

WITNESS GROUP CHAIRMAN'S
FACTUAL REPORT
(7 pages)



**NATIONAL TRANSPORTATION SAFETY BOARD
OFFICE OF HIGHWAY SAFETY
WASHINGTON, D.C. 20594**

WITNESS GROUP CHAIRMAN'S FACTUAL REPORT

A. ACCIDENT

Date and Time: August, 1, 2007 at about 6:05 p.m. CDT (local time)
Type of Accident: Bridge Collapse
Location: Interstate Highway 35W Bridge over the Mississippi River,
Minneapolis, Hennepin County, Minnesota
Fatalities: 13
Injuries: 145
NTSB Number: HWY-07-MH-024

B. WITNESS GROUP

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C. ACCIDENT SUMMARY

About 6:05 p.m. (CDT), on Wednesday, August 1, 2007, the 35W Interstate Highway Bridge over the Mississippi River, in Minneapolis, Minnesota experienced a catastrophic failure in the main span of the deck truss portion of the 1907-foot-long bridge. As a result, approximately 1,000 feet of the deck truss collapsed with about 456 feet of the main span falling into the river. An assessment of the gusset plates within the deck truss revealed that the connections at U10, U10 prime, L11 and L11 prime were under-designed. The bridge was comprised of eight traffic lanes, with four lanes in each direction. At the time of the collapse, a roadway construction project was underway that resulted in the closure of two northbound and two southbound traffic lanes causing traffic queues on the bridge. A total of 111 vehicles were documented as being on the portion of the bridge that collapsed. Of these, 17 vehicles were recovered from the water. As a result of the bridge collapse, 13 people died and 145 people were injured.

D. DETAILS OF THE INVESTIGATION

Witness Group activities focused on the identification of witnesses to the I-35W Bridge collapse, the interview of those witnesses, and the collection of video, photographs, and other materials with potential investigative value.

E. IDENTIFICATION OF POTENTIAL WITNESSES

In the course of the investigation, potential witnesses¹ to the I-35W bridge collapse were identified through a number of methods, including:

- Calls to the Communications Center via a toll-free number;
- Facsimile transmissions to the Office of Highway Safety;
- Direct communication with investigators on-scene;
- Electronic mail to Board employees;
- Mail/UPS/FedEx submissions; and
- Through investigative efforts.

Each of the contacts was classified into one of four types based on their primary reason for contacting the Board. The four types were:

- Victim – someone who was on the I-35W bridge at the time of the collapse;
- Witness - someone who observed the collapse, in part or in its entirety;
- Video/Pictures – someone who had video and/or pictures of the I-35W bridge, either before or after the collapse; and

¹ A spreadsheet listing of contacts regarding the I-35W Bridge collapse is attached to this report as Witness Group Factual Attachment A: Spreadsheet of Contacts regarding the I-35W Bridge Collapse.

- Other Information – someone with information to share that did not fall into one of the first three categories.

Table 1 lists the contacts by method and type. A detailed discussion of each type appears in sections E.1 through E.4 of this report.

Table 1. I-35W Bridge Collapse Contacts by Method and Type

| | Victim | Witness | Video/Pictures | Other Information | Total |
|-----------------------------|-----------|-----------|----------------|-------------------|------------|
| Calls | 23 | 37 | 33 | 52 | 145 |
| Facsimile | 0 | 0 | 0 | 5 | 5 |
| Direct Communication | 0 | 5 | 0 | 8 | 13 |
| E-mail | 0 | 2 | 5 | 30 | 37 |
| Mail | 0 | 0 | 0 | 12 | 12 |
| Investigation | 0 | 24 | 0 | 1 | 25 |
| Total | 23 | 68 | 38 | 108 | 237 |

E.1. Contacts Classified as “Victims”

Contacts classified as “victims” were people confirmed to have been on the I-35W Bridge at the time of the collapse, to include all vehicle occupants and the construction workers on the bridge. A total of 23 victims contacted the Safety Board, including three that had not been identified through any other means. All victim contacts were made via toll-free calls to the Communications Center.

All victim information was turned over to the Survival Factors Group Chairman. Victim interviews are discussed in greater detail in the Survival Group Chairman’s Factual Report.

