# Performance Measure Summary - San Francisco-Oakland CA

There are several inventory and performance measures listed in the pages of this Urban Area Report for the years from 1982 to 2020. There is no single performance measure that experts agree "says it all". A few key points should be recognized by users of the Urban Mobility Scorecard data.

**Use the trends** - The multi-year performance measures are better indicators, in most cases, than any single year. Examining a few measures over many years reduces the chance that data variations or the estimating procedures may have caused a "spike" in any single year. (5 years is 5 times better than 1 year.)

**Use several measures** - Each performance measure illustrates a different element of congestion. (The view is more interesting from atop several measures.)

**Compare to similar regions** - Congestion analyses that compare areas with similar characteristics (for example, population, growth rate, road and public transportation system design) are usually more insightful than comparisons of different regions. (Los Angeles is not Peoria.)

**Compare ranking changes and performance measure values** - In some performance measures, a small change in the value may cause a significant change in rank from one year to the next. This is the case when there are several regions with nearly the same value. (15 hours is only 1 hour more than 14 hours.)

**Consider the scope of improvement options** - Any improvement project in a corridor within most of the regions will only have a modest effect on the regional congestion level. (To have an effect on areawide congestion, there must be significant change in the system or service.)

# Performance Measures and Definition of Terms

**Travel Time Index** - A measure of congestion that focuses on each trip and each mile of travel. It is calculated as the ratio of travel time in the peak period to travel time in free-flow. A value of 1.30 indicates that a 20-minute free-flow trip takes 26 minutes in the peak.

**Planning Time Index** - A travel time reliability measure that represents the total travel time that should be planned for a trip. Computed with the 95th percentile travel time it represents the amount of time that should be planned for a commute trip to be late for only 1 day a month. If it is computed with the 80th percentile travel time it represents the amount of time that should be planned for a trip to be late for only 1 day a week. A PTI of 2.00 means that for a 20-minute trip in light traffic, 40 minutes should be planned.

**Peak Commuters** - Number of travelers who begin a trip during the morning or evening peak travel periods (6 to 10 a.m. and 3 to 7 p.m.). "Commuters" are private vehicle users unless specifically noted.

**Annual Delay per Commuter** - A yearly sum of all the per-trip delays for those persons who travel in the peak period (6 to 10 a.m. and 3 to 7 p.m.). This measure illustrates the effect of traffic slowdowns as well as the length of each trip.

**Total Delay** - The overall size of the congestion problem. Measured by the total travel time above that needed to complete a trip at free-flow speeds. The ranking of total delay usually follows the population ranking (larger regions usually have more delay).

**Free-Flow Speeds** - These values are derived from time periods with lighter traffic volumes in the INRIX speed database. They are used as the national comparison thresholds. Other speed thresholds may be appropriate for urban project evaluations or sub-region studies.

**Excess Fuel Consumed** - Increased fuel consumption due to travel in congested conditions rather than free-flow conditions.

**Congestion Cost** - Value of travel delay for 2020 (estimated at $20.17 per hour of person travel and $55.24 per hour of truck time) and excess fuel consumption estimated using state average cost per gallon.

**Urban Area** - The developed area (population density more than 1,000 persons per square mile) within a metropolitan region. The urban area boundaries change frequently (every year for most growing areas), so increases include both new growth and development that was previously in areas designated as rural.

**Number of Rush Hours** -Time when the road system might have congestion.

**Annual Greenhouse Gases (CO2) Produced** -Tons of CO2 produced from all vehicle travel.

**Excess Greenhouse Gases (CO2) Produced due to Congestion**-Tons of CO2 produced due to congested portion of travel. The excess CO2 is a subset of the total CO2 produced.

