|  |  |  |
| --- | --- | --- |
| **[Covariate]** | **[Type]** | **[Description]** |
| **DEST** | **Factor w/ 362 levels** | **IATA code for destination airport** |
| **ORIGIN** | **Factor w/ 362 levels** | **IATA code for origin airport** |
| **YEAR** | **Factor w/ 2 levels** | **2018 or 2019** |
| **QUARTER** | **Factor w/ 4 levels** | **Q1, Q2, Q3, or Q4 of a year** |
| **FL\_DATE** | **Factor w/ 546 levels** | **A unique day between 01/01/2018 and 06/30/2019** |
| **MONTH** | **Factor w/ 12 levels** | **Month of year** |
| **DAY\_OF\_MONTH** | **Factor w/ 31 levels** | **Day of the month** |
| **DAY\_OF\_WEEK** | **Factor w/ 7 levels** | **Day of the week** |
| **CARRIER** | **Factor w/ 17 levels** | **IATA code for airline carrier for that flight** |
| **FL\_NUM** | **Integer** | **Flight number** |
| **Route** | **Factor w/ 6,684 levels** | **Unique route number for that flight path from origin to destination** |
| **DEST\_CITY** | **Factor w/ 355 levels** | **Destination city** |
| **DEST\_STATE** | **Factor w/ 52 levels** | **Destination state** |
| **CRS\_DEP\_TIME** | **Integer** | **CRS scheduled departure time** |
| **DEP\_TIME** | **Integer** | **Actual departure time** |
| **DEP\_DELAY** | **Integer** | **Difference in minutes between scheduled and actual departure time** |
| **DEP\_DELAY\_NEW** | **Integer** | **Same as DEP\_DELAY except early arrivals are set to zero** |
| **DEP\_DEL15** | **Binary** | **0=less than 15 minute delay, 1=more than 15 minute delay** |
| **DEP\_DELAY\_GROUP** | **Factor w/ 13 levels** | **Delay Intervals: every 15 minutes from -15 to 180 minutes** |
| **DEP\_TIME\_BLK** | **Factor w/ 19 levels** | **CRS scheduled departure time block (hourly)** |
| **TAXI\_OUT** | **Integer** | **Taxi out time (minutes)** |
| **WHEELS\_OFF** | **Integer** | **Wheels off time** |
| **WHEELS\_ON** | **Integer** | **Wheels on time** |
| **TAXI\_IN** | **Integer** | **Taxi in time (minutes)** |
| **CRS\_ARR\_TIME** | **Integer** | **CRS scheduled/expected arrival time** |
| **ARR\_TIME** | **Integer** | **Actual arrival time** |
| **ARR\_DELAY** | **Numeric** | **Difference in minutes between scheduled and actual arrival time** |
| **ARR\_DELAY\_NEW** | **Integer** | **Same as ARR\_DELAY except early arrivals are set to zero** |
| **ARR\_DEL15** | **Binary** | **0=less than 15 minute delay, 1=more than 15 minute delay** |
| **ARR\_DELAY\_GROUP** | **Factor w/ 13 levels** | **Delay Intervals: every 15 minutes from -15 to 180 minutes** |
| **ARR\_TIME\_BLK** | **Factor w/ 19 levels** | **CRS scheduled arrival time block (hourly)** |
| **CANCELED** | **Binary** | **0=not cancelled, 1=flight was cancelled** |
| **CANCELLATION\_CODE** | **Factor w/ 5 levels** | **A, B, C, or D** |
| **DIVERTED** | **Binary** | **0=not diverted, 1=was diverted** |
| **CRS\_ELAPSED\_TIME** | **Integer** | **CRS allotted elapsed time of flight (in minutes)** |
| **ACTUAL\_ELAPSED\_TIME** | **Integer** | **Actual elapsed time of flight in minutes** |
| **AIR\_TIME** | **Integer** | **Actual elapsed time of flight in minutes** |
| **DISTANCE** | **Integer** | **Distance between airports** |
| **CARRIER\_DELAY** | **Integer** | **Carrier delay in minutes** |
| **WEATHER\_DELAY** | **Integer** | **Weather delay in minutes** |
| **NAS\_DELAY** | **Integer** | **National Air System delay in minutes** |
| **SECURITY\_DELAY** | **Integer** | **Security delay in minutes** |
| **LATE\_AIRCRAFT\_DELAY** | **Integer** | **Late aircraft delay in minutes** |
| **PASSENGERS** | **Integer** | **Total number of passengers for this year, month, route and carrier** |
| **EMPFULL** | **Integer** | **Full-time employees for this year, month, route and carrier** |
| **EMPPART** | **Integer** | **Part-time employees for this year, month, route and carrier** |
| **EMPTOTAL** | **Integer** | **Total employees for this year, month, route and carrier** |
| **EMPFTE** | **Integer** | **Full-time equivalent employees for this year, month, route and carrier** |
| **NET\_INCOME** | **Numeric** | **Net income for this year, month, route and carrier** |
