

# **Chapter Five: Aviation Demand Projections**

This chapter provides projections of future aviation demand at the 117 public use airports assessed as part of the Iowa Aviation System Plan. Projections of short, intermediate, and long-term activity at the airports are based on five- (5), ten- (10), and twenty- (20) year milestones, using 2008 as the base year of analysis. 2008 is the most recent year for which



a full year of activity data was available at the time the demand projections were developed.

Projections of aviation demand is a crucial element in the aviation system planning process as it provides the basis for several key analyses, including:

- Determining the role of airports within lowa's aviation system.
- Evaluating the capacity of existing airport facilities and their ability to accommodate projected aviation demand.
- Estimating the extent of airside and landside improvements required in the future to accommodate projected demand.

This analysis uses the most recent aircraft activity data available to project future levels of aviation demand through the year 2030. The forecast analysis contained in this chapter includes methodologies based on historical aviation trends at airports in the state, as well as other socioeconomic trends occurring in lowa. National projections of aviation activity developed by the Federal Aviation Administration (FAA) were also reviewed within the context of this forecast analysis.

This chapter provides discussions of the methodologies and findings on the projections of passenger enplanements, aircraft operations, and based aircraft. The FAA has reviewed the forecasts for those airports included in the National Plan of Integrated Airport Systems (NPIAS).

#### 5.1 Statewide Socioeconomic and Demographic Trends

Socioeconomic and demographic trends ultimately affect the demand for aviation facilities and services within Iowa. A review of these conditions is important and helps to shape the future of Iowa's aviation system. The data presented in this chapter is provided by the United States Census Bureau.



While the U.S. Census Bureau conducted a Census update in 2010, official data from this effort was not yet available at the time of the lowa Aviation System Plan development. Review of preliminary data indicates population projections by the Census Bureau are trending well with the actual 2010 count. Initial data released identifies the 2010 population of lowa to be 3,046,355, representing an approximately 1.3 percent (1.3%) increase from the 2009 estimate of 3,007,856. Since all 2010 census data had not been released at the time of this study, data from the 2000 Census and associated Census projections are used.

**5.1.a Population** – The 2000 U.S. Census reported the lowa population at 2,926,324 residents. By 2009, the population had grown 2.8 percent (2.8%) or by 81,532 people, ranking lowa's population as the 30<sup>th</sup> most populous state in the United States at 3,007,856.

lowa has experienced a very mild population growth rate since 2000, with an average Compound Annual Growth Rate (CAGR) of 0.3 percent (0.3%). Between 2000 and 2009, 22 of lowa's 99 counties experienced an overall increase in population. Of the 22 counties that experienced growth, 12 counties grew at a rate greater than the 2.8 percent (2.8%) state average. Dallas County, located in central lowa, experienced the greatest population increase, growing by 51.9 percent (51.9%) or 21,200 people. Of the 77 counties experiencing a decline in growth, Pocahontas County experienced the greatest decline of 15.2 percent (15.2%) or a decrease of 1,316 people. **Table 5-1** contains lowa's population change by county from 2000 through 2009, as projected by the U.S. Census Bureau.

**5.1.b Socioeconomic Factors** – Socioeconomic trends have an impact on the demand for aviation services and were reviewed as part of the aviation demand forecasting efforts. Historical and projected levels of socioeconomic factors including population, total employment, per capita income, and retail sales were obtained from Woods & Poole Economics, Inc. (W&P), an independent firm that specializes in long-term economic and demographic projections.

**Table 5-2** summarizes the socioeconomic trends occurring within the state. All four of the factors noted previously are projected to increase through the year 2030 at rates ranging from 0.4 percent (0.4%) to 1.35 percent (1.35%) CAGR and therefore suggest a marginal increase in aviation demand.

Population projections indicate that by the year 2030 lowa's population will have grown by ten percent (10%) or 325,750 people resulting in a total of 3.3 million residents.