# Mobility Data for San Francisco-Oakland CA

| Inventory Measures | 2020 | 2019 | 2018 | 2017 | 2016 | 2015 |
|---|---|---|---|---|---|---|
| **Urban Area Information** | | | | | | |
| Population (1000s) | 3,550 | 3,550 | 3,545 | 3,540 | 3,520 | 3,500 |
| Rank | 13 | 13 | 13 | 13 | 13 | 13 |
| Commuters (1000s) | 1,299 | 1,299 | 1,297 | 1,295 | 1,284 | 1,274 |
| **Daily Vehicle-Miles of Travel (1000s)** | | | | | | |
| Freeway | 27,433 | 38,048 | 39,368 | 39,755 | 39,755 | 38,656 |
| Arterial Streets | 14,912 | 20,683 | 20,869 | 20,843 | 21,002 | 21,367 |
| **Cost Components** | | | | | | |
| Value of Time ($/hour) | 20.17 | 19.14 | 18.71 | 18.12 | 17.91 | 17.69 |
| Commercial Cost ($/hour) | 55.24 | 61.03 | 54.71 | 52.14 | 50.20 | 46.87 |
| Gasoline ($/gallon) | 3.43 | 3.70 | 3.72 | 2.96 | 2.78 | 3.18 |
| Diesel ($/gallon) | 3.80 | 3.95 | 4.03 | 2.95 | 2.68 | 2.86 |
| **System Performance** | **2020** | **2019** | **2018** | **2017** | **2016** | **2015** |
| **Congested Travel (% of peak VMT)** | -- | -- | -- | 52.3 | -- | -- |
| **Congested System (% of lane-miles)** | -- | -- | -- | 35.8 | -- | -- |
| **Congested Time (number of "Rush Hours")** | -- | -- | -- | 6.5 | -- | -- |
| **Annual Excess Fuel Consumed** | | | | | | |
| Total Fuel (1000 gallons) | 40,915 | 92,997 | 92,004 | 91,037 | 89,734 | 88,894 |
| Rank | 9 | 8 | 8 | 7 | 7 | 7 |
| Fuel per Peak Auto Commuter (gallons) | 17 | 40 | 39 | 39 | 37 | 37 |
| Rank | 4 | 2 | 2 | 1 | 1 | 1 |
| **Annual Delay** | | | | | | |
| Total Delay (1000s of person-hours) | 112,507 | 255,724 | 254,442 | 253,838 | 250,205 | 245,689 |
| Rank | 8 | 7 | 6 | 5 | 5 | 5 |
| Delay per Auto Commuter (pers-hrs) | 46 | 103 | 103 | 103 | 102 | 101 |
| Rank | 4 | 3 | 2 | 2 | 2 | 2 |
| **Travel Time Index** | 1.16 | 1.51 | 1.51 | 1.50 | 1.50 | 1.49 |
| Rank | 2 | 2 | 2 | 2 | 1 | 1 |
| **Commuter Stress Index** | 1.18 | 1.65 | 1.63 | 1.62 | -- | -- |
| Rank | 3 | 2 | 2 | 2 | -- | -- |
| **Freeway Planning Time Index (95th Pctile)** | -- | 2.60 | 2.54 | 2.69 | -- | -- |
| Rank | -- | 1 | 2 | 2 | -- | -- |
| **Congestion Cost** | | | | | | |
| Total Cost ($ millions) | 2,604 | 5,775 | 5,664 | 5,513 | 5,340 | 5,186 |
| Rank | 7 | 5 | 5 | 5 | 5 | 5 |
| Cost per Auto Commuter ($) | 1,301 | 2,886 | 2,834 | 2,763 | 2,739 | 2,675 |
| Rank | 2 | 1 | 2 | 2 | 2 | 2 |
| **Truck Congestion** | | | | | | |
| Annual Person-Hours of Delay (000) | 6,724 | 13,453 | 13,288 | 12,961 | 12,776 | 12,545 |
| Rank | 5 | 4 | 4 | 4 | 4 | 4 |
| Annual Gallons of Wasted Fuel (000) | 10,591 | 21,190 | 20,516 | 20,148 | 19,860 | 19,674 |
| Rank | 6 | 4 | 5 | 5 | 5 | 5 |
| Annual Congestion Cost ($ million) | 366 | 814 | 742 | 688 | 650 | 603 |
| Rank | 5 | 4 | 4 | 4 | 4 | 4 |
| **Annual Greenhouse Gases (CO2) Produced** | | | | | | |
| Excess Due to Congestion (tons) | 412,227 | 936,974 | -- | -- | -- | -- |
| Rank | 9 | 8 | -- | -- | -- | -- |
| Due to All Travel (tons) | 4,967,391 | 11,290,657 | -- | -- | -- | -- |
| Rank | 18 | 13 | -- | -- | -- | -- |
| **Truck Annual Greenhouse Gases (CO2) Produced** | | | | | | |
| Excess Due to Truck Congestion (tons) | 116,506 | 233,105 | -- | -- | -- | -- |
| Rank | 6 | 6 | -- | -- | -- | -- |
| Due to Truck Travel (tons) | 1,282,858 | 2,566,738 | -- | -- | -- | -- |
| Rank | 19 | 16 | -- | -- | -- | -- |

* Note: Zeroes in the table reflect values less than 0.5.

