11 System Evaluation – Geographic Coverage and Gaps

The two preceding chapters of the Kentucky Statewide Aviation System Plan (SASP) evaluated the Commonwealth's system of 59 public-use airports largely at the individual airport level, or by airport role. This chapter builds upon these analyses by evaluating the Kentucky airport system on a geographic basis, illustrating the extent to which the Commonwealth's population has access to these airports. Together with the results of the previous chapters, this analysis will lead directly to system recommendations detailed in Chapter 12: Recommended System and Cost Estimates. As with the previous analyses, each point of analysis in this chapter can be tied back to a SASP objective established in Chapter 2: Goals, Objectives, and Performance Measures.

This chapter examines existing conditions of the Kentucky airport system, detailing accessibility to airports in terms of land area and Kentucky population served, typically within a 30-minute drive time market area (access to commercial airline service is assessed within 60- and 90-minute areas). Geographic Information Systems (GIS) were employed to conduct this analysis. Using ESRI ArcMap, the industry standard GIS software, each airport in the system was assigned a drive time market area based on the existing road network and average speeds. Due to Kentucky airports being located in a wide variety of locations ranging from urban areas to the Appalachian Mountains, the geographic sizes of these market areas varied greatly throughout the system.

Using these 30-minute market areas, this chapter builds upon the SASP airport roles and analysis of facility and service benchmarks, allowing for a geographic analysis that examines the Kentucky system from a variety of angles. Using these 30-minute drive times, this chapter presents geographic and Kentucky population coverage for these facets of the airport system:

- Airport roles in a tiered presentation, beginning with Commercial Service and Economic Level 1 airports, and continually adding an additional level of Kentucky airports.
- Airports that have a primary runway at least 5,000 feet in length.
- Approach capabilities, also in a tiered manner, beginning with airports with a precision approach, then adding those with an APV approach, and finally showing coverage of all airports with an instrument approach.[1]
- Airports offering fuel sales, including those airports that offer jet fuel, and those that offer only 100LL avgas.
- Airports meeting "business user needs," which is defined in the SASP as having a runway of at least 5,000 feet in length in addition to a precision or APV approach, automated weather reporting, and jet fuel available.
- Airports with based flight training.

In addition, this chapter examines geographic access to airports with on-site, automated weather reporting via a system such as an ASOS or AWOS within a 30-nautical mile buffer, and the access to Kentucky's airports for the Commonwealth's registered pilot population.

The following sections provide details on the 30-minute drive time market areas for each of Kentucky's 59 public-use airports before analyzing the geographic and population coverage of the above items. For each item, a map has been prepared.

[1] For this analysis, the International Civil Aviation Organization's category I approach definition of a decision height of no more than 200 feet and visibility of not more than ½ mile is used to define a precision approach. A number of instrument landing systems in Kentucky exceed these criteria and are classified as APVs.

Drive Time Market Areas

The first step in conducting a geographic evaluation of Kentucky's airport system is to assign market areas to each of the 59 public airports in the system based on the amount of time it takes an airport customer to reach that facility. Customers will typically travel farther to access commercial airline service, so the Commonwealth's Commercial Service airports are assessed using 60- and 90-minute drive time areas. For general aviation (GA) – which also includes GA activity at Commercial Service airports – a 30-minute market area has been assigned to each airport. A 30-minute market area is the driving time distance specified in the NPIAS, and is therefore the standard market area when conducting aviation system planning. To create these areas, the Network Analyst tool in ESRI ArcMap was employed, using the current road network including all interstate, federal, and state highways, and all arterial and local roads.

These market areas form the basis for the majority of geographic analysis conducted in this chapter. Using these areas, it is possible to evaluate the Kentucky system of airports in terms of their accessibility to Kentucky's population. The land coverage of these market areas is easily calculated using ArcMap, while population coverage is calculated using estimated 2015 U.S. Census Bureau population estimates and Census Block areas. If a Census Block falls within the 30-minute drive time market area of a Kentucky airport, it was assumed that that airport can serve the population living within that Block.

Tables 11-1 and **11-2** detail land area and population coverage for Kentucky's Commercial Service airports within 60- and 90-minute driving times. Because they are located near the largest concentrations of Kentucky residents, Blue Grass Airport in Lexington and Louisville International Airport-Standiford Field serve the largest Kentucky populations within both 60- and 90-minute drive times. It should be noted, however, that much of the market area of Cincinnati/Northern Kentucky International Airport is also located in both Indiana and Ohio, giving the airport a true tristate catchment area.

Table 11-1

Kentucky Population and Land Area Served within 60-Minute Drive Time Market Areas of Commercial Service Airports

FAA ID	Associated City	Airport Name	Area (Square Miles)	Kentucky Population
Commercial Service				
BWG	Bowling Green	Bowling Green-Warren County Regional	5,373	320,547
CVG	Covington	Cincinnati/Northern Kentucky International	5,052	444,517
LEX	Lexington	Blue Grass	6,288	1,034,564
SDF	Louisville	Louisville International-Standiford Field	6,749	1,238,768
OWB	Owensboro	Owensboro-Daviess County Regional	4,439	267,472
PAH	Paducah	Barkley Regional	4,456	206,940

Source: CDM Smith, U.S. Census Bureau.

Table 11-2
Kentucky Population and Land Area Served within 90-Minute Drive Time Market Areas of Commercial Service Airports

FAA ID	Associated City	Airport Name	Area (Square Miles)	Kentucky Population
Commercial Service				
BWG	Bowling Green	Bowling Green-Warren County Regional	15,060	843,567
CVG	Covington	Cincinnati/Northern Kentucky International	13,628	1,123,412
LEX	Lexington	Blue Grass	15,569	2,633,526
SDF	Louisville	Louisville International-Standiford Field	15,812	2,000,404
OWB	Owensboro	Owensboro-Daviess County Regional	11,722	584,098
PAH	Paducah	Barkley Regional	12,504	381,735

Source: CDM Smith, U.S. Census Bureau.

Table 11-3 details land area and population coverage of each Kentucky airport's 30-minute drive time market area. These 30-minute market areas will be used for most of the analysis in this chapter, including the analysis of GA activity at Commercial Service airports. Because the geography of Kentucky varies greatly throughout the Commonwealth, and because the road network varies equally, these market areas are far from uniform. For example, the 30-minute drive time area for Pikeville – Pike County Regional Airport, located in the mountainous eastern region of the Commonwealth, is only 245 square miles. Conversely, Bowling Green-Warren County Regional Airport, located within an expansive highway network that generally experiences less congestion than similar networks in larger cities, has a market area of 1,817 square miles. Population coverage varies similarly, from 11,583 residents for rural Julian Carroll Airport in Jackson to 916,570 Kentucky residents for Louisville's Bowman Field.

Table 11-3
Kentucky Population and Land Area Served by 30-Minute Drive Time Market Areas

FAA ID	Associated City	Airport Name	Area (Square Miles)	Kentucky Population
Commercial Service				
BWG	Bowling Green	Bowling Green-Warren County Regional	1,817	161,845
CVG	Covington	Cincinnati/Northern Kentucky International	647	287,119
LEX	Lexington	Blue Grass	1,636	486,237
SDF	Louisville	Louisville International-Standiford Field	1,481	877,902
OWB	Owensboro	Owensboro-Daviess County Regional	1,126	107,630
PAH	Paducah	Barkley Regional	1,133	93,241
Economic Level 1				
AAS	Campbellsville	Taylor County	976	49,653
DVK	Danville	Stuart Powell Field	1,244	85,532
EKX	Elizabethtown	Addington Field	1,445	138,132
FGX	Flemingsburg	Fleming-Mason	877	32,990
FFT	Frankfort	Capital City	1,004	91,370
27K	Georgetown	Georgetown Scott County - Marshall Field	1,622	357,130
JQD	Hartford	Ohio County	1,200	76,196
CPF	Hazard	Wendell H. Ford Regional	465	29,042
EHR	Henderson	Henderson City-County	910	57,640
HVC	Hopkinsville	Hopkinsville-Christian County	1,715	94,472
K24	Jamestown	Russell County	889	39,007
LOZ	London	London-Corbin-Magee Field	1,378	114,239

Table 11-3
Kentucky Population and Land Area Served by 30-Minute Drive Time Market Areas

FAA ID	Associated City	Airport Name	Area (Square Miles)	Kentucky Population
LOU	Louisville	Bowman Field	1,672	916,570
2I0	Madisonville	Madisonville Regional	1,112	54,077
M25	Mayfield	Mayfield Graves County	1,278	72,392
SYM	Morehead	Morehead-Rowan County Clyde A. Thomas Regional	593	31,069
IOB	Mount Sterling	Mount Sterling-Montgomery County	1,418	101,189
CEY	Murray	Kyle-Oakley Field	844	51,864
PBX	Pikeville	Pikeville – Pike County Regional	245	22,337
SJS	Prestonsburg	Big Sandy Regional	258	13,659
RGA	Richmond	Central Kentucky Regional	731	89,378
SME	Somerset	Lake Cumberland Regional	918	67,735
6I2	Springfield	Lebanon-Springfield	897	44,136
BYL	Williamsburg	Williamsburg-Whitley County	879	75,853
Economic Level 2				
DWU	Ashland	Ashland Regional	317	70,374
BRY	Bardstown	Samuels Field	1,607	125,924
GLW	Glasgow	Glasgow Municipal	1,411	68,608
M21	Greenville	Muhlenberg County	1,089	48,831
5M9	Marion	Marion-Crittenden County	901	16,739
EKQ	Monticello	Wayne County	670	28,594
4M7	Russellville	Russellville-Logan County	962	37,185
TWT	Sturgis	Sturgis Municipal	965	26,378
Economic Level 3				
0I8	Cynthiana	Cynthiana-Harrison County	949	48,818
K62	Falmouth	Gene Snyder	851	49,336
1M7	Fulton	Fulton	1,401	34,731
I93	Hardinsburg	Breckinridge County	871	22,369
I35	Harlan	Tucker-Guthrie Memorial	658	29,828
M20	Leitchfield	Grayson County	866	33,832
KY8	Lewisport	Hancock Co-Ron Lewis Field	491	55,843
1A6	Middlesboro	Middlesboro-Bell County	890	28,581
2M0	Princeton	Princeton-Caldwell County	1,195	33,529
TZV	Tompkinsville	Tompkinsville-Monroe County	594	12,521
Economic Level 4				
1M9	Cadiz	Lake Barkley State Resort Park	580	17,421
I96	Columbia	Columbia-Adair County	991	41,417
8M7	Dawson Springs	Tradewater	1,322	63,634
2I3	Falls of Rough	Rough River State Resort Park	709	20,354
M34	Gilbertsville	Kentucky Dam Village State Resort Park	978	102,271
JKL	Jackson	Julian Carroll	370	11,583
I53	Liberty	Liberty-Casey County	463	13,931
18I	Pine Knot	McCreary County	579	19,176
8M9	Providence	Providence-Webster County	1,074	50,274
I50	Stanton	Stanton-Powell County	1,068	75,104
9I3	West Liberty	West Liberty	845	25,598

Source: CDM Smith, U.S. Census Bureau.

