The data is provided in a text file, 'Light Rail and Commuter Rail Data Dec 1 2018 to Nov 2019.txt', with semi-colons delimiting the data. Each record represents one observation collected on a rail consist. (A 'consist' is a set of rail vehicles combined to form one train set.) All dates and character-data fields have a double-quote before and after the data. Most numeric data does not have quotes around the data, but some might if the numeric data is stored in a character-type field.

The data is collected using Automated Passenger Counters. Approximately 30 percent of RTD's light rail vehicles have APCs installed. All of the commuter rail vehicles have APCs installed; however, not all APCs report every day for various reasons.

Please note there is a separate file, 'Jan20 Rail Stops and Geocoded Locations.txt' with information about stops and geocodes.

| Position | Column Name | Data Type | Precision | Length | Sample Value | Description |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | SERIAL\_NUMBER | int | 10 | 4 | 34891105 | All observations with the same serial number were collected on an individual trip on a specific day |
| 2 | SCHEDULE\_NAME | nvarchar | 255 | 510 | Apr19 (Friday) | This is the runboard name and the service\_period. The runboards included in this data set and their start and end dates are shown below. A runboard is a period of time over which the scheduled departure times are constant. Please note that the table below shows the start and end date for each runboard. The data set included is from 1-Dec-2018 through 30-Dec-2019.   |  |  |  | | --- | --- | --- | | **Runboard Name** | **Start Date** | **End Date** | | Aug18 | 26-Aug-2018 | 12-Jan-2019 | | Jan19 | 13-Jan-2019 | 27-Apr-2019 | | Apr19 | 28-Apr-2019 | 18-May-2019 | | May19 | 19-May-2019 | 24-Aug-2019 | | Aug19 | 25-Aug-2019 | 11-Jan-2020 | | Aug18 | 26-Aug-2018 | 12-Jan-2019 | |
| 3 | SIGNUP\_NAME | nvarchar | 255 | 510 | Apr19 | Just the runboard name portion of the schedule\_name |
| 4 | SURVEY\_SOURCE | int | 10 | 4 | 3 | This designates the data is from APCs, which is survey\_source = 3. |
| 5 | PATTERN\_ID | int | 10 | 4 | 1080310 | All trips with the same pattern\_id operate the same sequence of stops along the rail lines |
| 6 | BRANCH | nvarchar | 255 | 510 | A | Branches are the names for the lines as understood to the general public:  Commuter Rail Lines: A, B, & G  Light Rail Lines C, D, E, F, H, L, R, & W |
| 7 | ROUTE\_NUMBER | int | 10 | 4 | 101 | Groups of branches are scheduled together, and these line numbers are 101, 103, 107, 109, 111, & 113. |
| 8 | ROUTE\_NAME | nvarchar | 255 | 510 | 101: Light Rail | This column includes the Route Numbers and the Route Names. Note that these are not the names presented to the public. Use branches instead.   |  | | --- | | 101: Light Rail | | 103: Light Rail W Line | | 107: Light Rail R Line | | 109: Light Rail L Line | | 111: Commuter Rail A Line | | 113: Commuter Rail | |
| 9 | DIRECTION\_NAME | nvarchar | 255 | 510 | N-Bound | Direction of route travel:   |  | | --- | | E-Bound | | N-Bound | | S-Bound | | W-Bound | |
| 10 | SERVICE\_TYPE | nvarchar | 255 | 510 | Light Rail | Light Rail and Commuter Rail are the only two service\_types in this data set. |
| 11 | SERVICE\_MODE | nvarchar | 255 | 510 | Light Rail | Light Rail and Commuter Rail are the only two modes in this data set. Any null values should be considered missing data in this field, so use service\_type instead. |
| 12 | SURVEY\_DATE\_EFFECTIVE | datetime | 23 | 16 | 12/1/2018 12:00:00 AM | This is the date that the vehicle pulled out originally from the garage. So for example, a vehicle that pulled out on Friday would still be considered part of Friday service even if it is past midnight and Friday and the service actually took place on a Saturday. All records have a 12:00:00 AM in the field as the original data is from Oracle that uses date/time fields, so the null time is always 12:00:00 AM and therefore can be ignored. |
| 13 | SURVEY\_DATE\_ATYPICAL | int | 10 | 4 | 0 | All values in this data set are considered typical days. Atypical days that have been eliminated are: all holidays, the first Monday of each runboard, and any snow days. Snow days are determined by examining the arrival times of buses at Union Station and Civic Center station. If more than 30% of the buses are more than 5 minutes late on that day, then the date is eliminated from the data set. |
