

July 1, 2020

- The turning templates in Figures 404.5A through G are a design aid for determining the swept width and/or tracking width of large vehicles as they maneuver through a turn. The templates can be used as overlays to evaluate the adequacy of the geometric layout of a curve or intersection when reproduced on clear film and scaled to match the highway drawings. These templates assume a vehicle speed of less than 10 miles per hour.
- Computer software such as AutoTURN or AutoTrak can draw the swept width and/or tracking width along any design curve within a CADD drawing program such as MicroStation or AutoCAD. Dimensions taken from the vehicle diagrams in Figures 404.5A through G may be inputted into the computer program by creating a custom vehicle if the vehicle is not already included in the software library. The software can also create a vehicle turn template that conforms to any degree curve desired.

404.4 Design Vehicles and Related Definitions

(1) *The Surface Transportation Assistance Act of 1982 (STAA).*

- (a) **STAA Routes.** STAA allows certain longer trucks called STAA trucks to operate on the National Network. After STAA was enacted, the Department evaluated State routes for STAA truck access and created Terminal Access and Service Access routes which, together with the National Network, are called the STAA Network. Terminal Access routes allow STAA access to terminals and facilities. Service Access routes allow STAA trucks one-mile access off the National Network, but only at identified exits and only for designated services. Service Access routes are primarily local roads. A "Truck Route Map," indicating the National Network routes and the Terminal Access routes is posted on the Department's Office of Commercial Vehicle Operations website and is also available in printed form.
- (b) **STAA Design Vehicle.** The STAA design vehicle is a truck tractor-semitrailer combination with a 48-foot semitrailer, a 43-foot kingpin-to-rear-axle (KPR) distance, an 8.5-foot body and axle width, and a 23-foot truck tractor wheelbase. Note, a truck tractor is a non-load-carrying vehicle. There is also a STAA double (truck tractor-semitrailer-trailer); however, the double is not used as the design vehicle due to its shorter turning radius. The STAA Design Vehicle is shown in Figures 404.5A and B.

The STAA Design Vehicle in Figures 404.5A or B should be used on the National Network, Terminal Access, California Legal, and Advisory routes.

- (c) **STAA Vehicle – 53-Footer.** Another category of vehicle allowed only on STAA routes has a maximum 53-foot trailer, a maximum 40-foot KPR for two or more axles, a maximum 38-foot KPR for a single axle, and unlimited overall length. This vehicle is not to be used as the design vehicle as it is not the worst case for offtracking due to its shorter KPR. The STAA Design Vehicle should be used instead.

