

BTS Airline On Time Performance Data

Description:

http://www.transtats.bts.gov/TableInfo.asp?Table_ID=236&DB_Short_Name=On-Time&Info_Only=0

Download:

http://www.transtats.bts.gov/DL_SelectFields.asp?Table_ID=236&DB_Short_Name=On-Time

Statistics: <http://apps.bts.gov/xml/ontimesummarystatistics/src/index.xml>

DATA

1. Unique Carrier _____
2. Airline ID _____
3. Tail Number _____
4. Flight Number
5. Origin
6. Destination
7. UTC (or Greenwich Mean Time – GMT)
8. Local Time
9. CRS_Departure Time (UTC or Local)
10. Departure Time (Gate Out Time) (UTC or Local)
11. CRS_Taxi_Time (mins)

12. Taxi_Out_Time (mins)

13. *Unimpeded Taxi_Out_time*

14. Wheels_Off_Time (UTC or Local)

15. Wheel_On_Time (UTC or Local)

16. Gate_In_Time (UTC or Local)

17. OOOI Times

18. Taxi_In_Time

19. *Unimpeded Taxi_Out Time*

20. CRS_Arrival_Time (UTC or Local)

21. Arrival Time (UTC or Local)

22. Cancelled

23. Cancellation Code

- On Time
- Air Carrier
- Weather
- National Aviation Systems
- Security
- Aircraft Arriving Late
- Cancelled
- Diverted

24. Diverted

25. CRS_Elapsed_Time (mins)

26. Actual Elapsed Time (mins)

27. Air Time (mins)

28. Distance (= Stage length Origin to Destination) (nm)

CALCULATIONS

29. Scheduled Block Time (mins) = CRS_Arrival_Time - CRS_Departure_Time

30. Actual Block Time (mins) = Gate_In_Time – Gate_Out_Time

31. Taxi-out Time (mins) = Wheels_Off – Gate_Out_Time

32. Airborne Time (mins) = Whels_on_Time – Wheels_Off_Time

33. Taxi In Time (mins) = Gate_In_Time – Wheels_On_Time

34. Flight Delay (mins) = MIN [MAX (Actual Gate In Time – CRS_Arrival_Time, 15), 0]

35. On_Time Percent (%OT) = Number of Flights Flight delay < 15 mins / Total Number of Flights

36. Gate-to-Gate Velocity (knots)

37. Airborne Velocity (knots)

38. Schedule Padding (mins) = Scheduled Block Time – Actual Block Time

COMPARISON

39. Between Airlines

40. Between Routes (i.e. Origin-Destination Pairs)

41. Before and After Change in Procedure/Introduction of New technology

T-TEST

- A one-sample "location test" of a null hypothesis - the mean of a population has a value specified in a "null hypothesis"
- A two-sample location test of the null hypothesis such that the "means" of two populations are equal.
- A test of the null hypothesis that the difference between two responses measured on the same statistical unit has a mean value of zero. Example: magnitude of taxi-out delays before and after introduction of Gate-Hold Program

Testing the null hypothesis that the population mean is equal to a specified value μ_0 :

$$t = \frac{\bar{x} - \mu_0}{s/\sqrt{n}}$$

\bar{x} is the sample mean

s is the sample standard deviation

n is the sample size

Note 1: degrees of freedom used in this test are $n-1$

Note 2: parent population does not need to be normally distributed, but the distribution of the population of sample means, \bar{x} , is assumed to be normal