

California High-Speed Rail Authority

Bakersfield to Palmdale ***Project Section***

Draft Project Environmental Impact Report/Environmental Impact Statement

**Appendix 3.12-C: Children's Health and
Safety Risk Assessment**

April 2019



The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being or have been carried out by the State of California pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated July 23, 2019, and executed by the Federal Railroad Administration and the State of California.

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APPENDIX 3.12-C: CHILDREN’S HEALTH AND SAFETY RISK ASSESSMENT

3.12-C-1 INTRODUCTION

This appendix describes potential children’s environmental health and safety risks associated with the Bakersfield to Palmdale Project Section of the California High Speed Rail (HSR) Project in support of Section 3.12, Socioeconomics and Communities.

3.12-C-1-1 Regulatory Setting

Executive Order (EO) 13045, Protection of Children from Environmental Health and Safety Risks, was issued in 1997 to minimize environmental health and safety risks to children, and to prioritize the identification and assessment of environmental health and safety risks that may have a disproportionate impact on children. EO 13045 also ensures that federal agencies, in their policies, programs, activities, and standards, address environmental and safety risks to children. Environmental health risks and safety risks include risks to health or to safety that are attributable to products or substances that children are likely to come into contact with or ingest, such as air, food, drinking water, recreational waters, soil, or products they might use or be exposed to. In proportion to their size, children breathe more air, drink more water, and eat more food than adults. This puts them at greater risk of exposure to pollutants. Children’s bodies are also less able to metabolize, detoxify, and expunge these pollutants.

3.12-C-1-2 Methodology and Definitions

The analysis was performed in accordance with EO 13045 and consisted of conducting a demographic analysis and review of the HSR Build Alternatives (including the CCNM Design Option) and the Palmdale Station site to qualitatively assess whether the project would result in children’s environmental health and safety risks. The analysis is based on the environmental documentation prepared in support of the Bakersfield to Palmdale Project Section Environmental Impact Report/Environmental Impact Statement (EIR/EIS). The following sections were reviewed because these resources would have the greatest potential to affect children’s health and safety:

- Section 3.2, Transportation
- Section 3.3, Air Quality and Global Climate Change
- Section 3.4, Noise and Vibration
- Section 3.5, Electromagnetic Fields and Electromagnetic Interference
- Section 3.8, Hydrology and Water Resources
- Section 3.10, Hazardous Materials and Wastes
- Section 3.11, Safety and Security
- Section 3.12, Socioeconomics, Communities, and Environmental Justice
- Section 3.15, Parks, Recreation, and Open Space
- Section 3.19, Cumulative Impacts

The project study area in this analysis is defined as 0.5 mile from the HSR Build Alternatives and the Palmdale Station site. The analysis for the Bakersfield Station Site–Hybrid Alternative was addressed in Appendix 3.12-C, Children’s Health and Safety Risk Assessment, in the *Fresno to Bakersfield Section Final EIR/EIS* (California High Speed Rail 2015). The analysis for the Bakersfield Station Site–F Street (Locally Generated Alternative) is based on the *Fresno to Bakersfield Section Supplemental EIR/EIS* (California High Speed Rail 2014).

This 0.5-mile distance from the HSR Build Alternatives and Palmdale Station site was selected because this is the area where the majority of the project effects would occur (i.e., noise impacts only extend about 0.25 mile, and local air quality impacts consider sensitive receptors, such as schools, residences, and health-care facilities, under 0.25 mile). Some disciplines, such as air quality, analyze a broader area when potential impacts could reach beyond 0.25 mile, but these effects would occur on a regional level. For the purposes of this analysis, children are defined as the population under the age of 18 within the study area.

3.12-C-1-3 Significance

Substantial effects on children’s health and safety are defined as those impacts and effects on the environment that result in negative impacts on children as a result of one or more of the following (the associated resources are provided in parenthesis):

- Potential respiratory impacts, including asthma and Valley Fever, from air pollutant emissions and generation of fugitive dust (Air Quality and Global Climate Change)
- Potential noise impacts on health and learning, especially in areas where children congregate (such as schools, parks, and residential areas) (Noise and Vibration)
- Potential impacts from the use of chemicals, such as dust suppression methods and hazardous materials (Hazardous Materials and Wastes)
- Potential safety risks to children, especially where the Build Alternatives are located near areas where children congregate (Transportation; Electromagnetic Fields and Electromagnetic Interference; Hydrology and Water Resources; Safety and Security; Socioeconomics and Communities; Parks, Recreation, and Open Space; and Cumulative Impacts)

3.12-C-2 EXISTING CONDITIONS

This section provides information on demographics, community setting, schools, parks, and other community facilities located within the study area.

3.12-C-2-1 Demographics

Figure 3.12-C-1 provides information on the population under the age of 18 in the cities and communities within 0.5 mile of the HSR Build Alternatives. The percentage of the population under 18 in the entire two-county region is 24.5 percent. Within the study area, the community of Edison in Kern County has the highest percentage of the population under 18 (38.3 percent) and the community of Keene has the lowest percentage of population under 18 (15.8 percent). For additional information on demographics, refer to Section 3.12, Socioeconomics and Communities.

