



**National
Transportation
Safety Board**

Collaboration: Moving the Needle

Christopher A. Hart, NTSB Member

NATCA Annual Communicating for Safety Conference
Las Vegas, NV, March 21, 2017

NTSB Basics

- Independent federal agency, investigate transportation mishaps, all modes
- Determine probable cause(s) and make recommendations to prevent recurrences
- Primary product: Safety recommendations
 - Favorable response > 80%
- ***SINGLE FOCUS IS SAFETY***
- Independent
 - Political: Conclusions based on facts, not politics
 - Functional: Don't operate anything, not part of FAA

Personal Kudos

- As a pilot, universally positive experiences with controllers
- Always there when needed, always helpful

CAST Proved Collaboration Works

- Early 1990's: Commercial aviation accident rate stopped declining, stuck on plateau
- Airlines, manufacturers, pilots, controllers, airports, and regulator all collaborated, as Commercial Aviation Safety Team (CAST), to
 - Identify safety issues
 - Prioritize
 - Fix the most important ones
 - Evaluate to make sure the fix worked without unintended consequences
- Result: Fatality rate declined 83% in only 10 years

Additional Collaboration Successes

- Not only improved safety, but improved productivity, reduced likelihood of unintended consequences
- Collaboration works because all want the same objective -- safe and efficient air transportation
- Moral: All who are involved in the problem should be involved in the solution
- Collaboration is nimble way to respond to rapidly changing technologies

NATCA Collaboration: Runway Safety Council

- Runway incursions
- Wrong runway/wrong airport
- Complex problems, rates went down but now increasing
- Thanks to FAA, NATCA for allowing NTSB to participate as observer

PIREPs, Weather

- PIREPs help provide needed weather information in the cockpit
- Important part of bigger problem of better weather information in the cockpit, especially Alaska
- NATCA helped in NTSB PIREP Forum about collecting and disseminating weather information (report coming soon)
- Continued NATCA collaboration will be very important in developing new technologies to address this problem

NextGen

- Long history of equipment and processes designed for controllers without controller input in the design; result often unsatisfactory
- NATCA collaboration provides needed input
- Two examples (among many)
 - ERAM implemented despite early challenges once NATCA became involved
 - DataCom in terminals, introduced ahead of time, under budget

New NAS Entrants

- UAS
- Commercial space launches
- Continued NATCA collaboration very important

Modernizing NAS in the Future

- Examples
 - Remote Towers?
 - Space-Based ADSB?

Opportunities to See Other Perspectives

- Encourage controllers to engage in flight deck training
- Encourage pilots to visit ATC facilities
- Enable controllers to get other perspectives by visiting other types of ATC facilities

NTSB in the Collaboration

- NextGen will involve many new technologies and increasing automation that will significantly change the role of controllers
- NTSB has investigated many accidents where new technologies and/or automation went wrong; hence, can inform the NextGen development process

Conclusions

- Collaboration is essential to successfully improving complex systems, especially if the technology is advancing rapidly
- Collaboration results in more nimble response to future challenges
- Kudos to NATCA for participating in numerous collaborative efforts to modernize the NAS
- NTSB investigation experience can also inform the process



National
Transportation
Safety Board

Thank You!!