

March 12, 2024

**To: Oregon Department of Aviation; Kenji Sugahara, Director**

**Re Comments on FAA Forecast Approval letter and Chapter 3 Airport Activities Forecast**

The FAA “Aurora (UAO) Aviation Activity Forecast Approval letter of November 15, 023 (Corrected January 23, 2024) approves the aviation forecasts from the current Aurora Airport Master Plan process for airport planning purposes. These forecasts are detailed in the table “Airport Planning and TAF Forecast Comparison” derived from data in Chapter 3 (Aviation Activity Forecasts) of the master plan.

The Forecast approval letter goes on to state:

*Our approval is based on the following:*

- *The forecast is supported by reasonable planning assumptions and current data*
- *The forecast appears to be developed using acceptable forecasting methodologies*
- *The difference between the FAA Terminal Area Forecast (TAF) and the Airport’s forecast for total operations is within the 10 percent and 15 percent allowance for the 5 and 10 year planning horizons.*

### **Master Plan Aviation Activity Forecasts – Chapter 3**

The Forecasts chapter lists four Operations Forecast Models that were agreed on with the FAA for consideration in in developing the aviation forecasts for UAO. They are:

- Hybrid TFMSC Itinerant/FAA National Aerospace Forecast GA Local Operations Model
- Marion and Clackamas County Combined Population Growth Model
- National Aerospace Forecast Operations (Airports with ATCT)
- Federal Contract Tower TAF State (Oregon) Model

On page 3-26 the section “Recommended Aircraft Operations Forecasts Summary” states:

***The Marion and Clackamas County Combined Population Growth Model is the recommended aircraft operations forecast for the 2021-2041 Aurora State Master Plan. In lieu of representative operational data specific to the Airport, population growth forecasts developed for the two counties most contributing to the Airport service area were selected to indicate future operational activity. The model assumes that operations will track with the local population as it reflects the number of people likely to use airport services. This model reflects***

*the best data available considering the limitations of the available ATCT traffic counts. The model projects an average annual growth rate of 0.9% over the planning period.*

No substantive justification is provided or data presented to make the case that The Marion and Clackamas County Combined Population Growth Model is more accurate and superior to the Federal Contract Tower TAF State (Oregon) Model beyond the assertion: “The model assumes that operations will track with local population, as it reflects the number of people likely to use airport services. This model reflects the best data available considering the limitations of the available ATCT traffic counts.”

**Validity of data**

As stated, The Marion and Clackamas County Combined Population Growth Model projects a 0.9% average growth rate of the planning period of 20 years (from 2020 to 2040), and also states that “The model combines the Portland State University (PSU) Population Research Center (PRC) population forecasts for Marion and Clackamas Counties over the planning period.” However, no references or supporting data from the PSU Population Research Center are presented, and the 0.9% AAGR number does not hold up to scrutiny.

Oregon’s population has been in flux for the past four or five years, with some years showing population decline. PSU data for the period April 1, 2020 to July 1, 2022 (attached) show the following percent change in AAGR:

Clackamas County	0.9%
Marion County	0.3%

For the year 2023, they show the following change in AAGR:

Clackamas County	0.59%
Marion County	0.29%

The PSU forecast data by County (PSU-PRC Regional Meeting; Preliminary Population Projections), show population forecast for each Oregon county. The forecasts for Clackamas and Marion County do not show the 0.9% AAGR stated in the Aviation Activity Forecasts chapter of the master plan. Specifically, for the planning period they show the following (attached):

Clackamas County	0.72%
Marion County	0.46%

Furthermore, no empirical evidence is presented that there is ANY relationship or correlation between general population growth and increased operations at this airport or any other airport. This conclusion that general population growth corresponds to airport operations appears to be a long stretch to justify a higher forecast without any supporting documentation.

The Marion and Clackamas County Combined Population Growth Model, which was selected without justification or supporting data, does not result in an AAGR of 0.9% as alleged, but using a population-weighted average results in 0.62%.

### **Forecast Model Selection**

The Marion and Clackamas County Combined Population Growth Model was selected without supporting data or justification, and the Federal Contract Tower TAF State (Oregon) Model dismissed with a statement about “*the limitations of the available ATCT traffic counts.*”

Figure 3-6: Operations Forecast Models illustrates what is now common knowledge: there are 7 years of FAA operations data for UAO (FAA’s ATADs data) which covers all operations during tower operation (daylight hours). The master plan process has an adjustment factor for non-tower operational hours. The point is that given the wildly overstated and erroneous that ALL previous operations forecasts have been there is 7 years of validated objective data. However, the forecast model that used this data was not selected.

