Market Pricing of Airport Access and the EU-US Liberalization

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Frank Berardino
GRA, Incorporated

115 West Avenue • Jenkintown, PA 19046 • USA
+1 215-884-7500 • +1 215-884-1385
frankb@gra-inc.com

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The History of Airport Access Rules

"The first lesson of economics is scarcity; there is never enough of anything to satisfy those who want it. The first lesson of politics is to disregard the first lesson of economics."

Thomas Sowell

Summary

- EU-US agreement: expansion of flying opportunities
- Potential changes DOT/FAA airport policy:
  - New rates and charges policy allowing higher fees by time of day at all airports
  - Caps at JFK and EWR
  - Auctioning some slots at JFK & EWR
- Will proposed new airport policies adversely affect new EU-US agreement
  - **Answer: Probably not**

EU-US Agreement

- More freedom to operate without historic restrictions:
  - LHR-restrictions from Bermuda bilateral removed
  - From/to any European point to/from any US point
  - Pools/ Joint ventures / Franchises
  - New service concepts
- Next round
  - Ownership rules changes
  - Single market

New Rates and Charges Proposals

New Rates and Charges Proposals

Objective: raise fees during congested periods

a) Permit use of two-part charges
   - One based on weight
   - One based on operations

b) Inclusion of costs from projects under-construction in landing fee rate base

c) Inclusion of secondary under-utilized airport airfield cost in primary airport landing fee rate base

Items (b) and (c) may only be undertaken at “congested airports”– those accounting for at least one percent of all delayed aircraft operations and/or included in FAA’s FACT-2 report (major commercial airports with shortfalls in capacity)

Two-Part Fees

- Aimed primarily at congested airports during periods of peak activity
  - No increase in total funds collected (revenue neutral)
  - Reasonably related to costs
  - Presence of delay
- Set a fee based in part on activity and in part on weight
  - Note: could make argument that weight-based portion is zero since in congested periods, one flight precludes another
- Effect on international operations: probably **net reduction** in landing fee costs since average aircraft size much larger than US domestic

Inclusion of Projects Under Construction in Rate Base

- Idea: reduce total financing costs of projects underway by moving up time when they can be included in rate base
  - To be consistent with ICAO 9562, Attachment 2
  - Congested airports only
  - Only once construction has begun

- Two versions proposed
  - Only during congested hours of the day
  - All day long

- Effect on international operations: earlier increase in landing fees, but likely reduced total costs passed on to carrier due to avoided financing costs during construction

Inclusion of Secondary, Under-utilized Airport Airfield Costs in Primary Airport Rate Base

- Idea: encourage traffic to move from the congested facility to the less congested facility
  - Same proprietor
  - Designated reliever for primary airport
  - During periods of congestion only

- Effect on international operations: likely to increase landing fees for international users but may reduce congestion

Caps and Auctions

History of Slots in the U.S.

- HDR (1968)
  - DCA, ORD, JFK, LGA, EWR (later exempted)
  - Scheduling Committees
    - Participating airlines decided how to allocate slots

Slots per Hour

	DCA	ORD	JFK	LGA
Air Carrier Slots	37	120	63-80	48
Commuter Slots	11	25	10-15	14
Other Slots	12	10	0-2	6
Total	**60**	**155**	**73-97**	**68**

History of Slots in the U.S. *(Continued)*

- Buy-Sell Rule (1986)
  - Slots grandfathered to incumbents
  - Created secondary market for buyers and sellers
  - Minimum usage requirement – initially 65% over 2 months, later 80%

- Slot Exemptions (Mid-1990s)
  - Three types of exemptions
    - New international flights
    - New entrant in "extraordinary" circumstances
    - Essential air service (EAS) to small communities
  - Cannot buy/sell exemptions
  - 1997-98: Thirty new entrant exemptions approved at LGA, 53 at ORD

