

# TFMSC

From ASPMHelp

## Contents

- 1 Overview
- 2 Data Sources and Update Cycle
- 3 Data Availability
- 4 Data Limitations
- 5 Change History
- 6 System Documentation
  - 6.1 Value-Added and Computed Values
    - 6.1.1 Value-Added Fields
    - 6.1.2 Computed Fields
- 7 TFMSC OPSNET Proration
  - 7.1 OPSNET Operation Counts
  - 7.2 Computation Details
  - 7.3 Distribution
- 8 User Manual
- 9 Definitions of Variables

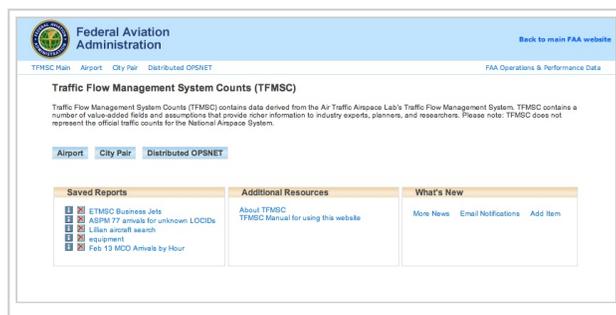
## Overview

**Traffic Flow Management System Counts (TFMSC)** is designed to provide information on traffic counts by airport or by city pair for various data groupings such as aircraft type or by hour of the day. It includes data for flights that fly under Instrument Flight Rules (IFR) and are captured by the FAA's enroute computers. Most VFR and some non-enroute IFR traffic is excluded.

TFMSC source data are created when pilots file flight plans and/or when flights are detected by the National Airspace System (NAS), usually via RADAR. Traffic Flow Management System Counts (TFMSC) records are assembled by the FAA NAS Data Warehouse by combining electronic messages transmitted to the En Route Modernization Automation Modernization (ERAM) system for each flight into a complete record of that flight. TFMSC has three views: Airport, City Pair, and Distributed OPSNET. The three views provide different perspectives on the TFMSC data.

TFMSC contains every flight record constructed. It includes information about Commercial Traffic (air carriers and air taxis), general aviation, and military to and from every landing facility as well as fixes, both in the US and in nearby countries that participate in the TFMS system.

Data for each month are made available to the TFMSC data access system within 30 days after the end of the month, i.e., June data are available no later than August 1. Preliminary next-day TFMS data and enhanced five-day data are used to construct ASPM records, but these preliminary data are not reported in the TFMSC data access system.



## Data Sources and Update Cycle

The flight counts reported in TFMSC are derived from flight records assembled by the FAA NAS Data Warehouse by threading the many TFMS messages together. These flight records may be incomplete records when one end is missing, or when only planned components are available. For example, flights may be missing DZ or AZ time (or both), or may have incorrect or missing airport codes and equipment codes. Missing AZ or DZ may cause the flight to be assigned to the 25 hour.

TFMSC data are available by day from January 2000 and is updated monthly.

## Data Availability

Data for each month are made available to the TFMSC data access system within 31 days after the end of the month. Preliminary next-day TFMS data and enhanced five-day data are used to construct ASPM records, but these preliminary data are not reported in the TFMSC data access system.

## Data Limitations

While TFMS reliably captures the vast majority of IFR traffic and some VFR traffic, it has several limitations and challenges. First, due to limited radar coverage and incomplete messaging, TFMS may exclude certain flights that do not enter the enroute airspace and other low-altitude flights. In addition, of the 35,000 location identifiers reported over time, only the top few thousand, accounting for over 95% of traffic, are reliable. The others are waypoints or other references to locations not associated with an airport.

The City Pair module of TFMSC interface reports flights for all airports contained in TFMSC. The Airports module reports flights for the larger airports (generally the top 1000).

## Change History

TFMSC data are typically not modified or updated after the monthly files are received, except in the rare case of the discovery of a significant problem with the data files.

## System Documentation

In TFMSC, data are arranged by the following:

- flight type (domestic, foreign, US to foreign, foreign to US)
- source-provided user class (commercial, air taxi, freight, general aviation, military, other)
- value-added equipment type (piston, turbine, jet, helicopter, other)
- value-added equipment weight class (heavy, 757, large jets, medium, small, other)
- business jets
- regional jets

TFMSC records are available from January 2000 to present less one month. Records are updated at the end of the month for the prior month's data.

## Value-Added and Computed Values

Some fields in TFMSC are derived fields created for policy research and other purposes.

## Value-Added Fields

Equipment observed in the TFMS records is identified as Business Jet or Regional Jet using the APO system look-up tables. Number of seats, weight class, and type of flight are determined from the foreign, domestic, or oceanic flags. Seats are in look-up tables. TFMS reported equipment type by carrier identifies the number of seats. If there is no equipment type by carrier, this is assigned a default number of seats and equipment set to "O" for Other.

## Computed Fields

The Distance Flown is the Great Circle Route calculated using the latitude and longitude of each end as found in the TFMS\_Locids table. Time Flown is calculated as the difference between Wheels Off (DZ) and Wheels On (AZ), if both are present. Some flight records having invalid airport codes are left with incorrect latitude and longitude, which results in incorrect distance flown.

## TFMSC OPSNET Proration

TFMSCCounts (TFMSC) processes the individual flight records provided by the FAA NAS Data Warehouse. The TFMSC process, among other things, creates a summary of traffic by day and hour based on the DZ (departure) and AZ (arrival) message times. TFMSC summarizes traffic by user classes reported by TFMS (C-Commercial, F-Freight, T-Air Taxi, M-Military, G-General Aviation, O-Other for unknown).

## OPSNET Operation Counts

OPSNET Operations are reported as a single number in several categories per day. It does not report separate departure and arrivals, nor does it report these counts by hour of the day. TFMSC distributes the OPSNET reported categories of operations into departures and arrivals and by hour of the day using the distribution of flights determined by TFMS.

## Computation Details

TFMSC groups flights into three user groups: Commercial, General Aviation, and Military. These three groups were chosen because of the slightly different user classes used by TFMS and OPSNET. The following table shows how TFMSC groups the user classes reported by TFMS and OPSNET into these three groups:

TFMSC User Group	TFMS User Class	OPSNET User Class
Commercial	C – commercial, F – Freight, T – Air Taxi,	Air Carrier, Air Taxi
General Aviation	G – General Aviation	General Aviation, Local General Aviation
Military	M – Military	Military, Local Military

## **Distribution**

Once the user classes are grouped by the TFMSC user groups for the day, the TFMS daily distribution by departure and arrival by hour is used to distribute the OPSNET counts. This is done with percentages to the nearest whole number. Then the day is checked to be equal to the OPSNET total for the day and is balanced by adding or removing single counts as needed. This method does not require TFMS and OPSNET counts to be equal. Also, TFMS counts will not match TFMSC or ASPM counts because some of the TFMS records used for this distribution are not used or do not have an AZ, DZ, or Equipment code. This does ensure OPSNET data are distributed over just 24 hours, whereas TFMSC City Pair Report may have an unknown time allocated to a 25 hour.

## **User Manual**

View the TFMSC Manual for detailed information on how to create reports.

## **Definitions of Variables**

For more information about these topics, please see the Definitions of Variables for the TFMSC system.

Retrieved from "<https://aspmhelp.faa.gov/index.php?title=TFMSC&oldid=6564>"

- 
- This page was last modified on 5 July 2018, at 16:11.
  - This page has been accessed 23,200 times.