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# U.S. Highway Attributes Relevant to Lane Tracking

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Abstract

This report contains tabular information concerning the attributes of U.S. Highways. The information is divided into three sections: (1) road characteristics, (2) road markings, and (3) intersections.

The first section (road characteristics) describes the road-type classification scheme used in the U.S. It also includes a state-by-state statistical summary of road miles by lane width and the number of traffic lanes.

The second section (road markings) enumerates regulations for lane separations, road-edge markings, curb markings and delineators. It also contains information concerning the retroreflectivity of the materials used for these road markings.

The third section (intersections) includes statistical information from three states about intersection configuration, control, and marking.

The information concerning markings, regulations, and road-type classification was extracted primarily from part 3 of the *Manual on Uniform Traffic Control Devices* (*MUTCD*) and *A Policy on Geometric Design of Highways and Streets* (*AASHTO Green Book)*. Statistical information was obtained from several state departments of transportation and several Web sites linked to the U.S. Department of Transportation. An extensive listing of sources and URLs is provided within the document.


| | | | |
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# U.S. Highway Attributes Relevant to Lane Tracking

UMTRI Technical Report 98-34
Raina Shah, Christopher Nowakowski, and Paul Green

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Ann Arbor, Michigan, USA

## 1. What kinds of roads are there in the U.S.? What attributes do these roads have?

| Information | Source(s) (by common name in section 4) | Main points |
|---|---|---|
| **Definitions** of different road types (arterials, collectors, local roads, etc.) | *AASHTO Green Book* | |
| | *Transportation Expressions* | |
| **Lane width** for different road types (miles by lane width)<br>· Statistics by state<br>· U.S. totals | *Highway Statistics* | 12 ft = most common lane width |
| **Traffic lanes** – number of lanes per road type (miles by traffic lanes)<br>· Statistics by state<br>· U.S. totals | *Highway Statistics* | 2 lanes most common; 4 lanes most common on interstates |
| **Speed limits**<br>· State maximums on primary roads | *National Transportation Statistics* | fall primarily between 55 and 75 mph |
| · Summary of other speed laws | *Summary of State Speed Laws* | vary by jurisdiction |

## 2. Which means are used to delineate lane separations and road edges?

| Information | Source(s) | Main points |
|---|---|---|
| Means of **lane separation**<br>· Regulations for color, length, and width | *MUTCD 3a* | painted lines and medians are used |
| Regulations for **curb markings** and **road edge markers** | *MUTCD 3b* | |
| Regulations for **delineators** | *MUTCD 3d* | |
| **Materials**<br>· Retroreflectance of pavement markings | *3M Product Reference Guide* | range from 410 to 1100 millicandellas/ sq m/lux |
| · Measurement of Retroreflectance | *3M Briefs* | measurements vary by instrument |

## 3. What types of intersections are there in the U.S. and how are they marked and controlled?

| Information | Source(s) | Main points |
|---|---|---|
| **Illustrations** of intersection configurations | MDOT | |
| **Marking regulations** for intersections | *MUTCD 3b* | |
| **Statistics** for Michigan, California, and New York<br>· Types of intersections<br>· How many of each type of intersection<br>· How they are controlled | MDOT<br>CADOT<br>NYDOT | tees are the most common configuration |

## 4. Sources by common name and URL

| Common name | Source | URL |
|---|---|---|
| *AASHTO Green Book* | AASHTO. (1994). *A Policy on Geometric Design of Highways and Streets.* Washington D.C.: AASHTO. | |
| CADOT | California Department of Transportation | |
| MDOT | Michigan Department of Transportation | |
| *Summary of State Speed Laws* | National Highway Traffic Safety Administration. (1997*). Summary of State Speed Laws* | www.azfms.com/Doc Reviews/ug97/art14.html |
| NYDOT | New York Department of Transportation | |
| *3M Briefs* | 3M (1998). *3M Briefs* | www.mmm.com/market/trans /tcm/ss/framset.html |
| *3M Product Reference Guide* | 3M (1998). 3M Product Reference Guide. | www.mmm.com/market/trans /tcm/pc/framset.html |
| *National Transportation Statistics* | U.S. Department of Transportation, Bureau of Transportation Statistics. (1997). *National Transportation Statistics.* | www.bts.gov/programs/bts prod/nts/chp3/tbl3X28 html |
| *Transportation Expressions* | U.S. Department of Transportation, Bureau of Transportation Statistics. (1996). *Transportation Expressions.* Washington D.C.: U.S. Department of Transportation | |
| *MUTCD 3a* | U.S. Department of Transportation, Federal Highway Administration. (1997). *Manual on Uniform Traffic Control Devices* | www.ohs.fhwa.dot.gov/ devices/mutcd/mutcd3a1.pdf |
| *MUTCD 3b* | | www.ohs.fhwa.dot.gov/ devices/mutcd/mutcd3b1.pdf |
| *MUTCD 3d* | | www.ohs.fhwa.dot.gov/ devices/mutcd/mutcd3d1.pdf |
| *Highway Statistics* | U.S. Department of Transportation, Federal Highway Administration, Office of Information Management. (1996). *Highway Statistics 1996*. Washington D.C.: U.S. Government Printing Office, V49-V56. | www.fhwa.dot.gov/ohim /1996/ hm53(hm55).pdf |

# PREFACE

This report represents the first deliverable from a project funded by Mitsubishi Electric Company at the University of Michigan Transportation Research Institute (UMTRI). We would like to thank Mr. Shigekazu Okamura (okamura@hime.melco.co.jp) for serving as the project liaison.

The purpose of this project is to provide technical data for Mitsubishi Electric on the types of roads found in the U.S., the frequency of each type, and how they are marked. This information will be used to tailor lane-tracking devices for future motor vehicles.

Additional information will be in the form of videotapes of selected roads in Michigan recorded using the lane-tracking and forward-scene cameras in an instrumented car.

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# INTRODUCTION

At the present time, there is considerable interest in applying computer and communications technology to enhance the safety, efficiency, and pleasure of driving. These efforts often occur under the banner of Intelligent Transportation Systems (ITS).

Of particular interest are systems that directly support driving by helping drivers maintain speed and lane position. Lane-position support systems may either warn the driver of departures or potential departures or, in some cases, actually steer the vehicle. To develop systems for the U.S. market that utilize lane markings as input, information on the types, locations, and quality of markings is needed. In this project, three topics are being addressed (road types, means of separating lanes, and intersections) from three perspectives (laws and regulations, statistics on highways, and sample videotapes).

Key issues are described in further detail below along with how the responses have been structured. To accelerate the production of the report, the approach taken has been to include the key figures and tables in the report with minimal supplemental explanation. Each issue is covered in a separate chapter.

Issue 1: What kinds of roads are there in the U.S.? What attributes (number of lanes, lane width, speed limit) do these roads have?

Issue 2: Which means (white lines, yellow lines, zebra zones, etc.) are used to separate lanes in the U.S. and what are the attributes (color, length, width) of each?

Issue 3: What kinds of intersections are there in the U.S. and when are special turn lanes provided?

Much of the desired information needed was obtained from three sources: (1) *A Policy on Geometric Design of Highways and Streets* (*Green Book*), (2) *Manual of Uniform Traffic Controls Devices* (*MUTCD*), and (3) *Highway Statistics* published by the Federal Highway Administration (FHWA). The *Green Book* is published by AASHTO (AASHTO, 1994). The text, green in color, is the standard reference used by all highway designers in the U.S. The text specifies acceptable road dimensions in great detail. To avoid reprinting the entire book and potential copyright conflicts, readers are referred to the book for additional details.

The *MUTCD* is the standard reference in the U.S. concerning the placement and design of highway signs, traffic signals, and pavement markings. There is a most commonly referred to federal version (U.S. Department of Transportation, 1997) and versions published by individual states Significant portions from the *MUTCD* appear in the appendix to this report.

