucks	Program Estimate of Number of Water Trucks	Number of Water Trucks	Number of Water Trucks	Miles Traveled/Day	Miles Traveled/Day	PM10	CO2
Grubbing/Land Clearing - Exhaust			1			40		
Grading/Excavation - Exhaust			1			40		
Drainage/Utilities/Subgrade			1			40		
	ROG	NOX	CO	PM2.5	CO2			
Emission rate - Grubbing/Land Clearing (grams/mile)	0.40	11.32	1.78	0.26	1716.84			
Emission rate - Grading/Excavation (grams/mile)	0.40	11.32	1.78	0.26	1716.84			
Emission rate - Draining/Utilities/Sub-Grade (gr/mile)	0.40	11.32	1.78	0.26	1716.84			
Pounds per day - Grubbing/Land Clearing	0.04	1.00	0.16	0.02	151.26			
Tons per const. Period - Grub/Land Clear	0.00	0.02	0.00	0.00	3.33			
Pound per day - Grading/Excavation	0.04	1.00	0.16	0.02	151.26			
Tons per const. Period - Grading/Excavation	0.00	0.02	0.00	0.00	3.33			
Pound per day - Drainage/Utilities/Subgrade	0.04	1.00	0.16	0.02	151.26			
Tons per const. Period - Drainage/Utilities/Subgrade	0.00	0.02	0.00	0.00	2.91			

Fugitive dust default values can be overridden in cells C110 through C112.

Fugitive Dust	User Override of Max Acreage Disturbed/Day		Default Maximum Acreage/Day		PM10		PM2.5	
	Default Acreage Disturbed/Day	Maximum Acreage/Day	Maximum Acreage/Day	Maximum Acreage/Day	pounds/day	tons/per period	pounds/day	tons/per period
Fugitive Dust - Grubbing/Land Clearing			0.5		5.0	0.0	1.0	0.0
Fugitive Dust - Grading/Excavation			0.5		5.0	0.1	1.0	0.0
Fugitive Dust - Drainage/Utilities/Subgrade			0.5		5.0	0.1	1.0	0.0

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles Program-estimate	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
		Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Excavators	0.00	0.00	0.00	0.00	0.00	0.00
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
		Graders	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
		Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Dozers	0.04	0.14	0.47	0.02	0.02	30.12
		Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
	1	Scrapers	0.01	0.03	0.07	0.00	0.00	5.88
	1	Signal Boards	0.53	1.60	1.58	0.14	0.13	167.57
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
		Grubbing/Land Clearing	0.6	1.8	2.1	0.2	0.1	203.6
		Grubbing/Land Clearing	0.0	0.0	0.0	0.0	0.0	1.1

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles Program-estimate	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
		Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
		Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
		Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
		Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
		Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
	0	Cranes	0.00	0.00	0.00	0.00	0.00	0.00
		Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
	1	Excavators	0.00	0.01	0.02	0.00	0.00	2.54
		Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
	1	Graders	0.01	0.02	0.07	0.00	0.00	4.31
		Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
		Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
	0	Other Construction Equipment	0.00	0.00	0.01	0.00	0.00	0.82
		Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Pavers	0.00	0.00	0.00	0.00	0.00	0.00
		Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
		Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
		Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		Rollers	0.00	0.00	0.00	0.00	0.00	0.00
		Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
		Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
	1	Rubber Tired Loaders	0.00	0.01	0.03	0.00	0.00	3.09
	1	Scrapers	0.01	0.03	0.07	0.00	0.00	5.88
	1	Signal Boards	0.53	1.60	1.58	0.14	0.13	187.57
		Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
		Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
		Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
		Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
		Welders	0.00	0.00	0.00	0.00	0.00	0.00
		Grading/Excavation	0.6	1.7	1.8	0.1	0.1	184.2
		(Grading)	0.0	0.0	0.0	0.0	0.0	4.1

Paving	Override of Default Number of Vehicles	Default Number of Vehicles Program-estimate	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	CO2 pounds/day
			Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00
			Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00
			Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00
			Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00
			Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00
			Cranes	0.00	0.00	0.00	0.00	0.00	0.00
			Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00
			Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00
			Excavators	0.00	0.00	0.00	0.00	0.00	0.00
			Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
			Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00
			Graders	0.00	0.00	0.00	0.00	0.00	0.00
			Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00
			Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00
			Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
			Other General Industrial Equipment	0.00	0.00	0.00	0.00	0.00	0.00
			Other Material Handling Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		1	Pavers	0.01	0.07	0.14	0.01	0.01	12.45
		1	Paving Equipment	0.02	0.17	0.28	0.01	0.01	26.35
			Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00
			Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00
			Pumps	0.00	0.00	0.00	0.00	0.00	0.00
		1	Rollers	0.00	0.01	0.02	0.00	0.00	1.26
			Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00
			Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00
			Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00
			Scrapers	0.00	0.00	0.00	0.00	0.00	0.00
		1	Signal Boards	0.53	1.60	1.58	0.14	0.13	167.57
			Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00
			Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00
			Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00
			Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00
			Trenchers	0.00	0.00	0.00	0.00	0.00	0.00
			Welders	0.00	0.00	0.00	0.00	0.00	0.00
			Paving	0.6	1.8	2.0	0.2	0.1	207.6
			Paving	0.0	0.0	0.0	0.0	0.0	1.7
			Total Emissions all Phases (tons per construction period) =>	0.0	0.1	0.1	0.0	0.0	10.5

Equipment default values for horsepower and hours/day can be overridden in cells C289 through C322 and E289 through E322.