Kentucky has a very widespread and developed airport system. However, much in the way that Kentucky airports do not exclusively serve Kentucky residents, Kentucky residents do not exclusively use Kentucky airports. Many public airports outside of the Commonwealth are accessible within a 30-minute drive for Kentucky residents, and are included in the geographic analysis. Not including these airports would yield analysis results that are not entirely accurate. For example, without showing out-of-state airports that serve Kentucky, analysis may reveal a gap in service that is in reality not there, but served by an airport outside of the Commonwealth. In addition, it was necessary to classify these airports into roles using the same methodology applied to Kentucky airports. **Table 11-4** lists these out-of-state airports and their assigned roles.

Table 11-4
Out-of-State Airports Included in the Geographic Analysis

FAA ID	Associated City	Airport Name	State
Commercial Service			
CRW	Charleston	Yeager*	WV
EVV	Evansville	Evansville Regional	IN
HTS	Huntington	Tri-State/Milton J. Ferguson Field	WV
TYS	Knoxville	McGhee Tyson*	TN
BNA	Nashville	Nashville International*	TN
Economic Level 1			
LUK	Cincinnati	Cincinnati Municipal Lunken Field	OH
HAO	Hamilton	Butler Co Regional-Hogan Field	OH
JVY	Jeffersonville	Clark Regional	IN
SCX	Oneida	Scott Municipal	TN
PHT	Paris	Henry County	TN
UCY	Union City	Everett-Stewart Regional	TN
Economic Level 2			
CKV	Clarksville	Outlaw Field	TN
3M7	Lafayette	Lafayette Municipal	TN
IMS	Madison	Madison Municipal	IN
1M5	Portland	Portland Municipal	TN
PMH	Portsmouth	Greater Portsmouth Regional	OH
M91	Springfield	Springfield Robertson County	TN
Economic Level 3			
I69	Batavia	Clermont County	OH
CIR	Cairo	Cairo Regional	IL
0VG	Jonesville	Lee County	VA
M30	Metropolis	Metropolis Municipal	IL
EIW	New Madrid	County Memorial	MO
3A2	Tazewell	New Tazewell Municipal	TN
TEL	Tell City	Perry County Municipal	IN
4I0	Williamson	Mingo County	WV
Economic Level 4			
HTW	Chesapeake/Huntington, WV	Lawrence County Airpark	OH
GDY	Grundy	Grundy Municipal	VA
I67	Harrison	Cincinnati West	OH
0M2	Tiptonville	Reelfoot Lake	TN

*Airport only included in analysis of commercial airline service access.
Source: CDM Smith.

Commercial Airline Service Coverage

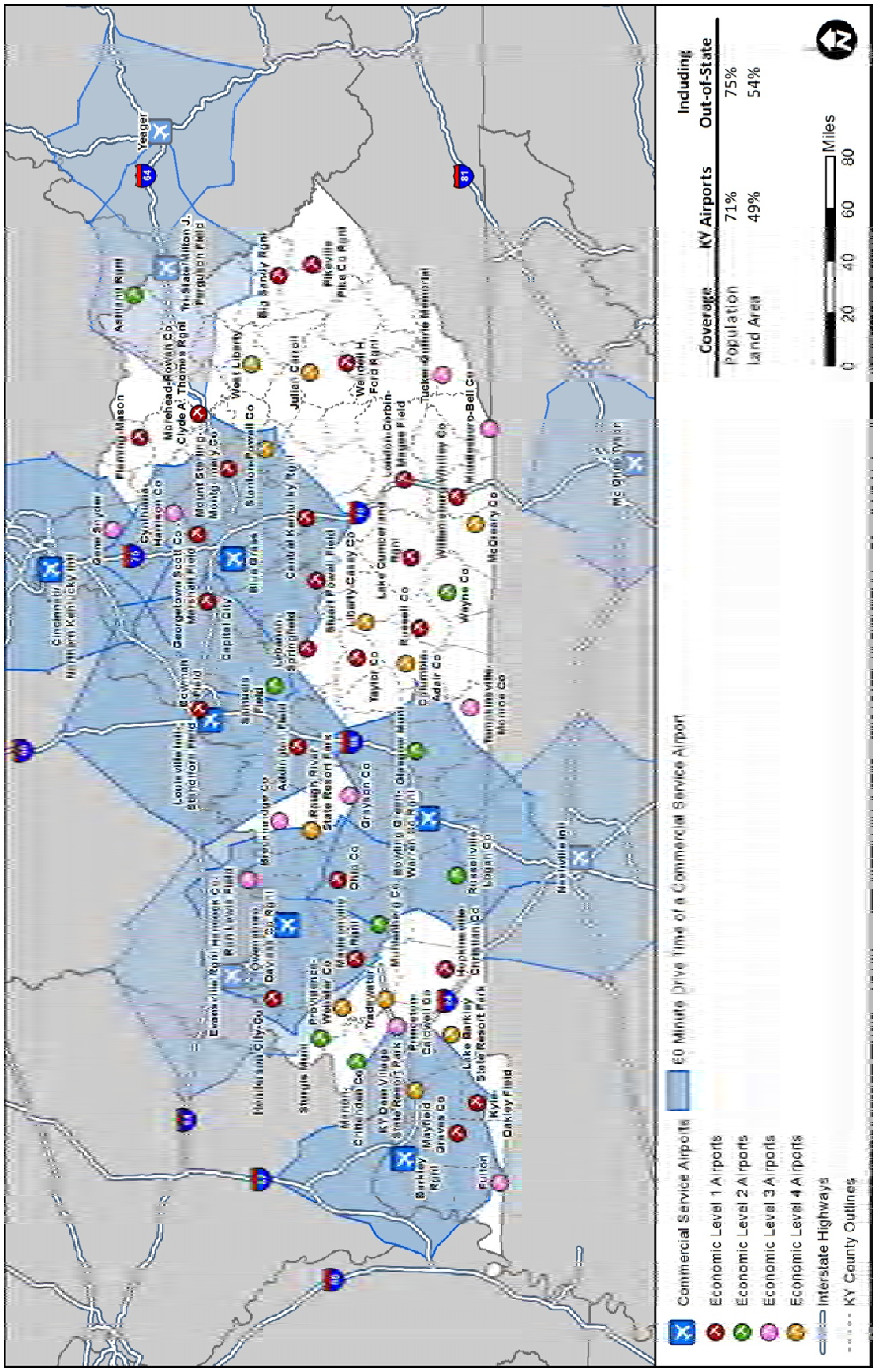
Objective 1.10: Assess the adequacy of coverage by commercial service airports based on GIS drive-time analysis.

In general, people are willing to drive farther to access commercial airline service than they are to access GA services. Before analyzing access to the Kentucky airport system in terms of GA, it is important to assess how accessible the Commonwealth's commercial service airports are to residents. To do so, these six airports will be analyzed using both 60- and 90-minute drive time market areas.

Figure 11-1 illustrates geographic coverage of Kentucky land area and population within 60 minutes of Commercial Service airports. On their own, Kentucky's Commercial Service airports serve 71 percent of the Commonwealth's population and 49 percent of its land area within a 60-minute driving area. When including coverage from nearby out-of-state airports, this coverage increases to 75 percent of total population and 54 percent of land area.

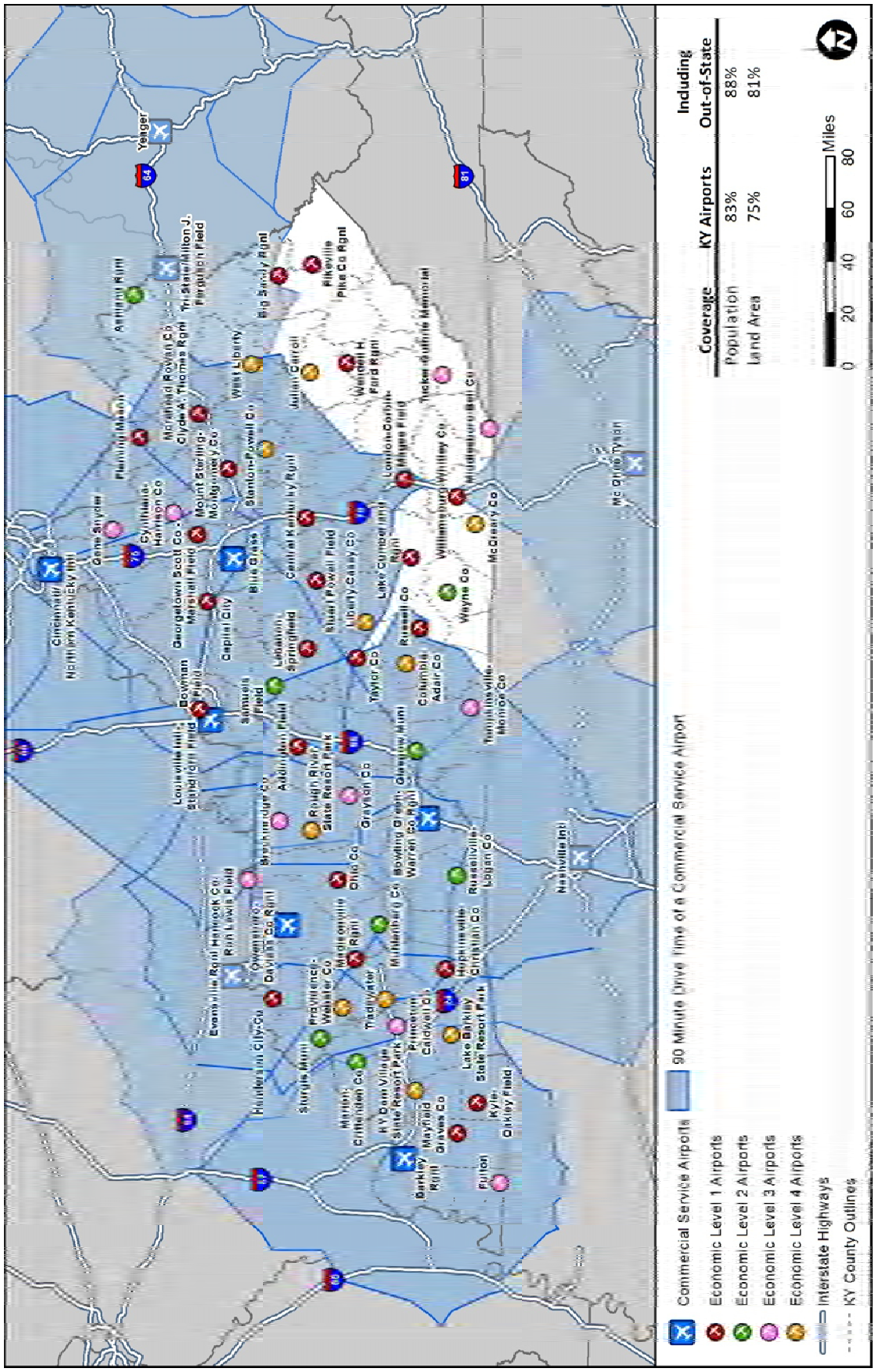
Figure 11-2 illustrates coverage within 90 minutes of Commercial Service airports. On their own, Kentucky's Commercial Service airports serve 83 percent of the Commonwealth's total population and 75 percent of its land area within a 90-minute drive time market area. When including out-of-state Commercial Service airports, this coverage increases to 88 percent of total population and 81 percent of land area. Even with market areas covering a full 90-minute drive time, a large part of rural southeastern Kentucky remains underserved by commercial airline service.

Figure 11-1
Population and Land Area Coverage within 60 Minutes of Commercial Service Airports



Source: CDM Smith, U.S. Census Bureau.

