## Rail transit speeds.

Page 1. Heavy rail speeds for individual lines.
Page 2. Light rail speeds for individual lines.
Page 3. Average speeds for rail transit nationwide.

Appendix B: Background Information on Rail Transit

TABLE B-1
CHARACTERISTICS OF INDIVIDUAL RAIL RAPID TRANSIT SYSTEMS
SOURCE: UMMA Section 15 data for 1989
TABLE B-1

|  |  | ANNUAL | REVENUE |  | ANNUAL |  |  | REV. VEH. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ANINUAL |  |  | ANNUUAL |  | ANNUAL | TOTAL |  |
|  |  | REVENUE | VEHICLE |  | REVENUE |  |  | MILES PER |
|  | VEHICLE |  |  | VEHICLE |  | PASSENGER | MILES PER |  |
| TRANSIT SYSTEM |  | VEHICLE | CAPACITY |  | VEHICLE |  |  | REV. VEH. |
|  | MILES |  |  | HOURS |  | MILES | REV. VEH. |  |
|  |  | MLES | MLLES |  | HOURS |  | , | HOUR |
|  | (THOUS) | (THOUS) | (THOUS) |  | (THOUS) | (THOUS) | MILE | $(\mathrm{MPH})$ |
|  |  |  |  |  |  |  |  |  |
| New York CTA | 325690 | 312195 | 42458464 | 18313 | 17384 | 7376121 | 1.04 | 18.0 |
| Chicago-CTA | 55158 | 54630 | 4916712 | 3028 | 2322 | 1050922 | 1.01 | 23.5 |
| Washington, D.C.-MMATA | 34087 | 32859 | 7393277 | 1498 | 1406 | 978315 | 1.04 | 23.4 |
| Boston-META | 22981 | 21858 |  | 1116 | 1069 | 480185 | 1.05 | 20.4 |
| San Francisco-BART | 33873 | 33195 | 3817436 | 1182 | 1158 | 757350 | 1.02 | 28.7 |
| New York-PATH | 14203 | 13190 | 2018012 | 811 | 628 | 294983 | 1.08 | 21.0 |
| Philadelphia-SEPTA | 16542 | 16276 | 2115838 | 1048 | 1031 | 415800 | 1.02 | 15.8 |
| A.tanta-MARTA | 14795 | 14619 | 2967741 | 624 | 613 | 359270 | 1.01 | 23.8 |
| Lindenwold-PATCO | 4192 | 4096 | 491479 | 145 | 141 | 96731 | 1.02 | 29.0 |
| Miarni-Dade Cnty TA | 4746 | 4657 | 435847 | 208 | 195 | 95450 | 1.02 | 23.9 |
| Battimore-MTA | 3685 | 3530 | 432919 | 156 | 147 | 66871 | 1.04 | 24.1 |
| Cleveland RTA | 2137 | 1952 | 242009 | 93 | 74 | 58042 | 1.09 | 26.4 |
|  |  |  |  |  |  |  |  |  |
| AVERAGE | 44341 | 42755 | 6117249 | 2352 | 2181 | 1002503 | 1.04 | 23.2 |
| STANDARD DEVIATION | 86175 | 82604 | 11687346 | 4876 | 4627 | 1949957 | 0.03 | 3.8 |
|  |  |  |  |  |  |  |  |  |

CHARACTERISTICS OF INDIVIDUAL LIGHT RAIL SYSTEMS

SOURCE: UMTA Section 15 data for 1989
TABLE B-2
TABLE B-2 (continued)