| 14 | TIME\_PERIOD | nvarchar | 255 | 510 | AM Peak | This is for classifying trips by time period. Each trip is classified into a time period based upon the start time of the trip.   |  |  |  | | --- | --- | --- | | **Time Period** | **Time Period Start** | **Time Period End** | | Other | 00:00:00 | 04:59:59 | | AM Early | 05:00:00 | 05:59:59 | | AM Peak | 06:00:00 | 08:59:59 | | Midday | 09:00:00 | 14:59:59 | | PM Peak | 15:00:00 | 17:59:59 | | PM Evening | 18:00:00 | 19:59:59 | | PM Late | 20:00:00 | 22:59:59 | | Other | 23:00:00 | 23:59:59 | |
| 15 | SERVICE\_DAY | int | 10 | 4 | 1 | Values are 1 through 7 for Sunday through Saturday respectively. Please note that this is the date the trip actually started upon; if the time of the trip is in the early morning it is likely the day of the trip is one day later than the survey\_date\_effective |
| 16 | SERVICE\_PERIOD | nvarchar | 255 | 510 | Mon-Thu | Our rail operates Monday-Thursday, Friday, Saturday and Sunday services. |
| 17 | TRIP\_KEY | int | 10 | 4 | 12204964 | This trip\_key field allows the comparison of the same trip on different days. All trips with the same trip\_key are the same scheduled trip. |
| 18 | BLOCK\_NUMBER | int | 10 | 4 | 3 | The combination of signup\_name, route\_number, block\_number and service\_period is a composite key for a unique train consist. |
| 19 | VEHICLE\_NUMBER | int | 10 | 4 | 4005 | For commuter rail, an odd numbered vehicle in a married-pair rail consist. For light rail, most values are 99999 as the train consist is made up of multiple vehicles, the specific vehicles are not recorded in this data set, and this value can be ignored. |
| 20 | GARAGE\_NAME | nvarchar | 255 | 510 | Light Rail – Elati Div | The name of the yard from which the train originated. Only values are 'Commuter Rail Maintenance Facility' and 'Light Rail – Elati Div' |
| 21 | DIVISION\_NAME | nvarchar | 255 | 510 | RTD | The type of division from which the train originated. Either 'RTD' or 'Private' |
| 22 | SORT\_ORDER | int | 10 | 4 | 10 | An integer number used to sort the stops along a trip |
| 23 | STOP\_ID | int | 10 | 4 | 25990 | This is the stop number assigned to the platform the train serves. There is a separate file 'Jan20 Rail Stops and Geocoded Locations.txt' that include these stop\_id numbers and the geocoded locations for each stop. |
| 24 | MAIN\_CROSS\_STREET | nvarchar | 255 | 510 | Arapahoe at Village Center Station {1403} | The name of the stop. In most cases, this should match the stop name in the 'Jan20 Rail Stops and Geocoded Locations.txt'. In cases where there is a mismatch, please use the stop name from the 'Jan20 Rail Stops and Geocoded Locations.txt' as the preferred name. |
| 25 | TIMEPOINT | int | 10 | 4 | -1 | Timepoints are the locations where RTD publishes the times for that location. On-time performance is only evaluated at timepoints, all of which have a -1 in this column. |
| 26 | CITY | nvarchar | 255 | 510 | Denver | The city in which the stop is located. |
| 27 | COUNTY | nvarchar | 255 | 510 | Adams | The county in which the stop is located. |
| 28 | TIME\_SCHEDULED | datetime | 23 | 16 | 12/2/2018 10:52:00 PM | The date and time the trip is schedule to depart the stop. Since on-time performance is determined by departures, most end terminal stops are missing from this data as the time would be an arrival time at that location. |
| 29 | TIME\_ACTUAL\_ARRIVE | nvarchar | 255 | 510 | 12/30/1899 10:51:48 PM | The date portion of all records is '12/30/1899' as that is an oracle default. Only the time portion should be considered valid. |
| 30 | TIME\_ACTUAL\_DEPART | nvarchar | 255 | 510 | 12/30/1899  10:52:00 PM | The date portion of all records is '12/30/1899' as that is an oracle default. Only the time portion should be considered valid. |
| 31 | DWELL\_TIME | nvarchar | 255 | 510 | Null | A dwell time is the time\_actual\_depart - time\_actual\_arrive for the record and represents the time the vehicle dwelled at the stop. In some cases in this data set the value is null when it should have a value. If this field is needed, it can be calculated from other fields in the table. |
| 32 | TRIP\_DIFF\_MINUTES | float | 15 | 8 | -0.1 | On-time performance at RTD is always calculated by comparing the time\_actual\_depart against the time\_scheduled field. In this case the results are displayed in decimal minutes, so -0.1 would indicate that the vehicle left the stop 6 seconds later than the scheduled time. Negative times indicate the train left the stop late. Positive times would indicate the vehicle left the stop early. |
