



Ridership Data - User's Manual

Background:

In the summer of 2006, the San Francisco Municipal Transportation Agency (SFMTA) installed Automatic Passenger Counter (APC) devices on approximately 10 percent of its bus fleet, exponentially expanding the Agency's transit ridership and trip data collection capabilities. This new technology collected data on buses between October 2006 and June 2007 for the near-term purpose of the Transit Effectiveness Project's (TEP) service evaluation. Muni's ridecheck staff manually surveyed Muni Metro Light Rail Vehicles (LRVs) during the same period to obtain comparable data on those modes.

Muni's schedule department worked closely with division dispatchers to deploy APC equipped buses to sample all trips at least once, with most trips being sampled several times (the average number of samples per scheduled trip was five). To avoid unusual peaks in ridership, an effort was made to sample trips only when the previous trip was filled, though this was not always feasible. Data from multiple samples for the same trip was averaged.

Methodology for Data Collection and Cleansing:

The APCs track every person who gets on or off the bus (including the operator), which may lead to some irregularities in the data, such as higher than expected activity at terminals due to operators entering and exiting the vehicle. There may be cases where buses have a load at the beginning or end of a line. This is generally due to passengers riding through the terminal (e.g., if the end of a line is a loop, some passengers ride "around the horn" to reach their stop). Another cause for loads at the beginning and end of a route is the manner in which data is cleansed. If the APC equipment does not track an equal number of boardings and alightings throughout a trip, the data is systematically adjusted based on the existing patterns to equalize the boardings and alightings.

Data Formats:

The data is presented in three formats:

- Passenger Activity Map (with pie-chart of ons/offers at each stop)
- Passenger Activity Report (a numerical, text-only table)
- Passenger Activity Graph (line graph of loading with bars for each stop)

The data behind each format is identical; the only difference is in the way the data is presented.

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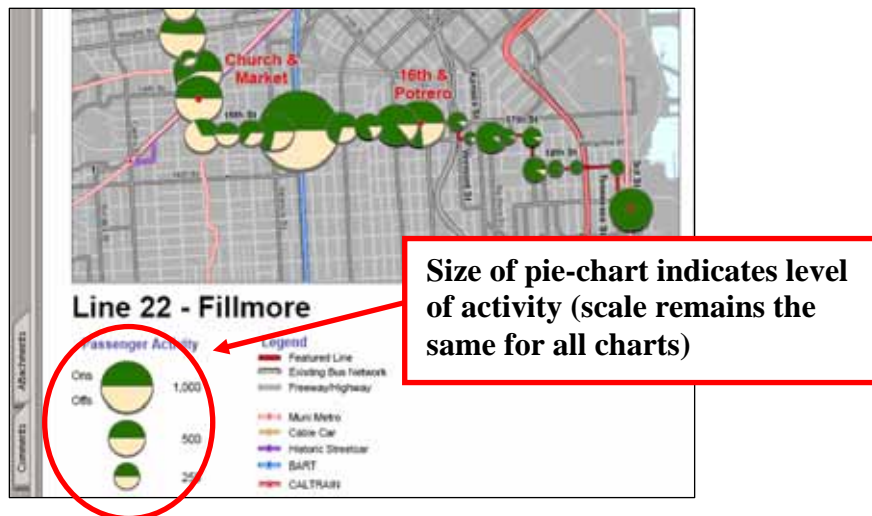
Time Periods:

For the purposes of the TEP, the time periods are defined as below. Note that some reports do not include all time periods. If a total is provided, it is the total for ALL service, including any time periods that may not be displayed separately.

| Time Period | Hours Included in Time Period |
|---------------|-------------------------------|
| All Day/Total | All service provided |
| AM Peak | 6 AM - 9 AM |
| Midday | 9 AM - 2 PM |
| School | 2 PM - 4 PM |
| PM Peak | 4 PM – 7 PM |
| Evening | 7 PM – 10 PM |
| Owl | 1 AM – 5 AM |
| Extra | 10 PM – 6 AM (with Owl) |