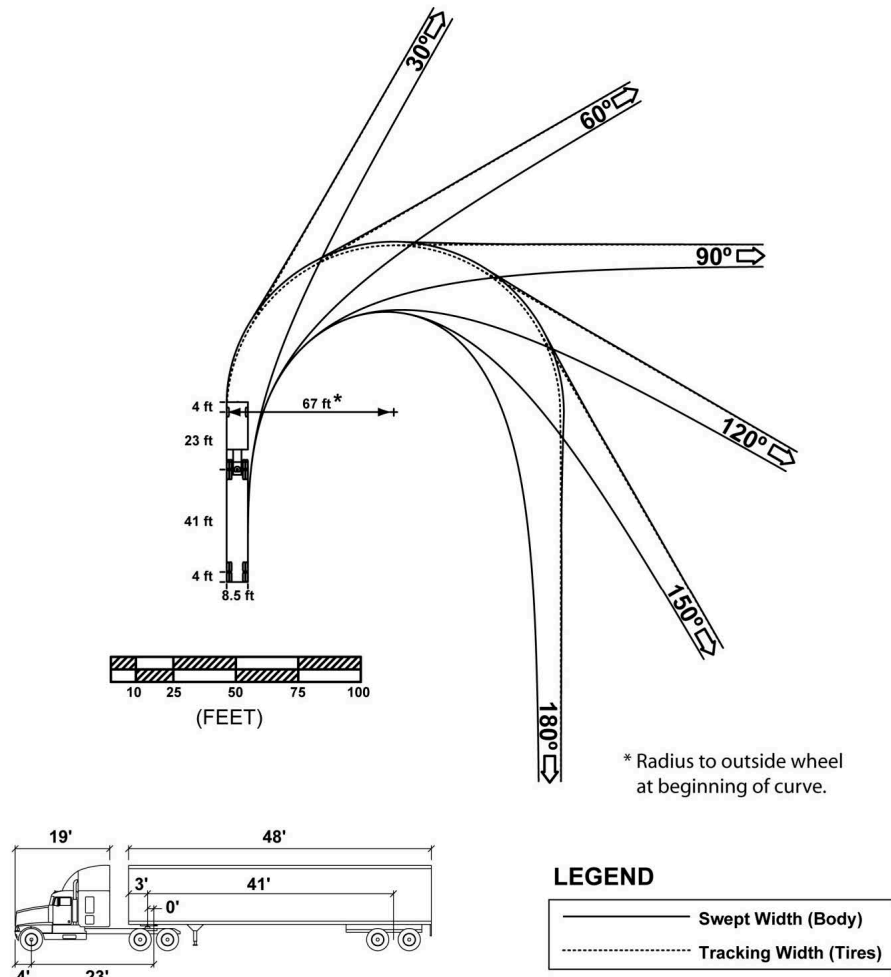
(2) *California Legal.*

- (a) **California Legal Routes.** Virtually all State routes off the STAA Network are California Legal routes. There are two types of California Legal routes, the regular California Legal routes and the KPR Advisory Routes. Advisory routes have signs posted that state the maximum KPR length that the route can accommodate without the vehicle offtracking outside the lane. KPR advisories range from 30 feet to 38 feet, in 2-foot increments. California Legal vehicles are allowed to use both types of California Legal routes. California Legal vehicles can also use the STAA Network. However, STAA trucks are not allowed on any California Legal routes. The Truck Route Map indicating the California Legal routes is posted on the Department's Office of Commercial Vehicle Operations website.

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Figure 404.5B

STAA Design Vehicle 67-Foot Radius



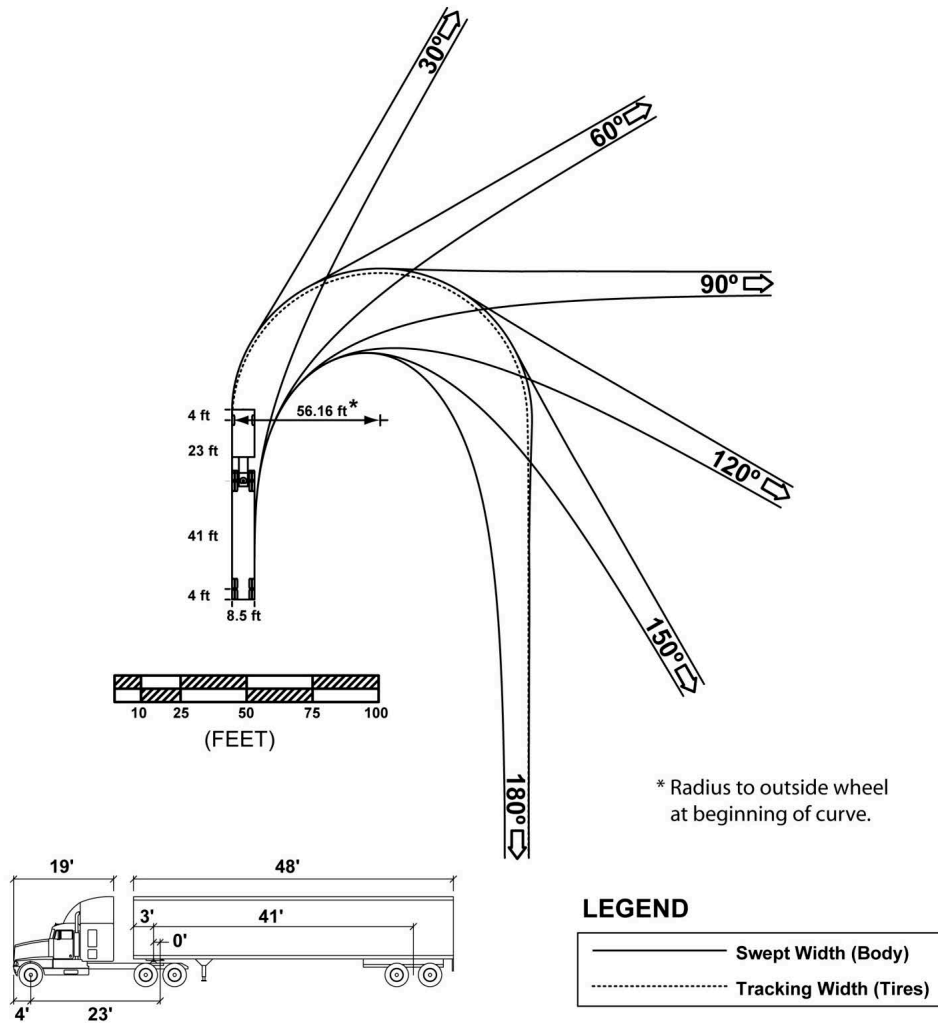
STAA - STANDARD

Tractor Width	: 8.5'	Lock to Lock Time	: 6 seconds
Trailer Width	: 8.5'	Steering Lock Angle	: 26.3 degrees
Tractor Track	: 8.5'	Articulating Angle	: 70 degrees
Trailer Track	: 8.5'		

Note: For definitions, see Indexes 404.1 and 404.5.