*Highway Statistics* (U.S. Department of Transportation, 1996), an annual FHWA publication, summarizes the various types of roads in existence.

Additional information (for example, data on speeds) was obtained from a variety of other sources, in particular, U.S. Department of Transportation Web sites.

# WHAT KINDS OF ROADS ARE THERE IN THE U.S.?

This section clarifies the road type classification scheme and provides highway statistics regarding lane widths, traffic lanes, and speed limits.

## Road Type Classification

The classification schemes for the various road types are summarized in Table 1. Definitions were obtained from the *Green Book* and *Transportation Expressions*. For more detailed information concerning these road types, consult chapters V, VI , and VII of the *Green Book*.

Table 1. Road-type classification scheme.

| Road Type | Definition |
|---|---|
| Local road | A road whose principal function is to provide direct access to property (houses, apartments, and businesses). Local roads rarely serve through traffic and often allow on-street parking. There are few restrictions on the placement of driveways. |
| Collector | A road whose principal function is to provide direct access between local roads and arterials. Collectors may provide some access to adjacent properties; however, more restrictions are placed on on-street parking and driveway placement. In rural areas, collectors serve intracounty rather than statewide traffic. |
| Major collector | A collector road that serves higher volumes of through traffic. Major collectors are often characterized by a greater number of dedicated turn lanes and more parking and driveway placement restrictions. |
| Arterial | A road whose principal function is to serve major through-traffic movements between major traffic generators. In rural areas, arterials link cities and larger towns. Arterials are often designated as statewide or interstate highways. |
| Minor arterial | A thoroughfare which links smaller generators of traffic than do principal arterials and thus has lower travel densities. Minor arterials may provide some access to adjacent properties, but parking is often prohibited on these roads and driveway placement is severely restricted. |
| Principal arterial | A major thoroughfare serving high-speed, high-volume traffic movements between major generators of traffic. These roads often have multilane or freeway design. |
| Freeway | Freeway, interstate, and expressway are terms which are often used interchangeably. These roads are all usually divided arterial highways characterized by having grade separations at all major intersections and full or partial access control. |
| Interstate | A freeway or expressway whose principal function is to carry traffic between states. |
| Expressway | The term expressway usually connotes a freeway or interstate which has more than two lanes in each direction in urban areas. |
| Urban Road | A road located an area (town,village,etc.) with a population of 5000 persons or more. |
| Rural Road | Any road that does not fall under the urban classification. |

## Highway Statistics

Tables 2 through 6 provide statistics on lane width, traffic lanes, and speed limits for each state. Tables 2 and 4 (HM-53 and HM-55 from the Federal Highway Administration's *Highway Statistics*) provide a count of roads for each state as classified by lane width and traffic lanes. These roads are also classified according to road type and refer to the classification scheme enumerated in the preceding table. The two tables were obtained from annual reports issued by the U.S. Department of Transportation, Federal Highway Administration.

## Lane Width

### Table 2. Road miles by lane width and road type.

OCTOBER 1997 TABLE HM-53 SHEET 1 OF 7

| STATE | RURAL INTERSTATE | | | | OTHER RURAL PRINCIPAL ARTERIAL | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANE WIDTH IN FEET | | | | LANE WIDTH IN FEET | | | | | | |
| | < 12 | 12 | > 12 | TOTAL | < 9 | 9 | 10 | 11 | 12 | > 12 | TOTAL |
| Alabama | 0 | 599 | 0 | 599 | 0 | 0 | 7 | 77 | 1,976 | 6 | 2,066 |
| Alaska | 48 | 876 | 109 | 1,033 | 0 | 0 | 2 | 1 | 572 | 235 | 810 |
| Arizona | 0 | 927 | 69 | 996 | 0 | 0 | 0 | 14 | 600 | 572 | 1,186 |
| Arkansas | 0 | 400 | 0 | 400 | 0 | 0 | 44 | 886 | 1,270 | 0 | 2,200 |
| California | 0 | 1,345 | 0 | 1,345 | 0 | 0 | 51 | 142 | 3,494 | 0 | 3,687 |
| Colorado | 0 | 702 | 66 | 768 | 0 | 0 | 43 | 172 | 1,898 | 90 | 2,203 |
| Connecticut | 0 | 101 | 0 | 101 | 0 | 0 | 0 | 0 | 263 | 0 | 263 |
| Delaware | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 199 | 16 | 216 |
| Dist. of Columbia[1/] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Florida | 0 | 958 | 0 | 958 | 0 | 0 | 68 | 175 | 3,381 | 94 | 3,718 |
| Georgia | 0 | 800 | 7 | 807 | 0 | 0 | 8 | 38 | 1,883 | 864 | 2,793 |
| Hawaii | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 34 | 89 | 0 | 125 |
| Idaho | 0 | 532 | 0 | 532 | 0 | 0 | 5 | 37 | 1,642 | 0 | 1,684 |
| Illinois | 0 | 1,520 | 1 | 1,521 | 96 | 141 | 2 | 288 | 1,915 | 196 | 2,638 |
| Indiana | 0 | 853 | 0 | 853 | 0 | 0 | 21 | 83 | 1,527 | 68 | 1,699 |
| Iowa | 0 | 576 | 58 | 634 | 0 | 0 | 5 | 332 | 2,962 | 114 | 3,413 |
| Kansas | 0 | 698 | 0 | 698 | 0 | 3 | 0 | 214 | 2,954 | 0 | 3,171 |
| Kentucky | 0 | 536 | 0 | 536 | 0 | 0 | 101 | 195 | 1,712 | 4 | 2,012 |
| Louisiana | 0 | 611 | 0 | 611 | 0 | 0 | 0 | 180 | 1,034 | 0 | 1,214 |
| Maine | 0 | 313 | 0 | 313 | 0 | 0 | 38 | 175 | 542 | 32 | 787 |
| Maryland [1/] | 0 | 227 | 0 | 227 | 0 | 0 | 4 | 13 | 524 | 8 | 549 |
| Massachusetts | 0 | 162 | 0 | 162 | 2 | 0 | 8 | 11 | 259 | 39 | 319 |
| Michigan | 0 | 740 | 0 | 740 | 0 | 0 | 18 | 572 | 2,165 | 0 | 2,755 |
| Minnesota | 0 | 681 | 0 | 681 | 0 | 0 | 84 | 166 | 3,139 | 184 | 3,573 |
| Mississippi | 0 | 558 | 0 | 558 | 0 | 0 | 0 | 38 | 1,801 | 0 | 1,839 |
| Missouri | 0 | 809 | 0 | 809 | 0 | 0 | 38 | 397 | 2,617 | 0 | 3,052 |
| Montana | 0 | 1,137 | 0 | 1,137 | 0 | 0 | 12 | 88 | 2,393 | 129 | 2,622 |
| Nebraska | 0 | 435 | 2 | 437 | 0 | 0 | 28 | 101 | 2,372 | 228 | 2,729 |
| Nevada | 0 | 480 | 0 | 480 | 0 | 0 | 0 | 0 | 1,389 | 0 | 1,389 |
| New Hampshire | 0 | 176 | 0 | 176 | 0 | 0 | 5 | 15 | 423 | 11 | 454 |
| New Jersey | 0 | 119 | 0 | 119 | 0 | 0 | 13 | 7 | 500 | 13 | 533 |
| New Mexico | 0 | 864 | 28 | 892 | 0 | 0 | 73 | 60 | 1,628 | 36 | 1,797 |
| New York | 0 | 778 | 19 | 797 | 0 | 0 | 122 | 350 | 1,445 | 83 | 2,000 |
| North Carolina | 0 | 639 | 0 | 639 | 9 | 10 | 26 | 316 | 1,852 | 0 | 2,213 |
| North Dakota | 0 | 531 | 0 | 531 | 0 | 0 | 0 | 174 | 2,737 | 19 | 2,930 |
| Ohio | 0 | 830 | 0 | 830 | 0 | 0 | 101 | 401 | 1,705 | 9 | 2,216 |
| Oklahoma | 0 | 721 | 0 | 721 | 0 | 0 | 43 | 40 | 2,241 | 43 | 2,367 |
| Oregon | 0 | 574 | 8 | 582 | 11 | 12 | 24 | 226 | 2,482 | 75 | 2,830 |
| Pennsylvania | 0 | 1,207 | 0 | 1,207 | 0 | 0 | 199 | 952 | 1,276 | 52 | 2,479 |
| Rhode Island | 0 | 21 | 0 | 21 | 0 | 0 | 0 | 5 | 39 | 19 | 63 |
| South Carolina | 8 | 663 | 0 | 671 | 0 | 0 | 0 | 93 | 1,325 | 28 | 1,446 |
| South Dakota | 0 | 629 | 0 | 629 | 0 | 0 | 0 | 76 | 2,466 | 0 | 2,542 |
| Tennessee | 0 | 739 | 0 | 739 | 0 | 27 | 94 | 408 | 1,278 | 0 | 1,807 |
| Texas | 0 | 2,204 | 0 | 2,204 | 0 | 3 | 52 | 302 | 5,671 | 727 | 6,755 |
| Utah | 0 | 771 | 0 | 771 | 0 | 0 | 0 | 0 | 1,008 | 0 | 1,008 |
| Vermont | 0 | 280 | 0 | 280 | 0 | 4 | 10 | 57 | 225 | 21 | 317 |
| Virginia | 1 | 707 | 4 | 712 | 0 | 4 | 242 | 210 | 1,035 | 43 | 1,534 |
| Washington | 0 | 501 | 0 | 501 | 0 | 0 | 18 | 651 | 1,417 | 0 | 2,086 |
| West Virginia | 0 | 458 | 1 | 459 | 1 | 235 | 205 | 71 | 540 | 0 | 1,052 |
| Wisconsin | 0 | 575 | 0 | 575 | 0 | 0 | 32 | 303 | 3,003 | 20 | 3,358 |
| Wyoming | 0 | 753 | 73 | 826 | 0 | 0 | 26 | 4 | 1,602 | 0 | 1,632 |
| U.S. Total | 57 | 32,316 | 445 | 32,818 | 119 | 439 | 1,874 | 9,151 | 82,470 | 4,078 | 98,131 |