1. Passenger Activity Map:

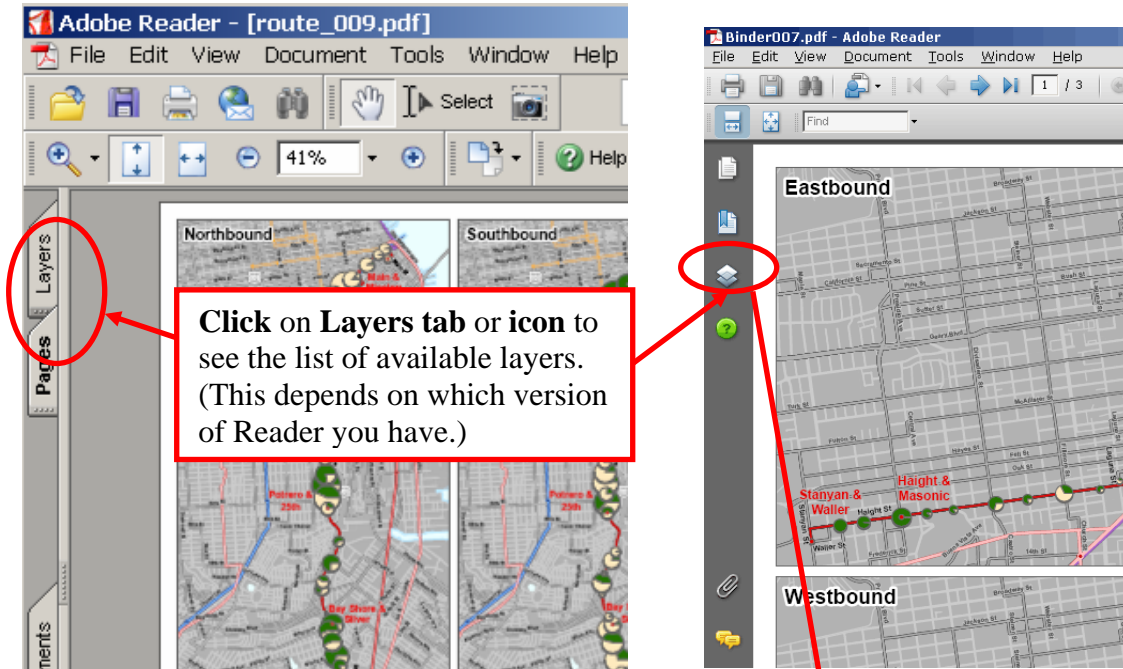
This format displays passenger activity along a route in the form of a map. The activity at every stop is included through a pie-chart that changes in size to indicate the amount of passengers that get on or off at every stop. Passenger boardings are indicated in green/dark gray, and alightings are shown in yellow/light gray. The scale of the pie-charts is consistent across all routes and does not change.



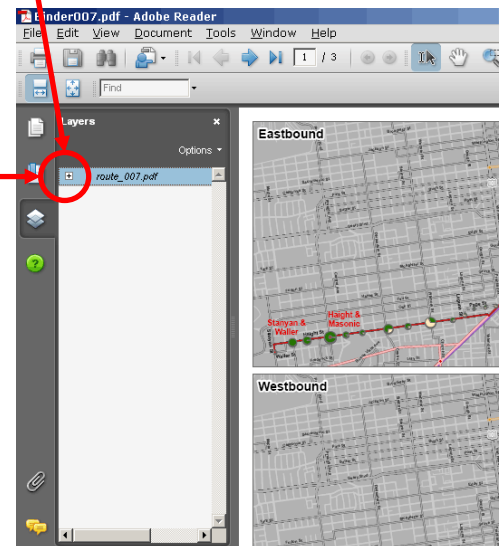
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How to access layers for different time periods:

When opened, the Passenger Activity Map will default to show data on total daily ridership. However, you can access data for each time period by clicking on a layer in the file. Please note that you must have Adobe® Reader 6.0 or later to use this feature. To see the data for individual time periods, click on the layers tab to see the full list of available layers.



Once you click on the Layers icon, you will also need to click on the + sign to display all the layers.



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When the full list of layers is available, you can click on the “eye” icon next to the layer’s name to turn it on and off. Layers for each direction are listed separately. To see a different time period, you must first turn on/off the appropriate layers for both directions.

