

# Determining FCA Throughput and AFP Rates - NE

*Presenter: Curt Rademaker, Manager NAS Efficiency*

*For: FWAP*

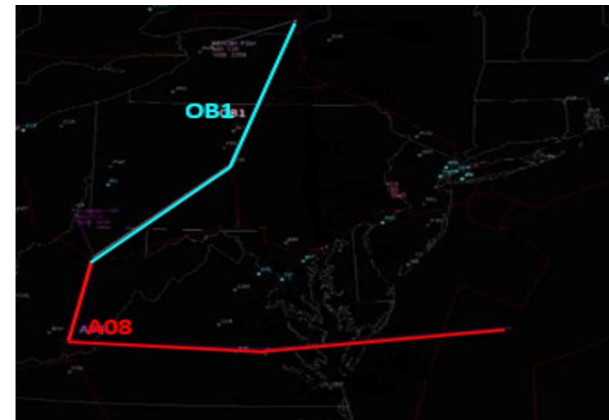
April 29<sup>th</sup> 2021



# Introduction:



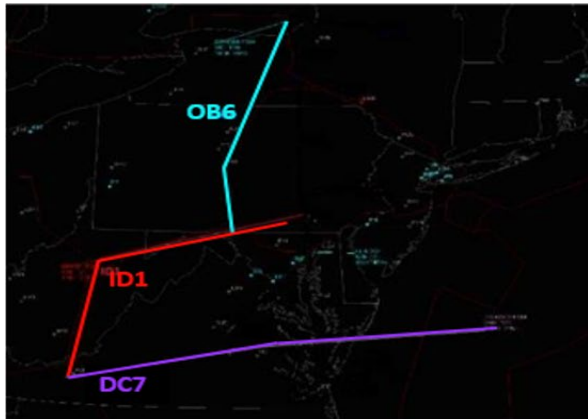
- OB6
- ID1
- DC7



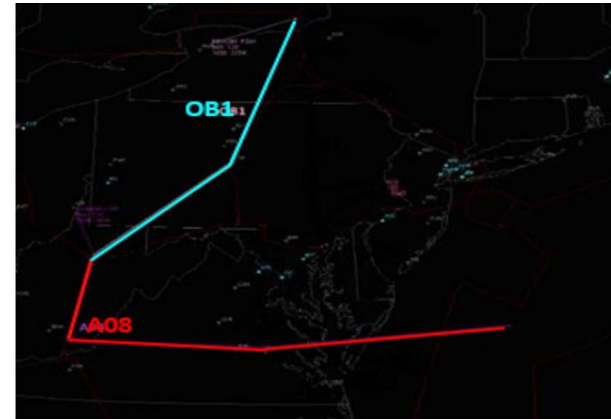
- OB1
- A08

- ✓ First step in managing Enroute airspace constraints is knowing what normal capacity is through a specified area under unconstrained conditions
  - Gives a starting point to have AFP rate discussions based on current constraints
- ✓ The FAA uses 2 standard FCA strategies in the NE.
  - Designed based on airspace design (i.e. sector boundaries)
  - Known/established traffic flows
  - Establishes a common ground of understanding for all facilities and NAS users
  - Reduces coordination time

# Old FCA Throughput



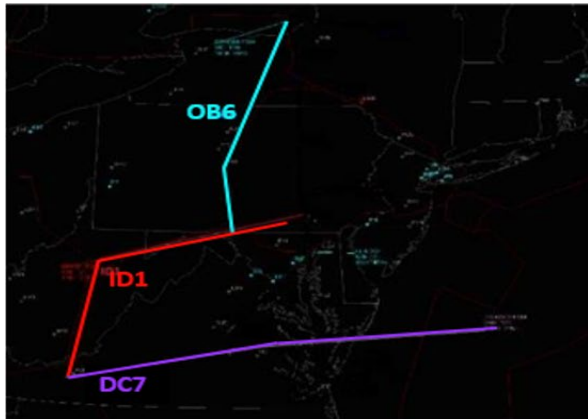
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- OB1
- A08

