
Financing NextGen

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**Frank Berardino
GRA, Incorporated**



115 West Avenue • Jenkintown, PA 19046 • USA

☎ 215-884-7500 • 📠 215-884-1385

✉ frankb@gra-inc.com

NextGen Rationale

- Current technology cannot accommodate unconstrained future demand with constant or lower consumer prices
 - Because of congested en route sectors and terminal airspace

- The likelihood of success depends on whether operators can capture benefits and have incentives to invest
 - Need ~100% equipage to capture many benefits

- The ultimate system built (where, what, when) and the likelihood of private investment are directly influenced by whether there are user fees or current tax-style system



NextGen Benefits and Costs

- FAA will benefit from reduced controller requirements per RPM or flight and by turning off en route radars and old nav aids (?)
 - Can FAA operate parallel systems ? How long ?

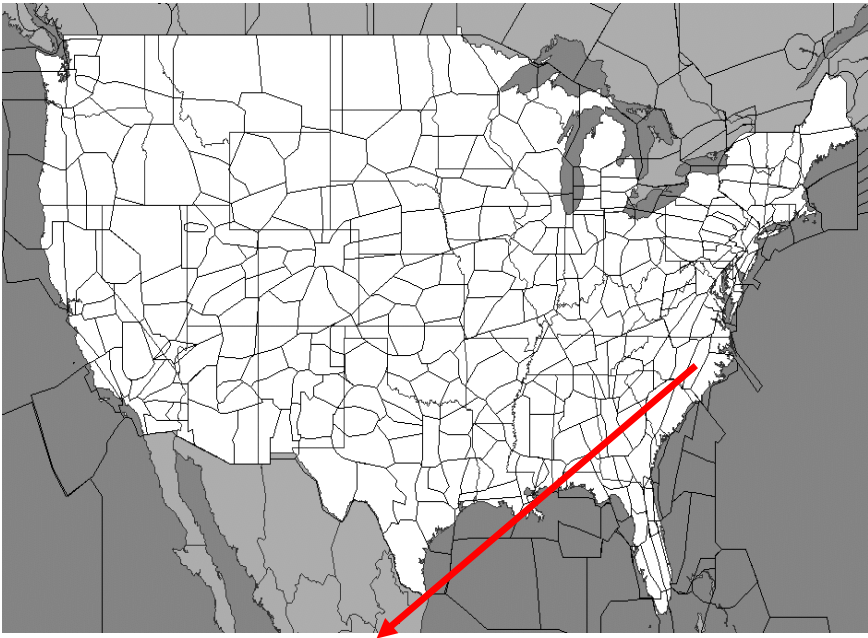
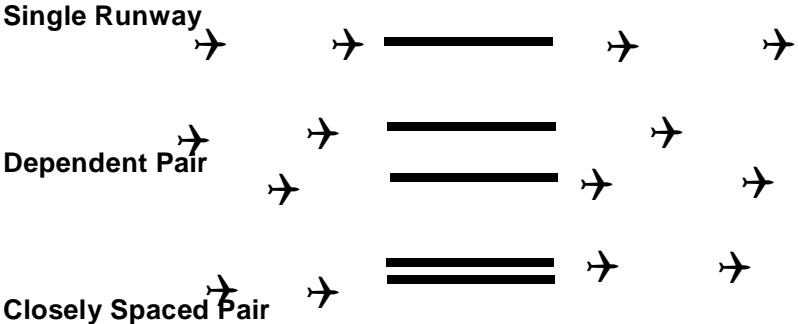
- Operator benefits include:
 - Increased profit opportunity for airlines at otherwise congested hubs
 - Increased reliability
 - Reduced delays
 - Reduced flying on approach and en route

- Chicken or egg problem of private investment:
 - Need ~100% equipage and/or isolated air space to realize benefits
 - Small GA gets few benefits
 - **Always best to wait for others to invest**



Rolling Out NextGen

- Define business cases: airspace/terminals where meaningful benefits can be captured by users
 - Need ~100% participation (in defined space or time)
 - Each case is different; benefits not uniformly distributed
 - If air space/terminal access not priced, business cases depend exclusively on capturing benefits
 - Few benefits for small GA
 - Airlines with little activity have little incentive



Rolling Out NextGen:

Example of why lack of fees leads to potential failure

- Suppose a terminal area could benefit from NextGen ---~10% increase in capacity, reduced flying on approach and increased reliability in MVFR and IFR
 - Hub/ Focus City carriers benefit
 - Opportunity to expand
 - More likely to be able to isolate a fleet to equip
 - Spoke operators probably gain little and may lose profits
 - Small benefit to a few operations
 - Costly to equip
 - Hub and focus city carriers expand and hurt spoke operators competitively
- Need to find lots of opportunities at lots of airports simultaneously in order to provide opportunities for everyone
 - GA???????