Table 5-1: Iowa Population Change by County, 2000 - 2009

State of Iowa         3,007,856         2,964,391         2,932,799         2,926,324         2.71%           County         Rank			July 2009	July 2006	July 2003	July 2000	Percent Change
County         Rank           Adair         90         7,350         7,677         7,916         8,243         -12.15%           Adams         99         3,930         4,141         4,321         4,482         -14,05%           Allamakee         55         14,407         14,442         14,371         14,675         -1.86%           Appanoose         60         12,698         13,158         13,452         13,721         -8,06%           Audubon         97         6,032         6,179         6,438         6,830         -13,23%           Benton         23         26,774         26,176         25,308         5,33%           Boone         24         26,072         26,246         26,123         26,224         -0,58%           Bremer         26         23,460         23,531         23,273         23,325         0,58%           Buchanan         29         20,910         20,878         21,093         -0,88%           Buena Vista         36         19,601         19,604         19,990         20,411         -4,13%           Buller         56         14,341         14,632         14,782         15,305         -6,72%			- July 2000	- July 2000			
County         Rank           Adair         90         7,350         7,677         7,916         8,243         -12,15%           Adams         99         3,930         4,141         4,321         4,482         -14,00%           Allamakee         55         14,407         14,442         14,371         14,675         -1,86%           Appanoose         60         12,698         13,158         13,452         13,721         -8,06%           Audubon         97         6,032         6,179         6,438         6,830         -13,23%           Benton         23         26,734         26,571         26,176         25,308         5,33%           Bone         24         26,072         26,246         26,123         26,224         -0,58%           Bremer         26         23,460         23,531         23,273         23,325         0,58%           Buchanan         29         20,910         20,878         20,778         21,933         -0,88%           Buena Vista         36         19,601         19,604         19,990         20,411         -4,13%           Butler         56         14,341         14,632         14,782         15,305	State of Iowa		3,007,856	2,964,391	2,932,799	2,926,324	2.71%
Adams         99         3,930         4,141         4,321         4,482         -14.05%           Allamakee         55         14,407         14,442         14,371         14,675         -1.86%           Appanoose         60         12,698         13,158         13,452         13,721         -8.06%           Audubon         97         6,032         6,179         6,438         6,830         -13.23%           Benton         23         26,734         26,571         26,176         25,308         5,33%           Black Hawk         5         129,276         126,556         126,026         128,012         0.98%           Boone         24         26,072         26,246         26,123         26,224         -0.58%           Buchanan         29         20,910         20,875         20,778         21,093         -0.88%           Buena Vista         36         19,601         19,604         19,990         20,411         -4,13%           Buler         56         14,341         14,632         14,782         15,305         -6,72%           Calmoun         77         9,671         10,101         10,522         11,115         -14,93% <th< th=""><th>County</th><th>Rank</th><th></th><th></th><th></th><th></th><th>2.7 1 70</th></th<>	County	Rank					2.7 1 70
Adams         99         3,930         4,141         4,321         4,482         -14.05%           Allamakee         55         14,407         14,442         14,371         14,675         -1.86%           Appanoose         60         12,698         13,158         13,452         13,721         -8.06%           Audubon         97         6,032         6,179         6,438         6,830         -13,23%           Benton         23         26,734         26,571         26,176         25,308         5,33%           Benton         24         26,072         26,246         26,123         26,224         -0.58%           Boone         24         26,072         26,246         26,123         26,224         -0.58%           Bremer         26         23,460         23,531         23,273         23,325         0.58%           Buchanan         29         20,910         20,875         20,778         21,093         -0.88%           Buchanan         29         20,910         20,875         20,778         21,093         -0.88%           Buchanan         29         20,910         20,875         20,778         21,093         -0.88%           Butler<	Adair	90	7,350	7,677	7,916	8,243	-12.15%
Allamakee         55         14,407         14,442         14,371         14,675         -1,86%           Appanoose         60         12,698         13,158         13,452         13,721         -8,06%           Audubon         97         6,032         6,179         6,438         6,830         -13,23%           Benton         23         26,734         26,571         26,176         25,308         5,33%           Black Hawk         5         129,276         126,556         126,026         128,012         0,98%           Boone         24         26,072         26,246         26,123         26,224         -0,58%           Bremer         26         23,460         23,531         23,273         23,325         0,58%           Buchanan         29         20,910         20,875         20,778         21,093         -0,88%           Buena Vista         36         19,601         19,604         19,990         20,411         -4,13%           Butler         56         14,341         14,632         14,782         15,305         -6,72%           Calhoun         77         9,671         10,101         10,522         11,115         -14,13%	Adams	99	3,930	4,141	4,321	4,482	
Appanoose         60         12,698         13,158         13,452         13,721         -8.06%           Audubon         97         6,032         6,179         6,438         6,830         -13,23%           Benton         23         26,734         26,571         26,6176         25,308         5,33%           Black Hawk         5         129,276         126,556         126,026         128,012         0,98%           Boone         24         26,072         26,246         26,123         26,224         -0.58%           Bremer         26         23,460         23,531         23,273         23,325         0.58%           Buchanan         29         20,910         20,875         20,778         21,093         -0,88%           Butler         56         14,341         14,632         14,782         21,093         -0,88%           Butler         56         14,341         14,632         14,782         15,305         -6,72%           Calhoun         77         9,671         10,101         10,522         11,115         -14,93%           Carsol         38         13,758         13,912         14,228         14,684         -6.73%           Ca	Allamakee	55	14,407	14,442	14,371	14,675	
Audubon         97         6,032         6,179         6,438         6,830         -13.23%           Benton         23         26,734         26,571         26,176         25,308         5,33%           Black Hawk         5         129,276         126,556         126,026         128,012         0,98%           Boone         24         26,072         26,246         26,123         26,224         -0.58%           Bremer         26         23,460         23,531         23,273         23,325         0.58%           Buchanan         29         20,910         20,875         20,778         21,093         -0.88%           Buena Vista         36         19,601         19,604         19,990         20,411         -4,133%           Butler         56         14,341         14,632         14,782         15,305         -6,72%           Calhoun         77         9,671         10,101         10,522         11,115         -14,93%           Carroll         30         20,674         20,766         20,984         21,421         -3,61%           Cass         58         13,758         13,912         14,228         14,684         -6,73%           C	Appanoose	60	12,698	13,158	13,452	13,721	
Benton         23         26,734         26,571         26,176         25,308         5,33%           Black Hawk         5         129,276         126,556         126,026         128,012         0.98%           Boone         24         26,072         26,246         26,123         26,224         -0.58%           Bremer         26         23,460         23,531         23,273         23,325         0.58%           Buchanan         29         20,910         20,875         20,778         21,093         -0.88%           Buena Vista         36         19,601         19,604         19,990         20,411         -4.13%           Butler         56         14,341         14,632         14,782         15,305         -6.72%           Calhoun         77         9,671         10,101         10,522         11,115         -14,93%           Carroll         30         20,674         20,766         20,984         21,421         -3,61%           Carroll         30         20,674         20,766         20,984         21,421         -3,61%           Carroll         33         20,674         20,766         20,984         21,421         -3,61%	Audubon	97	6,032	6,179	6,438	6,830	
Black Hawk         5         129,276         126,556         126,026         128,012         0.98%           Boone         24         26,072         26,246         26,123         26,224         -0.58%           Bremer         26         23,460         23,531         23,273         23,325         0.58%           Buchanan         29         20,910         20,875         20,778         21,093         -0.88%           Buena Vista         36         19,601         19,604         19,990         20,411         -4,13%           Butler         56         14,341         14,632         14,782         15,305         -6.72%           Calhoun         77         9,671         10,101         10,522         11,115         -14,93%           Carroll         30         20,674         20,766         20,984         21,421         -3,61%           Cass         58         13,758         13,912         14,228         14,684         -6.73%           Cedar         38         18,060         18,068         18,187         -1.01%           Cerro Gordo         13         43,609         44,048         45,142         46,447         -6.51%           Chickasaw	Benton	23	26,734	26,571	26,176	25,308	
Boone         24         26,072         26,246         26,123         26,224         -0.58%           Bremer         26         23,460         23,531         23,273         23,325         0.58%           Buchanan         29         20,910         20,875         20,778         21,093         -0.88%           Buena Vista         36         19,601         19,604         19,990         20,411         -4.13%           Butler         56         14,341         14,682         14,782         15,305         -6.72%           Calhoun         77         9,671         10,101         10,522         11,115         -14,93%           Carroll         30         20,674         20,766         20,984         21,421         -3.61%           Cass         58         13,758         13,912         14,228         14,684         -6.73%           Cadar         38         18,006         18,000         18,058         18,187         -1.01%           Cerro Gordo         13         43,609         44,048         45,142         46,447         -6.51%           Chickasaw         63         12,017         12,268         12,550         13,095         -14,25%           <	Black Hawk	5	129,276	126,556	126,026	128,012	
Bremer         26         23,460         23,531         23,273         23,325         0.58%           Buchanan         29         20,910         20,875         20,778         21,093         -0.88%           Buena Vista         36         19,601         19,604         19,990         20,411         -4.13%           Butler         56         14,341         14,632         14,782         15,305         -6.72%           Calhoun         77         9,671         10,101         10,522         11,115         -14.93%           Carroll         30         20,674         20,766         20,984         21,421         -3,61%           Cass         58         13,758         13,912         14,228         14,684         -6.73%           Cedar         38         18,006         18,000         18,058         18,187         -1.01%           Cerro Gordo         13         43,609         44,048         45,142         46,447         -6.51%           Cherokee         65         11,409         11,791         12,347         13,035         -14,25%           Chickasaw         63         12,017         12,268         12,550         13,095         -14,25%	Boone	24	26,072	26,246	26,123	26,224	
Buchanan         29         20,910         20,875         20,778         21,093         -0.88%           Buena Vista         36         19,601         19,604         19,990         20,411         -4.13%           Butler         56         14,341         14,632         14,782         15,305         -6.72%           Calhoun         77         9,671         10,101         10,522         11,115         -14,93%           Carroll         30         20,674         20,766         20,984         21,421         -3,61%           Cass         58         13,758         13,912         14,228         14,684         -6.73%           Cedar         38         18,006         18,000         18,058         18,187         -1,01%           Cerro Gordo         13         43,609         44,048         45,142         46,447         -6.51%           Chickasaw         63         12,017         12,288         12,550         13,095         -8.97%           Clarke         83         9,086         9,074         9,211         9,133         -0.52%           Clayton         39         17,463         17,779         18,107         18,678         -6.96% <td< td=""><td>Bremer</td><td>26</td><td>23,460</td><td>23,531</td><td>23,273</td><td>23,325</td><td></td></td<>	Bremer	26	23,460	23,531	23,273	23,325	