Figure 11-2
Population and Land Area Coverage within 90 Minutes of Commercial Service Airports



Source: CDM Smith, U.S. Census Bureau.

Airport Role Coverage

Objectives 1.11 through 1.14: Assess the adequacy of coverage by Economic Level 1, 2, 3, and 4 airports based on GIS drive-time analysis.

Chapter 8 of the SASP, Airport Role Analysis and Benchmarks, stratified the Kentucky system of 59 public-use airports into five unique roles: one Commercial Service role and four GA roles. To illustrate the geographic coverage of these airport roles, they are presented in a set of tiers. Because Commercial Service airports serve very similar GA needs to airports in the Economic Level 1 role, these two roles are grouped together as the first tier. Following this, Economic Level 2 airports are added to the coverage, followed by Economic Level 3 and finally Economic Level 4. The reasoning behind this approach is that no airport role exists in a vacuum. For example, airports in the Economic Level 2 group are more than capable of meeting demands typically met by Economic Levels 3 and 4 airports.

Table 11-5 details coverage of the Kentucky system in terms of total Kentucky land area and population. In total, over 85 percent of Kentucky's total population has 30-minute driving access to a public-use airport. When including the aforementioned out-of-state airports, this coverage increases to over 87 percent. Land area coverage is not as high, largely due to Kentucky's eastern region, where road networks are less developed and traveling short distances often takes far more time. When all Kentucky and out-of-state airports are included, their 30-minute drive time market areas cover approximately 66 percent of the Commonwealth's total area.

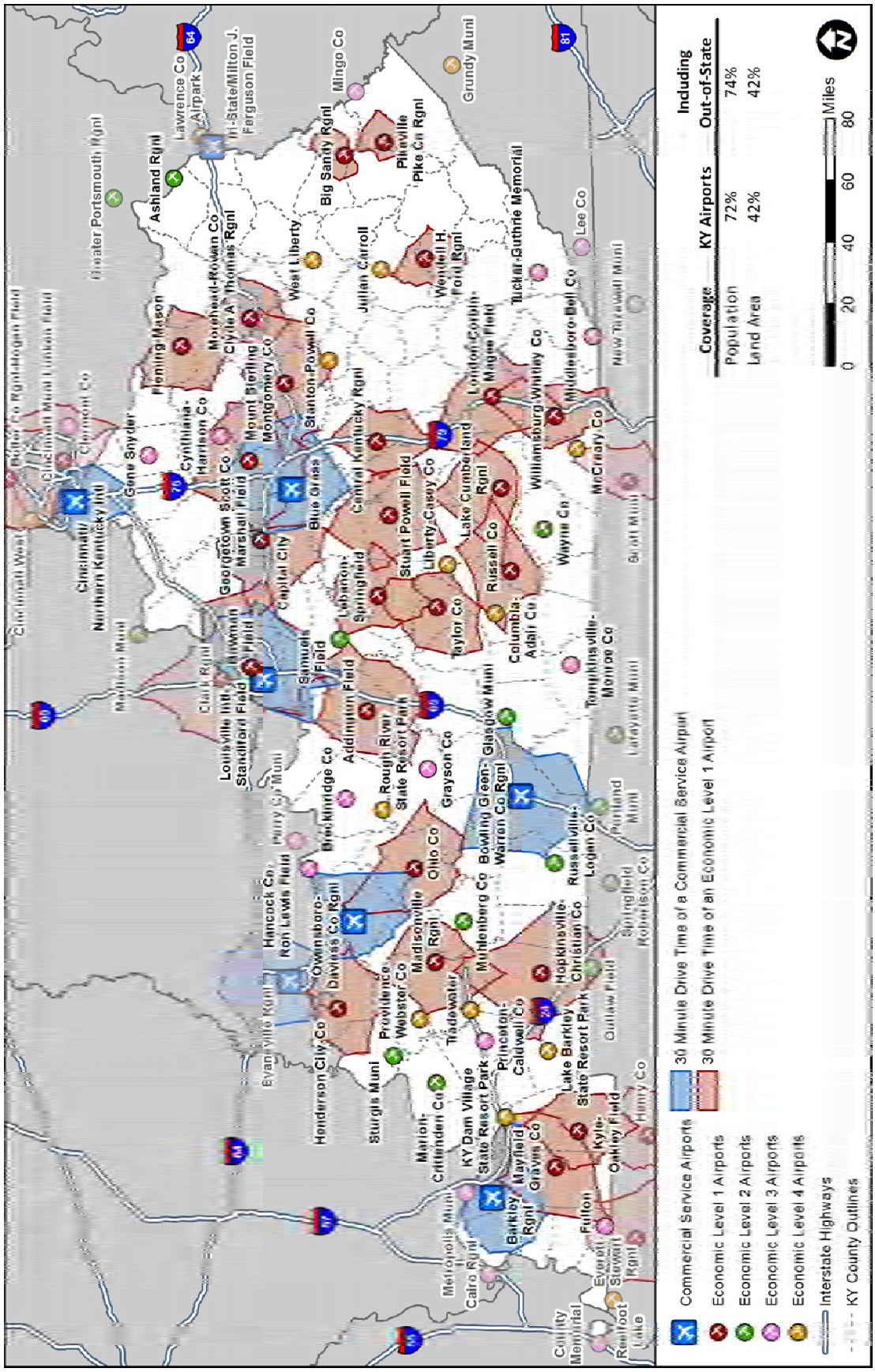
Table 11-5
Summary of Land Area and Population Coverage by Airport Role

Airport Role	Kentucky System Only		Including Out-of-State Airports	
	KY Population	KY Land Area	KY Population	KY Land Area
Commercial Service & Economic Level 1	72%	42%	74%	42%
w/Economic Level 2	78%	51%	81%	52%
w/Economic Level 3	83%	59%	85%	61%
w/Economic Level 4	85%	65%	87%	66%

Source: CDM Smith, U.S. Census Bureau.

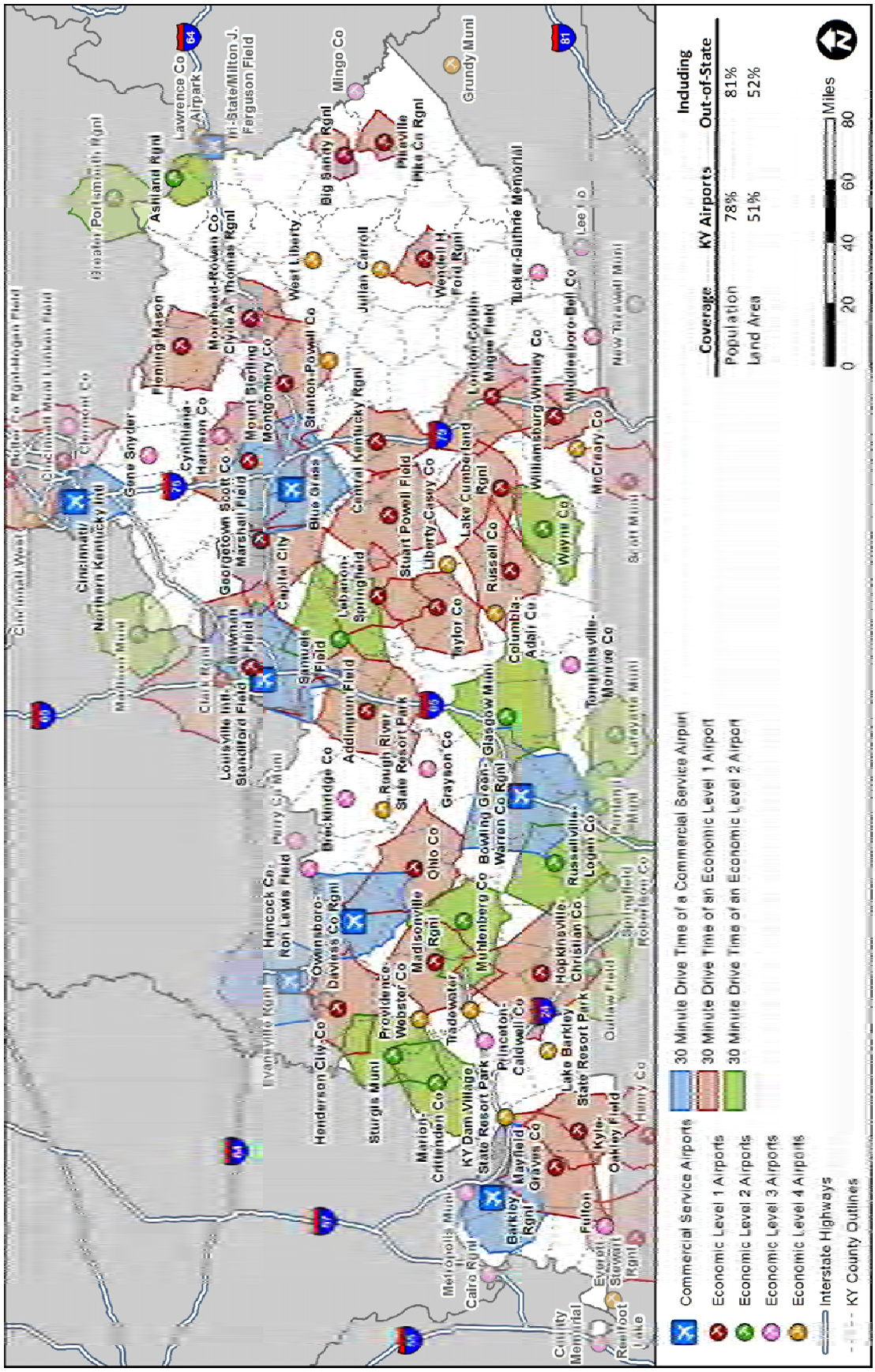
Figures 11-3 through **11-6** illustrate this population and geographic coverage on a series of maps. Certain parts of the state are not served within 30 minutes of a Kentucky system airport, including large areas of rural eastern Kentucky. However, the most populous area not served within 30 minutes of an airport is a region between Cincinnati and Louisville along Interstate 71, including much of Gallatin, Carroll, Trimble, Henry, and Owen Counties.

