

The Current State of the U.S. Aviation Industry and its Future Outlook

- The Rise of Low-Cost Carriers

and Countermeasures Taken by Major Network Carriers -

July 2005

Japan International Transport Institute

Washington, D.C.



Activities of JITI are made possible through the generous assistance of the Nippon Foundation.

Table of Content

I. Analysis of Transport and Revenue /Cost Trends in the U.S. Aviation Industry	1
1. Changes in Demand	1
2. Changes in Capacity	6
3. Changes in Revenues and Costs	9
(1) Revenues	9
(2) Costs	13
4. Operating Profit and Loss	17
II. Expansion of Low-Cost Carriers	21
1. Analysis by Stage Length Category	21
2. Analysis by Market Size	27
3. Analysis by Route Type	32
III. Future Movements in the U.S. Aviation Industry	39
1. Problems with Major Network Carriers' Business Models and Actions Needed to Overcome these Problems	39
2. Cost Problems Inherent to Major Network Carriers	43
3. Future Movements	46

The Current State of the U.S. Aviation Industry and its Future Outlook

- The Rise of Low-Cost Carriers and Countermeasures Taken by Major Network Carriers -

After enjoying a brisk demand from the mid-1990s to 2000, the U.S. aviation industry faced a sharp deterioration in earnings in 2001 as a consequence of a recession, and experienced an unprecedented operating crisis after the terrorist attacks on September 11, 2001. The six major network carriers posted massive operating deficits of \$19.1 billion combined for 2001 and 2002. U.S. air travel demand started to recover in 2003, but the major network carriers¹ (hereinafter referred to as “major network carriers”) still suffered a massive operating loss of \$4.8 billion in the same year. On the other hand, low-cost carriers² showed rapid growth over the same period, accounting for almost a quarter of the domestic market share, and continued posting operating profits. According to our analysis last year, the clear difference in performance between these two carrier groups is attributed to the hub and spoke system of the major network carriers. In order to maintain this high-cost system, these carriers have a fare-setting system that depends heavily on high-fare passengers and have routed less convenient flights through hub airports. This business model has alienated passengers from major network carriers amid intensifying competition with low-cost carriers offering low-fare, point-to-point service.

U.S. air travel demand grew significantly in 2004 and almost recovered to its 2000 peak. However, due to higher crude oil prices, major network carriers are still facing an operating crisis resulting from enormous operating losses, while low-cost carriers keep expanding their air travel share and enjoy operating profits as a whole despite the deterioration in the cost environment. As a difference in business models has led to a clear performance gap in favor of low-cost carriers, major network carriers have been reviewing their hub and spoke system with a focus to reduce costs, simplify fare systems, increase direct flights, and purchase capacity from regional carriers. However, these efforts have not yet paid off. In the foreseeable future, low-cost carriers will continue to grow, while major network carriers will remain sluggish.

This report analyzes transportation and revenue/cost trends based on Form 41 data of the U.S. Department of Transportation (US DOT) and quantitatively analyzes the rise of low-cost carriers in the domestic market, using US DOT's Domestic and International O&D Survey of Airline Passenger Data and OAG (Official Airline Guide) data. In addition, this report examines the recent actions of both major network carriers and low-cost carriers in order to identify the current status of the U.S. aviation industry. JITI commissioned Morten Beyer & Agnew to organize Form 41 data and asked Eclat Consulting to organize the other data.

I. Analysis of Transport and Revenue/Cost Trends in the U.S. Aviation Industry

1. Changes in Demand

? Key Points

- **Air travel demand in the U.S. aviation industry declined from its 2000 peak. However, due to the rapid growth of low-cost carriers as well as demand growth for major network carriers, enplanements and RPMs (revenue passenger miles) in 2004 almost recovered to the peak levels of 2000.**
- **Major network carriers put more emphasis on long-distance flights in the domestic market. Their international operations are seeing a recovery, mainly in the Latin American market.**
- **Low-cost carriers enjoy steady growth in air travel demand, with almost a quarter of the domestic market share. They have also increased the average length of their routes, providing fierce competition for major network carriers even in transcontinental flights.**
- **Regional carriers are seeing a steady increase in air travel demand, helped by flights carried out in accordance with capacity purchasing agreements made with major network carriers. They are increasing the numbers of their jet airplanes in order to replace part of the mainline routes of major network carriers.**

¹ In this report “major network carriers” refer to American, Continental, Delta, Northwest, United and US Airways.

² In this report “low-cost carriers” refer to seven airlines: Southwest, JetBlue, Frontier, Spirit, America West, AirTran and ATA.

(1) U.S. Aviation Industry as a Whole

- In 2004, the number of enplanements in the market as a whole stood at 660.4 million (up 8.3% from 2003), almost recovering to the peak level of 2000 (669.6 million).
- In 2004, revenue passenger miles (RPMs) stood at 712.6 billion RPMs in the market as a whole (up 11.1% from 2003). This is an increase of 2.9% from 692.7 billion RPMs in 2000 and represents a return to the peak level. RPMs have been growing faster than enplanements because of the recovery in international flight operations of major network carriers as well as the increase in long-distance flights by low-cost carriers.
- The number of enplanements in the domestic market has shown almost the same trend as the entire market. Unlike enplanements decreasing 2.5% since 2000, RPMs have increased 4.7% since 2000, primarily due to the increase in long-distance flights by low-cost carriers.
- The number of enplanements in the international market³ stood at 61.3 million (up 15.5% from the previous year), increasing 11.0% from the 2000 level. On the other hand, RPMs stood at 180.0 billion RPMs (up 15.7% from the previous year). This figure decreased by 2.2% from 2000, in contrast to the more than 10% growth in enplanements. This is because major network carriers enjoyed increased RPMs in the international market, particularly in the Latin American market, which is geographically close to the U.S.

(2) Major Network Carriers

- In 2004, enplanements in the market as a whole increased to 387.4 million (up 4.6% from 2003) for the first time since 2001, but down 11.4% from a peak in 2000. RPMs in the market as a whole also increased for the first time since 2001, rising 9.1% from 2003 to 519.6 billion RPMs, but decreasing 3.7% from their peak in 2000. Due to the increased number of long-distance flights in the domestic market, as well as a recovery in the international market, RPMs have been decreasing at a much slower rate (about one-third that of enplanements). Major network carriers have increased the number of flight operations with regional carriers in accordance with their capacity purchasing agreements⁴. As a result, the actual figures shown have not necessarily decreased as suggested by these data.
- The trends shown in enplanements and RPMs in the domestic market were almost the same as those for the market as a whole. In 2004, total enplanements were 333.0 million (up 3.0% from 2003), while RPMs increased 6.2% from 2003 to 346.0 billion RPMs. Compared with the 2000 level, RPMs (down 5.0%) have been falling at a much slower rate (about one-third that of enplanements, down 14.1%). This is because the average distance traveled in the domestic market increased from 939 miles in 2000 to 1,039 miles in 2004, with major network carriers putting more emphasis on long-distance flights.
- In 2004, international enplanements and RPMs both showed significant growth of more than 15% from 2003 (enplanements were 54.5 million, up 15.3% from 2003 and RPMs totaled 173.5 billion passenger miles, up 15.5% from 2003). Compared with the 2000 level, enplanements increased by 9.7%, while RPMs decreased by 1.0%, showing little change from the 2000 level. This is because RPMs have been recovering mainly in the Latin American market, which is geographically close to the U.S.

(3) Low-Cost Carriers⁵

- The enplanements for low-cost carriers have consistently increased to 147.7 million in 2004 (up 10.6% from 2003), while major network carriers have experienced a decline in enplanements. As a result, low-cost carriers have expanded their share of the domestic market from 20.3% in 2000 to 25.7% in 2004. RPMs have also consistently increased, reaching 124.0 billion RPMs in 2004 (up 14.3% from 2003). As a result, the share of RPMs by low-cost carriers in the domestic market expanded from 17.2% in 2000 to 24.4% in 2004.
- RPMs have grown faster than enplanements because the average flight distance has increased from 703 miles in

³ The sum of the Atlantic market, the Latin American market and the Pacific market.

⁴ See footnote 6.

⁵ Among the low-cost carriers providing international flight services (i.e., JetBlue, Frontier, Spirit, America West and ATA), Spirit and ATA do not distinguish their international flights' traffic and revenue/cost data from domestic flight data and JetBlue and Frontier do not separate their international flights' revenue/cost data from domestic flight data. For this reason, this report employs the data on the entire market unless otherwise indicated.

2000 to 839 miles in 2004. In this regard, low-cost carriers are engaged in fierce competition with the major network carriers, especially in transcontinental flights.

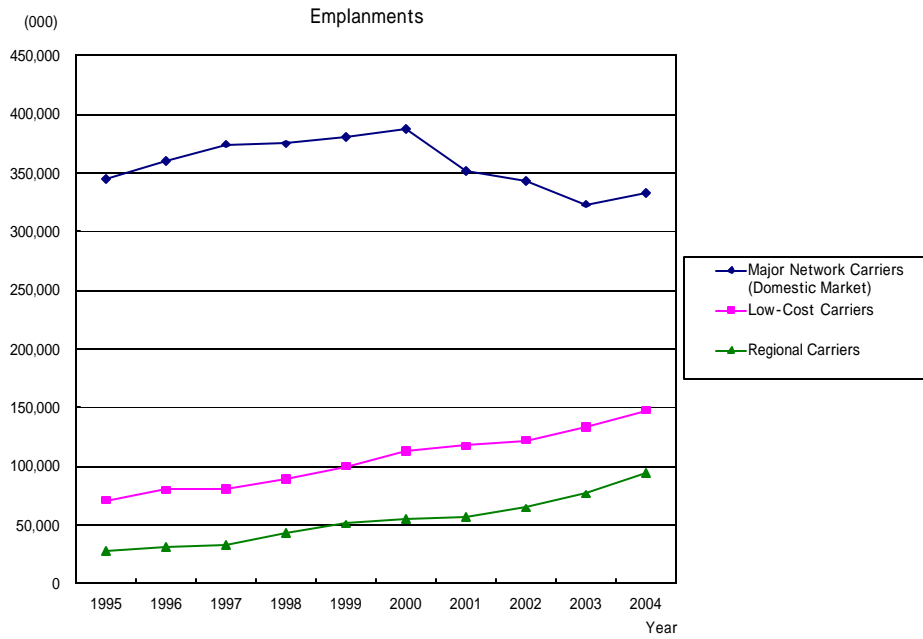
(4) Regional Carriers⁶

- In 2004, enplanements stood at 94.3 million (up 23.2% from 2003), expanding the domestic market share from 9.9% in 2000 to 16.4% in 2004. RPMs also grew to 38.1 billion passenger miles (up 28.8% from the previous year), increasing the domestic market share from 2.6% in 2000 to 7.5% in 2004.
- Regional carriers have recently enjoyed significant demand growth because major network carriers have expanded flight operations with regional carriers, based on capacity purchasing agreements. Major network carriers operate flight operations with regional carriers in the domestic market as well as in the international market (the Latin American market).
- RPMs have grown faster than enplanements on a year-to-year basis, mostly because the average flight distance has increased from 298 miles in 2000 to 404 miles in 2004. This suggests that regional carriers have increased the numbers of their own jet airplanes⁷ on long-distance service, replacing a portion of major network carriers' mainline flights.

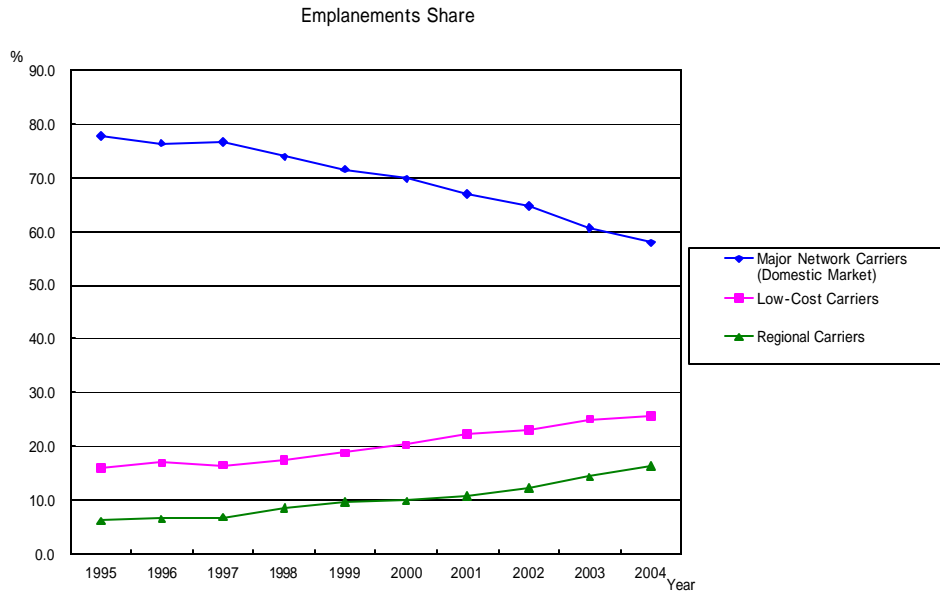
⁶The term "regional carrier" does not have a specific definition in the applicable laws and regulations, but it usually means an airline that forms a partnership with major network carriers; uses smaller aircraft (e.g., regional jets or turboprops) for connecting local communities with the major network carrier's hub airport; cultivates new markets by using regional jets; and provides more frequent flights to urban areas. In accordance with their "capacity purchasing agreement" with major network carriers, regional carriers provide their capacity as part of major network carrier's flight network operations. In this type of agreement, major network carriers are usually responsible for flight schedules, fare pricing, reservation and ticket sales and also pay predetermined expenses to regional carriers. (In this sense, the agreement is "risk free" for regional carriers.)

This analysis covers 11 airlines that provide data on their flight operations and earnings (i.e., AirWisconsin, Atlantic Coast, Horizon, Mesaba, Pinnacle, American Eagle, Atlantic Southwest, Executive, Trans State, SkyWest and ExpressJet). With regard to regional carriers, the report uses data based on the entire market, unless otherwise indicated.

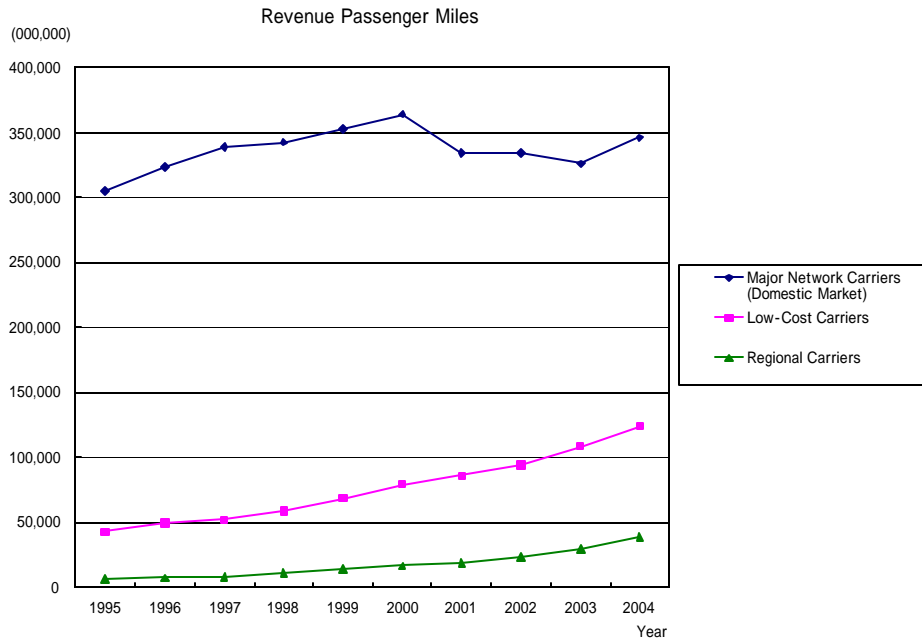
⁷In the U.S. domestic market, regional carriers flew 8,067 regional jet flights a day in 2004, which represents 2.7 times as many as those in 2000 (2,987 regional jet flights). (Source: OAG Schedule Tapes and Innovata).



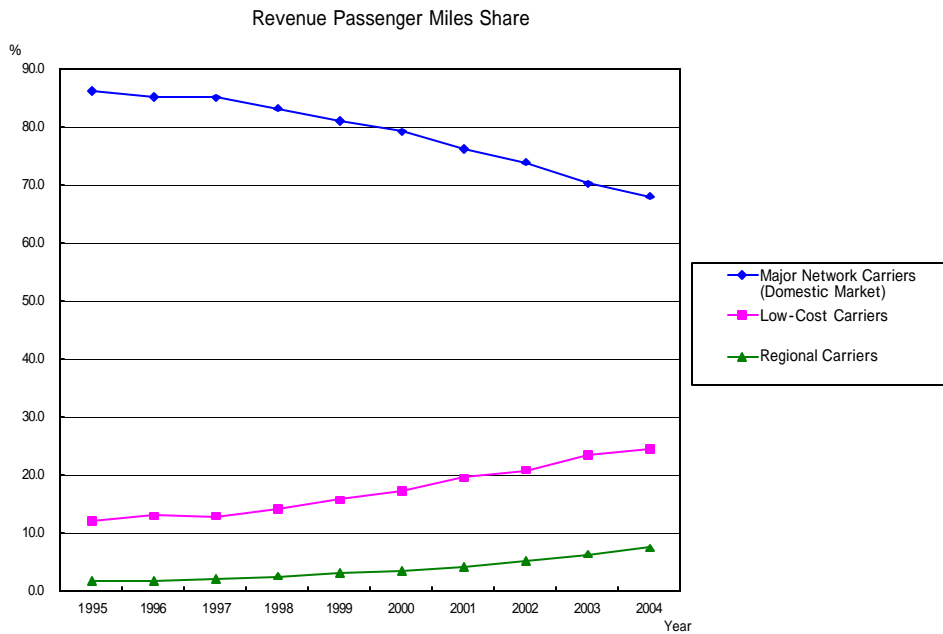
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Major Network Carriers (Domestic Market)	344,615	360,246	374,520	374,791	380,498	387,743	351,189	342,978	323,235	332,952
Low-Cost Carriers	70,889	79,841	80,429	88,561	100,008	112,814	117,220	122,251	133,626	147,733
Regional Carriers	27,099	30,763	33,106	43,314	50,698	54,904	56,520	64,406	76,476	94,245



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Major Network Carriers (Domestic Market)	77.9	76.5	76.7	74.0	71.6	69.8	66.9	64.8	60.6	57.9
Low-Cost Carriers	16.0	17.0	16.5	17.5	18.8	20.3	22.3	23.1	25.1	25.7
Regional Carriers	6.1	6.5	6.8	8.5	9.5	9.9	10.8	12.2	14.3	16.4



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Major Network Carriers (Domestic Market)	305,188	323,625	338,967	342,741	353,051	364,148	334,053	334,645	325,827	346,027
Low-Cost Carriers	42,378	49,350	51,617	58,107	68,522	79,297	85,645	94,294	108,511	123,971
Regional Carriers	6,070	7,086	7,949	10,678	13,668	16,387	18,321	23,416	29,554	38,054



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Major Network Carriers (Domestic Market)	86.3	85.2	85.1	83.3	81.1	79.2	76.3	74.0	70.2	68.1
Low-Cost Carriers	12.0	13.0	13.0	14.1	15.7	17.2	19.6	20.8	23.4	24.4
Regional Carriers	1.7	1.9	2.0	2.6	3.1	3.6	4.2	5.2	6.4	7.5

2. Changes in Capacity

? Key Points

- **The capacity of the U.S. aviation industry consistently decreased after 2000, but improved in 2004, almost returning to the peak level of 2000.**
- **In response to the recent upward trend in air travel demand, major network carriers started restoring their transport capacity and significantly expanded their capacity in the Latin American market.**
- **Low-cost carriers have consistently increased their capacity, accounting for about a quarter of the entire domestic market. The increase in low-cost carriers' capacity compensated for the decrease in major network carriers' capacity since 2001.**
- **Regional carriers have been significantly expanding their capacity since 2002, when major network carriers relaxed their Labor Scope Restriction, which allowed regional carriers to increase regional jet flights.**

(1) U.S. Aviation Industry as a Whole

- In 2004, available seat miles (ASMs) increased to 940.1 billion seat miles for the market as a whole (up 8.1% from 2003), increasing for the first time since 2001. ASMs decreased only 1.8% from their peak in 2000 and have now almost returned to the 2000 level.
- The domestic market shows a similar trend to that of the market as a whole. In 2004, ASMs registered 712.8 billion ASMs (up 7.0% from 2003), increasing for the first time since 2001. This figure is only 0.4% less than the peak in 2000, showing almost full recovery to the 2000 level.
- In 2004, the international markets accounted for 227.4 billion ASMs (up 11.9% from 2003), increasing for the first time since 2001. However, this figure has decreased 6.1% since 2000, falling short of the 2000 peak.

