

DEPARTMENT OF CALIFORNIA HIGHWAY PATROL

INITIAL STATEMENT OF REASONS

TITLE 13 CALIFORNIA CODE OF REGULATIONS, DIVISION 2, CHAPTER 6, ARTICLE 1
AMEND SECTION 1152.3

Explosives Routes and Stopping Places (CHP-R-2017-04)

PURPOSE OF REGULATIONS AND PROPOSED AMENDMENTS

The California Highway Patrol (CHP) proposes to amend regulations in Title 13 of the California Code of Regulations (CCR), Division 2, Chapter 6, Article 1 regarding designated routes for the transportation of explosives by commercial vehicles on highways in the state.

Pursuant to Division 14, Transportation of Explosives, commencing with Section 31600 of the California Vehicle Code (CVC), the CHP shall adopt regulations specifying the routes to be used in the transportation of explosives. The CVC requires the CHP to keep information current in regulation with maps indicating designated routes. The CHP's field commands conduct annual surveys on the routes and stops for the transportation of explosives to determine if changes are necessary. The CHP's Central Division (CHPCD) identified an error shown on a designated route map for State Route (SR) 43 in their survey report. The proposed regulation amendments will update explosives routes by removing 10.7 miles and extending 14.0 miles of currently designated routes. These updates will provide explosive carriers an alternative route to reduce potential risks associated with the transportation of explosives and enhance the public health and safety in the Bakersfield area.

Proposed amendments received concurrences from the CHPCD, Bakersfield Fire Department (BFD), Kern County Fire Department (KCFD), State Fire Marshal (SFM), and California Department of Transportation (Caltrans).

PURPOSE OF AMENDMENTS

The proposed amendment will update designated transportation routes by amending Map 13 in Section 1152.3 of the CCR near the city of Bakersfield.

Title 49 of the Code of Federal Regulations, Section 397.71, authorizes each state to select routes in order to minimize risks and enhance public safety for the highway transportation of explosives by examining, reviewing, and evaluating alternate routes. This routing assessment employs the methodologies outlined in the Highway Routing of Hazardous Materials – Guidelines for

Applying Criteria (FHWA-HI-97-003) published by the Federal Highway Administration (FHWA) of the United States (US) Department of Transportation (DOT). The methodologies employed take into consideration items such as driving distance and time; number of schools; population and housing densities; and traffic accident rates along the highways. The data is compiled using demographic and spatial information retrieved from the 2010 census survey conducted by the US Census Bureau (USCB), the 2012 emergency facility sites composed by the Southern California Earthquake Center (SCEC) at the University of Southern California (USC), the traffic volumes counts compiled by Caltrans and retrieved from the Regional Traffic Count Data Map (RTCDM) managed by the Kern Council of Governments (KCG), the collision incidents collected in the CHP's Statewide Integrated Traffic Records System (SWITRS) database, and the highway length and transit time derived from Google Earth and Google Maps. When data is not available for certain segments of local roads, the best estimates on traffic volume counts and/or accident rates are applied. The evaluation on the relative risks of each alternative route is conducted using a geographic information system with a buffer zone within one mile of the routes referenced in the 2016 Emergency Response Guidebook (ERG) issued by USDOT's Pipeline and Hazardous Materials Safety Administration (PHMSA).

RATIONALE AND ANALYSIS

The current explosives routes were designated and became effective in 1992. A recent report submitted by CHPCD identified 'Map 13 (Ch.2, page 26) does not accurately depict SR-43 in present construction. SR-43 should be shown intersecting at 90 degrees with SR-58, just to the east of "58," as depicted on Map 13. SR-43 should be shown and approved to intersect with Interstate 5. SR-43 was designated as such from SR-119 to SR-99 near Selma, in 1964. The current route shown for SR-43 on Map 13 was never a designated explosives route. It appears the error has been listed since the creation of Map 13.' The rationale for these highway sections to be updated in the designation is to reduce relative population and housing risks along the route in order to maintain the health and safety of the public.

In order to reduce potential risks associated with the transportation of explosives on highways to enhance public safety for its residents and environment, the CHP conducted an analysis on these proposed alternative routes. To evaluate the relative risks associated with transporting explosives on these highway sections in the Bakersfield area, this analysis grouped them into individual routes and compared them with the existing routes designated for transporting explosives on Map 13, as shown on *Figure 1* specified in Section 1152.3 CCR. *Figure 2* depicts the proposed alternative routes, which are also outlined in Table 1 along with their route characteristics derived from the best available data and estimates by conducting demographic and spatial evaluation on their associated risks for the highway transportation of explosives.