NE FCAs	Old FCA Throughput
A08	120
BW1	40
DC7	95
ID1	70
OB1	115
OB6	100

# Action



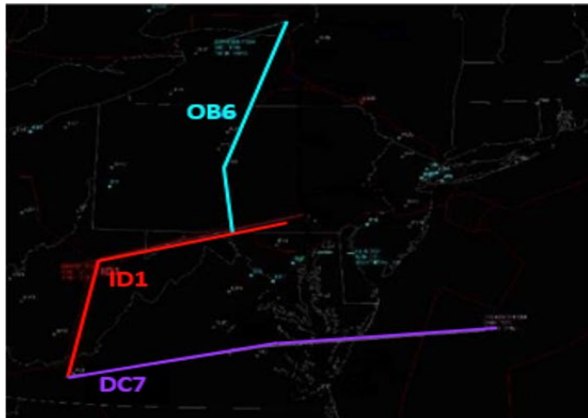
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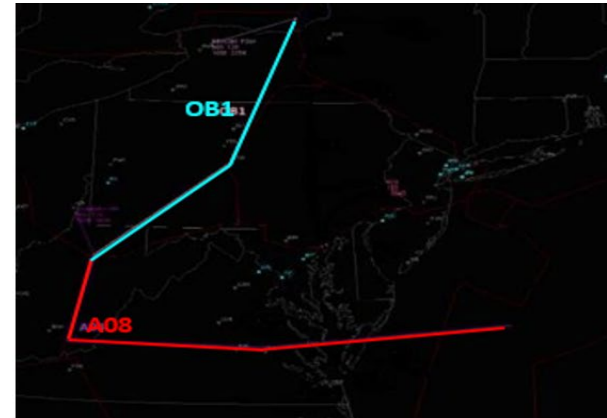
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- ✓ More relevant measurement of FCA throughput
  - How?
    - Use PDARs data of actual traffic worked – 2019, 2018, 2017
    - Defined hourly throughput for each day
- ✓ Determine what “normal” throughput is, or Unconstrained FCA Throughput (UFT)
  - How?
    - Average the 3 busiest hours per day to determine a daily throughput value
    - Average the 14 busiest daily values to determine UFT

# New FCA Throughput (UFT)

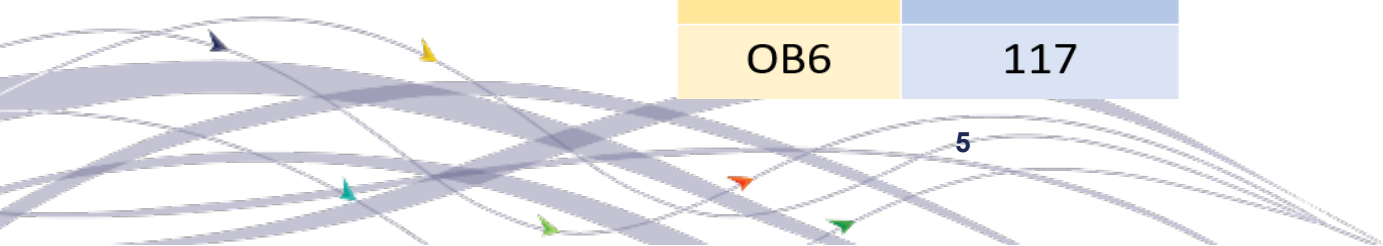


- OB6
- ID1
- DC7



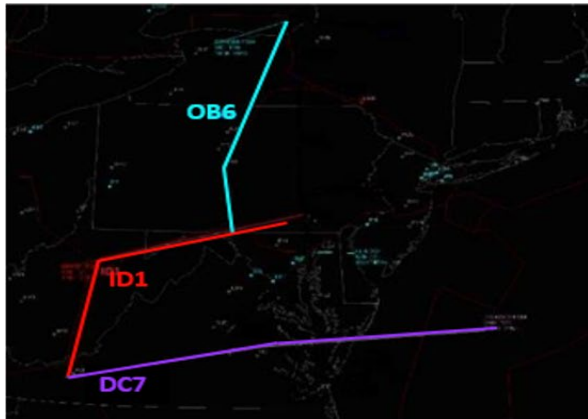
- OB1
- A08

NE FCAs	Hourly Unconstrained FCA Throughput
A08	153
BW1	49
DC7	131
ID1	72
OB1	149
OB6	117





# Old vs New



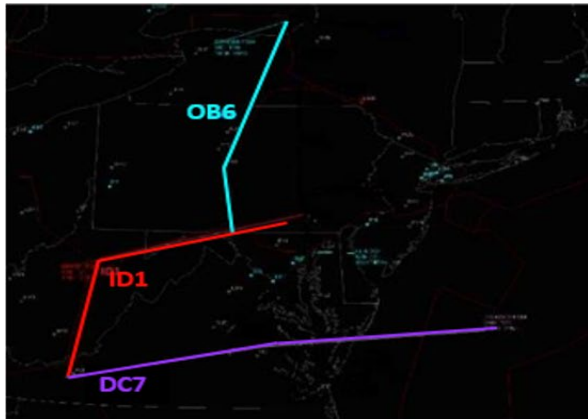
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- OB1
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NE FCAs	Old FCA Throughput	Hourly Unconstrained FCA Throughput
A08	120	153
BW1	40	49
DC7	95	131
ID1	70	72
OB1	115	149
OB6	100	117