(2) Major Network Carriers

- In 2004, major network carriers accounted for 674.4 billion ASMs in the market as a whole (up 6.1% from 2003), increasing for the first time since 2001, but still 8.5% down from the 2000 level. Given that RPMs have decreased 3.7% since 2000, capacity has been recovering at a slower pace than the recovery in air travel demand. However, it should be noted that major network carriers have increased flight operations with regional carriers over the same period.
- The domestic market shows a similar trend to that of the entire market. In 2004, ASMs registered 456.0 billion ASMs (up 3.6% from 2003), showing an upward trend for the first time since 2001. However, this figure is down 10.0% from the peak in 2000. Given that RPMs have decreased 5.0% since 2000, capacity has recovered at a slower pace than air travel demand.
- In 2004, the international markets grew significantly to 218.4 billion ASMs (up 11.9% from 2003), for the first time since 2001. However, this figure has decreased 5.1% from the peak in 2000. As RPMs have decreased 1.0% since 2000, capacity has not recovered proportionately, as much as air travel demand has. Looking at the ASM's change rate for each market from 2000 to 2004, the Atlantic market decreased by 4.4%, while the Latin American market increased by 10.2% and the Pacific market decreased by 16.2%. This suggests that major network carriers have significantly expanded their capacity in the Latin American market in response to an increase in air travel demand.
- In 2004, the load factor stood at 77.0% in the entire market (up 2.1 points from 2003), hitting new record highs since 1995. However, the break-even load factor in 2004 registered a rather high value of 90.8% (up 0.7 points from the previous year) due to stagnant yields and insufficient cost reductions.
- The load factor stood at 75.9% in the domestic market (up 1.9 points from the previous year) and 79.5% in the international markets (up 2.5% from the previous year), hitting new record highs since 1995. The break-even load factor registered a remarkably high value at 91.5% in the domestic market (up 2.4 points from the previous year) and 88.7% in the international markets (down 3.6 points on a year-to-year basis).

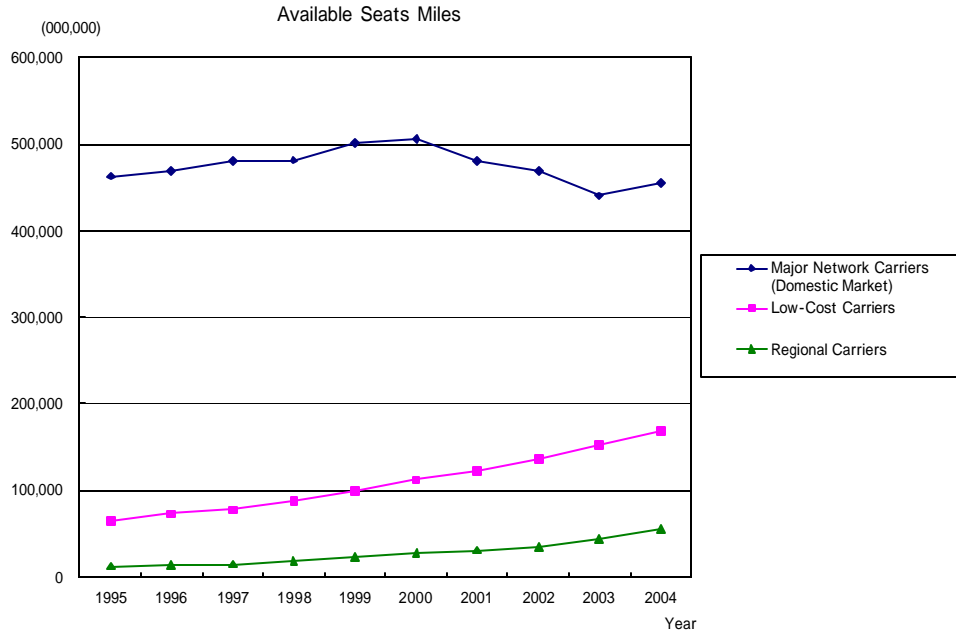
(3) Low-Cost Carriers

- ASMs for low-cost carriers have steadily increased, while those of major network carriers have steadily decreased. In 2004, low-cost carriers increased their ASMs by 11.4% from 2003, to 169.1 billion ASMs. As a result, low-cost carriers expanded their share in the domestic market from 17.3% in 2000 to 24.9% in 2004. Low-cost carriers expanded their ASMs by 57.2 billion since 2000, which is greater than the reduction in ASMs (50.8 billion ASMs) for major network carriers during the same period. This means that the capacity reduction for major network carriers has been totally offset by low-cost carriers.
- The load factor increased to 73.3%, up 1.8 points from the previous year. On the other hand, the break-even load factor stood at 76.7%, which is 14.8 points lower than that of major network carriers (in the domestic market), but up 6.0 points from the previous year. This is because of lower yields and higher unit costs resulting from higher fuel costs.

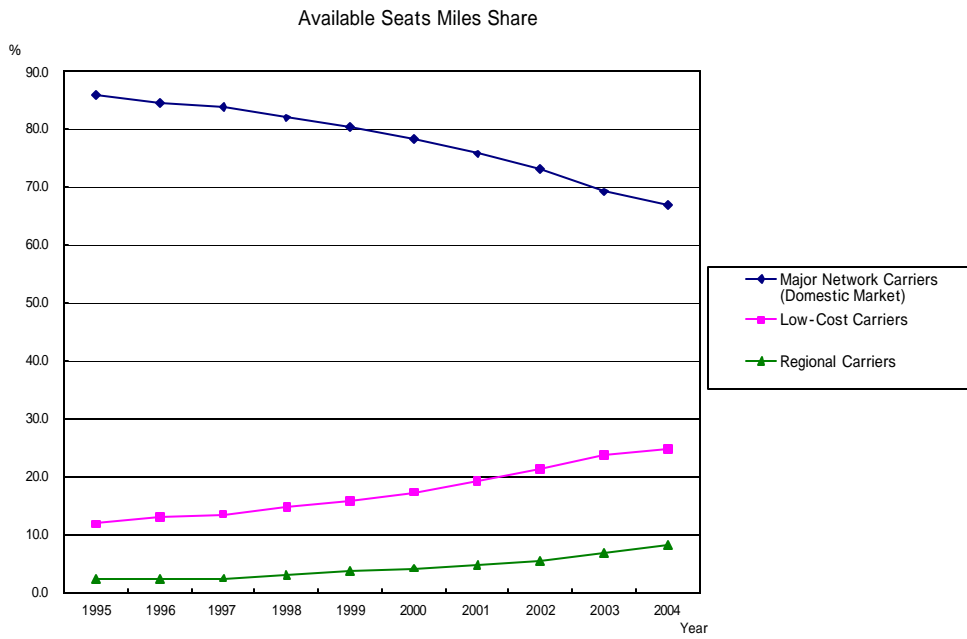
(4) Regional Carriers

- Regional carriers have also been consistently increasing their ASMs. In 2004, regional carriers increased their ASMs by 25.5% from 2003 to 55.0 billion ASMs. As a result, they expanded their share of capacity in the domestic market from 4.2% in 2000 to 8.1% in 2004.
- Regional carriers have recently been expanding their capacity because major network carriers have increased the number of flight operations with regional carriers. In particular, regional carriers have significantly expanded their capacity by 25-30% a year since 2002⁸ when they were allowed to increase their number of regional jet flights following the relaxation of Labor Scope Restrictions (i.e., the agreement with the pilots' labor unions which restricts affiliated regional carriers' jet plane ownership, aiming to protect the working conditions of pilots).
- The load factor increased 1.6 points from 2003 to 69.2%. The break-even load factor stands at 65.0%, which represents a very low level (26.5 points lower than that of the network carriers in the domestic market and 11.7 points lower than that of the low-cost carriers). The break-even load factor increased 4.6 points from the previous year because cost reductions could not compensate for lower yields.

⁸ "What Happens To Regionals' Costs When Growth Stops?", Aviation Daily (January 5, 2005)



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Major Network Carriers (Domestic Market)	463,130	469,719	481,424	481,729	501,406	506,838	480,126	469,641	440,351	456,019
Low-Cost Carriers	63,892	72,698	77,553	87,126	99,186	111,889	122,355	136,150	151,730	169,070
Regional Carriers	12,033	13,267	14,282	18,034	22,889	27,170	30,650	34,869	43,859	55,027



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Major Network Carriers (Domestic Market)	85.9	84.5	84.0	82.1	80.4	78.5	75.8	73.3	69.2	67.1
Low-Cost Carriers	11.9	13.1	13.5	14.8	15.9	17.3	19.3	21.3	23.9	24.9
Regional Carriers	2.2	2.4	2.5	3.1	3.7	4.2	4.8	5.4	6.9	8.1

3. Changes in Revenues and Costs

(1) Revenues

? Key Points

- In 2004, total operating revenues of the major network carriers increased, helped by the recovery in air travel demand. However, unit operating revenues decreased because of expanded capacity.
- The main factors behind the stagnant yields in the domestic markets are: 1) the expansion of flight networks and improvement in services by low-cost carriers; 2) the shift of business passengers away from the major network carriers, whose yield management practices meant extraordinarily high fares for them; and 3) widespread use of the Internet to search for fares, leading to increased transparency and overall difficulties for the carriers to adopt the high fare-setting strategies.
- In the international market, total revenues and unit revenues have both recovered to their peak levels of 2000, while yields are also showing a trend towards recovery. As major network carriers are facing almost no competition with low-cost carriers in the international markets, they are able to set more profitable fares, in response to increased air travel demand, than they can in the domestic market.
- Low-cost carriers' total operating revenues increased, helped by expanded demand, although unit operating revenues remained low, affected by significant capacity enhancement. Low-cost carriers also experienced sluggish yields due to increased competition.
- Regional carriers also enjoyed an increase in total operating revenues, due to expanded demand, but they still experienced a decrease in unit operating revenues, brought about by a significant increase in capacity. As their flight routes are the so-called "spoke" routes of the major network carriers and involve relatively short distances with less competition, yields for regional carriers stand at a high level, but currently show a downward trend due to intense competition.

1) Major Network Carriers

The Market as a Whole

- Operating revenues⁹ consistently decreased after peaking in 2000, but started to show an upward trend in 2003, helped by a recovery in air travel demand. In 2004, total revenues grew to \$64.2 billion (up 5.4% from 2003), but unit revenues decreased slightly to 9.52 cents (down 0.07 cents from 2003) because operating revenues grew at a slower pace than capacity expansion. Operating revenue remains low, down 16.5% on a total basis and down by 0.91 cents on a unit basis, compared with 2000 levels.
- In 2004, operating revenues, including transport-related revenues, stood at \$76.2 billion (up 11.5% from 2003), decreasing 7.2% from the peak in 2000. The transport-related revenues accounted for a larger percentage of overall operating revenues, up from 10.7% in 2003 to 15.7% in 2004. Revenues from flight operations with regional carriers in the domestic market have constituted a larger percentage of overall operating revenues.
- Yields fell consistently after peaking in 2000 and, although they showed a slight increase in 2003, yields again fell to 11.22 cents in 2004, down 0.19 cents from the previous year. They remain stagnant, still failing to recover 12.75 cents in 1999, when RPMs were at almost the same level.

Domestic Market

- Operating revenues fell consistently after peaking in 2000, but started to show an upward trend in 2003. In 2004, total operating revenues again decreased to \$43.8 billion (down 1.1% from 2003), while unit operating revenues also decreased to 9.61 cents, down 0.45 cents from 2003. Compared with their 2000 levels, operating revenues

⁹The major network carriers' flight operations with regional carriers are not included in ASMs, but the major network carriers must report them separately from 2003 onward when they calculate operating revenues and operating costs. This corresponds to the transport-related revenues and expenses used for accounting purposes. Unless otherwise indicated, transport-related revenues and expenses are excluded in order to ensure coherency with the unit-based data.

shrank 22.0% on a total basis and decreased by 1.47 cents on a unit basis.

- Operating revenues, including transport -related revenues, stood at \$53.9 billion (up 7.7% from 2003), but 10.3% down from 2000. The transport-related revenues account for a larger percentage of overall operating revenues, up from 11.6% in 2003 to 18.8% in 2004.
- Yields fell consistently after peaking in 2000 and remained constant from 2002 through to 2003. However, they again fell to 11.62 cents in 2004 (down 0.54 cents from 2003). They remained stagnant, still failing to recover from 14.07 cents in 1998, when RPMs were at almost the same level.
- Yields have decreased in the domestic market mainly due to three factors: 1) low-cost carriers occupy almost a quarter of the domestic market share and seriously compete with the major network carriers in 70% of the top 5,000 domestic markets (see Section II below) - their presence is large enough to provide inexpensive flight options for airline passengers; 2) business passengers have shifted away from the major network carriers because their excessive yield management policies have imposed significantly higher fares on business passengers with highly inflexible schedules; and 3) since the growing popularity of web-based fare searching has increased transparency in the fare structure, the major network carriers have had to give up their fare-setting practices that were excessively dependent on passengers buying expensive flight fares. To address these problems, US Airways and Delta introduced a new, simplified fare system in 2004 and other carriers are now also taking similar actions. For this reason, yields are expected to remain low in the foreseeable future (see Section III).

International Markets

- Operating revenues consistently fell after peaking in 2000, but started to show an upward trend in 2004. Total operating revenues stood at \$20.4 billion (up 22.6% from 2003), while unit revenues have also shown a significant rise to 9.35 cents, up 0.82 cents from 2003. As a result, total operating revenues almost recovered to their 2000 level. Unit revenues exceeded the 2000 level by 0.35%.
- Yields also fell consistently since 2000, but started to show an upward trend in 2003, increasing to 10.43 cents in 2004 (up 0.62 cents from 2003). Unlike the domestic market, the yield starts a recovery trend in the international markets. As the major network carriers face almost no competition from low-cost carriers in the international markets, they are able to set more profitable fares, in response to increased demand, differing from the domestic market.
- In the international markets, the trend in transport-related revenues requires close attention. In 2004, transport-related revenues stood at \$1.8 billion, covering only 8.1% of overall operating revenues, but this increased by 16.8% from 2003. This is because the number of flight operations with regional carriers in the Latin American market has also increased¹⁰.

2) Low-Cost Carriers

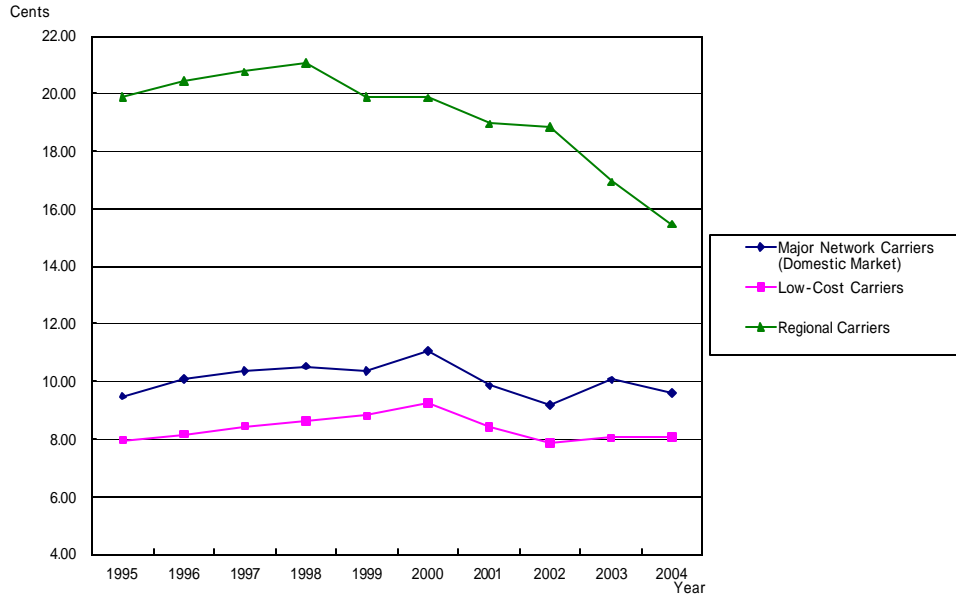
- In 2004, operating revenues registered \$13.6 billion on a nominal basis (up 11.8% from 2003) and 8.07 cents on a unit basis (up 0.03 cents from 2003). An increase in total revenues has increased low cost carrier's share in the domestic market from 12.5% in 2000 to 17.2% in 2004.
- Yields fell consistently after peaking in 2000, and further decreased to 10.20 cents in 2004 (down 0.43 cents from 2003). In addition to the major network carriers, low-cost carriers are also facing intense competition from other carriers, including rival low-cost carriers. For this reason, low-cost carriers have no choice but to keep their fares low.

¹⁰ For example, Continental sends flights to 26 cities in Mexico and 2 cities in the Caribbean region as part of its flight operations contract with ExpressJet. (As of December 31, 2004)

3) Regional Carriers

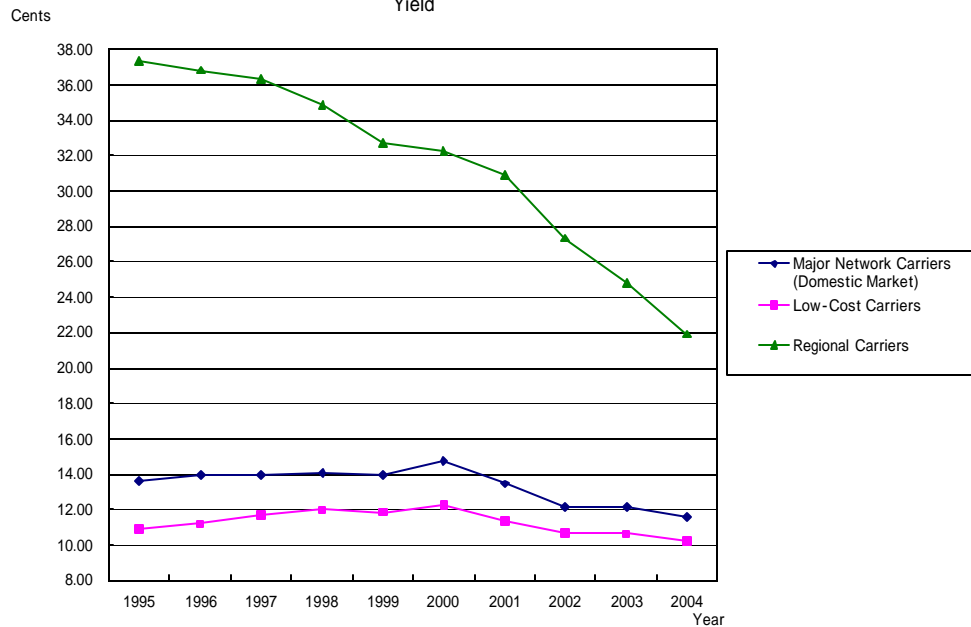
- In 2004, total operating revenues for regional carriers increased to \$8.5 billion, up 14.5% from 2003, while unit operating revenues decreased to 15.46 cents (down 1.48 cents from 2003) due to a significant increase in ASMs (up 25.5% from 2003).
- Yields have been falling since 2000 and dropped further to 21.91 cents in 2004, down 2.90 cents from 2003.
- In 2004, yields for regional carriers stood at 21.91 cents, higher than the figure of 11.62 cents for major network carriers (in the domestic market) and higher than the 10.20 cents value for low-cost carriers. In most cases, regional carriers operate the so-called “spoke” routes that connect major network carriers’ hub airports with smaller cities. In the spoke route market, regional carriers enjoy higher yields because they are facing less intense competition than on the mainline routes that connect major cities. Major network carriers entrust regional carriers with spoke route flight operations because major network carriers would incur higher costs in terms of pilots’ wages, aircraft maintenance, and pilot training if they actually provided spoke route flight services by using their own jet planes.
- Regional carriers are facing increased competition from low-cost carriers, now that low-cost carriers are aggressively expanding into the spoke route market (see Section II). As a result, while the yields of the regional carriers still remain high, they are likely to decrease in the foreseeable future.

Unit Operating Revenue



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Major Network Carriers (Domestic Market)	9.49	10.10	10.37	10.53	10.36	11.08	9.85	9.18	10.06	9.61
Low-Cost Carriers	7.96	8.17	8.44	8.62	8.81	9.24	8.42	7.88	8.05	8.07
Regional Carriers	19.90	20.42	20.76	21.07	19.90	19.85	18.95	18.86	16.94	15.46

Yield



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Major Network Carriers (Domestic Market)	13.65	13.94	13.98	14.07	13.99	14.76	13.46	12.16	12.16	11.62
Low-Cost Carriers	10.92	11.19	11.73	11.99	11.86	12.27	11.33	10.71	10.63	10.20
Regional Carriers	37.36	36.82	36.35	34.82	32.74	32.22	30.90	27.34	24.82	21.91

(2) Costs

? Key Points

- As major network carriers have been working on reducing labor costs and other expenses since 2002, the gap in unit costs between them and the low-cost carriers has been shrinking slightly. However, unit costs for major network carriers is still 1.36 times as much as that of low-cost carriers, suggesting that their cost-cutting efforts have not gone far enough. The fundamental cause of their failure to conduct sufficient cost reduction is the high-cost structure inherent in the hub and spoke system adopted by major network carriers. The productivity of major network carriers stands at only 60% of low-cost carriers.
- The major network carriers' labor cost savings in 2004 were negated by the rapid rise in crude oil prices. (However, they would still have posted some deficits even if crude oil prices had not risen). Since they can not be sufficiently hedged against fuel costs, they will suffer significant adverse impacts if fuel costs stay high.
- Low-cost carriers have successfully reduced their unit costs through intensified cost management. In 2004, higher fuel costs increased their unit costs. However, as low-cost carriers are better hedged against price increases than the major network carriers, they successfully minimized the negative impacts of the fuel cost hike.
- Unit costs for regional carriers have been decreasing due to the significant expansion in capacity, but their unit costs stay high because they use smaller aircrafts. Their labor costs have decreased on a unit basis, as they have hired many low-wage workers in order to facilitate rapid growth, but labor costs might increase if growth starts to stagnate in the future.