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| STATE | RURAL MINOR ARTERIAL | | | | | | |
|---|---|---|---|---|---|---|---|
| | LANE WIDTH IN FEET | | | | | | TOTAL |
| | < 9 | 9 | 10 | 11 | 12 | > 12 | |
| Alabama | 34 | 0 | 383 | 158 | 3,129 | 0 | 3,704 |
| Alaska | 0 | 0 | 0 | 0 | 173 | 269 | 442 |
| Arizona | 0 | 0 | 0 | 22 | 1,111 | 125 | 1,258 |
| Arkansas | 0 | 0 | 1,230 | 700 | 1,059 | 0 | 2,989 |
| California | 0 | 89 | 727 | 803 | 5,242 | 43 | 6,904 |
| Colorado | 0 | 0 | 337 | 672 | 2,560 | 106 | 3,675 |
| Connecticut | 0 | 0 | 0 | 0 | 498 | 0 | 498 |
| Delaware | 0 | 0 | 2 | 22 | 78 | 3 | 105 |
| Dist. of Columbia 1/ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Florida | 0 | 18 | 541 | 312 | 1,692 | 23 | 2,586 |
| Georgia | 0 | 0 | 110 | 542 | 4,022 | 900 | 5,574 |
| Hawaii | 6 | 28 | 103 | 92 | 145 | 0 | 374 |
| Idaho | 0 | 0 | 22 | 116 | 1,158 | 0 | 1,296 |
| Illinois | 0 | 281 | 218 | 493 | 3,187 | 635 | 4,814 |
| Indiana | 5 | 0 | 159 | 465 | 1,473 | 132 | 2,234 |
| Iowa | 0 | 206 | 146 | 798 | 2,504 | 299 | 3,953 |
| Kansas | 0 | 6 | 1 | 940 | 3,354 | 0 | 4,301 |
| Kentucky | 63 | 164 | 745 | 296 | 344 | 9 | 1,621 |
| Louisiana | 0 | 0 | 92 | 623 | 908 | 0 | 1,623 |
| Maine | 0 | 0 | 220 | 311 | 536 | 3 | 1,070 |
| Maryland 1/ | 0 | 0 | 78 | 276 | 596 | 0 | 950 |
| Massachusetts | 0 | 17 | 18 | 134 | 394 | 102 | 665 |
| Michigan | 0 | 0 | 208 | 1,516 | 2,300 | 0 | 4,024 |
| Minnesota | 0 | 0 | 163 | 348 | 5,656 | 204 | 6,371 |
| Mississippi | 0 | 0 | 643 | 837 | 2,426 | 4 | 3,910 |
| Missouri | 0 | 0 | 1,648 | 1,084 | 645 | 21 | 3,398 |
| Montana | 0 | 0 | 126 | 378 | 2,468 | 18 | 2,990 |
| Nebraska | 0 | 0 | 3 | 256 | 3,413 | 526 | 4,198 |
| Nevada | 0 | 0 | 0 | 0 | 715 | 0 | 715 |
| New Hampshire | 0 | 3 | 19 | 59 | 408 | 1 | 490 |
| New Jersey | 0 | 0 | 63 | 43 | 337 | 45 | 488 |
| New Mexico | 0 | 0 | 157 | 64 | 1,574 | 79 | 1,874 |
| New York | 0 | 0 | 1,033 | 1,469 | 1,518 | 96 | 4,116 |
| North Carolina | 0 | 226 | 266 | 820 | 1,687 | 0 | 2,999 |
| North Dakota | 0 | 0 | 8 | 149 | 2,356 | 0 | 2,513 |
| Ohio | 0 | 54 | 597 | 667 | 1,510 | 14 | 2,842 |
| Oklahoma | 0 | 0 | 54 | 458 | 2,210 | 28 | 2,750 |
| Oregon | 0 | 0 | 182 | 482 | 1,294 | 88 | 2,046 |
| Pennsylvania | 23 | 358 | 1,395 | 2,278 | 1,001 | 61 | 5,116 |
| Rhode Island | 0 | 0 | 0 | 7 | 24 | 49 | 80 |
| South Carolina | 0 | 0 | 108 | 950 | 2,574 | 29 | 3,661 |
| South Dakota | 0 | 31 | 0 | 145 | 3,164 | 0 | 3,340 |
| Tennessee | 0 | 0 | 934 | 1,282 | 1,200 | 0 | 3,416 |
| Texas | 0 | 0 | 161 | 553 | 7,203 | 1,537 | 9,454 |
| Utah | 0 | 0 | 0 | 0 | 1,535 | 0 | 1,535 |
| Vermont | 0 | 7 | 56 | 386 | 242 | 43 | 734 |
| Virginia | 0 | 57 | 2,330 | 648 | 367 | 30 | 3,432 |
| Washington | 0 | 0 | 191 | 990 | 800 | 0 | 1,981 |
| West Virginia | 89 | 378 | 573 | 353 | 167 | 4 | 1,564 |
| Wisconsin | 0 | 0 | 142 | 1,408 | 3,451 | 10 | 5,011 |
| Wyoming | 0 | 0 | 36 | 126 | 1,509 | 4 | 1,675 |
| U.S. Total | 220 | 1,923 | 16,228 | 25,531 | 87,917 | 5,540 | 137,359 |

