

Evaluation of Airline Industry and Competitive Market Conditions Affecting Logan Airport

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Background

- Massport has access to a large volume of data on airline activities at Logan Airport:
 - routinely compiled into summary statistical reports
- Aviation Planning periodically undertakes more detailed studies of airline market conditions:
 - price levels, market shares, competitive strategies
- Most of these studies are done on an *ad-hoc* basis:
 - scope and methodology determined by the specific questions being researched

Project Objectives: Phase One

- Develop a framework for systematic evaluation of airline industry and market conditions:
 - required data sources, both existing and new
 - analysis methodologies and interpretation of findings
- Integrate existing operational and traffic data with information on airline industry dynamics:
 - air travel, airport and industry trends
 - competitive capacity and pricing actions of airlines
 - impacts on Logan Airport and other regional airports

Quarterly Report Updates

- Implement a quarterly reporting process:
 - based on data availability for several industry measures
 - aggregation of detailed monthly activity statistics
 - include annual and year-over-year comparisons
- Make reports available at two levels of detail:
 - full details and analysis compiled by Aviation Planning into a comprehensive quarterly document
 - Executive Summary of highlights to be more widely distributed within Massport

Reporting Categories

1. National Air Travel Trends
2. US Airline Industry Performance
3. Carrier Competition at US Airports
4. Logan Airport Carrier Competition
5. Top 50 Boston Origin-Destination Markets
6. Traffic Trends at Competing Regional Airports
7. Logan Airport Traffic and Fleet Statistics

Examples of Reports and Analyses

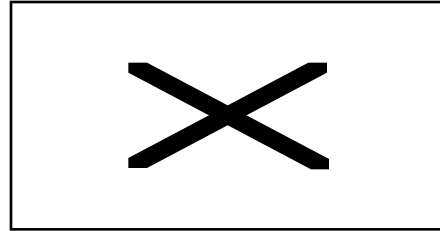
- Remainder of this presentation provides examples of outputs in each category:
 - summaries of selected categories to demonstrate the overall nature of information to be included
 - more detailed descriptions included in project report
 - examples based on data available at time of project
 - actual quarterly reports will be based on most recent available quarter of data

1. National Air Travel Trends

- Examine recent trends in US airline traffic and at largest US airports, compared to Logan Airport:
 - Passenger enplanement data for total US airline industry and for US airports, over past several years
 - Annual growth in traffic, by quarter
- Examples:
 - Domestic Passengers Enplaned -- US vs. Logan Airport
 - Annual Change in Passengers -- Top US Airports

Passengers Enplaned: % Growth Rate 1997 vs. 96

After lagging behind in early 1997, Logan passenger growth surged ahead of the national average in the last two quarters.

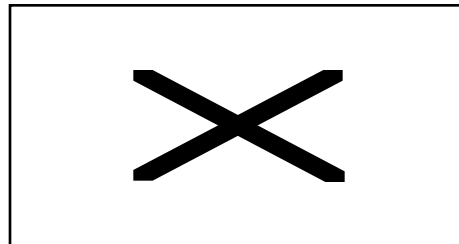


2. US Airline Industry Performance

- Track most recent traffic and profit data for US majors, to identify airline industry trends:
 - overall growth of passenger traffic, capacity, load factors and income
 - comparisons among individual carriers, focused on those serving Logan Airport
- Examples:
 - US Major Airlines Traffic and Capacity
 - US Major Airlines Financial Performance

RPM and ASM Change Year ending 4Q97 vs. 1996

Total system traffic growth exceeded growth in capacity at all major carriers serving Logan in 1997, except America West



3. Carrier Competition at US Airports

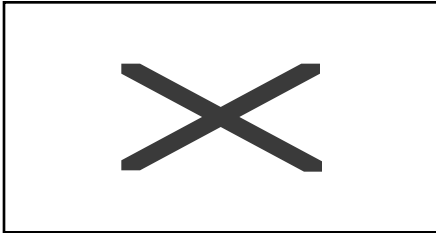
- Compare measures of market concentration at Logan Airport with other large US Airports:
 - market concentration measured in passengers enplaned
 - carrier dominance over local O-D passengers might be more relevant
 - changes in concentration levels year over year
- Examples:
 - Carrier Competition at US Airports--Pax. Enplanements
 - Carrier Competition at US Airports--Local O-D Pax.