# Mobility Data for San Francisco-Oakland CA

| Inventory Measures | 2014 | 2013 | 2012 | 2011 | 2010 | 2009 |
|---|---|---|---|---|---|---|
| **Urban Area Information** | | | | | | |
| Population (1000s) | 3,480 | 3,470 | 3,440 | 3,410 | 3,400 | 3,375 |
| Rank | 13 | 13 | 13 | 13 | 13 | 13 |
| Commuters (1000s) | 1,264 | 1,278 | 1,267 | 1,253 | 1,245 | 1,233 |
| **Daily Vehicle-Miles of Travel (1000s)** | | | | | | |
| Freeway | 28,102 | 27,612 | 27,500 | 27,300 | 27,220 | 27,100 |
| Arterial Streets | 21,700 | 23,900 | 23,720 | 23,690 | 23,620 | 23,600 |
| **Cost Components** | | | | | | |
| Value of Time ($/hour) | 17.67 | 17.39 | 17.14 | 16.79 | 16.28 | 16.01 |
| Commercial Cost ($/hour) | 44.82 | 41.23 | 39.66 | 44.62 | 42.50 | 41.83 |
| Gasoline ($/gallon) | 3.63 | 3.89 | 3.89 | 3.51 | 3.05 | 2.61 |
| Diesel ($/gallon) | 3.85 | 4.12 | 4.20 | 4.02 | 3.20 | 2.71 |
| **System Performance** | **2014** | **2013** | **2012** | **2011** | **2010** | **2009** |
| **Congested Travel (% of peak VMT)** | -- | -- | -- | -- | -- | -- |
| **Congested System (% of lane-miles)** | -- | -- | -- | -- | -- | -- |
| **Congested Time (number of "Rush Hours")** | -- | -- | -- | -- | -- | -- |
| **Annual Excess Fuel Consumed** | | | | | | |
| Total Fuel (1000 gallons) | 87,793 | 86,004 | 84,536 | 80,341 | 79,587 | 79,194 |
| Rank | 8 | 8 | 8 | 7 | 7 | 7 |
| Fuel per Peak Auto Commuter (gallons) | 36 | 35 | 35 | 33 | 33 | 31 |
| Rank | 1 | 1 | 1 | 3 | 3 | 3 |
| **Annual Delay** | | | | | | |
| Total Delay (1000s of person-hours) | 240,496 | 233,493 | 227,441 | 214,189 | 208,286 | 203,385 |
| Rank | 5 | 5 | 5 | 6 | 6 | 6 |
| Delay per Auto Commuter (pers-hrs) | 99 | 97 | 95 | 93 | 90 | 88 |
| Rank | 2 | 2 | 2 | 2 | 2 | 3 |
| **Travel Time Index** | 1.48 | 1.46 | 1.44 | 1.43 | 1.41 | 1.41 |
| Rank | 1 | 2 | 2 | 2 | 2 | 2 |
| **Commuter Stress Index** | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Freeway Planning Time Index (95th Pctile)** | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Congestion Cost** | | | | | | |
| Total Cost ($ millions) | 5,104 | 4,877 | 4,681 | 4,358 | 4,071 | 3,881 |
| Rank | 5 | 5 | 5 | 6 | 6 | 5 |
| Cost per Auto Commuter ($) | 2,606 | 2,556 | 2,520 | 2,450 | 2,456 | 2,441 |
| Rank | 1 | 1 | 1 | 2 | 2 | 2 |
| **Truck Congestion** | | | | | | |
| Annual Person-Hours of Delay (000) | 12,280 | 11,923 | 11,614 | 10,937 | 10,635 | 10,385 |
| Rank | 4 | 4 | 4 | 4 | 4 | 4 |
| Annual Gallons of Wasted Fuel (000) | 19,430 | 19,034 | 18,709 | 17,781 | 17,614 | 17,527 |
| Rank | 5 | 5 | 4 | 4 | 4 | 4 |
| Annual Congestion Cost ($ million) | 588 | 538 | 509 | 527 | 478 | 452 |
| Rank | 4 | 4 | 4 | 4 | 4 | 4 |
| **Annual Greenhouse Gases (CO2) Produced** | | | | | | |
| Excess Due to Congestion (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| Due to All Travel (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Truck Annual Greenhouse Gases (CO2) Produced** | | | | | | |
| Excess Due to Truck Congestion (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| Due to Truck Travel (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |

* Note: Zeroes in the table reflect values less than 0.5.