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| STATE | RURAL MAJOR COLLECTOR | | | | | | |
|---|---|---|---|---|---|---|---|
| | LANE WIDTH IN FEET | | | | | | |
| | < 9 | 9 | 10 | 11 | 12 | > 12 | TOTAL |
| Alabama | 0 | 1,472 | 7,157 | 1,694 | 1,392 | 2 | 11,717 |
| Alaska | 0 | 0 | 39 | 150 | 1,170 | 23 | 1,382 |
| Arizona | 9 | 0 | 138 | 284 | 3,446 | 628 | 4,505 |
| Arkansas | 404 | 457 | 5,753 | 4,345 | 1,597 | 0 | 12,556 |
| California | 225 | 372 | 1,398 | 1,870 | 8,603 | 546 | 13,014 |
| Colorado | 63 | 8 | 1,006 | 781 | 4,094 | 40 | 5,992 |
| Connecticut | 19 | 47 | 35 | 125 | 981 | 0 | 1,207 |
| Delaware | 0 | 55 | 171 | 165 | 122 | 38 | 551 |
| Dist. of Columbia 1/ | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Florida | 118 | 1,092 | 1,505 | 521 | 1,300 | 6 | 4,542 |
| Georgia | 0 | 1,890 | 5,238 | 2,587 | 2,893 | 1,047 | 13,655 |
| Hawaii | 62 | 122 | 85 | 32 | 49 | 0 | 350 |
| Idaho | 281 | 428 | 1,376 | 543 | 2,646 | 0 | 5,274 |
| Illinois | 433 | 1,546 | 4,043 | 5,979 | 1,841 | 345 | 14,187 |
| Indiana | 59 | 1,993 | 3,511 | 1,196 | 2,844 | 1,095 | 10,698 |
| Iowa | 0 | 78 | 650 | 9,380 | 3,290 | 896 | 14,294 |
| Kansas | 0 | 243 | 2,528 | 9,392 | 9,553 | 1,254 | 22,970 |
| Kentucky | 297 | 3,466 | 2,127 | 878 | 167 | 34 | 6,969 |
| Louisiana | 0 | 107 | 3,438 | 1,219 | 2,283 | 0 | 7,047 |
| Maine | 35 | 534 | 1,652 | 741 | 226 | 16 | 3,204 |
| Maryland 1/ | 99 | 159 | 514 | 510 | 571 | 3 | 1,856 |
| Massachusetts | 5 | 190 | 366 | 540 | 378 | 317 | 1,796 |
| Michigan | 0 | 377 | 5,596 | 7,070 | 3,860 | 82 | 16,985 |
| Minnesota | 0 | 138 | 337 | 4,000 | 11,551 | 138 | 16,164 |
| Mississippi | 237 | 732 | 7,286 | 1,071 | 2,650 | 133 | 12,109 |
| Missouri | 0 | 865 | 12,990 | 2,814 | 1,323 | 15 | 18,007 |
| Montana | 97 | 92 | 749 | 770 | 4,961 | 404 | 7,073 |
| Nebraska | 423 | 142 | 1,180 | 3,174 | 5,096 | 1,501 | 11,516 |
| Nevada | 0 | 0 | 146 | 0 | 1,815 | 6 | 1,967 |
| New Hampshire | 2 | 80 | 274 | 370 | 463 | 11 | 1,200 |
| New Jersey | 0 | 19 | 260 | 132 | 903 | 266 | 1,580 |
| New Mexico | 11 | 58 | 748 | 333 | 2,204 | 602 | 3,956 |
| New York | 0 | 329 | 2,440 | 2,497 | 834 | 24 | 6,124 |
| North Carolina | 0 | 1,208 | 2,962 | 1,590 | 2,874 | 0 | 8,634 |
| North Dakota | 0 | 327 | 893 | 1,404 | 8,407 | 148 | 11,179 |
| Ohio | 884 | 3,364 | 4,777 | 1,003 | 1,796 | 26 | 11,850 |
| Oklahoma | 736 | 2,994 | 4,378 | 4,444 | 8,554 | 247 | 21,353 |
| Oregon | 41 | 808 | 3,167 | 2,482 | 2,474 | 246 | 9,218 |
| Pennsylvania | 412 | 1,838 | 2,757 | 2,203 | 848 | 0 | 8,058 |
| Rhode Island | 1 | 6 | 15 | 36 | 83 | 36 | 177 |
| South Carolina | 46 | 688 | 2,464 | 3,757 | 1,112 | 68 | 8,135 |
| South Dakota | 379 | 681 | 1,108 | 2,027 | 8,077 | 201 | 12,473 |
| Tennessee | 73 | 1,175 | 1,975 | 1,671 | 492 | 0 | 5,386 |
| Texas | 70 | 2,196 | 13,990 | 3,406 | 15,492 | 612 | 35,766 |
| Utah | 162 | 108 | 109 | 180 | 2,751 | 0 | 3,310 |
| Vermont | 0 | 179 | 593 | 942 | 248 | 30 | 1,992 |
| Virginia | 2,980 | 1,900 | 3,568 | 1,159 | 108 | 29 | 9,744 |
| Washington | 66 | 218 | 2,254 | 3,512 | 2,173 | 151 | 8,374 |
| West Virginia | 1,971 | 2,066 | 736 | 796 | 447 | 0 | 6,016 |
| Wisconsin | 0 | 41 | 3,158 | 7,943 | 2,328 | 109 | 13,579 |
| Wyoming | 0 | 50 | 353 | 390 | 1,632 | 2 | 2,427 |
| U.S. Total | 10,700 | 36,938 | 123,993 | 104,108 | 145,002 | 11,377 | 432,118 |