1) Major Network Carriers

Total Operating Costs¹¹

i) The Market as a Whole

- Major Network carriers' operating costs have increased sharply since the late 1990s. Unit costs far outpaced unit revenues because major network carriers significantly increased wages in 2000 and 2001 when the economic recession greatly reduced air travel demand. Subsequently, each carrier started cost-cutting efforts to address both the weaker demand resulting from the September 11 terrorist attacks and increased competition from low-cost carriers. In 2003, labor costs decreased by \$3.4 billion (0.23 cents on a unit basis) as US Airways, American, and United reached agreements with their labor unions about drastic wage cuts.
- In 2004, total operating expenses increased to \$68.7 billion (up 5.1% from 2003) due to increased ASMs. However, unit costs inched down to 10.19 cents (down 0.10 cents from 2003). As the wage cut agreements of American and United brought about full-year positive impacts, labor costs decreased sharply to 0.44 cents on a unit basis. However, the unit costs only dropped slightly because a sharp rise in crude oil prices pushed up the unit fuel costs by 0.48 cents, negating the positive impact from labor cost reductions.
- Unit costs have decreased 0.69 cents from a peak in 2001, but still exceed the unit revenues (9.52 cents) by 0.67 cents. Major Network carriers still need to make further cost-cutting efforts.
- Total operating costs, including transport-related expenses, increased to \$80.3 billion, up 9.8% from the previous year. Transport-related expenses comprised 14.4% of the overall operating costs in 2004, increasing from 10.6% in 2003. Flight operations with regional carriers provided some revenues, but they also imposed a significant cost burden on major network carriers.

ii) Domestic Market

- In 2004, total operating costs increased to \$48.5 billion (up 1.7% from 2003) due to increased ASMs, but edged down to 10.64 cents on a unit basis (down 0.20 cents from 2003).
- Since 2002, major network carriers' cost-cutting efforts have slightly narrowed the gap in unit costs between

¹¹ See footnote 9.

themselves and low-cost carriers. In 2004, the major network carriers could not be sufficiently hedged against any sharp rise in crude oil prices and suffered significant adverse impacts from crude oil price hikes. However, as labor cost reductions in 2003 showed positive, full-year impacts, the gap in unit costs between the two carrier categories has narrowed from 3.33 cents in 2003 to 2.81 cents in 2004.

- On the other hand, unit costs in 2004 still exceeded unit revenues (9.61 cents) by 1.03 cents, and were 1.36 times higher than unit costs for low-cost carriers. The major network carriers still need to make further cost-cutting efforts.
- Total operating costs, including transport-related expenses, stood at \$58.9 billion (up 8.4% from 2003). As transport-related expenses (\$10.4 billion) are larger than transport-related revenues (\$10.1 billion), flight operations with regional carriers in the domestic market do not necessarily improve earnings, when looking at their balance of payments in accordance with their capacity purchasing agreements.

iii) International Markets

- Total operating costs increased to \$20.2 billion in 2004 (up 14.4% from 2003), while unit costs also rose to 9.25 cents (up 0.20 cents from 2003).
- Total operating costs, including transport-related expenses, stood at \$21.4 billion (up 13.9% from 2003). In 2004, the transport-related expenses (\$1.2 billion) were less than the transport-related revenues (\$1.8 billion).

Operating Costs, Broken Down by Category

i) Labor Costs

- Labor is the single largest expense (approximately 32.8 percent of total operating costs in 2004). As labor cost reductions of American and United showed positive, full-year impacts in 2004, total labor costs decreased to \$26.3 billion (down \$1.3 billion from 2003) and to 3.91 cents on a unit basis (down 0.44 cents from 2003). Compared with their peak in 2001, labor costs decreased sharply by \$4.9 billion on a nominal basis and by 0.52 cents on a unit basis. However, the unit labor costs for the major network carriers still remained high, some 1.4 times (1.18 cents) as much as that of low-cost carriers (2.73 cents).
- Due to a sharp rise in the cost of fuel and the necessity of further cost-cutting efforts, all major network carriers (except for American) have negotiated with their labor unions since the second half of 2004 in order to revise their collective bargaining agreements. As a result, they successfully reduced labor costs by a total of \$2.9 billion per year. Significant labor cost reductions are expected in 2005.

ii) Fuel Costs

- Crude oil was \$26 per barrel in 2001, but the price started going up in 2003 and surged to \$41 per barrel in 2004. This upward trend still continues in 2005, registering \$53 as of April 2005. As a result, the price of jet fuel almost doubled from 85.8 cents per gallon in January 2001 to \$1.70 in April 2005. For this reason, the unit fuel costs in 2004 increased to 1.91 cents (up 0.48 cents from 2003), exceeding the savings in labor costs (0.44 cents).
- Assuming that the fuel unit price remained constant since 2003, we calculated the major network carriers' fuel bill in 2004 using fuel unit price and fuel consumption data provided by major network carriers to SEC. According to this calculation, major network carriers could have reduced their fuel bill by \$3.84 billion, making their actual fuel costs in 2004 much smaller.
- This figure is almost equal to the increase in their fuel costs (\$3.82 billion) in 2004. According to our calculations, overall operating costs (including transport-related expenses) would stand at \$76.4 billion in 2004. Given that the operating revenues registered \$76.2 billion, major network carriers would have posted much smaller deficits if fuel costs had not increased.
- As major network carriers could not be sufficiently hedged against such price rises, they were less successful in reducing their fuel cost than low-cost carriers. As a result, the gap in fuel costs between these two air carrier categories has widened to 0.29 cents on a unit basis.

iii) Distribution Costs

- Distribution costs (on a unit basis) have fallen consistently since 2000, but edged up to 0.98 cents in 2004, up 0.01

cents from 2003. Due to the expansion of ticket sales made via the Internet, especially via their own websites, and the expansion of E-tickets, distribution costs now constitute a smaller percentage in terms of overall unit-based costs, down from 18.5% in 1995 to 8.3% in 2004.

- On the other hand, there is still a wide gap in unit-based distribution costs between major network carriers and low-cost carriers, with the costs of major network carriers being 1.4 times (0.68 cents) higher.

2) Low-Cost Carriers

Total Operating Costs

- With intensive cost management, low-cost carriers have successfully kept their unit costs lower than their unit revenues.
- In 2004, a sharp rise in the price of fuel increased the unit cost to 7.83 cents, up 0.31 cents from 2003, but down 0.39 cents from the peak in 2000. This figure is lower than the unit costs of the major network carriers (10.64 cents) by 2.81 cents. The unit costs of major network carriers (in the domestic market) are 1.36 times greater than those of low-cost carriers.
- Total operating costs continued to increase due to the significant expansion of capacity, reaching \$13.2 billion in 2004 (up 16.0% from 2003).

Operating Costs, Broken Down by Category

i) Labor Costs

- Labor costs on a unit basis further decreased to 2.73 cents in 2004, down 0.02 cents from 2003. Low-cost carriers' unit labor costs have been kept significantly lower than those of major network carriers. While major network carriers have been working on labor cost reduction, low cost carriers still spend only 60% of what major carriers do on unit labor costs.

ii) Fuel Costs

- Due to a recent surge in the price of crude oil, fuel costs on a unit basis started to increase in 2003 and rose even further to 1.62 cents in 2004, up 0.29 cents (21.8%) from 2003.
- Fuel costs for low-cost carriers rose at a much slower pace than for the network carriers (34.0%) because low-cost carriers' hedging strategy had a positive impact on fuel costs. Low-cost carriers were much better hedged, with regard to fuel costs, than major network carriers. As Southwest and JetBlue were particularly well hedged, jet fuel costs per gallon¹² for Southwest and JetBlue were only 70% and 89% of the average for major network carriers, respectively.
- In 2005, low-cost carriers are better hedged than major network carriers. If fuel costs remain high, the fuel cost gap between these two airline categories will surely expand on a unit basis.

iii) Distribution Costs

- Low-cost carriers put more emphasis on flight ticket sales and service via their own websites. In 2004, unit-based distribution costs decreased even further to 0.68 cents, down 0.05 cents from 2003.

3) Regional Carriers

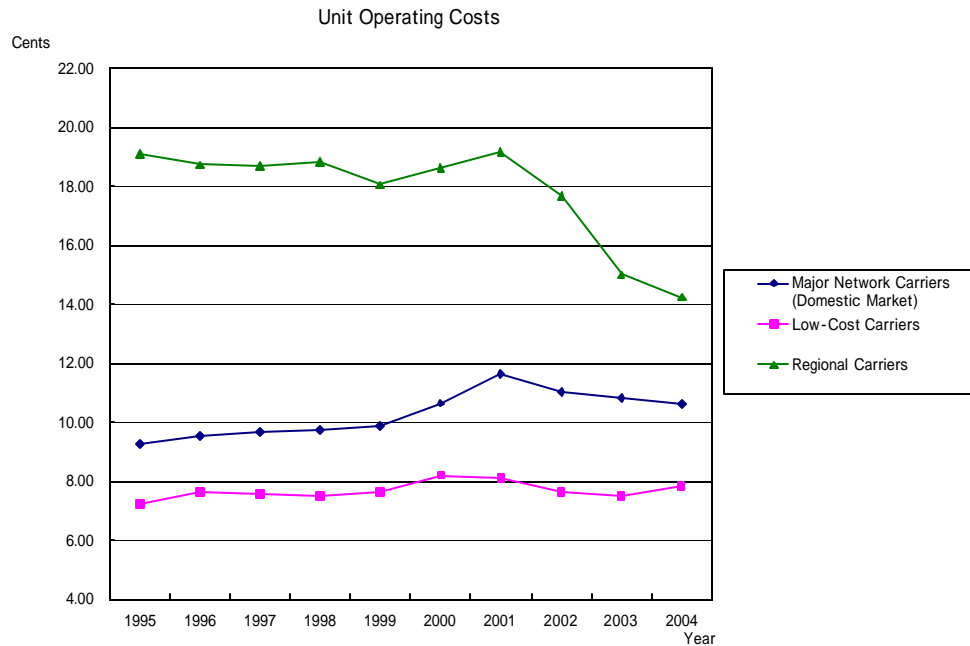
Total Operating Costs

- With an increase in available seats and flight distances (due to the increased use of regional jets), unit operating costs have continued to shrink since 2001. This figure decreased even further to 14.24 cents in 2004, down 0.75 cents from 2003.
- Regional carriers experienced much higher unit operating costs than low-cost carriers (7.83 cents) as well as major network carriers (10.64 cents in the domestic market). This is mainly because regional carriers use smaller aircrafts.

¹²See each carrier's 2004 Annual Report (FORM 10-K submitted to SEC).

Operating Costs by Category

- On a unit basis, labor costs decreased to 4.28 cents in 2004 (down 0.45 cents from 2003). This figure decreased about 1 cent from 2002, immediately before regional carriers greatly expanded their flight operations with major network carriers. As regional carriers have successfully hired many new pilots at low wages¹³ to support their rapid expansion, their increase in labor costs has been smaller than the increase in capacity. However, if their operational growth slows, regional carriers will experience a reduction in the number of new employees and a higher percentage of elderly workers, which will result in an increase in unit labor costs.
- With the recent surge in the price of crude oil, fuel costs continue to rise sharply. In 2004, the cost of fuel increased to 2.69 cents, up 0.49 cents from 2003.



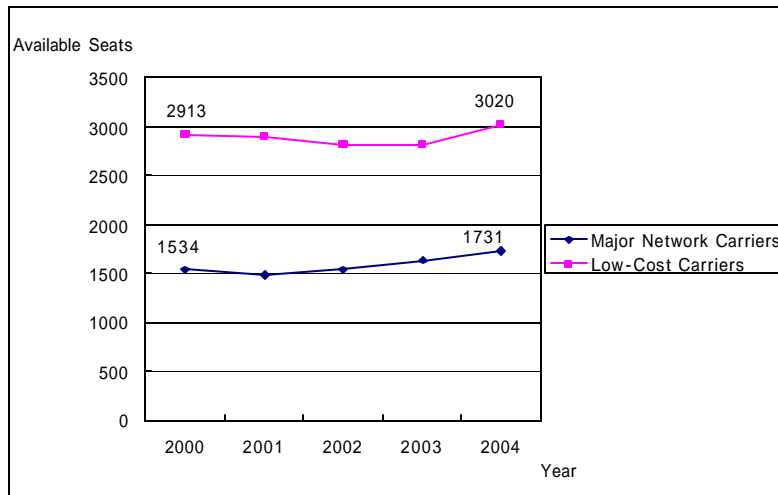
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Major Network Carriers (Domestic Market)	9.25	9.56	9.68	9.75	9.86	10.65	11.63	11.01	10.84	10.64
Low-Cost Carriers	7.23	7.66	7.57	7.51	7.62	8.21	8.09	7.66	7.51	7.83
Regional Carriers	19.11	18.73	18.71	18.82	18.05	18.60	19.16	17.66	15.00	14.24

4) Factors Contributing to Inadequate Cost Reductions by Major Network Carriers

- As major network carriers' hub and spoke system requires connecting flights, it leads to higher costs than direct, point-to-point flight operations for the following reasons: 1) the need to secure airport facilities (e.g., boarding gates) and passenger/baggage handling personnel for the smooth operation of connecting flights; 2) lower aircraft utilization because of connections; and 3) higher fuel consumption from taxiing during each takeoff and landing. In addition, the hub and spoke system, compared with the single aircraft operation adopted by many low-cost carriers, results in higher costs due to several additional factors: a) the necessity to provide adequate airport facilities and personnel during peak hours at hub airports significantly lowers operational efficiency and b) the need to operate a variety of aircrafts in line with market demand pushes up maintenance costs and pilot training expenses.
- In addition, major network carriers suffer from lower productivity, as there are still many workplace rules that reduce productivity, such as restrictions on working hours for flight crews and on the type of work that can be carried out by ground service personnel.
- Assuming that the number of available seats per employee represents the carrier's productivity, the productivity of the network carriers in 2004 stands at slightly less than 60% of that of low-cost carriers.

¹³ "What Happens To Regionals' Costs When Growth Stops?" Aviation Daily (January 5, 2005)

Available Seats per Employee¹⁴



4. Operating Profit and Loss

? Key Points

- While they recorded a profit in 2000, since 2001, major network carriers have consistently posted deficits. In 2004, they posted massive losses of \$4.1 billion. They recorded losses of about \$49 billion in the domestic market due to stagnant passenger revenues, insufficient cost-cutting efforts, and the imbalance between revenues and costs. On the other hand, the major network carriers posted some \$0.8 billion profit in the international markets, helped by increased operating revenues. These include transport related revenues and expenses.
- Since the September 11 terrorist attacks, major network carriers have been benefiting from a total of \$10.8 billion in government support, which has contributed to the survival of carriers that suffered from a financial crisis.
- Low-cost carriers have been posting operating profits. They reported decreased profits in 2004, but still returned profits of about \$0.4 billion. This is attributable to their successful cost-cutting efforts in response to declining revenue.
- Regional carriers are posting stable profits, helped by joint flights with major network carriers. However, they might face a decline in earnings for the following reasons: harsher competition has been reducing their fare income; major network carriers might review their capacity purchasing agreements in order to reduce costs; and stagnant growth will pose difficulties in the hiring of new employees and increase unit-based labor costs.

(1) Major Network Carriers

1) The Market as a Whole

Trends in Operating Profits/Losses

- Total operating profits¹⁵ fell into deficit in 2001, after recording a profit of \$2.6 billion in 2000. In 2002 and 2003, these deficits decreased on a year-to-year basis but in 2004 the operating losses increased to \$4.5 billion, up 1.6% from 2003. With increased ASMs, operating revenues in 2004 increased (mainly in the international markets) by \$3.27 billion from 2003, but operating costs also increased by \$3.34 billion due to a surge in fuel costs, exceeding increases in operating revenues.
- Since 2001, unit profits and losses have also been in deficits after recording profits of 0.35 cents in 2000. In 2004,

¹⁴ Represents the number of available seats divided by the number of employees.

¹⁵ Excludes transport-related revenues and expenses.

the unit loss was reduced to 0.67 cents, down 0.03 cents from 2003, but major network carriers are still failing to post unit profits.

- Including transport-related revenues and expenses, total operating losses were \$4.1 billion in 2004 (down 14.9% from 2003) because, as mentioned earlier, transport-related revenues exceeded transport-related expenses. Accumulated losses for the major network carriers registered \$28.1 billion since 2001, accounting for more than 40% of the \$64.2 billion operating revenues reported in 2004.

Impact of Government Assistance

- Since the September 11, 2001 terrorist attacks, the U.S. government has been providing various assistance programs for air carriers, such as direct cash infusion, government-provided war risk insurance program, an air carrier loan guarantee program in accordance with the Air Transportation Safety and System Stabilization Act, tax refunds based on the Job Creation and Worker Assistance Act of 2002, and reimbursement of security expenses legislated in the Emergency Wartime Supplemental Appropriations Act of 2003. Major network carriers, in particular, have enjoyed significant benefits from these assistance programs. The U.S. government still continued to provide the federal loan guarantee program and wartime aviation insurance scheme¹⁶ in 2004. Some air carriers have also received tax refunds¹⁷ in accordance with the Job Creation and Worker Assistance Act of 2002. Up until 2004, major network carriers benefited from a total of \$10.8 billion in government assistance, which amounts to a massive 38.4% of their accumulated losses since 2001. Without government assistance, air carriers would have suffered a total of \$40 billion in accumulated deficits.
- According to our calculations, these government assistance programs provided American with the largest benefits (\$3.3 billion), followed by United (\$2.5 billion), Delta (\$1.9 billion) and US Airways (\$1.2 billion). In March 2003, US Airways received \$1 billion in loans, of which \$900 million are guaranteed by the federal government. When looking at individual carriers, American lost earnings to the brink of applying for bankruptcy protection in 2003; United has been under bankruptcy protection since the end of 2002 and is still in the rehabilitation process; and Delta was likely to file for bankruptcy protection in 2004. US Airways had been protected under the bankruptcy law since August 2002, but this carrier once broke away from bankruptcy protection¹⁸ by obtaining a loan guarantee from the federal government. In this way, the federal government provided massive assistance in a timely manner and played a significant and critical role in the survival of carriers that were in danger.

Estimated Benefits from Government Support Programs from 4Q 2001 to 2004 Year-End

(in \$1 million)

	Direct Cash Infusion	Reimbursement of Security Expenses	Government-Provided War Risk Insurance (Estimate)	Tax Refunds (Estimate)	Total
American	694	383	470	1,760	3,307
Continental	361	179	206	0	746
Delta	636	402	457	450	1,945
Northwest	428	216	275	169	1,088
United	774	315	357	1,089	2,535
U.S. Airways	307	222	226	407	1,162
Total	3,200	1,717	1,991	3,875	10,783

(Note) The data on direct cash infusion and reimbursement of security expenses represent actual payment data, while other figures given are estimates.

¹⁶ The US government will provide these support programs until December 31, 2005. This deadline was extended several times.

¹⁷ Air carriers may gain tax refunds by carryback for 5 years if they suffer operating deficits from September 10, 2001 to September 11, 2004.

¹⁸ In September 2004, US Airways filed for bankruptcy protection again.

2) Domestic Market

- Total operating losses kept decreasing on a year-to-year basis through 2002 and 2003, but grew to \$4.7 billion in 2004, up 37.9% from 2003. This is attributable to decreased operating revenues (down \$0.5 billion from 2003) and increased operating expenses (up \$0.8 billion). Unit operating losses also rose to 1.03 cents, up 0.26 cents from 2003. Total operating loss, including transport-related revenues and expenses, stood at \$4.9 billion in 2004.
- Operating losses in the domestic market were larger than that in market as a whole because major network carriers failed to take adequate action on their revenues and expenses, while low-cost carriers' increased their share of the domestic market. Major network carriers are experiencing a drop in passenger revenues for the following reasons: 1) low-cost carriers have expanded their flight networks and improved their services; 2) business passengers have shifted away from the major network carriers because their excessive yield management imposes expensive fares on these passengers; and 3) the transparency of fares has increased due to the growing use of Internet-based fare search engines. On the other hand, major network carriers have been reducing their labor costs significantly, but such cost-savings have been completely negated by the sharp rise in the cost of fuel. Even if unit fuel costs had stayed constant after 2003, major network carriers would still have posted some operating deficits. Without the surge in fuel costs, they would have continued posting deficits in 2004. This is chiefly attributable to the following factors: 1) the major network carriers' hub and spoke system incurs higher costs than the point-to-point flight service because it requires connecting flights and 2) powerful labor unions may limit improvements in productivity and prevent proper cost-cutting efforts.