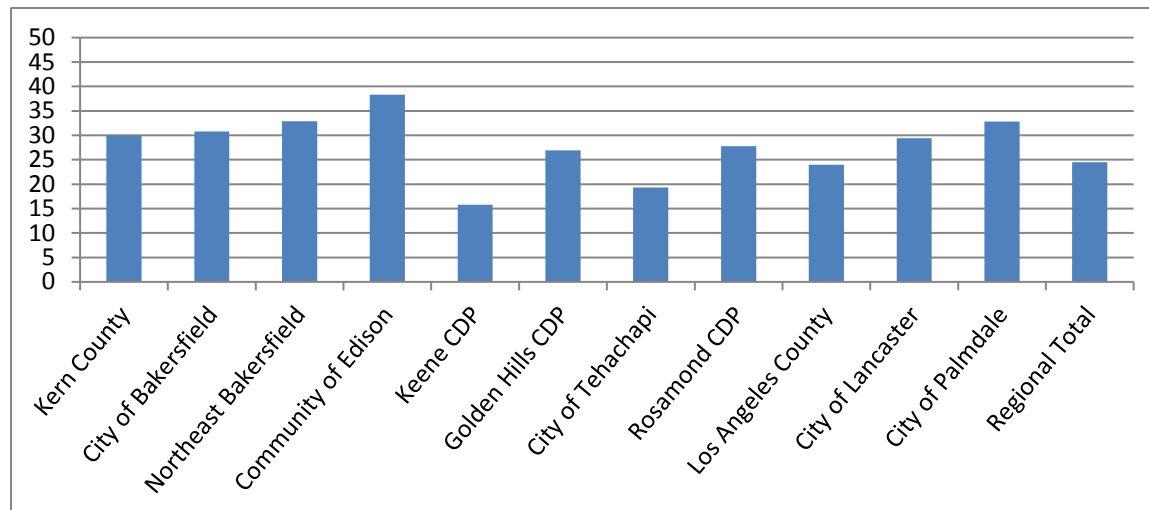


Figure 3.12-C-1 Percentage of Population Under 18 Years of Age

3.12-C-2-2 Community Setting

The region consists of two counties: Kern and Los Angeles. The study area runs through many communities, including the large urban areas of Palmdale, Lancaster, and Bakersfield, which act as the major social and economic focal points of the region. Most of the residents, businesses, and community resources in the study area are in these largest three cities. The project also

passes through smaller communities that contain residences and businesses: Edison, Keene, Golden Hills, Tehachapi, and Rosamond. The remainder of the study area consists mostly of rural agricultural and vacant land with few concentrations of residences, businesses, services, and community facilities, or other areas where children would congregate. For complete information on the community setting, refer to Section 3.12, Socioeconomics and Communities.

3.12-C-2-3 Schools

School Locations

Table 3.12-C-1 shows school facilities, including public and private elementary, middle, and high schools, within the 0.5-mile study area for the alternative alignments. This analysis does not include post-secondary education facilities. There are a total of 28 schools that fall within the study area. The locations of the schools within each community are presented on Figure 3.12-1 in Section 3.12, Socioeconomics and Communities.

Table 3.12-C-1 Schools Within 0.5 Mile of the High-Speed Rail Build Alternatives

Facility No. ¹	Name/Address	Jurisdiction
3	Bethel Apostolic Academy 1418 W Columbus Drive	Bakersfield
4	Stella Hills Elementary School 3800 Jewett Avenue	Bakersfield
5	Eternity Preparatory High School and Academy 2119 20th Street	Bakersfield
8	Downtown Elementary School 2021 M Street	Bakersfield
34	Sandstone Elementary 301 E 18th Street	Bakersfield (Northeast Bakersfield District)
35	Our Lady of Guadalupe School 609 E California Avenue	Bakersfield (Northeast Bakersfield District)
51	Bessie E. Owens Intermediate School 815 Eureka Avenue	Bakersfield (Northeast Bakersfield District)
55	Bessie E. Owens Primary School 815 Potomac Avenue	Bakersfield (Northeast Bakersfield District)
63	Williams Elementary School 1201 Williams Street	Bakersfield (Northeast Bakersfield District)
69	Mt. Vernon Elementary School 2161 Potomac Avenue	Unincorporated Kern County (Northeast Bakersfield District)
72	Bethel Christian School 2236 E California Avenue	Unincorporated Kern County (Northeast Bakersfield District)
79	Horace Mann Elementary School 2710 Niles Street	Unincorporated Kern County (Northeast Bakersfield District)
80	Ramon Garza Elementary School 2901 Center Street	Unincorporated Kern County (Northeast Bakersfield District)
81	Sierra Middle School 3017 Center Street	Unincorporated Kern County (Northeast Bakersfield District)
83	Virginia Avenue Elementary School 3301 Virginia Avenue	Unincorporated Kern County (Northeast Bakersfield District)

Facility No. ¹	Name/Address	Jurisdiction
88	Pioneer Drive Elementary School 4404 Pioneer Drive	Unincorporated Kern County (Northeast Bakersfield District)
92	Foothill High School 501 Park Drive	Unincorporated Kern County (Northeast Bakersfield District)
94	Edison Middle School 721 Edison Road	Edison
98	Eden Academy 30100 Oak Court	Keene
109	Mariposa Elementary School 737 W Avenue H-6	Lancaster
111	Phoenix Community Day School 228 E Avenue H-8	Lancaster
115	Antelope Valley Seventh-Day Adventist School 45002 Fern Avenue	Lancaster
116	Sacred Heart School 625 W Kettering Street	Lancaster
122	Antelope Valley High School 44900 N Division Street	Lancaster
137	Desert Montessori Academy 44503 Fern Avenue	Lancaster
142	Life Source International Charter School 44339 Beech Avenue	Lancaster
143	Lancaster Alternative and Virtual Academy 44310 Hardwood Avenue	Lancaster
145	Joshua Elementary School 43926 2nd Street E	Lancaster

Sources: *City of Bakersfield (2016)*, *City of Lancaster (2016)*, *City of Palmdale (2016)*, and *City of Tehachapi (2016)*

¹ Refer to Figure 3.12-A-1 in Appendix 3.12-A: Socioeconomics and Communities Figures and Tables, for the locations of the schools cited in this table.