Measures of Market Concentration

- Hirschmann-Herfindahl Index (HHI)
$$HHI = MS_1^2 + MS_2^2 + MS_3^2 + \dots + MS_N^2$$
for all N competitors in a market (e.g. serving the airport).
As a rule, HHI <2000 is considered “low concentration”, and HHI >4000 is a “highly concentrated” market.
- Number of “Effective Competitors”
Number of competitors with market share > 5%
Much more arbitrary measure, based on assumption that 5% market share required for competitive influence.

Concentration at US Airports: Local O-D Passengers

In 1997, Logan was 33rd most concentrated, in terms of local passengers enplaned by carrier, with 6 effective competitors.

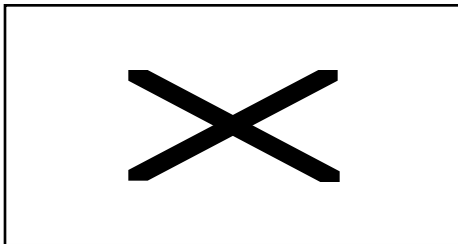


4. Logan Airport Carrier Competition

- Evaluate market shares of traffic among carriers at Logan Airport:
 - based on total passenger enplanements and local O-D traffic shares
 - track changes in relative shares and concentration
- Examples:
 - Logan Carrier Local O-D Traffic Share
 - Annual Change Local O-D Passengers by Carrier

Change in Local O-D Traffic: 1st Half 1997 vs. 1996

Delta and America West showed biggest % increases in local passengers, while Continental and Northwest saw decreases.

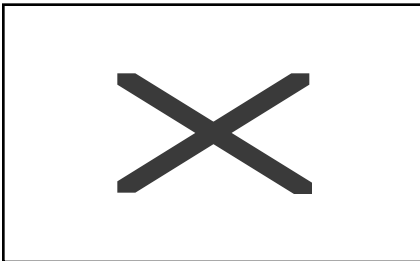


5. Top 50 Boston O-D Markets

- Examine top O-D markets out of Logan Airport in greater detail:
 - total passengers carried, average fares paid, market shares and concentration, flights and total capacity
 - track year-over-year changes by market
- Examples:
 - Passenger Traffic and Average Fares by Market
 - Schedule Non-stop Flights and Total Seats
 - O-D Market Concentration Measures

Concentration in Top 50 O-D Markets at Logan

Looking at individual O-D markets, average concentration at Logan is relatively high, increasing from 1996 to 1997.

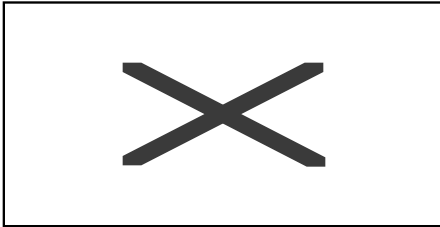


6. Traffic Trends at Regional Airports

- Summarize recent trends in traffic at New England regional airports, compared to Logan Airport.
- Extend detailed O-D market analysis to provide market-based comparisons with PVD and MHT.
- Examples:
 - Regional Airports Traffic Summary
 - Top 25 PVD O-D Markets
 - Top PVD Markets Compared to Logan Airport

Top Providence Markets vs. Same Markets at Logan

Logan markets competing with PVD Southwest markets did not lose much traffic and actually saw lower fares vs. 1996.



Phase Two Now Under Way

- Distribute draft reporting framework more widely at Massport to obtain feedback:
 - usefulness of specific categories and methodologies
 - need for extensions to international, cargo, etc.
- Proceed with implementation of reporting process:
 - finalize contents and format of reporting “template”
 - coordinate availability and timing of required data
 - work toward first quarterly report by early 2000