3) International Markets

- Major network carriers kept posting deficits after 2001, but enjoyed operating profits of \$0.2 billion in 2004. They also posted 0.10 cents profit on a unit basis. As major network carriers are facing almost no competition from low-cost carriers in international markets, they are able to set more profitable fares, in response to increased demand, than they can in the domestic market. As a result, operating revenues increased by \$3.8 billion from 2003, significantly exceeding the increase in operating expenses (\$2.5 billion). Total operating profit, including transport-related revenues and expenses, stood at \$0.8 billion in 2004.

(2) Low-Cost Carriers

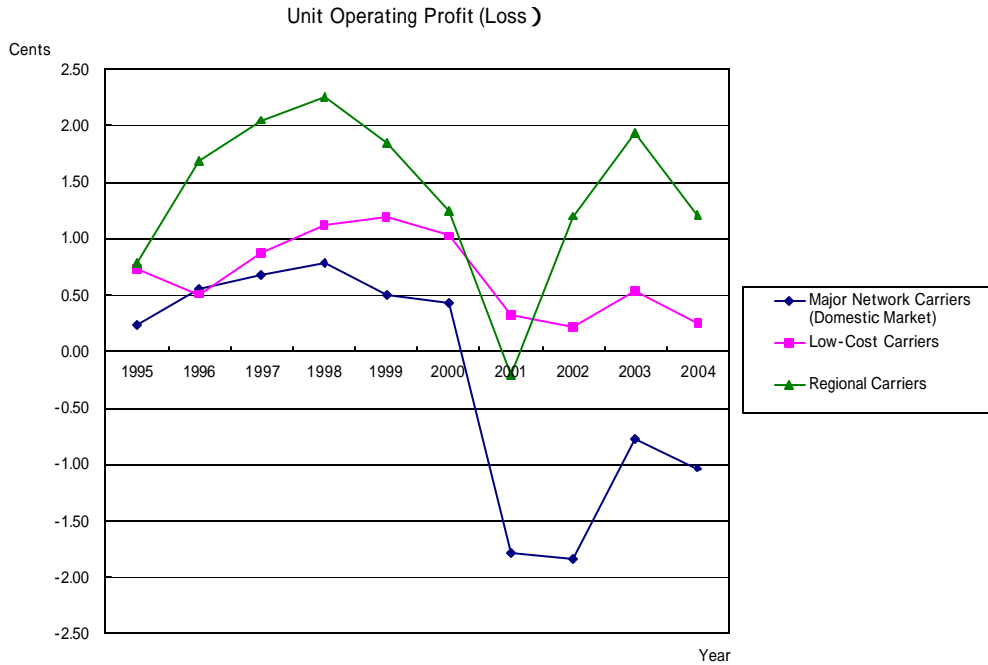
- Low-cost carriers have posted operating profits every year, while major network carriers experienced massive operating losses. In 2004, operating costs increased due to increased ASMs, but total operating profit still registered \$0.4 billion.
- On a unit basis, revenues were hovering at a low level of around 8 cents, but low-cost carriers still returned unit profits, helped by efforts at minimizing unit costs. Due to multi-year efforts to reduce unit costs since 2000, these decreased to 7.51 cents in 2003. In 2004, the figure rose to 7.83 cents (up 0.31 cents from 2003) due to higher fuel costs, but unit costs remained lower than unit revenues of 8.07 cents (up slightly by 0.03 cents from 2003). This led to a unit profit of 0.25 cents. Unlike major network carriers, low-cost carriers have been posting operating profits because they have successfully reduced their costs in line with their revenue levels.

(3) Regional Carriers

- Except for 2001, regional carriers have been posting operating profits every year since 2000, registering total operating profits of \$0.7 billion in 2004. However, operating profit decreased by \$0.2 billion in 2004 from the previous year, as operating revenues grew at a slower pace than operating costs.
- On a unit basis, regional carriers continued posting a relatively large unit profit (1.22 cents) in 2004, while major network carriers suffered a unit loss of 1.03 cents (in the domestic market) and even low-cost carriers faced a stagnant unit profit of 0.25 cents. Flights operations with the major network carriers are risk-free for regional carriers because they receive a fixed return regardless of actual flight revenues. In this regard, flight operations with major network carriers provide a stable revenue source for regional carriers.
- As for the trends in unit revenues and unit costs since 2002, regional carriers successfully reduced their unit costs

faster than decreases in unit revenues experienced in 2002 and 2003. However, in 2004 unit revenue decreased by 1.48 cents from the previous year and this could not be covered by the unit cost reduction. As a result, unit profit fell sharply (down 0.73 cents from 2003).

- This decline in earnings could be the following reasons; on the revenue side, low-cost carriers have aggressively commenced flight operations on the same routes as the regional carriers. This increases competition and reduces fare income for regional carriers. In addition, the major network carriers are likely to review their capacity purchasing agreements in order to further reduce their costs. On the cost side, possible stagnant growth in regional carriers will make it harder to hire new employees and increase unit-based labor costs.



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Major Network Carriers (Domestic Market)	0.24	0.55	0.68	0.78	0.50	0.43	-1.78	-1.83	-0.77	-1.03
Low-Cost Carriers	0.73	0.51	0.87	1.12	1.19	1.03	0.33	0.22	0.53	0.25
Regional Carriers	0.78	1.69	2.05	2.26	1.85	1.25	-0.21	1.20	1.94	1.22

II. Expansion of Low-Cost Carriers

This section examines the rise of low-cost carriers and the impact this has had on major network carriers. To this end, the section categorizes the top 5,000 U.S. markets according to stage length, market size and route type and analyzes various indicators such as the number of markets, O&D passengers, average fares, and passenger revenue for the 2000-2004 period¹⁹.

1. Analysis by Stage Length Category

?Key Points

(Number of markets)

- **As the number of markets for low-cost carriers has increased by more than 20%, low-cost carriers are competing in 70% of the markets where the major network carriers provide flight services.**
- **The major network carriers have increased their numbers of direct flights in response to aggressive market entry by the low-cost carriers.**

(Air travel demand)

- **In addition to medium-range markets, air travel demand for low-cost carriers has significantly expanded in long-distance flight markets where the major network carriers have traditionally enjoyed a competitive edge.**

(Average fares)

- **In all flight distance categories, major network carriers have set higher fares than low-cost carriers.**
- **In general, there has been a tendency for the average fare to fall. Particularly in the medium-distance flight markets, the average fare has fallen sharply due to increased competition between two air carrier groups.**

(Passenger revenue)

- **Low-cost carriers have increased their passenger revenue in all flight distance categories. They are experiencing a significant increase in passenger revenue, especially in the medium-to-long distance flight markets.**
- **On the other hand, major network carriers have experienced a decline in passenger revenue in all flight distance categories. They have experienced a significant drop in passenger revenue in medium-to-long distance flight markets where low-cost carriers have put most emphasis on market entry.**

(1) Number of Markets

- Low-cost carriers are competing with major network carriers in almost all markets where the former provide flight services. The number of markets for low-cost carriers has increased from 2,826 to 3,456. Low-cost carriers and major network carriers are competing with each other in 70% of all markets in 2004, compared with 57% in 2000.
- Passenger revenue for major network carriers primarily comes from the three stage length categories (i.e., 500-999 miles, 1,000-1,999 miles, and 2,000+ miles). In these three markets, the percentage of competing markets has increased significantly from 49% to 63%, 69% to 83%, and 79% to 94%, respectively.
- The total number of markets remains almost constant for major network carriers, but they now provide direct flights in 1,713 markets, a significant increase of 89 markets from the previous total of 1,624. This indicates that major network carriers are expanding their direct flight services to counter the aggressive market entry practices of low-cost carriers. Except for the 0-249 mile category and the 250-499 mile category, direct flights have significantly increased in all middle-to-long stage length markets where the low-cost carriers have put most emphasis on market entry (up by 123 markets).

¹⁹ For more information on market category definitions and data sources, see Reference 1.

Number of Markets by Stage Length Category (2000 vs. 2004)

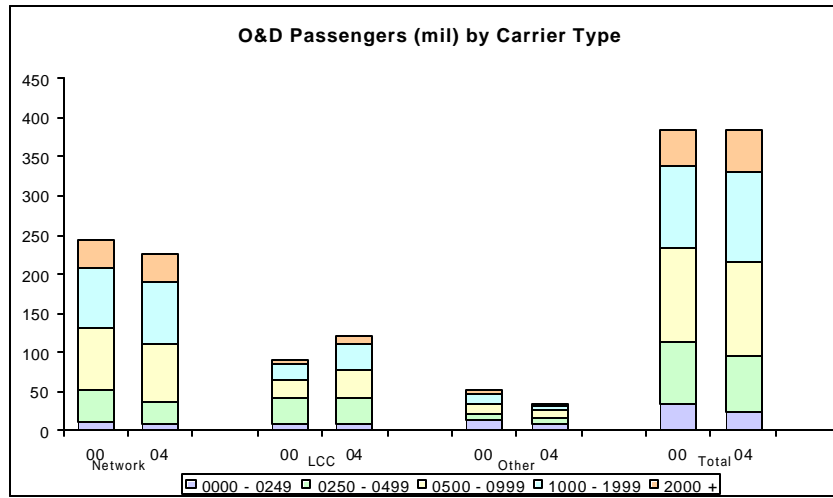
Stage Length (miles)	Average flight distance (miles)	Total number	Major network carriers	Low-cost carriers	Number of competing markets (share of competing markets: %)
0-249	186? 189	291	253? 245	52? 65	48 (19%) ? 53 (22%)
			230? 215	35? 41	
250-499	370? 370	748	740? 731	286 ? 344	285 (39%) ? 335 (46%)
			461? 7442	143? 156	
500-999	752? 757	1,646	1,627? 1,627	808 ? 1,039	801 (49%) ? 1,036 (64%)
			524? 611	172? 222	
1,000-1,999	1,384? 1,382	1,564	1,556 ? 1,559	1,084 ? 1,301	1,080 (69%) ? 1,299 (83%)
			307? 334	121? 179	
2,000+	2,499? 2,502	751	750 ? 751	596? 707	595 (79%) ? 707 (94%)
			102? 111	25? 66	
Total		5,000	4,926 ? 4,913	2,826 ? 3,456	2,809 (57%) ? 3,430 (70%)
			1,624? 1,713	496? 664	

(Notes) 1. The number of total markets as of 2004.

2. In the columns for network carriers and low-cost carriers, the upper portion shows the total number of markets while the lower portion shows the number of direct flight markets.

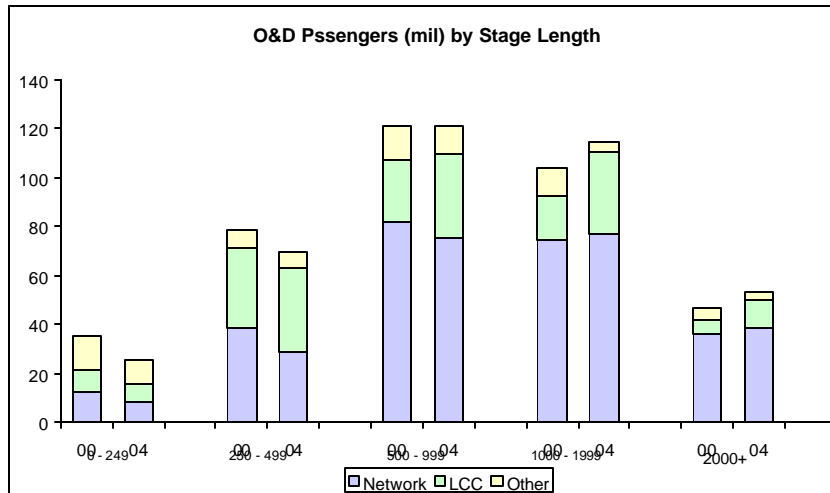
(2) Air travel demand(O&D Passengers)

- Air travel demand serviced by low-cost carriers has increased sharply in the 500-999 mile category (up by 8.77 million passengers, or an increase by 35%). In addition, demand for low-cost carriers has also dramatically increased by 83% in the 1,000-1,999 mile category (up by 15.13 million passengers) and 106% in the 2,000+ mile category (up by 6.03 million passengers). This demonstrates that demand for low-cost carriers has increased sharply in the long -distance flight markets where major network carriers have traditionally had a competitive edge.
- The major network carriers have also expanded their long-distance transport capacity in response to the growth of low-cost carriers. While overall air travel demand decreased by 7%, they experienced a growth in demand of 4 % in the 1,000-1,999 mile category and 5% in the 2,000+ mile category.
- Major network carriers have traditionally enjoyed significant market share in the middle-to-long distance markets. However, as low-cost carriers rapidly expanded their share in these markets, the share of major network carriers has decreased sharply from 67% to 62% in the 500-999 mile category, from 72% to 67% in the 1,000-1,999 mile category, and from 77% to 71% in the 2000+ mile category. On the other hand, the low-cost carriers' share has expanded significantly in these three markets: from 21% to 28%, 18% to 29%, and 12% to 22%, respectively.



	Network			LCC			Other			Total		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change
0000 - 0249	12.32	8.11	-34%	8.75	7.84	-10%	13.97	9.35	-33%	35.03	25.30	-28%
0250 - 0499	38.78	28.30	-27%	32.24	34.96	8%	7.33	6.12	-17%	78.35	69.38	-11%
0500 - 0999	81.59	75.35	-8%	25.10	33.87	35%	14.24	11.68	-18%	120.92	120.89	0%
1000 - 1999	74.38	77.17	4%	18.29	33.42	83%	10.75	4.05	-62%	103.41	114.64	11%
2000 +	36.29	38.05	5%	5.67	11.70	106%	4.95	3.66	-26%	46.91	53.42	14%
Total	243.35	226.97	-7%	90.05	121.79	35%	51.24	34.86	-32%	384.63	383.62	0%

	Network		LCC		Other		Total	
	2000	2004	2000	2004	2000	2004	2000	2004
0000 - 0249	5%	4%	10%	6%	27%	27%	9%	7%
0250 - 0499	16%	12%	36%	29%	14%	18%	20%	18%
0500 - 0999	34%	33%	28%	28%	28%	33%	31%	32%
1000 - 1999	31%	34%	20%	27%	21%	12%	27%	30%
2000 +	15%	17%	6%	10%	10%	10%	12%	14%

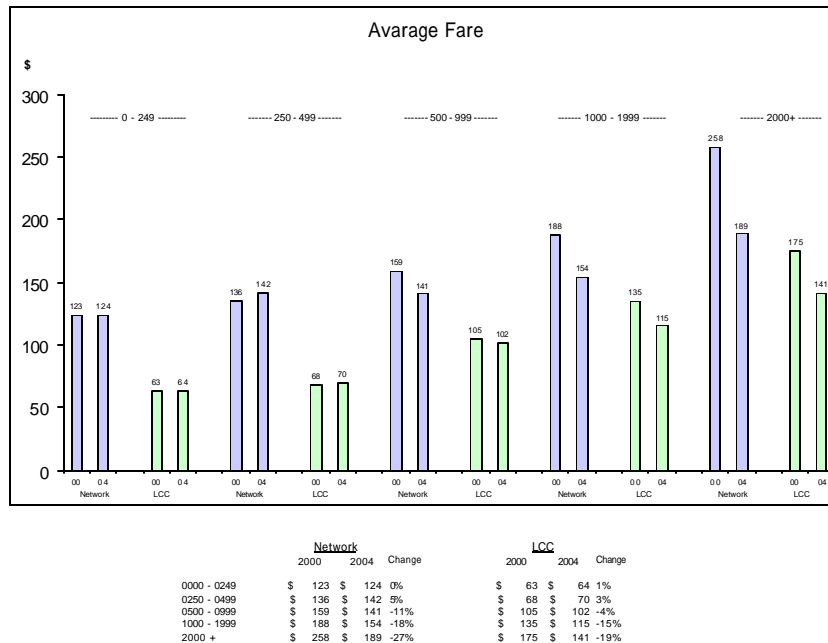


Stage Length (mile)	0 - 249			250 - 499			500 - 999			1000 - 1999			2000+		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change
Network	12.32	8.11	-34%	38.78	28.30	-27%	81.59	75.35	-8%	74.38	77.17	4%	36.29	38.05	5%
LCC	8.75	7.84	-10%	32.24	34.96	8%	25.10	33.87	35%	18.29	33.42	83%	5.67	11.70	106%
Other	13.97	9.35	-33%	7.33	6.12	-17%	14.24	11.68	-18%	10.75	4.05	-62%	4.95	3.66	-26%
Total	35.03	25.30	-28%	78.35	69.38	-11%	120.92	120.89	0%	103.41	114.64	11%	46.91	53.42	14%

Stage Length (mile)	0 - 249		250 - 499		500 - 999		1000 - 1999		2000+	
	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004
Network	35%	32%	49%	41%	67%	62%	72%	67%	77%	71%
LCC	25%	31%	41%	50%	21%	28%	18%	29%	12%	22%
Other	40%	37%	9%	9%	12%	10%	10%	4%	11%	7%

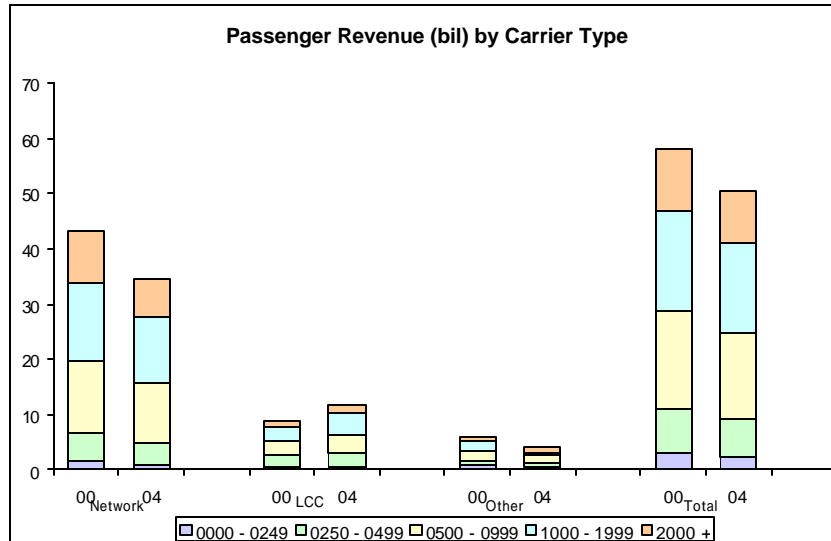
(3) Average Fares

- The major network carriers set higher fares than low-cost carriers in all stage length categories. In 2004, the average fare of major network carriers was almost twice that of low-cost carriers in the short -distance markets (the 0-249 mile and the 250-499 mile ranges), but only 30-40% higher in the very competitive middle-to-long distance markets where low-cost carriers aggressively aimed at market entry. In these highly competitive markets, the gap in average fares between these two air carrier groups is narrowing.
- From 2000 to 2004, the average fare rose slightly for both major network carriers and low-cost carriers in the short-distance markets, but sharply fell in the middle-to-long distance markets. Over the same period, the average fare of major network carriers decreased by 11.3% in the 500-999 mile category, 18.1% in the 1,000-1,999 mile category, and 26.7% in the 2,000+ miles category. The rate at which the fare dropped rose as the flight distance increased. The average fare of the low-cost carriers also fell, by 2.9%, 14.8% and 19.4%, respectively in the aforementioned distance categories. The average fare for low-cost carriers has been falling at a slower pace than that of major network carriers, but shows a similar downward trend. This downward trend of the average fare in the middle-to-long distance markets could be attributable to the increased competition between the two air carrier groups.
- When calculating the average fare per mile (yield) based on average stage length data (as of 2004), both low-cost carriers and major network carriers register larger yields as the flight distance decreases. The 2,000+ mile category registers the lowest yield, while the 0-249 mile category returns the highest yields. For low-cost carriers, the highest yield (33.9 cents) is 6.1 times as much as the lowest yield (5.6 cents), while for major network carriers the highest (65.6 cents) is 8.6 times as much as the lowest (7.6 cents), showing a wider yield gap for the major network carriers between different stage length categories. In the 0-249 mile category, major network carriers face the least competition from low-cost carriers, implying that major network carriers set higher fares in less competitive markets.