Since Senate Bill 64 passed in 1963 streamlining the highway numbering system, the current highway section of SR-43 south of Shafter was renumbered from 139 to 43. Comparing *Figure 1* to the current road map as shown in *Figure 2*, SR-43 southbound turns straight south after the city of Shafter; however, the highway going straight to the southeast becomes Santa Fe Way. In addition, Santa Fe Way has never been connected directly to SR-58 as shown on *Figure 1*.

While Allen Road can be used to access SR-58 at the south end of Santa Fe Way, in order to evaluate the potential risks associated with these routes, Santa Fe Way and Allen Road are assumed to be the currently designated route under a hypothesis that it may serve as a safe route for transporting explosives by commercial vehicles.

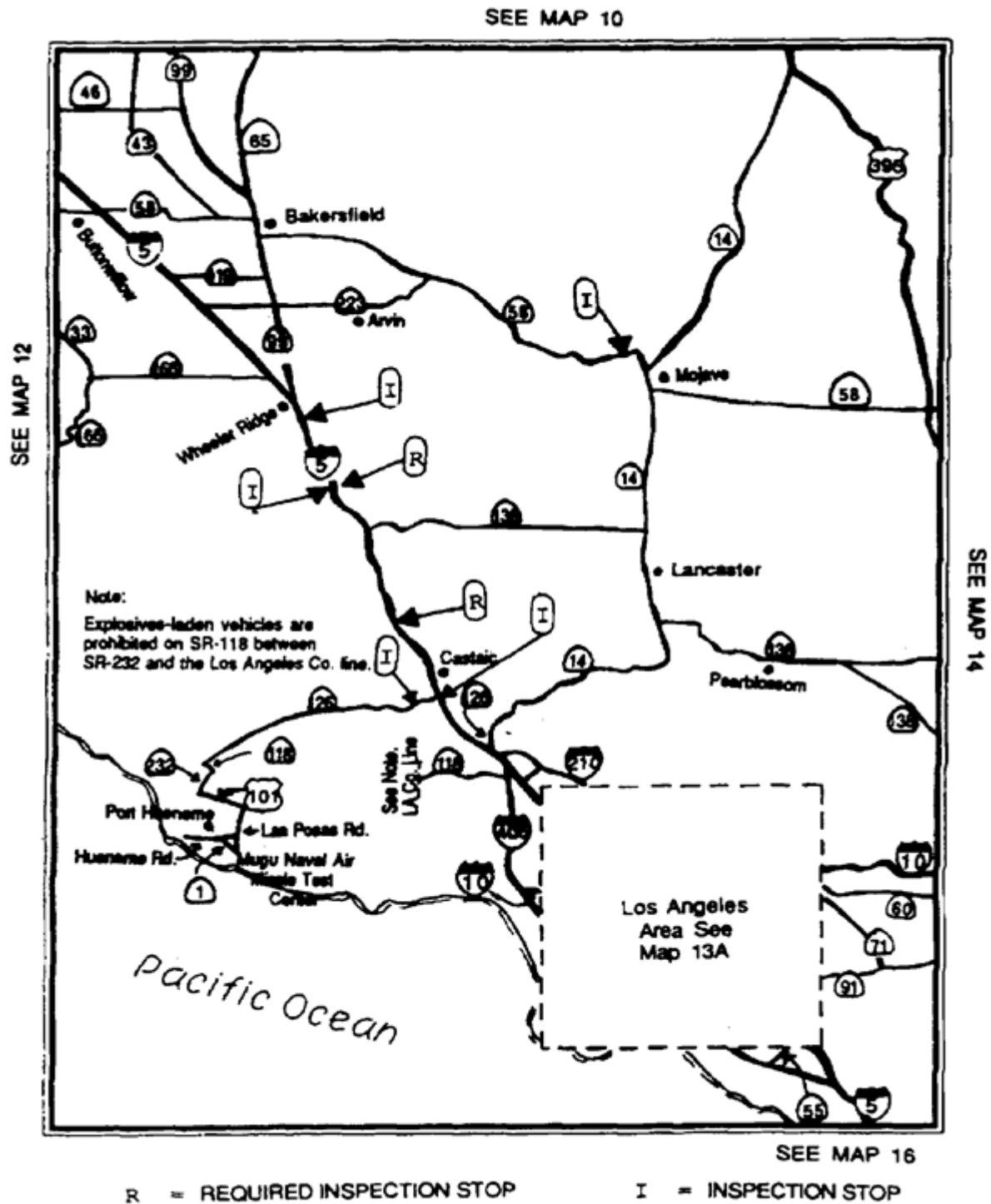


Figure 1: Map 13 Showing the Existing Routes Designated in the Bakersfield Area

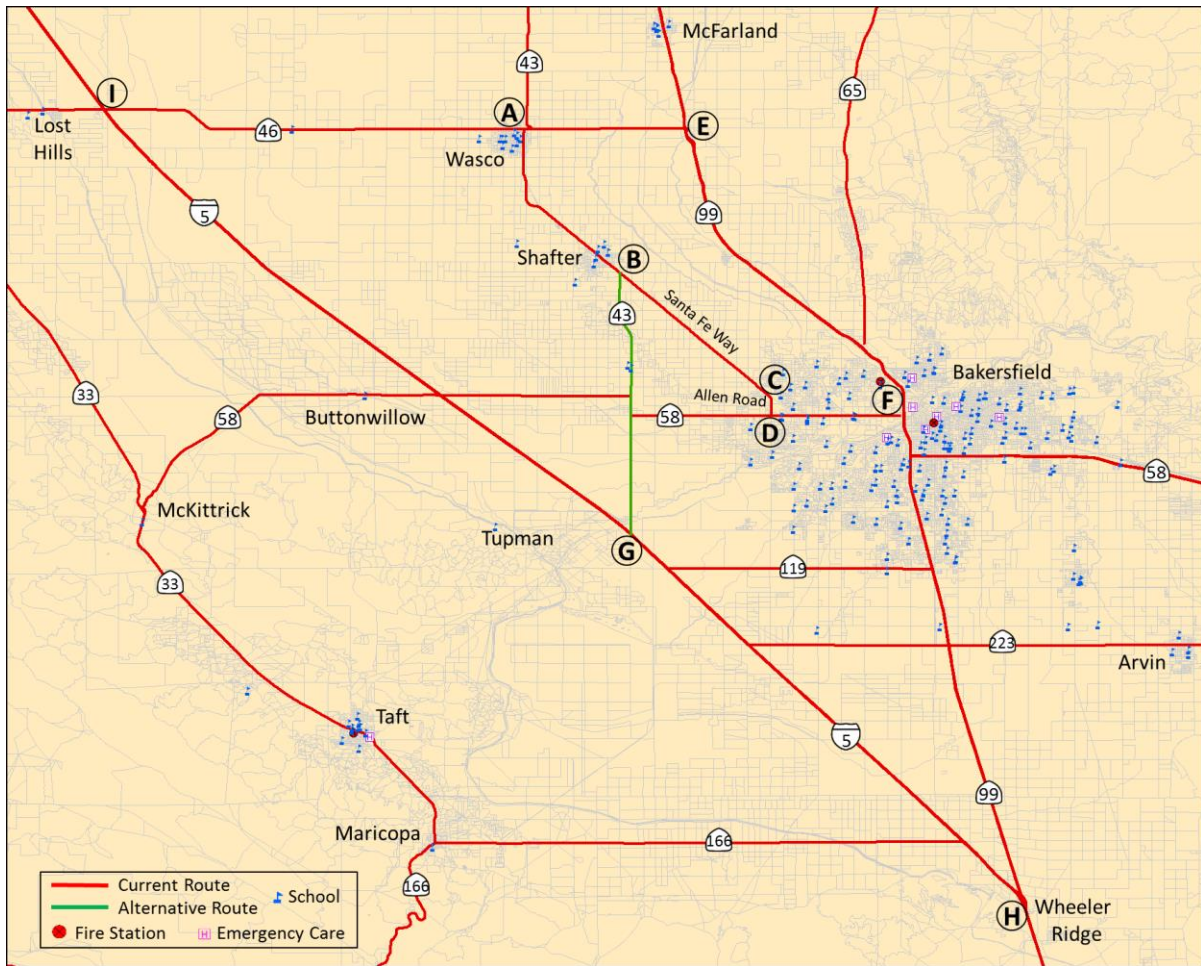


Figure 2: Routes Evaluation for Transporting Explosives in the Bakersfield Area

As shown in Figure 1 and Figure 2, for explosive shipments to be transported from Wasco to Bakersfield or vice versa, the shortest trip taken on the currently designated highways can be represented by Route 1 going from Point A to B, C, D, and F (ABCDF); or from Point A to E and F (AEF). Table 1 reveals that these two routes have almost the same road distance. However, due to traveling on local roads through residential areas, Route 1 has more schools within its one-mile buffer, requires much longer drive time, and has a higher accident rate. Population and housing units along Route 1 are also more than double of that along Route 2. Combining these factors together, Route 1 shows its relative population risk six times greater than Route 2. Therefore, transporting explosives between Wasco and Bakersfield, the best choice of routes is to use SR-46 and SR-99 instead of using SR-43, Santa Fe Way, Allen Road, and SR-58. While the tested hypothesis is failed, it reveals that Santa Fe Way and Allen Road can be removed from the currently designated explosive routes on Map 13.