OCTOBER 1997 TABLE HM-53 SHEET 4 OF 7

| STATE | URBAN INTERSTATE | | | | OTHER URBAN FREEWAYS AND EXPRESSWAYS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | LANE WIDTH IN FEET | | | | LANE WIDTH IN FEET | | | | | | |
| | < 12 | 12 | > 12 | TOTAL | < 9 | 9 | 10 | 11 | 12 | > 12 | TOTAL |
| Alabama | 0 | 305 | 0 | 305 | 0 | 0 | 0 | 0 | 21 | 0 | 21 |
| Alaska | 0 | 42 | 11 | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Arizona | 0 | 156 | 17 | 173 | 0 | 0 | 0 | 0 | 63 | 28 | 91 |
| Arkansas | 0 | 141 | 0 | 141 | 0 | 0 | 0 | 0 | 112 | 0 | 112 |
| California | 47 | 1,032 | 0 | 1,079 | 0 | 0 | 0 | 16 | 1,317 | 1 | 1,334 |
| Colorado | 0 | 184 | 2 | 186 | 0 | 0 | 0 | 20 | 183 | 15 | 218 |
| Connecticut | 0 | 243 | 0 | 243 | 0 | 0 | 0 | 0 | 198 | 0 | 198 |
| Delaware | 0 | 41 | 0 | 41 | 0 | 0 | 0 | 0 | 4 | 7 | 11 |
| Dist. of Columbia [1/] | 10 | 3 | 0 | 13 | 0 | 2 | 9 | 2 | 6 | 0 | 19 |
| Florida | 2 | 483 | 28 | 513 | 0 | 0 | 0 | 19 | 379 | 7 | 405 |
| Georgia | 0 | 404 | 30 | 434 | 0 | 0 | 2 | 1 | 135 | 24 | 162 |
| Hawaii | 9 | 34 | 0 | 43 | 0 | 0 | 0 | 8 | 26 | 0 | 34 |
| Idaho | 0 | 79 | 0 | 79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Illinois | 0 | 639 | 3 | 642 | 0 | 0 | 0 | 0 | 75 | 0 | 75 |
| Indiana | 0 | 319 | 0 | 319 | 0 | 0 | 0 | 0 | 132 | 0 | 132 |
| Iowa | 0 | 119 | 28 | 147 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kansas | 0 | 174 | 0 | 174 | 0 | 12 | 0 | 6 | 118 | 0 | 136 |
| Kentucky | 0 | 226 | 0 | 226 | 0 | 1 | 0 | 0 | 90 | 2 | 93 |
| Louisiana | 0 | 282 | 0 | 282 | 0 | 0 | 0 | 0 | 45 | 0 | 45 |
| Maine | 0 | 54 | 1 | 55 | 0 | 0 | 0 | 0 | 14 | 3 | 17 |
| Maryland [1/] | 0 | 253 | 2 | 255 | 0 | 0 | 0 | 1 | 227 | 1 | 229 |
| Massachusetts | 3 | 398 | 2 | 403 | 0 | 0 | 0 | 0 | 200 | 5 | 205 |
| Michigan | 1 | 498 | 0 | 499 | 0 | 0 | 0 | 4 | 216 | 1 | 221 |
| Minnesota | 0 | 232 | 0 | 232 | 0 | 0 | 0 | 0 | 142 | 0 | 142 |
| Mississippi | 0 | 127 | 0 | 127 | 0 | 0 | 0 | 0 | 44 | 0 | 44 |
| Missouri | 0 | 369 | 0 | 369 | 0 | 0 | 0 | 12 | 276 | 0 | 288 |
| Montana | 0 | 53 | 0 | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nebraska | 0 | 41 | 2 | 43 | 0 | 0 | 0 | 0 | 16 | 1 | 17 |
| Nevada | 0 | 83 | 0 | 83 | 0 | 0 | 0 | 0 | 35 | 0 | 35 |
| New Hampshire | 0 | 47 | 1 | 48 | 0 | 0 | 0 | 0 | 42 | 0 | 42 |
| New Jersey | 1 | 301 | 1 | 303 | 0 | 0 | 0 | 5 | 307 | 0 | 312 |
| New Mexico | 0 | 108 | 0 | 108 | 0 | 0 | 0 | 0 | 3 | 0 | 3 |
| New York | 0 | 656 | 46 | 702 | 0 | 0 | 30 | 39 | 746 | 9 | 824 |
| North Carolina | 6 | 336 | 0 | 342 | 0 | 1 | 0 | 6 | 265 | 0 | 272 |
| North Dakota | 0 | 40 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ohio | 0 | 743 | 0 | 743 | 0 | 0 | 0 | 34 | 340 | 1 | 375 |
| Oklahoma | 0 | 206 | 3 | 209 | 0 | 0 | 0 | 1 | 128 | 5 | 134 |
| Oregon | 0 | 145 | 1 | 146 | 0 | 0 | 0 | 1 | 51 | 1 | 53 |
| Pennsylvania | 0 | 543 | 0 | 543 | 0 | 0 | 3 | 20 | 450 | 0 | 473 |
| Rhode Island | 0 | 48 | 0 | 48 | 0 | 0 | 0 | 2 | 66 | 0 | 68 |
| South Carolina | 24 | 134 | 0 | 158 | 0 | 0 | 0 | 6 | 63 | 0 | 69 |
| South Dakota | 0 | 49 | 0 | 49 | 0 | 0 | 0 | 0 | 3 | 0 | 3 |
| Tennessee | 1 | 322 | 0 | 323 | 0 | 0 | 1 | 0 | 114 | 0 | 115 |
| Texas | 0 | 1,029 | 1 | 1,030 | 0 | 0 | 4 | 44 | 1,178 | 12 | 1,238 |
| Utah | 0 | 169 | 0 | 169 | 0 | 0 | 0 | 0 | 8 | 0 | 8 |
| Vermont | 0 | 40 | 0 | 40 | 0 | 0 | 0 | 0 | 16 | 3 | 19 |
| Virginia | 1 | 390 | 4 | 395 | 0 | 0 | 5 | 10 | 201 | 6 | 222 |
| Washington | 2 | 260 | 0 | 262 | 0 | 0 | 8 | 35 | 273 | 0 | 316 |
| West Virginia | 0 | 91 | 0 | 91 | 1 | 0 | 0 | 0 | 7 | 2 | 10 |
| Wisconsin | 0 | 170 | 0 | 170 | 0 | 0 | 0 | 0 | 178 | 1 | 179 |
| Wyoming | 0 | 62 | 25 | 87 | 0 | 0 | 0 | 0 | 3 | 0 | 3 |
| U.S. Total | 107 | 12,903 | 208 | 13,218 | 1 | 16 | 62 | 292 | 8,516 | 135 | 9,022 |

OCTOBER 1997 TABLE HM-53 SHEET 5 OF 7

| STATE | OTHER URBAN PRINCIPAL ARTERIAL | | | | | | |
|---|---|---|---|---|---|---|---|
| | LANE WIDTH IN FEET | | | | | | TOTAL |
| | < 9 | 9 | 10 | 11 | 12 | > 12 | |
| Alabama | 0 | 0 | 51 | 71 | 850 | 11 | 983 |
| Alaska | 0 | 0 | 0 | 2 | 45 | 9 | 56 |
| Arizona | 0 | 0 | 25 | 159 | 709 | 135 | 1,028 |
| Arkansas | 0 | 5 | 103 | 172 | 296 | 4 | 580 |
| California | 1 | 0 | 142 | 391 | 5,241 | 79 | 5,854 |
| Colorado | 0 | 0 | 67 | 69 | 663 | 37 | 836 |
| Connecticut | 0 | 0 | 13 | 8 | 583 | 0 | 604 |
| Delaware | 0 | 0 | 7 | 13 | 99 | 16 | 135 |
| Dist. of Columbia [1/] | 4 | 9 | 38 | 9 | 16 | 4 | 80 |
| Florida | 2 | 0 | 106 | 315 | 2,025 | 199 | 2,647 |
| Georgia | 16 | 16 | 63 | 109 | 926 | 623 | 1,753 |
| Hawaii | 0 | 2 | 28 | 24 | 75 | 6 | 135 |
| Idaho | 0 | 0 | 2 | 4 | 216 | 0 | 222 |
| Illinois | 2 | 5 | 168 | 305 | 1,924 | 198 | 2,602 |
| Indiana | 0 | 7 | 112 | 183 | 1,016 | 233 | 1,551 |
| Iowa | 1 | 0 | 3 | 18 | 548 | 137 | 707 |
| Kansas | 0 | 37 | 27 | 57 | 521 | 0 | 642 |
| Kentucky | 3 | 10 | 107 | 119 | 365 | 30 | 634 |
| Louisiana | 0 | 1 | 51 | 100 | 684 | 9 | 845 |
| Maine | 0 | 0 | 5 | 8 | 137 | 24 | 174 |
| Maryland [1/] | 4 | 2 | 47 | 136 | 596 | 72 | 857 |
| Massachusetts | 0 | 1 | 154 | 113 | 620 | 663 | 1,551 |
| Michigan | 1 | 33 | 458 | 542 | 888 | 52 | 1,974 |
| Minnesota | 0 | 0 | 3 | 16 | 515 | 24 | 558 |
| Mississippi | 0 | 2 | 44 | 77 | 493 | 14 | 630 |
| Missouri | 0 | 0 | 98 | 288 | 721 | 8 | 1,115 |
| Montana | 0 | 0 | 0 | 10 | 156 | 8 | 174 |
| Nebraska | 0 | 0 | 29 | 24 | 306 | 60 | 419 |
| Nevada | 0 | 0 | 2 | 0 | 235 | 0 | 237 |
| New Hampshire | 0 | 0 | 0 | 8 | 136 | 26 | 170 |
| New Jersey | 1 | 0 | 64 | 50 | 908 | 282 | 1,305 |
| New Mexico | 0 | 0 | 29 | 26 | 422 | 42 | 519 |
| New York | 0 | 4 | 449 | 144 | 1,664 | 255 | 2,516 |
| North Carolina | 19 | 19 | 39 | 152 | 1,131 | 0 | 1,360 |
| North Dakota | 0 | 0 | 1 | 1 | 160 | 2 | 164 |
| Ohio | 1 | 34 | 296 | 440 | 1,130 | 93 | 1,994 |
| Oklahoma | 5 | 0 | 50 | 69 | 517 | 162 | 803 |
| Oregon | 0 | 0 | 19 | 93 | 407 | 109 | 628 |
| Pennsylvania | 0 | 8 | 341 | 608 | 1,174 | 140 | 2,271 |
| Rhode Island | 0 | 3 | 30 | 51 | 160 | 87 | 331 |
| South Carolina | 0 | 0 | 31 | 68 | 559 | 39 | 697 |
| South Dakota | 0 | 0 | 0 | 2 | 112 | 0 | 114 |
| Tennessee | 0 | 6 | 137 | 198 | 951 | 0 | 1,292 |
| Texas | 0 | 6 | 201 | 578 | 3,862 | 263 | 4,910 |
| Utah | 0 | 0 | 0 | 0 | 268 | 0 | 268 |
| Vermont | 2 | 1 | 8 | 16 | 56 | 14 | 97 |
| Virginia | 1 | 3 | 242 | 230 | 483 | 185 | 1,144 |
| Washington | 0 | 2 | 72 | 385 | 613 | 16 | 1,088 |
| West Virginia | 1 | 5 | 19 | 24 | 153 | 1 | 203 |
| Wisconsin | 3 | 0 | 41 | 201 | 1,061 | 5 | 1,311 |
| Wyoming | 0 | 0 | 0 | 20 | 166 | 19 | 205 |
| U.S. Total | 67 | 221 | 4,022 | 6,706 | 37,562 | 4,395 | 52,973 |