Figure 11-3
Population and Land Area Coverage of Commercial Service and Economic Level 1 Airports



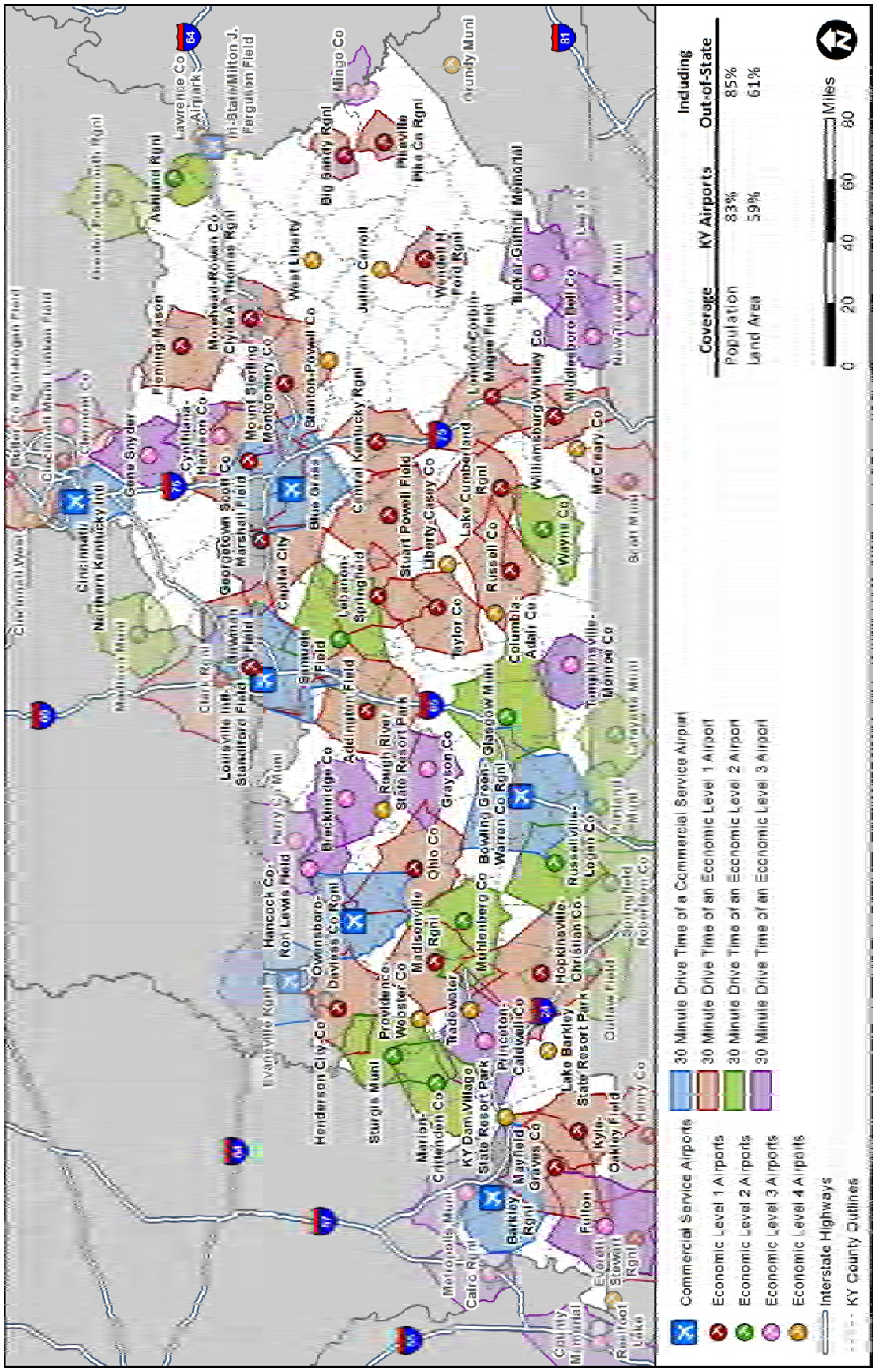
Source: CDM Smith, U.S. Census Bureau.

Figure 11-4
Population and Land Area Coverage of Commercial Service and Economic Levels 1 and 2 Airports



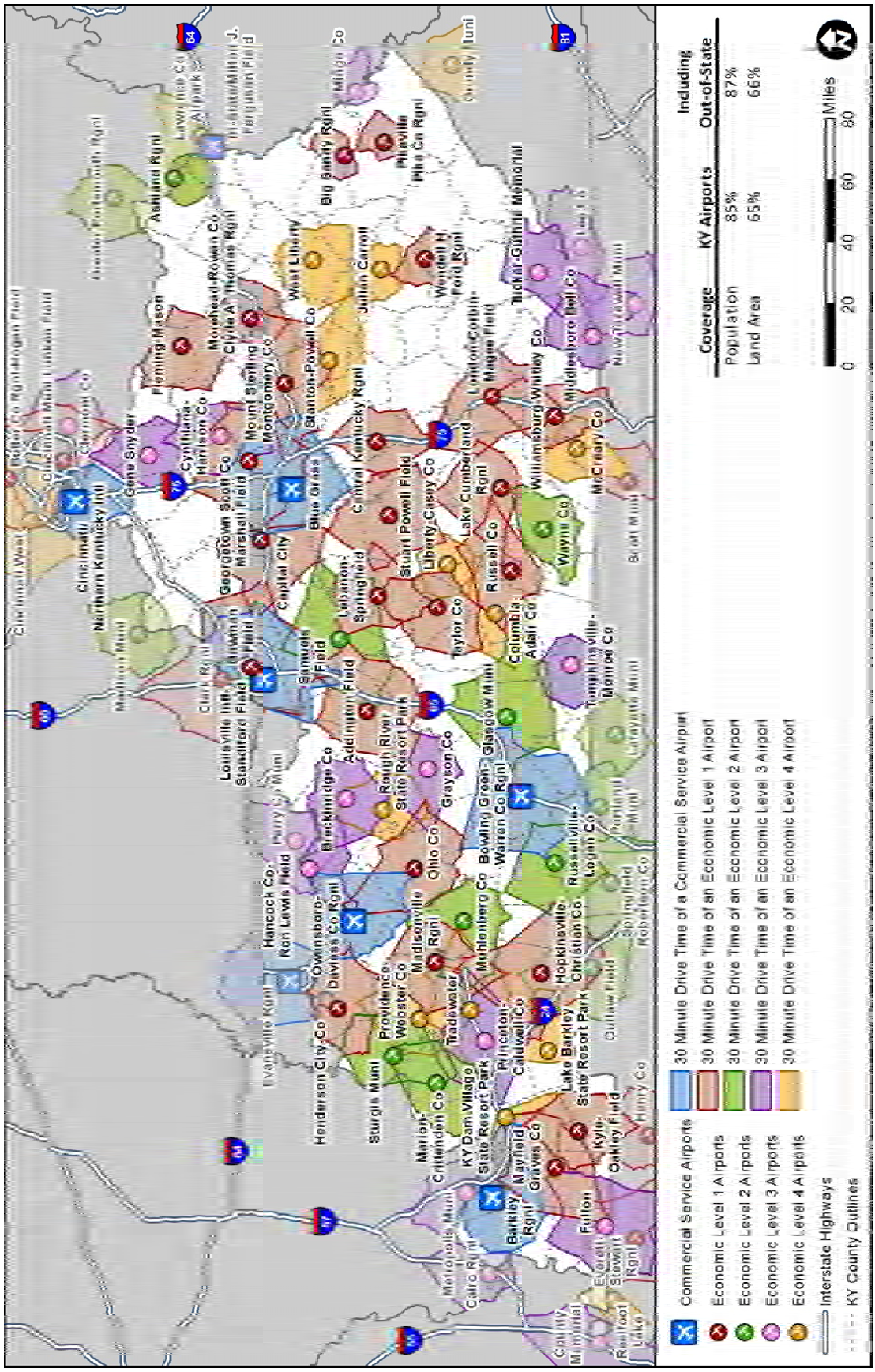
Source: CDM Smith, U.S. Census Bureau.

Figure 11-5
Population and Land Area Coverage of Commercial Service and Economic Levels 1, 2, and 3 Airports



Source: CDM Smith, U.S. Census Bureau.

Figure 11-6
Population and Land Area Coverage of the Kentucky Airport System, by Role



Source: CDM Smith, U.S. Census Bureau.

Coverage by Airport Facilities and Services

Revealing the coverage of Kentucky's airport roles is only the first step in determining how residents of the Commonwealth have access to the airport system. Equally important is illustrating access to the various facilities and services provided by these airports. One region of the state may have very good access to airports of a certain role level, but lack good access to jet fuel or instrument approach capabilities, for example.

To measure this coverage, the Kentucky system was split into new groups based not on SASP roles, but on existing facilities and services. The facilities and services selected for this analysis are those typically sought after by the aviation public, particularly businesses. The following sections will analyze coverage of Kentucky airports that provide the following facilities or services:

- 5,000-foot primary runway
- Instrument approach capabilities
- Aircraft fuel
- "Business user needs"
- Based flight training
- Automated weather reporting

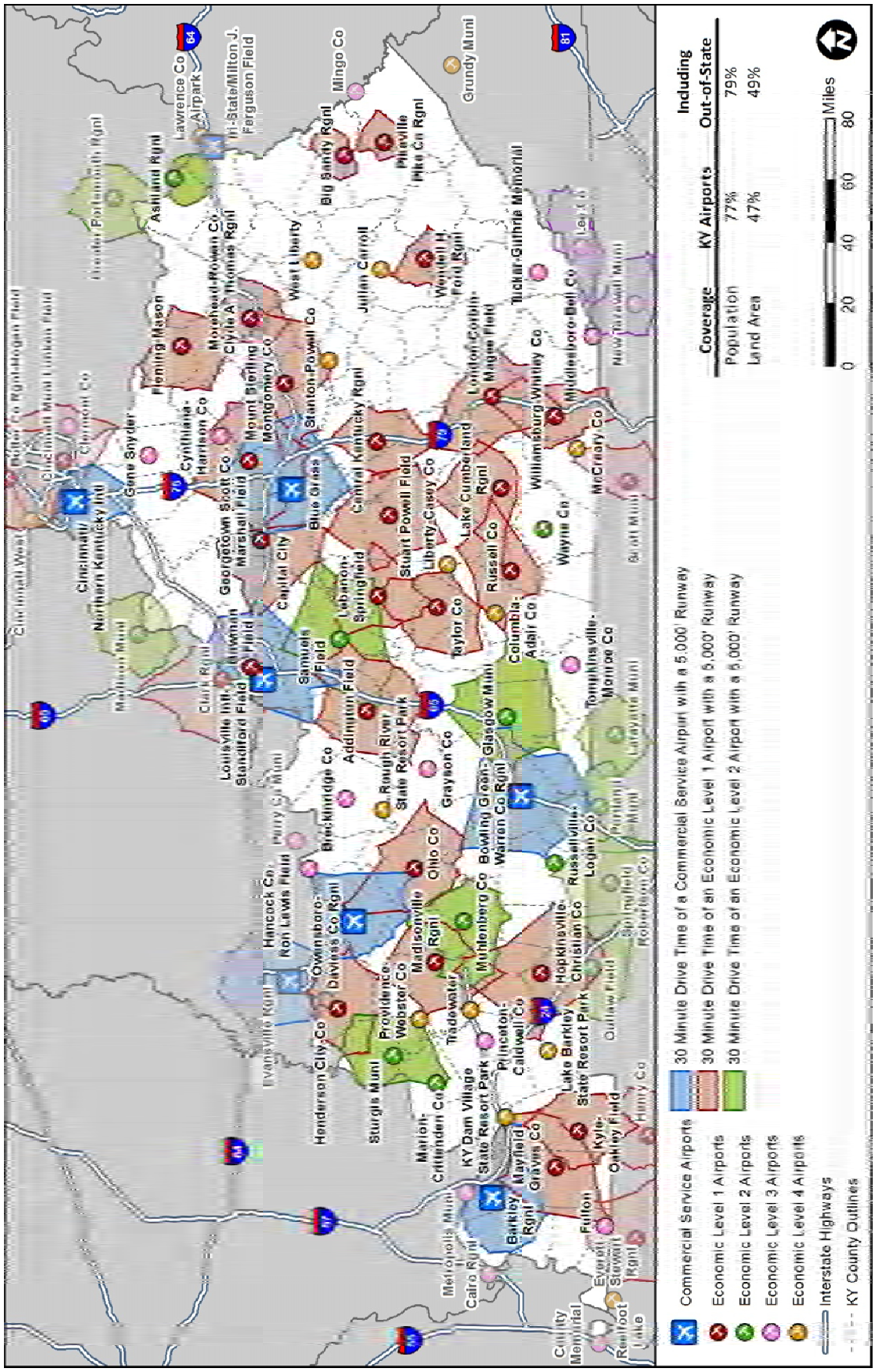
Additionally, the chapter assesses how well the Commonwealth's registered pilot population has access to Kentucky system airports.

