

## Rollover Testing on an Actual Highway

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### ABSTRACT

Three full-size sedans were towed to highway speeds along a section of a remote rural highway. Upon release, an automated steering controller steered the vehicles through a series of maneuvers intended to result in rollover. Repeated attempts to roll each vehicle were made until rollover resulted. Non-rollover attempts produced cornering tire marks by the out-of-control vehicle. Out of numerous runs, 3 rollover and 2 non-rollover tests were selected for documentation and analysis. One additional steer-induced rollover test is presented that was conducted along a simulated road section at a closed test-track facility. All six tests presented are instrumented *real-world* type tests that were later reconstructed based upon the data obtained from on-board instrumentation, videotape, survey measurements, and still photographs obtained of each respective test. The test data presented within the paper includes the various phases associated with vehicle rollovers: loss-of-control, trip, and rolling phases. A more complete presentation of data for each of the six respective tests can be found in the appendix.