OCTOBER 1997 TABLE HM-53 SHEET 6 OF 7

| STATE | URBAN MINOR ARTERIAL | | | | | | |
|---|---|---|---|---|---|---|---|
| | LANE WIDTH IN FEET | | | | | | |
| | < 9 | 9 | 10 | 11 | 12 | > 12 | TOTAL |
| Alabama | 0 | 27 | 511 | 387 | 872 | 177 | 1,974 |
| Alaska | 0 | 0 | 5 | 24 | 155 | 20 | 204 |
| Arizona | 5 | 0 | 17 | 141 | 911 | 201 | 1,275 |
| Arkansas | 2 | 50 | 203 | 235 | 476 | 38 | 1,004 |
| California | 42 | 25 | 705 | 520 | 8,411 | 585 | 10,288 |
| Colorado | 0 | 2 | 81 | 155 | 1,076 | 91 | 1,405 |
| Connecticut | 8 | 26 | 71 | 72 | 1,305 | 0 | 1,482 |
| Delaware | 6 | 8 | 18 | 10 | 84 | 33 | 159 |
| Dist. of Columbia 1/ | 3 | 27 | 98 | 34 | 7 | 3 | 172 |
| Florida | 15 | 67 | 491 | 654 | 1,605 | 196 | 3,028 |
| Georgia | 1 | 34 | 409 | 437 | 1,246 | 817 | 2,944 |
| Hawaii | 0 | 7 | 51 | 19 | 28 | 13 | 118 |
| Idaho | 4 | 3 | 21 | 24 | 424 | 0 | 476 |
| Illinois | 17 | 173 | 940 | 523 | 1,840 | 334 | 3,827 |
| Indiana | 28 | 275 | 519 | 474 | 770 | 355 | 2,421 |
| Iowa | 0 | 16 | 38 | 165 | 534 | 603 | 1,356 |
| Kansas | 0 | 127 | 48 | 235 | 660 | 0 | 1,070 |
| Kentucky | 20 | 183 | 353 | 230 | 317 | 63 | 1,166 |
| Louisiana | 2 | 51 | 553 | 219 | 734 | 46 | 1,605 |
| Maine | 0 | 4 | 54 | 29 | 146 | 46 | 279 |
| Maryland 1/ | 8 | 40 | 135 | 168 | 572 | 272 | 1,195 |
| Massachusetts | 3 | 21 | 296 | 433 | 906 | 1,444 | 3,103 |
| Michigan | 46 | 42 | 788 | 1,272 | 1,099 | 188 | 3,435 |
| Minnesota | 0 | 0 | 66 | 46 | 1,959 | 22 | 2,093 |
| Mississippi | 1 | 1 | 181 | 112 | 321 | 54 | 670 |
| Missouri | 0 | 47 | 406 | 478 | 675 | 123 | 1,729 |
| Montana | 0 | 0 | 0 | 12 | 190 | 14 | 216 |
| Nebraska | 11 | 12 | 90 | 125 | 244 | 56 | 538 |
| Nevada | 0 | 0 | 0 | 0 | 614 | 0 | 614 |
| New Hampshire | 0 | 0 | 33 | 50 | 278 | 65 | 426 |
| New Jersey | 5 | 44 | 390 | 345 | 1,123 | 1,179 | 3,086 |
| New Mexico | 0 | 9 | 65 | 59 | 135 | 55 | 323 |
| New York | 0 | 57 | 1,166 | 773 | 2,397 | 604 | 4,997 |
| North Carolina | 19 | 147 | 334 | 384 | 1,434 | 0 | 2,318 |
| North Dakota | 0 | 1 | 6 | 20 | 234 | 4 | 265 |
| Ohio | 50 | 240 | 866 | 784 | 1,258 | 390 | 3,588 |
| Oklahoma | 18 | 58 | 294 | 462 | 745 | 342 | 1,919 |
| Oregon | 0 | 11 | 177 | 297 | 348 | 149 | 982 |
| Pennsylvania | 4 | 160 | 755 | 934 | 1,133 | 296 | 3,282 |
| Rhode Island | 4 | 4 | 11 | 36 | 121 | 103 | 279 |
| South Carolina | 0 | 9 | 120 | 150 | 631 | 88 | 998 |
| South Dakota | 5 | 0 | 2 | 3 | 265 | 12 | 287 |
| Tennessee | 12 | 51 | 239 | 468 | 1,313 | 0 | 2,083 |
| Texas | 0 | 43 | 1,024 | 1,289 | 4,333 | 309 | 6,998 |
| Utah | 0 | 0 | 0 | 16 | 497 | 0 | 513 |
| Vermont | 2 | 11 | 12 | 51 | 55 | 18 | 149 |
| Virginia | 20 | 361 | 590 | 315 | 465 | 221 | 1,972 |
| Washington | 1 | 58 | 335 | 685 | 1,012 | 52 | 2,143 |
| West Virginia | 20 | 55 | 129 | 49 | 157 | 9 | 419 |
| Wisconsin | 2 | 5 | 193 | 538 | 1,245 | 15 | 1,998 |
| Wyoming | 0 | 1 | 1 | 7 | 99 | 43 | 151 |
| U.S. Total | 384 | 2,593 | 13,890 | 14,948 | 47,459 | 9,748 | 89,022 |