Buena Vista         36         19,601         19,604         19,990         20,411         -4,13%           Butler         56         14,341         14,632         14,782         15,305         -6,72%           Calhoun         77         9,671         10,101         10,522         11,115         -14,93%           Carroll         30         20,674         20,766         20,984         21,421         -3,61%           Cass         58         13,758         13,912         14,228         14,684         -6,73%           Cedar         38         18,006         18,000         18,058         18,187         -1,01%           Cerro Gordo         13         43,609         44,048         45,142         46,447         -6,51%           Cherokee         65         11,409         11,791         12,347         13,035         -14,25%           Chickasaw         63         12,017         12,268         12,550         13,095         -8,97%           Clarke         83         9,086         9,074         9,211         9,133         -0,52%           Clayton         39         17,463         17,779         18,107         18,678         -6,96% <t< td=""><td>Buchanan</td><td>29</td><td>20,910</td><td>20,875</td><td>20,778</td><td>21,093</td><td></td></t<>	Buchanan	29	20,910	20,875	20,778	21,093	
Butler         56         14,341         14,632         14,782         15,305         -6,72%           Calhoun         77         9,671         10,101         10,522         11,115         -14,93%           Carroll         30         20,674         20,766         20,984         21,421         -3,61%           Cass         58         13,758         13,912         14,228         14,684         -6,73%           Cedar         38         18,006         18,000         18,058         18,187         -1,01%           Cerro Gordo         13         43,609         44,048         45,142         46,447         -6,51%           Cherokee         65         11,409         11,791         12,347         13,035         -14,25%           Chickasaw         63         12,017         12,268         12,550         13,095         -8,97%           Clarke         83         9,086         9,074         9,211         9,133         -0,52%           Clayton         39         17,463         17,779         18,107         18,678         -6,96%           Clayton         39         17,463         17,779         18,107         18,678         -6,96%           Cl	Buena Vista	36	19,601	19,604	19,990	20,411	_
Calhoun         77         9,671         10,101         10,522         11,115         -14,93%           Carroll         30         20,674         20,766         20,984         21,421         -3.61%           Cass         58         13,758         13,912         14,228         14,684         -6.73%           Cedar         38         18,006         18,000         18,058         18,187         -1.01%           Cerro Gordo         13         43,609         44,048         45,142         46,447         -6.51%           Cherokee         65         11,409         11,791         12,347         13,035         -14.25%           Chickasaw         63         12,017         12,268         12,550         13,095         -8.97%           Clarke         83         9,086         9,074         9,211         9,133         -0.52%           Clay         44         16,617         16,732         16,957         17,372         -4.54%           Clay         44         16,617         16,732         16,957         17,372         -4.54%           Clayton         39         17,463         17,779         18,107         18,678         -6.96%           Clinton	Butler	56	14,341	14,632	14,782	15,305	
Carroll         30         20,674         20,766         20,984         21,421         -3.61%           Cass         58         13,758         13,912         14,228         14,684         -6.73%           Cedar         38         18,006         18,000         18,058         18,187         -1.01%           Cerro Gordo         13         43,609         44,048         45,142         46,447         -6.51%           Cherokee         65         11,409         11,791         12,347         13,035         -14.25%           Chickasaw         63         12,017         12,268         12,550         13,095         -8.97%           Clarke         83         9,086         9,074         9,211         9,133         -0.52%           Clay day         44         16,617         16,732         16,957         17,372         -4.54%           Clay ton         39         17,463         17,779         18,107         18,678         -6.96%           Clinton         11         48,934         49,264         49,487         50,149         -2.48%           Crawford         45         16,416         16,486         16,752         16,942         -3.20% <t< td=""><td>Calhoun</td><td>77</td><td>9,671</td><td>10,101</td><td>10,522</td><td>11,115</td><td></td></t<>	Calhoun	77	9,671	10,101	10,522	11,115	
Cedar         38         18,006         18,000         18,058         18,187         -1.01%           Cerro Gordo         13         43,609         44,048         45,142         46,447         -6.51%           Cherokee         65         11,409         11,791         12,347         13,035         -14,25%           Chickasaw         63         12,017         12,268         12,550         13,095         -8,97%           Clarke         83         9,086         9,074         9,211         9,133         -0.52%           Clay         44         16,617         16,732         16,957         17,372         -4.54%           Clayton         39         17,463         17,779         18,107         18,678         -6.96%           Clinton         11         48,934         49,264         49,487         50,149         -2.48%           Crawford         45         16,416         16,486         16,752         16,942         -3.20%           Dallas         10         61,950         54,592         46,308         40,750         34.22%           Davis         85         8,562         8,530         8,494         8,541         0.25%           Decatur<	Carroll	30	20,674	20,766	20,984	21,421	
Cedar         38         18,006         18,000         18,058         18,187         -1.01%           Cerro Gordo         13         43,609         44,048         45,142         46,447         -6.51%           Cherokee         65         11,409         11,791         12,347         13,035         -14,25%           Chickasaw         63         12,017         12,268         12,550         13,095         -8.97%           Clarke         83         9,086         9,074         9,211         9,133         -0.52%           Clay         44         16,617         16,732         16,957         17,372         -4.54%           Clayton         39         17,463         17,779         18,107         18,678         -6.96%           Clinton         11         48,934         49,264         49,487         50,149         -2.48%           Crawford         45         16,416         16,486         16,752         16,942         -3.20%           Dallas         10         61,950         54,592         46,308         40,750         34.22%           Davis         85         8,562         8,530         8,494         8,541         0.25%           Deatur </td <td>Cass</td> <td>58</td> <td>13,758</td> <td>13,912</td> <td>14,228</td> <td>14,684</td> <td></td>	Cass	58	13,758	13,912	14,228	14,684	
Cerro Gordo         13         43,609         44,048         45,142         46,447         -6.51%           Cherokee         65         11,409         11,791         12,347         13,035         -14.25%           Chickasaw         63         12,017         12,268         12,550         13,095         -8.97%           Clarke         83         9,086         9,074         9,211         9,133         -0.52%           Clay         44         16,617         16,732         16,957         17,372         -4.54%           Clayton         39         17,463         17,779         18,107         18,678         -6.96%           Clinton         11         48,934         49,264         49,487         50,149         -2.48%           Crawford         45         16,416         16,486         16,752         16,942         -3.20%           Dallas         10         61,950         54,592         46,308         40,750         34.22%           Davis         85         8,562         8,530         8,494         8,541         0.25%           Decatur         86         8,231         8,372         8,469         8,689         -5.56%           Des Moines	Cedar	38	18,006	18,000	18,058	18,187	
Cherokee         65         11,409         11,791         12,347         13,035         -14,25%           Chickasaw         63         12,017         12,268         12,550         13,095         -8,97%           Clarke         83         9,086         9,074         9,211         9,133         -0,52%           Clay         44         16,617         16,732         16,957         17,372         -4,54%           Clayton         39         17,463         17,779         18,107         18,678         -6,96%           Clinton         11         48,934         49,264         49,487         50,149         -2,48%           Crawford         45         16,416         16,486         16,752         16,942         -3,20%           Dallas         10         61,950         54,592         46,308         40,750         34,22%           Davis         85         8,562         8,530         8,494         8,541         0,25%           Delaware         41         17,205         17,560         17,977         18,404         -6,97%           Decatur         86         8,231         8,372         8,469         8,689         -5,56%           Des Moines <td>Cerro Gordo</td> <td>13</td> <td>43,609</td> <td>44,048</td> <td>45,142</td> <td>46,447</td> <td></td>	Cerro Gordo	13	43,609	44,048	45,142	46,447	
Chickasaw         63         12,017         12,268         12,550         13,095         -8,97%           Clarke         83         9,086         9,074         9,211         9,133         -0,52%           Clay         44         16,617         16,732         16,957         17,372         -4,54%           Clayton         39         17,463         17,779         18,107         18,678         -6.96%           Clinton         11         48,934         49,264         49,487         50,149         -2,48%           Crawford         45         16,416         16,486         16,752         16,942         -3,20%           Dallas         10         61,950         54,592         46,308         40,750         34,22%           Davis         85         8,562         8,530         8,494         8,541         0,25%           Delaware         41         17,205         17,560         17,977         18,404         -6,97%           Decatur         86         8,231         8,372         8,469         8,689         -5,56%           Des Moines         15         41,058         40,453         41,152         42,351         -3,15%           Dickinson <td>Cherokee</td> <td>65</td> <td>11,409</td> <td>11,791</td> <td>12,347</td> <td>13,035</td> <td></td>	Cherokee	65	11,409	11,791	12,347	13,035	
Clay 44 16,617 16,732 16,957 17,372 -4.54% Clayton 39 17,463 17,779 18,107 18,678 -6.96% Clinton 11 48,934 49,264 49,487 50,149 -2.48% Crawford 45 16,416 16,486 16,752 16,942 -3.20% Dallas 10 61,950 54,592 46,308 40,750 34,22% Davis 85 8,562 8,530 8,494 8,541 0.25% Delaware 41 17,205 17,560 17,977 18,404 -6.97% Decatur 86 8,231 8,372 8,469 8,689 -5.56% Des Moines 15 41,058 40,453 41,152 42,351 -3.15% Dickinson 43 16,623 16,621 16,318 16,424 1.20% Dubuque 7 93,072 91,390 90,116 89,143 4.22% Emmet 75 10,241 10,371 10,684 11,027 -7.68% Fayette 33 20,164 20,701 21,299 22,008 -9.15% Floyd 46 15,910 16,335 16,511 16,900 -6.22% Franklin 74 10,540 10,574 10,588 10,704 -1.56% Fremont 92 7,345 7,549 7,704 8,010 -9.05% Greene 81 9,251 9,568 10,000 10,366 -12.05% Grundy 62 12,177 12,227 12,241 12,369 -1.58% Guthrie 69 10,833 11,093 11,310 11,353 -4.80% Hamilton 52 15,238 15,734 16,151 16,438 -7.88%	Chickasaw	63	12,017	12,268	12,550	13,095	
Clayton 39 17,463 17,779 18,107 18,678 -6.96% Clinton 11 48,934 49,264 49,487 50,149 -2.48% Crawford 45 16,416 16,486 16,752 16,942 -3.20% Dallas 10 61,950 54,592 46,308 40,750 34.22% Davis 85 8,562 8,530 8,494 8,541 0.25% Delaware 41 17,205 17,560 17,977 18,404 -6.97% Decatur 86 8,231 8,372 8,469 8,689 -5.56% Des Moines 15 41,058 40,453 41,152 42,351 -3.15% Dickinson 43 16,623 16,621 16,318 16,424 1.20% Dubuque 7 93,072 91,390 90,116 89,143 4.22% Emmet 75 10,241 10,371 10,684 11,027 -7.68% Fayette 33 20,164 20,701 21,299 22,008 -9.15% Floyd 46 15,910 16,335 16,511 16,900 -6.22% Franklin 74 10,540 10,574 10,588 10,704 -1.56% Fremont 92 7,345 7,549 7,704 8,010 -9.05% Grundy 62 12,177 12,227 12,241 12,369 -1.58% Guthrie 69 10,833 11,093 11,310 11,353 -4.80% Hamilton 52 15,238 15,734 16,151 16,438 -7.88%	Clarke	83	9,086	9,074	9,211	9,133	-0.52%
Clinton         11         48,934         49,264         49,487         50,149         -2.48%           Crawford         45         16,416         16,486         16,752         16,942         -3.20%           Dalas         10         61,950         54,592         46,308         40,750         34.22%           Davis         85         8,562         8,530         8,494         8,541         0.25%           Delaware         41         17,205         17,560         17,977         18,404         -6.97%           Decatur         86         8,231         8,372         8,469         8,689         -5.56%           Des Moines         15         41,058         40,453         41,152         42,351         -3.15%           Dickinson         43         16,623         16,621         16,318         16,424         1.20%           Dubuque         7         93,072         91,390         90,116         89,143         4.22%           Emmet         75         10,241         10,371         10,684         11,027         -7.68%           Fayette         33         20,164         20,701         21,299         22,008         -9.15%           Floyd	Clay	44	16,617	16,732	16,957	17,372	-4.54%