# Mobility Data for San Francisco-Oakland CA

| Inventory Measures | 2008 | 2007 | 2006 | 2005 | 2004 | 2003 |
|---|---|---|---|---|---|---|
| **Urban Area Information** | | | | | | |
| Population (1000s) | 3,360 | 3,330 | 3,300 | 3,320 | 3,330 | 3,350 |
| Rank | 13 | 13 | 13 | 12 | 12 | 12 |
| Commuters (1000s) | 1,223 | 1,210 | 1,197 | 1,202 | 1,201 | 1,203 |
| **Daily Vehicle-Miles of Travel (1000s)** | | | | | | |
| Freeway | 27,000 | 27,100 | 28,500 | 28,300 | 28,100 | 27,900 |
| Arterial Streets | 23,500 | 24,200 | 24,900 | 24,700 | 24,500 | 24,300 |
| **Cost Components** | | | | | | |
| Value of Time ($/hour) | 16.07 | 15.47 | 15.06 | 14.58 | 14.10 | 13.73 |
| Commercial Cost ($/hour) | 40.77 | 39.30 | 37.88 | 36.51 | 35.19 | 33.92 |
| Gasoline ($/gallon) | 3.84 | 3.24 | 2.88 | 2.62 | 2.28 | 1.78 |
| Diesel ($/gallon) | 4.39 | 3.60 | 3.17 | 2.93 | 2.27 | 1.79 |
| **System Performance** | **2008** | **2007** | **2006** | **2005** | **2004** | **2003** |
| **Congested Travel (% of peak VMT)** | -- | -- | -- | -- | -- | -- |
| **Congested System (% of lane-miles)** | -- | -- | -- | -- | -- | -- |
| **Congested Time (number of "Rush Hours")** | -- | -- | -- | -- | -- | -- |
| **Annual Excess Fuel Consumed** | | | | | | |
| Total Fuel (1000 gallons) | 82,530 | 83,317 | 82,841 | 81,662 | 79,695 | 78,095 |
| Rank | 7 | 6 | 6 | 6 | 6 | 6 |
| Fuel per Peak Auto Commuter (gallons) | 32 | 33 | 34 | 32 | 32 | 32 |
| Rank | 3 | 1 | 1 | 2 | 1 | 1 |
| **Annual Delay** | | | | | | |
| Total Delay (1000s of person-hours) | 201,857 | 203,783 | 202,619 | 199,735 | 194,924 | 191,009 |
| Rank | 5 | 5 | 5 | 5 | 5 | 5 |
| Delay per Auto Commuter (pers-hrs) | 86 | 86 | 85 | 83 | 82 | 81 |
| Rank | 2 | 2 | 2 | 2 | 2 | 2 |
| **Travel Time Index** | 1.42 | 1.41 | 1.41 | 1.40 | 1.39 | 1.38 |
| Rank | 2 | 2 | 2 | 2 | 2 | 2 |
| **Commuter Stress Index** | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Freeway Planning Time Index (95th Pctile)** | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Congestion Cost** | | | | | | |
| Total Cost ($ millions) | 3,981 | 3,826 | 3,674 | 3,491 | 3,267 | 3,078 |
| Rank | 5 | 5 | 5 | 5 | 5 | 5 |
| Cost per Auto Commuter ($) | 2,401 | 2,519 | 2,573 | 2,620 | 2,646 | 2,662 |
| Rank | 2 | 1 | 2 | 2 | 2 | 1 |
| **Truck Congestion** | | | | | | |
| Annual Person-Hours of Delay (000) | 10,307 | 10,406 | 10,346 | 10,199 | 9,953 | 9,753 |
| Rank | 4 | 4 | 4 | 4 | 4 | 4 |
| Annual Gallons of Wasted Fuel (000) | 18,265 | 18,439 | 18,334 | 18,073 | 17,638 | 17,283 |
| Rank | 4 | 4 | 4 | 4 | 4 | 4 |
| Annual Congestion Cost ($ million) | 473 | 448 | 424 | 400 | 366 | 339 |
| Rank | 4 | 4 | 4 | 4 | 4 | 4 |
| **Annual Greenhouse Gases (CO2) Produced** | | | | | | |
| Excess Due to Congestion (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| Due to All Travel (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Truck Annual Greenhouse Gases (CO2) Produced** | | | | | | |
| Excess Due to Truck Congestion (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| Due to Truck Travel (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |

* Note: Zeroes in the table reflect values less than 0.5.

