

**Appendix C,
September 11 Forecast Validity Review**

Appendix C – September 11 Forecast Validity Review

At the time of the September 11th terrorist attacks, the Rhode Island Airport Corporation (RIAC) was well into this master planning and Environmental Impact Statement (EIS) process. The studies were suspended following the 11th and restarted in January 2002. A draft forecast of aviation activity had been prepared at the time of the stoppage, and the chapter was to have been distributed to the Study Resource Committee (SRC) for review and discussion at a September 24th meeting, that was subsequently cancelled.

Because the studies were suspended for several months, RIAC determined that a review of the draft pre-September 11 forecasts was in order to establish their validity for long-term planning purposes. This review was accomplished at two levels: first, the state of the economy, which was in recession in 2001, was reassessed; and second, changes to the aviation industry that occurred because of the terrorist attacks and any likely resulting longer-term impacts were considered. The economic review was accomplished through the use and analysis of economic and travel data analysis, the results of which were incorporated in Chapter II, *Forecasts of Aviation Demand*. The potential impacts of the terrorist attacks on aviation, and therefore the aviation forecasts, are considered in this appendix.

While changes to the aviation industry are still evolving, this review considers past aviation and economic downturns, industry changes related to 9-11 to date, and airline industry data in order to project the likely longer-term impact at T.F. Green.

In order to address the validity of the T. F. Green Master Plan forecasts for long-term planning purposes, this paper considers the following:

- Nationwide trends over the past 40 years
- Nationwide and local trends since September 11
- Potential changes to the T. F. Green Airport role/outlook
- FAA view on the future of aviation

C.1 Nationwide Trends Over Past 40 Years

There have been many negative events over the past 40 years which have had led to a decline in air travel (see **Exhibit C-1**). For example, the 1960s had the Cuban Missile Crisis and the 1970s saw aircraft hijackings. The 1980s opened with the Professional Air Traffic Controllers Association (PATCO) strike and the mass firing of controllers. The Persian Gulf War created travel uncertainties in the early 1990s. Each of these events occurred in conjunction with an economic recession.

Table C-1
T. F. Green Forecast Review
Top Ten Airlines Revenue Passenger Miles (RPM)
Fourth Quarter 2000 vs. Fourth Quarter 2001

Airline	Revenue Passenger Miles (RPM) (000)							
	Oct-00	Nov-00	Dec-00	4th Quarter 2000	Oct-01	Nov-01	Dec-01	4th Quarter 2001
United	10,936,755	10,006,539	10,046,973	30,990,267	7,800,716	7,655,223	8,224,742	23,680,681
American/TWA	11,716,060	11,177,930	10,991,925	33,885,915	7,935,020	8,378,903	9,083,863	25,397,786
Delta	8,795,141	8,408,612	7,978,792	25,182,545	6,619,229	6,616,813	7,117,281	20,353,323
Northwest	6,485,733	6,019,006	6,043,775	18,548,514	4,604,821	4,715,433	5,361,497	14,681,751
Continental	5,220,191	5,067,745	5,051,068	15,339,004	4,030,717	4,220,902	4,514,085	12,765,704
US Airways	4,219,316	4,069,967	3,873,745	12,163,028	2,800,655	3,067,074	3,020,764	8,888,493
Southwest	3,703,093	3,611,093	3,524,932	10,839,118	3,668,696	3,568,715	3,545,331	10,782,742
America West	1,570,324	1,580,329	1,581,942	4,732,595	1,386,352	1,297,944	1,344,750	4,029,046
Alaska	875,800	979,100	1,044,000	2,898,900	812,200	933,000	990,300	2,735,500

Airline	RPM Percent Change (2000-2001)			
	October	November	December	4th Quarter
United	-28.7%	-23.5%	-18.1%	-23.6%
American/TWA	-32.3%	-25.0%	-17.4%	-25.0%
Delta	-24.7%	-21.3%	-10.8%	-19.2%
Northwest	-29.0%	-21.7%	-11.3%	-20.8%
Continental	-22.8%	-16.7%	-10.6%	-16.8%
US Airways	-33.6%	-24.6%	-22.0%	-26.9%
Southwest	-0.9%	-1.2%	0.6%	-0.5%
America West	-11.7%	-17.9%	-15.0%	-14.9%
Alaska	-7.3%	-4.7%	-5.1%	-5.6%

Source: Aviation Daily airline statistics, "U.S. Major Carriers Traffic", October, November, and December 2001.