Figure 404.5A

STAA Design Vehicle 56-Foot Radius



STAA - STANDARD

Tractor Width	: 8.5'	Lock to Lock Time	: 6 seconds
Trailer Width	: 8.5'	Steering Lock Angle	: 26.3 degrees
Tractor Track	: 8.5'	Articulating Angle	: 70 degrees
Trailer Track	: 8.5'		

Note: For definitions, see
Indexes 404.1 and 404.5.

EXHIBIT 33

County Permits – General Permits & Trench Specifications – Queuing

SAN BERNARDINO COUNTY DEPARTMENT OF PUBLIC WORKS



GENERAL PERMIT CONDITIONS AND TRENCH SPECIFICATIONS

Updated September 1, 2019

Where a property has frontage to more than one road, driveway access will generally be limited to the lowest volume road where the impacts of a new driveway access will be minimized.

- A. Joint driveway access between adjacent developments is highly recommended and may be required on Secondary or Major Highways. Mutual easements shall be recorded by both property owners agreeing to share the driveway and be responsible for building it in accordance with County standards.
- B. Driveway access location should be aligned with driveway access located on the opposite side of the street except when only right turns are allowed out of the driveway. Any offset in driveway access location must be approved by the Director of Public Works.

11.4 RESIDENTIAL DRIVEWAYS - Driveways serving property used solely as a single-family, two-family, or three-family residence, including farms and ranches not used for retail purposes, shall be residential type driveways conforming to County standard drawings 130 and 131.

New single family residence construction utilizing a single County standard driveway shall obtain an Encroachment Permit from the Department of Public Works for a single driveway access. Additional driveways will require a review and an Encroachment Permit from the Department of Public Works. Approval of second residential driveways is dependent on lot size, frontage width, and traffic safety considerations.

11.5 ACCESS SPACING FOR RESIDENTIAL DEVELOPMENTS - Residential developments other than those listed in Section 6.5 shall provide a minimum spacing between access points to the development. Such access points are expected to be designed as street type entrances and shall provide a minimum spacing, between centerlines for the street type entrances, that is equivalent to the stopping sight distance for the design speed of the roadway intersected by the access points. In cases where the design speed is not known, the speed limit may be used. Where minimum requirements cannot be met, the driveways shall be located as approved by the County Engineer.

11.6 NON-RESIDENTIAL DRIVEWAYS - Street type entrance shall be used on large commercial, industrial, mobile home parks, large scale housing, schools and where large vehicles are anticipated.

- A. When the non-residential development has more than one driveway, the driveways shall be located to provide a minimum spacing equivalent to the stopping sight distance for the design speed of the roadway intersected by the driveways. In cases where the design speed is not known, the speed limit may be used.
- B. Where minimum requirements cannot be met, the driveways shall be located as approved by the County Engineer.
- C. Driveway accesses that will require vehicles to back out into the public street will not be allowed.

11.7 ON SITE VEHICLE CIRCULATION AND QUEUING REQUIREMENTS - When a development is located adjacent to a public street, the parking facility must have full internal vehicular circulation and storage. Vehicular circulation must be located completely within the

property and vehicles within one portion of the development must have access to all other portions without using the adjacent road system.

When a proposed development includes a truck loading operation, and has driveway access to a public street, adequate space must be provided so that all truck maneuvering including parking, loading and unloading is performed off street. Combined truck loading and through vehicle driveway access should be avoided.

Provision for appropriate vehicular exit queuing should be made at all driveway accesses to a development. At high-volume entrances the internal circulation roads or aisle shall accommodate in-bound traffic surges without forcing traffic to queue back into the external roadway system. A minimum queuing for at least two vehicles shall be maintained, measured from the right-of-way.

11.8 ACCELERATION/DECELERATION LANES - Some developments based on the characteristics of the traffic on either the street or traffic accessing the development may necessitate the provision of acceleration and/or deceleration lanes. The Department of Public Works will notify the developer if acceleration and/or deceleration lanes are needed during the project notice process.

When required, these lanes should be designed according to the latest standards and guidelines set forth in Chapter 400, Intersections at Grade, of the Caltrans Highway Design Manual (Latest Edition) and Chapter 10, Grade Separations and Interchanges, of AASHTO's A Policy on Geometric Design of Highways and Streets (Latest Edition).

