

Step 1. Define the Problem

Problem Outline

What	Problem(s)	Lost altitude, emergency landing on turnpike
When	Date	February 1, 2010
	Time	~7:00 a.m.
	Different, unusual, unique	?
Where	State, city	Cherry Hill, New Jersey
	Facility, site	New Jersey Turnpike (US 1 North)
	Unit, area, equipment	Cessna 152
	Task being performed	Monitoring traffic

Impact to the Goals

Safety	Potential for injuries
Environmental	?
Cust. Service	Traffic backup
Production-Schedule	
Property, Equip, Mtls	Considerable damage to plane
Labor, Time	?

Traffic Monitoring Plane Makes Emergency Landing

NJ Turnpike
February 1, 2010

Just before rush hour began on Monday, February 1, 2010, traffic was stopped for a different reason - a plane landed in the median and then skidded off the road. Thanks to quick thinking and exemplary control of the pilot, nobody was hurt, though the plane did suffer considerable damage. As with any incident, we can look at what happened and the effects in a Cause Map, or a visual root cause analysis.

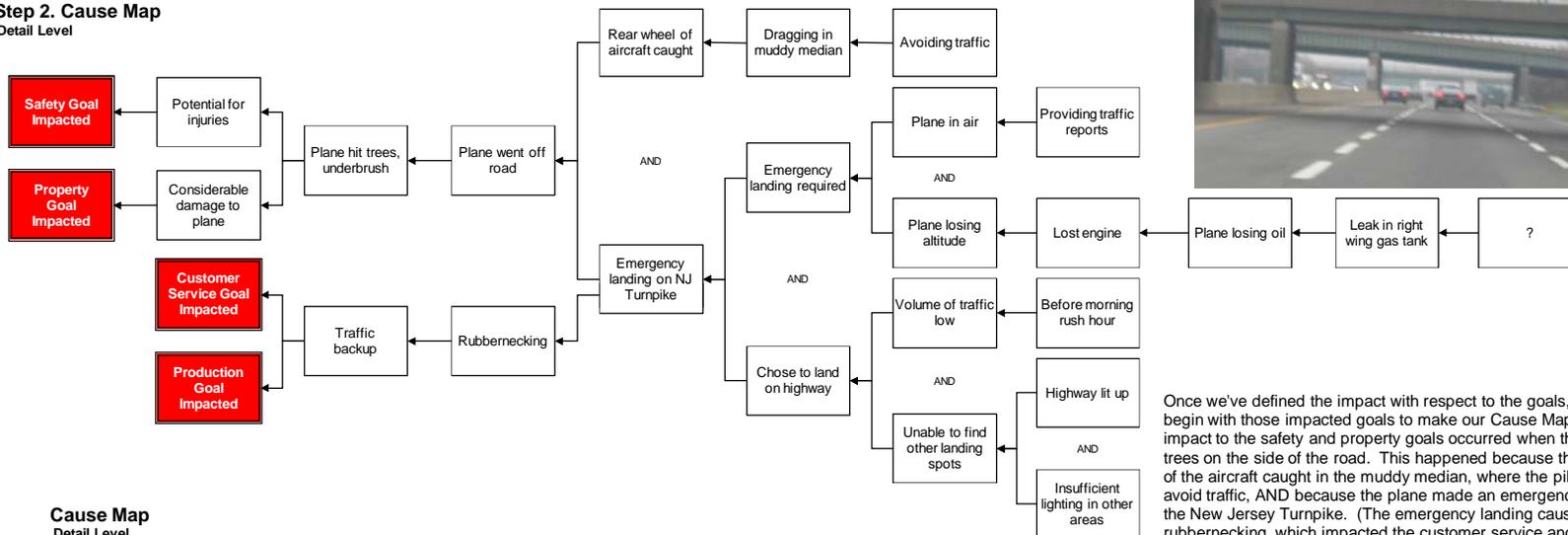
First we record the specifics of the incident, such as date, time, place, equipment and process involved. There's also space to write if anything was different, though in this case it's not clear what any differences were, so we can just enter a "?" to show we're not sure.

Next we define the incident with respect to the organization's goals. Although nobody was hurt, an emergency landing (especially when the plane is damaged) has the potential to cause injuries. These potential injuries are an impact to the safety goal. There was significant traffic back-up after the incident, which is an impact to both the customer service and the production/schedule goal. Last but not least, the damage to the plane is an impact to the property goal. It's unclear whether there was an impact to the environmental or labor/time goal, so we'll put a "?" here, too.



Step 2. Cause Map

Detail Level



Once we've defined the impact with respect to the goals, we can begin with those impacted goals to make our Cause Map. The impact to the safety and property goals occurred when the plane hit trees on the side of the road. This happened because the rear wheel of the aircraft caught in the muddy median, where the pilot landed to avoid traffic, AND because the plane made an emergency landing on the New Jersey Turnpike. (The emergency landing caused rubbernecking, which impacted the customer service and production goals.)

The plane required an emergency landing because it was losing altitude after the loss of an engine. (The plane was in the air giving traffic reports.) The engine was lost because it was losing oil from a leak in the right wing fuel tank. It's unclear what caused the leak at this time. The pilot chose to land on the highway because it was well lit, unlike the surrounding areas and because the traffic was light since rush hour had not yet begun.

Cause Map Detail Level



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