# Mobility Data for San Francisco-Oakland CA

| Inventory Measures | 2002 | 2001 | 2000 | 1999 | 1998 | 1997 |
|---|---|---|---|---|---|---|
| **Urban Area Information** | | | | | | |
| Population (1000s) | 3,370 | 3,380 | 3,350 | 3,340 | 3,320 | 3,310 |
| Rank | 12 | 12 | 12 | 12 | 12 | 12 |
| Commuters (1000s) | 1,194 | 1,179 | 1,149 | 1,130 | 1,107 | 1,087 |
| **Daily Vehicle-Miles of Travel (1000s)** | | | | | | |
| Freeway | 27,600 | 27,200 | 26,800 | 26,600 | 26,200 | 25,900 |
| Arterial Streets | 24,100 | 24,000 | 23,800 | 23,600 | 23,300 | 23,100 |
| **Cost Components** | | | | | | |
| Value of Time ($/hour) | 13.43 | 13.22 | 12.85 | 12.43 | 12.17 | 11.98 |
| Commercial Cost ($/hour) | 32.69 | 31.51 | 30.38 | 29.28 | 28.89 | 28.50 |
| Gasoline ($/gallon) | 1.66 | 1.93 | 1.72 | 1.59 | 1.27 | 1.40 |
| Diesel ($/gallon) | 1.58 | 1.78 | 1.68 | 1.50 | 1.39 | 1.51 |
| **System Performance** | **2002** | **2001** | **2000** | **1999** | **1998** | **1997** |
| **Congested Travel (% of peak VMT)** | -- | -- | -- | -- | -- | -- |
| **Congested System (% of lane-miles)** | -- | -- | -- | -- | -- | -- |
| **Congested Time (number of "Rush Hours")** | -- | -- | -- | -- | -- | -- |
| **Annual Excess Fuel Consumed** | | | | | | |
| Total Fuel (1000 gallons) | 76,605 | 76,040 | 74,772 | 73,019 | 71,445 | 69,317 |
| Rank | 6 | 6 | 6 | 6 | 6 | 5 |
| Fuel per Peak Auto Commuter (gallons) | 30 | 30 | 29 | 29 | 28 | 28 |
| Rank | 1 | 1 | 1 | 1 | 1 | 1 |
| **Annual Delay** | | | | | | |
| Total Delay (1000s of person-hours) | 187,366 | 185,983 | 182,881 | 178,594 | 174,745 | 169,541 |
| Rank | 5 | 5 | 5 | 4 | 4 | 4 |
| Delay per Auto Commuter (pers-hrs) | 81 | 80 | 79 | 78 | 78 | 77 |
| Rank | 2 | 2 | 2 | 2 | 2 | 2 |
| **Travel Time Index** | 1.38 | 1.38 | 1.38 | 1.38 | 1.37 | 1.37 |
| Rank | 2 | 2 | 2 | 2 | 2 | 2 |
| **Commuter Stress Index** | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Freeway Planning Time Index (95th Pctile)** | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Congestion Cost** | | | | | | |
| Total Cost ($ millions) | 2,941 | 2,890 | 2,750 | 2,590 | 2,465 | 2,366 |
| Rank | 5 | 5 | 4 | 4 | 4 | 4 |
| Cost per Auto Commuter ($) | 2,668 | 2,683 | 2,713 | 2,737 | 2,741 | 2,700 |
| Rank | 1 | 1 | 1 | 1 | 1 | 1 |
| **Truck Congestion** | | | | | | |
| Annual Person-Hours of Delay (000) | 9,567 | 9,496 | 9,338 | 9,119 | 8,922 | 8,657 |
| Rank | 4 | 4 | 4 | 4 | 4 | 4 |
| Annual Gallons of Wasted Fuel (000) | 16,954 | 16,829 | 16,548 | 16,160 | 15,812 | 15,341 |
| Rank | 4 | 4 | 4 | 4 | 4 | 4 |
| Annual Congestion Cost ($ million) | 318 | 308 | 292 | 273 | 262 | 253 |
| Rank | 4 | 4 | 4 | 4 | 4 | 4 |
| **Annual Greenhouse Gases (CO2) Produced** | | | | | | |
| Excess Due to Congestion (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| Due to All Travel (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Truck Annual Greenhouse Gases (CO2) Produced** | | | | | | |
| Excess Due to Truck Congestion (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| Due to Truck Travel (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |

* Note: Zeroes in the table reflect values less than 0.5.