Crawford         45         16,416         16,486         16,752         16,942         -3.20%           Dallas         10         61,950         54,592         46,308         40,750         34.22%           Davis         85         8,562         8,530         8,494         8,541         0.25%           Delaware         41         17,205         17,560         17,977         18,404         -6.97%           Decatur         86         8,231         8,372         8,469         8,689         -5.56%           Des Moines         15         41,058         40,453         41,152         42,351         -3.15%           Dickinson         43         16,623         16,621         16,318         16,424         1.20%           Dubuque         7         93,072         91,390         90,116         89,143         4.22%           Emmet         75         10,241         10,371         10,684         11,027         -7.68%           Fayette         33         20,164         20,701         21,299         22,008         -9.15%           Floyd         46         15,910         16,335         16,511         16,900         -6.22%           Franklin <td>Clayton</td> <td>39</td> <td>17,463</td> <td>17,779</td> <td>18,107</td> <td>18,678</td> <td>-6.96%</td>	Clayton	39	17,463	17,779	18,107	18,678	-6.96%
Dallas         10         61,950         54,592         46,308         40,750         34.22%           Davis         85         8,562         8,530         8,494         8,541         0.25%           Delaware         41         17,205         17,560         17,977         18,404         -6.97%           Decatur         86         8,231         8,372         8,469         8,689         -5.56%           Des Moines         15         41,058         40,453         41,152         42,351         -3.15%           Dickinson         43         16,623         16,621         16,318         16,424         1.20%           Dubuque         7         93,072         91,390         90,116         89,143         4.22%           Emmet         75         10,241         10,371         10,684         11,027         -7.68%           Fayette         33         20,164         20,701         21,299         22,008         -9.15%           Floyd         46         15,910         16,335         16,511         16,900         -6.22%           Franklin         74         10,540         10,574         10,588         10,704         -1.56%           Fremont <td>Clinton</td> <td>11</td> <td>48,934</td> <td>49,264</td> <td>49,487</td> <td>50,149</td> <td>-2.48%</td>	Clinton	11	48,934	49,264	49,487	50,149	-2.48%
Davis         85         8,562         8,530         8,494         8,541         0.25%           Delaware         41         17,205         17,560         17,977         18,404         -6.97%           Decatur         86         8,231         8,372         8,469         8,689         -5.56%           Des Moines         15         41,058         40,453         41,152         42,351         -3.15%           Dickinson         43         16,623         16,621         16,318         16,424         1.20%           Dubuque         7         93,072         91,390         90,116         89,143         4.22%           Emmet         75         10,241         10,371         10,684         11,027         -7.68%           Fayette         33         20,164         20,701         21,299         22,008         -9.15%           Floyd         46         15,910         16,335         16,511         16,900         -6.22%           Franklin         74         10,540         10,574         10,588         10,704         -1.56%           Fremont         92         7,345         7,549         7,704         8,010         -9.05%           Greene		45	16,416	16,486	16,752	16,942	-3.20%
Delaware         41         17,205         17,560         17,977         18,404         -6.97%           Decatur         86         8,231         8,372         8,469         8,689         -5.56%           Des Moines         15         41,058         40,453         41,152         42,351         -3.15%           Dickinson         43         16,623         16,621         16,318         16,424         1.20%           Dubuque         7         93,072         91,390         90,116         89,143         4.22%           Emmet         75         10,241         10,371         10,684         11,027         -7.68%           Fayette         33         20,164         20,701         21,299         22,008         -9.15%           Floyd         46         15,910         16,335         16,511         16,900         -6.22%           Franklin         74         10,540         10,574         10,588         10,704         -1.56%           Fremont         92         7,345         7,549         7,704         8,010         -9.05%           Greene         81         9,251         9,568         10,000         10,366         -12.05%           Guthrie </td <td>Dallas</td> <td></td> <td></td> <td>54,592</td> <td>46,308</td> <td></td> <td>34.22%</td>	Dallas			54,592	46,308		34.22%
Decatur         86         8,231         8,372         8,469         8,689         -5.56%           Des Moines         15         41,058         40,453         41,152         42,351         -3.15%           Dickinson         43         16,623         16,621         16,318         16,424         1.20%           Dubuque         7         93,072         91,390         90,116         89,143         4.22%           Emmet         75         10,241         10,371         10,684         11,027         -7.68%           Fayette         33         20,164         20,701         21,299         22,008         -9.15%           Floyd         46         15,910         16,335         16,511         16,900         -6.22%           Franklin         74         10,540         10,574         10,588         10,704         -1.56%           Fremont         92         7,345         7,549         7,704         8,010         -9.05%           Greene         81         9,251         9,568         10,000         10,366         -12.05%           Guthrie         69         10,833         11,093         11,310         11,353         -4.80%           Hamilton </td <td>Davis</td> <td></td> <td>8,562</td> <td>8,530</td> <td></td> <td></td> <td>0.25%</td>	Davis		8,562	8,530			0.25%
Des Moines         15         41,058         40,453         41,152         42,351         -3.15%           Dickinson         43         16,623         16,621         16,318         16,424         1.20%           Dubuque         7         93,072         91,390         90,116         89,143         4.22%           Emmet         75         10,241         10,371         10,684         11,027         -7.68%           Fayette         33         20,164         20,701         21,299         22,008         -9.15%           Floyd         46         15,910         16,335         16,511         16,900         -6.22%           Franklin         74         10,540         10,574         10,588         10,704         -1.56%           Fremont         92         7,345         7,549         7,704         8,010         -9.05%           Greene         81         9,251         9,568         10,000         10,366         -12.05%           Grundy         62         12,177         12,227         12,241         12,369         -1.58%           Guthrie         69         10,833         11,093         11,310         11,353         -4.80%           Hamilto	Delaware	41			17,977	18,404	-6.97%
Dickinson         43         16,623         16,621         16,318         16,424         1.20%           Dubuque         7         93,072         91,390         90,116         89,143         4.22%           Emmet         75         10,241         10,371         10,684         11,027         -7.68%           Fayette         33         20,164         20,701         21,299         22,008         -9.15%           Floyd         46         15,910         16,335         16,511         16,900         -6.22%           Franklin         74         10,540         10,574         10,588         10,704         -1.56%           Fremont         92         7,345         7,549         7,704         8,010         -9.05%           Greene         81         9,251         9,568         10,000         10,366         -12.05%           Grundy         62         12,177         12,227         12,241         12,369         -1.58%           Guthrie         69         10,833         11,093         11,310         11,353         -4.80%           Hamilton         52         15,238         15,734         16,151         16,438         -7.88%	Decatur	86	8,231	8,372	8,469	8,689	-5.56%
Dubuque         7         93,072         91,390         90,116         89,143         4.22%           Emmet         75         10,241         10,371         10,684         11,027         -7.68%           Fayette         33         20,164         20,701         21,299         22,008         -9.15%           Floyd         46         15,910         16,335         16,511         16,900         -6.22%           Franklin         74         10,540         10,574         10,588         10,704         -1.56%           Fremont         92         7,345         7,549         7,704         8,010         -9.05%           Greene         81         9,251         9,568         10,000         10,366         -12.05%           Grundy         62         12,177         12,227         12,241         12,369         -1.58%           Guthrie         69         10,833         11,093         11,310         11,353         -4.80%           Hamilton         52         15,238         15,734         16,151         16,438         -7.88%							-3.15%
Emmet         75         10,241         10,371         10,684         11,027         -7.68%           Fayette         33         20,164         20,701         21,299         22,008         -9.15%           Floyd         46         15,910         16,335         16,511         16,900         -6.22%           Franklin         74         10,540         10,574         10,588         10,704         -1.56%           Fremont         92         7,345         7,549         7,704         8,010         -9.05%           Greene         81         9,251         9,568         10,000         10,366         -12.05%           Grundy         62         12,177         12,227         12,241         12,369         -1.58%           Guthrie         69         10,833         11,093         11,310         11,353         -4.80%           Hamilton         52         15,238         15,734         16,151         16,438         -7.88%	Dickinson	43	16,623	16,621	16,318	16,424	1.20%
Fayette         33         20,164         20,701         21,299         22,008         -9.15%           Floyd         46         15,910         16,335         16,511         16,900         -6.22%           Franklin         74         10,540         10,574         10,588         10,704         -1.56%           Fremont         92         7,345         7,549         7,704         8,010         -9.05%           Greene         81         9,251         9,568         10,000         10,366         -12.05%           Grundy         62         12,177         12,227         12,241         12,369         -1.58%           Guthrie         69         10,833         11,093         11,310         11,353         -4.80%           Hamilton         52         15,238         15,734         16,151         16,438         -7.88%	Dubuque	7	93,072		90,116		4.22%
Floyd         46         15,910         16,335         16,511         16,900         -6.22%           Franklin         74         10,540         10,574         10,588         10,704         -1.56%           Fremont         92         7,345         7,549         7,704         8,010         -9.05%           Greene         81         9,251         9,568         10,000         10,366         -12.05%           Grundy         62         12,177         12,227         12,241         12,369         -1.58%           Guthrie         69         10,833         11,093         11,310         11,353         -4.80%           Hamilton         52         15,238         15,734         16,151         16,438         -7.88%							-7.68%
Franklin         74         10,540         10,574         10,588         10,704         -1.56%           Fremont         92         7,345         7,549         7,704         8,010         -9.05%           Greene         81         9,251         9,568         10,000         10,366         -12.05%           Grundy         62         12,177         12,227         12,241         12,369         -1.58%           Guthrie         69         10,833         11,093         11,310         11,353         -4.80%           Hamilton         52         15,238         15,734         16,151         16,438         -7.88%							-9.15%
Fremont         92         7,345         7,549         7,704         8,010         -9.05%           Greene         81         9,251         9,568         10,000         10,366         -12.05%           Grundy         62         12,177         12,227         12,241         12,369         -1.58%           Guthrie         69         10,833         11,093         11,310         11,353         -4.80%           Hamilton         52         15,238         15,734         16,151         16,438         -7.88%							-6.22%
Greene         81         9,251         9,568         10,000         10,366         -12.05%           Grundy         62         12,177         12,227         12,241         12,369         -1.58%           Guthrie         69         10,833         11,093         11,310         11,353         -4.80%           Hamilton         52         15,238         15,734         16,151         16,438         -7.88%							-1.56%
Grundy     62     12,177     12,227     12,241     12,369     -1.58%       Guthrie     69     10,833     11,093     11,310     11,353     -4.80%       Hamilton     52     15,238     15,734     16,151     16,438     -7.88%							
Guthrie     69     10,833     11,093     11,310     11,353     -4.80%       Hamilton     52     15,238     15,734     16,151     16,438     -7.88%							
Hamilton 52 15,238 15,734 16,151 16,438 -7.88%							
Source: United States Census Bureau				15,734	16,151	16,438	-7.88%