Since the 1960s, air travel has followed a general upward trend, increasing by an average of over 10 percent annually. An analysis of the major events mentioned above shows that declines in air travel (or very limited growth) were typically followed by robust recovery. The general longer-term growth trend holds true despite these temporary dips. While none of these events is comparable to what occurred on September 11, the trends observed from these occurrences can provide insight into the future. (This Landrum & Brown 40-year analysis was reported in November of 2001 in *Aviation Week & Space Technology* and in the February 2002 issue of *Airport Magazine*.)

C.2 Nationwide Trends Since September 11

Following September 11, air travel declined at most U.S. airports. While airports were affected differently, activity at most airports appears to be recovering. For the industry as a whole, revenue passenger miles declined 32 percent in September 2001 compared with the previous year. Traffic decreased 26 percent in October compared to 2000 and 20 percent in November. During the holidays (December 20 to January 2) traffic declined 12 percent compared to the holiday season a year ago.¹ As shown in **Table C-1**, all of the top 10 carriers experienced significant decreases in traffic in the fourth quarter of 2001 with the exception of Southwest.

Most airlines have reduced the number of available seats from 2000 fourth quarter levels in an effort to control costs in light of the current economic conditions and reduced travel. Southwest is the exception to this trend: Southwest is the only airline of the top 10 airlines to increase available seat miles (ASM) in the fourth quarter of 2001 as compared to the same period in 2000 (see **Table C-2**).

A review of individual airport statistics shows that the industry averages reflect a wide range of airport traffic fluctuations. The cost reduction measures of the airlines have disproportionately affected certain airports, while others recovered quickly and are now back to pre-September 11 activity levels. Particularly hard hit were the large coastal airports, which had much overlap in competing airline service to certain markets, and small spoke airports, which often were marginally profitable. Many of the small spoke airports have seen commercial jet service downsized to regional jet service offered by the carrier's regional affiliates. On the other hand, inland hubs and larger low-cost air service markets generally have fared better than average.

¹ Air Transport Association

Table C-2
T. F. Green Forecast Review
Top Ten Airlines Available Seat Miles (ASM)
Fourth Quarter 2000 vs. Fourth Quarter 2001

Airline	Available Seat Miles (ASM) (000)							
	4th Quarter				4th Quarter			
	Oct-00	Nov-00	Dec-00	2000	Oct-01	Nov-01	Dec-01	2000
United	15,384,572	14,085,346	14,340,020	43,809,938	12,304,098	11,168,165	11,525,206	34,997,469
American/TWA	16,697,045	16,018,614	15,956,485	48,672,144	13,418,760	12,778,442	13,514,404	39,711,606
Delta	12,718,997	12,060,228	11,669,261	36,448,486	10,947,770	10,287,012	10,686,823	31,921,605
Northwest	8,624,038	8,076,046	8,415,236	25,115,320	6,949,848	6,745,426	7,422,260	21,117,534
Continental	7,350,347	6,979,831	7,079,067	21,409,245	6,093,473	5,915,661	6,210,178	18,219,312
US Airways	6,015,422	5,749,851	5,791,320	17,556,593	4,542,368	4,814,262	4,699,639	14,056,269
Southwest	5,289,675	5,108,389	5,302,826	15,700,890	5,759,953	5,463,416	5,484,283	16,707,652
America West	2,313,070	2,274,098	2,331,088	6,918,256	2,032,580	1,854,778	2,004,967	5,892,325
Alaska	1,427,000	1,441,000	1,512,000	4,380,000	1,277,000	1,378,000	1,465,000	4,120,000

Airline	ASM Percent Change (2000-2001)			
	October	November	December	4th Quarter
United	-20.0%	-20.7%	-19.6%	-20.1%
American/TWA	-19.6%	-20.2%	-15.3%	-18.4%
Delta	-13.9%	-14.7%	-8.4%	-12.4%
Northwest	-19.4%	-16.5%	-11.8%	-15.9%
Continental	-17.1%	-15.2%	-12.3%	-14.9%
US Airways	-24.5%	-16.3%	-18.9%	-19.9%
Southwest	8.9%	6.9%	3.4%	6.4%
America West	-12.1%	-18.4%	-14.0%	-14.8%
Alaska	-10.5%	-4.4%	-3.1%	-5.9%

Source: Aviation Daily airline statistics, "U.S. Major Carriers Traffic", October, November, and December 2001.