HSR = high-speed rail

School District Boundaries

It is likely that many of the students in the school districts crossed by the proposed HSR Build Alternatives use transportation provided by the school district, rely on family members, or drive themselves to school. Figure 3.12-12 in Section 3.12, Socioeconomics and Communities, shows the boundaries of the school districts in the study area.

3.12-C-2-4 Parks and Recreation

Table 3.12-C-2 lists the parks and recreation facilities within the study area and includes information on whether the resources are considered passive or active. Passive resources are identified as open space areas with trails and/or picnic areas. Active resources are identified as those that require development (such as playgrounds and ball fields). Parks that are considered active are associated with more intensive use by children. Table 3.12-C-2 demonstrates that of the 13 parks, recreation facilities, and open space resources in the study area, 1 is passive and 12 are active. The locations of the parks, recreation, and open space resources within each community are presented on Figure 3.12-1 in Section 3.12, Socioeconomics and Communities.

Table 3.12-C-2 Parks, Recreation, and Open Space Resources Within 0.5 Mile of the High-Speed Rail Build Alternatives

Facility No. ¹	Name/Address	Jurisdiction	Passive or Active?
26	Amtrak Station Playground 601 Truxtun Avenue	Bakersfield	Active
30	Central Park 600 21st Street	Bakersfield	Active
32	Hellenic Park (Private) 401 Truxtun Avenue	Bakersfield	Passive
54	Dr. Martin Luther King Park 1000 S Owens Street	Unincorporated Kern County (Northeast Bakersfield District)	Active
82	Potomac Park 2905 Potomac Avenue	Unincorporated Kern County (Northeast Bakersfield District)	Active
89	Pioneer County Park 4929 Pioneer Drive	Unincorporated Kern County (Northeast Bakersfield District)	Active
103	Benz Youth Sports and Culture Park (Private) 20537 Tehachapi Willow Springs Road	Tehachapi	Active
108	Mariposa Park 45755 N Fig Avenue	Lancaster	Active
110	Whit Carter Park 45635 Sierra Highway	Lancaster	Active
118	Mays Field 45000 3rd Street E	Lancaster	Active
139	Jane Reynolds Park/Webber Pool 716 Oldfield Street	Lancaster	Active
148	Desert Sands Park 39117 3rd Street E	Palmdale	Active
159	Courson Park 38226 10th Street E	Palmdale	Active

Sources: City of Bakersfield (2016), City of Lancaster (2016), City of Palmdale (2016), and City of Tehachapi (2016)

¹ Refer to Figure 3.12-1 in Section 3.12, Socioeconomics and Communities, for the locations of the parks, recreation, and open space resources cited in this table.

HSR = high-speed rail

3.12-C-2-5 Community Facilities

Table 3.12-C-3 shows other community facilities where children congregate, including religious institutions, museums, libraries, and community centers. Religious facilities represent the majority of the study area community facilities. The locations of the community facilities where children congregate within each community are presented on Figure 3.12-1 in Section 3.12, Socioeconomics and Communities.

Table 3.12-C-3 Community Facilities Where Children Congregate Within 0.5 Mile of the High-Speed Rail Build Alternatives

Facility No. ¹	Name/Address	Jurisdiction
9	Garden Community Church 2010 O Street	Bakersfield
12	First Baptist Church 2787 20th Street W	Bakersfield
18	Ebenezer Baptist Church 1401 California Avenue	Bakersfield
19	Bakersfield Muslim Center 1221 California Avenue	Bakersfield
20	Tristone Baptist Church 1031 M Street	Bakersfield
21	California Avenue Church of Christ 1020 California Avenue	Bakersfield
22	Rafer Johnson Children's Center 1100 9th Street	Bakersfield
23	Trinity Temple Church of God in Christ 1028 O Street	Bakersfield
24	Mt. Zion Baptist Church 825 California Avenue	Bakersfield
25	Cain Memorial African Methodist Episcopal Church 630 California Avenue	Bakersfield
27	Beale Memorial Library 701 Truxtun Avenue	Bakersfield
29	Bakersfield Museum of Art 1930 R Street	Bakersfield
31	First Christian Church 1660 S Street	Bakersfield
33	St. George's Greek Orthodox Church 401 Truxtun Avenue	Bakersfield
36	Our Lady of Guadalupe Church 601 E California Avenue	Bakersfield (Northeast Bakersfield District)
37	Pentecostal Holiness Church of Jesus Christ 712 Union Avenue	Bakersfield (Northeast Bakersfield District)
38	Baker Street Church of Christ 200 Baker Street	Bakersfield (Northeast Bakersfield District)
39	Bethany United Methodist Church 407 Baker Street	Bakersfield (Northeast Bakersfield District)
41	Apostolic Evangelistic Faith Church 900 Baker Street	Bakersfield (Northeast Bakersfield District)
42	Al Farooq Islamic Center 615 Kentucky Street	Bakersfield (Northeast Bakersfield District)