That model, the Federal Contract Tower TAF State (Oregon) Model, is described in Chapter 3 as follows:

*This model applies the Oregon Federal Contract Tower TAF forecast annual growth rates for aircraft classifications to Aurora State Airport’s baseline operations counts (using the same classifications) over the 20-year period. The model assumes that operations at the Airport will be consistent with FAA’s Terminal Area Forecast (TAF) for Oregon airports with contract air traffic control towers. This model provides a more focused regional assessment within the TAF, compared to the TAF national model for contract tower airports, as these airport are the most operationally similar to Aurora State Airport in the state. The model is non-linear and year-over-year growth rates vary. The model assumes that the Airport’s operations will mirror state trends. The model results in an average annual growth rate of 0.6%.*

*This model provides a projection of future changes in the Airport’s annual aircraft operations that is consistent with the trends defined by FAA for similar Oregon airports with contract air traffic control towers. Similar to the contract tower model used for based aircraft forecasting, this projection does not establish an historical statistical relationship between the Airport and the larger data set, although it does provide a reasonable projection for long term planning. The underlying assumption is that future activity within a group of similar Oregon contract towered airports will be similar, and that on the whole, this activity will be consistent with the FAA’s broad expectations defined in its TAF.*

Of note, Federal Contract Tower TAF State (Oregon) Model, results in an AAGR of 0.6%.

The Marion and Clackamas County Combined Population Growth Model which was selected without justification or supporting data results in an AAGR of 0.9%.

It is no coincidence that a model resulting in a higher growth rate was selected.

The question that has to be answered, however, is what process and methodology was used by ODAV and its consultant along with the FAA to eliminate the Federal Contract Tower TAF State (Oregon) Model which is based on objective historical data at UAO and similar airports, and rather select The Marion and Clackamas County Combined Population Growth Model which not only resulted in a higher forecast rate, but is based on questionable population growth projections and a fundamentally flawed assumption that “that total airport operations will track with the combined population of Marion and Clackamas Counties.”

Sincerely

A handwritten signature in blue ink that reads "Benjamin D. Williams". The signature is written in a cursive style and is positioned above a light blue rectangular stamp.

Ben Williams, President



## 2022 ANNUAL OREGON POPULATION REPORT TABLES

The population data in the 2022 annual report tables were compiled by the Population Research Center, Portland State University, 4/15/2023.

The tables in this workbook present the 2022 population estimates produced by the Population Research Center, Portland State University. The July 1 estimates of total population for counties and cities and towns were certified December 15, 2022.

Some tables include the U.S. Census Bureau's decennial Census counts and historical population estimates produced by our Center, and other tables include calculations of change since Census 2020. Also included are population estimates for broad age groups and 5-year age groups.

### Contents of Sheets:

#### Sheet Name

#### Table Name and description

Table 1:

**Annual Population and Components of Population Change for Oregon: 1960-2022; July 1 Population Estimates and April Census Counts.**

*Annual populations, population change and the components of population change (births, deaths, natural increase, and net migration) are reported for Oregon.*

Table 2:

**Population Estimates of Oregon by Area type and Specific Metropolitan Areas: 2000 to 2022.**

*Population estimates are aggregated for incorporated and unincorporated, metropolitan and non-metropolitan areas in Oregon. Populations are also reported for each of Oregon's eight Metropolitan Statistical Areas, as designated by the U.S. Census Bureau.*

Table 3:

**Components of Population Change for Oregon's Counties: April 1, 2020 to July 1, 2022.**

*Populations are reported for Oregon and the 36 counties; population change and the components of population change from 2010 to 2020 are also included.*

Table 4:

**Population for Oregon and its Counties and Incorporated Cities and Towns: July 1, 2020-July 1, 2022; and Census Counts 2000-2020.**

*Annual population estimates from 2020-2022 are reported along with April 1 Census counts from 2000-2020. Sub-county population estimates are grouped by county; cities that are split between counties are reported in parts respective to their county location. Population estimates for the county unincorporated areas are also reported.*