C.3 T. F. Green Airport Trends Since September 11

T. F. Green has also seen the impact of September 11 and the recession. Prior to September 11, total passengers served had increased approximately nine percent year-to-date. As shown in **Table C-3**, September of 2001 saw a 28 percent decrease in total passengers compared to 2000. Following trends of airports of its type, traffic at T. F. Green is rebounding – December 2001 traffic was down only 1.4 percent compared to the same month the previous year. For the year, annual passenger traffic in 2001 increased 1.8 percent from 2000.

	2000	2001	% Change
January-August	3,600,291	3,923,741	8.98%
September	465,317	333,075	-28.42%
October	507,518	453,709	-10.60%
November	464,192	427,910	-7.82%
December	393,620	387,991	-1.43%
January-December	5,430,938	5,530,393	1.83%

Source: T. F. Green traffic statistics

Because T. F. Green is one the low-cost airports described in the previous section, traffic has not been affected as much as some of the bigger, coastal airports, such as Boston Logan (see **Table C-4**). The top 25 airports in the U.S. saw a 13 percent average decline in scheduled seats for the last three months of 2001 compared to the same period in 2000. In comparison, T. F. Green experienced a five percent decrease in available seats.

Southwest has been a key driver in the rebound at T. F. Green. Southwest, which served 32 percent of T. F. Green passengers in 2001, saw passenger traffic increase nine percent from 2000 to 2001. Much of this growth was experienced prior to September 11, however, Southwest's December 2001 passengers were up 3.3 percent from the previous year.

Not all of the growth at T. F. Green can be attributed to Southwest. Delta posted an 8.5 percent increase in passenger traffic in 2001 compared to 2000.² Charter passengers also increased - by 38 percent from 2000 to 2001. Many of the other airlines at T. F. Green posted declines in total passengers compared to 2000.

The fact that the airport is an alternative to Boston Logan, in terms of cost, convenience, and now, perceived safety, has also contributed to T. F. Green's relative stability.