Facility No. ¹	Name/Address	Jurisdiction
43	Calvary Baptist Church 623 Niles Street	Bakersfield (Northeast Bakersfield District)
44	Baker Branch 1400 Baker Street	Bakersfield (Northeast Bakersfield District)
45	Trinity United Methodist Church 724 Niles Street	Bakersfield (Northeast Bakersfield District)
46	Iglesia de Dios Pentecostal 800 Monterey Street	Bakersfield (Northeast Bakersfield District)
47	La Trinidad Church No address available	Bakersfield (Northeast Bakersfield District)
50	Bakersfield Rescue Mission 816 E 21st Street	Bakersfield (Northeast Bakersfield District)
52	Full Gospel Lighthouse 800 Butte Street	Bakersfield (Northeast Bakersfield District)
53	Grace Pentecostal Tabernacle 209 Beale Avenue	Bakersfield (Northeast Bakersfield District)
56	Martin Luther King Community Center 1000 S Owens Street	Bakersfield (Northeast Bakersfield District)
58	Chapel of Praise Church of God in Christ 1223 Dolores Street	Bakersfield (Northeast Bakersfield District)
59	Saints Memorial Church of God in Christ No address available	Bakersfield (Northeast Bakersfield District)
60	Faith Lighthouse 1230 Monterey Street	Bakersfield (Northeast Bakersfield District)
61	Vanguard Community Center 1701 Niles Street	Bakersfield (Northeast Bakersfield District)
64	Livingstone Church 1631 Lake Street	Unincorporated Kern County (North Bakersfield District)
65	Niles Assembly of God Church 1701 Niles Street	Unincorporated Kern County (North Bakersfield District)
66	My God Is Real Ministries 1900 Potomac Avenue	Unincorporated Kern County (North Bakersfield District)
67	Chapman Street Roman Catholic Church 823 Chapman Street	Unincorporated Kern County (North Bakersfield District)
70	Trinity Baptist Church 723 Mount Vernon Avenue	Unincorporated Kern County (North Bakersfield District)
71	Iglesia Centro Cristiano 1027 Mount Vernon Avenue	Unincorporated Kern County (North Bakersfield District)
73	First Free Will Baptist Church 2400 E California Avenue	Unincorporated Kern County (North Bakersfield District)
74	Iglesia Emmanuel 2408 Potomac Avenue	Unincorporated Kern County (North Bakersfield District)

Facility No. ¹	Name/Address	Jurisdiction
75	Hope Christian Center 201 E Brundage Lane	Unincorporated Kern County (North Bakersfield District)
76	Greater Bakersfield Ministries 2503 Niles Street	Unincorporated Kern County (North Bakersfield District)
77	East Hills Nazarene Church 2503 Niles Street	Unincorporated Kern County (North Bakersfield District)
78	First Southern Hispanic Baptist Church 2657 Niles Street	Unincorporated Kern County (North Bakersfield District)
84	Calvary Gospel Tabernacle 424 Sterling Road	Unincorporated Kern County (North Bakersfield District)
85	East Bakersfield Pentecostal Holiness Church No address available	Unincorporated Kern County (North Bakersfield District)
86	Unitarian Universalist Fellowship of Kern County 98 Sterling Road	Unincorporated Kern County (North Bakersfield District)
90	Ruggenberg Career Center 610 Ansol Lane	Unincorporated Kern County (North Bakersfield District)
93	Church of Jesus Christ of Latter-Day Saints 851 Monica Street	Unincorporated Kern County (North Bakersfield District)
96	First Baptist Church Edison 916 Walter Avenue	Edison
100	National Chavez Center 27900 Woodford-Tehachapi Road	Keene
104	Calvary Bible Fellowship 15719 Highline Road	Tehachapi
105	Willow Springs International Raceway 3500 75th Street W	Rosamond
112	Trinity Community Church 45361 Trevor Avenue	Lancaster
113	Iglesia De Cristo 45314 Beech Avenue	Lancaster
114	Power of Praise Ministries 659 W Avenue I	Lancaster
117	Sacred Heart Catholic Church 565 W Kettering Street	Lancaster
123	Museum of Art and History 665 W Lancaster Boulevard	Lancaster
124	Lancaster Library 601 W Lancaster Boulevard	Lancaster
126	Western Hotel Museum 557 W Lancaster Boulevard	Lancaster
127	AV Life Church 540 W Lancaster Boulevard	Lancaster