- Table 5:** **Populations for Incorporated Cities Located in More than One County.**  
*Annual population estimates for 2020-2022, and 2010 and 2020 Census counts, for city parts by county are reported in this table.*
- Table 6:** **Rank of Incorporated Cities and Towns by July 1, 2022 Population Size.**  
*This table displays the rank order of Oregon's incorporated cities and towns by 2022 population size, largest to smallest.*
- Table 7:** **Alphabetical Listing of Oregon's Incorporated Cities and Towns with Populations for July 1, 2022 and Census 2020, and Change since Census 2020.**  
*Population estimates for 2022 and Census counts for 2020 are reported, along with numerical and percentage changes during the time period.*
- Table 8:** **Population Added to Incorporated Cities Due to Annexations: April 1, 2020 - July 1, 2022.**  
*This table is a listing of Oregon's cities and towns in alphabetical order with the numbers of persons they have annexed since Census 2020.*
- Table 9:** **Population Estimates by Age and Sex for Oregon and Its Counties: July 1, 2022.**  
*Population estimates for Oregon's counties by 5-year age group are reported in three tables: 1) total population; 2) male population; and 3) female population. Population estimates for ages 15-19 are split into 15-17 and 18-19 age groups.*
- Table 10:** **Population Estimates by Broad Age Group (<18 Years, 18-64 Years, & over 64 Years)**  
*Population Estimates for ages 0-17 years, 18-64 years, and 65 years and older are reported in this table for Oregon and its counties.*

**Contact information**

[popest@pdx.edu](mailto:popest@pdx.edu)



**Table 3. Components of Population Change for Oregon and its Counties: April 1, 2020 to July 1, 2022**

Prepared by Population Research Center, PSU, April 2023.

	July 1, 2022 Estimate	April 1, 2020 Census	Numeric Change April 2020 to July 2022	Percent Change April 2020 to July 2022	Average Annual Change since Census	Births 2020-22	Deaths 2020-22	Natural Increase 2020-22	Net Migration 2020-22
<b>OREGON</b>	<b>4,281,851</b>	<b>4,237,256</b>	<b>44,595</b>	<b>0.5%</b>	<b>0.6%</b>	<b>90,046</b>	<b>97,608</b>	<b>-7,562</b>	<b>52,157</b>
BAKER	17,148	16,668	480	1.3%	0.9%	345	590	-245	725
BENTON	95,594	95,184	410	0.2%	-1.0%	1,428	1,516	-88	498
CLACKAMAS	430,421	421,401	9,020	0.9%	0.7%	8,440	8,903	-463	9,483
CLATSOP	41,971	41,072	899	1.0%	0.7%	772	1,140	-368	1,267
COLUMBIA	53,156	52,589	567	0.5%	0.6%	1,101	1,331	-230	797
COOS	65,112	64,929	183	0.1%	0.3%	1,198	2,426	-1,228	1,411
CROOK	26,162	24,738	1,424	2.5%	2.4%	539	670	-131	1,555
CURRY	23,897	23,446	451	0.9%	0.7%	331	1,094	-763	1,214
DESCHUTES	207,561	198,253	9,308	2.1%	2.1%	4,085	3,878	207	9,101
DOUGLAS	111,716	111,201	515	0.2%	0.4%	2,215	4,261	-2,046	2,561
GILLIAM	2,071	1,995	76	1.7%	1.8%	44	60	-16	92
GRANT	7,337	7,233	104	0.6%	-0.1%	153	247	-94	198
HARNEY	7,640	7,495	145	0.9%	0.4%	188	246	-58	203
HOOD RIVER	23,894	23,977	-83	-0.2%	-0.3%	501	437	64	-147
JACKSON	224,013	223,259	754	0.1%	0.2%	4,794	6,374	-1,580	2,334
JEFFERSON	25,404	24,502	902	1.6%	1.3%	608	698	-90	992
JOSEPHINE	88,695	88,090	605	0.3%	0.6%	1,811	3,293	-1,482	2,087
KLAMATH	70,848	69,413	1,435	0.9%	0.5%	1,733	2,290	-557	1,992
LAKE	8,246	8,160	86	0.5%	0.2%	164	298	-134	220
LANE	383,958	382,971	987	0.1%	-0.1%	6,913	9,885	-2,972	3,959
LINCOLN	51,090	50,395	695	0.6%	0.8%	826	1,676	-850	1,545
LINN	131,194	128,610	2,584	0.9%	1.1%	3,205	3,626	-421	3,005
MALHEUR	32,095	31,571	524	0.7%	1.1%	835	880	-45	569
MARION	348,616	345,920	2,696	0.3%	0.3%	8,673	7,674	999	1,697
MORROW	12,315	12,186	129	0.5%	2.9%	349	275	74	55
MULTNOMAH	810,242	815,428	-5,186	-0.3%	0.5%	16,880	15,302	1,578	-6,764
POLK	90,593	87,433	3,160	1.6%	1.4%	1,996	1,912	84	3,076
SHERMAN	1,938	1,870	68	1.6%	1.6%	58	53	5	63
TILLAMOOK	27,868	27,390	478	0.8%	0.7%	530	906	-376	854
UMATILLA	80,401	80,075	326	0.2%	0.4%	1,988	1,943	45	281
UNION	26,673	26,196	477	0.8%	0.3%	574	759	-185	662
WALLOWA	7,541	7,391	150	0.9%	0.5%	140	221	-81	231
WASCO	26,794	26,670	124	0.2%	-0.3%	596	816	-220	344
WASHINGTON	609,219	600,372	8,847	0.7%	0.6%	13,679	9,228	4,451	4,396
WHEELER	1,436	1,451	-15	-0.5%	0.3%	18	50	-32	17
YAMHILL	108,993	107,722	1,271	0.5%	0.4%	2,331	2,585	-254	1,525