# Determining AFP Rate



- OB6
- ID1
- DC7

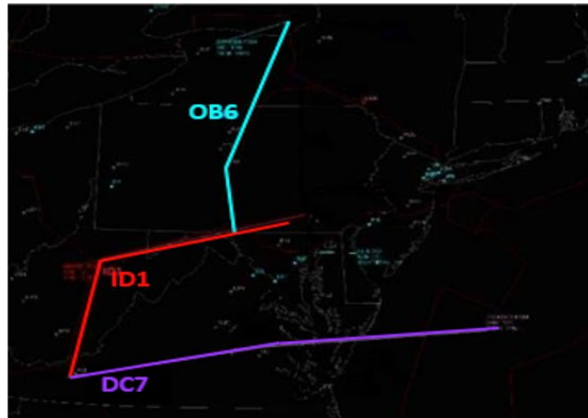


- OB1
- A08

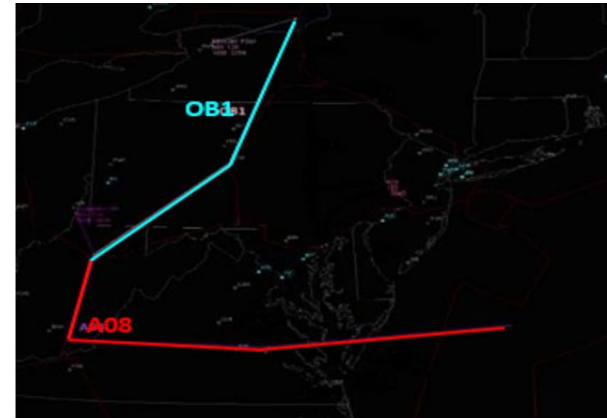
- ✓ Determining the correct capacity and throughput of an AFP is not an exact science. It requires intuitive knowledge of the airspace and the flows of traffic in and out of an area. It is also based on a forecast several hours in the future



# Determining AFP Rate



- OB6
- ID1
- DC7



- OB1
- A08

## Factors to Consider in Determining AFP Rates

*Note: This list is not all inclusive*

### WX Considerations

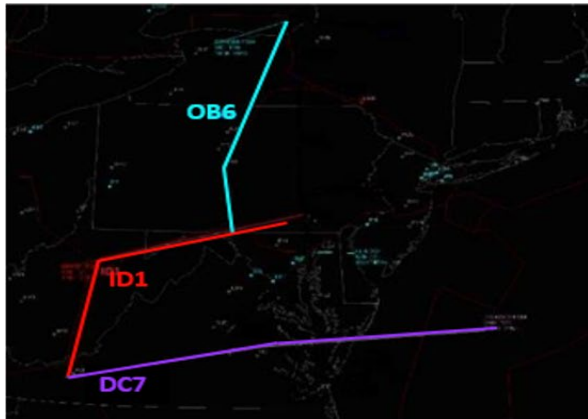
- Permeability of thunderstorms
- Location, type and speed of thunderstorms activity (air mass, line, clusters)
- Other WX impacts in the region (turbulence, airport impacts etc.)
- Are thunderstorms going to impact high density airways?

### System Considerations

- Airspace usage (managing flights that are primarily in enroute vs. arrival/departure airspace)
- Favoring arrivals or departures?
- Primary FCA (to manage weather impact) vs. secondary FCA (to manage volume due to reroutes)
- Other TMIs used in conjunction to AFPs



# AFP Rate Ranges



- OB6
- ID1
- DC7



- OB1
- A08

NE FCAs	Hourly Unconstrained FCA Throughput	Low System Impact AFP Rate Range	Medium System Impact AFP Rate Range	High System Impact AFP Rate Range
A08	153	122-153	92-121	91 or lower
BW1	49	39-49	20-38	19 or lower
DC7	131	105-131	79-104	78 or lower
ID1	72	58-72	43-71	42 or lower
OB1	149	119-149	89-118	88 or lower
OB6	117	94-117	70-93	69 or lower

# 7/7/2019 – 6 Hour TCF @ 13z

