Stage Two Codebook (Coding analysis):

- Incident basic properties
  - Location
    - LOCATION_COUNTRY: Country Code
      - Instruction: the country acronym where incident happens.
        - For detours: code both correct destination and false destination
        - For others: country in which failure occurred
    - LOCATION_EXACT: Defined by bounding box or GPS coordinate
      - Instructions Long, Lat, zoom factor
      - Example: @51.6758261,-4.7028566,15.07z
    - LOCATION_TYPE:
      - Urban: go to Google map and check if there are man-made artifacts.
      - Rural: if not urban
  - DATE_ARTICLE:
    - date of article:
  - DATE_EVENT:
    - date of event
  - SERIOUSNESS: Extent of Damage
    - Major-death: threat to life, death
    - Major-injury: injuries
    - Medium: car is damaged, also environment is damaged, but no threat to life, legal issue
    - Low: loss time, no financial cost or causality
    - Low but potential risk to life:
      - Wrong way (but not crash)
      - Stranded for a long time but no injuries
  - INCIDENT: Catastrophe Description
    - Stranded/stuck
      - Get stuck in the environment, can not move but no significant damages to car / passengers
      - E.g. stranded in mud/dirt road
    - Detour
    - Crash
      - Crash with vehicle
      - Crash with pedestrian/bike
      - Crash with environments:

- - - ○ building/wall/guardrail: usually the objects crashed with when vehicles are on narrow lane
      ○ Overhead bridge: the intersecting bridge that is above the road
      ○ Barricade: used to temporarily block the road for construction etc.
      ○ Water: vehicles that are plunged into water, swamp etc.
      ○ Roundabout
      ○ Bridge: the supports of the bridge
    - Wrong way
      - As long as the case involves wrong way, regardless of crashes or not
    - Trespass
      - Went to illegal/inappropriate areas e.g. private properties, military properties, geopolitical boundary etc.
- Environmental condition:
  - TIME_OF_DAY: Time of day
    - Morning/Afternoon (not dark)
    - Evening/night (not dark)
  - WEATHER: Weather:
    - severe: if severe weather are specifically mentioned in the articles. Including snow, rain, storm, heat. etc.
  - ROAD_SURFACE:
    - paved road (e.g.: street, highway)
    - dirt road (e.g. sand road, mud road)
    - fff road (beach)
    - road for other transportation (e.g. railroad)
- Driver/vehicle condition:
  - VEHICLE: Vehicle
    - Motorcycle
    - Car
    - Truck
    - Bus
    - SPV
  - DRIVER_AGE
  - DRIVER_NAT_LANG:
    - Yes: the driver speaks local language
    - No: otherwise
  - LOCAL: Does the driver come from local area?
    - Yes: the driver come from local area
    - No: otherwise
  - DISTRACTED:
    - Yes: the article specifically mentioned that

- ■ No: otherwise
- CAUSE_GIS: the technological causes that is related to the incidents
  - Geocoding: incorrect association between destination and its coordinates
  - Toponym disambiguation: select a similar/same toponym but refers to another destination
  - Missing or incorrect attributes: attributes associated with geometry are wrong
  - Missing or incorrect geographic objects: the geometry of the spatial feature is wrong, or the geometry of the feature is missing
  - Cartography/instruction: problem with the audio and video instructions, including timing, levels of details and other.
  - Incorrect routing preference: shortest path v.s. fastest path
  - Other: _____
- PERSISTENT:
  - Yes: GPS catastrophic incidents has happened here before.
  - No: otherwise