² Rhode Island Airport Corporation traffic statistics

**Table C-4
T. F. Green Airport Forecast Review
Scheduled Seats Comparison**

Airport	Oct-00	Oct-01	% Change	Nov-00	Nov-01	% Change	Dec-00	Dec-01	% Change	Fourth Quarter 2000	Fourth Quarter 2000	% Change
T. F. Green	357,461	347,933	-3%	335,705	320,530	-5%	346,972	323,449	-7%	1,040,138	991,912	-5%
Atlanta	4,880,266	4,454,867	-9%	4,676,453	4,230,071	-10%	4,914,997	4,448,148	-9%	14,471,716	13,133,086	-9%
Chicago O'Hare	4,780,695	4,292,850	-10%	4,502,294	3,875,978	-14%	4,524,287	3,997,774	-12%	13,807,276	12,166,602	-12%
Los Angeles	4,406,081	3,810,709	-14%	4,215,074	3,252,728	-23%	4,315,706	3,370,679	-22%	12,936,861	10,434,116	-19%
Dallas	3,726,451	3,390,620	-9%	3,572,906	2,989,952	-16%	3,647,821	3,104,921	-15%	10,947,178	9,485,493	-13%
San Francisco	2,509,486	2,136,469	-15%	2,381,886	1,851,036	-22%	2,428,865	1,906,440	-22%	7,320,237	5,893,945	-19%
Denver	2,396,459	2,064,914	-14%	2,166,686	1,801,937	-17%	2,318,026	1,904,789	-18%	6,881,171	5,771,640	-16%
Las Vegas	2,045,648	1,954,886	-4%	1,968,768	1,815,493	-8%	1,979,085	1,843,911	-7%	5,993,501	5,614,290	-6%
Minneapolis St. Paul	2,175,078	1,840,511	-15%	2,039,701	1,770,854	-13%	2,113,274	1,920,284	-9%	6,328,053	5,531,649	-13%
Phoenix	2,494,108	2,303,396	-8%	2,430,814	2,085,060	-14%	2,522,930	2,184,204	-13%	7,447,852	6,572,660	-12%
Detroit	2,257,048	1,926,221	-15%	2,121,612	1,833,949	-14%	2,152,071	1,922,251	-11%	6,530,731	5,682,421	-13%
Houston	2,050,422	1,907,168	-7%	1,960,027	1,894,287	-3%	2,046,730	1,905,424	-7%	6,057,179	5,706,879	-6%
Newark (NY)	2,288,354	1,864,310	-19%	2,176,061	1,744,107	-20%	2,234,558	1,761,195	-21%	6,698,973	5,369,612	-20%
Miami	1,962,049	1,824,676	-7%	1,961,020	1,754,514	-11%	2,096,790	1,874,930	-11%	6,019,859	5,454,120	-9%
JFK (NY)	2,175,674	1,797,702	-17%	2,085,352	1,549,996	-26%	2,085,094	1,635,924	-22%	6,346,120	4,983,622	-21%
Orlando	1,645,671	1,419,785	-14%	1,631,827	1,302,098	-20%	1,690,840	1,368,898	-19%	4,968,338	4,090,781	-18%
St. Louis	2,106,568	1,979,913	-6%	1,969,741	1,825,583	-7%	2,013,880	1,868,048	-7%	6,090,189	5,673,544	-7%
Seattle	1,801,724	1,627,103	-10%	1,647,797	1,421,858	-14%	1,713,312	1,536,013	-10%	5,162,833	4,584,974	-11%
Boston	2,037,499	1,685,085	-17%	1,922,928	1,339,534	-30%	1,919,561	1,433,715	-25%	5,879,988	4,458,334	-24%
LaGuardia	1,930,095	1,607,064	-17%	1,911,283	1,353,519	-29%	1,951,072	1,415,390	-27%	5,792,450	4,375,973	-24%
Philadelphia	1,826,653	1,720,934	-6%	1,733,576	1,595,531	-8%	1,761,015	1,661,241	-6%	5,321,244	4,977,706	-6%
Charlotte	1,659,916	1,693,700	2%	1,612,216	1,526,498	-5%	1,684,132	1,616,374	-4%	4,956,264	4,836,572	-2%
Honolulu	1,310,568	1,121,686	-14%	1,302,659	983,527	-24%	1,309,068	1,030,953	-21%	3,922,295	3,136,166	-20%
Cincinnati	1,520,855	1,338,575	-12%	1,429,907	1,360,428	-5%	1,465,517	1,372,660	-6%	4,416,279	4,071,663	-8%
Washington Dulles	1,362,603	1,291,930	-5%	1,251,334	1,080,769	-14%	1,246,745	1,093,917	-12%	3,860,682	3,466,616	-10%
Salt Lake City	<u>1,192,295</u>	<u>1,129,137</u>	<u>-5%</u>	<u>1,129,148</u>	<u>1,102,587</u>	<u>-2%</u>	<u>1,203,556</u>	<u>1,157,346</u>	<u>-4%</u>	<u>3,524,999</u>	<u>3,389,070</u>	<u>-4%</u>
Top 25 Total	58,542,266	52,184,211	-11%	55,801,070	47,341,894	-15%	57,338,932	49,335,429	-14%	171,682,268	148,861,534	-13%

Note: Seats shown represent arrival seats.

Source: Official Airline Guide

C.4 Potential Changes to T. F. Green Airport Role/Outlook

T. F. Green has been one of the fastest growing airports in the nation since 1996. The airport benefits by being host to airlines who offer a wide selection of air service in densely populated southern New England, as well as competitive air fares. Much of the growth at T. F. Green results from Southwest Airlines' recognition of the unserved demand in the region and subsequent inauguration of air service in 1996. This has created many new and economically priced travel options for southern New England. The introduction of Southwest at T. F. Green spurred other airlines to match air fares and increase air service. In fact, several introduced their own brand of low-fare service (such as Us Airways MetroJet) in order to compete head-to-head with Southwest. T. F. Green's low fares, location, easy highway access, and relative convenience provide southern New England travelers with an alternative to the Boston Logan Airport. Recent changes in the perceived security/safety of Logan may have further helped traffic recovery at T. F. Green (and Manchester).