History of Slots in the U.S. *(Continued)*

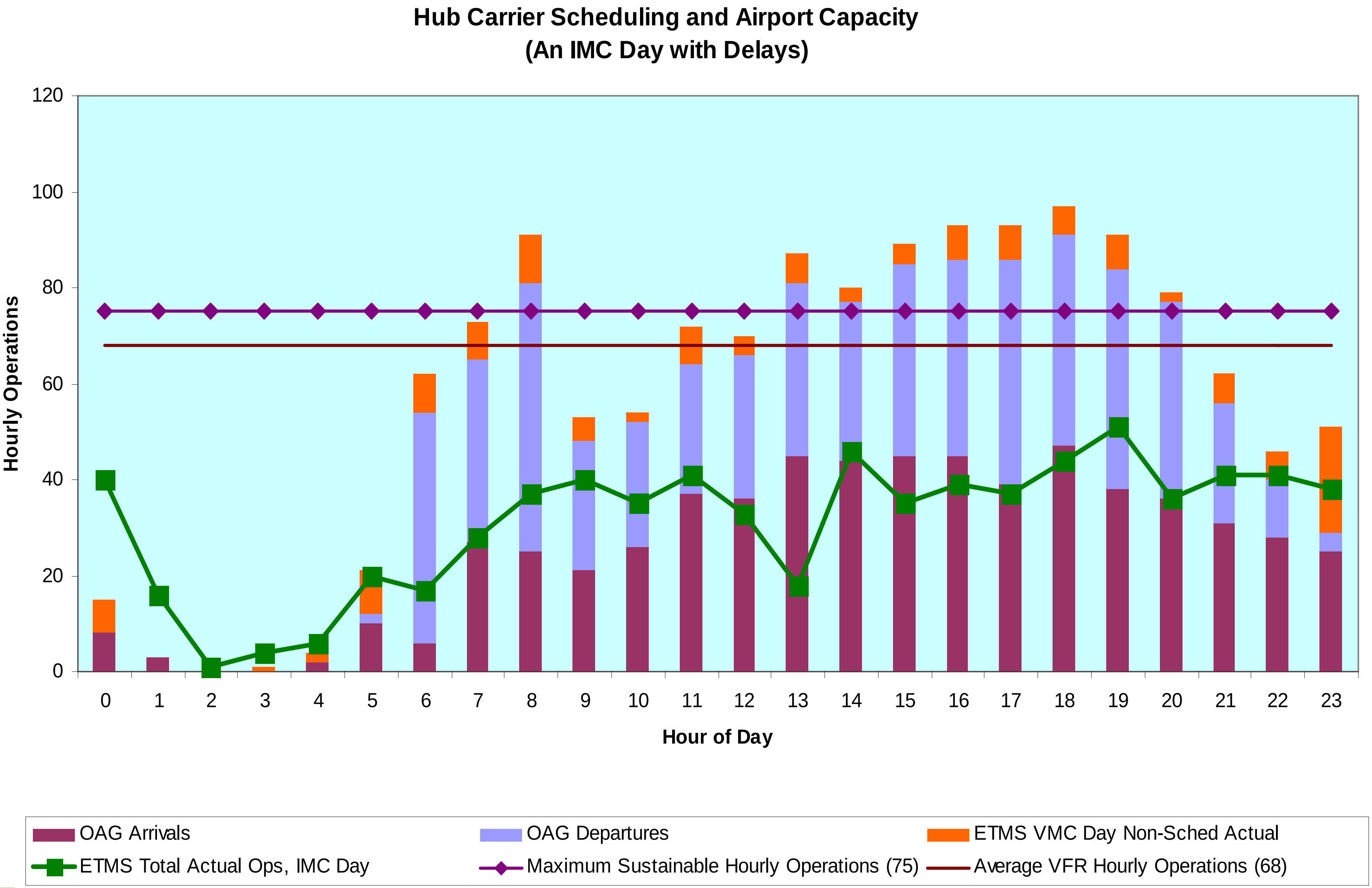
- Air 21 (April 2000)
  - Slot controls to be eliminated at ORD by July 2002; JFK and LGA by January 2007
  - Slot controls to remain in effect at DCA