Equipment	Horsepower	Default Values Hours/day
Aerial Lifts	63	8
Air Compressors	106	8
Bore/Drill Rigs	206	8
Cement and Mortar Mixers	10	8
Concrete/Industrial Saws	64	8
Cranes	226	8
Crawler Tractors	208	8
Crushing/Proc. Equipment	142	8
Excavators	163	8
Forklifts	89	8
Generator Sets	66	8
Graders	175	8
Off-Highway Tractors	123	8
Off-Highway Trucks	400	8
Other Construction Equipment	172	8
Other General Industrial Equipment	88	8
Other Material Handling Equipment	167	8
Pavers	126	8
Paving Equipment	131	8
Plate Compactors	8	8
Pressure Washers	26	8
Pumps	53	8
Rollers	81	8
Rough Terrain Forklifts	100	8
Rubber Tired Dozers	255	8
Rubber Tired Loaders	200	8
Scrapers	362	8
Signal Boards	20	8
Skid Steer Loaders	65	8
Surfacing Equipment	254	8
Sweepers/Scrubbers	64	8
Tractors/Loaders/Backhoes	98	8
Trenchers	81	8
Welders	45	8

END OF DATA ENTRY SHEET

Appendix B Traffic Memorandum



July 31, 2012

Mr. Ed Ng
AECOM
901 Via Piedmonte, 5th Floor
Ontario, CA 91764

Subject: Fred Waring Drive Improvements Opening Year Traffic Analysis

Dear Mr. Ng:

INTRODUCTION

Urban Crossroads, Inc. is pleased to submit this letter report documenting the Opening Year traffic analysis for the proposed Fred Waring Drive from Adams Street to Port Maria Road Improvement Project. The proposed project includes widening the north half of Fred Waring Drive from Adams Street to Port Maria Road and restriping Fred Waring Drive from Port Maria Road to Jefferson Street to provide three (3) travel lanes in each direction. Exhibit A illustrates the project location. As indicated on Exhibit A, the proposed project is generally located on Fred Waring Drive from Adams Street to Port Maria Road, which is west of Jefferson Street in the Bermuda Dunes area of the County of Riverside.

The analysis presented in this report has been prepared to reflect the currently anticipated construction schedule for the project with an Opening Year of 2013. The analysis has been prepared in conformance with the requirements of the County of Riverside and the California Environmental Quality Act (CEQA). CEQA requires that a "No-Build" scenario be analyzed, in addition to the Build scenario. The Build and No Build scenarios are evaluated for Opening Year (2013) conditions.

ANALYSIS LOCATIONS

The intersection analysis locations are presented on Exhibit B and include all Riverside County General Plan Circulation Element facilities in the study area. The intersection analysis locations have been reviewed and approved by the local responsible agency (County of Riverside). A total of 3 intersections

have been analyzed. Intersection turning movement counts have been collected by vehicle classification (i.e., passenger vehicles, 2-axle trucks, 3-axle trucks, and 4+axle trucks) at the intersections identified on Exhibit B and listed below:

Adams Street (NS) at:

1. Fred Waring Drive (EW)

Dune Palms Drive (NS) at:

2. Fred Waring Drive (EW)

Jefferson Street (NS) at:

3. Fred Waring Drive (EW)

EXISTING (2009) TRAFFIC VOLUMES

Existing traffic data was previously presented in the Fred Waring Drive Traffic Volume Forecasts letter report (prepared by Urban Crossroads, Inc. and dated September 17, 2009). The Fred Waring Drive Traffic Volume Forecasts letter report is included to this report as Attachment "A". Based on the existing traffic volume data compilation (presented in Attachment "A"), the resulting Existing (2009) conditions AM / PM peak hour intersection turning movement volumes and daily roadway segment volumes are presented on Exhibit C.