The forecasts prepared as part of the Master Plan predict strong growth over the next 20 years based on the continued role of T. F. Green as a well-located, low-fare travel choice for southern New England. In order to examine if T. F. Green's role, and its corresponding traffic levels, would likely be materially different than what was forecasted before September 11, a variety of factors must be considered:

- **The future of the local and national economy:** Future activity levels are inevitably linked to economic conditions (the domestic passenger forecasts for T. F. Green were developed using a regression model that links passenger growth to the Gross Regional Product). As long as the economy remains in a recession, traffic will likely lag behind forecast levels. However, as the economy recovers, traffic can be expected to once again follow the growth trends predicted in the forecast. Further, the 20-year planning horizon assumes that several economic downswings as well as growth spurts will occur, although it does not attempt to predict the timing of those downswings. The current economic downturn falls within the expected range and warrants no change. However, because several months have elapsed since the forecasts were originally prepared, it would be prudent to update the forecasts with the latest economic data.
- **Continuation of low-fare service by Southwest:** As Southwest has been the major driver in the dramatic growth over the last five years, it will also be the biggest factor in how quickly T. F. Green recovers. The outlook for Southwest is promising. Southwest has cash and little debt. It operates its full schedule, has not laid off any of its workers, and has not canceled its aircraft orders (some flexible orders were deferred). Southwest is taking advantage of the fact that the major carriers are cutting capacity in some markets by increasing its market share. According to Merrill Lynch, low-cost airlines such as Southwest are "uniquely positioned to garner share while maintaining profitability as network airlines scale back their operations to reflect diminished revenue

production...and rising operating costs.”³ The *Wall Street Journal* reported that Southwest may actually expand faster than planned because of the other airlines’ weaker position. These changes would not likely go away with the recovery, since Southwest’s presence in a market tends to be strong and long-term. Southwest’s domestic market share improved 1.6 points to 11.3 percent and it now ranks fourth behind major carriers American, Delta, and United. Southwest posted a net profit for the fourth quarter of 2001, making 2001 the 29th consecutive year of profitability.

Based on Southwest’s current strong position in the market, it is expected that it will continue to be strong as the economy recovers. There are no indications that Southwest intends to change the way it operates or its low-fare strategy. With load factors high, there are no indications that Southwest intends to decrease service at T. F. Green, or any of its other markets. Merrill Lynch states “...the fact that Southwest was able to report a profit is evidence of the strength of the company’s business model, especially in weak economic environments.”⁴

- **Financial health of the airlines:** The health of the other airlines will also play a role in the ability of the non-Southwest traffic to grow as expected in the forecasts. Net losses for the airlines are projected to reach \$7.5 billion in 2002, in addition to the estimated \$11 billion loss in 2001.⁵ Merrill Lynch predicts the second worst quarterly net loss on record for the airlines for the last quarter of 2001. However, it and other analysts also predict that the magnitude of the losses will be a catalyst for change. For example, many of the major carriers are restructuring their networks and focusing on the more profitable routes, allowing the airlines to emerge stronger once traffic rebounds.⁶ Some analysts believe the airlines will begin to show a profit in mid-2002, others predict profitability won’t return until 2003-2004.⁷ Lower fuel prices, rebounding traffic, and the air travel market’s increasing ability to bear fare increases led the airlines to post losses for the fourth quarter of 2001 that were near or better than expectations. It is not clear if the federal financial bailout will be sufficient to guarantee survival of all of the carriers, particularly because labor and other business issues are not alleviated by the bailout. However, the airlines are in the business to meet passenger demand, and the demise of a carrier would likely result in other carriers moving to serve that demand (If a hub carrier were to cease operations, however, its hub cities would be disproportionately affected). T. F. Green however, is not an airline-connecting hub and is a Southwest airport. As such, is not likely to be severely affected by the demise of a major carrier (that is, a non-Southwest carrier).