|  |  | ANNUALL | REVENUE |  | ANNUAL |  |  | REV. VEH. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ANNUJAL |  |  | ANNUUAL |  | ANNUUAL | TOTAL |  |
|  |  | REVENUE | VEHICLE |  | REVENUE |  |  | MILES PER |
|  | VEHICLE |  |  | VEHICLE |  | PASSENGER | MILES PER |  |
| TRANSIT SYSTEM |  | VEHICLE | CAPACITY |  | VEHICLE |  |  | REV. VEH. |
|  | MILES |  |  | HOURS |  | MILES | REV. VEH. |  |
|  |  | MILES |  |  | HOURS |  |  | HOUR |
|  | (THOUS) | (THOUS) | (THOUS) | (THOUS) | (THOUS) | (THOUS) | MILE | $(\mathrm{MPH})$ |
| Philadelphia-SEPTA | 5046 | 4832 | 391354 | 566 | 541 | 104612 | 1.04 | 8.9 |
| San Francisco-MUNN | 4002 | 4002 | 544316 | 382 | 382 | 105475 | 1.00 | 10.5 |
| Pits sburgh-PAT | 2079 | 1988 | 228602 | 138 | 132 | 63503 | 1.05 | 15.0 |
| Cleveland RTA | 1103 | 1035 | 138625 | 67 | 44 | 29099 | 1.07 | 23.3 |
| San Diego Trolley |  | 2367 | 507683 | 132 | 126 | 75937 |  | 18.9 |
| RTA-New Orleans | 546 | 545 | 43602 | 61 | 60 | 8719 | 1.00 | 9.0 |
| Buffalo-Niag.Front. | 921 | 919 | 110208 | 85 | 82 | 19665 | 1.00 | 11.2 |
| Sacramento RTD | 1084 | 1060 | 184459 | 61 | 54 | 21634 | 1.02 | 19.8 |
| Newark-NJT Corp | 622 | 622 | 41055 | 42 | 42 | 8131 | 1.00 | 14.8 |
| Portland-MTD | 1415 | 1400 | 232340 | 94 | 73 | 34957 | 1.01 | 19.2 |
| Santa Clara County TD | 538 | 534 | 89250 | 43 | 42 | 6612 | 1.01 | 12.9 |
| Boston-META | 1230 | 1184 | 131278 | 82 | 79 | 28755 | 1.04 | 14.9 |
| Seatle Metro | 31 | 31 | 1229 | 6 | 6 | 203 | 1.00 | 5.0 |
|  |  |  |  |  |  |  |  |  |
| AVERAGE | 1551 | 1578 | 203385 | 135 | 128 | 39023 | 1.02 | 14.1 |
| STANDARD DEVIATION | 1433 | 1356 | 168670 | 153 | 149 | 35090 | 0.02 | 5.0 |
|  |  |  |  |  |  |  |  |  |

## Source: Federal Transit Administration, U.S. Dept. of Transportation:

http://www.fta.dot.gov/transit data info/reports publications/publications/characteristics of urban transportation systems/2355 ENG HTML.htm

# EXCERPT FROM THE FEDERAL TRANSIT ADMINISTRATION'S 

## CHARACTERISTICS OF URBAN TRANSPORTATION SYSTEMS

Chapter 2, TABLE 2-1
AVERAGE RAIL TRANSIT SPEEDS


SOURCE: UMTA Section 15 data for 1989
${ }^{1}$ Systemwide speed is actual vehicle revenue miles per vehicle revenue hour of operation. Revenue miles exclude all vehicle miles traveled when not in regular passenger service (i.e., deadheading). The ratio of total vehicle miles to revenue miles is shown in Tables B-1, B-2, and B-3 in Appendix B for each rail rapid transit system, light rail system, and commuter rail system, respectively. The ratios average $1.04,1.02$, and 1.08 for the three rail modes.
${ }^{2}$ Low and high values omit two small systems that may be unrepresentative: Seattle's two car streetcar operation ( 5.0 mph ) and Staten Island Rapid Transit, a 36 car system which is classified as commuter rail ( 21.2 mph ).
${ }^{3}$ Average speeds are harmonic means, unweighted by system size. Harmonic means are calculated by (1) inverting speeds for each system to get hours per mile, (2) taking the arithmetic mean of hours per mile, and (3) inverting the result. For example, the harmonic mean of 50 mph and 25 mph is calculated by (1) inverting the two speeds to get 0.02 and 0.04 hours per mile respectively, (2) taking the arithmetic mean to get 0.03 hours per mile, and (3) inverting the result to get 33.3 mph .
${ }^{4}$ Number of systems used in calculating averages.