Considering whether to add the highway section of SR-43 between Santa Fe Way and Interstate (I) 5 into the designated routes, three alternative routes are evaluated for transporting shipments between Wasco and Wheeler Ridge. As presented in Figure 2 and Table 1, Route 3 (AEFH) is similar to Route 2 while extending south to the intersection of SR-99 and I-5. Route 4 (ABGH)

starts on Route 1 and continues on SR-43 to I-5 and then to the intersection of I-5 and SR-99. Route 5 (AIGH) goes west on SR-46 from Wasco to I-5 and then goes south to Wheeler Ridge.

As presented in Table 1, among these three routes, Route 3 traversing through the city of Bakersfield has the highest relative population risk along the route due to its highest accident rate and largest numbers of population, housing units, and schools within its one-mile buffer. Even though Route 5 possesses the lowest relative population risk along the route, it has more than 50 percent of road distance than Route 4 does. Route 4 has the shortest road distance among these three evaluated routes. Thus, for shipments transported between Point A and H, Route 4 can serve as an alternative routing candidate to reduce drive distance and time while maintaining low relative population risks associated with the transportation of explosives to enhance the health and safety of the public in this area.

Table 1: Routes Evaluated for Transporting Explosives in the Bakersfield Area

Alternate Routes	Route Length (mile)	Length Difference (mile)	Ratio (Alternates / Minimum)	Estimated Driving Time (minute)	Ratio (Alternates / Minimum)	Potential Population Exposure (<= 1 mile)	Ratio (Alternates / Minimum)
Route 1: ABCDF	25.7	0.1	1.00	39	1.63	65,612	2.66