Focus Today: JFK and EWR

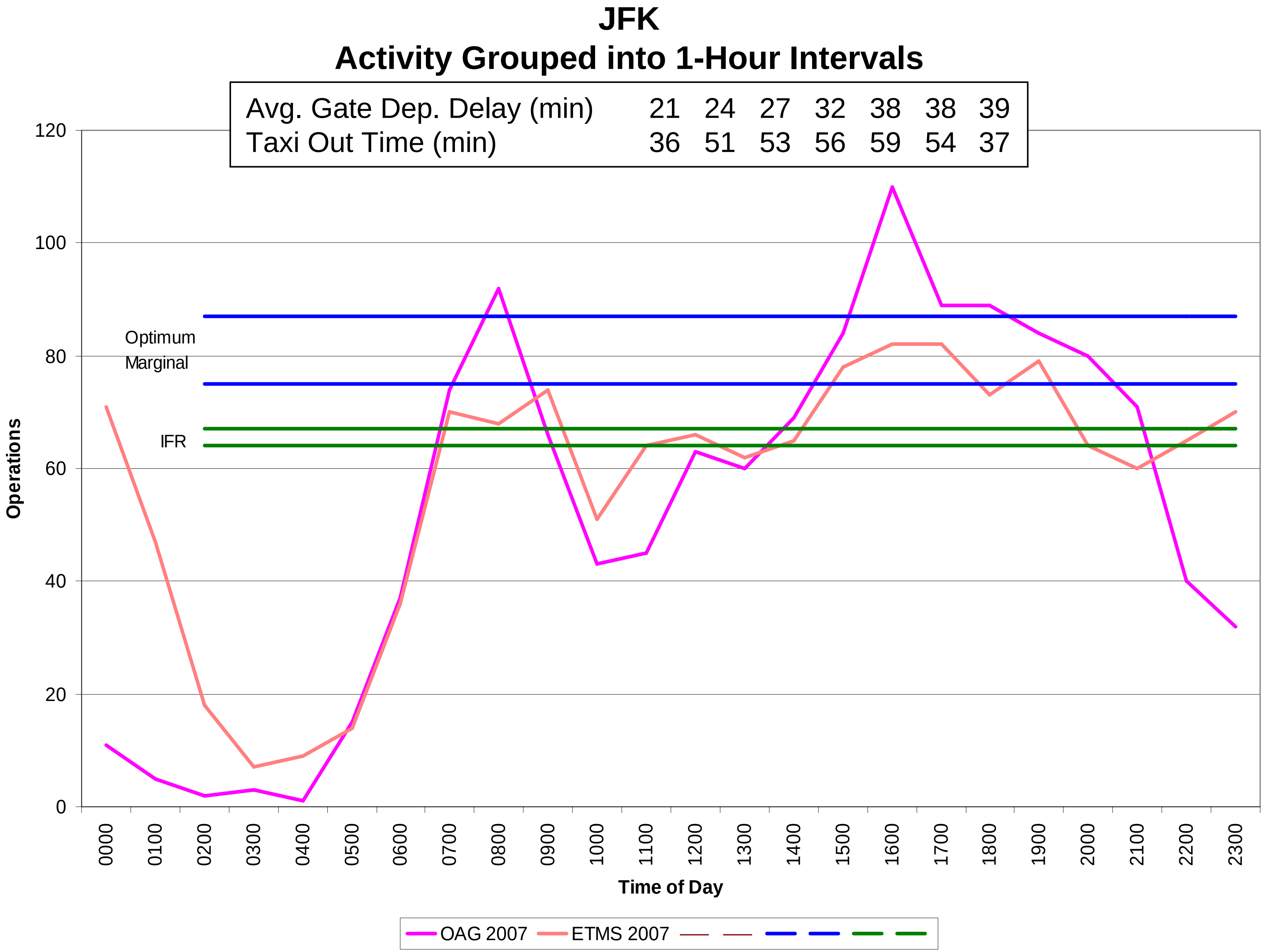
- JFK
  - Significant flying added in 2004 and beyond by Delta and jetBlue – service now exceeds 2000 levels
  - Largest operators – American, Delta, jetBlue
  - Slots expired 1/1/07; temporary cap in effect as of January 2008
  - Cap: 81/hour

- EWR
  - CO hub – dominant airline
  - Most delayed airport in the US (closely spaced parallels)
  - No cap now
  - Cap: 83/ hour this summer

Hub Carrier Scheduling and Airport Capacity
EWR = No Slots Summer 2007



JFK July Schedule 2007 vs. Actual July 2007 Performance



Now What?