Table 5-1: Iowa Population Change by County, 2000 - 2009

Hamilton 55 Hancock 66 Hardin 44 Harrison 55 Henry 37 Howard 77 Humboldt 77 Ida 99 Iowa 44 Jackson 35	nnk 22 88 22 60 64 49 88 83 7	3,007,856 15,238 11,046 17,144 15,328 19,929 9,410 9,473	2,964,391  15,734  11,482  17,637  15,542  20,095  9,510	<b>2,932,799</b> 16,151 11,771 18,213 15,544 20,105	2,926,324 16,438 12,100 18,812 15,666	Change 2000-2009 2.71% -7.88% -9.54% -9.73%
County Hamilton 55 Hancock 66 Hardin 44 Harrison 55 Henry 33 Howard 77 Humboldt 17 Ida 9 Iowa Jackson 3	62 68 62 60 64 79 78	15,238 11,046 17,144 15,328 19,929 9,410 9,473	15,734 11,482 17,637 15,542 20,095	16,151 11,771 18,213 15,544	16,438 12,100 18,812 15,666	2.71% -7.88% -9.54% -9.73%
County Hamilton 55 Hancock 66 Hardin 44 Harrison 55 Henry 33 Howard 77 Humboldt 1da 9 lowa Jackson 3	62 68 62 60 64 79 78	15,238 11,046 17,144 15,328 19,929 9,410 9,473	15,734 11,482 17,637 15,542 20,095	16,151 11,771 18,213 15,544	16,438 12,100 18,812 15,666	-7.88% -9.54% -9.73%
Hamilton 55 Hancock 66 Hardin 44 Harrison 55 Henry 33 Howard 77 Humboldt 77 Ida 99 Iowa 44 Jackson 35	62 68 62 60 64 79 78	15,238 11,046 17,144 15,328 19,929 9,410 9,473	15,734 11,482 17,637 15,542 20,095	16,151 11,771 18,213 15,544	16,438 12,100 18,812 15,666	-7.88% -9.54% -9.73%
Hancock 66 Hardin 44 Harrison 55 Henry 33 Howard 77 Humboldt 77 Ida 99 Iowa 44 Jackson 33	88 22 60 84 79 78	11,046 17,144 15,328 19,929 9,410 9,473	11,482 17,637 15,542 20,095	11,771 18,213 15,544	12,100 18,812 15,666	-9.54% -9.73%
Hardin       4         Harrison       5         Henry       3         Howard       7         Humboldt       7         Ida       9         Iowa       4         Jackson       3	2 60 4 79 78	17,144 15,328 19,929 9,410 9,473	17,637 15,542 20,095	18,213 15,544	18,812 15,666	-9.73%
Harrison 55 Henry 37 Howard 77 Humboldt 77 Ida 99 Iowa 44 Jackson 35	60 64 79 78	15,328 19,929 9,410 9,473	15,542 20,095	15,544	15,666	
Henry       3         Howard       7         Humboldt       7         Ida       9         Iowa       4         Jackson       3	34 79 78 3	19,929 9,410 9,473	20,095		15,666	
Howard 7 Humboldt 7 Ida 9 Iowa 4 Jackson 3	'9 '8 3	9,410 9,473		20,105		-2.21%
Humboldt 77 Ida 9 Iowa 4 Jackson 3	'8 3	9,473	9,510	,	20,336	-2.04%
Ida9Iowa4Jackson3	3			9,713	9,932	-5.55%
lowa 4 Jackson 3			9,762	10,014	10,381	-9.59%
Jackson 3	7	6,762	7,021	7,445	7,837	-15.90%
		15,811	15,932	15,827	15,671	0.89%
	5	19,728	19,988	20,098	20,296	-2.88%
Jasper 1	8	36,257	36,735	37,400	37,213	-2.64%
Jefferson 4	8	15,472	15,491	15,721	16,181	-4.58%
Johnson	4	131,005	123,171	117,459	111,006	15.27%
Jones 3	2	20,364	20,324	20,212	20,221	0.70%
Keokuk 7	'3	10,562	10,727	11,194	11,400	-7.93%
Kossuth 5	3	15,154	15,664	16,294	17,163	-13.26%
Lee 1	9	35,447	35,997	36,472	38,052	-7.35%
Linn 2	2	209,226	202,314	196,706	191,701	8.38%
Louisa 6	6	11,245	11,802	12,175	12,183	-8.34%
Lucas 8	2	9,179	9,489	9,473	9,422	-2.65%
Lyon 6	7	11,172	11,332	11,559	11,763	-5.29%
Madison 4	.9	15,409	15,196	14,454	14,019	9.02%
Mahaska 2	27	22,000	22,039	22,021	22,335	-1.52%
Marion 2	1	32,682	32,830	32,277	32,052	1.93%
Marshall 1	6	39,259	38,877	39,033	39,311	-0.13%
Mills 5	4	15,002	15,139	14,596	14,547	3.03%
Mitchell 7	'1	10,781	10,807	10,826	10,874	-0.86%
Monona 8	4	8,882	9,223	9,682	10,020	-12.81%
Monroe 8	8	7,549	7,643	7,812	8,016	-6.19%
Montgomery 7	'0	10,796	11,135	11,188	11,771	-9.03%
Muscatine 1	4	42,934	42,226	41,680	41,722	2.82%
O'Brien 5	7	13,928	14,191	14,589	15,102	-8.43%
Osceola 9	4	6,344	6,571	6,811	7,003	-10.39%
Page 5	1	15,260	16,043	16,166	16,976	-11.25%
Palo Alto 8	0	9,279	9,438	9,664	10,147	-9.35%
Plymouth 2	:5	24,210	24,460	24,584	24,849	-2.64%
Pocahontas 9	1	7,346	7,638	8,143	8,662	-17.91%
Polk	1	429,439	409,146	390,092	374,601	12.77%
Pottawattamie 8	3	90,224	89,393	88,055	87,704	2.79%
	7	18,423	18,615	18,806	18,815	-2.13%

Source: United States Census Bureau



Table 5-1: Iowa Population Change by County, 2000 - 2009

		July 2009	July 2006	July 2003	July 2000	Percent Change 2000-2009
State of Iowa		3,007,856	2,964,391	2,932,799	2,926,324	2.71%
County	Rank					
Poweshiek	37	18,423	18,615	18,806	18,815	-2.13%
Ringgold	98	4,944	5,101	5,263	5,469	-10.62%
Sac	76	10,059	10,473	10,848	11,529	-14.61%
Scott	3	166,650	161,473	158,808	158,668	4.79%
Shelby	64	11,957	12,305	12,747	13,173	-10.17%
Sioux	22	32,244	32,114	31,782	31,589	2.03%
Story	9	87,214	83,476	81,453	79,981	8.29%
Taylor	95	6,344	6,541	6,737	6,958	-9.68%
Tama	40	17,377	17,800	17,846	18,103	-4.18%
Union	61	12,241	11,990	11,881	12,309	-0.56%
Van Buren	87	7,679	7,640	7,671	7,809	-1.69%
Wapello	20	35,334	35,673	35,716	36,051	-2.03%
Warren	12	45,275	43,677	41,943	40,671	10.17%
Washington	28	21,258	21,100	20,994	20,670	2.77%
Wayne	96	6,283	6,391	6,568	6,730	-7.11%
Webster	17	38,346	38,550	39,372	40,235	-4.93%
Winnebago	72	10,602	10,943	11,303	11,723	-10.57%
Winneshiek	31	20,629	20,784	20,896	21,310	-3.30%
Woodbury	6	102,831	101,427	102,441	103,877	-1.02%
Worth	89	7,541	7,618	7,719	7,909	-4.88%
Wright	59	12,716	13,187	13,624	14,334	-12.72%

Source: United States Census Bureau



**Table 5-2: Iowa Socioeconomic Trends** 

	Total	Total	Income per	Total Retail
	Population	Employment	Capita	Sales
Year	(Thousands)	(Thousands)	(2004\$)	(mil 2004\$)
1975	2,880.69	1,406.93	\$18,752	\$2,204
1980	2,915.50	1,541.07	\$19,939	\$2,132
1985	2,829.75	1,502.80	\$21,844	\$1,951
1990	2,781.02	1,645.94	\$23,414	\$1,948
1995	2,867.37	1,795.67	\$24,770	\$2,180
2000	2,928.05	1,934.08	\$28,787	\$2,443
2005	2,951.78	1,963.27	\$30,673	\$2,472
2006	2,967.27	1,997.07	\$30,947	\$2,490
2007	2,983.36	2,034.88	\$32,166	\$2,471
2008	3,002.56	2,040.98	\$32,697	\$2,347
Projected				
2015	3,097.66	2,160.44	\$35,001	\$2,266
2020	3,172.24	2,261.31	\$37,675	\$2,345
2030	3,328.31	2,475.30	\$43,921	\$2,563
CAGR	0.47%	0.88%	1.35%	0.40%

Source: Woods & Poole Economics, Inc. CAGR: Compound Annual Growth Rate

# 5.2 Overview of the U.S. Aviation Industry and Industry Trends

Notable changes have occurred in the aviation industry over the past ten years. To varying degrees, these industry trends have influenced aviation demand at individual airports across the nation. To produce viable demand projections for system airports, it is important to have an understanding of these trends. It is also important to relate how national trends are most likely to influence aviation demand over the planning period. The following sections present a summary of some of these trends as detailed in the FAA's Aerospace Forecasts Fiscal Year (FY) 2009-2025.

**5.2.a Commercial Aviation** – The U.S. commercial aviation industry has been rebounding from the effects of the terrorist attacks that occurred on September 11, 2001 and a recent decline during late 2008 and 2009, as the recession slowed demand for air travel. An industry that has seen a reduction in airline capacity and four network air carriers enter bankruptcy over a five-year period is now slowly returning to profitability. The FAA's forecasts indicate that domestic and international aviation growth will continue during the seventeen (17) year forecast.

The U.S. commercial aviation industry consists of 19 mainline air carriers (which offer domestic and international routes) that use large passenger jets (over 90 seats) and 67



regional carriers (which are often contracted by a mainline carrier to operate in smaller markets) that use turboprop and regional jet aircraft (up to 90 seats) to connect passengers with markets served by the larger mainline carriers. In just five years, the number of mainline carriers and regional carriers as a result of airline mergers has decreased.

Mainline and regional carriers provide both domestic and international passenger service between the U.S. and international destinations, although regional carrier international service is confined to border markets in Canada, Mexico, and the Caribbean. The providers of passenger air service are further classified by network carriers and low-cost carriers. Network carriers are traditionally established airlines that operate a significant portion of their flights using a hub where connections are made for flights on a spoke system. Low-cost carriers are those that operate under a low-cost business model, with fewer infrastructure costs and greater expectations of productivity. These carriers traditionally offer non-stop routes, though some operate under a hub and spoke system.

