CENTER FOR ADVANCED AVIATION SYSTEM DEVELOPMENT (CAASD)

Reroute Predictability Collaborative Decision Making (CDM) Future Concept Team (FCT)

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Reduced Coordination of Reroutes

- Positive impact on Air Traffic (AT) positions
- Tower
- Requirements for Traffic Management Coordinator (TMC) to coordinate/communicate either verbally or via automation to obtain reroutes are reduced
  - Close coordination/communication is required for manual reroutes to ensure tower AT team is aware of route changes
  - Late route or poorly-coordinated changes increase administrative tracking requirements
    - Early action reduces need to identify individual flights and track Traffic Flow Management (TFM) reroute activities
    - Good planning reduces strip board/electronic information management workload

Reduced Coordination of Reroutes (Concluded)

- Early action allows for improved information sharing down to the tower level. Towers better understand and can react to system actions or needs
- More planned TFM actions versus reactive TFM to system needs
- AT actions on the ground and around the airport are more predictable. When reroutes require little or no action from tower personnel, the AT team can better focus on the tactical tower situation, reducing delays and improving throughput

Reroute AT Impacts

- When reroutes are initiated by the FAA customer, the tower clearance delivery position does not need to verify and communicate with the pilot for reroutes
  - Use of automated clearance delivery is not impacted
- Full route clearances are limited
  - Read-backs that are time consuming are reduced
  - Reroutes on a case-by-case basis are reduced. Tower personnel do not have to coordinate flights one at a time

Reroute AT Impacts (Continued)

- Multiple reroutes that lead to duplicate strips can be a problem. Personnel must ensure that the most recent update is delivered to pilot
  - Customer initiated routes eliminate the requirement for the pilots to obtain dispatch approval for reroutes
  - Reroute calculations are already completed and loaded into Flight Management System (FMS)
  - TFM actions and coordination with company (capping, delays) are completed on the front end, improving communication and coordination
- Rerouting by FAA facilities can create strip processing/printing issues in the facilities due to HOST/Automated Radar Terminal System (ARTS) limitations
- Timely strip printing will improve AT flexibility/predictability

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Reroute AT Impacts (Continued)

- **Ground control**
  - **Same improvements to the process as clearance delivery at towers**
  - **Route changes that impact planned aircraft taxiway queues are reduced**
    - **Line up changes that lead to taxiway congestion are limited**
    - **Tracking Mode Indicators (TMIs) are easier for the tower to manage**
    - **Taxi instructions are less complex due to last minute route changes**
    - **TMC duties and workload are reduced. The need to staff the position or limiting assignment as an additional duty are reduced**
- **Local controllers**
  - **Same improvements as clearance delivery at towers**
  - **Departure fix changes are limited and well known prior to taxi and takeoff. This creates an environment that improves compliance to TMIs and reduces the need for complex air traffic control (ATC) actions**

Reroute AT Impacts (Continued)

- **Tower Supervisor**
  - **Same improvements as clearance delivery at towers**
  - **The need to communicate and coordinate multiple route changes is reduced. Overall tower TFM issues are less complex. Supervision may be better focused on air traffic and safety issues versus TFM activities**
  - **No need ensure that tower team is aware of all route changes. The strips reflect the correct and current routes**
  - **Supervisors can better focus on personnel resources that are available to handle increased workload/complexities during severe weather**
  - **Improved communication and coordination with ramp towers/customers**

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Reroute AT Impacts (Continued)

- **Terminal Radar Approach Control (TRACON)**
  - **TMC**
    - **Workload to ensure correct routings is reduced between the Air Route Traffic Control Center (ARTCC) and tower**
    - **Customer-initiated reroutes allow more time for internal coordination**
    - **Early action allows for TMCs to implement, monitor and modify TMIs on a more timely basis**
    - **By limiting short notice reroutes, predictability and personnel confidence in TFM actions are improved**
    - **Over-restricting departure fixes, airports, or sectors is reduced due to increased confidence in route assignments**

Reroute AT Impacts (Concluded)

- **En route**
  - **TMC**
    - **Time consuming coordination and communication, either verbally or via automation, to obtain reroutes from other facilities is significantly reduced**
      - **When routes are issued via Air Traffic Control System Command Center (ATCSCC) advisory or other pre-approved means, multiple layers of required actions are negated**
    - **Less coordination/communication is required to ensure tower/TRACON AT TFM team is aware of route changes**
    - **Flow Evaluation Areas (FEAs) and Missed Approach Procedure (MAP) values are improved and will more accurately reflect actual demand**
    - **Internal center coordination is less complex with pre-approved routes/procedures**
    - **Reroutes must be timely to the towers and usually are based on a first come/first served basis. Early action allows FAA AT personnel to spend more time planning for reroute problems instead of reacting to them**
    - **Reroutes may be issued well in advance of pilot calling for clearance/taxi**