

1 Problem

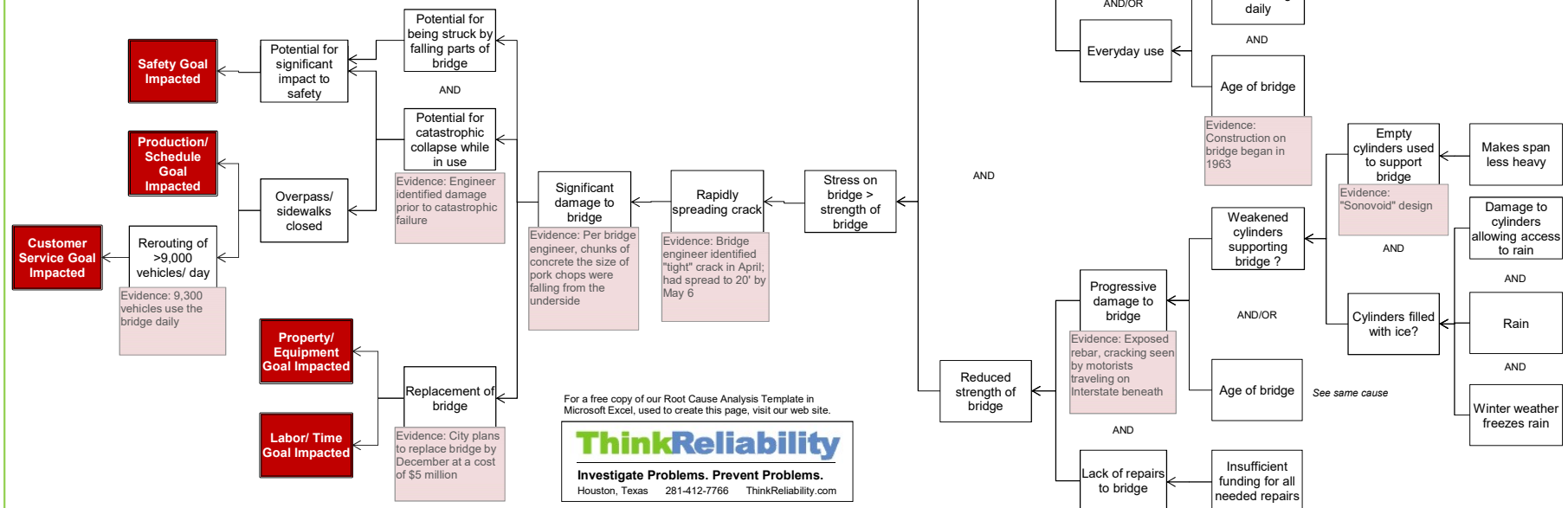
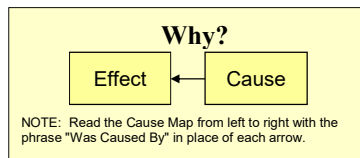
What When	Problem(s)	Bridge (overpass) failure
	Date	May 6, 2016
	Time	Morning
	Different, unusual, unique	"Sonovoid" design; widest bridge over Interstate "loop"; warning signs of failure
Where	Facility, site	Kansas City, MO
	Unit, area, equipment	Grand Boulevard Bridge
	Task being performed	Crossing over Interstate 670

Impact to the Goals

Safety	Potential for significant impact to safety	
Environmental	?	
Customer Service	Rerouting of >9,000 vehicles/ day	
Regulatory	?	
Production/ Schedule	Overpass/ sidewalks closed	
Property/ Equipment	Replacement of bridge	
Labor/ Time		\$5 million

This incident >\$5 million

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



INTERSTATE OVERPASS FAILS Cause Map

Quick action by engineer prevents injuries

A bridge engineer watching a "tight" crack under the Grand Boulevard bridge noticed it had extended to 20' on May 6, 2016. He immediately ordered the bridge closed, requiring the rerouting of the more than 9,000 vehicles that use the bridge every day. The state plans to replace the bridge by December, at a cost of \$5 million.

"It's the first time I've heard of this happening to a sonovoid bridge, so maybe it's an isolated case. But could it be something more chronic? The department is going to have to look into that."

- Andy Hermann, past president of the American Society of Civil Engineers

2 Analysis

Basic Level Cause Map - Start with simple Why questions.

Basic Cause-and-Effect

The failure of any material or object, including all or part of a bridge, results from the stress on that object from all sources overcoming the strength of the object. In this case the stress on the bridge was greater than the strength of the bridge.