Facility No. ¹	Name/Address	Jurisdiction
128	Antelope Valley Christian Center 304 W Lancaster Boulevard	Lancaster
129	Living Word Fellowship Church 224 W Lancaster Boulevard	Lancaster
130	Lancaster Performing Arts Center 750 W Lancaster Boulevard	Lancaster
131	First Church of Christ, Scientist 44802 Fern Avenue	Lancaster
132	Solid Rock Bible Church 560 W Milling Street	Lancaster
134	Spirit & Truth Missionary Baptist 44722 Yucca Avenue	Lancaster
135	Lancaster Religious Science 44702 Cedar Avenue	Lancaster
137	Templo de Restauracion 44601 Division Street	Lancaster
138	Saint Hillrie Church of God 628 W Oldfield Street	Lancaster
139	St. Columba's Anglican Church 44405 Fig Avenue	Lancaster
140	True Vine Gospel Church 859 E Avenue Q	Palmdale
141	First Baptist Church of Palmdale 1037 E Palmdale Boulevard	Palmdale
142	Palmdale City Library 700 E Palmdale Boulevard	Palmdale
143	Foursquare Church of Palmdale 38335 10th Street E	Palmdale

Sources: City of Bakersfield (2016), City of Lancaster (2016), City of Palmdale (2016), City of Tehachapi (2016), and Google Maps (for churches) (2016)

¹ Refer to Figure 3.12-1 in Section 3.12, Socioeconomics and Communities, for the locations of the community facilities cited in this table.
HSR = high-speed rail

3.12-C-3 ENVIRONMENTAL CONSEQUENCES

This section describes the potential effects to children's health and safety as a result of construction and operation of the proposed project.

3.12-C-3-1 Overview

Analysis based on the Bakersfield to Palmdale Project Section EIR/EIS demonstrates the HSR project would not affect products or substances (i.e., water, soil, and food) that a child is likely to ingest, use, be exposed to, or come into contact with. No significant impacts on children's health and safety are expected from construction or operation of the HSR Build Alternatives.

3.12-C-3-2 No Project Alternative

The No Project Alternative includes planned projects that will likely be implemented by 2035. Chapter 2, Alternatives, in the Bakersfield to Palmdale EIR/EIS provides a complete description

of the No Project Alternative, and Section 3.19, Cumulative Impacts, discusses foreseeable future projects, including shopping centers and large residential and industrial developments. Under the No Project Alternative, school, parks, and community facilities either would not be affected, or any resulting effects would be less than substantial under NEPA, and any impacts would be mitigated to less than significant under CEQA. The No Project Alternative would likely not result in any significant impacts or effects on children's health and safety because of the regulations that would be required before construction of these associated projects.

3.12-C-3-3 High-Speed Rail Build Alternatives

Construction Impacts of High-Speed Rail Build Alternatives and Palmdale Station Site

The impacts on children's health and safety from construction of the HSR Build Alternatives and Palmdale Station site were determined by reviewing the construction impacts associated with the environmental elements addressed in the Bakersfield to Palmdale Project Section EIR/EIS. Table 3.12-C-4 provides information about the potential impacts and their significance after implementation of mitigation measures. Construction activities would be temporary, although these activities would occur over a longer duration in the station areas (refer to Chapter 2, Alternatives, for information on the construction period time frame).

Table 3.12-C-4: Construction Impacts on Children's Health and Safety

Environmental Element	Impacts Summary	Relevance to Children's Health and Safety
Transportation	<p>Adverse impacts as a result of local roadway modifications and construction activities may temporarily disrupt circulation patterns in some communities. Although access to some neighborhoods, businesses, or community facilities would be disrupted and detoured for short periods during construction, access would be available. Any roadways that would require realignment would be constructed before the closure of the existing roadway to minimize impacts. Construction would also require an increase in truck trips that could increase congestion. In addition, construction activities would affect pedestrians, bicyclists, and transit because of detours, traffic delays, and increased congestion.</p> <p>During construction, there may be temporary impacts related to school bus detours due to road closures. Standard construction procedures related to traffic management would be used to maintain traffic flow during peak travel periods, including identification of when and where temporary closures and detours would occur. For example, in those areas where a new crossing is required, detours would be built first and traffic diverted. After construction is completed, traffic would be diverted back to the new overcrossing.</p>	<p>Before construction, a Construction Management Plan would be implemented and would include information to address communications, safety controls, and traffic controls to minimize impacts and maintain access. Additionally, a Construction Transportation Plan would be prepared before construction to provide information ensuring the safety of students and advising school districts of construction activities. With mitigation, the effects on children's health and safety would be less than significant.</p>