Three distinct trends have occurred over the past five years that have helped shape today's U.S. commercial air carrier industry:

- Convergence of the network and low-cost carrier business models.
- Rapid growth by network carriers into international markets.
- Transformation of the domestic air carrier fleet.
- Legacy carrier bankruptcies

Total domestic capacity is projected to fall dramatically by nine percent (9.0%). Mainline carriers are projected reduce their domestic capacity by 9.5 percent (9.5%), while regional carriers will decrease capacity by 5.5 percent (5.5%). Small gains in capacity are projected for both mainline (2.2%) and regional carriers (4.2%) after 2011. For the remainder of the forecast period, the annual rate of capacity is projected to increase at 2.6 percent (2.6%), with mainline carriers at a slower rate than their regional counterparts at 2.2 percent (2.2%) and 4.6 percent (4.6%) respectively.

Passenger enplanements followed a similar pattern to air carrier capacity. In 2008 enplanements decreased by 1.5 percent (1.5%) and were forecasted to fall an additional 7.8 percent (7.8%) by the end of 2009; however a mild increase of two percent (2.0%) is expected in 2011. Throughout the forecast period, domestic enplanements are projected to grow at an average annual rate of two percent (2.0%) with mainline carriers growing at a slower rate than their regional carrier counterparts at 1.7 percent (1.7%) and three percent (3.0%) respectively.

Total domestic enplanements are projected to increase from 522.3 million in 2008 to 690.2 million in 2025, as seen in **Figure 5-1**.



Passenger load factor is the ratio of the number of arriving and departing passengers to the number of arriving and departing seats. The load factor needed for a flight to be profitable varies on several factors including type of aircraft, distance of route, and financial operating principles. Traditionally, load factors of seventy percent (70%) to seventy-five percent (75%) or greater are needed to turn a profit, with regional jet service generally sixty-five percent (65%) and low-cost carriers eighty percent (80%).

The commercial airline domestic load factor fell 0.5 points from an historic high of 79.9 percent (79.9%) in 2007 to 79.3 percent (79.3%) in 2008 with losses by both mainline and regional carries at 0.2 percent (0.2%) and 1.8 percent (1.8%) respectively. The load factor was forecasted to increase in 2009 by 0.1 percent (0.1%) as the mainline carriers load factor increased by 0.1 percent (0.1%) and the regional carriers load factor fell by 0.3 percent (0.3%). Throughout the remainder of the forecasting period, load factors are expected to rise slowly, peaking in 2017 at 81.7 percent (81.7%), and then declining gradually for remainder of the forecast period and remaining at 80.1 percent (80.1%) by 2025.

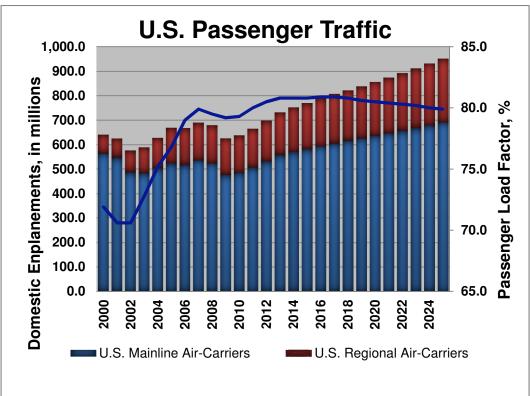


Figure 5-1: U.S. Passenger Traffic

Source: FAA Aerospace Forecast 2009-2025

For different reasons both mainline and regional carriers have been increasing the size of aircraft flown domestically. The mainline carriers continue to retire older, less efficient



aircraft and replace with newer, more fuel efficient and slightly larger aircraft, while regional carriers are continuing their shift towards retiring the smaller 50-seat regional jets and replacing them with the larger 70- and 90-seat regional jets. This trend enables the regional carriers to better support operations of their mainline partners by providing capacity that complements the market demand. The changing aircraft fleet mix is narrowing the gap between the size and aircraft types operated by the mainline and regional carriers.

Passenger trip length is also forecasted to decrease in 2011 after fluctuations seen from 2007 through 2009. In 2008, domestic passenger trip lengths increased by 4.4 miles to 874.6 miles as carriers continued restructuring their networks and realigned capacity. These increases were reflected in both the mainline and regional markets as the mainline carriers transferred shorter length routes to regional partner carriers and increased point-to-point service. Regional carrier trip lengths also increased due to the continual transition towards larger 70 and 90 seat regional jets, allowing these carriers to service longer haul markets.

Another key factor in predicting aviation activity relative to passenger demand is the level of connecting versus non-stop (origin-destination) traffic. In the aggregate, it appears that the number of direct flights by carriers (both network and low-cost) is increasing. However, as the current cycle of U.S. airline industry restructuring unfolds, hub structures change, and business models evolve, the impact on local communities and airport activity levels may fluctuate significantly.

**5.2.b General Aviation** – The FAA projects that business use of general aviation (GA) aircraft will expand at a more rapid pace than that for personal or sport use. The business side of general aviation should continue to benefit from an emerging market of smaller jet aircraft. These are forecasted to boost the GA turbine aircraft market as low ownership, operation, and maintenance costs could increase jet ownership to segments of the market that were previously priced out by the larger, more expensive aircraft. In addition, corporate safety and security concerns for staff, combined with increased processing times at many U.S. airports have made fractional, corporate, and on-demand charter flights a practical alternative to travel on commercial flights.

In 2005, a new category of aircraft (titled "Light Sport") was introduced to general aviation. It was believed that this new entry level aircraft would boost single-engine aircraft manufacturing numbers and translate into ownership opportunities of these relatively inexpensive single-engine aircraft for many pilots that were seeking a "Light Sport Pilot Certificate". Since the end of 2007, more than 6,000 pilots have earned this new certificate. Since that time, the numbers of light sport aircraft sales have slowed due to the economic downturn. However, forecasts expect this relatively new market to continue to add a small boost to the single-engine market throughout the forecasting period.



The active GA fleet is projected to increase at an average annual rate of one percent (1.0%), increasing from an estimated 234,015 in 2008 to 275,230 aircraft in 2025 as illustrated in **Figure 5-2**. The more expensive and sophisticated turbine-powered fleet (including rotorcraft) is projected to grow at an average of 3.2 percent (3.2%) a year over the 17-year forecast period with the turbine jet fleet increasing at 4.8 percent (4.8%) per year.

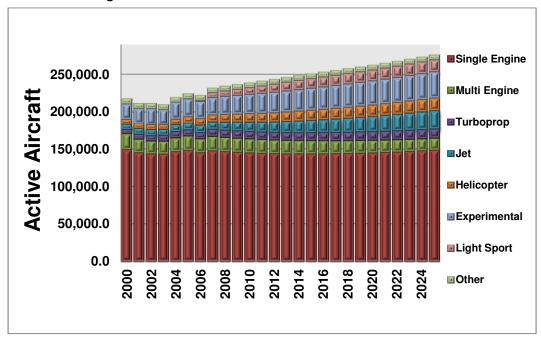


Figure 5-2: U.S. Active General Aviation & Air Taxi Aircraft

Source: FAA Aerospace Forecast 2009-2025

The number of piston-powered aircraft (including rotorcraft) is projected to increase from 168,790 in 2008 to 170,475 in 2025, at an average increase of 0.1 percent (0.1%) yearly. Although piston-powered rotorcrafts are projected to increase rapidly at 3.9 percent (3.9%) per year, they are a relatively small component of this segment of GA aircraft. Single-engine and multi-engine fixed-wing piston aircraft, which are more numerous, are projected to grow at much slower rates at 0.1 and -0.1 percent (0.1% and -0.1%) respectively, leading to an overall lower growth of the piston-powered fleet. In addition, it is assumed that new light sport aircraft and less expensive VLJs could erode the replacement market for traditional piston aircraft at the low and high ends of the market respectively.

# 5.3 Forecasting Approach

There are a number of different forecasting techniques available for use in the projection of aviation activity, ranging from subjective judgment to sophisticated mathematical



modeling. Due to the fact that a large number of variables affect a facility plan, it is important that each variable be considered in the context of its use in the plan. For variables that significantly affect the nature and extent of facilities, redundancy has been achieved through the utilization of several forecasting techniques to minimize the uncertainty associated with the range of the forecast variable.

The analysis includes the assessment of historical trends on aviation activity data at the local, regional, and national level. Aviation activity statistics on such items as passenger enplanements, aircraft operations, and based aircraft are collected, reviewed, and analyzed as a part of the forecasting effort. Similarly, socioeconomic factors such as population and income are analyzed for the effect they may have on aviation growth. The comparison of relationships among these various indicators provides the initial step in the development of realistic forecasts of aviation demand.

The following general methodologies were used in projecting various components of aviation demand at each system airport.

Time Series/Trend Line Methodology – Historical trend lines and linear extrapolation are some of the most widely used methods of forecasting. These two techniques utilize time-series types of data and are both useful for establishing a pattern of demand that demonstrates a historical relationship with time. An assumption is made that the same factors that have influenced demand will continue to affect future demand. While this is a rather broad assumption, it often provides a reliable benchmark for comparing the results of other analyses. Linear extrapolation establishes a linear trend by fitting a straight line using the least squares method to historical data. Historic trend lines, as utilized in these analyses, examine historic CAGRs and extrapolate future data values by assuming a similar CAGR in the future.

Market Share Methodology – Market share, ratio, or top-down models, are utilized to develop local activity levels derived from a larger national activity scale. Inherent to the use of these methods is the demonstration that a proportion of the large scale activity that can be assigned to the local level is a regular and predictable quantity. This method has been used extensively in the aviation industry for aviation demand forecasting at the local level. Its most common use is in the determination of the share of total national traffic activity that will be captured by a particular region or airport. Historical data is examined to determine the ratio of local airport traffic to total national traffic. From outside data sources—in this case the FAA—projected levels of national activity are determined and then proportioned to the airport based upon the observed and projected trends.