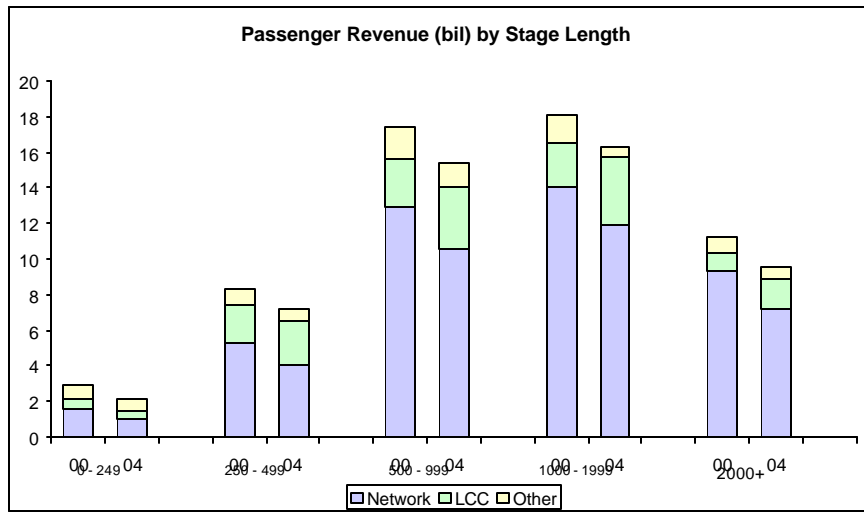
(4) Passenger Revenue

- Low-cost carriers increased their passenger revenue in all stage length groups except for the 0-249 mile category, where weaker demand reduced passenger revenues. The middle-to-long distance markets, where air travel demand is highest, have shown the largest increase in passenger revenue. Passenger revenue has increased by \$790 million (up 30%) for the 500-999 mile category, \$1.38 billion (up 56%) for the 1,000-1,999 mile category, and \$660 million (up 67%) for the 2,000+ mile category.
- The major network carriers have experienced a reduction in passenger revenue in all stage length categories. They registered a sharp drop in revenue (down \$2.37 billion) in the 500-999 mile category. In addition, as the average fare has been falling significantly in the long-distance markets (the 1,000-1,999 mile category and the 2,000+ mile category), passenger revenue for major network carriers dropped sharply by \$2.14 billion and \$2.17 billion in these two markets despite increased air travel demand. The middle-to-long distance markets have been the major revenue source for major network carriers but the rapid growth of low-cost carriers in these markets has had a serious impact on their passenger revenue. Especially in long-distance markets, stronger air travel demand has not led to increased revenues, mainly due to lower fares. This has had a significant negative impact on the profitability of major network carriers.



	Network			LCC			Other			Total		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change
0000 - 0249	1.52	1.00	-34%	0.55	0.50	-10%	0.83	0.66	-20%	2.90	2.16	-25%
0250 - 0499	5.27	4.02	-24%	2.20	2.46	12%	0.81	0.66	-19%	8.28	7.14	-14%
0500 - 0999	12.97	10.60	-18%	2.65	3.44	30%	1.86	1.38	-26%	17.48	15.42	-12%
1000 - 1999	14.01	11.87	-15%	2.47	3.85	56%	1.62	0.54	-67%	18.09	16.26	-10%
2000 +	9.35	7.18	-23%	0.99	1.65	67%	0.93	0.75	-19%	11.27	9.59	-15%
Total	43.11	34.68	-20%	8.86	11.90	34%	6.04	3.98	-34%	58.02	50.57	-13%

	Network		LCC		Other		Total	
	2000	2004	2000	2004	2000	2004	2000	2004
0000 - 0249	4%	3%	6%	4%	14%	17%	5%	4%
0250 - 0499	12%	12%	25%	21%	13%	17%	14%	14%
0500 - 0999	30%	31%	30%	29%	31%	35%	30%	30%
1000 - 1999	32%	34%	28%	32%	27%	13%	31%	32%
2000 +	22%	21%	11%	14%	15%	19%	19%	19%



Stage Length (mile)	0 - 249			250 - 499			500 - 999			1000 - 1999			2000+		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change
Network	1.52	1.00	-34%	5.27	4.02	-24%	12.97	10.60	-18%	14.01	11.87	-15%	9.35	7.18	-23%
LCC	0.55	0.50	-10%	2.20	2.46	12%	2.65	3.44	30%	2.47	3.85	56%	0.99	1.85	67%
Other	0.83	0.66	-20%	0.81	0.66	-19%	1.86	1.38	-26%	1.62	0.54	-67%	0.93	0.75	-19%
Total	2.90	2.16	-25%	8.28	7.14	-14%	17.48	15.42	-12%	18.09	16.26	-10%	11.27	9.59	-15%

Stage Length (mile)	0 - 249		250 - 499		500 - 999		1000 - 1999		2000+	
	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004
Network	52%	46%	64%	56%	74%	69%	77%	73%	83%	75%
LCC	19%	23%	27%	34%	15%	22%	14%	24%	9%	17%
Other	29%	31%	10%	9%	11%	9%	9%	3%	8%	8%

2. Analysis by Market Size

?Key Points

(Number of markets)

- The number of markets for low-cost carriers has been increasing in all market sizes except for the 840,000+ passengers market.
- On the other hand, major network carriers have significantly increased their direct flights in the 0-17,999 passengers market and the 18,000-84,999 passengers market where low-cost carriers pursued an aggressive market entry strategy.

(Air travel demand)

- Demand for low-cost carriers has expanded in all market sizes, except for the 840,000+ passengers market. Low-cost carriers enjoy significant demand growth in the three core markets (18,000-840,000 passengers) which provide the major income source for both major network and low-cost carriers. They are also increasing their air travel demand in low-density markets (less than 18,000 passengers).
- On the other hand, major network carriers have been experiencing reduced demand in all market sizes except for the low-density markets with less than 18,000 passengers. They face a sharp fall in demand in high-density markets, leading to a greater dependency on low-density markets.

(Average fares)

- In all market sizes, major network carriers set their fares 40% -80% higher than low-cost carriers.
- Fares have fallen for both major network and low-cost carriers, but major network carriers' fares have been falling faster than those of low-cost carriers.

(Passenger revenue)

- Low-cost carriers enjoy increased passenger revenue in all market sizes.
- In contrast, major network carriers have experienced reduced passenger revenue in all market sizes other than low-density markets. Despite a greater dependency on these markets, the major network carriers have not yet experienced a significant increase in revenue from low-density markets.

(1) Number of Markets

- The number of markets for low-cost carriers has been increasing in all market sizes except for the 840,000+ passengers market. They have been especially active in entering the markets with less than 18,000 passengers (up by 353 markets) and 18,000-84,999 passengers markets (up by 225 markets) where major network carriers operate in a great number of markets. As a result, the percentage of competing markets has been getting higher in all market sizes, except for the 840,000+ passengers market.
- The total number of markets for major network carriers has remained almost constant across every market size. However, major network carriers have significantly increased the number of direct flights in the 0-17,999 passengers markets (up by 70 markets) and the 18,000-84,999 passengers markets (up by 54 markets) where low-cost carriers pursued an aggressive market entry strategy. This suggests that they have enhanced their direct flight operations in response to aggressive market entry by low-cost carriers.

Number of Markets by Market Size (2000 vs. 2004)

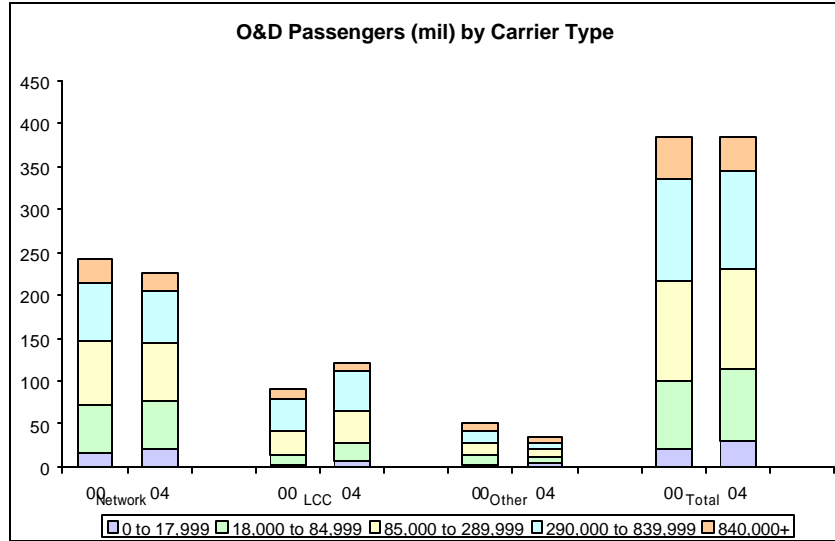
Market size (passengers/year)	Average flight distance (miles)	Total number	Major network carriers	Low-cost carriers	Number of competing markets (percentage of competing markets: %)
0-17,999	1,218? 1,309	1,999	1,961? 1,962	809? 1,162	798 (41%) ? 1,155 (59%)
18,000-84,999	1,111? 1,187	1,964	201? 271	8? 36	1,161 (60%) ? 1,386 (72%)
			1,936? 1,935	1,164? 1,389	
85,000-289,999	1,056? 1,110	748	680? 734	102? 161	597 (81%) ? 631 (86%)
			740? 731	600? 643	
290,000- 839,999	934? 984	247	503? 488	217? 274	217 (88%) ? 225 (92%)
			247? 245	217? 227	
840,000+	802? 856	42	200? 184	145? 168	36 (86%) ? 33 (83%)
			42? 40	36? 35	
Total		5,000	40? 36	24? 25	2,809 (57%) ? 3,430 (70%)
			4,926? 4,913	2,826? 3,456	
			1,624? 1,713	496? 664	

(Notes) 1. Data on total markets as of 2004.

2. In the columns for major network carriers and low-cost carriers, the upper portion shows the total number of markets while the lower portion shows the number of direct flight markets.

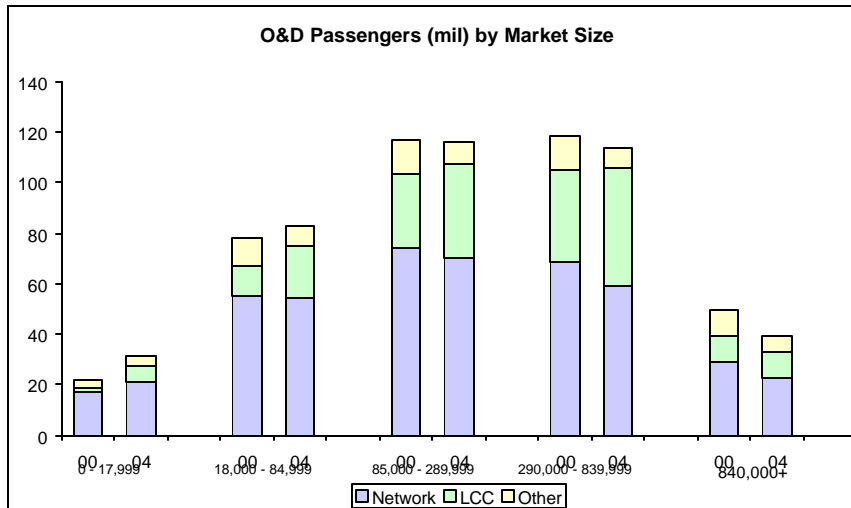
(2) Air travel demand(O&D passengers)

- Demand for low-cost carriers has been increasing in all market sizes, except for markets with 840,000+ passengers. Low-cost carriers have enjoyed significant demand growth in three core market sizes, 290,000-839,999 passengers, 85,000-289,999 passengers, and 18,000-84,999 passengers markets. In these three core market sizes, low-cost carriers have increased their number of passengers by 10.08 million (up 28%), 8.89 million (up 31%) and 800 million (up 66%), respectively. They also have expanded their passenger base by 4.93 million passengers (up 283%) in those markets with less than 18,000 passengers. The passengers in these smaller-sized markets now account for a larger percentage of overall passengers, an increase from 2% to 5%. This suggests that they have expanded flight services not only in high-density but also in low-density markets.
- Demand for major network carriers has remained constant or has decreased in all market sizes, except for those with less than 18,000 passengers. They faced a sharp drop in demand in high-density markets, losing 6.12 million passengers in the 840,000+ passengers (down 21%), 9.82 million passengers in the 290,000-839,999 passengers (down 14%), and 4.19 million passengers in the 85,000-289,999 passengers markets (down 6%). On the other hand, they have enjoyed considerable demand growth (up by 4.04 million passengers, or 24%) in low-density markets with less than 18,000 passengers. This market now accounts for a larger percentage of their overall passengers, increasing from 7% to 9%. This suggests that a significant decrease in demand in high-density markets has led to greater dependency on low-density markets.
- With low-cost carriers expanding into relatively high-density markets, the total market share of major network carriers has fallen sharply in the three core markets of 290,000-839,999 passengers (down from 58% to 52%), 85,000-289,999 passengers (down from 63% to 60%) and 18,000-84,999 passengers markets(down from 70% to 66%). On the other hand, the total market share of low-cost carriers has increased from 31% to 41%, from 25% to 33%, and from 15% to 24%, respectively, in these three market groups. In particular, demand for low-cost carriers has increased up to 41% in the markets with 290,000-839,999 passengers, coming close to the share of major network carriers (52%).



	Network			LCC			Other			Total		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change
0 to 17,999	17.01	21.05	24%	1.74	6.67	283%	2.75	3.36	22%	21.51	31.08	45%
18,000 to 84,999	54.75	54.48	-1%	12.05	20.05	66%	11.35	8.50	-25%	78.15	83.02	6%
85,000 to 289,999	73.93	69.74	-6%	29.05	37.94	31%	13.52	8.64	-36%	116.50	116.33	0%
290,000 to 839,999	68.80	58.98	-14%	36.51	46.59	28%	13.23	8.13	-39%	118.54	113.70	-4%
840,000+	28.85	22.73	-21%	10.71	10.54	-2%	10.39	6.22	-40%	49.95	39.49	-21%
Total	243.35	226.97	-7%	90.05	121.79	35%	51.24	34.86	-32%	384.63	383.62	0%

	Network		LCC		Other		Total	
	2000	2004	2000	2004	2000	2004	2000	2004
0 to 17,999	7%	9%	2%	5%	5%	10%	6%	8%
18,000 to 84,999	23%	24%	13%	16%	22%	24%	20%	22%
85,000 to 289,999	30%	31%	32%	31%	26%	25%	30%	30%
290,000 to 839,999	28%	26%	41%	38%	26%	23%	31%	30%
840,000+	12%	10%	12%	9%	20%	18%	13%	10%

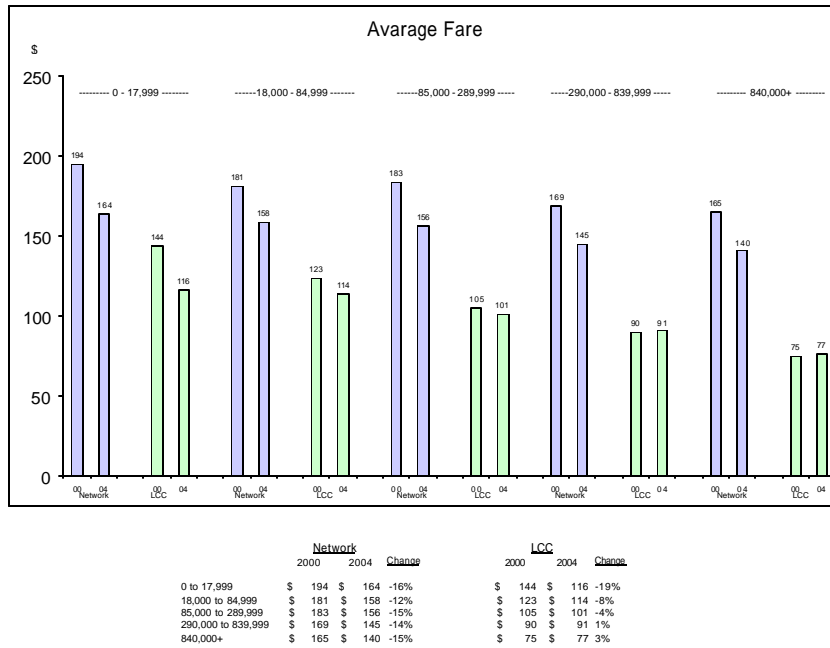


Market size	0 to 17,999			18,000 to 84,999			85,000 to 289,999			290,000 to 839,999			840,000+		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change
Network	17.01	21.05	24%	54.75	54.48	-1%	73.93	69.74	-6%	68.80	58.98	-14%	28.85	22.73	-21%
LCC	1.74	6.67	283%	12.05	20.05	66%	29.05	37.94	31%	36.51	46.59	28%	10.71	10.54	-2%
Other	2.75	3.36	22%	11.35	8.50	-25%	13.52	8.64	-36%	13.23	8.13	-39%	10.39	6.22	-40%
Total	21.51	31.08	45%	78.15	83.02	6%	116.50	116.33	0%	118.54	113.70	-4%	49.95	39.49	-21%

Market size	0 to 17,999		18,000 to 84,999		85,000 to 289,999		290,000 to 839,999		840,000+	
	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004
Network	79%	68%	70%	66%	63%	60%	58%	52%	58%	58%
LCC	8%	21%	15%	24%	25%	33%	31%	41%	21%	27%
Other	13%	11%	15%	10%	12%	7%	11%	7%	21%	16%

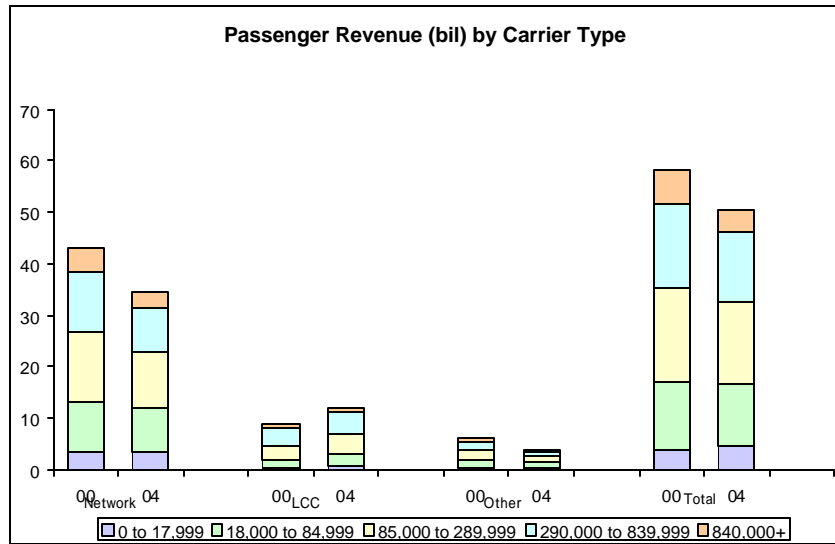
(3) Average Fares

- In all market sizes, major network carriers set their fares 40% -80% higher than low-cost carriers in 2004.
- From 2000 to 2004, the average fare for major network carriers has declined by more than 10% in all market sizes. Low-cost carriers have also experienced lower average fares, except for the markets with 290,000-839,999 passengers and 840,000+ passengers. However, they have experienced only a single-digit drop in fares, except in markets with less than 18,000 passengers where their drop rate (-19.4%) is greater than that of the major network carriers (-15.5%). Low-cost carriers have enjoyed higher average fares in two market sizes, but the level of fare hikes stood at a very low level (1.1% and 2.7%, respectively) and there were still wide gaps in fares between these two carrier groups.

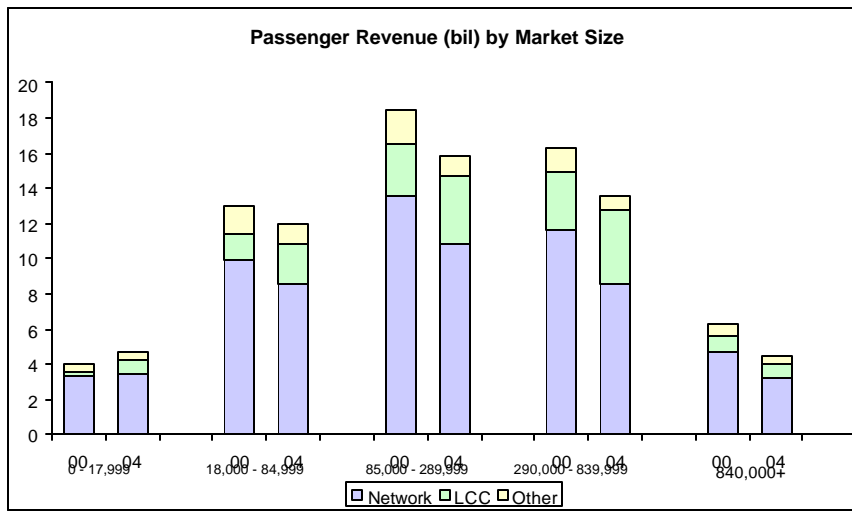


(4) Passenger Revenue

- Low-cost carriers have enjoyed increased passenger revenue in all market sizes. Their passenger revenue has increased considerably by \$2.51 billion (up 32%) in the three core market sizes. They have also expanded their passenger revenue (up \$530 million, or 209%) in the low-density markets (less than 18,000 passengers), the only market category where major network carriers have been experiencing an increase in passenger revenue. In this regard, low-cost carriers are having a significant impact on major network carriers' revenues in both high-density and low-density markets.
- Major network carriers have experienced a decline in passenger revenue in all market sizes except those with 18,000 passengers. Due to weaker air travel demand and lower average fares, passenger revenue dropped sharply by \$7.01 billion (down 20%) in the three core markets which account for about 80% of their overall revenues. Major network carriers have been severely affected by low-cost carriers' aggressive market entry strategy. In addition, weaker demand and lower average fares have reduced passenger revenue by \$1.58 billion (down 33%) even in the highest-density markets of 840,000+ passengers. On the other hand, as passenger revenue has increased by 4% (\$150 million) in the less than 18,000 passengers market, due to the 24% increase in air travel demand, major network carriers have experienced an increase in passenger revenue in the low-density markets. As a result, these markets now constitute a larger percentage of their overall revenues, increasing from 8% to 10%. With the considerable revenue drop in high-density markets, major network carriers have become more dependent on low-density markets. However, as low-cost carriers have also experienced an increase in air travel demand in low-density markets, major network carriers have been experiencing a significant decline in their average fares (down 15.5%) due to the increased competition. As a result, passenger revenue has only edged up slightly despite stronger demand, failing to produce a rapid increase in revenue.