## Population Estimates for Oregon and Counties (Vintage 2023, Certified)\*

Geographic Area Name	Revised Population July 1, 2022 (A)	Certified Estimate July 1, 2023 (B)	Population Change 2022-2023 [B-A]	Percent Change 2022-2023 [B-A]/[A]
<b>STATE</b>				
OREGON	4,269,529	4,291,525	21,996	+0.52%
<b>COUNTY</b>				
BAKER	16,937	16,927	-10	-0.06%
BENTON	98,573	99,355	782	+0.79%
CLACKAMAS	421,537	424,043	2,506	+0.59%
CLATSOP	41,876	42,095	219	+0.52%
COLUMBIA	52,600	53,143	543	+1.03%
COOS	66,643	66,945	302	+0.45%
CROOK	26,282	26,583	301	+1.15%
CURRY	24,263	24,439	176	+0.73%
DESCHUTES	208,523	212,141	3,618	+1.74%
DOUGLAS	113,487	113,748	261	+0.23%
GILLIAM	2,043	2,062	19	+0.93%
GRANT	7,428	7,418	-10	-0.13%
HARNEY	7,623	7,600	-23	-0.30%
HOOD RIVER	24,290	24,406	116	+0.48%
JACKSON	222,949	222,762	-187	-0.08%
JEFFERSON	25,478	25,878	400	+1.57%
JOSEPHINE	88,867	88,814	-53	-0.06%
KLAMATH	71,495	71,919	424	+0.59%
LAKE	8,402	8,562	160	+1.90%
LANE	382,302	384,374	2,072	+0.54%
LINCOLN	51,713	51,930	217	+0.42%
LINN	131,192	131,984	792	+0.60%
MALHEUR	32,530	32,981	451	+1.39%
MARION	351,234	352,249	1,015	+0.29%
MORROW	12,599	13,010	411	+3.26%
MULTNOMAH	800,902	801,306	404	+0.05%
POLK	90,380	90,553	173	+0.19%
SHERMAN	1,884	1,917	33	+1.75%
TILLAMOOK	27,958	28,000	42	+0.15%
UMATILLA	80,942	81,842	900	+1.11%
UNION	26,568	26,335	-233	-0.88%
WALLOWA	7,631	7,631	0	0.00%
WASCO	26,996	27,052	56	+0.21%
WASHINGTON	604,568	610,245	5,677	+0.94%
WHEELER	1,516	1,533	17	+1.12%
YAMHILL	109,318	109,743	425	+0.39%

\* Revised\_ December 20, 2023

Certified Population Estimates December 15, 2023

Population Research Center- College of Urban & Public Affairs-Portland State University



## Comments & Questions?

### Contact PRC

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## Preliminary Population Projections