OCTOBER 1997 TABLE HM-53 SHEET 7 OF 7

| STATE | URBAN COLLECTOR | | | | | | |
|---|---|---|---|---|---|---|---|
| | LANE WIDTH IN FEET | | | | | | TOTAL |
| | < 9 | 9 | 10 | 11 | 12 | > 12 | |
| Alabama | 10 | 118 | 931 | 288 | 523 | 293 | 2,163 |
| Alaska | 11 | 0 | 27 | 36 | 117 | 38 | 229 |
| Arizona | 8 | 7 | 59 | 87 | 1,400 | 188 | 1,749 |
| Arkansas | 50 | 83 | 312 | 123 | 306 | 55 | 929 |
| California | 107 | 181 | 815 | 515 | 8,038 | 369 | 10,025 |
| Colorado | 0 | 29 | 141 | 181 | 787 | 171 | 1,309 |
| Connecticut | 15 | 28 | 131 | 175 | 836 | 5 | 1,190 |
| Delaware | 20 | 27 | 55 | 24 | 62 | 35 | 223 |
| Dist. of Columbia 1/ | 0 | 23 | 104 | 14 | 11 | 0 | 152 |
| Florida | 20 | 187 | 1,688 | 1,295 | 2,291 | 425 | 5,906 |
| Georgia | 4 | 85 | 314 | 400 | 550 | 756 | 2,109 |
| Hawaii | 11 | 32 | 145 | 34 | 39 | 78 | 339 |
| Idaho | 11 | 6 | 50 | 31 | 412 | 0 | 510 |
| Illinois | 137 | 247 | 1,004 | 553 | 1,426 | 395 | 3,762 |
| Indiana | 97 | 569 | 713 | 268 | 340 | 216 | 2,203 |
| Iowa | 0 | 14 | 22 | 124 | 291 | 480 | 931 |
| Kansas | 0 | 260 | 129 | 285 | 335 | 0 | 1,009 |
| Kentucky | 88 | 303 | 361 | 179 | 152 | 63 | 1,146 |
| Louisiana | 0 | 451 | 532 | 84 | 233 | 7 | 1,307 |
| Maine | 1 | 30 | 127 | 88 | 145 | 93 | 484 |
| Maryland 1/ | 61 | 59 | 301 | 237 | 348 | 299 | 1,305 |
| Massachusetts | 309 | 73 | 665 | 238 | 562 | 687 | 2,534 |
| Michigan | 57 | 128 | 605 | 881 | 534 | 317 | 2,522 |
| Minnesota | 1 | 2 | 35 | 122 | 1,352 | 16 | 1,528 |
| Mississippi | 21 | 118 | 466 | 67 | 233 | 75 | 980 |
| Missouri | 3 | 147 | 502 | 397 | 399 | 158 | 1,606 |
| Montana | 1 | 2 | 4 | 17 | 256 | 13 | 293 |
| Nebraska | 52 | 21 | 64 | 62 | 144 | 67 | 410 |
| Nevada | 0 | 0 | 68 | 0 | 834 | 0 | 902 |
| New Hampshire | 6 | 6 | 57 | 76 | 111 | 28 | 284 |
| New Jersey | 122 | 52 | 328 | 427 | 515 | 721 | 2,165 |
| New Mexico | 4 | 3 | 51 | 46 | 266 | 84 | 454 |
| New York | 219 | 661 | 736 | 1,102 | 1,053 | 255 | 4,026 |
| North Carolina | 49 | 244 | 401 | 277 | 697 | 0 | 1,668 |
| North Dakota | 4 | 1 | 7 | 19 | 190 | 0 | 221 |
| Ohio | 420 | 539 | 1,168 | 473 | 839 | 118 | 3,557 |
| Oklahoma | 2 | 99 | 160 | 203 | 156 | 362 | 982 |
| Oregon | 11 | 87 | 198 | 332 | 357 | 201 | 1,186 |
| Pennsylvania | 97 | 506 | 1,404 | 943 | 671 | 133 | 3,754 |
| Rhode Island | 9 | 34 | 61 | 118 | 152 | 131 | 505 |
| South Carolina | 2 | 60 | 562 | 286 | 352 | 204 | 1,466 |
| South Dakota | 4 | 0 | 6 | 9 | 177 | 3 | 199 |
| Tennessee | 9 | 201 | 473 | 272 | 679 | 0 | 1,634 |
| Texas | 170 | 682 | 1,413 | 1,371 | 4,530 | 753 | 8,919 |
| Utah | 0 | 4 | 2 | 30 | 515 | 0 | 551 |
| Vermont | 3 | 31 | 86 | 33 | 29 | 29 | 211 |
| Virginia | 198 | 454 | 692 | 177 | 179 | 234 | 1,934 |
| Washington | 3 | 82 | 640 | 610 | 631 | 73 | 2,039 |
| West Virginia | 73 | 136 | 84 | 42 | 110 | 0 | 445 |
| Wisconsin | 23 | 57 | 336 | 355 | 705 | 15 | 1,491 |
| Wyoming | 0 | 2 | 32 | 42 | 277 | 119 | 472 |
| U.S. Total | 2,523 | 7,171 | 19,267 | 14,048 | 36,147 | 8,762 | 87,918 |

1/ 1995 data.

Comments: Information on local roads was not mentioned in the preceding table. In order to obtain an estimate of a typical local-road width, departments of transportation from both urban and suburban areas were contacted. The information is presented below in Table 3.

Table 3. Road widths for local roads.

| City | Road Type | Road width |
|---|---|---|
| Ann Arbor | local suburban | 30 – 56 feet (9 – 17 m)* |
| Chicago | local urban | 30 – 32 feet (9 - 10 m)* |
| *Road widths allow for on-street parking on either side. Some exceptions exist. | | |