# Mobility Data for San Francisco-Oakland CA

| Inventory Measures | 1996 | 1995 | 1994 | 1993 | 1992 | 1991 |
|---|---|---|---|---|---|---|
| **Urban Area Information** | | | | | | |
| Population (1000s) | 3,300 | 3,290 | 3,280 | 3,270 | 3,270 | 3,220 |
| Rank | 11 | 10 | 10 | 10 | 10 | 10 |
| Commuters (1000s) | 1,066 | 1,046 | 1,030 | 1,011 | 995 | 964 |
| **Daily Vehicle-Miles of Travel (1000s)** | | | | | | |
| Freeway | 25,700 | 25,200 | 24,900 | 24,600 | 24,000 | 23,800 |
| Arterial Streets | 22,900 | 22,700 | 22,400 | 22,100 | 21,800 | 21,400 |
| **Cost Components** | | | | | | |
| Value of Time ($/hour) | 11.71 | 11.37 | 11.06 | 10.78 | 10.47 | 10.17 |
| Commercial Cost ($/hour) | 28.12 | 27.75 | 27.38 | 27.02 | 26.66 | 26.30 |
| Gasoline ($/gallon) | 1.21 | 1.27 | 1.16 | 1.23 | 1.28 | 1.11 |
| Diesel ($/gallon) | 1.24 | 1.31 | 1.19 | 1.26 | 1.25 | 1.25 |
| **System Performance** | **1996** | **1995** | **1994** | **1993** | **1992** | **1991** |
| **Congested Travel (% of peak VMT)** | -- | -- | -- | -- | -- | -- |
| **Congested System (% of lane-miles)** | -- | -- | -- | -- | -- | -- |
| **Congested Time (number of "Rush Hours")** | -- | -- | -- | -- | -- | -- |
| **Annual Excess Fuel Consumed** | | | | | | |
| Total Fuel (1000 gallons) | 67,935 | 65,409 | 62,905 | 60,198 | 57,951 | 55,208 |
| Rank | 5 | 5 | 4 | 4 | 4 | 4 |
| Fuel per Peak Auto Commuter (gallons) | 28 | 26 | 25 | 24 | 23 | 22 |
| Rank | 1 | 1 | 1 | 1 | 1 | 1 |
| **Annual Delay** | | | | | | |
| Total Delay (1000s of person-hours) | 166,161 | 159,983 | 153,857 | 147,236 | 141,739 | 135,033 |
| Rank | 4 | 4 | 4 | 4 | 4 | 4 |
| Delay per Auto Commuter (pers-hrs) | 76 | 75 | 73 | 72 | 70 | 68 |
| Rank | 2 | 2 | 2 | 2 | 2 | 2 |
| **Travel Time Index** | 1.37 | 1.36 | 1.35 | 1.34 | 1.33 | 1.32 |
| Rank | 2 | 2 | 2 | 2 | 2 | 2 |
| **Commuter Stress Index** | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Freeway Planning Time Index (95th Pctile)** | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Congestion Cost** | | | | | | |
| Total Cost ($ millions) | 2,256 | 2,119 | 1,980 | 1,855 | 1,742 | 1,609 |
| Rank | 4 | 4 | 4 | 4 | 4 | 4 |
| Cost per Auto Commuter ($) | 2,712 | 2,691 | 2,664 | 2,618 | 2,598 | 2,554 |
| Rank | 1 | 1 | 1 | 1 | 1 | 1 |
| **Truck Congestion** | | | | | | |
| Annual Person-Hours of Delay (000) | 8,485 | 8,169 | 7,856 | 7,518 | 7,237 | 6,894 |
| Rank | 3 | 3 | 3 | 3 | 3 | 3 |
| Annual Gallons of Wasted Fuel (000) | 15,035 | 14,476 | 13,922 | 13,323 | 12,825 | 12,218 |
| Rank | 4 | 4 | 4 | 4 | 4 | 4 |
| Annual Congestion Cost ($ million) | 240 | 230 | 217 | 206 | 195 | 184 |
| Rank | 4 | 3 | 3 | 3 | 3 | 3 |
| **Annual Greenhouse Gases (CO2) Produced** | | | | | | |
| Excess Due to Congestion (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| Due to All Travel (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Truck Annual Greenhouse Gases (CO2) Produced** | | | | | | |
| Excess Due to Truck Congestion (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| Due to Truck Travel (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |

* Note: Zeroes in the table reflect values less than 0.5.

# Mobility Data for San Francisco-Oakland CA

| Inventory Measures | 1990 | 1989 | 1988 | 1987 | 1986 | 1985 |
|---|---|---|---|---|---|---|
| **Urban Area Information** | | | | | | |
| Population (1000s) | 3,180 | 3,150 | 3,140 | 3,080 | 3,020 | 2,960 |
| Rank | 9 | 9 | 8 | 8 | 8 | 8 |
| Commuters (1000s) | 938 | 921 | 909 | 885 | 860 | 834 |
| **Daily Vehicle-Miles of Travel (1000s)** | | | | | | |
| Freeway | 23,500 | 23,000 | 22,600 | 22,200 | 21,800 | 21,500 |
| Arterial Streets | 21,200 | 20,800 | 20,300 | 20,000 | 19,600 | 19,300 |
| **Cost Components** | | | | | | |
| Value of Time ($/hour) | 9.75 | 9.25 | 8.83 | 8.48 | 8.18 | 8.03 |
| Commercial Cost ($/hour) | 25.95 | 25.60 | 25.26 | 24.93 | 24.60 | 24.27 |
| Gasoline ($/gallon) | 1.14 | 1.14 | 1.05 | 1.05 | 1.03 | 1.35 |
| Diesel ($/gallon) | 1.19 | 1.09 | 1.01 | 1.01 | 0.99 | 1.29 |
| **System Performance** | **1990** | **1989** | **1988** | **1987** | **1986** | **1985** |
| **Congested Travel (% of peak VMT)** | -- | -- | -- | -- | -- | -- |
| **Congested System (% of lane-miles)** | -- | -- | -- | -- | -- | -- |
| **Congested Time (number of "Rush Hours")** | -- | -- | -- | -- | -- | -- |
| **Annual Excess Fuel Consumed** | | | | | | |
| Total Fuel (1000 gallons) | 53,621 | 52,046 | 50,491 | 49,285 | 46,735 | 44,382 |
| Rank | 4 | 4 | 4 | 4 | 4 | 4 |
| Fuel per Peak Auto Commuter (gallons) | 22 | 21 | 20 | 20 | 19 | 19 |
| Rank | 1 | 1 | 1 | 1 | 1 | 1 |
| **Annual Delay** | | | | | | |
| Total Delay (1000s of person-hours) | 131,150 | 127,298 | 123,495 | 120,544 | 114,306 | 108,553 |
| Rank | 4 | 4 | 3 | 3 | 3 | 3 |
| Delay per Auto Commuter (pers-hrs) | 68 | 67 | 66 | 65 | 63 | 62 |
| Rank | 2 | 2 | 2 | 2 | 2 | 1 |
| **Travel Time Index** | 1.32 | 1.32 | 1.31 | 1.31 | 1.30 | 1.30 |
| Rank | 2 | 2 | 2 | 2 | 2 | 2 |
| **Commuter Stress Index** | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Freeway Planning Time Index (95th Pctile)** | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Congestion Cost** | | | | | | |
| Total Cost ($ millions) | 1,506 | 1,395 | 1,294 | 1,219 | 1,119 | 1,060 |
| Rank | 4 | 4 | 3 | 3 | 3 | 3 |
| Cost per Auto Commuter ($) | 2,590 | 2,658 | 2,712 | 2,764 | 2,723 | 2,631 |
| Rank | 1 | 1 | 1 | 1 | 1 | 1 |
| **Truck Congestion** | | | | | | |
| Annual Person-Hours of Delay (000) | 6,696 | 6,501 | 6,306 | 6,155 | 5,837 | 5,543 |
| Rank | 3 | 3 | 3 | 3 | 3 | 3 |
| Annual Gallons of Wasted Fuel (000) | 11,867 | 11,519 | 11,174 | 10,907 | 10,343 | 9,822 |
| Rank | 4 | 4 | 4 | 4 | 4 | 4 |
| Annual Congestion Cost ($ million) | 176 | 167 | 159 | 154 | 144 | 138 |
| Rank | 3 | 3 | 3 | 3 | 3 | 3 |
| **Annual Greenhouse Gases (CO2) Produced** | | | | | | |
| Excess Due to Congestion (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| Due to All Travel (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| **Truck Annual Greenhouse Gases (CO2) Produced** | | | | | | |
| Excess Due to Truck Congestion (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |
| Due to Truck Travel (tons) | -- | -- | -- | -- | -- | -- |
| Rank | -- | -- | -- | -- | -- | -- |