"The other issue, of course, is dealing with congestion. One of the reasons why consumers on airlines, airline passengers are being so inconvenienced is because the skies are too crowded. And there's some short-term things we're going to do, and Mary is going to report back to me about what those will be."

Who Will Decide Which New Services Fly at a Controlled Airport?

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- Compare OAG July 2007 vs. July 2005, there are 856 net added flights per week (1176 new flights and 320 deleted flights per week).

New Flights Per Week: July 2007 vs. July 2005		
AEROMEXICO	PUEBLA, MEXICO	2
AIR CANADA	CALGARY, CANADA	12
AIR JAMAICA	BARBADOS, BARBADOS	7
AMERICAN AIRLINES	BALTIMORE, MARYLAND	7
	CHICAGO-O'HARE, ILLINOIS	14
	LOS CABOS, MEXICO	1
ASIANA AIRLINES	SEOUL-INCHEON, SOUTH KOREA	4
AVIANCA	BARRANQUILLA, COLOMBIA	3
CAYMAN AIRWAYS	GRAND CAYMAN, WEST INDIES	3
CHINA EASTERN AIRLINES	SHANGHAI PU DONG, P.R. CHINA	4
CZECH AIRLINES	NORFOLK/VA BEACH/WMBG, VIRGINIA	7
DELTA AIR LINES	ACCRA, GHANA	4
	ALBANY, NEW YORK	27
	AUSTIN, TEXAS	7
	BINGHAMTON, NEW YORK	14
	BOMBAY, INDIA	7
	BUCHAREST-OTOPENI, ROMANIA	4
	BUDAPEST, HUNGARY	5
	BUFFALO, NEW YORK	41
	BURLINGTON, VERMONT	28
	CLEVELAND, OHIO	20
	DALLAS/FORT WORTH, TEXAS	20
	DENVER, COLORADO	7
	DUBLIN, IRELAND	7
	FLORENCE-PISA, ITALY	4
	HARTFORD-BRADLEY, CONNECTICUT	20
	KIEV-BORISPOL, UKRAINE	5
	LONDON-GATWICK, ENGLAND	13
	LOS CABOS, MEXICO	1
	MANCHESTER, ENGLAND	7
	MANCHESTER, NEW HAMPSHIRE	27
	MIAMI, FLORIDA	7
	MONTEGO BAY, JAMAICA	6
	MONTREAL-DORVAL, CANADA	20
	NANTUCKET, MASSACHUSETTS	14
	PHOENIX, ARIZONA	14
	PORTLAND, MAINE	28
	PORTLAND, OREGON	7
	PROVIDENCE, RHODE ISLAND	27
	PUERTO VALLARTA, MEXICO	1
	PUNTA CANA, DOMINICAN REP.	7
	RICHMOND/WMBG., VIRGINIA	27
	ROCHESTER, NEW YORK	28
	SAN DIEGO, CALIFORNIA	7
	SAO PAULO-GUARULHOS, BRAZIL	7
	SHANNON, IRELAND	7
	ST. THOMAS-CYRIL E., VIRGIN ISLANDS	1
	SYRACUSE, NEW YORK	27

