



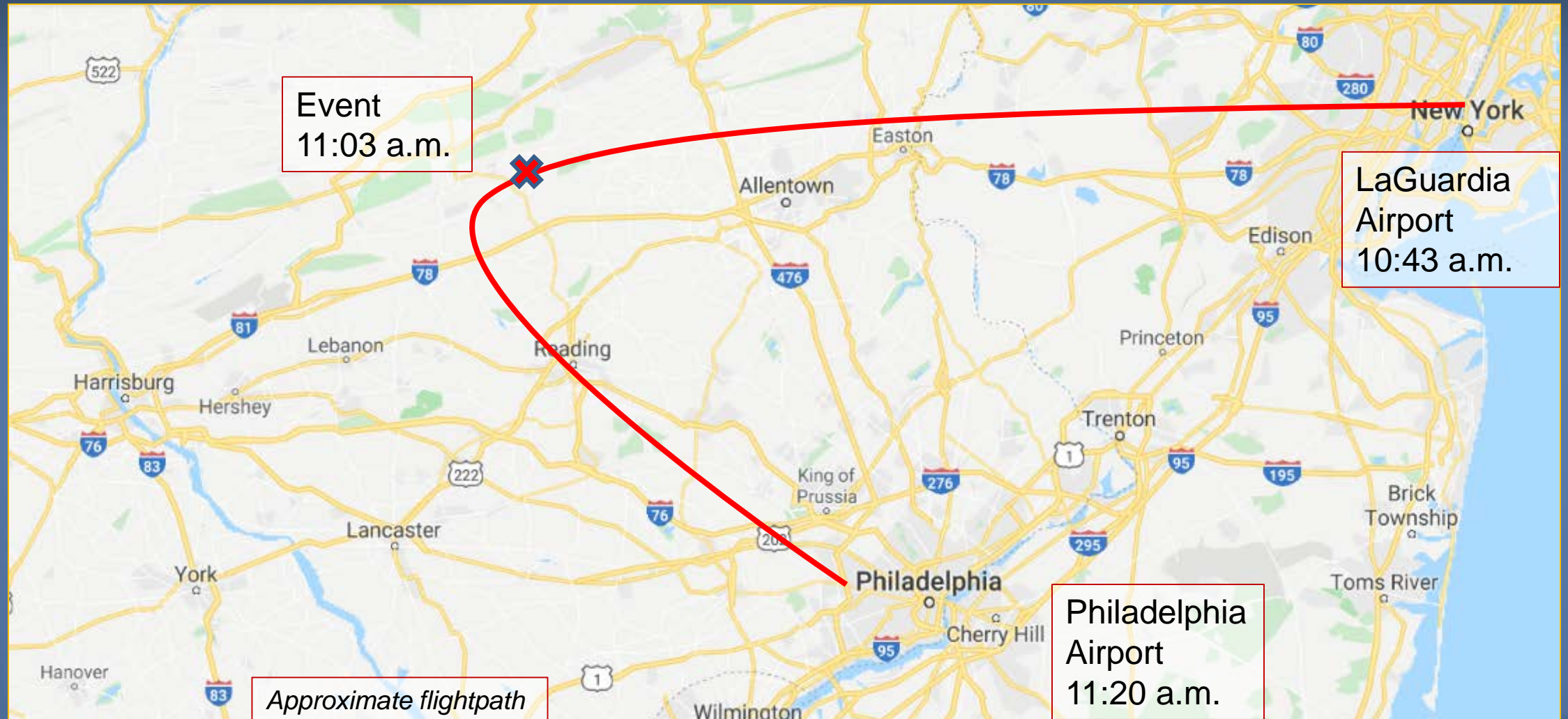
National Transportation Safety Board

Left Engine Failure and
Subsequent Depressurization
Southwest Airlines Flight 1380
Boeing 737-700
Philadelphia, Pennsylvania
April 17, 2018

Investigator-in-Charge
presentation



History of Flight



History of Flight: Operations

- Secured engine within 36 seconds
- Focused on maintaining control of airplane
- Initiated emergency checklists
- Completed items from memory
- Did not affect outcome