	Network			LCC			Other			Total		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change
0 to 17,999	8%	10%		3%	7%		7%	12%		7%	9%	
18,000 to 84,999	23%	25%		17%	19%		26%	27%		22%	24%	
85,000 to 289,999	31%	31%		34%	32%		31%	27%		32%	31%	
290,000 to 839,999	27%	25%		37%	35%		24%	22%		28%	27%	
840,000+	11%	9%		9%	7%		12%	12%		11%	9%	



Market Size	0 to 17,999			18,000 to 84,999			85,000 to 289,999			290,000 to 839,999			840,000+		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change
Network	82%	73%		76%	72%		73%	69%		71%	63%		76%	71%	
LCC	6%	17%		11%	19%		17%	24%		20%	31%		13%	18%	
Other	11%	10%		12%	9%		10%	7%		9%	6%		11%	11%	

3. Analysis by Route Type

? Key Points

(Number of markets)

- The number of markets for low-cost carriers has increased in all route types, especially on the LS and LM routes.
- Major network carriers have increased their direct flights on the LS and LM routes by using regional jets.

(Air travel demand)

- Demand for low-cost carriers has expanded in all route types, particularly in markets that have been the major revenue sources for major network carriers.
- Demand for major network carriers has decreased sharply on LL and LM routes, the major revenue sources for them. On the other hand, demand considered on an enplaned segment passengers basis has expanded on LS and LN routes, suggesting increased demand on spoke routes.

(Average fares)

- Except for SN routes, major network carriers set their fares 30%-70% higher than low-cost carriers.
- Major network and low-cost carriers both have experienced a decline in fares, but fares are falling sharply for major network carriers.

(Passenger revenue)

- Low-cost carriers have increased their passenger revenues in all route types.
- Passenger revenues for major network carriers have decreased sharply on LL and LM routes, the major revenue sources for major network carriers. This has led to greater dependency on spoke routes.

(1) Number of Markets

- Low-cost carriers have increased their number of markets in all route types, particularly on LS routes (up 272 markets) and LM routes (up 104 markets). As a result, competing markets now constitute a larger percentage of every route type. Competing markets account for about 90% of LL and LM routes, the main markets for major network carriers. Low-cost carriers provide many direct flights on LL routes (185 markets), LM routes (246 markets), and LS routes (112 markets). In these route types, they have significantly increased their direct flights (up 59 markets, 60 markets, and 40 markets respectively), leading to increased competition with major network carriers.
- The total number of markets for major network carriers has remained almost unchanged in all route types. They have increased their direct flights on LS routes (up 65 markets) and LN routes (up 18 markets) by using regional jets to provide direct flights from major hub airports.

Number of Markets by Route Type (2000 vs. 2004)

	Average flight distance (miles)	Total number	Major network carriers	Low-cost carriers	Number of competing markets (percentage of competing markets: %)
LL route	1,177? 1,242	510	510? 510	400? 443	400 (78%) ? 443 (87%)
			412? 412	126? 185	
LM route	964? 1,044	1,066	1,066? 1,064	823? 927	823 (77%) ? 925 (87%)
			492? 492	186? 246	
LS route	867? 963	1,479	1,477? 1,475	692? 964	690 (47%) ? 960 (65%)
			435? 500	72? 112	
LN route	698? 780	617	601? 601	141? 204	133 (22%) ? 200 (33%)
			182? 200	9? 23	
MM route	764? 848	480	477? 471	399? 446	396 (83%) ? 437 (93%)
			46? 43	64? 60	
MS route	737? 826	660	657? 655	336? 419	334 (51%) ? 414 (63%)
			46? 49	36? 35	
MN route	478? 562	73	50? 51	15? 19	13 (26%) ? 18 (35%)
			7? 10	1? 1	
SS route	585? 598	77	77? 76	19? 31	19 (25%) ? 30 (39%)
			3? 5	2? 2	
SN route	396? 591	16	10? 9	1? 3	1 (10%) ? 3 (33%)
			0? 0	0? 0	
NN route	149? 205	22	1? 1	0? 0	0 (0%) ? 0 (0%)
			1? 2	0? 0	
Total		5,000	4,926? 4,913	2,826? 3,456	2,809 (57%) ? 3,430 (70%)
			1,624? 1,713	496? 664	

(Notes) 1. Data on total markets as of 2004.

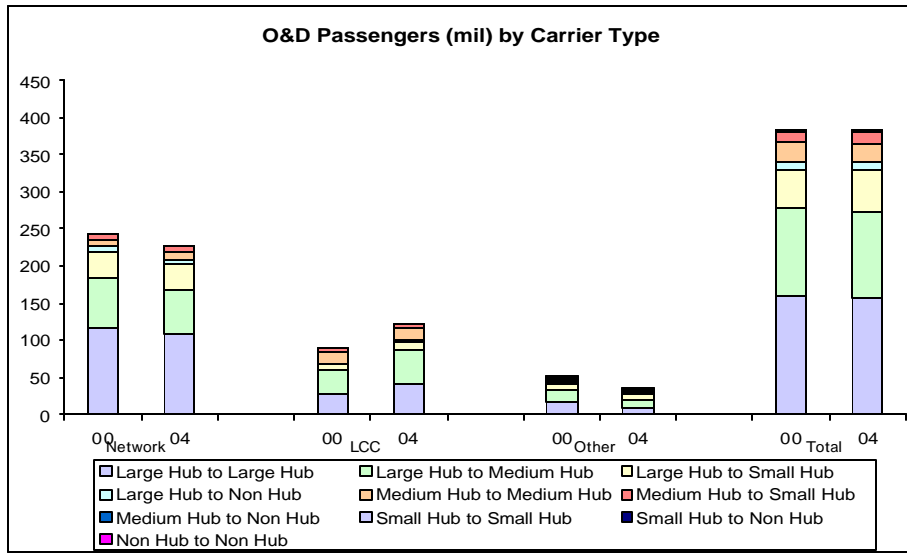
2. In the columns for major network carriers and low-cost carriers, the upper portion shows the total number of markets while the lower portion shows the number of direct flight markets.

(2) Air Travel Demand (O&D passengers)

- Except for MM routes, demand for low-cost carriers has become stronger in all route types, particularly on LL routes (up by 14.04 million passengers, or 53%), LM routes (up by 10.64 million passengers, or 31%) and in the LS market (up by 5.27 million passengers, or 74%). They have successfully attracted passengers in the main markets for major network carriers.
- With active market entry by low-cost carriers, passengers using major network carriers have decreased sharply on LL routes (down by 8.35 million passengers or 7%) and LM routes (down by 7.22 million passengers or 11%). Major network carriers have also experienced a slight decrease in their air travel demand on LS routes (down by 1.66 million passengers or 5%) and LN routes (down by 0.11 million passengers or 2%), which fall under the spoke

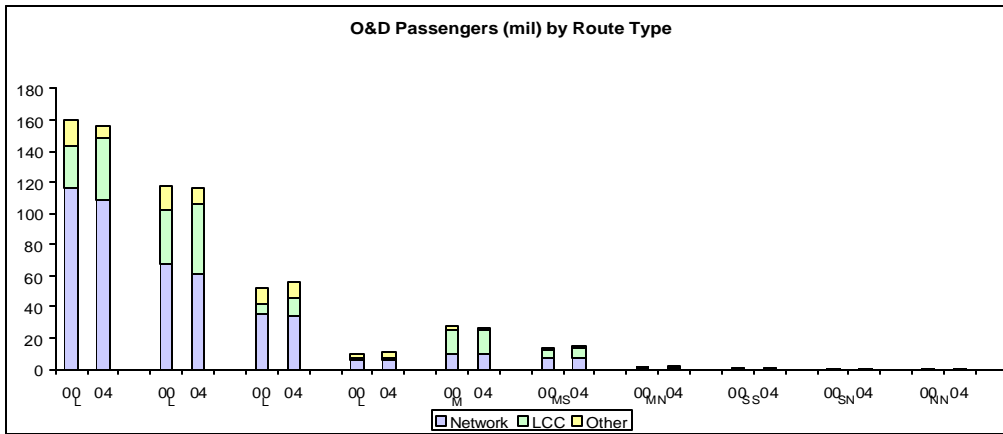
route category. On the other hand, on the routes where flights do not connect with large hub airports (L), air travel demand has not been as great, but has been increasing.

- When analyzing the demand for the major network carriers on an enplaned segment passengers basis between 2000 and 2004, it can be seen that the number of passengers has been decreasing sharply on LL routes (down by 26.80 million passengers or 11%) and LM routes (down by 10.75 million passengers or 9%) along with enplanements calculated on an O&D passengers basis. On the other hand, they have experienced a decline in demand on LS and LN routes on O&D passengers basis, but increased passenger numbers on an enplaned segment passengers basis on LS routes (up by 2.85 million passengers, or 5%) and on LN routes (up by 1.25 million passengers, or 8%). This means that air travel demand has increased for those flights connecting a large hub airport with a small hub airport (S) or non-hub airport (N), suggesting that demand for major network carriers has increased on spoke routes. On routes other than these four categories, air travel demand has been small, but has increased except on MM and NN routes.
- With the rapid growth of low-cost carriers on LL, LM and LS routes, major network carriers have experienced a significant drop in market share from 73% to 69% on LL routes, 58% to 52% on LM routes, and 67% to 61% on LS routes, while the market share of low-cost carriers has increased significantly from 17% to 26%, 29% to 39%, and 14% to 22% on these routes.



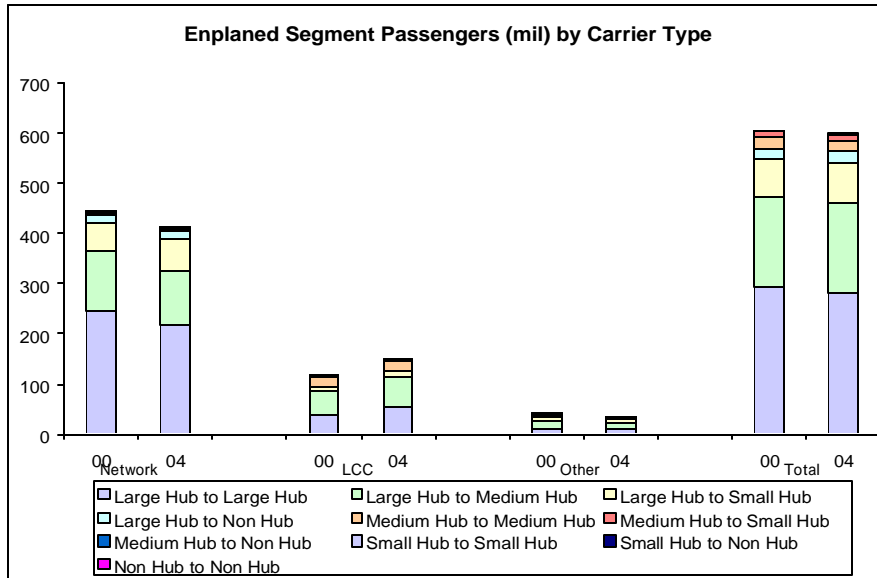
	Network			LCC			Other			Total		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change
Large Hub to Large Hub	116.77	108.42	-7%	26.58	40.62	53%	16.66	7.46	-55%	160.01	156.50	-2%
Large Hub to Medium Hub	67.88	60.66	-11%	34.48	45.12	31%	15.46	10.87	-30%	117.82	116.65	-1%
Large Hub to Small Hub	35.29	33.63	-5%	7.11	12.38	74%	10.10	9.36	-7%	52.50	55.36	5%
Large Hub to Non Hub	6.37	6.26	-2%	0.80	1.46	83%	2.79	2.77	-1%	9.96	10.49	5%
Medium Hub to Medium Hub	9.22	9.42	2%	16.00	15.94	0%	2.17	1.19	-45%	27.39	26.55	-3%
Medium Hub to Small Hub	6.98	7.50	7%	4.70	5.61	19%	1.98	1.43	-28%	13.66	14.54	6%
Medium Hub to Non Hub	0.26	0.34	33%	0.19	0.32	70%	0.97	0.90	-8%	1.42	1.56	10%
Small Hub to Small Hub	0.57	0.67	18%	0.19	0.32	63%	0.26	0.23	-12%	1.02	1.22	19%
Small Hub to Non Hub	0.02	0.06	217%	0.01	0.02	236%	0.10	0.10	-2%	0.12	0.17	41%
Non Hub to Non Hub	0.00	0.00	34620%	0.00	0.00	#N/A	0.73	0.54	-25%	0.73	0.55	-24%
Total	243.35	226.97	-7%	90.05	121.79	35%	51.24	34.86	-32%	384.63	383.61	0%

	Network		LCC		Other		Total	
	2000	2004	2000	2004	2000	2004	2000	2004
Large Hub to Large Hub	48%	48%	30%	33%	33%	21%	42%	41%
Large Hub to Medium Hub	28%	27%	38%	37%	30%	31%	31%	30%
Large Hub to Small Hub	15%	15%	8%	10%	20%	27%	14%	14%
Large Hub to Non Hub	3%	3%	1%	1%	5%	8%	3%	3%
Medium Hub to Medium Hub	4%	4%	18%	13%	4%	3%	7%	7%
Medium Hub to Small Hub	3%	3%	5%	5%	4%	4%	4%	4%
Medium Hub to Non Hub	0%	0%	0%	0%	2%	3%	0%	0%
Small Hub to Small Hub	0%	0%	0%	0%	1%	1%	0%	0%
Small Hub to Non Hub	0%	0%	0%	0%	0%	0%	0%	0%
Non Hub to Non Hub	0%	0%	0%	0%	1%	2%	0%	0%



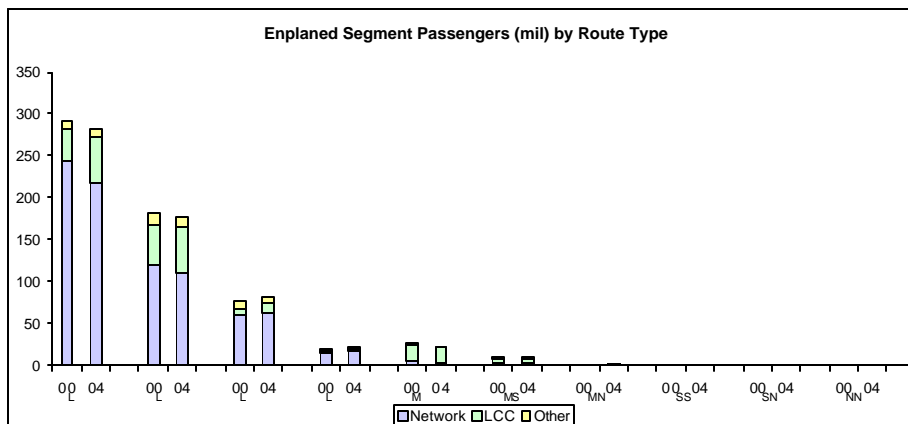
Route Type	Large - Large	Large - Med	Large - Small	Large - Non	Med - Med	Med - Small	Med - Non	Small - Small	Small - Non	Non - Non		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change
Network	116.77	108.42	-7%	67.88	60.66	-11%	35.29	33.63	-5%	6.37	6.26	-2%
LCC	26.58	40.62	53%	34.48	45.12	31%	7.11	12.38	74%	0.80	1.46	83%
Other	16.66	7.46	-55%	15.46	10.87	-30%	10.10	9.36	-7%	2.79	2.77	-1%
Total	160.01	156.50	-2%	117.82	116.65	-1%	52.50	55.36	5%	9.96	10.49	5%

Route Type	Large - Large	Large - Med	Large - Small	Large - Non	Med - Med	Med - Small	Med - Non	Small - Small	Small - Non	Non - Non		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change
Network	73%	69%	58%	52%	67%	61%	64%	60%	34%	35%	51%	52%
LCC	17%	26%	29%	39%	14%	22%	8%	14%	58%	60%	34%	39%
Other	10%	5%	13%	9%	19%	17%	28%	26%	8%	4%	15%	10%



	Network			LCC			Other			Total		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change
Large Hub to Large Hub	244.20	217.40	-11%	37.42	55.85	49%	10.99	9.05	-18%	292.60	282.31	-4%
Large Hub to Medium Hub	120.19	109.44	-9%	46.98	56.78	21%	13.68	11.58	-15%	180.86	177.80	-2%
Large Hub to Small Hub	59.19	62.04	5%	7.97	12.91	62%	8.69	7.75	-11%	75.84	82.70	9%
Large Hub to Non Hub	15.58	16.83	8%	0.90	1.63	80%	2.92	2.87	-2%	19.41	21.33	10%
Medium Hub to Medium Hub	4.56	3.93	-14%	19.70	17.95	-9%	1.67	1.27	-24%	25.93	23.15	-11%
Medium Hub to Small Hub	2.33	2.39	3%	5.54	5.80	5%	1.29	1.13	-13%	9.16	9.32	2%
Medium Hub to Non Hub	0.30	0.39	31%	0.13	0.23	79%	1.15	1.06	-7%	1.58	1.69	7%
Small Hub to Small Hub	0.08	0.09	6%	0.24	0.25	6%	0.09	0.08	-13%	0.42	0.42	2%
Small Hub to Non Hub	0.00	0.02	2274%	0.00	0.00	#N/A	0.20	0.15	-22%	0.22	0.19	-11%
Non Hub to Non Hub	0.07	0.02	-79%	0.00	0.00	#N/A	0.86	0.78	-9%	1.17	1.07	-9%
Total	446.50	412.55	-8%	118.89	151.40	27%	41.53	35.72	-14%	607.17	599.96	-1%

	Network		LCC		Other		Total	
	2000	2004	2000	2004	2000	2004	2000	2004
Large Hub to Large Hub	55%	53%	31%	37%	26%	25%	48%	47%
Large Hub to Medium Hub	27%	27%	40%	38%	33%	32%	30%	30%
Large Hub to Small Hub	13%	15%	7%	9%	21%	22%	12%	14%
Large Hub to Non Hub	3%	4%	1%	1%	7%	8%	3%	4%
Medium Hub to Medium Hub	1%	1%	17%	12%	4%	4%	4%	4%
Medium Hub to Small Hub	1%	1%	5%	4%	3%	3%	2%	2%
Medium Hub to Non Hub	0%	0%	0%	0%	3%	3%	0%	0%
Small Hub to Small Hub	0%	0%	0%	0%	0%	0%	0%	0%
Small Hub to Non Hub	0%	0%	0%	0%	0%	0%	0%	0%
Non Hub to Non Hub	0%	0%	0%	0%	2%	2%	0%	0%

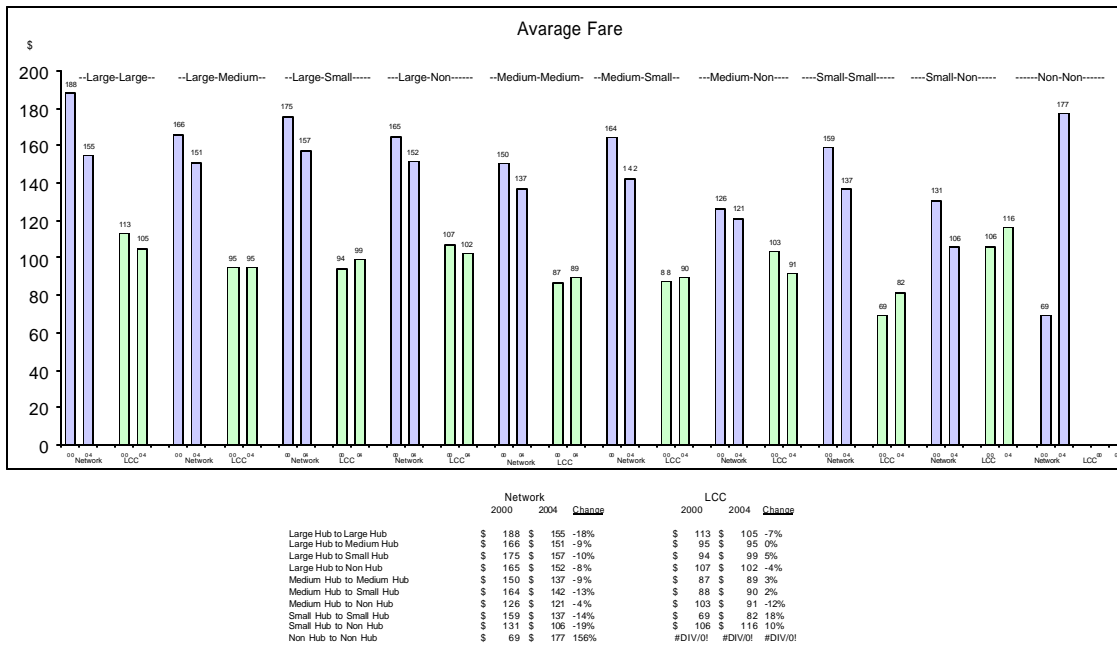


Route Type	Large - Large			Large - Med			Large - Small			Large - Non			Med - Med			Med - Small			Med - Non			Small - Small			Small - Non			Non - Non		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change			
Network	244.20	217.40	-11%	120.19	109.44	-9%	59.19	62.04	5%	15.58	16.83	8%	4.56	3.93	-14%	2.33	2.39	3%	0.30	0.39	31%	0.08	0.09	6%	0.00	0.02	2274%	0.07	0.02	-79%
LCC	37.42	55.85	49%	46.98	56.78	21%	7.97	12.91	62%	0.90	1.63	80%	19.70	17.95	-9%	5.54	5.80	5%	0.13	0.23	79%	0.24	0.25	6%	0.00	0.00	#N/A	0.00	0.00	#N/A
Other	10.99	9.05	-18%	13.68	11.58	-15%	8.69	7.75	-11%	2.92	2.87	-2%	1.67	1.27	-24%	1.29	1.13	-13%	1.15	1.06	-7%	0.09	0.08	-13%	0.20	0.15	-22%	0.86	0.78	-9%
Total	292.60	282.31	-4%	180.86	177.80	-2%	75.84	82.70	9%	19.41	21.33	10%	25.93	23.15	-11%	9.16	9.32	2%	1.58	1.69	7%	0.42	0.42	2%	0.20	0.17	-14%	0.84	0.80	-5%