For example: In order to see the passenger activity on the 9-San Bruno during the **AM peak**, you must first turn off **all the other time of day layers** for both the Northbound and Southbound directions.

Adobe Reader - [route_009.pdf]

File Edit View Document Tools Window Help

Layers

- Other 3
- stclines_arterial Anno
- Streets_StatePlane Anno
- Graphics
- Route Segments
- Northbound - Daily Stop Activity
- Northbound - Early Stop Activity
- Northbound - AM Peak Stop Activity
- Northbound - Midday Stop Activity
- Northbound - School Stop Activity
- Northbound - PM Peak Stop Activity
- Northbound - Evening Stop Activity
- Northbound - Owl Stop Activity
- Highway Labels
- Route 9
- Background Layers
- Background
- Other 2
- stclines_arterial Anno
- Graphics
- Route Segments
- Southbound - Daily Stop Activity
- Southbound - Early Stop Activity
- Southbound - AM Peak Stop Activity
- Southbound - Midday Stop Activity
- Southbound - School Stop Activity
- Southbound - PM Peak Stop Activity
- Southbound - Evening Stop Activity
- Southbound - Owl Stop Activity
- Highway Labels
- Route 9
- Background Layers
- Background
- Other

Options

Northbound

Southbound

Click on the “eye” icons to turn off all the time of day layers except for the time of day that you want to see. Please note that you must individually turn off the layers for each direction.

Line 9 - San Bruno
(Pre T-Line Implementation)

Passenger Activity

1,000

500

250

Legend

- San Bruno Line
- Existing Bus Network
- Freeway/Highway
- Multi-Modal
- Cable Car
- Hybrid Streetcar
- BART
- CALTEAN

SFMATA

Primary Data Source: SFMTA APC Data

Secondary Data Sources: SFCTA, SF GOV, MTC, NTAD

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2. Passenger Activity Report and Graph

The Passenger Activity Report and Graph presents stop-by-stop on and off activity, as well as the total load at each stop. There is a table and graph for each direction of service.

Vehicle Type:

The dominant vehicle type is listed. The dominant vehicle could be replaced by a different vehicle type either periodically or systematically.

Stop Information:

Each stop is listed by intersection. The first street named is the street on which the bus travels. The second street listed is the nearest cross street. The location of a stop can be determined by the letter codes after each stop. The codes provide three pieces of information in the format AA/BB/CC.

AA = the corner at which the stop is located, using ordinal directions

N = North

NE = northeast

S = South

NW = northwest

E = East

SE = southeast

W = West

SW = southwest

BB = the location of the stop relative to the intersection

NS = nearside (before the intersection)

FS = farside (after the intersection)

MB = mid-block (in the middle of the block between intersections)

MI = mid-intersection

CC = the type of bus stop

BZ = bus zone

SI = stop island

FL / PS = Flag stop or Pole stop

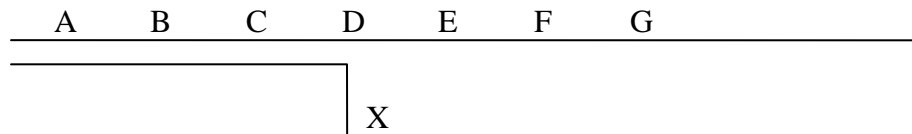
For example: California St & Laurel St NE-NS/BZ = On **California Street**, there is a stop on the **northeast corner** of the intersection with **Laurel Street**. This stop is a **nearside bus zone**.

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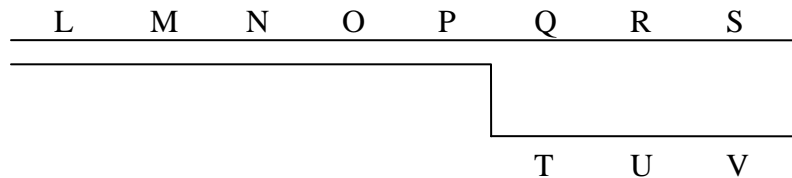
Order of Stops, Dips and Fluctuations in Ridership:

All stops are listed, including short lines or service branches. This sometimes results in a non-linear order of stops.