Route 2: AEF	25.5	0.0	1.00	24	1.00	24,627	1.00
Route 3: AEFH	50.4	1.8	1.04	46	1.00	110,844	7.31
Route 4: ABGH	48.6	0.0	1.00	51	1.11	34,807	2.29
Route 5: AIGH	75.5	26.9	1.55	68	1.48	15,172	1.00

Table 1 (continued)

Alternate Routes	Potential Population Impact (people per mile)	Ratio (Alternates / Minimum)	Accident Rate (collisions per million vehicle miles traveled)	Ratio (Alternates / Minimum)	Relative Population Risk (People per million vehicle miles traveled per road mile)	Ratio (Alternates / Minimum)
Route 1: ABCDF	2,557	2.65	0.18	2.38	458	6.31
Route 2: AEF	964	1.00	0.08	1.00	73	1.00
Route 3: AEFH	2,198	10.94	0.09	1.96	206	21.45
Route 4: ABGH	716	3.56	0.06	1.20	41	4.29
Route 5: AIGH	201	1.00	0.05	1.00	10	1.00

Table 1 (continued)

Alternate Routes	Relative Population Risk (People per million vehicle miles traveled along route)	Ratio (Alternates / Minimum)	Number of Schools (<= 1 mile)	Ratio (Alternates / Minimum)	Potential Housing Exposure (<= 1 mile)	Ratio (Alternates / Minimum)	Relative Housing Risk (Housing per million vehicle miles traveled along route)	Ratio (Alternates / Minimum)
Route 1: ABCDF	11,753	6.34	25	3.13	20,766	2.20	3,720	5.24
Route 2: AEF	1,855	1.00	8	1.00	9,421	1.00	709	1.00
Route 3: AEFH	10,393	14.32	33	3.30	38,937	11.17	3,651	21.90
Route 4: ABGH	2,005	2.76	16	1.60	9,491	2.72	547	3.28
Route 5: AIGH	726	1.00	10	1.00	3,486	1.00	167	1.00

In addition, the highway section of SR-43 between Santa Fe Way and I-5 is a Terminal Access highway meeting all requirements under the federal Surface Transportation Assistance Act of 1982 (STAA). While Santa Fe Way and Allen Road are not STAA network highways, the CHP proposes to add 14.0 miles of SR-43 between Santa Fe Way and I-5 and remove 9.2 miles of Santa Fe Way between SR-43 and Allen Road and 1.5 miles of Allen Road between Santa Fe Way and SR-58 from the explosive route designated on Map 13 of the CCR.