Coverage of Airports with a 5,000-Foot Primary Runway

Objective 1.15: Assess the adequacy of coverage by system airports with a runway length of at least 5,000 feet.

While runway length is not always the most important factor when determining the types of activities that will occur at an airport, it can nonetheless be a significant characteristic. Having a runway that is at least 5,000 feet in length is particularly important to business jet and medevac operators. In total, 34 of the Commonwealth's 59 airports have a primary runway that is at least 5,000 feet in length, accounting for coverage of 77 percent of the Commonwealth's total population and 47 percent of its land area. When adding out-of-state airports that have a 5,000-foot runway and are accessible from Kentucky, this coverage increases to 79 percent of the Commonwealth's population and 49 percent of its geographic area. **Figure 11-7** illustrates this coverage.

Figure 11-7
Population and Land Area Coverage of Kentucky Airports with a 5,000-Foot Runway



Source: CDM Smith, FAA Form 5010, U.S. Census Bureau.

Coverage of Airports with an Instrument Approach

Objective 1.16: Assess the adequacy of coverage by system airports with instrument approach procedures (IAP) based on GIS drive-time analysis.

Chapter 3 of the SASP, Kentucky Airport System Inventory, provided an overview of several types of instrument approach capabilities, and detailed the best instrument approach available at each system airport. These instrument approaches are crucial facilities for efficient and safe airport operations, particularly during times of inclement weather. To analyze coverage of Kentucky's airports based on their instrument approaches, approaches were divided into three basic groups: precision approaches, approaches with vertical guidance (APV), and all other instrument approaches.

Like the coverage of airports based on their roles, coverage of instrument approach capabilities is presented in a tiered format. As shown in **Table 11-6**, airports with a precision approach are only accessible within 30 minutes to 31 percent of Kentucky's population and 6 percent of its total land area. However, when adding airports with an APV, this coverage increases dramatically to 77 percent of the Commonwealth's total population and 52 percent of its land area. When accounting for all instrument approaches and out-of-state airports, coverage increases to 84 percent of total population and 58 percent of land area.

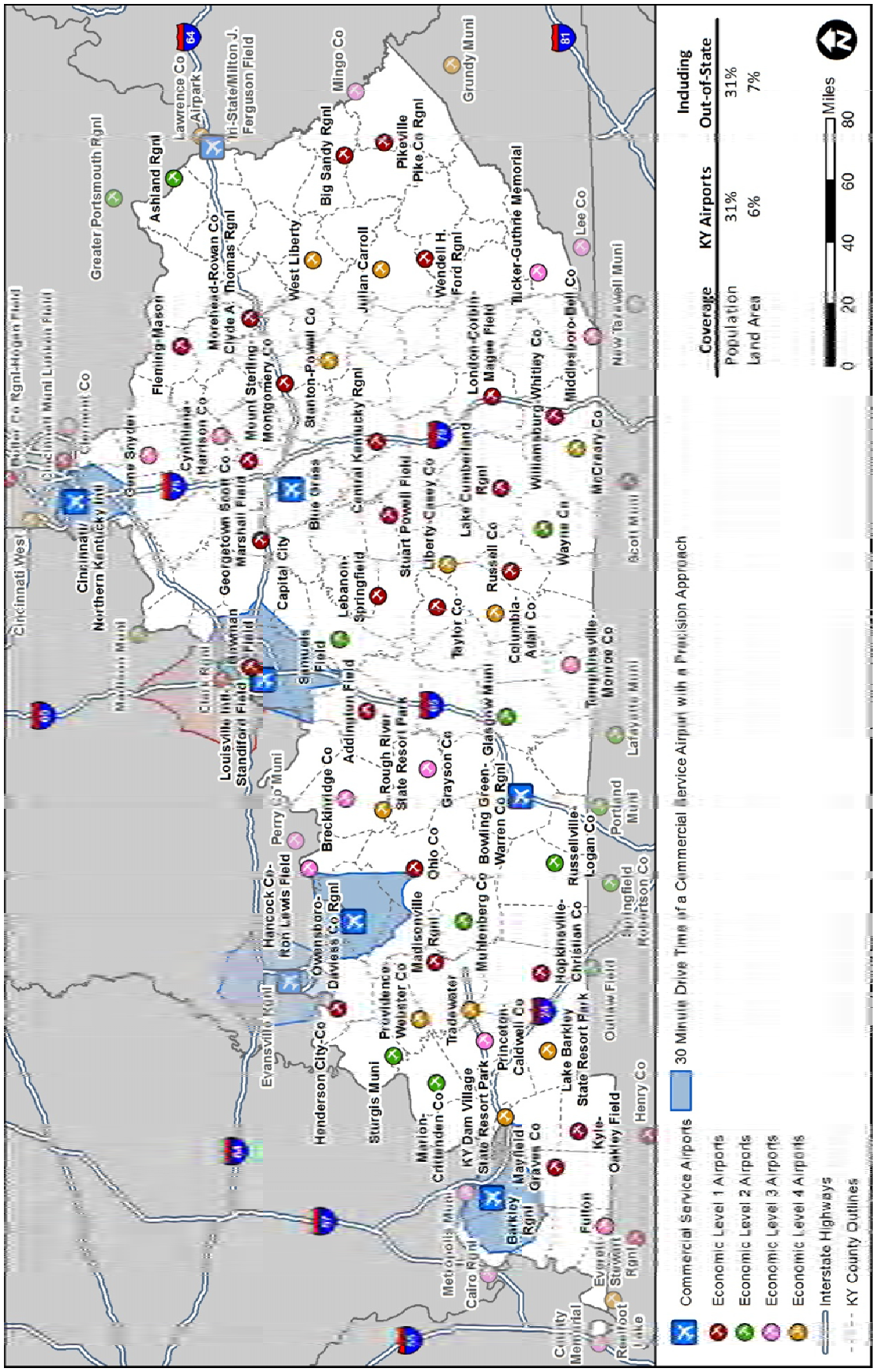
Table 11-6
Coverage of Airports with an Instrument Approach

Airport Role	Kentucky System Only		Including Out-of-State Airports	
	KY Population	KY Land Area	KY Population	KY Population
Airports with a Precision Approach	31%	6%	31%	7%
Airports with a Precision Approach or APV	77%	52%	79%	53%
Airports with any Instrument Approach	82%	57%	84%	58%

Source: Airport Approach Plates, U.S. Census Bureau.

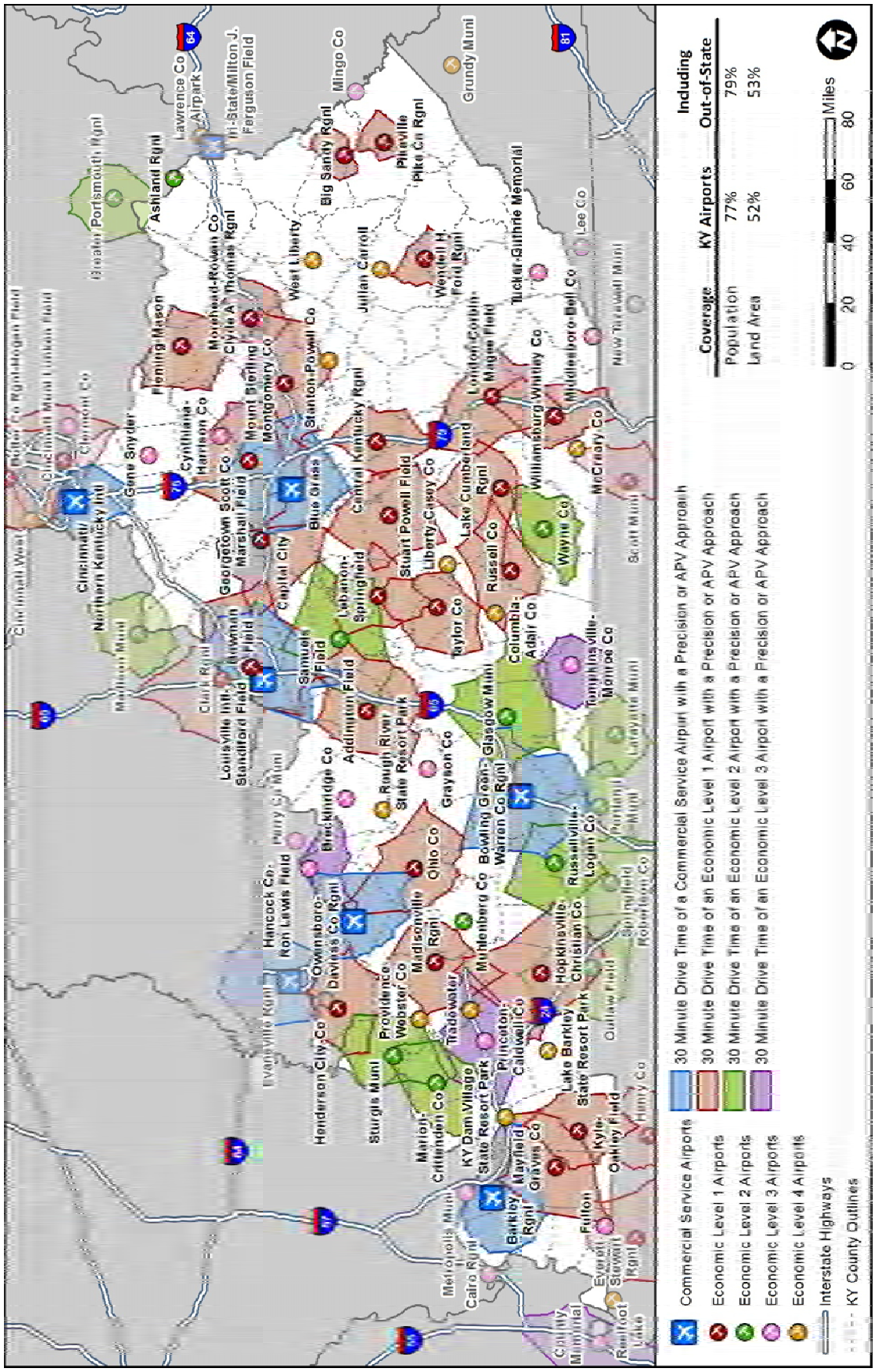
Figures 11-8 through **11-10** show this geographic coverage on a series of maps.