For example: While a route may service all stops A, B, C, D, E, F, G, a short line that first serves stops A through D and then turns around at terminal X, will be listed as: A, B, C, D, X, E, F, G.



For example: A route has a branch at the end of the line. All buses go to stops L, M, N, O, and P, then half the buses go one way to stop at Q, R, and S, while the other half go to T, U, and V. This means that some buses go to stops L, M, N, O, P, Q, R, and S, while others go to L, M, N, O, P, T, U, and V. The stops and loads will be listed as L, M, N, O, P, Q, R, S, T, U, V.



Branches and short lines are often the cause of apparent dips or unusual fluctuations in ridership.

Trip Length:

The Passenger Activity Report provides the average trip length, which is calculated using the number of passengers on board at each stop and the distance between stops. The origin and destination of each passenger’s trip is not known.

How to Read the Passenger Activity Graph:

The Passenger Activity Graph displays two pieces of information:

- Bars to represent the ons (in black) and offs (in gray) at each stop.
- A line to show the number of passengers that pass through each stop (loads).

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The scale for the ons and offs is on the left side of the graph. The scale for the loading is on the right. Unlike the Passenger Activity Maps, the scale on the Passenger Activity Graphs changes for each route.

Passenger Activity Report

SF MTA

Weekday

1 CALIFORNIA -TROLLEYCOACH STANDARD

To 33rd Ave & Geary

| Stop | Daily Total | | | AM Peak | | | Midday | | | School | | | PM Peak | | | Evening | | | Extra | | |
|-------------------------------------|-------------|--------|-------|---------|-------|------|--------|-------|-------|--------|-------|------|---------|-------|-------|---------|-----|------|-------|-----|------|
| | On | Off | Load | On | Off | Load | On | Off | Load | On | Off | Load | On | Off | Load | On | Off | Load | On | Off | Load |
| Howard St&Main St E-NS/BZ | 349 | - | 379 | 55 | - | 62 | 76 | - | 82 | 33 | - | 37 | 169 | - | 182 | 10 | - | 10 | 6 | - | 6 |
| Main St&Market St NE-MB/BZ | 104 | 16 | 467 | 9 | - | 71 | 15 | - | 97 | 17 | - | 54 | 60 | 16 | 226 | 2 | - | 12 | 1 | - | 7 |
| Drumm St&California St NE-FS/BZ | 493 | 4 | 956 | 122 | 1 | 192 | 147 | - | 244 | 70 | 1 | 123 | 137 | 2 | 361 | 10 | - | 22 | 7 | - | 14 |
| Clay St&Drumm St SW-NS/BZ | 438 | - | 501 | 20 | - | 28 | 71 | - | 91 | 44 | - | 51 | 181 | - | 194 | 90 | - | 101 | 32 | - | 36 |