E.2. Contacts Classified as “Witness”

Contacts classified as “witness” were those people who observed the actual collapse of the I-35W bridge but were not on the span. A total of 68 witnesses either contacted the Safety Board or were identified through other means, including people on adjacent bridges, employees of the St. Anthony Lower Lock, people on the roads running under the bridge, and motorists who passed over the bridge immediately prior to its collapse. Of the witnesses, 37 (54.4%) called the toll-free number, 5 (7.4%) directly contacted investigators on-scene, 2 (2.9%) sent electronic mail to the Board, and 24 (35.3%) were identified through investigative efforts.

Witness statements were examined to see if the witness could provide any information in the following areas:

- Warning of the collapse, including unusual sounds, smells, or motion;
- The collapse sequence; and
- Post-collapse actions, including the emergency response.

Witness interviews can be found in Attachment B of this report.² Interview summaries were made available to all investigative groups. A summary of the information provided by the witnesses is below.

E.2.1. *Warnings*

None of the interviewed witnesses reported any warning prior to the collapse; those reporting a vibration or noise instead indicated these were a result of the collapse, not a precursor.

E.2.2. *Collapse Sequence*

Examination of witness statements indicated the following:

- Nineteen of the interviewed witnesses indicated they saw the entire span collapse, starting with the south, then center, then north.
- An additional seven witnesses stated the center collapsed, then the north, and either could not see the south end of the span or made no mention of the south.
- An additional four witnesses only saw the north end collapse and could not see the rest of the span, or made no mention of it.
- Two witnesses indicated the south collapsed, then the center, and made no mention of the north.
- Four witnesses indicated the center portion of the span collapsed first.
- Two witnesses indicated the collapse went from north to south.
- Three witnesses indicated the center collapsed, followed by the south, and made no mention of the north.
- One witness indicated the center was the last segment to fall.
- Two witnesses only saw one segment of the span collapse and could not provide sequence information.
- Four witnesses specifically stated there was an initiating event (motion or smoke/dust) at Pier 6.
- Every witness reporting seeing more than one portion of the span collapse indicated a sequential collapse, occurring in sections.
- Two witnesses reported one or more segments twisting during the collapse sequence.
- Two witnesses reported a “jolt” in Span 3.
- Two witnesses reported side-to-side motion in the bridge.

² Attachment B: Summaries of Witness Interviews.

- Three witnesses reported a wave or ripple motion in the bridge.
- One witness reported buckling in Pier 7.
- Seven witnesses reported an upward movement at the north end of the bridge.

E.2.3. Post-Collapse Actions

Five of the interviewed witnesses stated they called 9-1-1 or tried to call. Seventeen of the interviewed witnesses indicated they went to the collapse scene to render assistance and/or aid to the victims. The witnesses generally indicated emergency personnel began arriving within minutes of the collapse.

E.3. Contacts Classified as “Video/Pictures”

Contacts classified as “Video/Pictures” were those people with either video or picture(s) of the I-35W bridge or bridge components from either before or after the collapse.³ Of the 38 people with video and/or pictures of the I-35W bridge, 33 (86.8%) called the toll-free number and 5 (13.2%) sent electronic mail to the Board.

All video and pictures collected by the Witness Group were compiled for tracking and version control then made available to all investigative groups for review.

E.4. Contacts Classified as “Other Information”

Contacts classified as “Other Information” were those people wanting to share information with the investigators that did not fall into one of the first three categories. This included those with previous experience with the bridge, those with ideas on the cause of the collapse, those that wanted to assist with the recovery and/or reconstruction, and so on.

Of the 108 people with other information, 52 (48.1%) called the toll-free number, 5 (4.6%) sent facsimiles to the Board, 8 (7.4%) directly communicated with investigators on-scene, 30 (27.8%) sent e-mails to the Board, 12 (11.1%) sent their information by mail/UPS/FedEx, and 1 (0.9%) was located via investigation.⁴

Interviews of persons providing other information can be found in Attachment C of this report.⁵ All information was summarized and made available to all investigative groups for review.

³ Please note that anyone with video or pictures of the actual collapse would be classified as “witness”.

⁴ 0.1% lost in calculations due to rounding.

⁵ Attachment C: Summaries of Other Information Interviews.

END OF FACTUAL REPORT

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ATTACHMENT A: Spreadsheet of Contacts regarding the I-35W Bridge Collapse
ATTACHMENT B: Summaries of Witness Interviews
ATTACHMENT C: Summaries of Other Information Interviews