Figure 11-8
Population and Land Area Coverage of Kentucky Airports with a Precision Approach



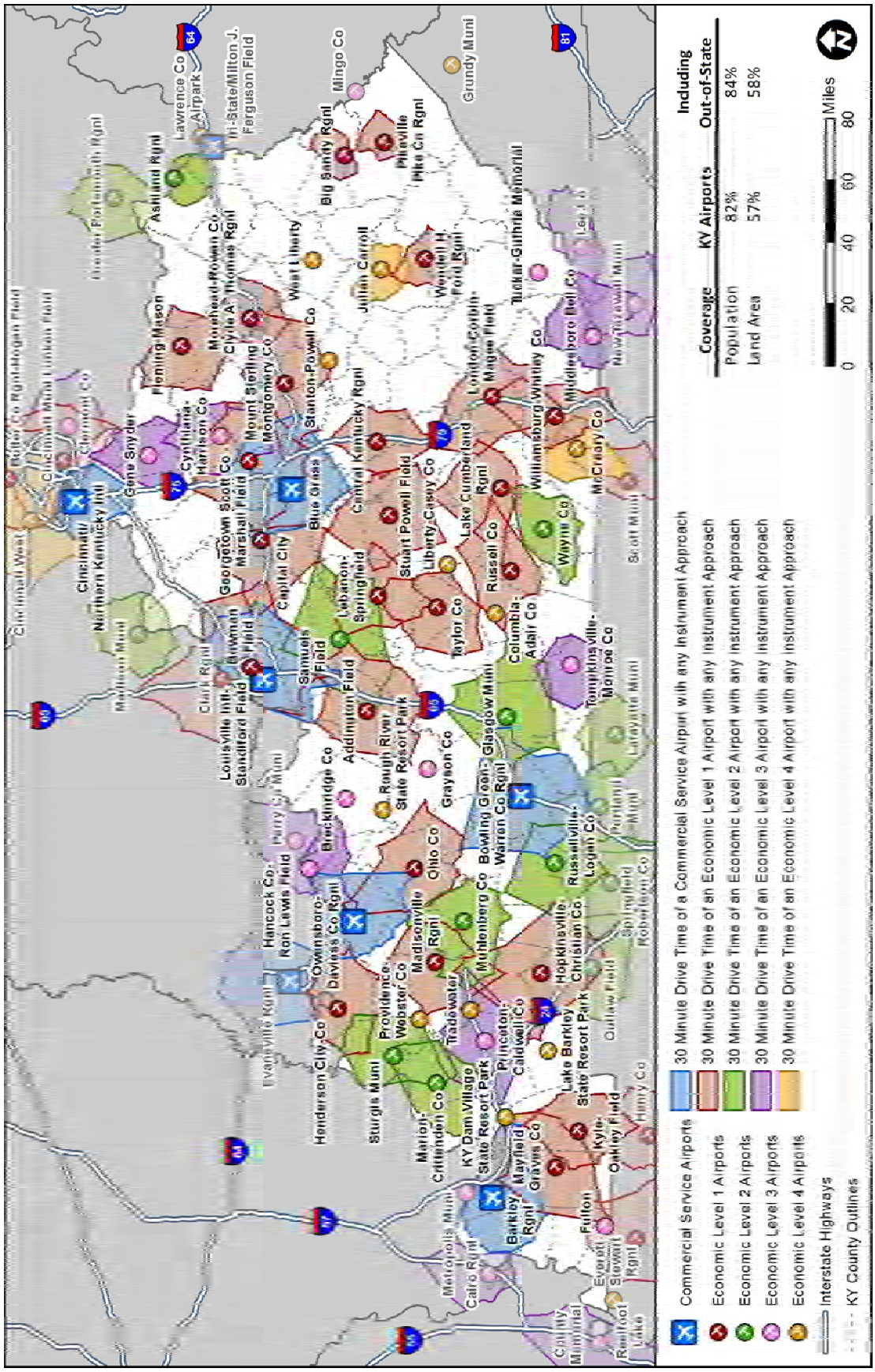
Source: Airport Approach Plates, CDM Smith, U.S. Census Bureau.

Figure 11-9
Population and Land Area Coverage of Kentucky Airports with a Precision Approach or APV



Source: Airport Approach Plates, CDM Smith, U.S. Census Bureau.

Figure 11-10
Population and Land Area Coverage of Kentucky Airports with any Instrument Approach



Source: Airport Approach Plates, CDM Smith, U.S. Census Bureau.

Coverage of Airports with Aircraft Fueling Service

Objectives 1.17 and 1.18: Assess the adequacy of coverage by system airports with avgas and jet fuel service based on GIS drive-time analysis.

Aircraft fueling is a basic and important service that provides several benefits to both airports and airport users. The widespread availability of fuel means that GA pilots have more options for refueling as they traverse the nation, and it is an attractive service for aviation users when determining where to base their aircraft. As a result, aircraft fueling may lead to additional hangar or apron revenue in addition to fuel revenue.

In total, 41 airports in the Commonwealth offer both jet A fuel and 100LL avgas, while an additional 10 airports offer only avgas. **Figure 11-11** shows coverage of airports with both jet fuel and avgas service. Together, these airports are accessible within 30 minutes of 80 percent of Kentucky's total population and 53 percent of its land area. When adding in airports that also offer only avgas, in addition to out-of-state airports with fueling service, this coverage increases to 86 percent of the Commonwealth's population and 63 percent of its land area. This coverage of airports with any fueling service is shown on **Figure 11-12**.

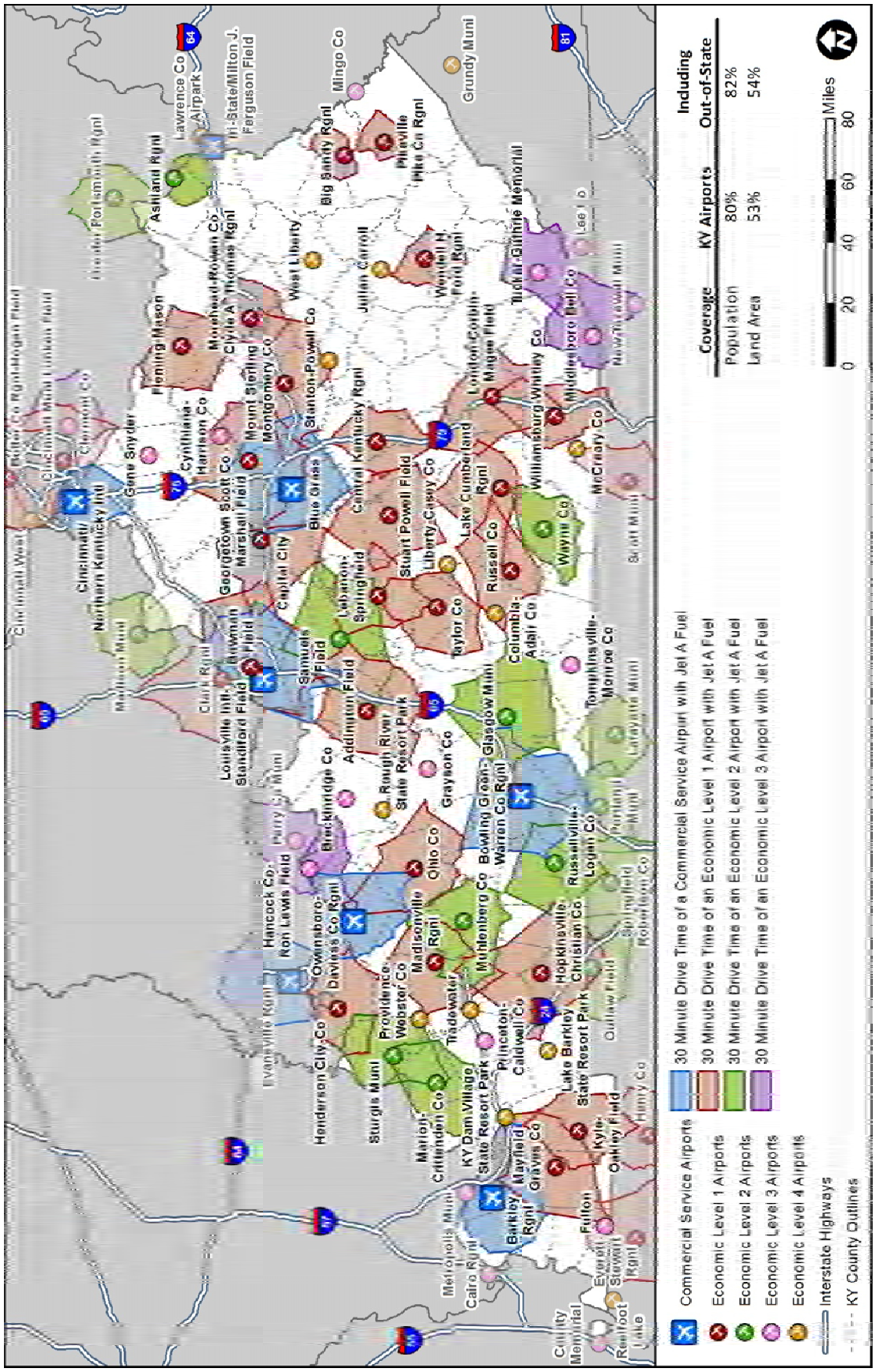
Coverage of Airports Meeting Business User Needs

Objective 4.04: Assess the coverage provided by system airports that typically provide service for business aircraft by evaluating system airports with 5,000-foot runways, automated weather reporting, jet fuel, and an instrument approach with vertical guidance.

The previous three sections, analyzing coverage of runway length, instrument approaches, and aircraft fueling, all show access to airports that provide business-friendly services. This section combines them into a category called "business user needs," meaning those airports that are best equipped to handle the needs of corporate aviation. For the purposes of the SASP, this includes Kentucky airports that have a runway at least 5,000 feet in length, a precision or APV approach, automated weather reporting, and jet fuel service.

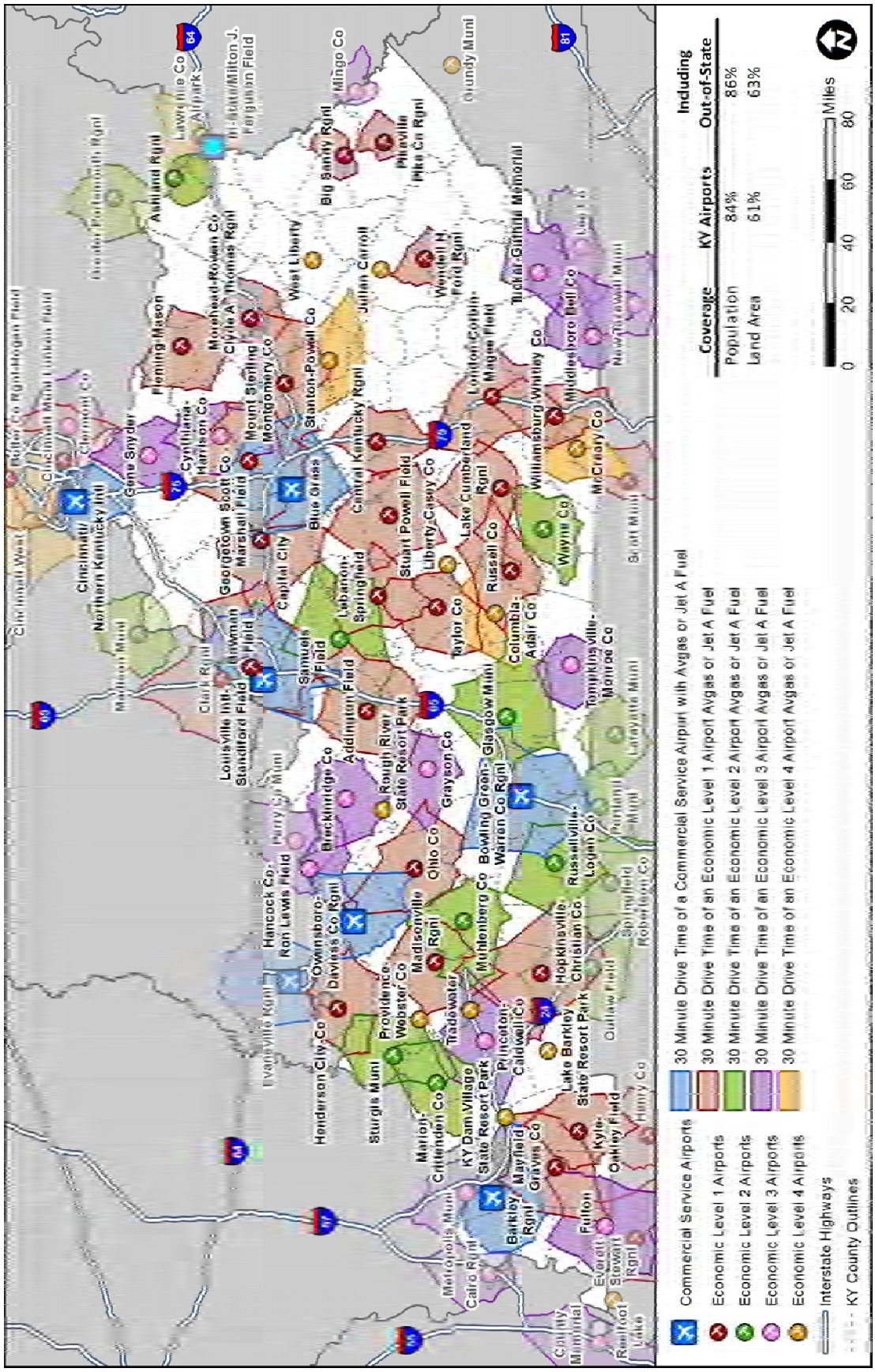
Over 50 percent (32 airports) of the Kentucky system of public-use airports meet these qualifications, revealing a system that is well equipped to meet the demands of the business aviation community. **Figure 11-13** shows the coverage of these 32 airports, which includes 74 percent of the Commonwealth's total population and 46 percent of its land area. When including out-of-state airports with these capabilities, coverage increases to 77 percent of population and 47 percent of land area. That over three quarters of Kentucky's population has easy access to airports with these capabilities speaks not only of the airport system's current development, but also of its continuing potential to serve the Commonwealth.