| 33 | FREE\_RUNNING | int | 10 | 4 | 0 | There are portions of a route that an operator is allowed to run early. If the free\_running value is -1 on a pattern and stop, then any early departure observations are counted as on-time. If the free\_running value is 0, then early trip departure observations that exceed the early threshold are counted as early. |
| 34 | APC\_AVAILABLE | int | 10 | 4 | 1 | Value is always 1 in this field as all data is automated passenger counter [APC] data. |
| 35 | AVL\_AVAILABLE | int | 10 | 4 | Null | All values are all null in this field as no data in this data set is from automatic vehicle locators [AVLs} |
| 36 | SM\_AVAILABLE | int | 10 | 4 | Null | All values are null in this field are null as no data in this data set is from service monitors [SMs]. |
| 37 | SL\_AVAILABLE | int | 10 | 4 | 0 | All values are 0 in this field are null as no data in this data set is from station logs [SLs]. |
| 38 | EVENT\_COUNT | int | 10 | 4 | 1 | Every record in this data set has a 1 in this field so the number of records in the data set or group can be counted by summing this field. |
| 39 | APC\_COUNT | int | 10 | 4 | 1 | Every record in this data set has a 1 in this field so the number of records in the data set or group collected by automated passenger counters [APCs] can be counted by summing this field. |
| 40 | AVL\_COUNT | int | 10 | 4 | 0 | Every record in this data set has a 0 in this field so the number of records in the data set or group collected by automatic vehicle locators [AVLs] can be counted by summing this field. |
| 41 | SM\_COUNT | int | 10 | 4 | 0 | Every record in this data set has a 0 in this field so the number of records in the data set or group collected by service monitors [SMs] can be counted by summing this field. |
| 42 | SL\_COUNT | int | 10 | 4 | 0 | Every record in this data set has a 0 in this field so the number of records in the data set or group collected by station logs [SLs] can be counted by summing this field. |
| 43 | EARLY | int | 10 | 4 | 1 | On-time is always determined by the departure time compared to the schedule time. The criteria for early departures is different between light rail and commuter rail. For light rail, if the vehicle leaves the platform more than 1 minute early, and the value in the free running time column is 0, the observation is counted as an early and given a 1 in this column. For commuter rail, if the vehicle leaves the platform before the scheduled time, the observation is counted as early and given a 1 in this column. Otherwise the value is 0 in this column. The number of observations that meet the early criteria can be calculated in the data set or grouping by summing the values in this column. |
| 44 | ON\_TIME | int | 10 | 4 |  | On-time is always determined by the departure time compared to the schedule time. The criteria for on time departures is different between light rail and commuter rail. For light rail, on-time is one-minute early to five minutes late, and any observations exactly 1 minute early or 5 minutes late are considered on time. For commuter rail, the criteria is zero minutes early to five minutes late, and any observations exactly 0 minutes early or 5 minutes late are considered on time. All others records receive a 0 in this column. The number of observations that meet the early criteria can be calculated in the data set or grouping by summing the values in this column. |
| 45 | LATE | int | 10 | 4 |  | On-time is always determined by the departure time compared to the schedule time. Any observation that is more than 5 minutes late is counted as late and given a 1 in this column. All others records receive a 0 in this column. The number of observations that meet the early criteria can be calculated in the data set or grouping by summing the values in this column. |
| 46 | ON\_DETOUR | bit | 1 | 1 | Null | Trains run on a track and for the purposes of this on-time data set, all records have a null in this column |
| 47 | RECORD\_ID | int identity | 10 | 4 | 61856614 | A unique serial number for each observation, so the observation can be traced back to the originating database if there are questions about the observation. |