| Sacramento St&Davis St NE-NS/BZ | 1,235 | 14 | 2,678 | 148 | 1 | 367 | 322 | - | 657 | 188 | 3 | 359 | 369 | 7 | 917 | 170 | 3 | 290 | 38 | - | 88 |
| Sacramento St&Battery St NW-FS/BZ | 739 | 25 | 3,392 | 51 | 8 | 410 | 182 | 9 | 830 | 128 | 2 | 485 | 289 | 3 | 1,203 | 63 | 3 | 350 | 26 | - | 114 |
| Sacramento St&Sansome St NW-FS/BZ | 564 | 27 | 3,929 | 27 | 7 | 430 | 130 | 2 | 958 | 97 | 6 | 576 | 246 | 10 | 1,439 | 51 | 2 | 399 | 13 | - | 127 |
| Sacramento St&Montgomery St NW-FS | 659 | 53 | 4,535 | 53 | 10 | 473 | 132 | 22 | 1,068 | 133 | 11 | 698 | 250 | 9 | 1,680 | 69 | 1 | 467 | 22 | - | 149 |
| Sacramento St&Keary St NW-FS/BZ | 885 | 125 | 5,295 | 138 | 18 | 593 | 241 | 55 | 1,254 | 159 | 15 | 842 | 259 | 31 | 1,908 | 63 | 4 | 526 | 25 | 2 | 172 |
| Sacramento St&Grant Ave NW-FS/BZ | 724 | 225 | 5,794 | 92 | 19 | 666 | 213 | 111 | 1,356 | 148 | 45 | 945 | 176 | 39 | 2,045 | 68 | 10 | 584 | 27 | 1 | 198 |
| Sacramento St&Stockton St NE-NS/BZ | 1,110 | 795 | 6,109 | 147 | 111 | 702 | 393 | 321 | 1,428 | 187 | 154 | 978 | 298 | 181 | 2,162 | 55 | 22 | 617 | 30 | 6 | 222 |
| Sacramento St&Powell St NE-NS/BZ | 254 | 276 | 6,087 | 52 | 41 | 713 | 69 | 70 | 1,427 | 37 | 59 | 956 | 63 | 80 | 2,145 | 25 | 15 | 627 | 8 | 11 | 219 |
| Sacramento St&Sproule Ln NE-NS | 222 | 433 | 5,876 | 48 | 56 | 705 | 63 | 110 | 1,380 | 39 | 64 | 931 | 51 | 155 | 2,041 | 10 | 30 | 607 | 11 | 18 | 212 |
| Sacramento St&Jones St NE-NS/BZ | 100 | 338 | 5,638 | 25 | 27 | 703 | 25 | 59 | 1,346 | 19 | 45 | 905 | 21 | 151 | 1,911 | 7 | 45 | 569 | 3 | 11 | 204 |
| Sacramento St&Leavenworth St NE-NS | 177 | 330 | 5,485 | 59 | 14 | 748 | 47 | 58 | 1,335 | 24 | 42 | 887 | 33 | 159 | 1,785 | 10 | 42 | 537 | 4 | 15 | 193 |
| Sacramento St&Hyde St NE-NS/BZ | 182 | 498 | 5,169 | 49 | 41 | 756 | 67 | 131 | 1,271 | 21 | 79 | 829 | 31 | 178 | 1,638 | 11 | 53 | 495 | 3 | 16 | 180 |
| Sacramento St&Larkin St NW-FS/BZ | 139 | 377 | 4,931 | 42 | 21 | 777 | 42 | 82 | 1,231 | 24 | 77 | 776 | 22 | 148 | 1,512 | 9 | 35 | 469 | - | 14 | 166 |
| Sacramento St&Polk St NW-FS/BZ | 430 | 508 | 4,853 | 80 | 42 | 815 | 133 | 131 | 1,233 | 67 | 83 | 760 | 96 | 194 | 1,414 | 41 | 46 | 464 | 13 | 12 | 167 |
| Sacramento St&Van Ness Ave NE-NS | 524 | 331 | 5,046 | 85 | 60 | 840 | 171 | 79 | 1,325 | 83 | 55 | 788 | 127 | 106 | 1,435 | 33 | 24 | 473 | 25 | 7 | 185 |
| Sacramento St&Franklin St NE-NS/BZ | 133 | 322 | 4,857 | 20 | 17 | 843 | 39 | 42 | 1,322 | 25 | 45 | 768 | 33 | 163 | 1,305 | 13 | 47 | 439 | 3 | 8 | 180 |
| Sacramento St&Gough St NW-FS/BZ | 52 | 179 | 4,730 | 7 | 19 | 831 | 15 | 45 | 1,292 | 4 | 24 | 748 | 19 | 63 | 1,261 | 6 | 21 | 424 | 1 | 7 | 174 |
