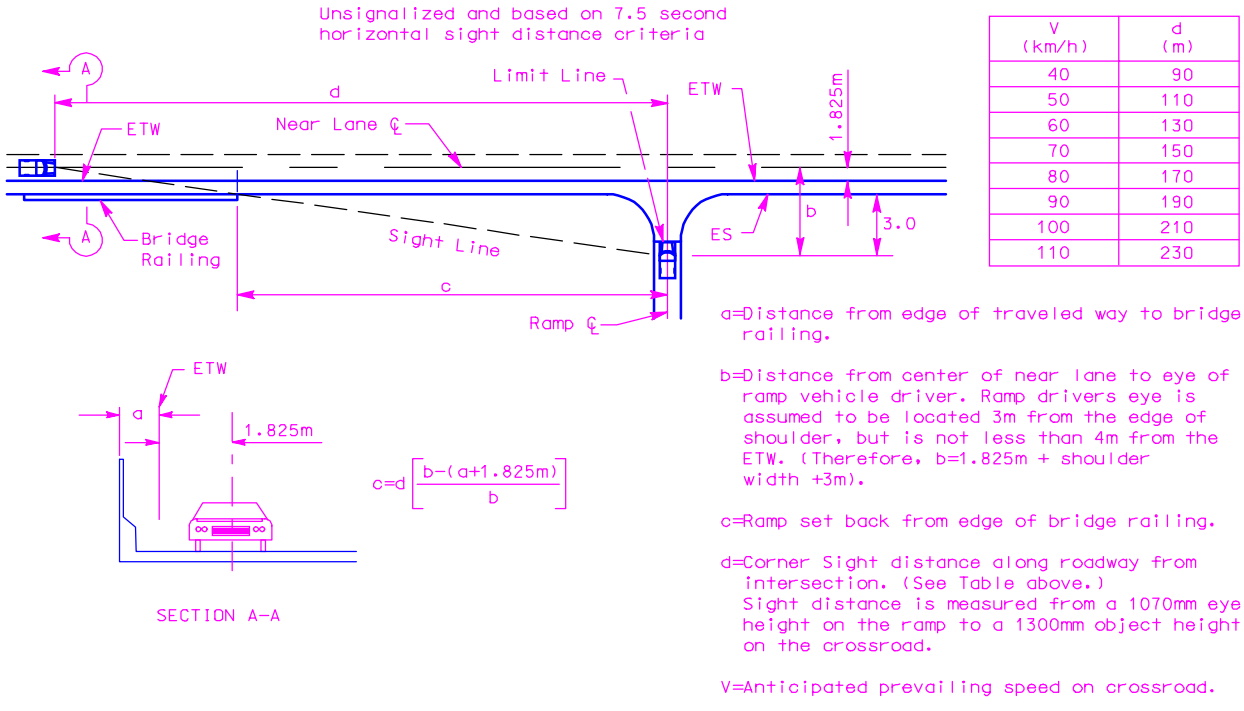
of the over crossing is 4% or less to avoid potential overturning of trucks.

Terminal Locations - Factors which influence the location of ramp terminals include sight distance, construction costs, right of way costs, circuitry of travel for left-turn movements, crossroads gradient at ramp intersections, storage requirements for left-turn movements off the crossroads, and the proximity of other local road intersections.

Where a separate right turn lane is provided at ramp terminals the turn lane should not continue as a "free" right unless pedestrian volumes are low, the right turn lane continues as a separate full width lane for at least 60 m prior to merging, and access control is maintained for at least 60 m past the ramp intersection. Provision of the "free" right should also be precluded if left turn movements are allowed within 125 m of the ramp intersection.

Terminal Sight Distances Horizontal sight restrictions may be caused by bridge railings, bridge piers, or slopes. Sight distance is measured between the center of the outside lane approaching the ramp and the eye of the driver of the ramp vehicle assumed 3.0 m back from the edge of shoulder at the crossroads. Figure 500.17 illustrates ramp setback from an over crossing structure. This figure is based on sight distance being controlled by the bridge rail, but the same relationship exists for sight distance controlled by bridge piers or slopes.

Where ramp set back is unobtainable, sight distance shall be provided by flaring the end of the overcrossing structures or setting back the piers or end slopes of an undercrossing structure.



V (km/h)	d (m)
40	90
50	110
60	130
70	150
80	170
90	190
100	210
110	230

a=Distance from edge of traveled way to bridge railing.

b=Distance from center of near lane to eye of ramp vehicle driver. Ramp drivers eye is assumed to be located 3m from the edge of shoulder, but is not less than 4m from the ETW. (Therefore, b=1.825m + shoulder width +3m).

c=Ramp set back from edge of bridge railing.

d=Corner Sight distance along roadway from intersection. (See Table above.) Sight distance is measured from a 1070mm eye height on the ramp to a 1300mm object height on the crossroad.

V=Anticipated prevailing speed on crossroad.

Figure 500.17
Ramp Setback
From Caltrans, 1995, Highway Design Manual