

WORST RUNWAY COLLISION KILLS 583

1 Problem

| | | |
|--------------|----------------------------|--|
| What | Problem(s) | Runway collision |
| When | Date | March 27, 1977 |
| | Time | 5:06 PM |
| | Different, unusual, unique | Large number of flights diverted due to bombing, dense fog |
| Where | Facility, site | Tenerife-Norte Los Rodeos Airport |
| | Unit, area, equipment | Two Boeing 747s |
| | Task being performed | Taxi/ takeoff |

Impact to the Goals

| | |
|----------------------------|---|
| Safety | 583 killed (61 survivors on PanAm flight) |
| Customer Service | Compensation to families of victims |
| Property/ Equipment | Both airplanes destroyed |
| Labor/ Time | Rescue, response, investigation |

March 27, 1977 was a difficult day for the aviation industry. Just after noon, a bomb exploded at the Las Palmas passenger terminal in the Canary Islands. Five large passenger planes were diverted to the Tenerife-Norte Los Rodeos Airport, where they completely covered the taxiway of the one-runway regional airport. Less than five hours later, when the planes were finally given permission to takeoff, two collided on the runway, killing 583, making this the worst accident at the time (and second now only to the September 11, 2001 attacks in the US.)

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"From the investigation it can be established that the accident was not due to a single cause. The misunderstanding arose from generally used procedures, terminologies and habit-patterns. The unfortunate coincidence of the misunderstanding with a number of other factors has nevertheless resulted in a fatal accident."

- Comments of the Netherlands Department of Civil Aviation on the Netherlands Aviation Safety Board Investigation Report

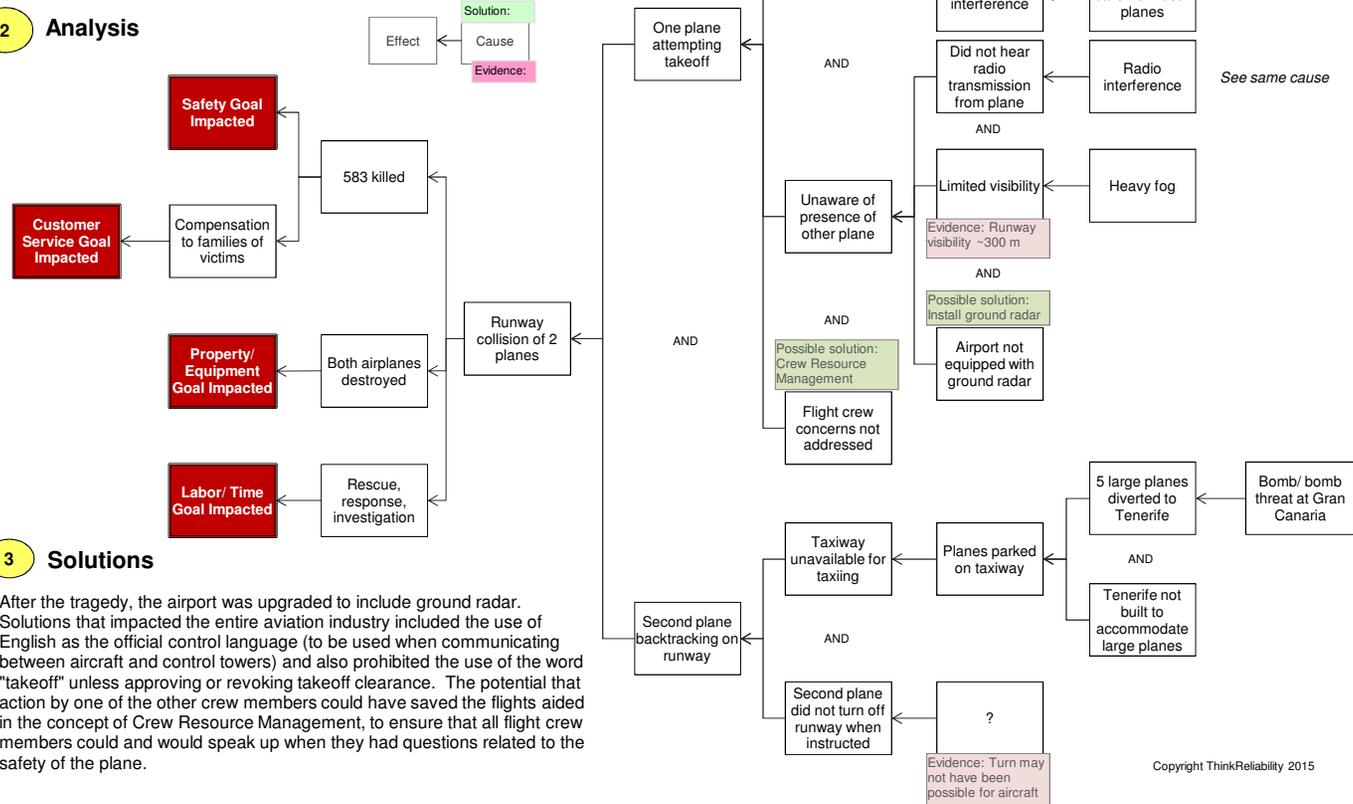
Cause Mapping is a Root Cause Analysis method that captures basic cause-and-effect relationships supported with evidence.

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? |

2 Analysis



3 Solutions

After the tragedy, the airport was upgraded to include ground radar. Solutions that impacted the entire aviation industry included the use of English as the official control language (to be used when communicating between aircraft and control towers) and also prohibited the use of the word "takeoff" unless approving or revoking takeoff clearance. The potential that action by one of the other crew members could have saved the flights aided in the concept of Crew Resource Management, to ensure that all flight crew members could and would speak up when they had questions related to the safety of the plane.