* Note: Zeroes in the table reflect values less than 0.5.

# Mobility Data for San Francisco-Oakland CA

| Inventory Measures | 1984 | 1983 | 1982 |
|---|---|---|---|
| **Urban Area Information** | | | |
| Population (1000s) | 2,940 | 2,920 | 2,900 |
| Rank | 8 | 8 | 8 |
| Commuters (1000s) | 823 | 809 | 795 |
| **Daily Vehicle-Miles of Travel (1000s)** | | | |
| Freeway | 21,000 | 20,500 | 20,000 |
| Arterial Streets | 19,200 | 19,000 | 18,895 |
| **Cost Components** | | | |
| Value of Time ($/hour) | 7.75 | 7.43 | 7.20 |
| Commercial Cost ($/hour) | 23.94 | 23.63 | 23.31 |
| Gasoline ($/gallon) | 1.36 | 1.39 | 1.46 |
| Diesel ($/gallon) | 1.31 | 1.34 | 1.40 |
| **System Performance** | **1984** | **1983** | **1982** |
| **Congested Travel (% of peak VMT)** | -- | -- | -- |
| **Congested System (% of lane-miles)** | -- | -- | -- |
| **Congested Time (number of "Rush Hours")** | -- | -- | -- |
| **Annual Excess Fuel Consumed** | | | |
| Total Fuel (1000 gallons) | 41,143 | 38,385 | 37,219 |
| Rank | 4 | 4 | 4 |
| Fuel per Peak Auto Commuter (gallons) | 17 | 16 | 20 |
| Rank | 1 | 1 | 1 |
| **Annual Delay** | | | |
| Total Delay (1000s of person-hours) | 100,631 | 93,885 | 91,032 |
| Rank | 4 | 4 | 4 |
| Delay per Auto Commuter (pers-hrs) | 59 | 56 | 55 |
| Rank | 2 | 2 | 2 |
| **Travel Time Index** | 1.28 | 1.26 | 1.26 |
| Rank | 2 | 2 | 2 |
| **Commuter Stress Index** | -- | -- | -- |
| Rank | -- | -- | -- |
| **Freeway Planning Time Index (95th Pctile)** | -- | -- | -- |
| Rank | -- | -- | -- |
| **Congestion Cost** | | | |
| Total Cost ($ millions) | 953 | 859 | 813 |
| Rank | 4 | 4 | 4 |
| Cost per Auto Commuter ($) | 2,532 | 2,467 | 2,474 |
| Rank | 1 | 1 | 1 |
| **Truck Congestion** | | | |
| Annual Person-Hours of Delay (000) | 5,139 | 4,794 | 4,648 |
| Rank | 3 | 3 | 3 |
| Annual Gallons of Wasted Fuel (000) | 9,106 | 8,495 | 8,237 |
| Rank | 4 | 4 | 4 |
| Annual Congestion Cost ($ million) | 126 | 117 | 112 |
| Rank | 3 | 3 | 3 |
| **Annual Greenhouse Gases (CO2) Produced** | | | |
| Excess Due to Congestion (tons) | -- | -- | -- |
| Rank | -- | -- | -- |
| Due to All Travel (tons) | -- | -- | -- |
| Rank | -- | -- | -- |
| **Truck Annual Greenhouse Gases (CO2) Produced** | | | |
| Excess Due to Truck Congestion (tons) | -- | -- | -- |
| Rank | -- | -- | -- |
| Due to Truck Travel (tons) | -- | -- | -- |
| Rank | -- | -- | -- |

* Note: Zeroes in the table reflect values less than 0.5.