| Sacramento St&Octavia St N-M/BZ | 39 | 177 | 4,592 | 3 | 16 | 818 | 10 | 33 | 1,269 | 9 | 28 | 729 | 10 | 77 | 1,194 | 5 | 19 | 410 | 2 | 4 | 172 |
| Sacramento St&Laguna St NE-NS/BZ | 20 | 99 | 4,513 | 5 | 6 | 817 | 5 | 13 | 1,261 | - | 15 | 714 | 9 | 47 | 1,156 | 1 | 15 | 396 | - | 3 | 169 |
| Sacramento St&Buchanan St NE-NS/BZ | 96 | 274 | 4,335 | 12 | 47 | 782 | 25 | 71 | 1,215 | 28 | 34 | 708 | 22 | 92 | 1,086 | 6 | 26 | 376 | 3 | 4 | 168 |
| Sacramento St&Webster St NE-NS/BZ | 103 | 314 | 4,124 | 7 | 69 | 720 | 44 | 123 | 1,136 | 23 | 57 | 674 | 27 | 55 | 1,058 | 2 | 6 | 372 | - | 4 | 164 |
| Sacramento St&Fillmore St NW-FS/BZ | 400 | 539 | 3,893 | 57 | 49 | 712 | 118 | 147 | 1,107 | 76 | 94 | 656 | 105 | 172 | 915 | 32 | 63 | 341 | 12 | 14 | 162 |
| Fillmore St&Sacramento St SW-FS | 1 | 63 | 30 | - | 13 | 3 | - | - | - | - | - | - | 1 | 50 | 27 | - | - | - | - | - | - |
| California St&Steiner St N-MB/FL | - | 17 | 13 | - | 3 | - | - | - | - | - | - | - | - | 14 | 13 | - | - | - | - | - | - |
| Steiner St&California St NW-NS/BZ | 68 | 66 | 3,895 | 9 | 7 | 714 | 17 | 18 | 1,106 | 17 | 8 | 665 | 21 | 26 | 910 | 4 | 5 | 340 | - | 2 | 160 |
| California St&Pierce St NW-FS/BZ | 36 | 57 | 3,874 | 5 | 6 | 713 | 8 | 10 | 1,104 | 9 | 11 | 663 | 11 | 18 | 903 | 3 | 9 | 334 | - | 3 | 157 |
| California St&Divisadero St NW-FS | 267 | 382 | 3,759 | 60 | 66 | 707 | 85 | 104 | 1,085 | 42 | 52 | 653 | 53 | 102 | 854 | 21 | 41 | 314 | 6 | 17 | 146 |
| California St&Baker St NE-NS/BZ | 48 | 113 | 3,694 | 11 | 8 | 710 | 9 | 22 | 1,072 | 15 | 16 | 652 | 13 | 46 | 821 | - | 18 | 296 | - | 3 | 143 |
| California St&Presidio Ave NW-FS | 430 | 876 | 3,251 | 54 | 176 | 589 | 136 | 204 | 1,004 | 87 | 162 | 577 | 124 | 274 | 671 | 21 | 44 | 273 | 8 | 16 | 137 |
| California St&Laurel St NE-NS/BZ | 70 | 172 | 3,141 | 7 | 34 | 561 | 17 | 64 | 957 | 20 | 25 | 568 | 19 | 33 | 654 | 4 | 10 | 267 | 3 | 6 | 134 |
| California St&Spruce St NE-NS/BZ | 145 | 216 | 3,070 | 8 | 33 | 536 | 58 | 87 | 928 | 34 | 40 | 562 | 34 | 36 | 652 | 9 | 13 | 263 | 2 | 7 | 129 |
| California St&Maple St NW-FS/BZ | 61 | 141 | 2,990 | 6 | 44 | 498 | 15 | 55 | 888 | 20 | 21 | 561 | 19 | 10 | 661 | 1 | 9 | 255 | - | 2 | 127 |
| California St&Cherry St NW-FS/BZ | 82 | 123 | 2,949 | 5 | 24 | 479 | 34 | 50 | 872 | 25 | 27 | 559 | 16 | 18 | 659 | 2 | 3 | 254 | - | 1 | 126 |
| California St&Arguello Blvd NW-FS | 76 | 161 | 2,864 | 11 | 31 | 459 | 19 | 34 | 857 | 24 | 26 | 557 | 16 | 42 | 633 | 5 | 20 | 239 | 1 | 8 | 119 |
| California St&4th Ave NE-NS/BZ | 34 | 187 | 2,711 | 9 | 20 | 448 | 10 | 64 | 803 | 7 | 39 | 525 | 3 | 38 | 598 | 3 | 16 | 226 | 2 | 10 | 111 |