**Socioeconomic Methodology** – Socioeconomic or correlation analysis examines the direct relationship between two or more sets of historical data. In this case, socioeconomic analyses have been performed, relating historical aviation activity to



historical population levels within the airport region. Based upon the observed and projected correlation between historical aviation activity and the socioeconomic data sets, future aviation activity projections are developed. In this case, historical and projected levels of socioeconomic factors such as population and per capita income were obtained from W&P. This forecasting methodology is subject to how accurately an airport's activity reflects local demographic makeup.

### **5.4 Aviation Demand Projections**

Aviation demand projections of enplanements, based aircraft, and aircraft operations were prepared for each of the 117 airports in lowa's aviation system. Individual activity forecasts are provided as part of the lowa Aviation System Plan for each system airport while based aircraft and operations projections are summarized at the end of this chapter. System wide projections presented in this chapter are categorized by those that provide commercial service, general aviation airports identified in the NPIAS, and airports not included in the NPIAS. The following sections summarize the projections for enplanements, based aircraft, and aircraft operations within the aviation system.

### 5.4.a Enplanements

Commercial service within the state of lowa is currently provided at eight airports as identified in **Table 5-3**.

**Table 5-3: Commercial Service Airports in Iowa** 

City	Airport	FAA Identifier
Burlington	Southeast Iowa Regional	BRL
Cedar Rapids	Eastern Iowa	CID
Des Moines	Des Moines International	DSM
Dubuque	Dubuque Regional	DBQ
Fort Dodge	Fort Dodge Regional	FOD
Mason City	Mason City Municipal	MCW
Sioux City	Sioux Gateway	SUX
Waterloo	Waterloo Municipal	ALO

Cedar Rapids and Des Moines are served by multiple carriers, while Dubuque, Sioux City, and Waterloo have non-subsidized service and are served by only one or two carriers. Finally, three of the airports are served by single carriers whose operating costs are offset by subsidies from the Essential Air Service (EAS) program, which is sponsored by the U.S. Department of Transportation (DOT). EAS airports include those serving Burlington, Fort Dodge, and Mason City. Iowa is also served by bordering airports



including those in Omaha, NE, Moline, IL, and Sioux Falls, SD and to some extent, outlying hub airports in Chicago, Minneapolis, and Kansas City.

Approximately 1.5 million enplanements are served each year by the commercial airports in Iowa. An Iowa Air Service Study released in 2008 by the Iowa DOT examined the location of the eight commercial service airports in Iowa in association with population centers, major employers, and areas projected to experience the most significant growth in population and per-capita income. This examination concluded the airports were well placed throughout the state. With the current commercial airline environment, there do not appear to be any other areas in Iowa that are candidates to support financially self-sustaining commercial airline service.

For the purposes of this study, it is assumed that commercial airline service in Iowa will continue to be provided by these eight airports. In general, projections of enplanements at the commercial service airports were interpolated and summarized from recent airport master plan forecasts where available. Where recent master plan forecasts were not available or where the airport master plan forecasts were not tracking well with recent historical data, projections were obtained from the FAA's Terminal Area Forecast (TAF) system.

**Table 5-4** summarizes the results of the enplanement projections for the state's commercial air carrier airports.

**Table 5-4: Enplanement Projections** 

			Historical		Projections	
AIRPORT	(FAA Identifier)		2008	2015	2020	2030
Burlington*	BRL		2,687	2,036	2,036	2,036
Cedar Rapids	CID		502,298	615,923	704,048	929,394
Des Moines	DSM		924,615	1,193,342	1,368,481	1,751,416
Dubuque	DBQ		42,882	50,050	55,757	69,000
Fort Dodge	FOD		6,047	11,500	13,000	16,000
Mason City	MCW		11,678	18,526	20,434	24,860
Sioux City	SUX		50,454	150,000	200,000	300,000
Waterloo	ALO		26,950	35,679	46,378	57,820
		Total	1,567,611	2,077,056	2,140,134	3,150,526

Source: Airport Master Plan Forecasts, FAA Terminal Area Forecast System, Mead & Hunt, Inc.

Commercial enplanements for the state are projected to increase from 1.5 million in 2008 to 2.1 million by the year 2030, representing a CAGR of 3.25 percent (3.25%). Enplanements within the state are anticipated to remain dominated by those at Eastern Iowa Airport in Cedar Rapids and Des Moines International Airport in Des Moines.

<sup>\*</sup>Burlington Numbers are based on FAA TAF



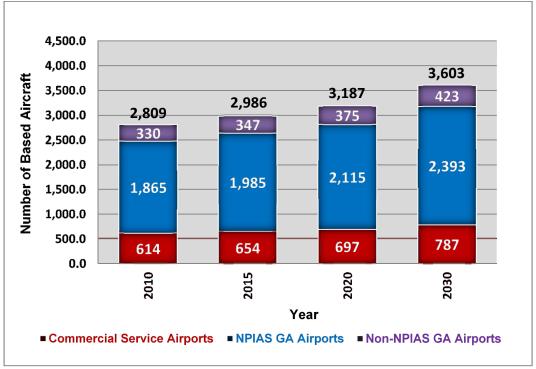
#### 5.4.b Based Aircraft Projections

Nationally, the increases in new aircraft shipments recorded during the late 1990s and early 2000s have been replaced by sharp declines in the overall GA market. The active general aviation fleet witnessed a nationwide decrease in operations at FAA and federally contracted towered locations. The GA market has also experienced some mixed results within the past couple of years and is projected to increase at an average annual rate of one percent (1.0%), growing from an estimated 234,015 aircraft in 2008 to 275,230 aircraft in 2030. The more expensive and sophisticated turbine-powered fleet (including rotorcraft) is projected to grow at an average of 3.6 percent (3.6%) a year over a seventeen (17) year forecast period, with the turbine jet fleet increasing at six percent (6.0%) per year. The increased sale of jet aircraft reflects the growing fractional ownership programs and the importance of business aviation to many of the nation's companies.

The FAA projects that the number of active aircraft throughout the planning period will increase at one percent (1.0%), while the number of based aircraft in the state is projected to be slightly higher at 1.25 percent (1.25%). Applying a compound annual growth rate (CAGR) of 1.25 percent (1.25%) to the number of current (2010) based aircraft at each airport as reported by airport managers, based aircraft in the state are projected to increase from 2,809 to 3,603 by the year 2030 as shown in **Figure 5-3**. A system wide summary of based aircraft projections is presented in **Table 5-5**.



**Figure 5-3: Based Aircraft Projections** 



Source: 2010 Airport manager survey, Mead & Hunt, Inc.

**Table 5-5: Based Aircraft Projections** 

Commercial Service Airports	2010	2015	2020	2030
Based Aircraft	614	654	697	787
Airports	8	8	8	8
NPIAS GA Airports				
Based Aircraft	1,865	1,985	2,115	2,393
Airports	70	70	70	70
Non-NPIAS GA Airports				
Based Aircraft	330	347	375	423
Airports	39	39	39	39
Statewide Total				
Based Aircraft	2,809	2,986	3,187	3,603
Airports	117	117	117	117

Source: 2010 Airport manager survey, Mead & Hunt, Inc.



#### 5.4.c Aircraft Operations Projections

Projections of aircraft operations were developed for each of the 117 public use airports in the aviation system. Operations at airports with an air traffic control tower (Cedar Rapids, Des Moines International, Dubuque, Sioux City, and Waterloo) were forecasted based on historical traffic counts obtained through the FAA Air Traffic Activity System (ATADS) database. Air carrier and air taxi operations were forecasted assuming a 2.3 percent (2.3%) compound annual growth rate through 2030 as projected in the fiscal year 2010-2030 FAA Aerospace Forecasts. General aviation operations were forecasted at a 0.5 percent (0.5%) CAGR while military operations assumed flat growth through 2030.

Operations at airports without an air traffic control tower were projected by multiplying the forecasted based aircraft by an adopted Office of Aviation estimation guideline outlined in FAA Order 5090.3C, *Field Formulation of the National Plan of Integrated Airport Systems (NPIAS)*. This is a satisfactory procedure to forecast operations where limited or no historical data may be available, permitting a single methodology to be applied to all airports. Airports with 1 to 30 based aircraft forecasted were assigned 250 operations per aircraft, while airports with 31 to 99 based aircraft were assigned 350 operations per aircraft. Airports forecasted with 100 or more aircraft were assigned 450 operations per aircraft.

**Table 5-6** summarizes the results of the aircraft operations projections for the state's airports. The number of operations that occurred in 2010, as determined by the forecasting methodologies previously listed is included for a comparison.

**Table 5-6: Iowa Aircraft Operations Projections** 

2010	2015	2020	2025	2030
940,360	998,121	1,063,906	1,130,612	1,203,399

Source: FAA Order 5090.3C, FAA Aerospace Forecast 2010-2030, FAA ATADS

# 5.5 Summary of Aviation Demand Projections

**Table 5-7** summarizes the aviation demand projections developed for GA based aircraft and operations for public use airports included within lowa's aviation system.



