

NEXTOR Symposium –

The NextGen We Need



***What Do You Mean “We,”
NAS Man?: Uses and Users
of NextGen Capabilities***

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NAS Users and NAS Demand

- The roster of NAS users is varied and growing
 - Commercial Passenger
 - Commercial Freight
 - GA
 - High Performance
 - Other
 - Military and Public Users
 - Public and Private Sector UAS vehicles

- While these user groups (who are a subset of NextGen stakeholders) demand services from the NAS and other NextGen stakeholders, in general they do so to accommodate demand from the transportation markets they serve
 - Passengers
 - Shippers
 - Corporate, business and personal uses
 - Non-transport public and private aviation applications

- Not all of these may require NextGen services, depending on location and complexity of the operation



NAS Throughput and Delay – Who Chooses?

- ➔ Historically, growth in the demand for aviation services has been closely linked with underlying GDP growth
- ➔ NAS users provide schedules and other aviation products in response to that demand
- ➔ Given the state of NAS infrastructure (e.g., a NextGen future or a baseline future), NAS performance is determined by the scale and arrangement of user demands for NAS services and their interactions with the ANSP and other stakeholders
- ➔ In effect, NAS users choose the service quantities (throughput) and qualities (delay, congestion) through the aggregation of their decentralized scheduling choices
- ➔ Such a description is not an economic characterization, but a description of prevailing institutions and practices – which are likely to be difficult to change



What Do Operators Take into Account?

Operator Costs

- Fuel
- Labor
- Airport costs
- Ownership/overhead
- ATC Infrastructure

Market Features

- Demand
- Competitive environment
- Environmental constraints



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Taxes/fees

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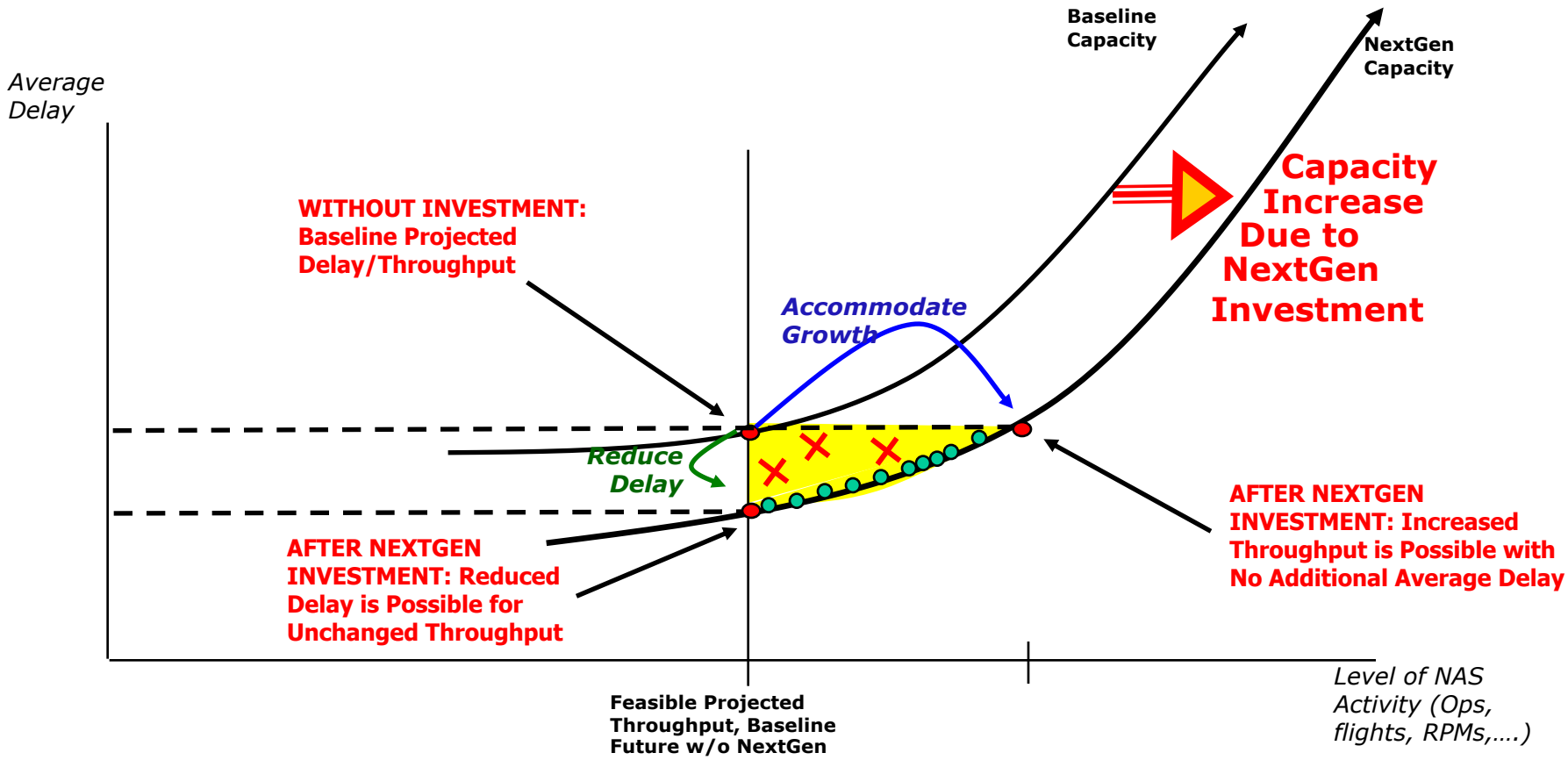
Market Features

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Operator decisionmaking in the face of these factors is complex – a competitive strategy in this setting is probably not a tidy set of numerical choices (a recipe), but a more dynamic process involving ongoing assessment and response to market circumstances.



NAS Users and NAS Demand



NAS users can employ the increased capabilities offered by NextGen in a range of ways.



Implications and Conclusions

- ➔ Current institutional arrangements leave much control over NAS activity in the hands of NAS users, who balance network service quantities and qualities in a competitive environment while serving diverse customers
 - Changing well established institutional practices is a nontrivial policy and legislative exercise
 - Seemingly successful policy changes may have unintended consequences
- ➔ NAS users could put new NextGen capabilities to use in a variety of ways (throughput and delay combinations), depending on the status of other cost and competitive factors
- ➔ NextGen outcomes may be better understood through scenario planning approach, with scenarios* parameterized by user cost and competitive circumstances, rather than by single point or range estimates
- ➔ Such a scenario approach can capture the robustness of NextGen solutions

* Scenarios not the same thing as NextGen alternatives, which refer to different means of obtaining NextGen capabilities



Thank You

