

CATEGORY 5 TORNADO

School children drowned in basement after water mains burst Cause Map

A category 5 (the most destructive) tornado hit Moore, Oklahoma on May 20th, destroying the town and killing 24. Of those killed, 7 were children at school, who drowned when water mains burst in the basement where they were sheltered.

"It should be clear now that public spaces like schools or churches or even highway rest stops can and should have some kind of place where crowds could ride out even the strongest twisters."
- Bryan Walsh, for TIME

Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.

CAUSE MAPPING

Problem Solving • Incident Investigation • Root Cause Analysis

- Step 1 Problem** What's the Problem?
- Step 2 Analysis** Why did it happen?
- Step 3 Solutions** What will be done?

1 Problem

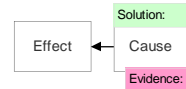
What	Problem(s)	Tornado strikes town, kills 24
When	Date	May 20, 2013
	Time	2:56 - 3:35 PM
	Different, unusual, unique	Category 5 tornado 1.3 miles wide
Where	State, city	Moore, Oklahoma
	Facility, site	Plaza Towers Elementary
	Task being performed	Ending instructional day

Impact to the Goals

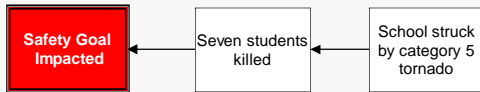
Safety	7 students killed
	Dozens of students injured
Customer Service	School did not have safe room
Production-Schedule	School closure
Property, Equip, Mtls	School destroyed
Labor, Time	Rescue, recovery & cleanup efforts

Frequency	Last category 5 tornado in 1999
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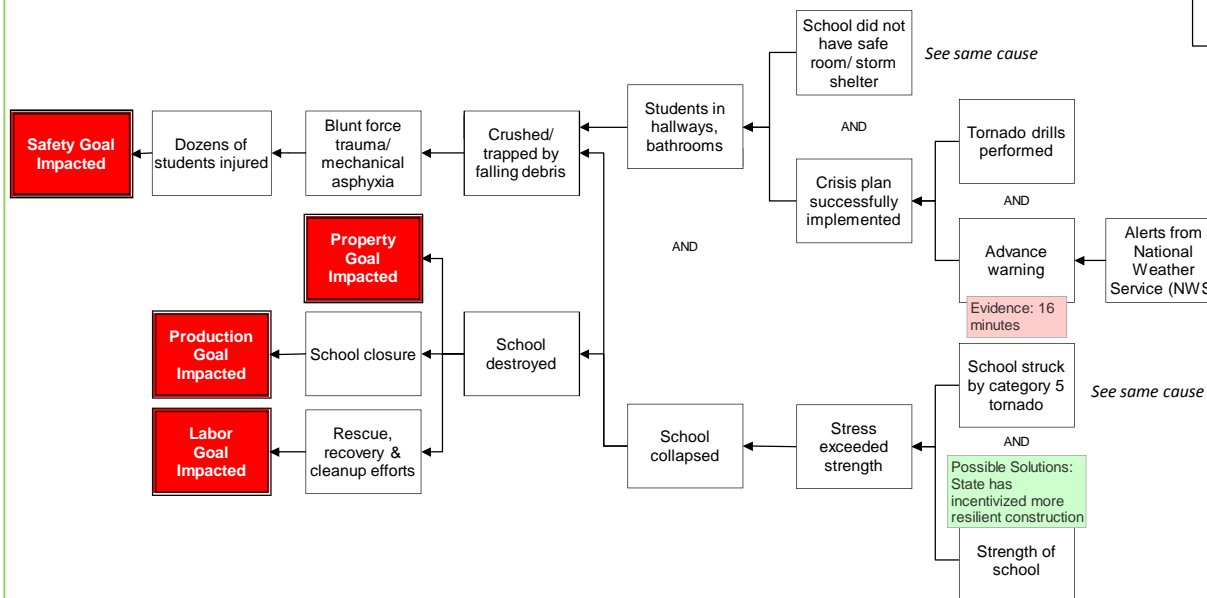
2 Analysis



Basic Level Cause Map - Start with simple Why questions.



More Detailed Cause Map - Add detail as information becomes available.



3 Solutions

This storm has reignited the discussion about expectations for safety shelters in public places that are prone to natural disasters. The devastating loss at the school has also raised the safety issue of ensuring that the locations used for shelter are cleared of other potential hazards, such as water mains and fire risks. Because of the relatively short warning time (16 minutes in this case, which is above average) before a tornado strikes, emphasis on tornado drills and safety plans should continue.

For a free copy of our Root Cause Analysis Template in Microsoft Excel, used to create this page, visit our web site.

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