

CATEGORY 5 TORNADO

~~School children drowned in basement after water mains burst~~ Cause Map

School children die in classroom when tornado strikes school

"Initial reports after the disaster left confusion about exactly how the children had died. Lt. Gov. Todd Lamb told CNN Tuesday that they were in a basement, where they drowned."
- Josh Levs, for CNN

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

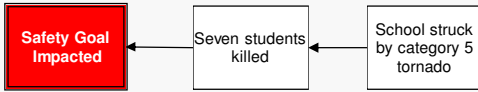
Impact to the Goals

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

2 Analysis

Basic Level Cause Map - Start with simple Why questions.



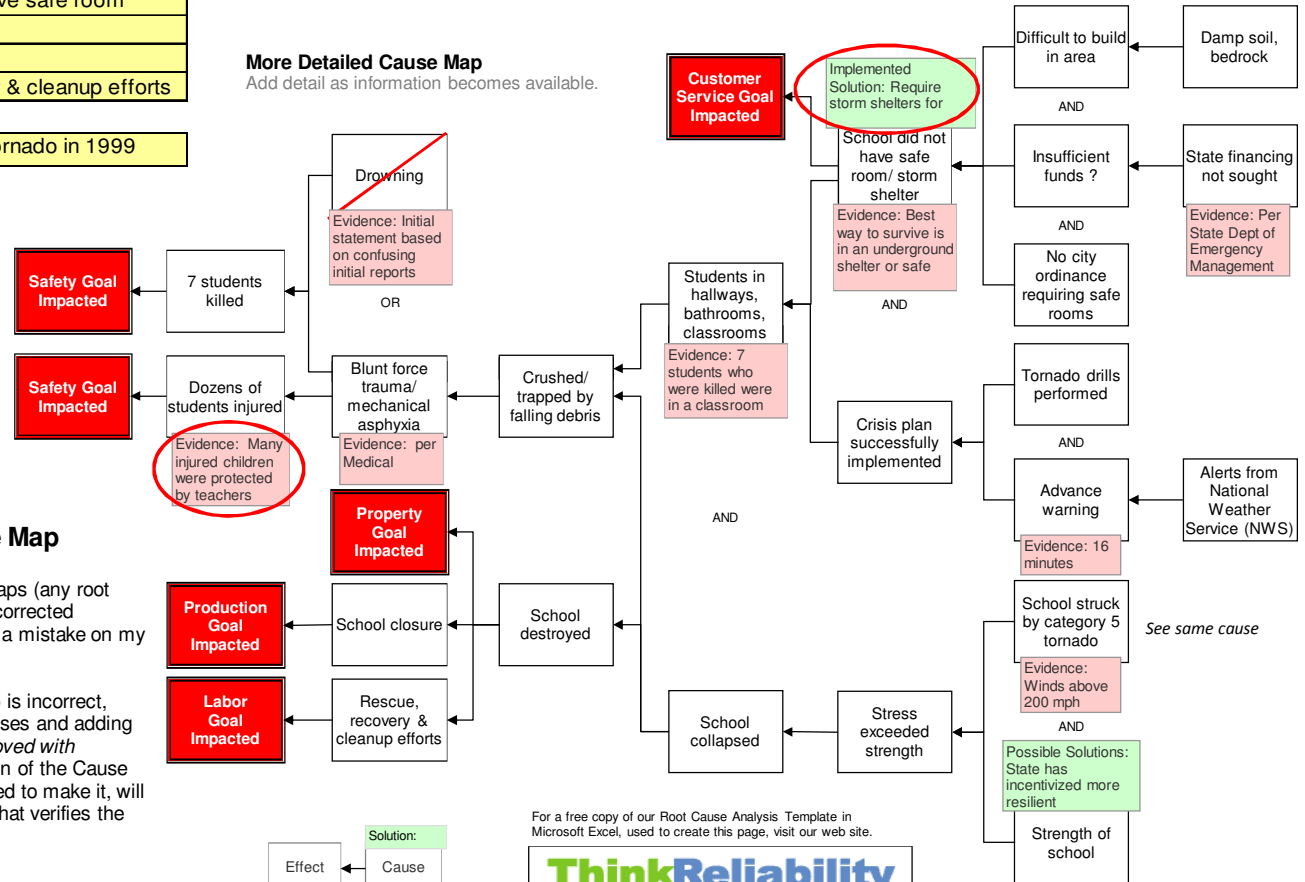
Whoops . . . how to fix an error on your Cause Map

Although they are sometimes treated as a static object, Cause Maps (any root cause analysis) can - and should - change based on updated or corrected information. A frequent question we get asked is "What if I make a mistake on my Cause Map?"

Once we have verified that an initial cause-and-effect relationship is incorrect, correct the Cause Map. Rather than just erasing the "wrong" causes and adding in the new causes, we cross off the causes *that have been disproved with evidence*. This way anyone who may have seen an earlier version of the Cause Map, or heard the same initial erroneous information that was used to make it, will have a clear version of what did happen, including the evidence that verifies the correct information.

More Detailed Cause Map

Add detail as information becomes available.



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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