| California St&6th Ave NW-FS/BZ | 122 | 354 | 2,475 | 26 | 41 | 429 | 34 | 130 | 707 | 25 | 74 | 476 | 28 | 70 | 556 | 4 | 28 | 202 | 5 | 11 | 105 |
| Cornwall St&6th Ave SE-FS/FL | - | - | 4 | - | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Cornwall St&5th Ave SW-NS | - | 4 | - | - | 4 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| California St&8th Ave NW-FS | 89 | 159 | 2,405 | 17 | 17 | 429 | 34 | 61 | 680 | - | - | - | - | - | - | - | - | - | - | - | 100 |
| California St&10th Ave NW-FS | 14 | 120 | 2,299 | 4 | 10 | 423 | 4 | 35 | 649 | - | - | - | - | - | - | - | - | - | - | - | 93 |
| California St&12th Ave NE-NS/BZ | 27 | 119 | 2,207 | 3 | 18 | 408 | 10 | 41 | 618 | - | - | - | - | - | - | - | - | - | - | - | 89 |
| California St&Park Presidio Blvd NW | 70 | 279 | 1,998 | 15 | 35 | 388 | 18 | 94 | 542 | - | - | - | - | - | - | - | - | - | - | - | 86 |
| California St&16th Ave NE-NS/BZ | 16 | 107 | 1,907 | 6 | 8 | 386 | 4 | 30 | 516 | - | - | - | - | - | - | - | - | - | - | - | 81 |
| California St&19th Ave NE-NS/BZ | 36 | 213 | 1,730 | 8 | 18 | 376 | 6 | 65 | 457 | - | - | - | - | - | - | - | - | - | - | - | 73 |
| California St&22nd Ave NE-NS/BZ | 36 | 245 | 1,521 | 10 | 31 | 355 | 7 | 71 | 393 | - | - | - | - | - | - | - | - | - | - | - | 66 |
| California St&25th Ave NE-NS | 24 | 366 | 1,179 | 3 | 39 | 319 | 11 | 111 | 293 | - | - | - | - | - | - | - | - | - | - | - | 56 |
| California St&28th Ave NE-NS | 9 | 163 | 1,025 | 1 | 19 | 301 | 4 | 44 | 253 | 1 | 28 | 183 | 3 | 45 | 187 | - | 17 | 55 | - | 10 | 46 |
| California St&30th Ave NW-FS/BZ | 8 | 113 | 920 | 4 | 50 | 255 | 1 | 21 | 233 | 1 | 23 | 161 | 2 | 12 | 177 | - | 5 | 50 | - | 2 | 44 |
| 32nd Ave&California St SW-FS/BZ | 6 | 69 | 857 | 3 | 22 | 236 | - | 12 | 221 | 2 | 17 | 146 | 1 | 13 | 165 | - | 1 | 49 | - | 4 | 40 |
| 32nd Ave&Clement St NW-NS | 8 | 124 | 741 | 2 | 16 | 222 | 1 | 41 | 181 | 2 | 35 | 113 | 3 | 21 | 147 | - | 8 | 41 | - | 3 | 37 |
| 32nd Ave&Geary Blvd NW-NS | - | - | 741 | - | - | 222 | - | - | 181 | - | - | 113 | - | - | 147 | - | - | 41 | - | - | 37 |
| Geary Blvd&33rd Ave NE-NS/BZ | - | 735 | 6 | - | 222 | - | - | 180 | 1 | - | 113 | - | - | 144 | 3 | - | 41 | - | - | 35 | 2 |
| Total Passenger Boardings | 11,954 | 12,023 | | 1,700 | 1,715 | | 3,337 | 3,362 | | 2,086 | 2,093 | | 3,530 | 3,537 | | 953 | 964 | | 348 | 352 | |
| Passenger Miles | 18,612 | | | 3,101 | | | 5,009 | | | 3,158 | | | 5,146 | | | 1,675 | | | 722 | | |
| Average Passenger Trip Length | 1.6 | | | 1.8 | | | 1.5 | | | 1.5 | | | 1.5 | | | 1.8 | | | 2.1 | | |

