



NATIONAL TRANSPORTATION SAFETY BOARD
Office of Railroad, Pipeline, and Hazardous Materials Investigations
Washington, D.C. 20594

Survival Factors

Group Chairman's Supplemental Factual Report^{1, 2}

– Emergency Preparedness / Emergency Response³ –

Report Date: February 10, 2021

A. Accident Information⁴

NTSB Accident Number:	RRD20LR005
Location (accident reference):	Tempe, Arizona (AZ)
Date / Approx. Time of Accident:	July 29, 2020 / 6:06 a.m. MST ⁵
Incident Description:	railroad derailment / bridge collapse / fire

B. Synopsis of the Accident

See Survival Factors (SF) - Group Chairman's Factual Report of the Investigation.

Select abbreviations and acronym nomenclature used in this report

ACI	Alternate Concepts Incorporated (VM's training contractor) ⁶
OGC	NTSB Office of General Counsel
VM	Valley Metro
SF	Survival Factors

¹ Generally described, NTSB investigations are conducted pursuant to the criteria cited under 49 CFR Part 831.

² This report provides supplemental data to the information as included in the Survival Factors - Group Chairman's Factual Report of the Investigation, dated January 27, 2021 (i.e., provides data received subsequent to 01/ 27/2021).

³ The Survival Factors investigation exclusively addresses the [1] emergency preparedness and emergency response elements and factors of the accident, and [2] injury causation elements and factors of the accident.

⁴ This investigation was conducted 'virtually', in which no NTSB staff traveled to the accident scene, in which all NTSB investigative activities were conducted 'remotely', with a reliance upon the local entities (i.e., the emergency services agencies, the railroad, and other organizations) for data collection and conveyance of same to the NTSB.

⁵ Mountain Standard Time

⁶ Reference; VM Draft Rail Operations & Maintenance Plan, Rev. 3, September 2007, § 7.14 Metro Contractors.

C. SF – Technical Working Group Participants

See Survival Factors - Group Chairman's Factual Report of the Investigation.

D. Details of the Investigation⁷

1.0 Supplemental Information on Operation of a Light Rail Train Proximate to the Accident Site

1.1 Valley Metro - Light Rail Bridge Structure⁸

Valley Metro (VM) owned / operated a railroad bridge structure, which was used by their Light Rail train operation that traverses that bridge, which is located to the immediate east of, and orientated approximately parallel to the Union Pacific (UP) Railroad bridge structure that was involved in the UP Railroad train derailment. In the area proximate to the derailment, the distance between the VM railroad bridge structure, and the UP Railroad bridge structure, was measured to be about 35 feet. The VM railroad bridge structure was not involved in or was structurally damaged as a result of the UP Railroad derailment accident.

1.2 Operation of a Light Rail Train Proximate to the Accident Site⁹

The Survival Factors investigation identified that a VM - Light Rail train had traversed the VM railroad bridge, which included the area proximate to the derailment, at a point in time subsequent to the train derailment, in which a severe smoke condition was present on the Valley Metro bridge. The severe smoke condition resulted from burning (lumber) cargo of derailed railcars, which resulted in an extensive smoke plume that engulfed that area of the VM railroad bridge, through which the Light Rail train passed.

An inquiry by the SF investigation to Safety Department management of VM regarding this Light Rail train movement, identified that VM was aware of the movement of the Light Rail train through the smoke plume, in which VM management indicated that they had addressed that train movement activity, which included remediation actions of the Light Rail operation. The remediation actions were described in a document compiled by VM, titled "AAR [After Action Review] Roll Up Report". A 'draft' copy of the "AAR Roll Up Report" was made available to the SF investigation, in which a review of the document identified that it displayed a 'confidentiality constraint' notation, indicating that it contained Sensitive Security Information (SSI), which was not for public disclosure. As the SF investigation is respectful of documentation that displays a 'confidentiality constraint' notation, the disposition action was deferred to the NTSB Office of General Counsel for resolution.

⁷ Data and documentation of the investigation, as accrued from, or as made available to the investigation by the individual participants of the Survival Factors / Emergency Response Group, and/or data / documentation as made available to the investigation by other contributors (as individually noted), is described in this report section.

⁸ For background data on this report section (§), see further, SF - Group Chairman's Factual Report, § 1.2.2.

⁹ For background data on this report §, see further, SF - Group Chairman's Factual Report, § 1.5.2.

Hazards

- Hazards come on all shapes and sizes and can be a person, animal, object or situation.
- Along the alignment, operators will come into contact with various forms of hazards and must be prepared to react properly.
- An example would be the recent derailment of a Union Pacific train. As the freight line runs parallel to the alignment, operators must take into consideration the hazards associated with it.





Hazards

As you travel along the alignment, you will pass medical centers, research facilities, industrial complexes and other forms of infrastructure that contain unknown hazards.

Being prepared and recognizing signs of a potential hazard is critical.

- Signs of a potential hazard included but are not limited to:
 - Smoke
 - Haze
 - Smell of gas or unknown odor
 - Presence of emergency responders

When noticing one of these potential hazards, **STOP, CALL OCC FOR INSTRUCTION.** Take the safest course of action to prevent undue harm and injury to passengers, yourself and fellow workers