Figure 3 shows the updated Map 13 to be specified in Section 1152.3 CCR. By taking this opportunity, an effort is also made to have some labels of road numbers to be displayed clearly. One road label for SR-18 and another for SR-118 are added to the map and one road label for SR-126 is removed from the map for clarity. In addition, the prohibition note made on Map 13 is removed due to the duplication specified in Section 1152.3 CCR as “(b) Restrictions - State Highway 118. Vehicles transporting explosives are prohibited on SR-118 between SR-232 and the Los Angeles county line.”, which has already been presented explicitly with designated routes on Map 13.

In summary, this proposed amendment will remove 10.7 miles of the current routes and extend 14.0 miles of the designated routes to reduce potential risks associated with the transportation of explosives by commercial vehicles on highways to enhance the health and safety of the public in the Bakersfield area.

STUDIES/RELATED FACTS

The evaluation of possible routes follows the recommended methodologies outlined in the Highway Routing of Hazardous Materials – Guidelines for Applying Criteria (FHWA-HI-97-003) published by the FHWA of USDOT. The data used for this analysis was obtained from the 2010 census survey conducted by the USCB; the 2012 emergency facility sites composed by the SCEC at the USC; the traffic volumes counts compiled by the Caltrans and retrieved from the RTCDM managed by the KCG; the collision incidents collected in the CHP’s SWITRS database; and the highway length and transit time derived from Google Earth and Google Maps. When data is not available for certain segments of local roads, the best estimates on traffic volume counts or accident rates are applied to the risk comparisons. The evaluation is conducted using a geographic information system with a buffer zone within one mile of the routes referenced in the 2016 ERG issued by USDOT’s PHMSA.