Rolling Out NextGen:

Example of why fee leads to potential success

- Suppose a terminal area could benefit from NextGen — ~10% increase in capacity, reduced flying on approach and increased reliability in MVFR and IFR
 - Hub/ Focus City carriers benefit
 - Opportunity to expand
 - More likely to be able to isolate a fleet to equip
 - Avoid congestion fees by equipping
 - Spoke operators /GA probably gain little and may lose profits
 - Small benefit to a few operations
 - Costly to equip
 - Hub and focus city carriers expand and hurt spoke operators competitively
 - But have to pay congestion fees if unequipped ←incentive
 - Particularly important for GA
 - Result: airport business case more likely to stand alone
 - Result: more users are more likely to equip



NextGen Benefits Depend on Affected Airspace

Investment Decision



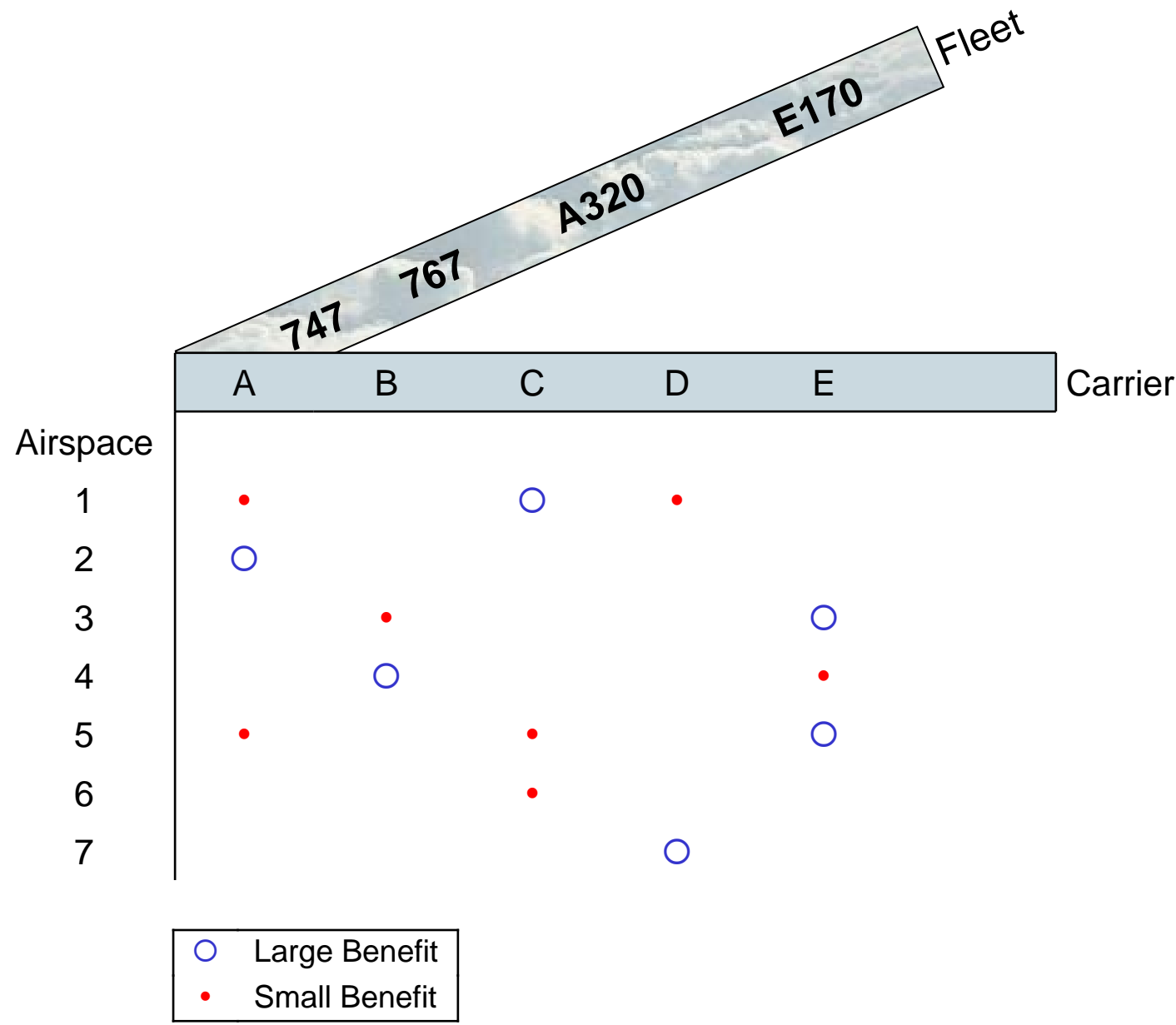
- High Activity Carrier
- Low Activity Carrier
- High Performance GA
- Low Performance GA

	Defined Fleet	New Profit Opportunity	Technical Efficiency Benefits Large
High Activity Carrier	✓	✓	✓
Low Activity Carrier	?	?	?
High Performance GA	?	?	?
Low Performance GA	?	?	?

- ? : Do unequipped users have to pay for access
- ? : Are unequipped aircraft excluded
- ? : Is congested airspace more expensive



Defining NextGen Rollout: Airspace/Operator/ Fleet Benefit Matrix



NextGen Expansion Path

- Plan for NextGen should start with private incentives and how private benefits are captured;
 - Then work back to an expansion path that is affordable and can be implemented
 - Fees change the outcome significantly

- Airports may be uniquely positioned to influence incentives for terminal area applications
 - There may be advantages to funding via airport rate bases
 - Consider participating in airport demonstration programs