Environmental Element	Impacts Summary	Relevance to Children's Health and Safety
Air Quality and Global Climate Change	<p>Construction activities, such as earthmoving, could result in a substantial amount of fugitive dust emissions and potential exposure to cancer risks and Valley Fever. These emissions could have potential localized impacts on children in the vicinity of construction sites. These impacts would be reduced through the use of project design features, including the Valley Fever Action Plan.</p> <p>Station construction would take place over a period of approximately four years, and children at schools, residences, and health-care facilities could potentially be exposed to health impacts from elevated concentrations of criteria pollutants and cancer risks. After mitigation, cancer risks for any sensitive receptor near the station construction area are estimated to be below 10 in 1 million and within applicable air quality thresholds. At the regional level, construction activities would result in increased fugitive dust emissions.</p>	<p>With mitigation measures and design features, the impacts on children's health and safety would be less than significant.</p>
Noise and Vibration	<p>Noise and vibration from construction activities would temporarily exceed noise and vibration standards and affect sensitive receivers along the entire project corridor. There are no construction noise and vibration impacts projected for any of the schools along the project corridor.</p>	<p>With mitigation, the noise and vibration effects on children's health and safety would be less than significant.</p>
Electromagnetic Fields/ Electromagnetic Interference (EMF/EMI)	<p>There would be no significant impacts during construction because construction equipment generates low levels of EMF and EMI.</p>	<p>There would be no impacts related to children's health and safety.</p>
Hydrology and Water Resources	<p>All construction impacts related to hydrology and water quality as a result of implementing the Bakersfield to Palmdale Project Section and Palmdale Station site would be less than significant because of compliance with National Pollutant Discharge Elimination System permits and project-specific design standards.</p>	<p>There would be no impacts related to children's health and safety.</p>
Hazardous Materials and Wastes	<p>The construction of any of the project alternatives would involve transporting, using, and disposing of construction-related hazardous materials and wastes. Potentially, such construction could result in accidental spills or releases of hazardous materials and wastes, and result in temporary hazards to schools. Mitigation measures will be implemented to ensure the use of extremely hazardous substances or mixture thereof in a quantity equal to or greater than the state threshold quantity will not occur within 0.25 mile of a school.</p>	<p>With implementation of mitigation measures, the effect of HSR project construction related to routine transport and handling of hazardous or acutely hazardous materials within 0.25 mile of an existing or proposed school would be less than significant.</p> <p>The effect of hazardous materials released to the environment in the unlikely event of a leak or spill as the result of an accident or collision during construction would largely be negligible because of the generally small quantities of materials transported or used at any given time and because of the precautions required by existing regulations.</p>

Environmental Element	Impacts Summary	Relevance to Children’s Health and Safety
		<p>In general, implementation of regulatory requirements would reduce the potential for a severe spill to a negligible intensity. Therefore, there would be no significant impacts on children’s health and safety.</p>
<p>Safety and Security</p>	<p>The general public would not have access to construction areas for the Build Alternatives or HSR stations.</p> <p>The roads crossing the HSR alignment would be grade-separated, typically with a road overcrossing, which improves the safety of children crossing the HSR alignment. During construction, the roads would have to be temporarily closed and traffic would have to be detoured onto other roads. At these locations, lane closures and detours could potentially create a distraction to automobile drivers, pedestrians, and cyclists. Distraction and unfamiliarity with detours could lead to accidents. In addition, the road closures, detours, and localized automobile congestion could increase the response time for law enforcement, fire, and emergency services personnel, and school buses. Emergency evacuation times could also increase.</p> <p>The project would include development of a detailed construction transportation plan that would require coordination with local jurisdictions on emergency vehicle access. The plan would also include a traffic control plan that establishes procedures for temporary road closures, including access to residences and businesses during construction, lane closure, signage and flagpersons, temporary detour provisions, alternative bus and delivery routes, emergency vehicle access, pedestrian access, and alternative access locations. Construction of road crossings would be staggered so that the next adjacent road to the north and south (or east and west) of a road temporarily closed for construction would remain open to accommodate detoured traffic. This would typically result in 1 to 2 miles of out-of-direction travel during temporary road closures.</p>	<p>Because the project would implement a construction transportation plan and associated traffic control plan, and restrict access to construction areas, the resulting effects would be less than significant to children’s health and safety.</p>

Environmental Element	Impacts Summary	Relevance to Children’s Health and Safety
Socioeconomics and Communities	<p>Construction activities could be particularly disruptive to nearby community facilities and institutions such as schools because construction would occur primarily during their normal hours of operation, when noise, traffic, and other conflicts would be most problematic. For example, Rex Parris High School in Palmdale would be fully acquired and demolished for the construction of the proposed Palmdale Station. However, prior to acquisition of Rex Parris High School, the Palmdale School District would construct a new nearby school site with modern facilities and amenities so as not to adversely affect the school schedule for affected students.</p> <p>Additionally, construction activities, materials deliveries, etc., would conflict with pedestrian and vehicle access to, for example, Foothill High School via Morning Drive/Weedpatch Highway when school is in session. Detailed construction access plans would be developed before the start of construction, and the affected cities would review these plans before construction begins. Potential conflicts with special events (e.g., fairs, athletic events, major conventions) would be addressed through a special mitigation measure described in the section entitled Construction During Special Events, in Section 3.2, Transportation. This measure provides mechanisms to prevent roadway construction activities from reducing roadway capacity during major athletic events or other special events that attract a substantial number of visitors. Mechanisms include the presence of police officers directing traffic, special-event parking, use of within-the-curb parking, shoulder lanes for through-traffic, and traffic cones. Through such mechanisms, roadway capacity would be maintained.</p>	<p>With mitigation measures proposed for transportation, noise, and vibration, impacts related to children’s health and safety are expected to be less than significant.</p>
Parks, Recreation, and Open Space	<p>The Pacific Crest Trail (within all Build Alternatives), Willow Springs International Raceway (within all Build Alternatives), Whit Carter Park (adjacent to Alternatives 1, 2, and 3, and within Alternative 5), and Jayne Reynolds Park/Webber Pool (adjacent to all Build Alternatives) would experience construction impacts. These impacts would include increased noise caused by the operation of equipment and visual changes caused by construction activities, exposed earth, and stockpiled materials.</p>	<p>Temporary construction impacts on parks, recreation facilities, and open space resources include noise, visual, and traffic effects. These effects would be primarily an inconvenience or irritation but not a health or safety risk to children. With mitigation, the impacts would be less than significant.</p>
Cumulative Impacts	<p>None of the environmental elements identified in this table would result in any significant cumulative impacts.</p>	<p>The impacts would be temporary and would end following construction completion. With mitigation, these effects would be less than significant.</p>

Sources: California High Speed Rail (2015, 2016).

