

Fatal Highway Accident

Golden, Colorado
May 15, 2004

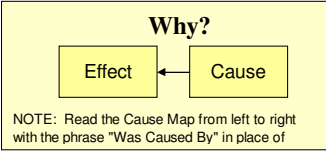
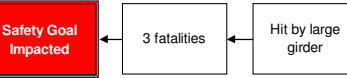
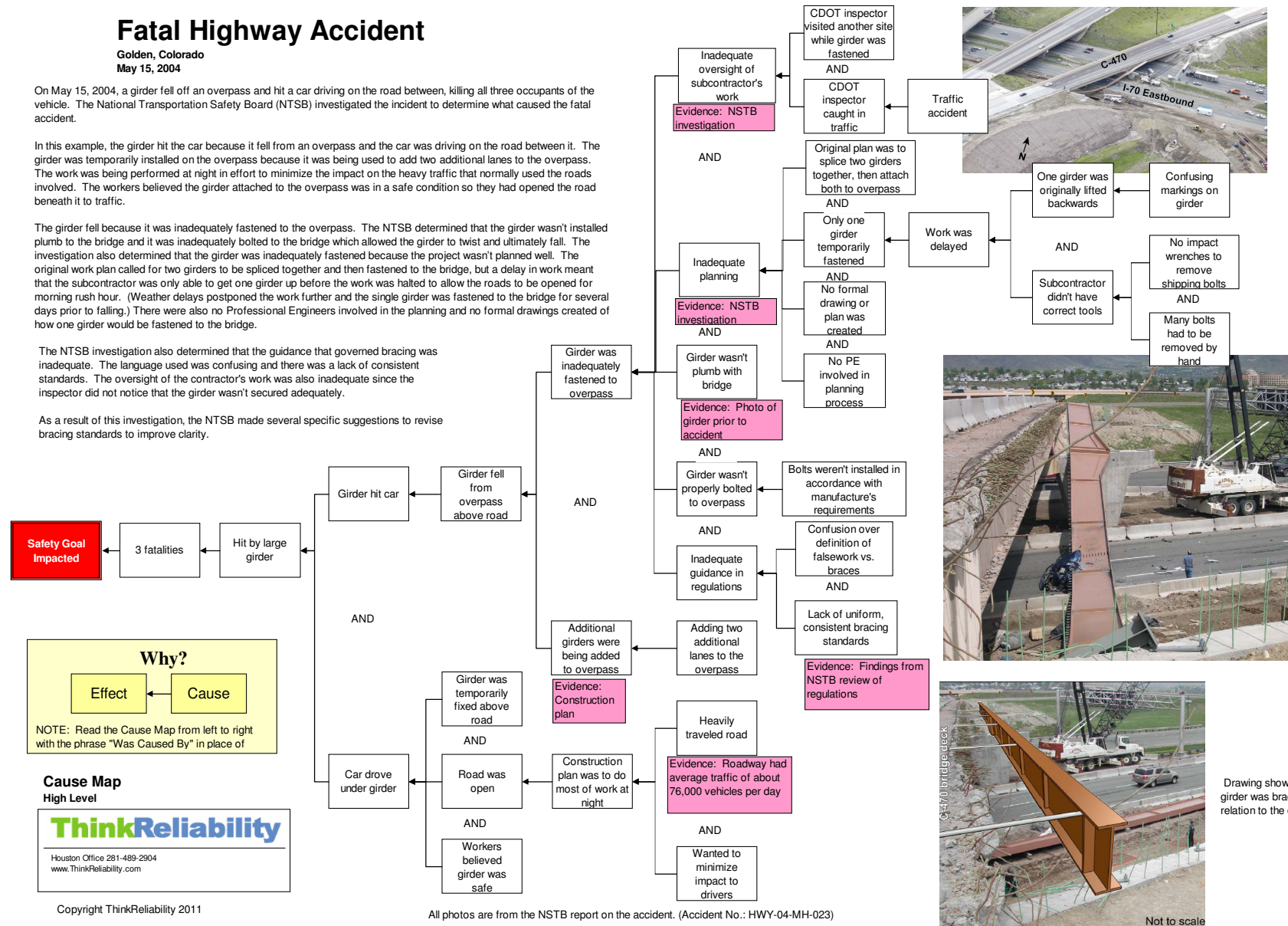
On May 15, 2004, a girder fell off an overpass and hit a car driving on the road between, killing all three occupants of the vehicle. The National Transportation Safety Board (NTSB) investigated the incident to determine what caused the fatal accident.

In this example, the girder hit the car because it fell from an overpass and the car was driving on the road between it. The girder was temporarily installed on the overpass because it was being used to add two additional lanes to the overpass. The work was being performed at night in effort to minimize the impact on the heavy traffic that normally used the roads involved. The workers believed the girder attached to the overpass in a safe condition so they had opened the road beneath it to traffic.

The girder fell because it was inadequately fastened to the overpass. The NTSB determined that the girder wasn't installed plumb to the bridge and it was inadequately bolted to the bridge which allowed the girder to twist and ultimately fall. The investigation also determined that the girder was inadequately fastened because the project wasn't planned well. The original work plan called for two girders to be spliced together and then fastened to the bridge, but a delay in work meant that the subcontractor was only able to get one girder up before the work was halted to allow the roads to be opened for morning rush hour. (Weather delays postponed the work further and the single girder was fastened to the bridge for several days prior to falling.) There were also no Professional Engineers involved in the planning and no formal drawings created of how one girder would be fastened to the bridge.

The NTSB investigation also determined that the guidance that governed bracing was inadequate. The language used was confusing and there was a lack of consistent standards. The oversight of the contractor's work was also inadequate since the inspector did not notice that the girder wasn't secured adequately.

As a result of this investigation, the NTSB made several specific suggestions to revise bracing standards to improve clarity.



Cause Map High Level

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All photos are from the NTSB report on the accident. (Accident No.: HWY-04-MH-023)

Drawing showing how the girder was braced in relation to the overpass.

Not to scale