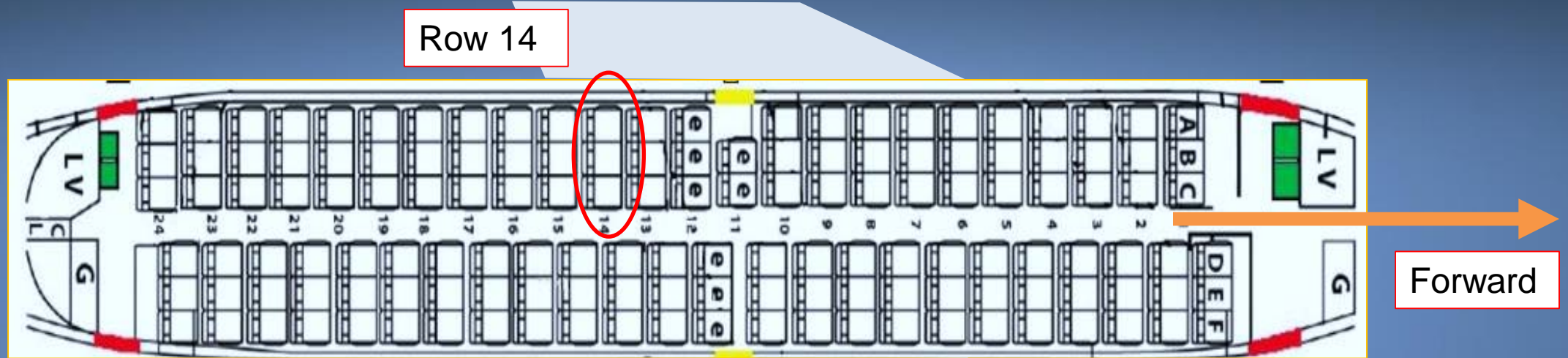
History of Flight: Engine Damage



History of Flight: Window Separation

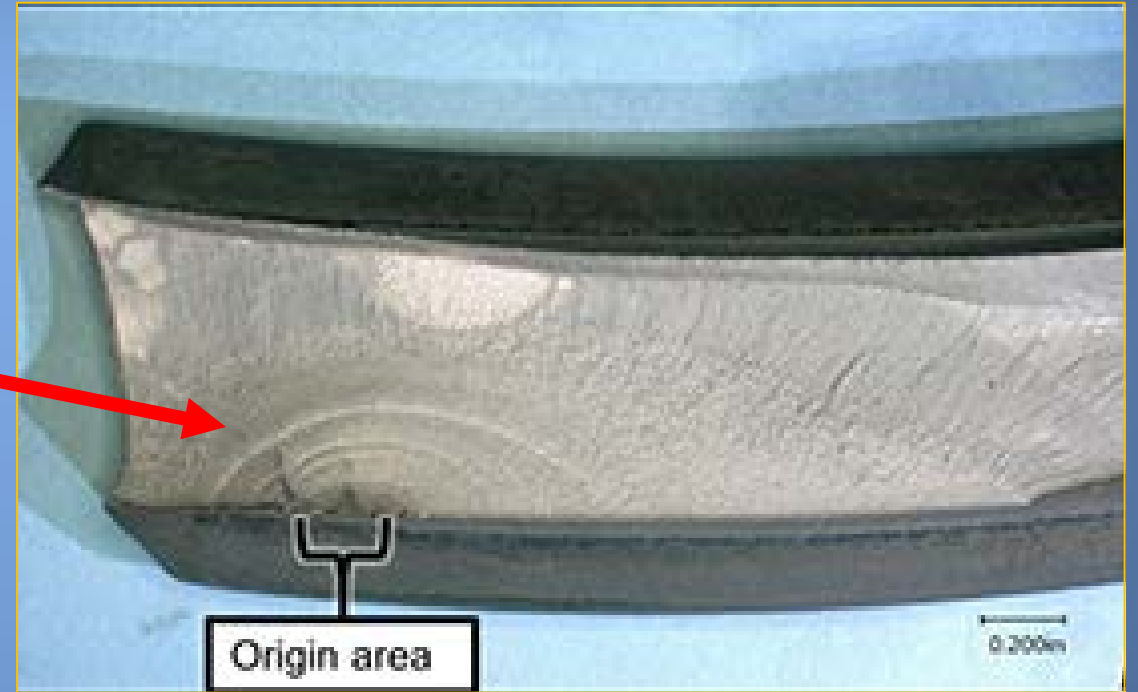


History of Flight: Cabin Safety



- Assisted injured passenger
- Passengers from row 14 required reseating
- Flight attendants not secured for landing