Figure 11-11
Population and Land Area Coverage of Kentucky Airports with Jet Fuel Service



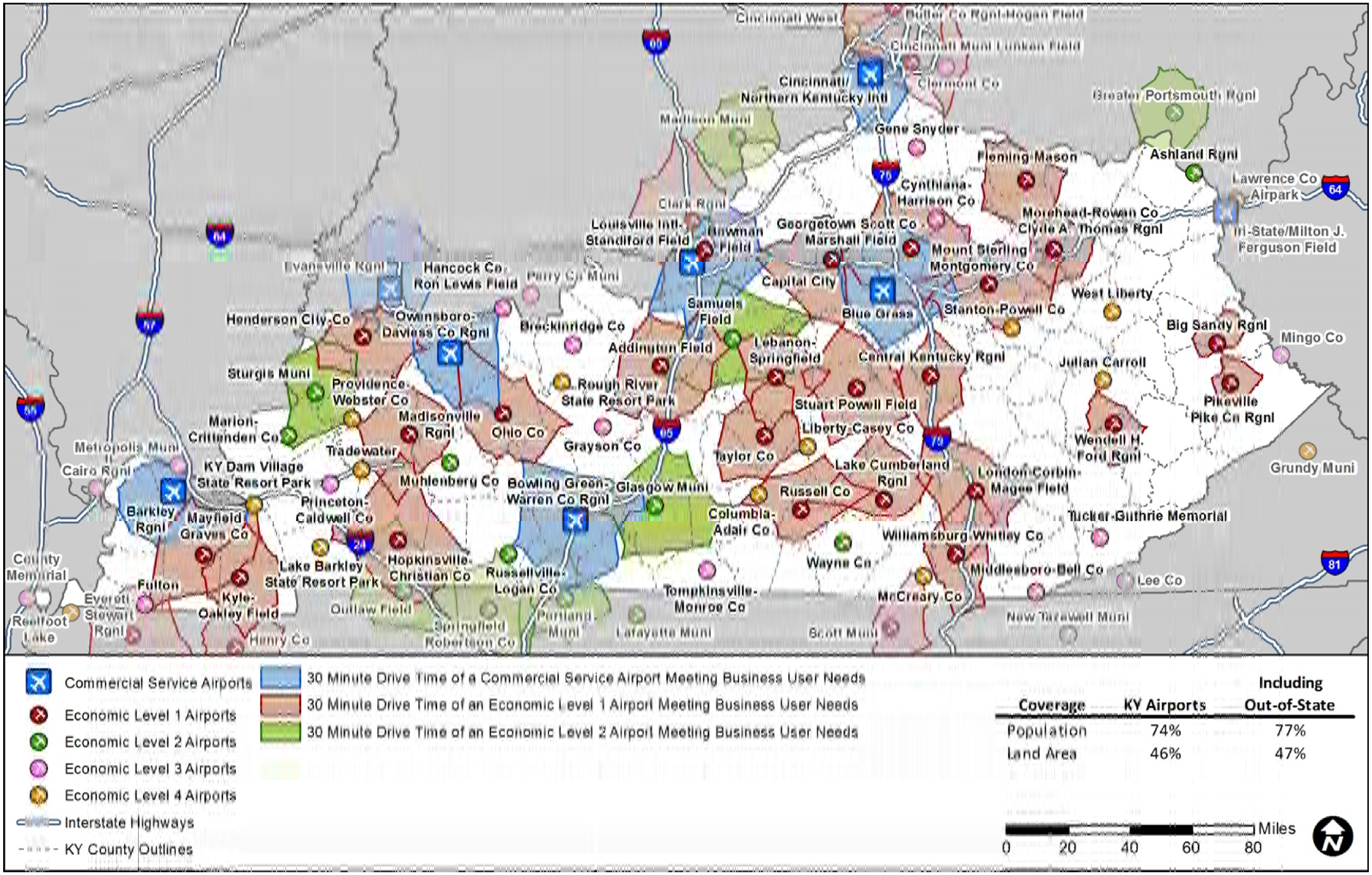
Source: CDM Smith, FAA Form 5010, U.S. Census Bureau.

Figure 11-12
Population and Land Area Coverage of Kentucky Airports with Any Fuel Service



Source: CDM Smith, FAA Form 5010, U.S. Census Bureau.

Figure 11-13
Population and Land Area Coverage of Kentucky Airports Meeting Business User Needs



Source: Airport Approach Plates, CDM Smith, FAA Form 5010, U.S. Census Bureau.

Coverage of Airports with Based Flight Training

Objective: Assess the coverage provided by system airports that offer based flight training.

Like services such as aircraft fueling, based flight training provides several benefits to individual airports and the Kentucky system as a whole. At the most basic level, flight training provides airports with revenues through leases, fuel sales, and other airport fees. Beyond this, however, flight training ensures future interest in aviation in the Commonwealth while training the next generation of pilots.

In total, 29 of Kentucky's public-use airports have based flight training available to airport users. **Figure 11-14** reveals the coverage of these airports, which are accessible within 30 minutes to 67 percent of Kentucky's population and 41 percent of its land area. When including out-of-state airports that are accessible to Kentucky and offer based flight training, this coverage increases to 71 percent of total population and 42 percent of land area.

Coverage of Airports with Automated Weather Reporting

Objective 2.13: Assess the adequacy of coverage by airports with automated weather reporting using a 30-nautical mile radius of coverage.

An automated weather reporting system such as an AWOS or ASOS is another important facility for improving safety and efficiency at airports. Because weather reporting is used while in flight, a 30-nautical mile radius of each airport is used in lieu of 30-minute drive time areas. Thirty nautical miles is considered a typical range of usage for automated weather reporting systems.

In total, 43 of Kentucky's 59 system airports provide automated weather reporting via systems such as an AWOS or ASOS. The 30-nautical mile radii of these airports cover 99 percent of the Commonwealth's land area and 99 percent of its population. When including out-of-state airports with automated weather reporting, coverage increases to virtually 100 percent of both land area and population. This coverage is shown on **Figure 11-15**.

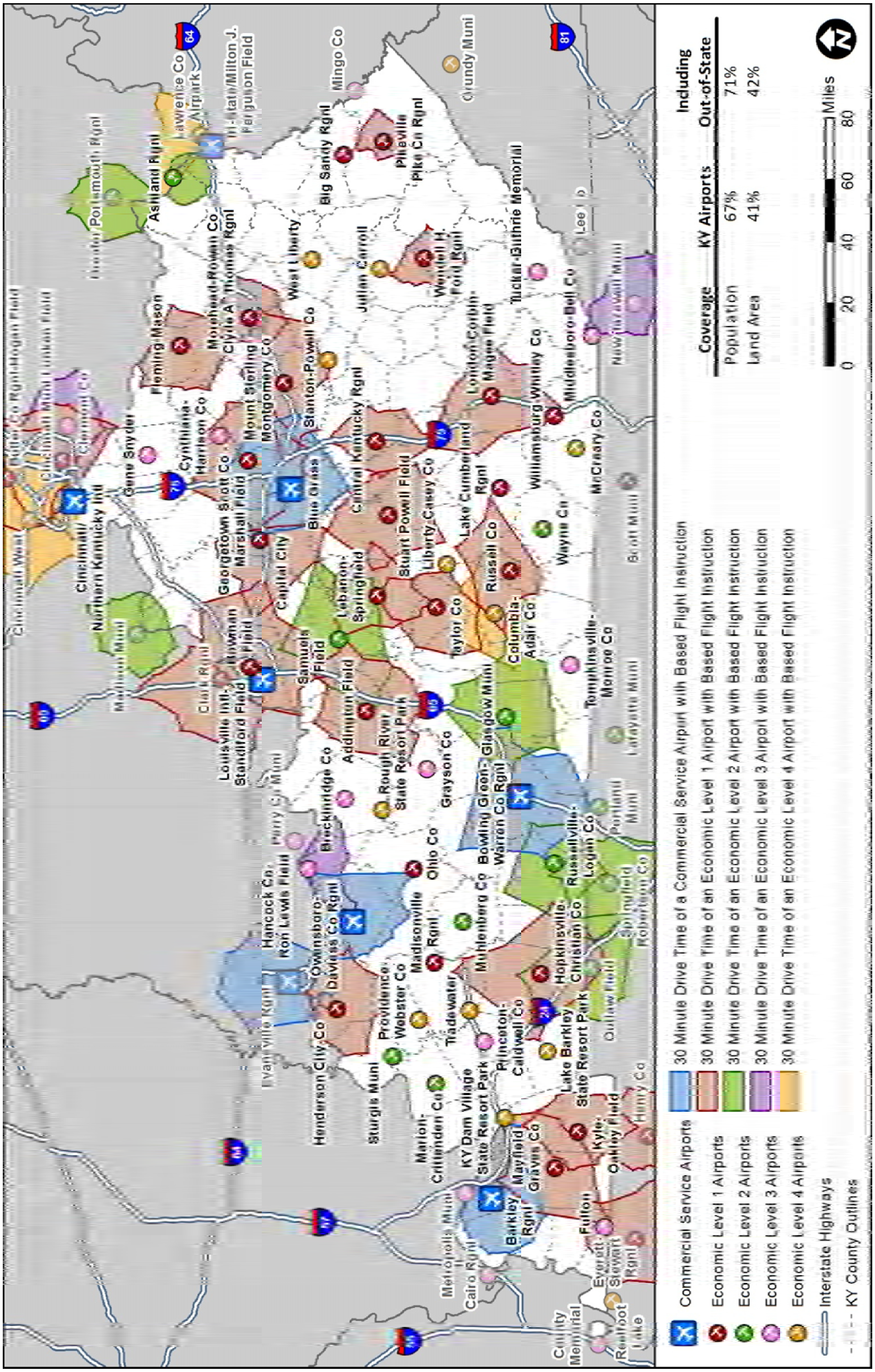
Accessibility for Kentucky's Pilot Population

Objective: Assess the coverage of Kentucky's registered pilot population by system airports.

