

Pa., made to the Senate Public Works Committee on March 19, 1968, during hearings on bridge design.¹

"We are convinced that it did not go down because of overload at the time of the collapse, there being one lane loaded approximately one-half of its length and only seven vehicles in the other lane. Two lanes on the bridge, the bridge being designed to have three lanes of traffic on it, and a rather heavy loading. You can see easily that it was a long way from being overloaded at the time it collapsed."

Mr. Masters' statement bears weight because his firm was retained by the Roads Commission of West Virginia to investigate the collapse.

Subsequent and confirming information was released at the Public Hearings in Charleston. At this time, the discussion was more specific, with the expert witness from the Modjeski & Masters firm identifying a member of the major "eyebars" supporting chain as being the point of initial failure and collapse.

This testimony is contained in the transcript of the hearings labeled "Vol. 3, Docket No. S-H-2, May 9, 1968." The witness is Dr. Gerald K. Gillan, Senior Structural Associate of the Modjeski & Masters firm.

The discussion was technical and related to such things as stress levels. However, on page 587 of the transcript, beginning on line 17, the following question was asked by Mr. Scheffey, of the Federal Board of Inquiry, relating to a particular bar of the eyebar chain:

Question: (By Mr. Scheffey) "Your own computations and those of Mr. O'Keefe indicate that the stress being carried by this member at the time of the collapse was appreciably below the design stresses and therefore there must be some cause rather than overloading for this structure."

Answer: (By Dr. Gillan) "I quite agree."

In layman's language, then, it is clear that the portion of the Silver Bridge which is believed to have failed and led to the collapse, the main supporting eyebar chain, was not overloaded at the time of the collapse. In fact, this member did not even have as much load on it as it was designed for.

We believe the evidence at this point strongly supports the tentative conclusions that the Silver Bridge at the time of its collapse was not carrying a weight of traffic as high as its design capabilities. It failed for a reason other than its load design. It also bears repeating that the Silver Bridge was of a design that is completely unique; has not been repeated since 1928; and definitely is not a design found on our modern highway system.

During our testimony before the Subcommittee on Roads of the Committee on Public Works on June 11, we submitted a supplemental statement on Truck Transportation and Highway Safety. This statement was submitted because of confusion that exists in some areas about the safety record of trucks and particularly heavy trucks.

The principal problem revolves around the definition of a heavy truck and the validity, or lack of it, of using the experience of a select group of vehicles to estimate the performance of a much larger noncomparable group.

Accident statistics are available for all motor vehicles, for all passenger cars as a group, for all trucks as a group, and for buses as a group. No comprehensive data are available on truck accidents by size of vehicle.

Data, however, are available on accidents involving motor carriers subject to I.C.C. safety regulation. Those that are most comprehensive cover the large regulated for-hire motor carriers. For a number of reasons, these different sets of data are not comparable. I.C.C. regulated carriers are required to report all accidents involving \$250 or more in property damage and all accidents regardless of amount in which personal injury is involved.

The Department of Transportation, through its Bureau of Motor Carrier Safety, polices this reporting. While most states also require the reporting of accidents in which a stated amount of property damage or personal injury is incurred, the enforcement of the provisions of these laws against motorists and small truck operators appears to be less strict than is the case with the I.C.C. carriers. Thus, the coverage of the I.C.C. carriers from the standpoint of accident reporting is much better than is the average for all vehicles. The frequency of truck accidents is undoubtedly overstated statistically, as compared to other vehicles, because of more accurate reporting. In the case of I.C.C. regulated trucks the discrepancy is even wider.

¹ Hearings before the Subcommittee on Roads of the Committee on Public Works, United States Senate, 90th Cong., 2nd Sess., on Status of the Inspection, Maintenance, and Design of Bridges in the United States March 18, 19, and 20, 1968, page 113.