**Table 5-7: Summary of Airport Activity Projections** 

		FAA Based Aircraft					Operation Projections (Estimated)				
Airport	Identifier	2015	2020	2025	2030	2015	2020	2025	2030		
Ackley	4C7	1	1	1	1	250	250	250	250		
Albia	4C8	9	9	10	10	2,250	2,250	2,500	2,500		
Algona	AXA	30	32	34	36	7,500	8,000	8,500	9,000		
Allison	K98	5	6	6	6	1,250	1,500	1,500	1,500		
Amana	C11	5	6	6	6	1,250	1,500	1,500	1,500		
Ames	AMW	69	74	78	83	24,150	25,900	27,300	29,050		
Anita	Y43	3	3	4	4	750	750	1,000	1,000		
Ankeny	IKV	110	117	124	132	49,500	52,650	55,800	59,400		
Atlantic	AIO	32	34	36	38	8,000	8,500	9,000	9,500		
Audubon	ADU	5	6	6	6	1,250	1,500	1,500	1,500		
Bedford	Y46	7	8	8	9	1,750	2,000	2,000	2,250		
Belle Plaine	TZT	6	7	7	8	1,500	1,750	1,750	2,000		
Belmond	Y48	0	0	0	0	250	250	250	250		
Bloomfield	4K6	9	9	10	10	2,250	2,250	2,500	2,500		
Boone	BNW	50	53	57	60	17,500	18,550	19,950	21,000		
Burlington	BRL	55	59	63	67	19,250	20,650	22,050	23,450		
Carroll	CIN	24	26	28	29	6,000	6,500	7,000	7,250		
Cedar Rapids	CID	144	153	163	173	54,308	58,529	63,200	68,375		
Centerville	TVK	14	15	16	17	3,500	3,750	4,000	4,250		
Chariton	CNC	14	15	16	17	3,500	3,750	4,000	4,250		
Charles City	CCY	17	18	19	21	4,250	4,500	4,750	5,250		
Cherokee	СКР	36	38	41	44	12,600	13,300	14,350	15,400		
Clarinda	ICL	21	23	24	26	5,250	5,750	6,000	6,500		
Clarion	CAV	16	17	18	19	4,000	4,250	4,500	4,750		
Clinton	CWI	35	37	40	42	12,250	12,950	14,000	14,700		
Corning	CRZ	9	9	10	10	2,250	2,250	2,500	2,500		
Council Bluffs	CBF	101	108	114	122	35,350	37,800	39,900	42,700		
Cresco	CJJ	6	7	7	8	1,500	1,750	1,750	2,000		
Creston	CSQ	19	20	22	23	4,750	5,000	5,500	5,750		
Davenport	DVN	111	118	125	133	49,950	53,100	56,250	59,850		
Decorah	DEH	26	27	29	31	6,500	6,750	7,250	7,750		
Denison	DNS	17	18	19	21	4,250	4,500	4,750	5,250		
<b>Des Moines</b>	DSM	126	134	142	151	90,441	97,651	105,649	114,526		
Des Moines (Morningstar)	Y76	60	63	67	72	21,000	22,050	23,450	25,200		
Dubuque	DBQ	79	84	89	95	51,133	52,729	54,403	56,161		
Dyersville	IA80	4	5	5	5	1,000	1,250	1,250	1,250		
Eagle Grove	EAG	9	9	10	10	2,250	2,250	2,500	2,500		
Eldora	C60	0	0	0	0	250	250	250	250		
Elkader	127	3	3	4	4	750	750	1,000	1,000		

Sources: Airport manager survey, FAA Order 5090.3C



**Table 5-7: Summary of Airport Activity Projections** 

							Operation Projections (Estimated)			
Airport	Identifier	2015	2020	2025	2030	2015	2020	2025	2030	
Emmetsburg	EGQ	14	15	16	17	3,500	3,750	4,000	4,250	
Estherville	EST	24	26	28	29	6,000	6,500	7,000	7,250	
Fairfield	FFL	28	29	31	33	7,000	7,250	7,750	8,250	
Forest City	FXY	17	18	19	21	4,250	4,500	4,750	5,250	
Fort Dodge	FOD	30	32	34	36	7,500	8,000	8,500	9,000	
Fort Madison	FSW	7	8	8	9	1,750	2,000	2,000	2,250	
Greenfield	GFZ	15	16	17	18	3,750	4,000	4,250	4,500	
Grinnell	GGI	17	18	19	21	4,250	4,500	4,750	5,250	
<b>Grundy Center</b>	6K7	1	1	1	1	250	250	250	250	
Guthrie Center	GCT	16	17	18	19	4,000	4,250	4,500	4,750	
Hampton	HPT	16	17	18	19	4,000	4,250	4,500	4,750	
Harlan	HNR	29	31	33	35	7,250	7,750	8,250	8,750	
Humboldt	0K7	16	17	18	19	4,000	4,250	4,500	4,750	
Ida Grove	IDG	5	6	6	6	1,250	1,500	1,500	1,500	
Independence	IIB	30	32	34	36	7,500	8,000	8,500	9,000	
lowa City	IOW	90	96	102	109	31,500	33,600	35,700	38,150	
Iowa Falls	IFA	18	19	20	22	4,500	4,750	5,000	5,500	
Jefferson	EFW	26	27	29	31	6,500	6,750	7,250	7,750	
Keokuk	EOK	27	28	30	32	6,750	7,000	7,500	8,000	
Keosauqua	6K9	1	1	1	1	250	250	250	250	
Knoxville	OXV	48	51	54	58	16,800	17,850	18,900	20,300	
Lake Mills	LWD	2	2	2	3	500	500	500	750	
Lamoni	OY6	10	10	11	12	2,500	2,500	2,750	3,000	
Larchwood	2VA	22	24	25	27	5,500	6,000	6,250	6,750	
Le Mars	LRJ	21	23	24	26	5,250	5,750	6,000	6,500	
Manchester	C27	15	16	17	18	3,750	4,000	4,250	4,500	
Mapleton	MEY	12	12	13	14	3,000	3,000	3,250	3,500	
Maquoketa	OQW	16	17	18	19	4,000	4,250	4,500	4,750	
Marion	C17	53	57	60	64	18,550	19,950	21,000	22,400	
Marshalltown	MIW	45	48	51	54	15,750	16,800	17,850	18,900	
Mason City	MCW	41	44	47	50	14,350	15,400	16,450	17,500	
Milford	4D8	12	12	13	14	3,000	3,000	3,250	3,500	
Monona	7C3	6	7	7	8	1,500	1,750	1,750	2,000	
Montezuma	7C5	4	5	5	5	1,000	1,250	1,250	1,250	
Monticello	MXO	40	43	46	49	14,000	15,050	16,100	17,150	
Mount Ayr	1Y3	4	5	5	5	1,000	1,250	1,250	1,250	
Mount Pleasant	MPZ	20	22	23	24	5,000	5,500	5,750	6,000	
Muscatine	MUT	34	36	39	41	11,900	12,600	13,650	14,350	
New Hampton	1Y5	1	1	1	1	250	250	250	250	
Newton	TNU	19	20	22	23	4,750	5,000	5,500	5,750	

Sources: Airport manager survey, FAA Order 5090.3C



**Table 5-7: Summary of Airport Activity Projections** 

	FAA		Based A			Op		ctions (Estim	ated)
Airport	Identifier	2015	2020	2025	2030	2015	2020	2025	2030
Northwood	5D2	7	8	8	9	1,750	2,000	2,000	2,250
Oelwein	OLZ	24	26	28	29	6,000	6,500	7,000	7,250
Onawa	K36	4	5	5	5	1,000	1,250	1,250	1,250
Orange City	ORC	11	11	12	13	2,750	2,750	3,000	3,250
Osage	D02	6	7	7	8	1,500	1,750	1,750	2,000
Osceola	175	31	33	35	37	7,750	8,250	8,750	9,250
Oskaloosa	OOA	37	40	42	45	12,950	14,000	14,700	15,750
Ottumwa	OTM	37	40	42	45	12,950	14,000	14,700	15,750
Paullina	1Y9	7	8	8	9	1,750	2,000	2,000	
									2,250
Pella	PEA	39	42	45	47	13,650	14,700	15,750	16,450
Perry	PRO	20	22	23	24	5,000	5,500	5,750	6,000
Pocahontas	РОН	23	25	27	28	5,750	6,250	6,750	7,000
Primghar	2Y0	0	0	0	0	250	250	250	250
Red Oak	RDK	43	45	48	51	15,050	15,750	16,800	17,850
Rock Rapids	RRQ	17	18	19	21	4,250	4,500	4,750	5,250
Rockwell City	2Y4	15	16	17	18	3,750	4,000	4,250	4,500
Sac City	SKI	11	11	12	13	2,750	2,750	3,000	3,250
Sheldon	SHL	30	32	34	36	7,500	8,000	8,500	9,000
Shenandoah	SDA	14	15	16	17	3,500	3,750	4,000	4,250
Sibley	ISB	14	15	16	17	3,500	3,750	4,000	4,250
Sioux Center	SOY	16	17	18	19	4,000	4,250	4,500	4,750
Sioux City	SUX	77	82	87	92	19,500	20,206	20,967	21,788
Spencer	SPW	37	40	42	45	12,950	14,000	14,700	15,750
Spirit Lake	0F3	19	20	22	23	4,750	5,000	5,500	5,750
Storm Lake	SLB	40	43	46	49	14,000	15,050	16,100	17,150
Sully	8C2	0	0	0	0	250	250	250	250
Tipton	8C4	11	11	12	13	2,750	2,750	3,000	3,250
Toledo	8C5	4	5	5	5	1,000	1,250	1,250	1,250
Traer	8C6	10	10	11	12	2,500	2,500	2,750	3,000
Vinton	VTI	26	27	29	31	6,500	6,750	7,250	7,750
Washington	AWG	29	31	33	35	7,250	7,750	8,250	8,750
Waterloo	ALO	102	109	116	123	24,039	24,841	25,693	26,599
Waukon	Y01	3	3	4	4	750	750	1,000	1,000
Waverly	C25	24	26	28	29	6,000	6,500	7,000	7,250
Webster City	EBS	21	23	24	26	5,250	5,750	6,000	6,500
West Union	3Y2	7	8	8	9	1,750	2,000	2,000	2,250
Winterset	3Y3	29	31	33	35	7,250	7,750	8,250	8,750
Woodbine	3Y4	2	2	2	3	500	500	500	750
TOTAL		2,986	3,187	3,387	3,603	998,121	1,063,906	1,130,612	1,203,399

Source: Airport manager survey, FAA Order 5090.3C



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