

# 1 Problem Definition

<b>What</b>	Problem(s)	Titanic sank, ship hit iceberg, weak rivets	
<b>When</b>	Date, Time	April 14th, 1912	
<b>Where</b>	Physical Location	North Atlantic	
	Process Location	Passengers UK to US	
<b>Impact to the Overall Goals</b>			
	<b>Safety</b>	1500 Fatalities	
	<b>Vessel</b>	Lost entire ship	\$ 7,500,000
	<b>Business</b>	Liabilities, business loss	\$ 16,500,000
	Frequency	1x	



# Titanic Cause Map

Step 1 is the Definition of the Problem. It is written in an outline format so that it's easy to capture and easy to read. The problem is always defined by the specific impact to the organization's overall goals - the deviation from the ideal state.

Cause Mapping is a visual, systems-based approach that focuses on fundamental cause-and-effect relationships supported with evidence. The three basic steps of Cause Mapping are shown here.

### CAUSE MAPPING

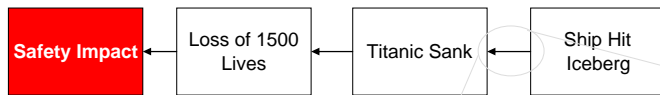
Problem Solving • Incident Investigation • Root Cause Analysis

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

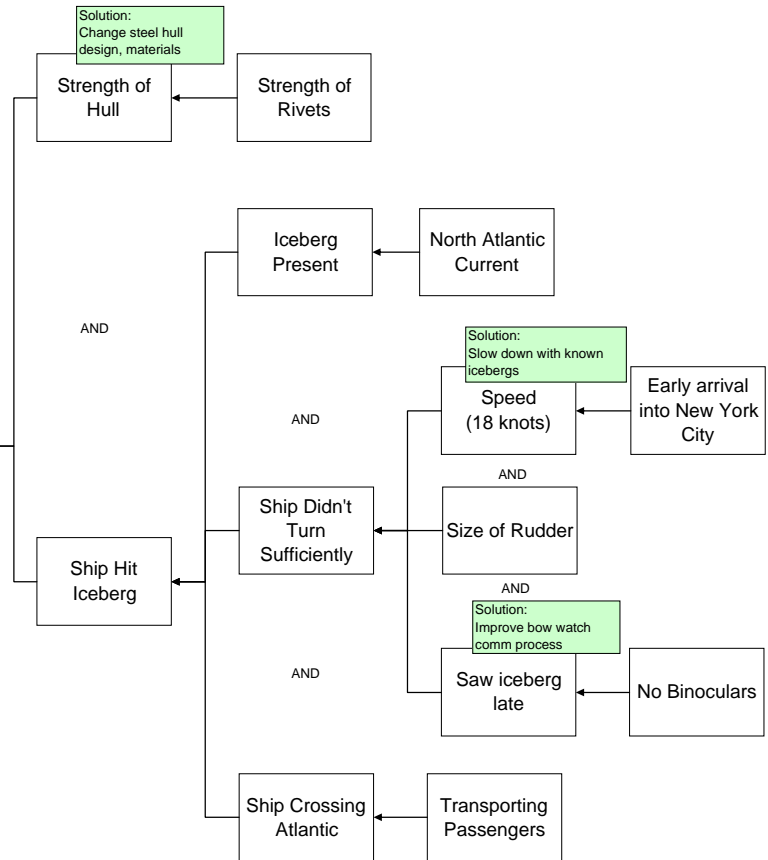
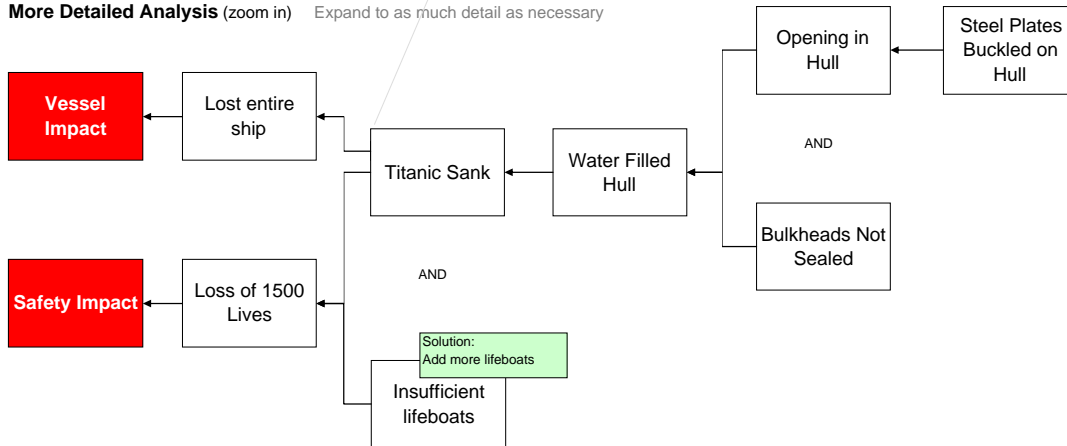
# 2 Cause Map

Step 2 is the Analysis of the incident. The cause-and-effect relationships are identified by asking "Why?" questions starting with the Goals that were impacted. While the Cause Map may start linearly, as more information is added the Cause Map expands to provide a detailed view of the entire event.

**Basic Level Analysis (zoom out)** Start as a simple 5-whys



**More Detailed Analysis (zoom in)** Expand to as much detail as necessary



# 3 Solutions

No.	Cause	Action Item	Owner	Due Date	Status
1	Insufficient lifeboats	Add more lifeboats			
2	Speed (18 knots)	Slow down with known icebergs			
3	Saw iceberg late	Improve bow watch comm process			
4	Strength of Steel	Change steel hull design, materials			

Step 3 is the selection of specific Action Items to prevent the issue from occurring. Many possible solutions may be considered, but the only the best solutions are selected for implementation. Each action item in the Action Plan will have a specific owner with a scheduled due date.

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