There are currently over 4,800 registered pilots in Kentucky. A pilot population that lives near airports may be indicative of, if not always directly correlated with, two factors. First that these pilots are active, and choose to live close to the airports at which they operate. Second, a high coverage of registered pilots may mean that these airports offer the services that they require for operation, leading to pilots that want to live near their most commonly used airports.

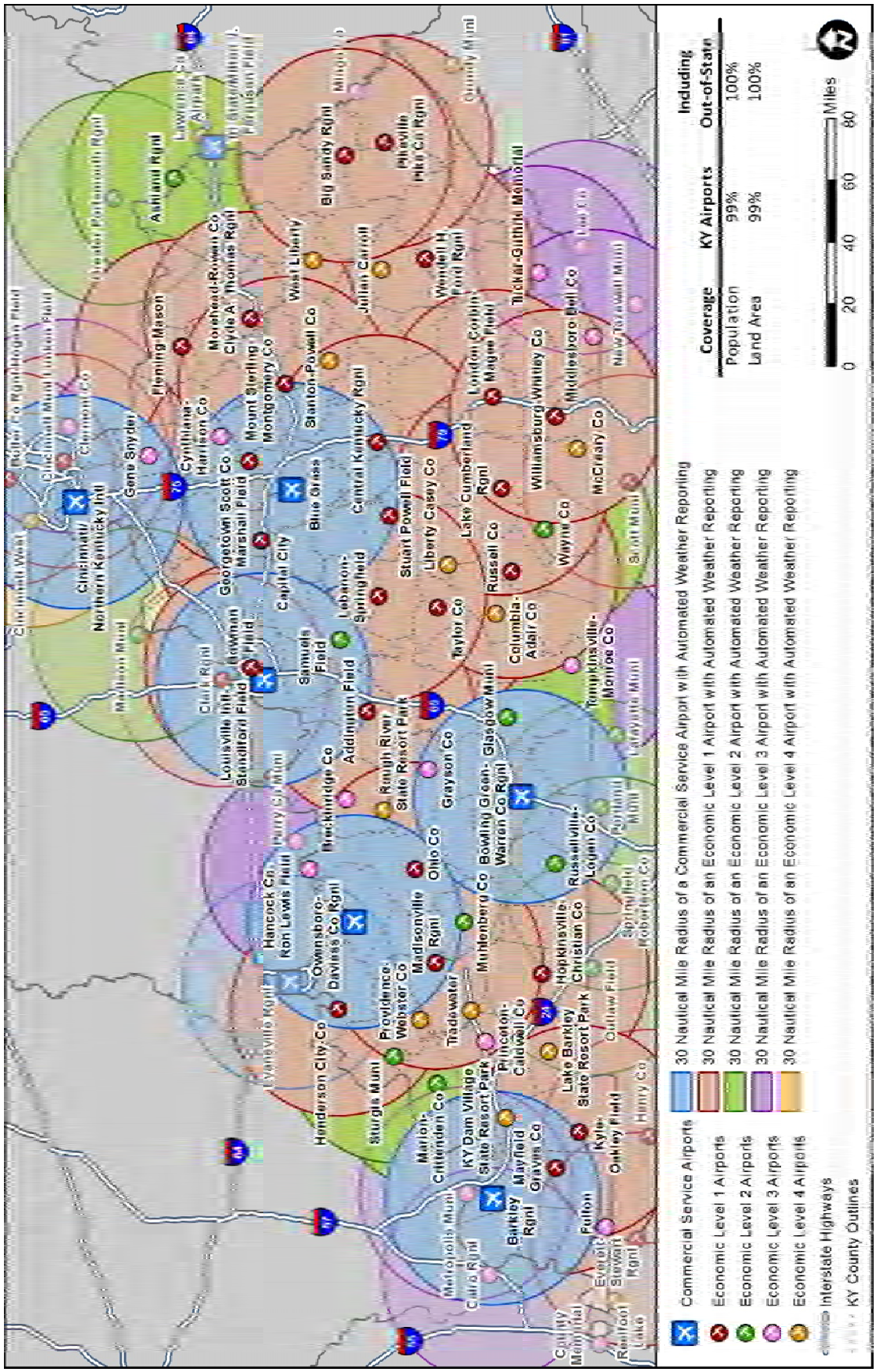
Figure 11-16 shows the locations of Kentucky's registered pilot population and the 30-minute drive time market areas of all 59 airports in the system. On their own, Kentucky's system airports cover 90 percent of the Commonwealth's registered pilots, a coverage that increases to 92 percent when including out-of-state airports.

Figure 11-14
Population and Land Area Coverage of Kentucky Airports with Based Flight Training



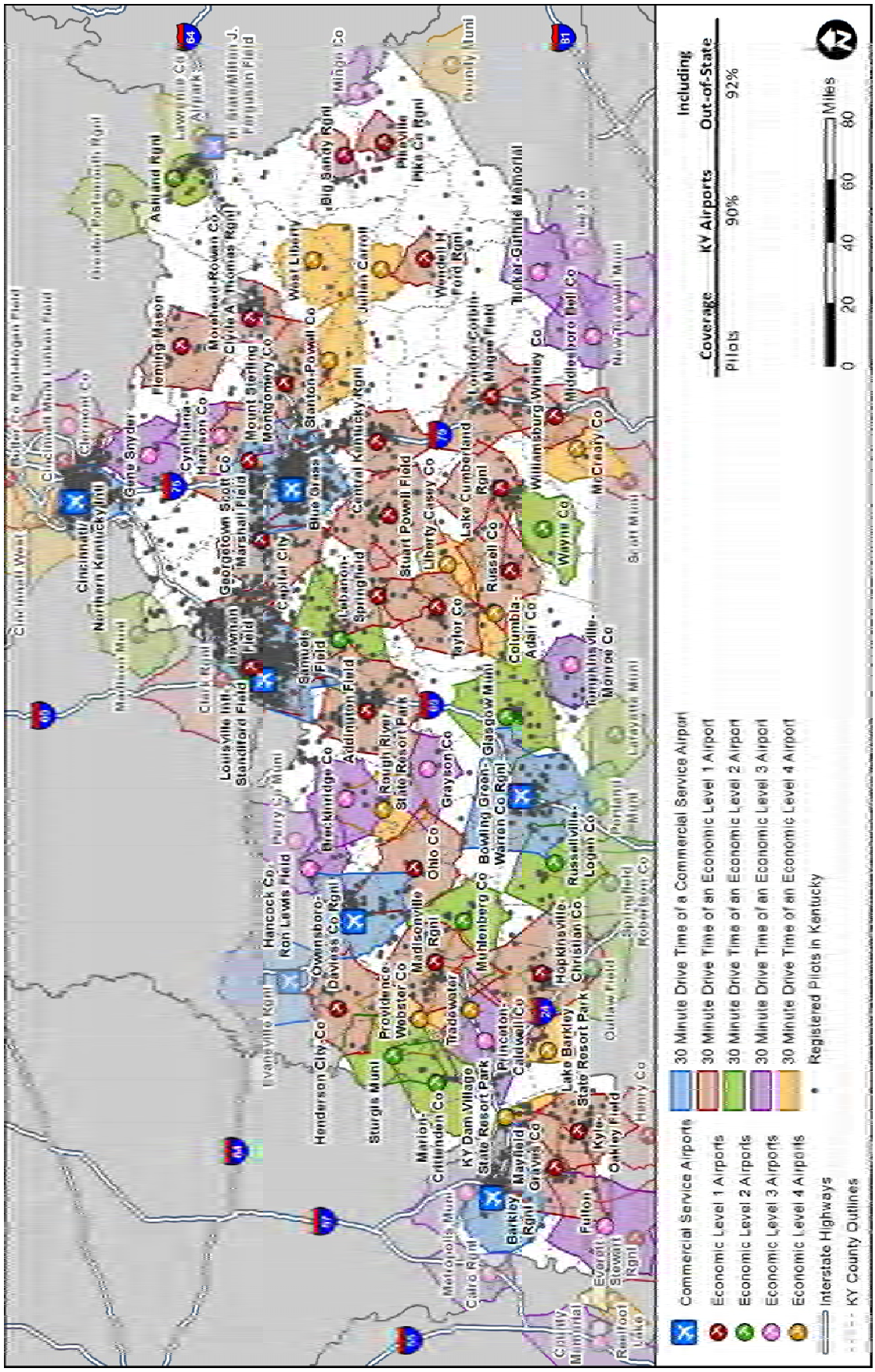
Source: Airport Inventory and Data Survey, CDM Smith, U.S. Census Bureau.

Figure 11-15
Population and Land Area Coverage of Kentucky Airports with Automated Weather Reporting



Source: CDM Smith, U.S. Census Bureau.

Figure 11-16
Coverage of Kentucky's Registered Pilot Population with 30 Minutes of a System Airport



Source: CDM Smith, FAA, U.S. Census Bureau.

Summary

This chapter analyzed how well the Kentucky system of 59 public-use airports serves the Commonwealth geographically, both in terms of population and land area coverage. Kentucky is home to a widespread and well-developed system of public-use airports, and in general, this system of airports is highly accessible to the Commonwealth's population and businesses. The following summarizes some of the results of this analysis:

- Commercial airline service is available to 75 percent of the Commonwealth's population within a 60-minute drive time, and to 88 percent within a 90-minute drive time.
- All 59 system airports were assigned a 30-minute drive time market area, an industry standard market area for determining access to GA services. In total, 87 percent of Kentucky's population has 30-minute access to a public-use airport.
- The Kentucky system was also analyzed in terms of accessibility to airports with certain facilities and services. This chapter analyzed 30-minute accessibility to airports with:
    - A 5,000-foot runway: 79 percent of total population.
    - An instrument approach: 84 percent of total population.
    - Aircraft fuel: 82 percent of total population coverage for jet fuel, 86 percent coverage for jet fuel or avgas.
    - Business user needs (5,000-foot runway, precision or APV approach, automated weather reporting, and jet fuel): 77 percent of total population.
    - Based flight training: 71 percent of total population.
- Airports with on-site weather reporting capabilities cover virtually all of Kentucky within a 30-nautical mile radius.
- Over 90 percent of all Kentucky registered pilots live within a 30-minute drive time of a public-use airport.

There remain gaps in service, however, most notably throughout parts of eastern Kentucky and in a region of northern Kentucky along Interstate 71. Part of these gaps will be filled with the construction of new airports in Gallatin County (Sparta) and Letcher County (Whitesburg). Chapter 12 of the SASP, Recommended System and Cost Estimates, will illustrate the future airport system of Kentucky. This future system will not only include the new airports and illustrate how they increase system coverage, but it also assumes that all airports will meet facility and service benchmarks, and how that too increases coverage and fills geographic gaps.