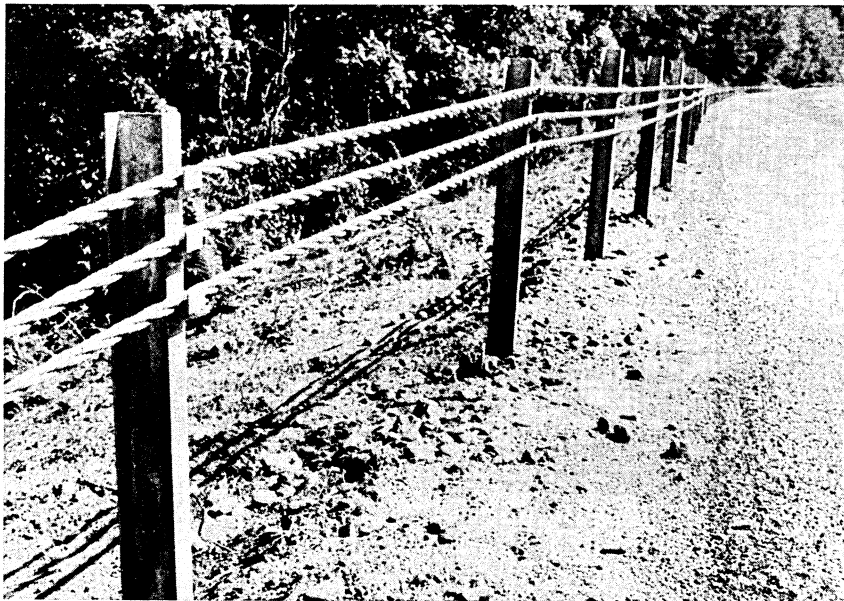


majority of the impact must be absorbed by the barrier as it deflects within the space available.

Our analysis and testing began with the cable guiderail, which produces lateral resistance through tension during impact. Next we analyzed and tested a W section guiderail, which produces lateral resistance through both tension and bending.



After analyzing these barriers, we evolved a new concept: a box beam rail that produces resistance primarily through bending. This barrier, a hollow section, supported on light posts, absorbs energy by yielding as it deflects. By changing section strength and post spacing, we have successfully tested the box beam at deflections from one foot to five feet.

As a result of our analysis, four mathematical models have been developed and programmed for solution on a digital computer. One model computes vehicle trajectory, the others compute the force deflecting characteristics for the three