¹ An impact with negligible intensity is defined as an increased risk to the public or the environment related to hazardous materials or substances that is slightly more than, but very close to, existing conditions.

Project Operation Impacts of the High-Speed Rail Build Alternatives and Palmdale Station Site

The impacts on children’s health and safety from operation of the HSR Build Alternatives and Palmdale Station site were determined by reviewing the construction impacts associated with the environmental elements addressed in the Bakersfield to Palmdale Project Section EIR/EIS. Table 3.12-C-5 provides information about the potential impacts and their significance after implementation of mitigation measures.

Table 3.12-C-5 Project Operation Impacts on Children’s Health and Safety

Environmental Element	Impacts Summary	Relevance to Children’s Health and Safety
Transportation	<p>Roadway modifications may change some access and routing of school buses due to road closures, but alternative routes are provided to minimize any impacts. The resulting out-of-direction travel distances required due to road closures would not result in long detours, and the Authority will work with the local jurisdictions to provide additional access as needed.</p> <p>The HSR Build Alternatives are all grade-separated from the existing transportation corridors, so there would be no conflict between school buses and the HSR trains. All of the HSR alternatives provide new crossings over existing transportation corridors. These overcrossings would remove conflicts with railroads and improve safety and access for buses.</p> <p>The Palmdale Station site would result in the closure of existing at-grade railroad crossings at Palmdale Boulevard and Sierra Highway. However, the Palmdale Station site would provide new grade-separated crossings at these intersections, and Palmdale Boulevard would retain access to local businesses along its frontage via connector streets Avenue Q7, Avenue Q9, 3rd Street E, 9th Street E, and 10th Street E. Therefore, the Downtown Palmdale Business District would continue to have good local circulation. The land uses immediately surrounding the intersection of railroad right-of-way and Sierra Highway are vacant, so no disruption of an existing community would occur at this location from operation of the Palmdale Station.</p> <p>The provision of new grade-separated crossings at Palmdale Boulevard and Sierra Highway would result in an enhancement to access and circulation for existing communities. The conversion of at-grade crossings to grade-separated crossings would benefit customers both north and south of Palmdale Boulevard, who would no longer have to wait for trains in order to access businesses along Palmdale Boulevard on either side of the railroad right-of-way.</p>	<p>There would be no significant impacts on children’s health and safety as a result of school district bus transportation changes. There is a potential for beneficial effects because roadway crossings would improve safety and access.</p>

Environmental Element	Impacts Summary	Relevance to Children's Health and Safety
Air Quality and Global Climate Change	All HSR Build Alternatives would result in a net benefit on regional and statewide air quality from HSR operation because of a decrease in emissions.	There would be no significant impacts. All residents in the San Joaquin Valley, Antelope Valley, and Tehachapi Mountains would benefit from the decrease in air pollutants associated with the projected shift in transportation modes.
Noise and Vibration	HSR operation would result in impacts from increased noise levels. Using sound barriers for mitigation, the number of significant noise impacts would be reduced because the barriers would shield noise. No schools would be affected by vibration.	With mitigation in the form of sound barriers, the noise effects on children's health and safety would be reduced.
EMF/EMI	<p>The HSR system would use radio systems for automatic train control, data transfer, and communications, which could result in interference with EMI with the radio systems at use at nearby schools. Because the HSR radio system would use dedicated frequency blocks and all HSR equipment will meet FCC regulations for EMI, the effect of the HSR system on school communication systems would be less than significant.</p> <p>Radio communications systems (e.g., wireless local area networks and internet connections) are expected to be in use at schools along the project corridor. Wireless networks used by schools and colleges operate at relatively low power levels and have a limited range of 100 to 300 feet; therefore, EMF impacts at schools, hospitals, colleges, and residences would be less than significant.</p> <p>EMF impacts on the general population (including children) at schools, parks, hospitals, colleges, and residences and other uses near the station platforms, track right-of-way, and maintenance facilities would not exceed acceptable health and safety thresholds for human exposure to EMI/EMF. Therefore, EMF impacts at schools, parks, hospitals, colleges, and residences would be less than significant.</p> <p>While EMF levels inside the traction power facilities along the alignment could exceed acceptable health and safety thresholds for EMI/EMF exposure for people with implanted medical devices, those facilities are unmanned and inaccessible to the general public. Therefore, the health effects on members of the public with implanted medical devices, including children with such devices, would be less than significant.</p>	The impacts on children's health and safety would be less than significant.
Hydrology and Water Resources	All operation impacts related to hydrology and water quality as a result of implementing the HSR Build Alternatives and the Palmdale Station site would be less than significant because of compliance with NPDES permits and project-specific design standards.	There would be no impacts related to children's health and safety.