New Flights Per Week: July 2007 vs. July 2005		
EMIRATES	HAMBURG, GERMANY	7
EOS AIRLINES	LONDON-STANSTED, ENGLAND	12
ETIHAD AIRWAYS	ABU DHABI, U.A. EMIRATES	7
EUROFLY	ROME-DA VINCI, ITALY	5
FLYGLOBESPAN	CONNAUGHT, IRELAND	3
	LIVERPOOL, ENGLAND	4
JETBLUE AIRWAYS	ARUBA, ARUBA	14
	AUSTIN, TEXAS	21
	BERMUDA, ATLANTIC OCEAN	14
	BOSTON, MASSACHUSETTS	55
	CANCUN, MEXICO	14
	CHARLOTTE, NORTH CAROLINA	34
	CHICAGO-O'HARE, ILLINOIS	35
	COLUMBUS, OHIO	27
	HOUSTON-HOBBY, TEXAS	21
	JACKSONVILLE, FLORIDA	21
	NANTUCKET, MASSACHUSETTS	9
	NASHVILLE, TENNESSEE	21
	PITTSBURGH, PENNSYLVANIA	28
	PORTLAND, MAINE	35
	RALEIGH/DURHAM, NORTH CAROLINA	34
	RICHMOND/WMBG., VIRGINIA	27
	SAN FRANCISCO, CALIFORNIA	27
	SANTO DOMINGO, DOM. REP.	14
	SARASOTA/BRADENTON, FLORIDA	7
	TUCSON, ARIZONA	7
	WASHINGTON, D.C.-DULLES	34
LAN AIRLINES	SANTIAGO, CHILE	3
LOT - POLISH AIRLINES	RZESZOW, POLAND	1
NORTH AMERICAN AIRLINES	LAGOS, NIGERIA	3
SAUDI ARABIAN AIRLINES	RIYADH, SAUDI ARABIA	1
TAM LINHAS AEREAS	SAO PAULO-GUARULHOS, BRAZIL	14
US AIRWAYS	CHARLOTTE, NORTH CAROLINA	18
VIRGIN ATLANTIC AIRWAYS	LONDON-HEATHROW, ENGLAND	28
XTRA AIRWAYS	GEORGETOWN, GUYANA	3
	PORT OF SPAIN, TRIN. & TOB.	1
Grand Total		1176

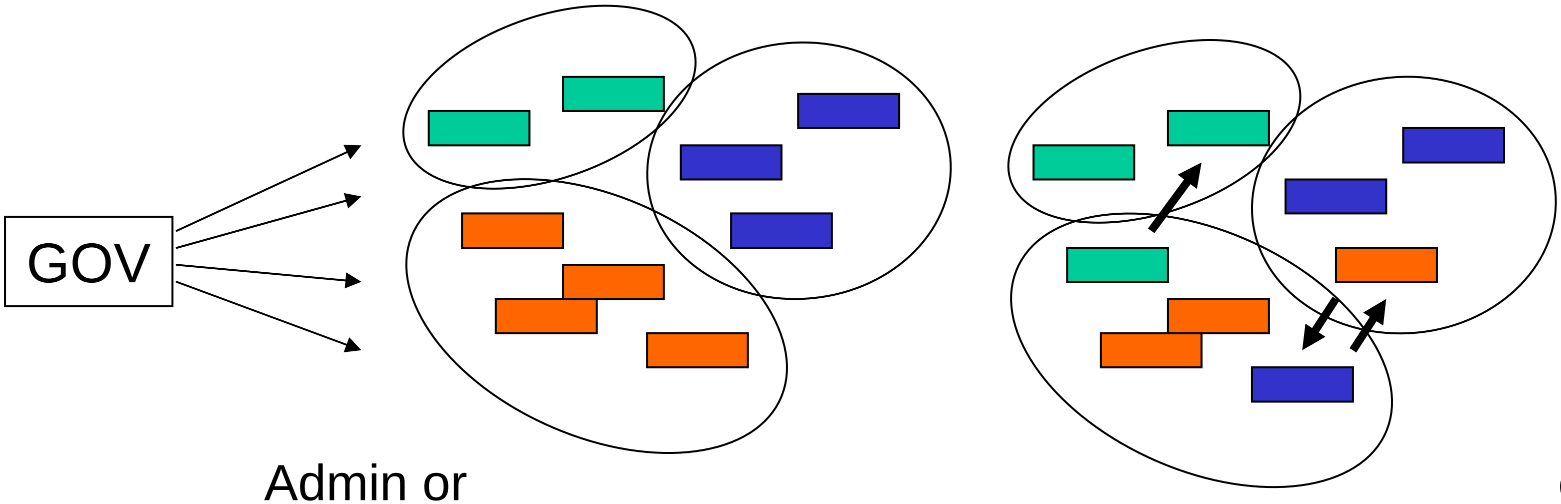
What's the Problem with "Historic Slots"?