FUTURE TRAFFIC VOLUME FORECASTS

OPENING YEAR (2013)

Opening Year (2013) Without Project traffic volumes have been based on straight line growth interpolation between the Existing (2009) traffic volumes and the Horizon Year (2035) Without Project traffic volumes. The Horizon Year traffic data was also previously presented in the Fred Waring Drive Traffic Volume Forecasts letter report (prepared by Urban Crossroads, Inc. and dated September 17, 2009). The volume forecasts letter is included as Attachment "A" to this letter report. The calculations used to generate the Opening Year (2013) Without Project traffic volumes are included to this letter

report as Attachment "B". Based on the calculations (presented in Attachment "B"), the resulting Opening Year (2013) Without Project conditions AM / PM peak hour volumes and daily roadway segment volumes are presented on Exhibit D.

The project proposes to construct a raised median east of Adams Street to immediately east of Dune Palms Road. Attachment "C" includes the project's proposed design plans along Fred Waring Drive. The median will restrict existing left turn in / out movements from: 1.) Chapelton Drive, 2.) The gated community immediately west of Dune Palms Road, and 3.) Old Harbour Road to right turn in / out only movements. Therefore, manual traffic volume adjustments have been performed to reflect the presence of the proposed median. Based on visual inspection of the additional minor roadways and adjacent land uses that they serve in the study area, constructing the raised median as part of the proposed project is expected to result in a five percent (5%) increase in left turn (U-Turn) movements at the two intersections most affected by the project. For purposes of establishing the number of eastbound U-Turns at Dune Palms Road, the eastbound left turns at Jefferson Street have been used as the basis. Attachment "D" contains the traffic volume rerouting assumptions utilized for Opening Year (2013) "With Project" conditions. As shown on Attachment "D", the construction of the proposed median will primarily result in additional U-turns within the study area.

The Opening Year (2013) With Project traffic volumes have been based on the Opening Year (2013) Without Project traffic volumes in conjunction with the manual traffic rerouting adjustments presented in Attachment "D". Exhibit E illustrates the resulting Opening Year (2013) With Project conditions AM / PM peak hour volumes and daily roadway segment volumes.

TRAFFIC OPERATIONS ANALYSIS

Intersection capacity analyses were performed using the 2000 Highway Capacity Manual (HCM) methodology. The computer software program, Traffix, has been utilized to calculate the intersection delay values and resulting Levels of Service (LOS). Traffix is a traffic analysis software that is capable of performing intersection delay analyses using various methodologies, including the HCM method.

The HCM defines Level of Service (LOS) as a qualitative measure which describes operational conditions within a traffic stream, generally in terms of such factors as speed and travel time, freedom to maneuver,

traffic interruptions, comfort and convenience, and safety. The criteria used to evaluate LOS conditions vary based on the type of roadway and whether the traffic flow is considered interrupted or uninterrupted.

The definitions of level of service for uninterrupted flow (flow unrestrained by the existence of traffic control devices) are:

- LOS "A" represents free flow. Individual users are virtually unaffected by the presence of others in the traffic stream.
- LOS "B" is in the range of stable flow, but the presence of other users in the traffic stream begins to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.
- LOS "C" is in the range of stable flow, but marks the beginning of the range of flow in which the operation of individual users becomes significantly affected by interactions with others in the traffic stream.
- LOS "D" represents high-density but stable flow. Speed and freedom to maneuver are severely restricted, and the driver experiences a generally poor level of comfort and convenience.
- LOS "E" represents operating conditions at or near the capacity level. All speeds are reduced to a low, but relatively uniform value. Small increases in flow will cause breakdowns in traffic movement.
- LOS "F" is used to define forced or breakdown flow. This condition exists wherever the amount of traffic approaching a point exceeds the amount which can traverse the point. Queues form behind such locations.

The definitions of level of service for interrupted traffic flow (flow restrained by the existence of traffic signals and other traffic control devices) differ slightly depending on the type of traffic control.

The level of service is typically dependent on the quality of traffic flow at the intersections along a roadway. The HCM methodology expresses the level of service at an intersection in terms of delay time for the various intersection approaches. The HCM uses different procedures depending on the type of intersection control. The levels of service determined in this study were determined using the HCM methodology.

For signalized intersections, average total delay per vehicle for the overall intersection is used to determine level of service. Levels of service at the signalized study area intersection have been evaluated using an HCM intersection analysis program.

The levels of service are defined for the various analysis methodologies as follows:

**SIGNALIZED INTERSECTION
LEVEL OF SERVICE (LOS) THRESHOLDS**

LEVEL OF SERVICE	AVERAGE TOTAL DELAY PER VEHICLE (SECONDS)
A	0 to 10.00
B	10.01 to 20.00
C	20.01 to 35.00
D	35.01 to 55.00
E	55.01 to 80.00
F	80.01 and up

EXISTING CONDITIONS

Table 1 summarizes the peak hour intersection operations analysis results for Existing (2009) conditions. The data used in this analysis reflect Existing (2009) traffic volumes and existing intersection lane configurations. The intersection capacity analysis calculation worksheets for Existing (2009) conditions are included as Attachment "E". As indicated in Table 1, all of the study area intersections are currently operating at an acceptable level of service (Level of Service "D" or better).