Route Type	Large - Large		Large - Med		Large - Small		Large - Non		Med - Med		Med - Small		Med - Non		Small - Small		Small - Non		Non - Non	
	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004
Network	83%	77%	60%	62%	78%	79%	80%	79%	18%	17%	29%	26%	19%	23%	20%	21%	0%	9%	8%	2%
LCC	13%	20%	39%	32%	11%	16%	0%	0%	74%	78%	61%	62%	8%	14%	57%	60%	0%	0%	0%	0%
Other	4%	3%	8%	7%	11%	9%	15%	13%	6%	5%	14%	12%	73%	63%	22%	19%	100%	91%	92%	98%

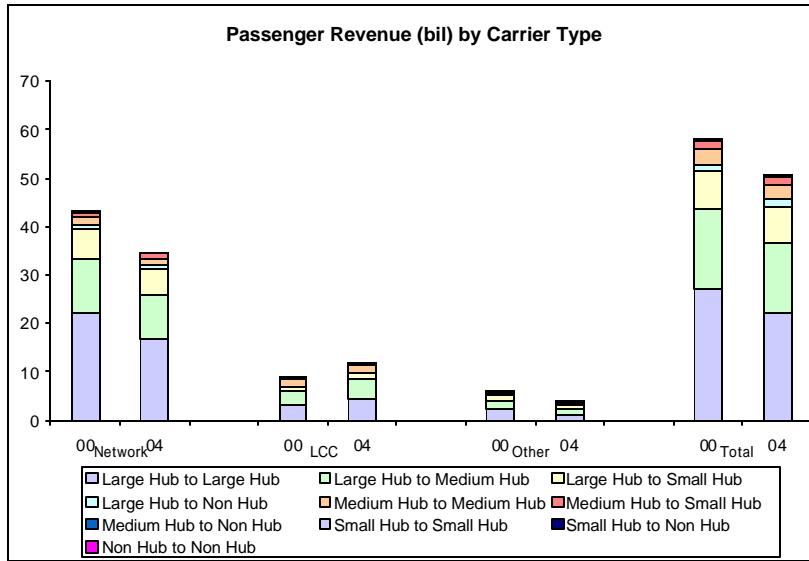
(3) Average Fares

- Except for SN and NN routes, major network carriers set their fares 30% -70% higher than low-cost carriers in 2004.
- Average fares for major network carriers have decreased in all markets from 2000 to 2004, except for NN routes. In particular, major network carriers have experienced a sharp drop in their main markets due to increased competition from low-cost carriers: down 17.6% on LL routes and down 9.0% on LM routes. On the other hand, fares of low-cost carriers have either decreased or remained constant. Even where their fares declined, they showed slower declines than that of major network carriers. As a result, while there is still a large gap in the price of flight fares between these two air carrier categories, the gap has narrowed slightly. In their main markets, the fare gaps have narrowed from \$75 to \$50 on LL routes and from \$71 to \$56 on LM routes, but major network carriers still set their fares 50-60% higher than low-cost carriers.



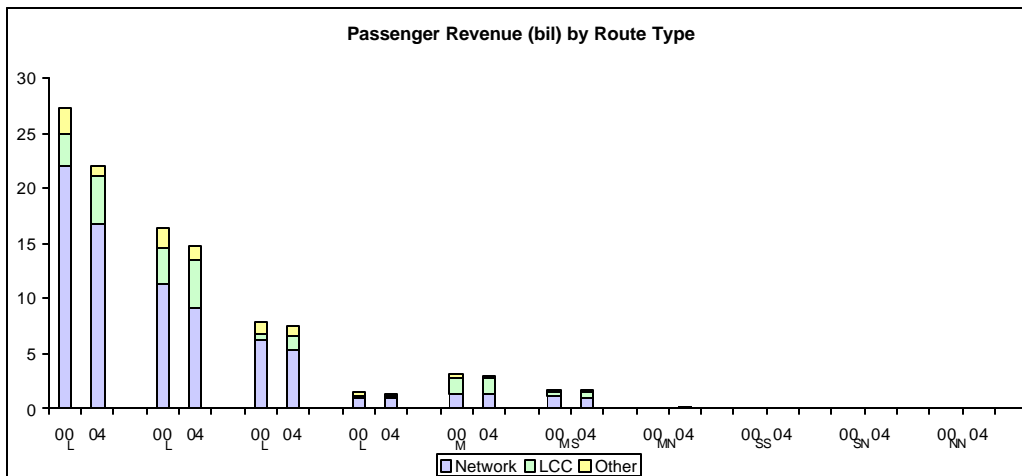
(3) Passenger Revenue

- Low-cost carriers have increased their passenger revenue in all route types. Since air travel demand has become much stronger on LL and LM routes, which have been the core markets for major network carriers, passenger revenue has increased significantly by \$1.26 billion (up 42%) on LL routes and \$1.00 billion (up 31%) on LM routes, even with average fares remaining unchanged or decreasing.
- Revenue for major network carriers has decreased sharply on their mainstay LL routes (down \$5.17 billion, or 24%) and LM routes (down \$2.10 billion, or 19%), mainly because low-cost carriers' active market entry has led to decreased demand and lower average fares. In four other markets in the six major markets for major network carriers, major network carriers have also experienced a decline in passenger revenue, but this has not been substantial. Consequently, these four markets have constituted a larger percentage of the overall passenger revenue of major network carriers, rising from 22% to 25%, leading to increased dependency on passenger revenues from spoke routes.



	Network			LCC			Other			Total		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change
Large Hub to Large Hub	21.96	16.79	-24%	3.01	4.27	42%	2.27	0.95	-58%	27.24	22.01	-19%
Large Hub to Medium Hub	11.25	9.15	-19%	3.27	4.27	31%	1.84	1.26	-31%	16.36	14.69	-10%
Large Hub to Small Hub	6.19	5.29	-14%	0.67	1.23	83%	0.95	0.93	-2%	7.81	7.45	-5%
Large Hub to Non Hub	1.05	0.95	-10%	0.09	0.15	75%	0.30	0.31	3%	1.44	1.41	-2%
Medium Hub to Medium Hub	1.39	1.29	-7%	1.39	1.42	2%	0.30	0.18	-41%	3.08	2.89	-6%
Medium Hub to Small Hub	1.15	1.07	-7%	0.41	0.50	22%	0.20	0.18	-12%	1.76	1.75	-1%
Medium Hub to Non Hub	0.03	0.04	28%	0.02	0.03	51%	0.11	0.11	-3%	0.16	0.18	10%
Small Hub to Small Hub	0.09	0.09	1%	0.01	0.03	92%	0.02	0.02	-8%	0.12	0.14	10%
Small Hub to Non Hub	0.00	0.01	157%	0.00	0.00	269%	0.01	0.01	7%	0.01	0.02	43%
Non Hub to Non Hub	0.00	0.00	88931%	0.00	0.00	#N/A	0.05	0.04	-22%	0.05	0.04	-16%
Total	43.11	34.68	-20%	8.86	11.90	34%	6.04	3.98	-34%	58.02	50.57	-13%

	Network		LCC		Other		Total	
	2000	2004	2000	2004	2000	2004	2000	2004
Large Hub to Large Hub	51%	48%	34%	36%	38%	24%	47%	44%
Large Hub to Medium Hub	26%	26%	37%	36%	30%	32%	28%	29%
Large Hub to Small Hub	14%	15%	8%	10%	16%	23%	13%	15%
Large Hub to Non Hub	2%	3%	1%	1%	5%	8%	2%	3%
Medium Hub to Medium Hub	3%	4%	16%	12%	5%	4%	5%	6%
Medium Hub to Small Hub	3%	3%	5%	4%	3%	4%	3%	3%
Medium Hub to Non Hub	0%	0%	0%	0%	2%	3%	0%	0%
Small Hub to Small Hub	0%	0%	0%	0%	0%	0%	0%	0%
Small Hub to Non Hub	0%	0%	0%	0%	0%	0%	0%	0%
Non Hub to Non Hub	0%	0%	0%	0%	1%	1%	0%	0%



Route Type	Large - Large			Large - Med			Large - Small			Large - Non			Med - Med			Med - Small			Med - Non			Small - Small			Small - Non			Non - Non		
	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change	2000	2004	Change			
Network	21.96	16.79	-24%	11.25	9.15	-19%	6.19	5.29	-14%	1.05	0.95	-10%	1.39	1.29	-7%	1.15	1.07	-7%	0.03	0.04	28%	0.09	0.09	1%	0.00	0.01	157%	0.00	0.00	88931%
LCC	3.01	4.27	42%	3.27	4.27	31%	0.67	1.23	83%	0.09	0.15	75%	1.39	1.42	2%	0.41	0.50	22%	0.02	0.03	51%	0.01	0.03	92%	0.00	0.00	269%	0.00	0.00	#N/A
Other	2.27	0.95	-58%	1.84	1.26	-31%	0.95	0.93	-2%	0.30	0.31	3%	0.30	0.18	-41%	0.20	0.18	-12%	0.11	0.11	-3%	0.02	0.02	-8%	0.01	0.01	7%	0.05	0.04	-22%
Total	27.24	22.01	-19%	16.36	14.69	-10%	7.81	7.45	-5%	1.44	1.41	-2%	3.08	2.89	-6%	1.76	1.75	-1%	0.16	0.18	10%	0.12	0.14	10%	0.01	0.02	45%	0.05	0.04	-15%

Route Type	Large - Large		Large - Med		Large - Small		Large - Non		Med - Med		Med - Small		Med - Non		Small - Small		Small - Non		Non - Non	
	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004	2000	2004
Network	81%	76%	69%	62%	79%	71%	73%	67%	45%	45%	65%	61%	20%	23%	73%	67%	17%	31%	0%	8%
LCC	11%	19%	20%	29%	9%	16%	6%	11%	45%	49%	23%	29%	12%	17%	11%	19%	4%	11%	0%	0%
Other	8%	4%	11%	9%	12%	13%	21%	22%	10%	6%	11%	10%	68%	60%	16%	14%	78%	58%	100%	92%

III. Future Movements in the U.S. Aviation Industry

1. Problems with Major Network Carriers' Business Models and Actions Needed to Overcome these Problems

? Key Points

- Despite an increase in air travel demand, major network carriers have not yet recovered, while low-cost carriers have been growing. This performance gap is attributable to problems with the major network carriers' business model including 1) discriminatory, expensive fare setting practices resulting from excessive yield management and 2) the inconvenience of longer travel time and distances resulting from increased connecting flights in the hub and spoke system.
- While low-cost carriers continue growing, major network carriers are working on cost reductions and have started to review their business models that contribute to the aforementioned problems.
- To be more specific, major network carriers are working on 1) reviewing their hub airports' functions (strategically reviewing multiple-hub airports in order to designate core airports and scale down less important hub airports) and 2) reviewing their flight network structure (making use of regional carriers, transferring some flight operations to internal low-cost divisions, and increasing numbers of direct flights).
- However, if actively making use of regional carriers, major network carriers will have to pay a fixed amount in accordance with their contracts (regardless of actual costs). This approach has not yet significantly improved their earnings. Transferring flight operations to internal low-cost divisions does not necessarily produce results because it requires nearly the same amount of labor costs as the main operations and only provides marginal cost-cutting impacts.
- Recognizing the problems in their existing yield management practices and aiming to attract fare-conscious passengers, some carriers have been working on simplifying their fare structure and have introduced a new fare system to provide lower fares. Many carriers are now following this trend. However, many analysts doubt that demand stimulation will lead to increased revenues, at least in the short term.

(1) Problems with the business model

Major network carriers have adopted the hub and spoke system, while low-cost carriers basically employ the direct, point-to-point flight operation system. Despite a recovery in air travel demand, there still remains a wide performance gap between these two carrier groups, and it is natural to attribute the cause to the difference in the business models used. In other words, major network carriers are in economic doldrums primarily due to their business models.

This section examines the problems in major network carriers' business models by comparing them with those of low-cost carriers.

1) Discriminatory, rather expensive fare setting practice resulting from excessive yield management

Major network carriers have employed the so-called "yield management" approach, aiming to maximize their revenues by adjusting fare prices and available seat numbers in line with air travel demand. In other words, they have secured their revenue by providing low-priced, nonrefundable tickets to leisure passengers who are more flexible with their schedules, while providing less restrictive tickets but imposing considerably more expensive fares on business passengers (who are less flexible with their schedules). This is how major network carriers set their fares in order to support their high-cost operational structure.

In contrast, low-cost carriers provide low-priced fares by leveraging their low-cost operation and employing a simpler fare structure that does not produce any significant fare gap depending on flight reservation timing.

In this way, there is a significant difference in the fare-setting framework between the two carrier groups. As a result, passengers rapidly shifted away from major network carriers as the air travel environment changed as follows;

- Business passengers were not very concerned about high fares during the economic boom, but they became more sensitive to air fares after the economic downturn and started questioning the extreme fare gap between leisure and

business passengers²⁰.

- As low-cost carriers have expanded and improved their flight network (they now provide flight services in 70% of the markets where major network carriers operate), passengers have been presented with an increased number of options.
- Due to the widespread use of Internet-based travel reservation sites, consumers are able to instantly find and easily compare each carrier's fares, and the transparency of fare-setting practices has significantly improved.

Along with these changes in the air travel environment, air fares have been falling notably in the middle-to-long distance flight markets where low-cost carriers are pursuing an aggressive market entry strategy. As a result, major network carriers are finding it difficult to depend on their excessive yield management strategy which sets extremely high fares for business passengers and have no choice but to modify this business model.

2) The inconvenience of longer travel time and flight distances as a result of connecting flights under the hub and spoke system

Since the deregulation of air travel in 1978, major network carriers have established their hub and spoke system in order to increase flights and expand revenue by strategically locating hub airports, gathering passengers from many locations to the hub airports, and then sending them on to their destinations. Under the hub and spoke system, more and more passengers have to take indirect flights routed via hub airports and experience longer travel time and flight distances due to connections even where direct flights were available in the past.

In this way, the hub and spoke system has increased the frequency of flights bound for passengers' destinations, but at the same time has heightened the inconvenience of longer travel time and traveling distances due to flight connections. In contrast, direct, point-to-point flights operated by low-cost carriers are clearly more convenient than connecting flights²¹. One of the reasons for the decline in the market share of major network carriers is that many passengers have shifted to more convenient direct flights, as low-cost carriers have expanded and improved their air route networks.

(2) Major network carriers' actions for reviewing their business models

Faced with increased competition from low-cost carriers, major network carriers are working on cutting labor costs and other expenses. They have started reviewing their business models based on the hub and spoke system and the yield-management-based fare setting framework. This section examines the actions they have taken in addressing these issues.

1) Reviewing the hub and spoke system

The hub and spoke system is effective in serving low-density markets, but the system poses the following problems for other markets: longer travel time and distances on many mainline routes due to indirect flights routed via hub airports; lower operating efficiency because of connecting flights; and a high-cost structure due to lower utilization of airport facilities. The major network carriers are trying to eliminate these problems by taking the following actions.

Reviewing hub airport functions

Some air carriers have already started reviewing their hub airport functions and scaling down certain hub airports. Since late 2003, American has been simplifying its domestic flight operations by the de-peaking of the Miami hub and reduction in the size of the St. Louis hub. In 2004, Northwest modified the flight schedule of the Memphis hub, while US Airways disqualified the Pittsburgh airport from hub operations. In January 2005, Delta also disqualified the Dallas/Fort Worth airport from hub operations and enhanced hub operations at Atlanta, Cincinnati and Salt Lake City airports.

²⁰ According to a sample survey covering 30 flight routes in 2003, the most expensive fare of the network carriers was 15 times higher than the average fare in 2000 and the most expensive fare stood at more than 800% that of the average fare on 17 flight routes in 2003.

²¹ In addition to direct, non-stop flights, low-cost carriers also provide flights that stop at another airport to allow extra passengers to board. As passengers do not need to change aircraft in this case, it is more convenient for passengers than the connecting flights provided by major network carriers.

These simplification efforts will alter ASMs at hub airports. According to an analysis of each hub airport's share of overall ASMs from 2000 to 2004, all carriers put more emphasis on their largest hub airports, while strategically scaling down less important hub airports. Air carriers are reviewing their hub airports' status and hub operations in order to simplify their flight networks.

ASM Share of Network Carrier's Hub Airports

	2000(%)	2004(%)	Difference in Share
American			
Dallas/Ft.Worth	40.22	47.67	7.45
Miami	12.12	14.79	2.67
Chicago O'Hare	25.20	29.95	4.75
St.Louis	22.46	7.60	-14.86
Continental			
Cleveland	13.47	11.33	-2.14
Newark	39.18	38.10	-1.08
Houston	47.35	50.56	3.21
Delta			
Atlanta	51.30	54.60	3.30
Cincinnati	19.45	20.01	0.56
Dallas/Ft.Worth	12.96	10.59	-2.37
Salt Lake City	16.29	14.81	-1.48
Northwest			
Detroit	37.91	36.21	-1.70
Memphis	12.96	11.01	-1.95
Minneapolis/St.Paul	49.13	52.78	3.65
United			
Denver	22.43	22.91	0.48
Washington Dulles	10.65	11.43	0.78
Los Angeles	18.15	15.89	-2.26
Chicago O'Hare	28.80	31.93	3.13
San Francisco	19.97	17.84	-2.13
US Airways			
Charlotte	33.33	37.74	4.41
Philadelphia	33.69	37.59	3.90
Pittsburgh	32.98	24.66	-8.32

(Note) JITI prepared this table based on OAG (Official Airline Guide) Schedule Data.

Reviewing route structure

In addition to reviewing hub functions, as described above, the major network carriers are also reviewing their route structure by 1) expanding flight operations with regional carriers in accordance with capacity purchasing agreements, 2) transferring a portion of their flight operations to internal low-cost divisions, and 3) increasing the numbers of direct flights.

(Utilizing regional carriers)

By utilizing regional carriers on spoke routes, major network carriers are attempting to adjust their capacity in accordance with actual demand as well as to cultivate new market demand and increase the frequency of flight services by using regional jets. The utilization of regional carriers has produced several positive impacts: transport-related revenue of major network carriers in 2004 increased 62.8% from 2003; passengers using regional carriers also rose 23.3% from 2003; RPMs increased 28.8%; and air travel demand increased on LS and LN routes where major network carriers utilized regional carriers.

Major network carriers may have reduced costs, to a certain extent, because outsourcing to regional carriers reduces excessive capacity from their own fleets. However, when comparing major network carriers' domestic transport-related expenses and revenues in 2004, their expenses exceed revenues. This suggests that the outsourcing has failed to provide clear improvement in their financial balance. This is attributable to the fact that major network carriers have to pay a fixed amount regardless of actual costs, in accordance with their capacity purchasing agreements with regional carriers. As a result, major network carriers are likely to start reviewing their contracts from a cost reduction perspective.

Even if major network carriers intend to cultivate new markets in partnership with regional carriers, it might not

necessarily improve their earnings. This is because major network carriers are likely to face even fiercer competition from low-cost carriers in small-to-medium-sized markets, judging from their recent actions represented by JetBlue, which is planning to enter these markets using the Embraer E 100.