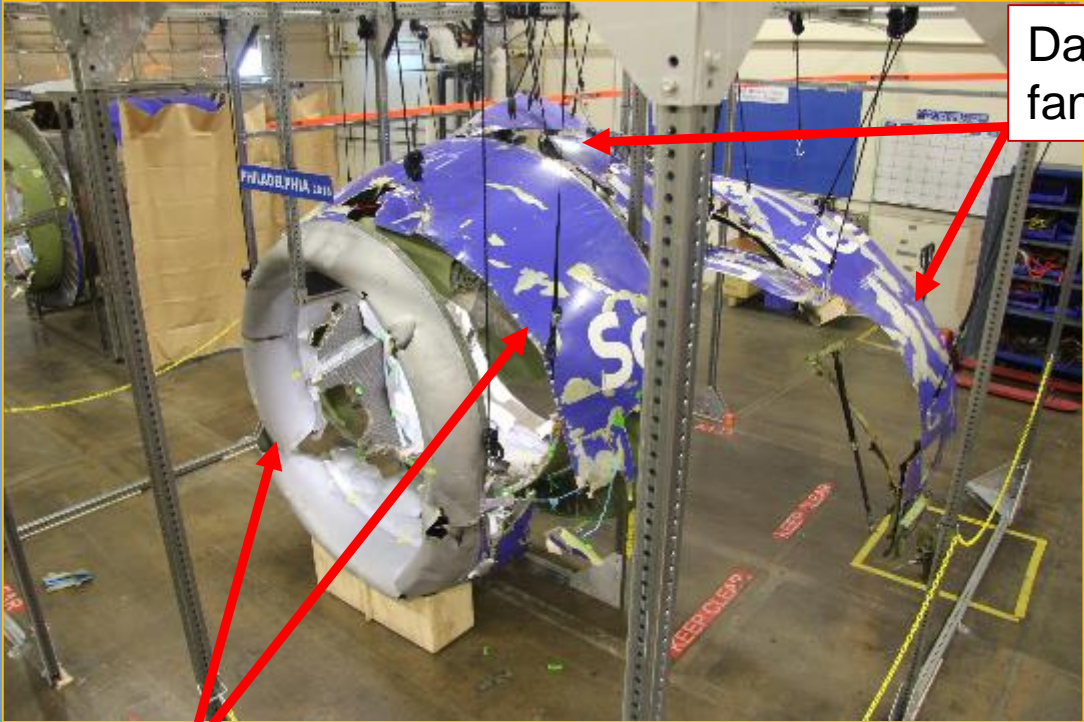
Findings: Fan Blade Separation



Findings: Inlet and Fan Cowl Damage



Fan blade fragment replicas

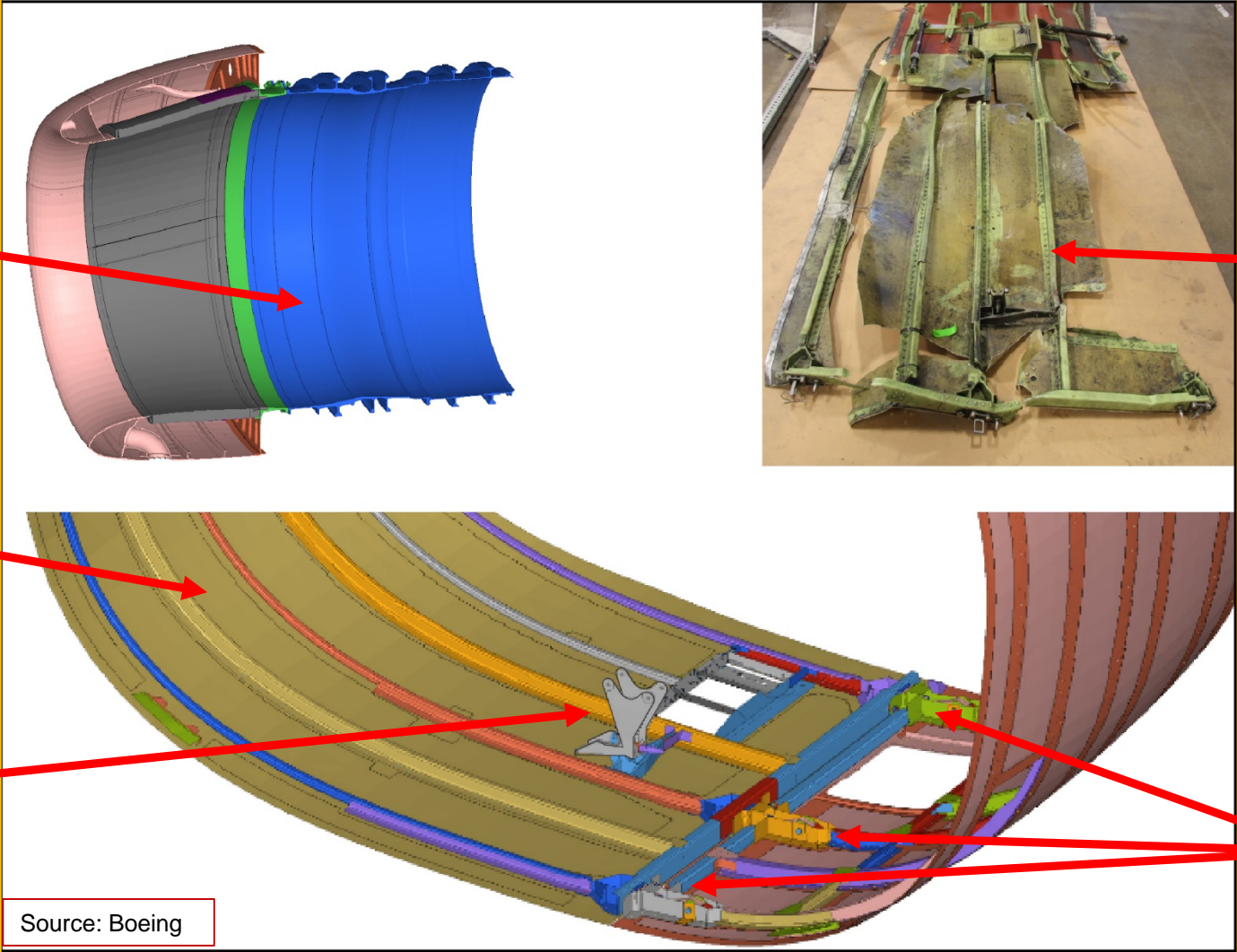


Inlet remnants

Damaged fan cowl

Findings: Fan Cowl Damage

Cutaway of engine fan case



Damaged fan cowl portions

Lower portion of fan cowl

Radial restraint fitting

Latches

Source: Boeing

Safety Issues

- Ensuring structural integrity of fan cowl after fan-blade-out events
- Determining critical fan blade impact locations and their effect on nacelle components
- Having flight attendants secured during emergency landings
- Reseating passengers during in-flight loss of seating capacity

Parties to Investigation

- Aircraft Mechanics Fraternal Association
- Boeing
- GE Aviation
- Collins Aerospace
- Federal Aviation Administration
- Southwest Airlines
- Southwest Airlines Pilots Association
- Transport Workers Union

Annex 13

- Accredited Representative
 - Bureau d'Enquêtes et d'Analyses pour la Sécurité de l'Aviation Civile
- Technical Advisors
 - European Union Aviation Safety Agency
 - Safran Aircraft Engines



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