SEE MAP 10

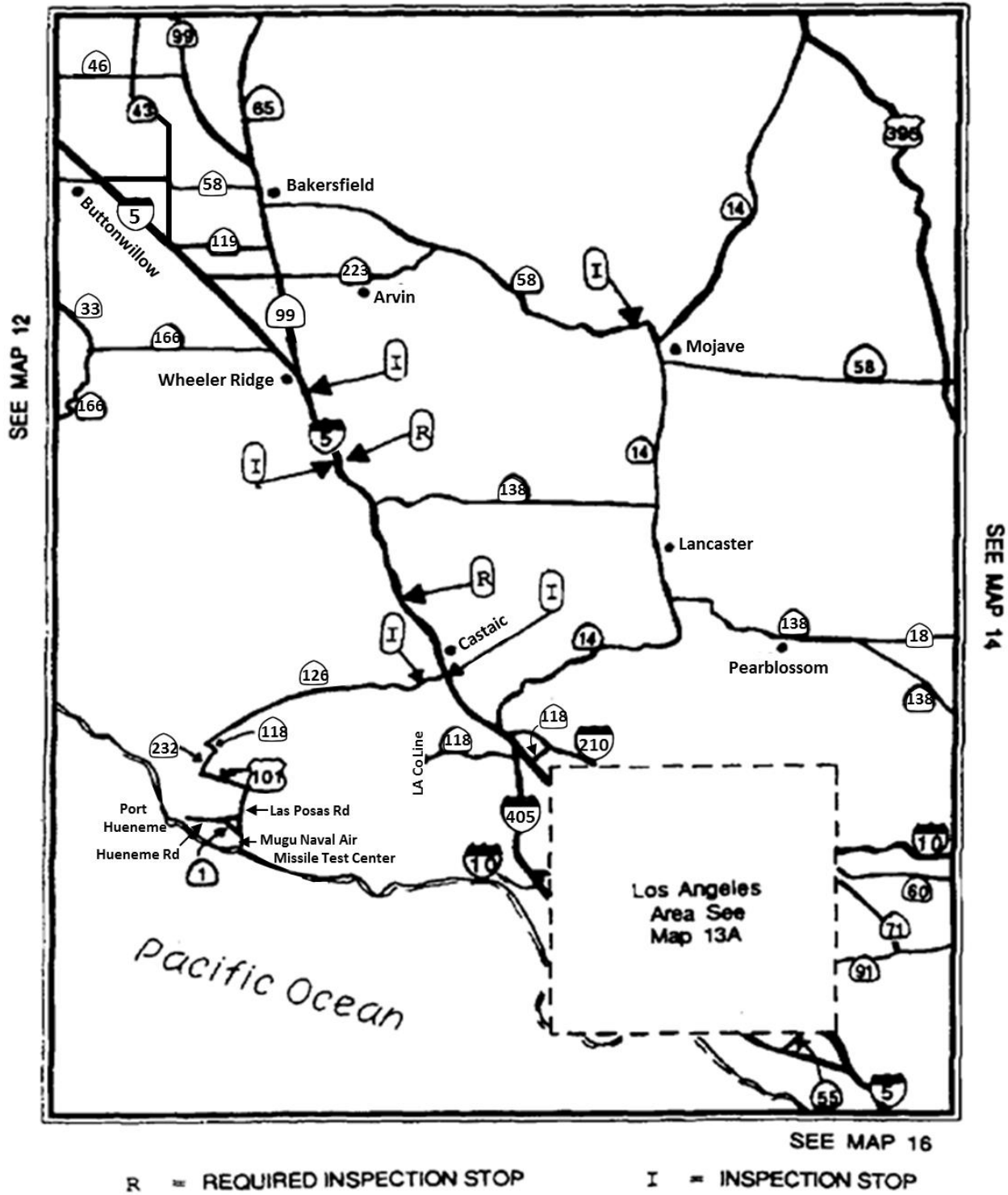


Figure 3: Proposed Map 13 Updating Explosive Routes Designated near Bakersfield

CONSULTATION WITH OFFICIALS

These changes were evaluated by the CHP's Commercial Vehicle Section and received concurrence from the CHPCD, BFD, KCFD, SFM, and Caltrans.

ALTERNATIVES

Other than the alternatives discussed above, no reasonable alternative considered by the CHP or otherwise identified and brought to the attention of the CHP would be more effective in fulfilling the purpose for which the action is proposed or as effective and less burdensome to affected private persons than the proposed action. The alternative of making no changes to the existing regulations was rejected because it fails to keep information current in the CCR. Failing to provide updated routes to carriers may increase potential risks of detrimental hazards while transporting explosives in the Bakersfield area.

LOCAL MANDATE

These regulations do not impose any new mandate on local agencies or school districts.

ECONOMIC IMPACT ANALYSIS

Creation or Elimination of Jobs

The CHP has made an initial determination that this proposed regulatory action will neither create nor eliminate jobs within the State of California because the regulation only designates an additional 14.0 miles and removes 10.7 miles of explosives routes. The transportation of explosives by commercial vehicles along the discussed routes presents only a very small portion of the total vehicle movement in the state.

Creation of New Business or Expansion or Elimination of Existing Business

The CHP has not identified any significant adverse impact on creation of new businesses or expansion or elimination of existing business within the State of California. Businesses involved in the transportation of explosives will have more updated information on designated routes in the state. The proposed regulatory action will not create new businesses or expand or eliminate any existing business in transporting explosives or offering stop services via the updated routes.

Benefits of the Regulation

This proposed regulatory action will continue to provide a nonmonetary benefit to the protection of health and welfare of California residents, worker safety, and the state's environment. The changes to the application of the regulation are not substantive and bring the regulation in

conformance with existing statute. Adding safe and efficient routes designated for carriers transporting explosives is clarifying in nature, and is for transportation safety and public health.

BUSINESS IMPACT TO THE STATE

Based on the economic impact analysis, CHP has made an initial determination that the proposed regulatory action would have no significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states. The proposed regulatory action updates designated highway routes for commercial vehicle carriers moving explosives in California.

FISCAL IMPACT TO THE STATE

The CHP has determined these regulation amendments will result in:

- No significant increased costs for persons or business;
- No significant compliance costs for persons or businesses directly affected;
- No discernible adverse impact on the quantity and distribution of goods and services to large and small businesses or the public;
- No impact on the level of employment in the state; and
- No impact on the competitiveness of California to retain businesses, as the regulation amendments will enhance the health and safety on transporting explosives for businesses and for the public.