GOOGLE CAR CRASH

Cause Map

① Problem

What	Problem(s)	Google self-driving car hit a bus
When	Date	February 14, 2016
	Different, unusual, unique	Google car was controlled by a computer at the time of the accident; sandbags blocking lane
Where	Facility, site	Mountain View, California
	Unit, area, equipment	Self-driving car
	Task being performed	Testing self-driving cars on public roads

Impact to the Goals

Safety	Potential for injuries
Customer Service	Negative publicity for self-driving car technology
Regulatory	NHTSA and CA DMV investigating crash
Property/ Equipment	Minor damage to car and bus
Labor/ Time	Investigation/upgrades required

First time autonomous car is at fault for a crash

On February 14, 2016, the self-driving Google car was involved in a fender bender with a bus in Mountain View, California. Both vehicles were moving slowly at the time and the accident resulted in only minor damage and no injuries. While this accident may not seem like a very big deal, the collision is making headlines because it is the first time one of Google's self-driving cars has contributed to an accident. Google's self-driving cars have been involved in 17 other fender benders, but each of the previous accidents was attributed to the actions of a person, either the drivers of other vehicles or the Google test driver (while they were controlling the Google car).

"It's not a surprise that at some point there would be a crash of any technology that's on the road. But I would challenge one to look at the number of crashes that occurred on the same day that were the result of human behavior. I think the question here isn't comparing the automated car against perfection, I think it's a relative comparison to what we have now on the roads which is you and I, and our eyeballs, and our brains."
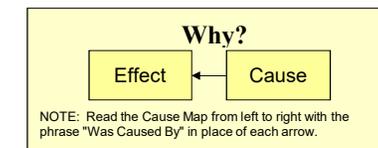
- US transportation secretary Anthony Foxx

② Analysis

Basic Level Cause Map - Starting with 5 Why questions.

Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.
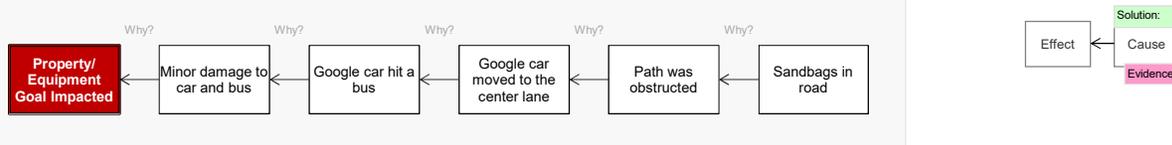
CAUSE MAPPING
Problem Solving • Incident Investigation • Root Cause Analysis

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

Why?

Effect ← Cause

NOTE: Read the Cause Map from left to right with the phrase "Was Caused By" in place of each arrow.

More Detailed Cause Map - 5-Whys is a good way to start an investigation, but keep asking why questions to add detail as information becomes available.
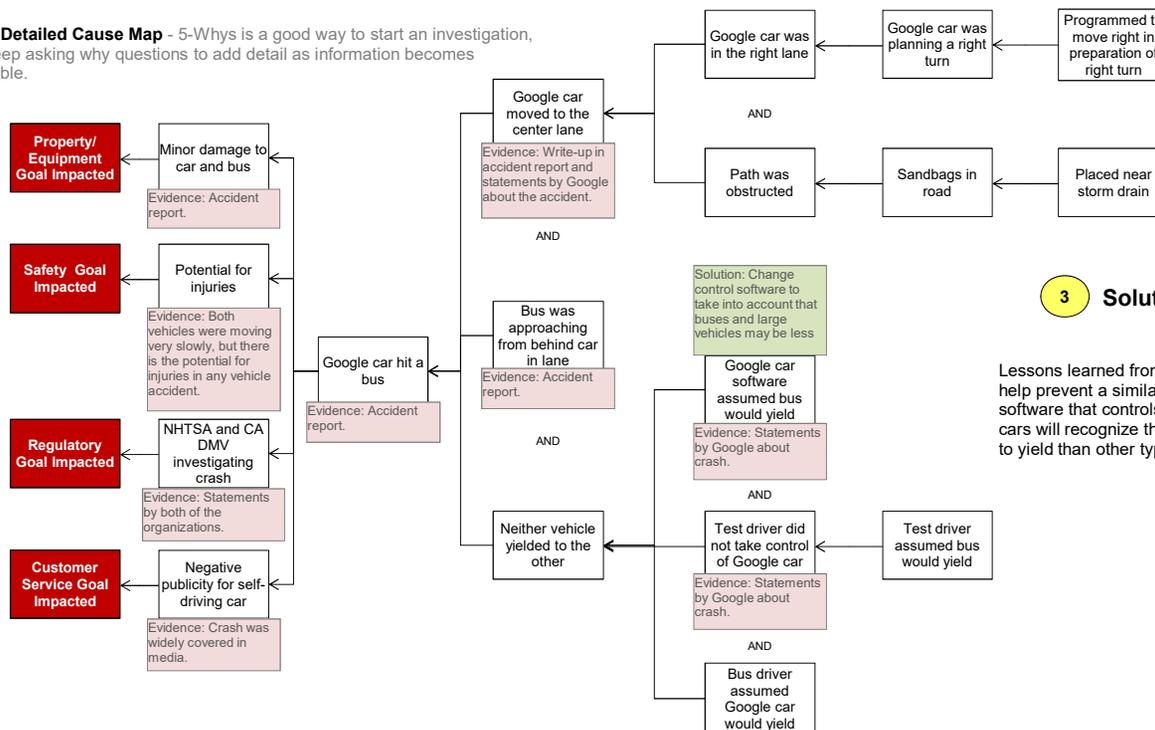
③ Solutions

Lessons learned from this accident are already being incorporated to help prevent a similar incident in the future. Google has stated that the software that controls the self-driving cars has been tweaked so that the cars will recognize that buses and other large vehicles may be less likely to yield than other types of vehicles.

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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