| **OP\_REVENUES** | **Numeric** | **Operating revenue for this year, month, route and carrier** |
| **ID** | **Factor w/ 350 levels** | **Unique ID of origin airport from NCDC database** |
| **AIRPORT\_NAME** | **Factor w/ 350 levels** | **Full origin airport name** |
| **Latitude** | **Coordinate** | **Latitude coordinate of origin airport** |
| **Longitude** | **Coordinate** | **Longitude coordinate of origin airport** |
| **DIST** | **Numeric** | **Distance from origin airport to nearest active weather station (km)** |
| **Prcp** | **Numeric** | **Precipitation at origin (tenths of mm)** |
| **Snow** | **Numeric** | **Snowfall at origin (mm)** |
| **Tavg** | **Numeric** | **Average temperature at origin (tenths of degrees C)** |
| **Tmax** | **Numeric** | **Maximum temperature at origin (tenths of degrees C)** |
| **Tmin** | **Numeric** | **Minimum temperature at origin (tenths of degrees C)** |
| **Wt01** | **Binary** | **Fog, ice fog, or freezing fog (may include heavy fog)** |
| **Wt02** | **Binary** | **Heavy fog or heaving freezing fog (not always distinguished from fog)** |
| **Wt03** | **Binary** | **Thunder** |
| **Wt04** | **Binary** | **Ice pellets, sleet, snow pellets, or small hail** |
| **Wt05** | **Binary** | **Hail (may include small hail)** |
| **Wt06** | **Binary** | **Glaze or rime** |
| **Wt07** | **Binary** | **Dust, volcanic ash, blowing dust, blowing sand, or blowing obstruction** |
| **Wt08** | **Binary** | **Smoke or haze** |
| **Wt09** | **Binary** | **Blowing or drifting snow** |
| **Wt10** | **Binary** | **Tornado, waterspout, or funnel cloud** |
| **Wt11** | **Binary** | **High or damaging winds** |
| **ID.DEST** | **Factor w/ 350 levels** | **Unique ID of destination airport from NCDC database** |
| **AIRPORT\_NAME.DEST** | **Factor w/ 350 levels** | **Full destination airport name** |
| **Latitude.DEST** | **Coordinate** | **Latitude coordinate of destination airport** |
| **Longitude.DEST** | **Coordinate** | **Longitude coordinate of destination airport** |
| **DIST.DEST** | **Numeric** | **Distance from destination airport to nearest active weather station (km)** |
| **Prcp.DEST** | **Numeric** | **Precipitation at destination (tenths of mm)** |
| **Snow.DEST** | **Numeric** | **Snowfall at destination (mm)** |
| **Tavg.DEST** | **Numeric** | **Average temperature at destination (tenths of degrees C)** |
| **Tmax.DEST** | **Numeric** | **Maximum temperature at destination (tenths of degrees C)** |
| **Tmin.DEST** | **Numeric** | **Minimum temperature at destination (tenths of degrees C)** |
| **Wt01.DEST** | **Binary** | **Fog, ice fog, or freezing fog (may include heavy fog)** |
| **Wt02.DEST** | **Binary** | **Heavy fog or heaving freezing fog (not always distinguished from fog)** |
| **Wt03.DEST** | **Binary** | **Thunder** |
| **Wt04.DEST** | **Binary** | **Ice pellets, sleet, snow pellets, or small hail** |
| **Wt05.DEST** | **Binary** | **Hail (may include small hail)** |
| **Wt06DEST** | **Binary** | **Glaze or rime** |
| **Wt07.DEST** | **Binary** | **Dust, volcanic ash, blowing dust, blowing sand, or blowing obstruction** |
| **Wt08.DEST** | **Binary** | **Smoke or haze** |
| **Wt09.DEST** | **Binary** | **Blowing or drifting snow** |
| **Wt10.DEST** | **Binary** | **Tornado, waterspout, or funnel cloud** |
| **Wt11.DEST** | **Binary** | **High or damaging winds** |
| **Nsmiles** | **Integer** | **Non-stop miles between these cities** |
| **Fare** | **Numeric** | **Average fare between these cities** |
| **Carrier\_lg** | **Factor w/ 10 levels** | **Carrier with the largest market share between these cities** |
| **Large\_ms** | **Numeric** | **Proportion of market covered by carrier with largest market share** |
| **Fare\_lg** | **Numeric** | **Average Fare for Largest Carrier between these cities** |
| **Carrier\_low** | **Factor w/ 12 levels** | **Carrier with smallest market share between these cities** |
| **Lf\_ms** | **numeric** | **Proportion of market covered by carrier with smallest market share** |
| **Fare\_low** | **Numeric** | **Average fare for carrier with smallest market share** |