(Transferring a portion of flight operations to internal low-cost divisions)

Delta and United set up Song and Ted as their internal low-cost divisions in charge of a portion of their flight operations. In April 2003, Atlanta-based Song started its flight operations mainly in the leisure markets of the Northeast, West Coast and Florida regions. In September 2004, Song announced its plan to expand the services offered by its own 48 planes by modifying Delta's twelve B757 jets in line with Song's specifications, enhancing in-flight entertainment equipment, and increasing flight frequency with larger aircraft than those used by low-cost carriers. In January 2005, Song also announced its plan to expand transcontinental non-stop flights for business passengers from New York (JFK airport) to Los Angeles, San Francisco, Seattle and other locations as well as direct flights to San Juan (Puerto Rico) and Aruba for leisure passengers. After starting operation in February 2004, Ted focused mainly on leisure flights connecting Denver with 8 cities, including Las Vegas, but it has now expanded its network to connect several hub airports with 13 cities in the U.S. and two cities in Mexico. Ted is also planning to operate 56 aircraft (it now owns 47) by modifying United's nine A320 jets in line with Ted's specifications.

Through these efforts, major network carriers are adopting the business model of low-cost carriers by providing non-stop flight service at low-priced fares through simple point-to-point flight operations. This approach might improve aircraft utilization efficiency to a certain extent, but such divisions incur almost the same labor costs²² as the mainline operations and will only provide marginal cost-cutting impacts.

(Increasing direct flights)

As a countermeasure to the direct point-to-point flights provided by low-cost carriers, major network carriers have been expanding their own direct flight services. They provided direct flights in 1,056 markets in 2004, 123 more than the 933 markets in 2000. According to a Back Aviation Solutions' survey, major network carriers increased their number of direct point-to-point flights (without connections at their hub airports) on a total of 134 routes from 2003 to 2004 (Delta: 44; Northwest: 39; American: 10; Continental: 16; and US Airways: 25)²³.

2) Reviewing fare structure

Major network carriers have so far employed the yield management approach to maximize revenues. To impose considerably higher fares on business passengers, they distinguish business passengers from leisure passengers by applying different fares based on the boarding dates and hours, setting extremely expensive fares for passengers purchasing last-minute tickets, and requiring a Saturday night stay. However, more and more business passengers have shifted away from major network carriers due to the growth of low-cost carriers, providing less restrictive and lower-priced flights, and the wider use of the Internet enabling passengers to compare flight fares between two carrier groups. The U.S. aviation industry as a whole lost 15.25 million passengers in the domestic market from 2000 to 2004, but passenger numbers for major network carriers decreased by 54.79 million, while those for low-cost carriers increased by 34.91 million over the same period. This suggests that low-cost carriers gained almost all the passengers who shifted away from major network carriers.

In response to these difficulties, some major network carriers started reforming their fare structures in order to attract back their passengers who had become more fare-conscious. In April 2004, US Airways launched the "GoFares", which reduces fares and simplifies fare structure. The "GoFares" sets one-way flight fares from \$29-\$499, reduces fares for passengers purchasing last-minute tickets, and abolishes the Saturday night stay requirement. US Airways decided to launch its "GoFares" program in response to Southwest, which started flight operations at Philadelphia, one of US Airways' major hub airports. US Airways then expanded the program to cover the Washington D.C. routes and the Fort

²² Citing this viewpoint, many analysts are skeptical of Song's success. (Jeremy Dann, Harvard Business School Working Knowledge (October 20, 2003), USA TODAY (November 26, 2003)

²³ New York Times (May 4, 2005)

Lauderdale routes . Delta also launched the “Simplifares” program in January 2005 after a trial run at Cincinnati airport, one of its core hubs, from August 2004. This program is intended to reduce flight fares by a maximum of 50%, set the one-way flight maximum fare at \$499, reduce the number of fare categories from 40 to 6, and lower the fares for passengers purchasing last-minute tickets. Delta also abolished the Saturday night stay requirement which had applied to some flight services. Delta’s “Simplifares” program is unique because it covers all domestic flights except for shuttle services. Since Delta started simplifying its fare structure, American and Continental have, in response, taken similar actions by reviewing their own fare systems, mainly on flight routes where they are competing with Delta.

It would be premature to judge the impacts resulting from major network carriers’ efforts to simplify their fare structure because they have only recently introduced these initiatives. However, according to the opinions of many analysts immediately after Delta launched its “Simplifares” program, while strategically necessary, this program will have an adverse impact on Delta’s revenues in the short term²⁴. Delta estimates that the program will have some adverse impacts in the short term, but will stimulate market demand in the long run. American, which took measures to counter Delta, estimated that its program would have a negative impact on revenues in 2005 and was unclear about effects in the long run, while Continental estimated that it would produce deficits of some \$200 million a year²⁵.

2. Cost Problems Inherent to Major Network Carriers

Major network carriers face additional cost problems including their pension plans and postretirement benefits, neither of which low-cost carriers has. This section outlines the latest information on these additional cost factors and how major network carriers are addressing these problems.

? Key Points

- **Major network carriers have 1) a defined benefit pension plan and 2) a postretirement benefit, neither of which low-cost carriers possess. These programs impose heavy burdens on their earnings.**
- **In their defined benefit pension plan, major network carriers have to make compulsory contributions, depending on changes in economic conditions. However, they have been unable to fulfill this obligation, resulting in \$21 billion in unfunded pension liabilities as of the end of 2004. Two major network carriers which are currently under bankruptcy protection abolished their pension plans, and some analysts predict that other carriers will face serious difficulties in maintaining their current pension plans without legal remedies.**
- **Major network carriers are facing postretirement benefit liabilities of \$9.8 billion as of the end of 2004. They paid a massive \$700 million in 2004. It is clear that they will have to significantly reduce their postretirement benefits, but it is doubtful that major network carriers will be able to reduce their liabilities without bankruptcy protection.**

(1) Pension Plans

(Compulsory reserve funding liability on pension plans)

Major network carriers operate their defined benefit pension plans and set aside a certain reserve of funds to prepare for their future pension payments. When the reserve fund ratio falls below a certain level due to changes in economic conditions, the relevant laws require major network carriers to contribute additional, compulsory funds to the pension plan in a very short period. To be more specific, when the reserve fund ratio drops below 90%, major network carriers in principle are required to restore the reserve fund ratio to 90% within 3 to 5 years, while the carriers are obliged to restore their reserve fund ratio to 90% within 3 to 5 years when the ratio drops below 80%.

On the other hand, as low-cost carriers have adopted the defined contribution pension plan, their pension contributions are rather stable. They are free from the risk of fluctuations in their future pension liabilities or changes in

²⁴ Similar expert opinions are also cited in Gary Chase, Industry Update, Lehman Brothers Equity Research (January 4, 2005); Greene William, Industry Update, Morgan Stanley Equity Research (January 5, 2005); and Joe Burey, Fare War Triggered By Delta Could Lead To The Carrier’s Demise, Airline Business Report (January 17, 2005).

²⁵ See the 2004 annual reports available from air carriers (Form 10-Ks submitted to the SEC).

the reserve fund ratio.

(Compulsory contribution obligations due to lower reserve fund ratios)

The reserve fund ratio of air carriers has been rapidly deteriorating recently because the U.S. has been experiencing lower interest rates and stagnant stock prices. As lower interest rates and stagnant stock prices have been pushing down the value of pension assets and pushing up pension liabilities, the carriers have been suffering a rapid drop in the reserve fund ratio. (This phenomenon is called the “Perfect Storm”). Due to this phenomenon, for example, the reserve fund ratio for US Airways and United decreased to 74%²⁶ in 2002, and 72%²⁷ in 2003, respectively. As a result, the relevant laws obliged major network carriers to contribute massive compulsory reserve funding in the short term. This posed additional burdens on the earnings of major network carriers that kept posting massive deficits, placing their pension plans in crisis.

(Pension Funding Equity Act of 2004)

As major network carriers suffered from the burden of massive unfunded pension reserves, in April 2004 the U.S. Congress passed the Pension Funding Equity Act of 2004, which provides some financial remedies including the exemption of compulsory contributions to fund reserves for two years. Under this new legislation, major network carriers were exempted from a massive financial burden (the financial relief for major network carriers as a whole was worth \$1.134 billion in 2004²⁸). However, because this two-year financial relief does not permanently exempt the carriers from their liabilities, they will have to make massive compulsory contributions again from 2006 onward.

(Actions by major network carriers)

The total unfunded amount of pension liabilities for major network carriers stands at about \$21 billion at the end of 2004.

Unfunded Pension Liabilities of the Network Carriers, as of the End of 2004 (in \$Million)²⁹

American	2,687
Continental	1,582
Delta	5,298
Northwest	3,820
United	6,425
US Airways	999
Total	20,811

As the major network carriers will again face compulsory contributions from 2006 onward, they will have to furnish massive pension fund payments within a few years. As a result, two carriers under bankruptcy protection have chosen to abolish their pension plans. In February 2005, US Airways transferred its three pension plans (separate pension plans for flight attendants, mechanics, and customer service workers) to PBGC (the Pension Benefit Guaranty Corporation)³⁰. United also agreed to hand over its pension plan to PBGC in April 2005 and gained approval from the U.S. Bankruptcy Court in May 2005.

On the other hand, the U.S. Congress is seeking to maintain current pension plans and some members of Congress have submitted bills to prolong the compulsory contributions period for 25 years. Four major network carriers, including Delta, currently intend to maintain their present pension schemes. However, as they face difficult financial positions, in

²⁶ Testimony by Duane Woerth (President, Airline Pilots Association) at the Senate Committee on Commerce, Science and Transportation (October 7, 2004)

²⁷ Testimony by Bradley D. Belt (Executive Director, Pension Benefit Guaranty Corporation) at said Senate committee.

²⁸ Calculated from network carriers’ 2003 annual reports as well as 2004 quarterly reports and annual reports (submitted to the SEC)

²⁹ Calculated from major network carriers’ 2004 Annual Reports (submitted to SEC)

³⁰ When US Airways applied for bankruptcy protection for the first time in 2002, the carrier handed over its pilots’ pension plan to PBGC.

the absence of any financial or legal remedies, they may fail to contribute in accordance with current laws. In this case, they may apply for bankruptcy protection in order to abolish their current pension plans.

(2) Postretirement benefits

Major network carriers all have different postretirement benefit schemes. As average life expectancy increases, they foresee heavier financial burdens. Since 2004, United, Delta and US Airways have reviewed their postretirement benefit programs. As of the end of 2004, major network carriers are facing postretirement benefit liabilities of \$9.8 billion. They also paid \$700 million for their postretirement benefit programs in 2004. Major network carriers will have to sharply reduce their postretirement benefit payments to reduce this massive financial burden. However, due to the expected difficulties of the negotiations with their labor unions, major network carriers might apply for bankruptcy protection in order to reduce their postretirement benefit payments.

Liabilities Payable by Network Carriers, as of the End of 2004, and Actual Payments Made by Network Carriers in 2004 (in \$Million)³¹

	Liabilities payable as of the end of 2004	Actual payments of network carriers in 2004
American	3,303	156
Continental	0	0
Delta	1,835	178
Northwest	926	49
United	2,401	241
US Airways	1,369	67
Total	9,834	691

³¹ Calculated from network carriers' 2004 annual reports (submitted to the SEC)

3. Future Movements

? Key Points

(Domestic market)

- **Low-cost carriers will continue to expand their operations into high-density as well as low-density markets, accelerating all-out competition with major network carriers.**
- **In response to the growth of low-cost carriers, major network carriers have already started modifying their business models but they will need to accelerate further change of these models.**
- **More and more major network carriers are simplifying their fare structure, but demand stimulation might not boost their revenues in the short term. Maintaining simplified fare structures and generating profits will surely require further cost-cutting efforts.**
- **It is unclear to what extent the review of the hub and spoke system has been contributing to improving cost-efficiency and profitability of major network carriers. Since creating an effective system will take time, low-cost carriers will continue expanding their market share for the time being.**
- **To compete with low-cost carriers, major network carriers must be more competitive in providing low-priced flight services. It all depends on how much they can reduce their expenses, including their defined benefit pension plans and postretirement benefits, so that they are able to effectively compete with low-cost carriers.**
- **The key to continuing growth for low-cost carriers is to maintain their low-cost operations so that they can keep providing low fares, the greatest competitive edge for them. If they fail to do so, they might be forced to exit the market.**
- **Major network carriers and low-cost carriers will eventually reach an equilibrium point, after fierce competition. The major network carriers that can successfully improve their hub and spoke system and significantly reduce their costs will become more competitive and survive in the market.**

(International markets)

- **Recognizing that the international markets are their major revenue sources, major network carriers will enhance their capacity in order to take advantage of growing air travel demand in these markets.**
- **As low-cost carriers have also been expanding their flight services in the Latin American market mainly targeting leisure passengers, the competition in this market will get increasingly fierce. Carriers with international flight service know-how may, after in-depth market research, also enter the Atlantic and Pacific markets.**

(1) Domestic Market

In 2004, air travel demand increased significantly in the U.S. domestic market. With steady growth in the U.S. economy, air travel demand will keep growing in 2005³². Under these conditions, low-cost carriers are planning to expand their capacity, which will accelerate competition in the domestic market. Low-cost carriers are experiencing the most growth in the middle-to-long distance markets, high-density markets and on LL routes where major network carriers have traditionally dominated revenue. They are also entering new markets, such as low-density markets and LS and LN routes, on which major network carriers have been becoming more dependent recently. Air travel demand and revenue for low-cost carriers will further increase in these major markets. As seen in JetBlue's planned launch of the 100-seat Embraer for middle-sized markets, competition between the two carrier groups will get fiercer in every market.

Passengers prefer to use low-cost carriers because they provide a point-to-point, non-stop service at lower fares. With low-cost carriers accelerating their growth, major network carriers will have to review their business model. First of all, this will force major network carriers to change their fare-setting practices. Since the growth of low-cost carriers has been pushing down flight fares in many markets, major network carriers are unable to continue an extreme fare-setting

³² According to the FAA's demand forecast RPMs in the domestic market are estimated to expand 1.7% from 2004 to 2005, while growing 4.9% from 2005 to 2006 (FAA Aerospace Forecasts Fiscal Year 2005-2016).

practice that depends on some passengers paying expensive fares. They need to change their business models based on excessive yield management. Judging from the fact that other major network carriers followed in the footsteps of US Airways' "GoFares" program and Delta's "Simplifares" program, they are expected to further simplify their fare structures. However, demand stimulation might not boost revenues in the short term. Maintaining simplified fare structures and generating profits will surely require further cost-cutting efforts by major network carriers.

Passengers have shifted away from major network carriers mainly because their hub and spoke system has imposed longer travel distances and travel time. It is necessary to address this problem as quickly as possible. Since the system has inherent cost-raising characteristics, because of its requirement for connecting flights, it is necessary to simplify and improve the efficiency of the system. Major network carriers are reviewing their hub and spoke systems by putting more emphasis on major hub airports, outsourcing their spoke route operations to regional carriers, and setting up internal low-cost divisions for expanding non-stop flights in a similar manner to that of low-cost carriers.

Major network carriers will inevitably need to accelerate their efforts to improve their systems. However, despite the outsourcing of spoke route operations to regional carriers or the establishment of low-cost divisions, it is unclear how much these efforts have contributed to restoring their profitability. Since creating an effective system will take time, low-cost carriers will continue expanding their market share for the time being.

However, since the hub and spoke system is designed to provide frequent flight services to many locations, it is also undeniable that many low-density areas depend on this system for flight services. For this reason, major network carriers are unlikely to totally abandon their hub and spoke system. They will improve the hub and spoke system, while making further cost-cutting efforts.

As explained earlier, the major network carriers are currently reviewing their business models by incorporating a portion of low-cost carriers' business models. To compete with low-cost carriers, major network carriers must be more cost competitive in order to provide low-priced flight services. It all depends on how much they can reduce their unit costs, which are still 1.3 times as much as those of low-cost carriers. However, since all of major network carriers posted deficits in 2004, their cost reduction efforts have obviously not been totally successful. United has not yet formulated a business plan for breaking away from bankruptcy protection. US Airways is again under bankruptcy protection and finally decided to merge with America West. Delta agreed with its labor union on significant wage cuts and avoided applying for bankruptcy protection, but it has not restored its earnings and still implies that it may possibly file for bankruptcy protection. Furthermore, major network carriers are facing massive compulsory contributions for their defined benefit pension plans as well as significant expenses on their postretirement benefits, neither of which low-cost carriers possess. These will surely impose heavy financial burdens on major network carriers. Judging from the fact that United and US Airways have already abolished their defined benefit pension plans under bankruptcy protection, there is a possibility for other carriers to take similar actions. In this difficult business environment, other network carriers, in addition to US Airways, may also experience drastic organizational and economic pressure to change if crude oil price fluctuations have adverse impacts in the future.

Additionally, as seen in the case of ATA filing for bankruptcy protection in 2004, low-cost carriers do not enjoy stable earnings and are also affected by increased competition and higher fuel costs. To continue to grow, low-cost carriers must also maintain their low-cost operations so that they can keep providing low-priced fares, the greatest strength for low-cost carriers. If they fail to do so, they might be forced to exit the market. America West and US Airways have just announced their merger. More and more low-cost carriers might reform their operational framework in line with each carrier's financial situation.

Eventually, major network and low-cost carriers will both arrive at an equilibrium point, after fierce competition. Major network carriers that successfully improve their hub and spoke system and significantly reduce their costs will become more competitive and survive in the market.

(2) International Markets

In 2004, major network carriers significantly expanded their air travel capacity in international markets and posted operating profits of \$800 million. Unlike the domestic market, where they are engaged in fierce competition with low-cost carriers, major network carriers currently face almost no competition with low-cost carriers in international markets.

As air travel demand is forecasted to grow steadily in the international markets³³, major network carriers will expand their capacity in international markets as their major revenue sources in order to take advantage of growing air travel demand, while going on the defensive in the domestic market. As the U.S. government is also actively working on aviation negotiations with foreign nations to expand U.S. carriers' capacity, the government will maintain and strengthen its present policies in order to support the carriers' strategies. Looking at each market in detail,³⁴ the Atlantic market will see steady growth in air travel demand, while the air travel demand in the Latin American market, which has recently shown a rapid increase, will continue to grow steadily. The Pacific market has remained stagnant but will enjoy increased air travel demand, helped by rapid economic growth in Asian countries including China and India.. The U.S. carriers may also expand their air travel capacity in the Pacific market, which will face accelerated competition.

On the other hand, as low-cost carriers have also been expanding their flight services in the Latin American market, competition here will definitely intensify. Low-cost carriers have not yet started full-scale operations outside Latin America, but some European low-cost carriers have started entering the Atlantic market³⁵. After in-depth market research, carriers who have gained international flight service know-how through chartered flight operations might enter the Atlantic and Pacific markets. Southwest has started Hawaii route operations through its code sharing agreements with ATA. Some low-cost carriers might enter international markets through similar code sharing arrangements in the future.

³³ According to the FAA's demand forecast, RPMs in the international markets will grow 11.4% from 2004 to 2005 and 7.9% from 2005 to 2006 (FAA Aerospace Forecasts Fiscal Year 2005-2016).

³⁴ According to the FAA's demand forecast, the growth rate of RPMs will stand at 10.6% for the Atlantic market, 14.2% for the Latin American market, and 10.5% for the Pacific market from 2004 to 2005. The growth rate will register 3.7% for the Atlantic market, 5.8% for the Latin American market, and 5.0% for the Pacific market from 2005 to 2016. (FAA Aerospace Forecasts Fiscal Year 2005-2016).

³⁵ In May 2005, the German carrier LTU started flight operations between New York and Düsseldorf. In June, Italian carrier Eurofly will start flight operations connecting New York, Naples, Bologna and Palermo.

Reference: Market Category Definitions and Data Sources

1. Category Definitions

- Stage Length Category
0-249 miles; 250-499 miles; 500-999 miles; 1,000-1,999 miles; and 2,000+ miles
- Market Size Category
0-17,999 passengers a year; 18,000-84,999 passengers; 85,000-289,999 passengers; 290,000-839,999 passengers; and 840,000+ passengers
- Route Type Category
Large hub to large hub (LL) routes; Large hub to medium hub (LM) routes; Large hub to small hub (LS) routes; Large hub to non hub (LN) routes; Medium hub to medium hub (MM) routes; Medium hub to small hub (MS) route; Medium hub to non hub (MN) route; Small hub to small hub (SS) route; Small hub to non hub (SN) route; and Non hub to non hub (NN) route³⁶)

It should be noted that our analysis covers the top 5,000 U.S. markets. The data used include the number of markets in 2000 (from 4Q 1999 to 3Q 2000) and in 2004 (4Q in 2003 to 3Q 2004), O&D Traffic, average fares and passenger revenues.

2. Data Sources

JITI has prepared the data after Eclat Consulting organized the market data based on OAG data as well as O&D traffic, average fares and passenger revenue data based on U.S. Department of Transportation survey, "Domestic and International O&D Survey of Airline Passenger Data". O&D Traffic refers to the flow of passengers between the airport they depart from and the airport at which they arrive, which includes both direct flight passengers and passengers transferring to connecting flights. The data on major network carriers also includes regional carriers' flight operations in partnership with major network carriers.

³⁶ Large hub airport: annual passenger share of 1% or more; medium hub airport: 0.25% -0.99%; small hub airport: 0.05% -0.249%; and non hub airport: less than 0.05% .