³ Merrill Lynch January 9, 2002, Airline Industry Update

⁴ Merrill Lynch December Quarter Review, January 18, 2002

⁵ January 2002 Issue of Air Transport World

⁶ Merrill Lynch January 9, 2002, Airline Industry Update

⁷ January 2002 Issue of Air Transport World

- **Convenience of facilities:** One of the things that makes T. F. Green an attractive travel alternative to Boston Logan is the relative convenience offered at Green. There is no doubt that passenger convenience has diminished since September 11 due to heightened security. However, Boston Logan continues to be difficult to access and is delay-prone during certain weather conditions, making T. F. Green even more attractive than before. Another part of the attractiveness of Green is the location and accessibility. The recovering traffic at T. F. Green in December (and the increase in passengers by Southwest) indicates that the low-fares offered by Southwest are making up for the longer lines at the security checkpoints.
- **Other Factors:** There are other factors that must be considered in the aftermath of September 11, such as any changes to short-haul travel patterns and the potential use of rail or telecommunications instead of air travel.
 - **Short-haul travel:** Due to the increased security screening requirements and queues, the length of a passenger's "door-to-door" air travel trip has increased. This is likely to have an impact on a passenger's decision to fly to short-haul destinations (within 200 miles). This trend affects some airports more than others. At T. F. Green, the security lines are relatively short and service at the airport is not dominated by destinations within 200 miles. The change in short-haul travel may play a minor role in future demand at T. F. Green, but traffic is not expected to be significantly affected. The fact that T. F. Green's 2001 traffic continues to recover and that 2001 traffic increased from 2000 appears to support this opinion.
 - **Use of rail:** Due to an increased fear of flying by some passengers, increased rail usage should be considered. There was an initial jump in rail ridership after the attacks; Amtrak estimated that ridership was up 17 percent in the first week after the attacks. By the second week, the increase had fallen to 10 to 13 percent and it continues to decrease. The Master Plan forecasts and the FAA's forecasts already consider that some travelers will prefer rail over air travel.
 - **Use of telecommunications:** Telecommunications technology, such as teleconferencing, is constantly improving and there was a spike in its use after September 11. A similar spike was witnessed after the Gulf War, however, it soon dropped off again. Telecommunications technology provides another option for business travelers and may result in certain trips being deferred or deemed unnecessary. Telecommunications technology has no impact on leisure travel. The Master Plan forecasts and the FAA's forecasts already take improved telecommunications technology into account.

C.5 FAA's View

The FAA, after careful review, has approved a number of proposed airport development projects since September 11, 2001. These include EISs for new/extended runways at Atlanta and Cincinnati/Northern Kentucky Airports. In response to the terrorist attacks of September 11, the FAA has reevaluated the validity of the proposed projects and the forecasts supporting the need for the proposed projects at each of these airports. In the Record of Decision (ROD) issued for Cincinnati, the FAA states:

“The proposed airport development is a long-term planning and implementation solution for the established purposes and needs at CVG. The FAA concludes that the forecasts included in the FEIS are based on supported data and valid assumptions, and that the analyses for the proposed project and its need are still sound. Therefore, based on the information available at this time, the FAA believes the proposed project is still needed and supported at CVG.”

In addition, the FAA is standing by its forecasts, both nationwide and the Terminal Area Forecasts (TAF) prepared annually for T. F. Green. It appears that the new TAF projections will be similar to the existing version.

C.6 Conclusion

Although no one knows the whole picture yet, this paper looked at whether or not RIAC should doubt the validity of the T. F. Green Airport Master Plan forecasts for planning purposes. Based on the above analysis, there are reasons to believe that traffic could be higher than anticipated (such as the perception that T. F. Green is “safer” than Boston) but there are also reasons to believe that traffic could be lower (i.e. the economic recession).

Based on previous history and how the industry has responded since September 11, there is very little reason to believe that the overall long-term growth trends in the draft T. F. Green forecasts will change materially. The trigger points identified in the Master Plan are more important than the actual year. The trigger points may be reached earlier or later than anticipated and RIAC will monitor activity levels closely to determine if and when facility improvements are needed. Although the Master Plan provides a 20-year forecast, the forecasts and the Master Plan will likely be updated in the next five years, depending on how closely the forecasts track to actual activity.

While the long-term growth trends appear to be valid, the short-term forecasts require a closer look. The Master Plan forecasts were created based on the most current economic data available in the summer of 2000. Due to the amount of time that has passed since then, it is prudent to update the Master Plan forecasts based on the latest economic data, which takes into account the recession and the terrorist attacks of September 11th. This update resulted in revisions to the 2005 and 2010 projections. The 2015 and 2020 projections only changed slightly.