EXHIBIT 34

31 School Bus Stops on Oasis Road



31 School bus stops on Oasis Road

EXHIBIT 35

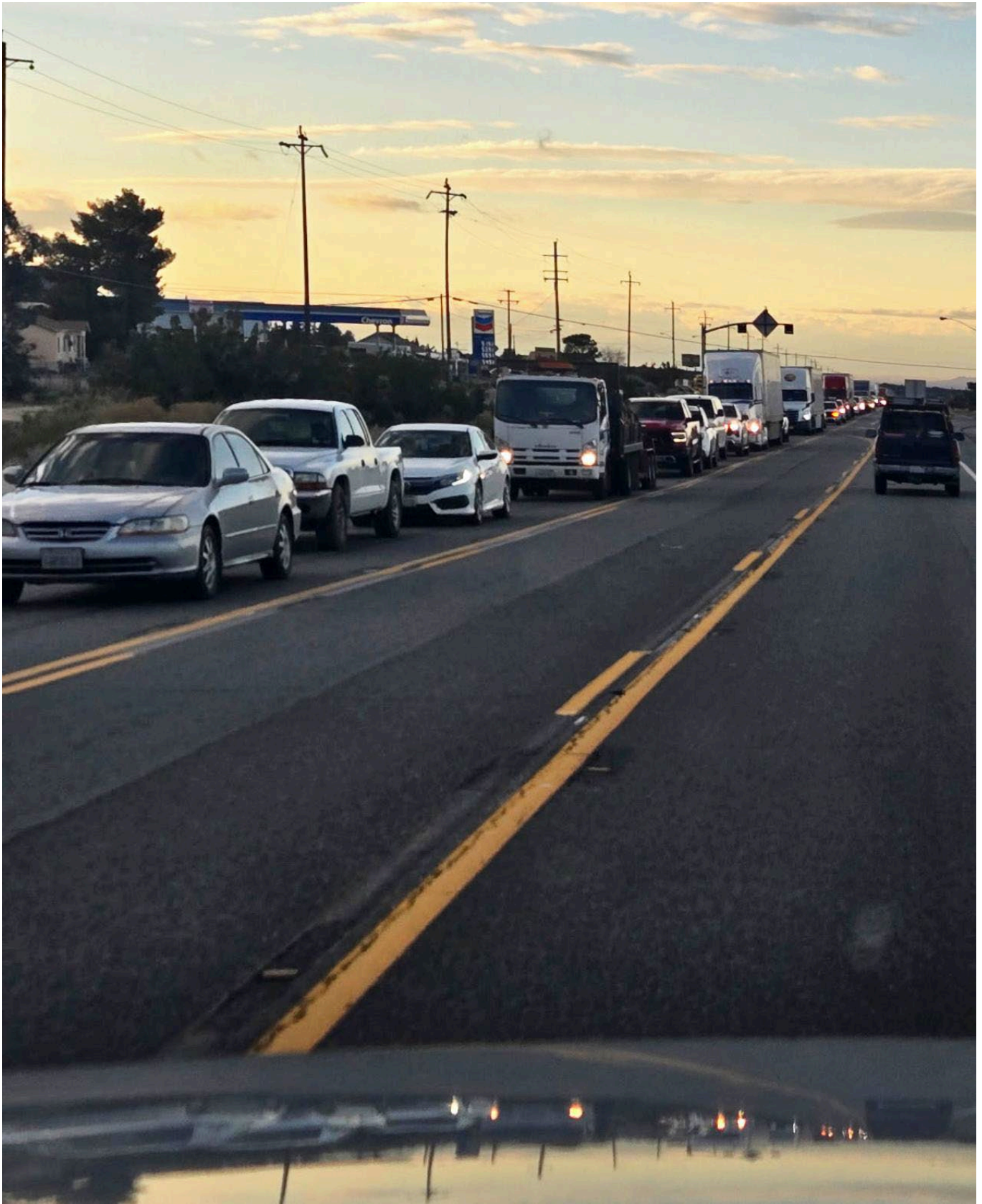
Regional Diesel Fueling Facility



Regional diesel truck fueling facility

EXHIBIT 36

Peak Hour Traffic Congestion



Peak-hour traffic congestion

EXHIBIT 37

East Buckthorne Road "No Outlet" Trap



East Buckthorne Road “no outlet” trap

EXHIBIT 38

West Buckthorne Road "No Outlet" Trap



West Buckthorne “no outlet” trap

EXHIBIT 39

Pinon Hills Park Fence Line Sensitive Receiver R4



Looking West Fence Line Sensitive Receiver R4

EXHIBIT 40

Tripod Mounted DSLM at Victorville Maverik



Tripod mounted DSLM at canopy

EXHIBIT 41

Diesel Truck Idling



Diesel truck idling

EXHIBIT 42

Crossing Guard & Buses