- Historic Slots:
  - **Recognize carrier and airport investments in historic service patterns**
  - **No problem so long as there are no alternative uses…**
    - **How do we know if some incumbents or new entrants have better uses of the slots?**
      - **Who makes the tradeoff between new flights to Accra by Airline X and new flights to Albany by Airline Y???**

- **Incumbents overvalue slots**
  - **Strategic view – poor incentive – why sell to a competitor?**
  - **Hard to get back if released**

- **Entrants undervalue slots – have received them for free in the past**

Why Existing Secondary Market Doesn't Work Well



Admin or market-based allocation + trade → economic efficiency

Why hasn't this "worked" under High Density Rule??
i.e. If airline A owns a slot and is making $1 M using the slot, but airline B can make $3 M, why doesn't airline A sell the slot to airline B??
Because A & B compete and the added business for B will hurt A's overall competitive position.

Other impediments to current secondary market:

- Government gives away slots "for free"
- Non-uniformity of slot types
- Incumbents can't get slots back

Making secondary market "work":

- ***Finite slot lifetimes***
- ***Costs for holding slots***

Objectives

1) Control congestion

2) Recognize airline and airport investment in historic service patterns

3) Inject some market discipline to insure that operators face the opportunity cost of their access rights

Auctions or Congestion Pricing

- Better approach depends on what is most uncertain
  - Congestion pricing: prices are known and quantities are uncertain
  - Auction: if quantity is known and prices uncertain

- Here we know quantity (maximum throughput of LaGuardia, Kennedy, Newark), but we don't know prices needed to achieve quantity
  - → **AUCTION**

Some Auction Design Details

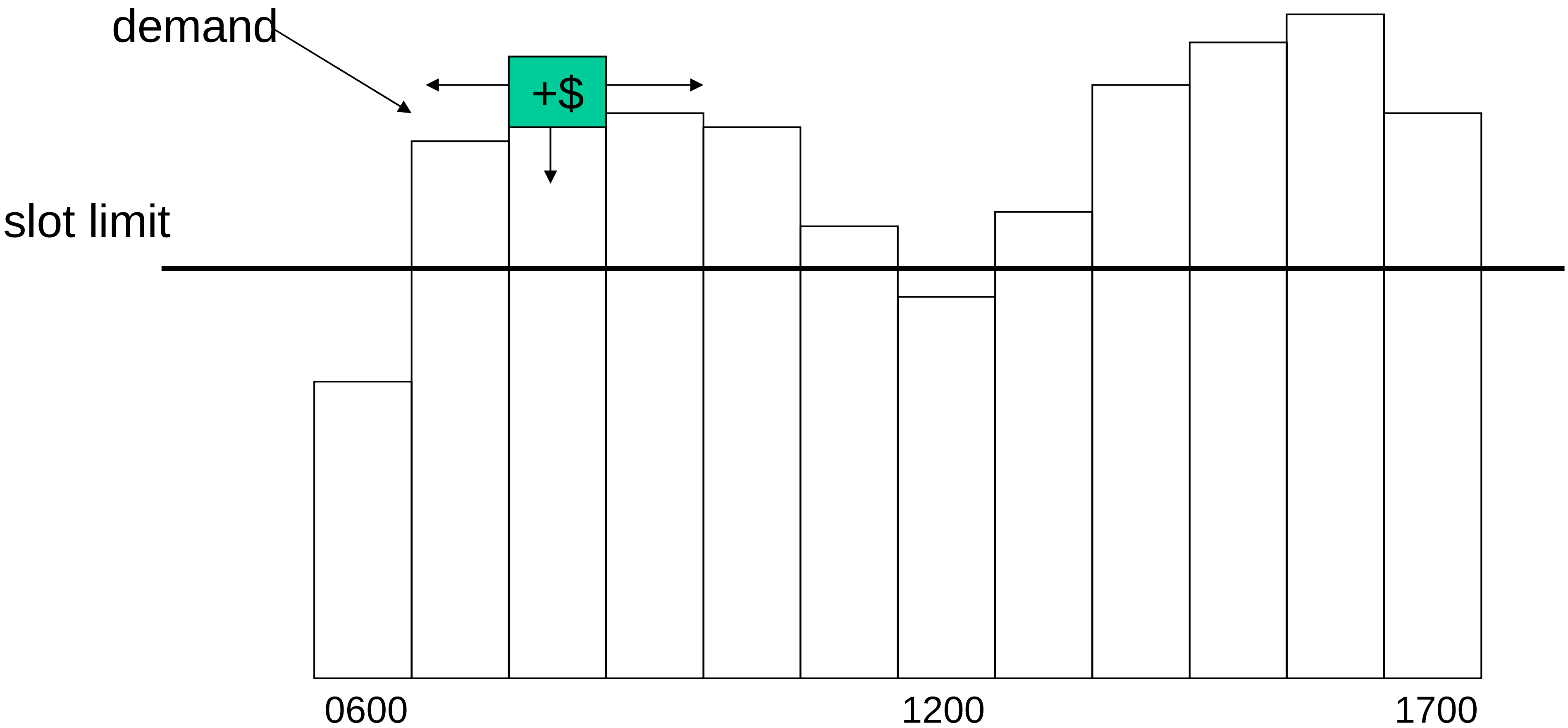
- Many items, heterogeneous but similar
- Competing schedules, plane types
- Complex structure of substitutes and complements
- Induce truthful bidding