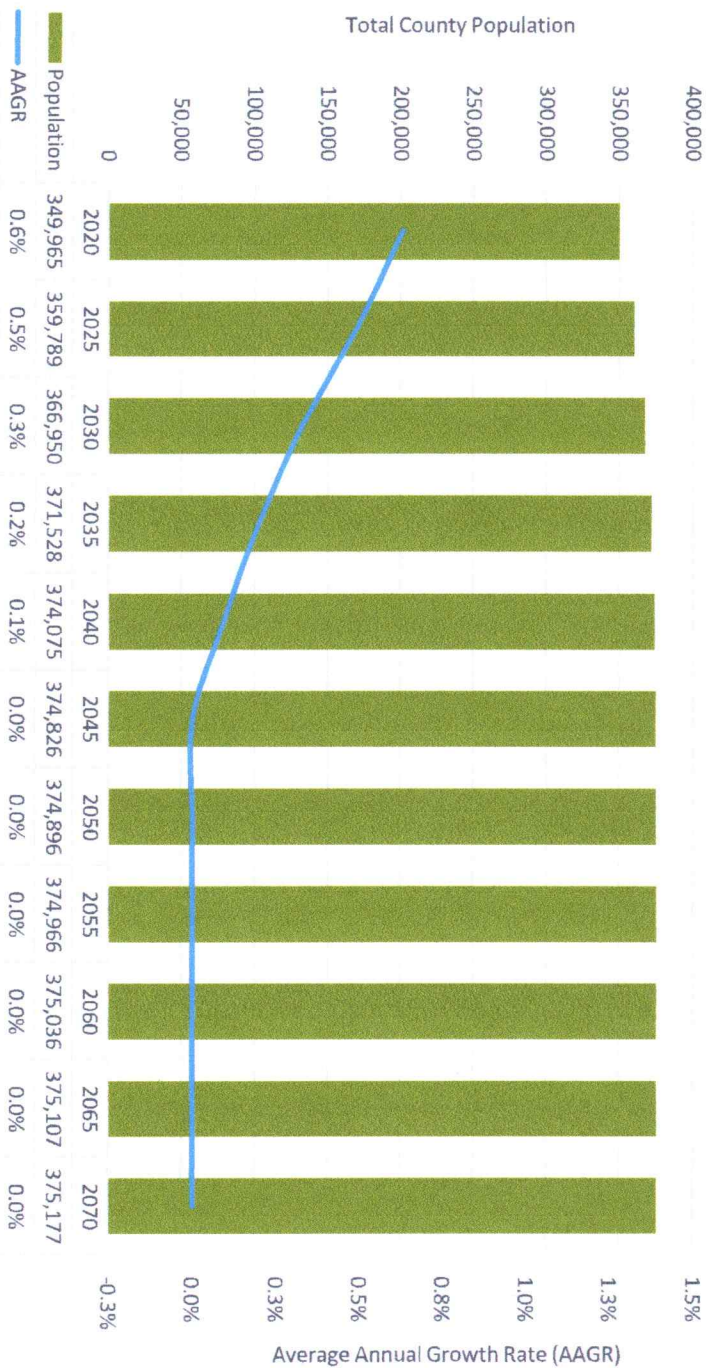
<https://www.pdx.edu/population-research/population-estimate-reports>

# Proposed Forecast Results

Population of Marion County is projected to grow from nearly 350,000 in 2020 to over 375,000 by 2070.

The growth rate is projected to decline from 0.6% to close to 0% between 2020 and 2045. The population is projected to remain stable without major change from 2045 to 2070.

Marion County - Total Population Point Estimates (2020-2070)



Source: Forecast by Population Research Center (PRC).  
[Historical trend](#)