Some trips may start or end with passengers on board. See “Methodology” for an explanation of

Average Passenger Trip Length

The average trip length is calculated, not based on the trip length of each

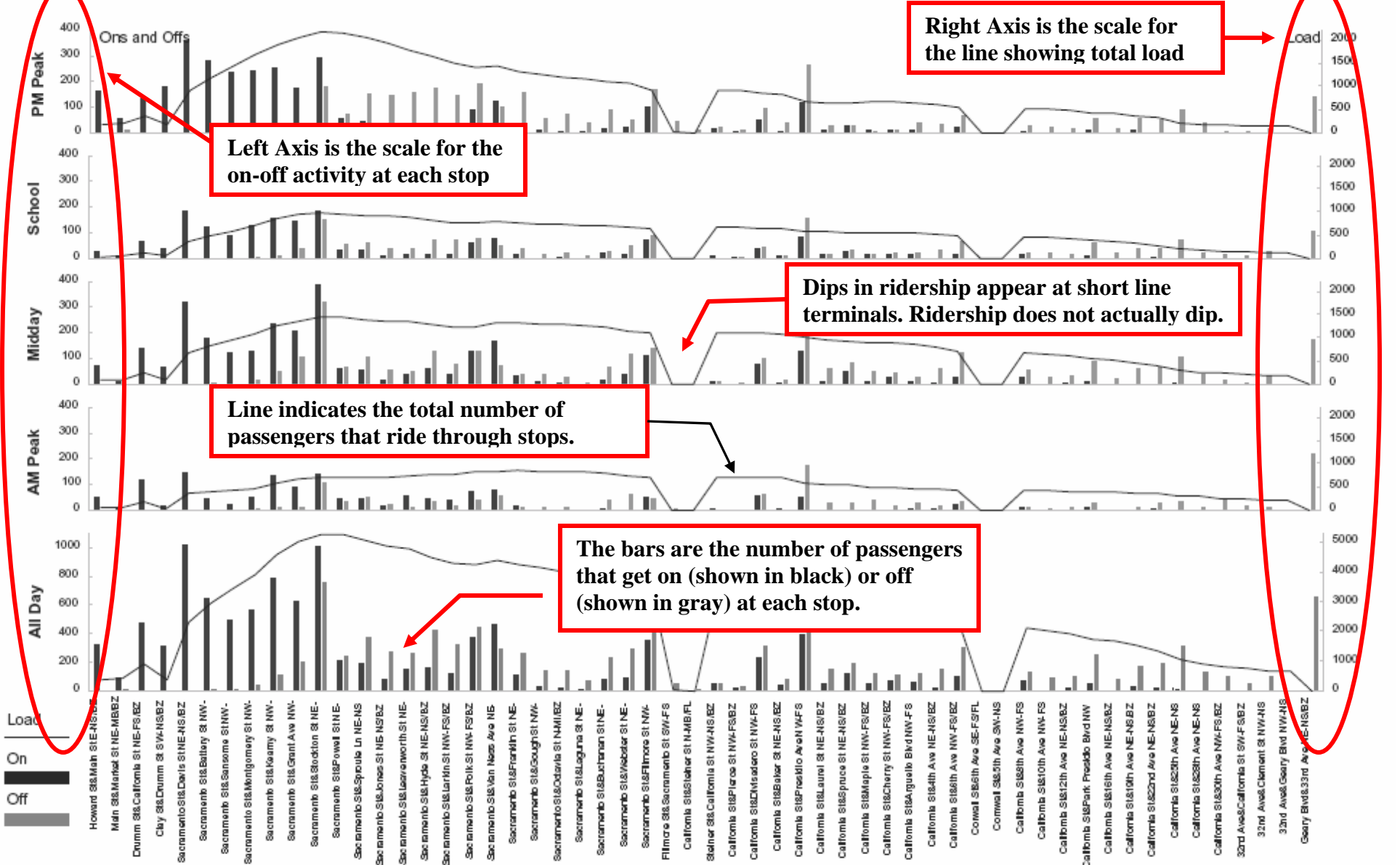


Passenger Activity Graph

SF Muni

1 CALIFORNIA -TROLLEYCOACH STANDARD

Weekday
To 33rd Ave & Geary



SF MTA TEP
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