Environmental Element	Impacts Summary	Relevance to Children's Health and Safety
Hazardous Materials and Wastes	During operation of the HSR system, only minor amounts of hazardous materials would be used, and all laws, regulations, and ordinances would be followed with respect to the transport, use, storage, and disposal of hazardous materials.	In general, implementation of regulatory requirements would reduce the potential for a severe spill to a negligible intensity; therefore, there would be no significant impacts on children's health and safety.
Safety and Security	<p>CCR Title 5, Section 14010c, calls for a separation between schools and power transmission lines of 100 feet for 50–133 kV lines. The Bakersfield to Palmdale Project Section would be powered by a 25 kV system; therefore, the electrification of the trains itself would not be a safety hazard to schools. The project would not require the construction of new power transmission lines in the vicinity of existing or future planned schools.</p> <p>Derailment of a train during a seismic event or other natural disaster could be a substantial safety hazard to schools along the HSR Build Alternatives if the train were to leave the HSR right-of-way and collide with other structures or people on adjacent properties. This hazard is associated with the physical mass and speed of the train. Because the HSR system would carry passengers and be electric-powered, there would be no safety hazard associated with HSR cargo or fuel.</p> <p>The physical impact of a high-speed train leaving the right-of-way could only occur within roughly 100 feet of the right-of-way. Therefore, only Edison Middle School would be subject to this safety risk. A basic design feature of an HSR system is to contain trainsets within the operational corridor. Thus, if a derailment were to occur next to a school, the train would remain within the HSR right-of-way.</p>	<p>The electrification of the HSR project would have no safety effect on school employees and/or students.</p> <p>Because the train would be contained in the HSR right-of-way in the event of derailment and would not contain cargo or fuel that would result in a fire or explosion, the proposed project would not substantially increase hazards to nearby schools, and the resulting impacts on children's health and safety would be less than significant.</p>
Socioeconomics and Communities	<p>Significant impacts on communities would result from the displacement of numerous homes, businesses, and community facilities. Implementation of proposed mitigation measures and relocation services will ensure displaced residents and their children will not suffer disproportionate injuries as a result of the project and can relocate within the same communities.</p> <p>Rex Parris High School in Palmdale would be fully acquired and demolished for operation of the proposed Palmdale Station. However, prior to acquisition of Rex Parris High School, the Palmdale School District would construct a new nearby school site with modern facilities and amenities so as not to adversely affect the school schedule for affected students.</p>	The impacts on children's health and safety would be less than significant.

Environmental Element	Impacts Summary	Relevance to Children's Health and Safety
Parks, Recreation, and Open Space	Impacts on parks, recreation facilities, open space resources, and school district play areas and recreation facilities would include the direct impacts associated with acquisition of park resources and indirect impacts from HSR operations related to the distance between an HSR Build Alternative and the park, including noise and vibration and visual impacts. Significant impacts would occur in Edison, Rosamond, Lancaster, and Palmdale.	Although there would be significant impacts related to park acquisition, mitigation would require the development of replacement park property. With the implementation of mitigation measures to address noise and visual effects at these parks, the impacts on children's health and safety would be mitigated to less than significant levels.
Cumulative Impacts	Beneficial effects would occur with regard to transportation, air quality, and safety and security. No effects would occur due to hydrology and water resources. There are potential effects related to noise and vibration, EMI/EMF, hazardous materials and wastes, safety and security, socioeconomics and communities, and parks, recreation, and open space, but the impacts would be reduced by mitigation measures.	No significant impacts on children's health and safety are expected as a result of cumulative impacts.

Source: *California High Speed Rail (2015, 2016)*
 Authority = California High-Speed Rail Authority
 CCR = California Code of Regulations
 EMI/EMF = electromagnetic fields/electromagnetic interference
 FCC = Federal Communications Commission
 HSR = high-speed rail
 kV = kilovolt(s)
 NPDES = National Pollutant Discharge Elimination System

3.12-C-3-4 Project Construction and Operation of the High-Speed Rail Build Alternatives and Palmdale Station Site Impact Summary

As detailed in Tables 3.12-C-4 and 3.12-C-5, construction and operation of the HSR Build Alternatives and Palmdale Station would not result in any significant impacts to children's health and safety.

3.12-C-3-5 Project Design Features and Mitigation Measures

The California High-Speed Rail Authority has produced project design features that include avoidance and minimization measures consistent with the Statewide Program EIR/EIS (California High Speed Rail 2005). Statewide Program EIR/EIS mitigation strategies have been refined and adapted for this project-level EIR/EIS. The various sections in the Bakersfield to Palmdale Project Section EIR/EIS include mitigation measures that would minimize or avoid some of the children's health and safety impacts identified in this analysis. In addition, other sections of the Bakersfield to Palmdale Project Section EIR/EIS contain a number of measures and best management practices that would be implemented, and these would also further minimize or avoid impacts on children's health and safety.

3.12-C-4 REFERENCES

California High-Speed Rail Authority (Authority). 2005. *Final Program Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train System*. Vol. 1, Report. Sacramento and Washington, D.C.: California High-Speed Rail Authority and U.S. Department of Transportation Federal Railroad Administration.

- _____. 2015. *Fresno to Bakersfield Section Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Train Project, Children’s Health and Safety Risk Assessment*, Appendix 3.12-C. Sacramento and Washington D.C.: California High-Speed Rail Authority and U.S. Department of Transportation Federal Railroad Administration.
- _____. 2016. *Bakersfield to Palmdale Project Section Final Environmental Impact Report/Environmental Impact Statement (EIR/EIS) for the Proposed California High-Speed Rail Project, Impacts on Community Facilities*, Appendix E. Sacramento and Washington D.C.: California High-Speed Rail Authority and U.S. Department of Transportation Federal Railroad Administration.