OPENING YEAR (2013) WITHOUT PROJECT CONDITIONS

Table 2 summarizes the peak hour intersection operations analysis results for Opening Year (2013) Without Project conditions. The intersection capacity analysis calculation worksheets for Opening Year (2013) Without Project conditions are included as Attachment "F". The analysis results indicate that all of the study area intersections will operate at an acceptable level of service.

OPENING YEAR (2013) WITH PROJECT CONDITIONS

Table 3 summarizes the peak hour intersection operations analysis results for Opening Year (2013) With Project conditions. The intersection capacity analysis calculation worksheets for Opening Year (2013) conditions are included as Attachment "G". The analysis results indicate that all intersections will operate at acceptable LOS "D" or better. The proposed improvements will generally result in a reduction in delay at the various intersections. The only exception is the PM peak hour at the intersection of Dune Palms Road (NS) at Fred Waring Drive (EW). Delay increases slightly at this location due to the increase in pedestrian minimum green times that will be required in association with the widening of Fred Waring Drive.

TRAVEL SPEEDS AND VEHICLE CLASSIFICATION DATA

The travel speeds for AM peak hour, PM peak hour, and remainder day are presented on Table 4. The speeds have been calculated based on estimated 50% travel speeds for roadway segments and estimated delays at the major intersections evaluated in this analysis. Speeds have also been adjusted based on the change in overall volume to capacity ratio once the proposed project improvements have been constructed. The proposed project is expected to result in higher travel speeds within the study area under Opening Year (2013) conditions. Average travel speeds range between 23.2 and 36.0 miles per hour (mph) for the various scenarios and segments.

Vehicle classification (heavy duty truck) volumes and percentages have been calculated for all scenarios based on the existing data. Vehicles with 3 or more axles have been categorized as Heavy Duty Trucks for purposes of this analysis. Table 5 presents the Opening Year (2013) Without Project

Mr. Ed Ng
AECOM
July 31, 2012
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heavy duty truck percentages, while Table 6 5 presents the Opening Year (2013) Without Project heavy duty truck percentages. The heavy duty truck percentages range between 0.9 and 1.1%

CLOSING

Urban Crossroads, Inc. is pleased to provide this traffic analysis for your use. If you have any questions or concerns regarding this traffic impact analysis, please give me a call at (949) 660-1994 x 210.

Sincerely,

URBAN CROSSROADS, INC.



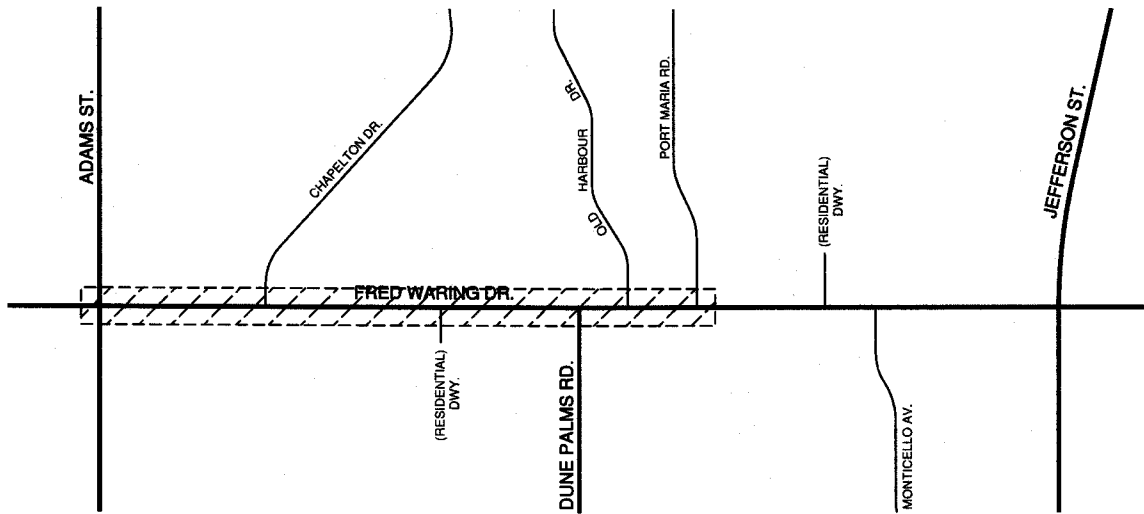
Carleton Waters, P.E.
Principal

CW:JC:rd

JN:05494-07 Report

Attachments

EXHIBIT A LOCATION MAP



LEGEND:

 - ROADWAY IMPROVEMENT PROJECT LOCATION