These numbers represent *Proposed* Forecast Results

1 20 yr Avg  
 1 = 0.46%  
 1 AAGR



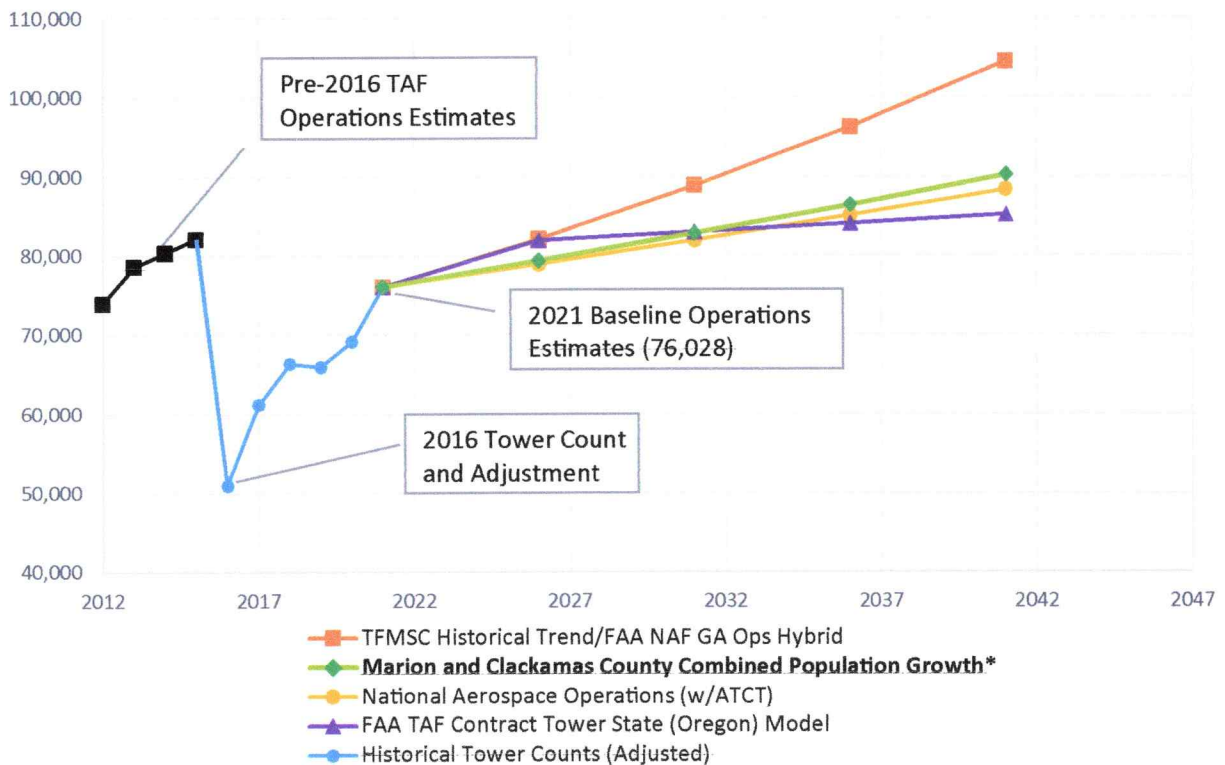


**TABLE 3-17: OPERATIONS FORECAST**

	CAGR	2021	2026	2031	2036	2041
TFMSC Historic Trend/FAA NAF GA Ops Hybrid	1.6%	76,028	82,123	88,855	96,298	104,537
<b>Marion and Clackamas County Combined Population Growth*</b>	<b>0.9%</b>	<b>76,028</b>	<b>79,354</b>	<b>82,825</b>	<b>86,449</b>	<b>90,230</b>
National Aerospace Operations (w/ ATCT)	0.8%	76,028	78,939	81,966	85,114	88,388
FAA TAF Contract Tower State (Oregon) Model	0.6%	76,028	81,924	82,972	84,046	85,151

Source: Century West Engineering developed using FAA TFMS Data  
\* Denotes recommended forecast

**FIGURE 3-6: OPERATIONS FORECAST MODELS**



Source: Century West Engineering using FAA TAF, FAA OPSNET, and FAA National Aerospace Forecast Data  
\* Denotes recommended forecast

### AIRCRAFT OPERATIONS FLEET MIX AND SPLITS

The distribution of total operational activity attributed to each of the five primary types of aircraft – single engine piston, multi-engine piston, turboprop, jet, and helicopter – is called the fleet mix. An understanding of the current and projected fleet mixes enables airports to plan for improvements to accommodate for growth or decline in activity by the specific aircraft type.

The fleet mix is derived from the current and projected operations totals established in the existing conditions analysis (base year counts) and the preferred forecast (projected estimates). ATCT operations counts do not distinguish between the individual aircraft types. So, fleet mix shares are estimated based on ancillary information, including TFMS data, national trends, and input from knowledgeable sources such as ATCT controllers.