- Package Clock:
  - Lots of price discovery
  - Package allows bidders to get what they want
  - Activity rules induce truthful bidding

- Single Sealed Bid, Second Price
  - Little or no price discovery
  - Can be package bid
  - Disrupts strategic behavior

Package Clock: Lots of Price Discovery; Little Buyer Remorse

- Basic iteration: prices announced by auctioneer; bidders respond with slot quantities desired in each time window
- As prices increase slot demand is decreased or spread across the day.
- Auction ends when demand <= slot limit (appx) in all time windows



Sealed Bid, Second Price: Offset Strategic Behavior, Little Buyer Remorse or Price Discovery

- Bid on packages, one time
- Solve for solution that maximizes revenue
- Buyer only gets package(s) it bids on

BIDDER'S FORM

	TIME													
Package	600	630	700	730	……………………………………………...						2100	2130	2200	2230
1														
2														
3														
4														
5														
6														

"Historic" Slots

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What Grandfathered*	*X*% of slots, Can be sold/leased/swapped at any time

Only during hours of the day when demand is likely to exceed capacity

How Would the Money be Used?

(Not a legal opinion; may require legislation)	1) Recycle to operators based on other fees paid (landing fees; PFC’s, etc.) and an annual price index 2) Used to buy “historic” slots from carriers 3) Held by third party in an interest bearing account to pay for any approved runway capacity or complementary expansion projects at NY airports

1) Corrects distortions of weight based landing fees and passenger fees – but see earlier discussion
2) Creates mechanism to compensate carriers for historic investments – but creates advantage in the auction
3) Creates a pool of capital to address capacity and related projects

How to Insure Access

Operator Agreement on Complementary Facilities	Carriers agree to accommodate other operators at compensatory rates when gate capacity available

Part of the carrier agreement to participate in the market

Should There Be Exemptions?

Exemptions	None Existing international operations by foreign and domestic carriers Small community New Entrants

Who are the Market Participants?

Who May Participate?	Any certificated U.S. or foreign carrier City? A third party (e.g., FBO) seeking to serve GA operators

All participants pay the same market prices

Effect of Auction on International Operations

- It depends:
  - Percent of slots auctioned
  - What grandfathered
  - Auction rules
- But international operations likely to be advantaged
  - Precedent for grandfathering
  - Larger international aircraft advantaged vs. smaller domestic fleet
  - Potential to get slots at times needed

How Hard Is This and Is It Worthwhile?

- Not very hard
  - There is lots of experience with auctions
  - The concept proposed here recognizes historic investments

- Yes it is worthwhile
  - The market will determine whether a flight to Albany or Accra is added to the flight schedule

What We Are Trying to Harness in the Market

"The natural effort of every individual to better his own condition ... is so powerful, that it is alone, and without any assistance, not only capable of carrying on the society to wealth and prosperity, but of surmounting a hundred impertinent obstructions with which the folly of human laws too often encumbers its operations."

Adam Smith

The Wealth of Nations Book IV Chapter V Section IV