## Traffic Lanes

### Table 4. Road miles by traffic lanes and road type.[1/]

OCTOBER 1997 TABLE HM 55 SHEET 1 OF 7

| STATE | RURAL INTERSTATE | | | | OTHER RURAL PRINCIPAL ARTERIAL | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | DIVIDED HIGHWAYS | | | | | DIVIDED HIGHWAYS - 4 OR MORE LANES | | | | | |
| | FULL ACCESS CONTROL | | OTHER [2/] | TOTAL | 2 LANES | DEGREE OF ACCESS CONTROL | | | | OTHER [2/] | TOTAL |
| | 4 LANES | > 4 LANES | | | | NONE | PARTIAL | FULL | TOTAL | | |
| Alabama | 598 | 1 | 0 | 599 | 1,346 | 545 | 10 | 0 | 555 | 165 | 2,066 |
| Alaska | 0 | 0 | 1,033 | 1,033 | 803 | 0 | 3 | 0 | 3 | 4 | 810 |
| Arizona | 994 | 2 | 0 | 996 | 965 | 126 | 0 | 3 | 129 | 92 | 1,186 |
| Arkansas | 400 | 0 | 0 | 400 | 1,877 | 43 | 38 | 114 | 195 | 128 | 2,200 |
| California | 1,054 | 291 | 0 | 1,345 | 2,415 | 225 | 363 | 571 | 1,159 | 113 | 3,687 |
| Colorado | 744 | 24 | 0 | 768 | 1,732 | 12 | 178 | 7 | 197 | 274 | 2,203 |
| Connecticut | 77 | 24 | 0 | 101 | 176 | 2 | 1 | 75 | 78 | 9 | 263 |
| Delaware | 0 | 0 | 0 | 0 | 68 | 115 | 13 | 16 | 144 | 4 | 216 |
| Dist. of Columbia [3/] | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Florida | 855 | 103 | 0 | 958 | 2,399 | 1,071 | 18 | 180 | 1,269 | 50 | 3,718 |
| Georgia [4/] | 667 | 140 | 0 | 807 | 1,861 | 523 | 151 | 18 | 692 | 240 | 2,793 |
| Hawaii | 0 | 0 | 0 | 0 | 118 | 4 | 0 | 0 | 4 | 3 | 125 |
| Idaho | 532 | 0 | 0 | 532 | 1,496 | 6 | 47 | 0 | 53 | 135 | 1,684 |
| Illinois | 1,463 | 31 | 27 | 1,521 | 2,401 | 50 | 131 | 32 | 213 | 24 | 2,638 |
| Indiana | 815 | 38 | 0 | 853 | 1,098 | 325 | 261 | 2 | 588 | 13 | 1,699 |
| Iowa | 602 | 32 | 0 | 634 | 2,853 | 0 | 295 | 115 | 410 | 150 | 3,413 |
| Kansas | 698 | 0 | 0 | 698 | 2,878 | 22 | 122 | 99 | 243 | 50 | 3,171 |
| Kentucky | 496 | 40 | 0 | 536 | 1,095 | 200 | 180 | 510 | 890 | 27 | 2,012 |
| Louisiana | 604 | 7 | 0 | 611 | 889 | 188 | 51 | 7 | 246 | 79 | 1,214 |
| Maine | 300 | 13 | 0 | 313 | 771 | 0 | 0 | 4 | 4 | 12 | 787 |
| Maryland [3/] | 98 | 129 | 0 | 227 | 181 | 182 | 121 | 40 | 343 | 25 | 549 |
| Massachusetts | 111 | 51 | 0 | 162 | 204 | 1 | 10 | 76 | 87 | 28 | 319 |
| Michigan | 646 | 94 | 0 | 740 | 2,163 | 71 | 5 | 412 | 488 | 104 | 2,755 |
| Minnesota | 663 | 18 | 0 | 681 | 2,731 | 473 | 266 | 21 | 760 | 82 | 3,573 |
| Mississippi | 558 | 0 | 0 | 558 | 1,000 | 226 | 425 | 128 | 779 | 60 | 1,839 |
| Missouri | 804 | 5 | 0 | 809 | 2,434 | 269 | 62 | 4 | 335 | 283 | 3,052 |
| Montana | 1,137 | 0 | 0 | 1,137 | 2,494 | 14 | 1 | 0 | 15 | 113 | 2,622 |
| Nebraska | 437 | 0 | 0 | 437 | 2,520 | 86 | 71 | 3 | 160 | 49 | 2,729 |
| Nevada | 480 | 0 | 0 | 480 | 1,281 | 57 | 0 | 13 | 70 | 38 | 1,389 |
| New Hampshire | 150 | 21 | 5 | 176 | 385 | 9 | 0 | 15 | 24 | 45 | 454 |
| New Jersey | 42 | 77 | 0 | 119 | 284 | 52 | 29 | 79 | 160 | 89 | 533 |
| New Mexico | 873 | 19 | 0 | 892 | 1,369 | 319 | 14 | 1 | 334 | 94 | 1,797 |
| New York | 739 | 57 | 1 | 797 | 1,388 | 79 | 131 | 287 | 497 | 115 | 2,000 |
| North Carolina | 609 | 30 | 0 | 639 | 1,221 | 400 | 207 | 238 | 845 | 147 | 2,213 |
| North Dakota | 531 | 0 | 0 | 531 | 2,567 | 0 | 361 | 0 | 361 | 2 | 2,930 |
| Ohio | 795 | 35 | 0 | 830 | 1,257 | 65 | 597 | 243 | 905 | 54 | 2,216 |
| Oklahoma | 721 | 0 | 0 | 721 | 1,514 | 351 | 92 | 353 | 796 | 57 | 2,367 |
| Oregon | 560 | 22 | 0 | 582 | 2,356 | 115 | 16 | 1 | 132 | 342 | 2,830 |
| Pennsylvania | 1,184 | 22 | 1 | 1,207 | 1,599 | 203 | 40 | 322 | 565 | 315 | 2,479 |
| Rhode Island | 21 | 0 | 0 | 21 | 43 | 0 | 13 | 1 | 14 | 6 | 63 |
| South Carolina | 650 | 21 | 0 | 671 | 877 | 506 | 7 | 16 | 529 | 40 | 1,446 |
| South Dakota | 627 | 2 | 0 | 629 | 2,343 | 30 | 107 | 2 | 139 | 60 | 2,542 |
| Tennessee | 713 | 26 | 0 | 739 | 1,177 | 382 | 15 | 116 | 513 | 117 | 1,807 |
| Texas | 2,128 | 63 | 13 | 2,204 | 3,664 | 1,142 | 345 | 97 | 1,584 | 1,507 | 6,755 |
| Utah | 750 | 21 | 0 | 771 | 817 | 46 | 34 | 0 | 80 | 111 | 1,008 |
| Vermont | 280 | 0 | 0 | 280 | 256 | 3 | 7 | 16 | 26 | 35 | 317 |
| Virginia | 636 | 75 | 1 | 712 | 201 | 907 | 73 | 142 | 1,122 | 211 | 1,534 |
| Washington | 395 | 102 | 4 | 501 | 1,726 | 173 | 10 | 6 | 189 | 171 | 2,086 |
| West Virginia | 436 | 23 | 0 | 459 | 795 | 33 | 205 | 4 | 242 | 15 | 1,052 |
| Wisconsin | 524 | 49 | 2 | 575 | 2,752 | 83 | 207 | 243 | 533 | 73 | 3,358 |
| Wyoming | 826 | 0 | 0 | 826 | 1,621 | 1 | 0 | 0 | 1 | 10 | 1,632 |
| U.S. Total | 30,023 | 1,708 | 1,087 | 32,818 | 72,461 | 9,735 | 5,333 | 4,632 | 19,700 | 5,970 | 98,131 |

OCTOBER 1997 TABLE HM-55 SHEET 2 OF 7

| STATE | RURAL MINOR ARTERIAL | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2 LANES | DIVIDED HIGHWAYS - 4 OR MORE LANES | | | | OTHER [2/] | TOTAL |
| | | DEGREE OF ACCESS CONTROL | | | | | |
| | | NONE | PARTIAL | FULL | TOTAL | | |
| Alabama | 3,567 | 43 | 0 | 0 | 43 | 94 | 3,704 |
| Alaska | 442 | 0 | 0 | 0 | 0 | 0 | 442 |
| Arizona | 1,135 | 60 | 0 | 0 | 60 | 63 | 1,258 |
| Arkansas | 2,902 | 0 | 0 | 0 | 0 | 87 | 2,989 |
| California | 6,662 | 11 | 192 | 0 | 203 | 39 | 6,904 |
| Colorado | 3,593 | 0 | 17 | 0 | 17 | 65 | 3,675 |
| Connecticut | 495 | 1 | 0 | 0 | 1 | 2 | 498 |
| Delaware | 89 | 16 | 0 | 0 | 16 | 0 | 105 |
| Dist. of Columbia [3/] | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Florida | 2,536 | 47 | 0 | 0 | 47 | 3 | 2,586 |
| Georgia [4/] | 5,116 | 213 | 14 | 1 | 228 | 230 | 5,574 |
| Hawaii | 362 | 0 | 0 | 0 | 0 | 12 | 374 |
| Idaho | 1,246 | 6 | 0 | 0 | 6 | 44 | 1,296 |
| Illinois | 4,719 | 42 | 48 | 5 | 95 | 0 | 4,814 |
| Indiana | 1,925 | 256 | 45 | 0 | 301 | 8 | 2,234 |
| Iowa | 3,877 | 0 | 6 | 0 | 6 | 70 | 3,953 |
| Kansas | 4,179 | 0 | 28 | 6 | 34 | 88 | 4,301 |
| Kentucky | 1,590 | 5 | 18 | 0 | 23 | 8 | 1,621 |
| Louisiana | 1,386 | 187 | 23 | 0 | 210 | 27 | 1,623 |
| Maine | 1,046 | 1 | 0 | 0 | 1 | 23 | 1,070 |
| Maryland [3/] | 915 | 32 | 0 | 0 | 32 | 3 | 950 |
| Massachusetts | 622 | 5 | 0 | 23 | 28 | 15 | 665 |
| Michigan | 3,950 | 18 | 0 | 0 | 18 | 56 | 4,024 |
| Minnesota | 6,300 | 51 | 0 | 0 | 51 | 20 | 6,371 |
| Mississippi | 3,779 | 1 | 0 | 0 | 1 | 130 | 3,910 |
| Missouri | 3,368 | 0 | 17 | 0 | 17 | 13 | 3,398 |
| Montana | 2,966 | 8 | 0 | 0 | 8 | 16 | 2,990 |
| Nebraska | 4,175 | 18 | 0 | 0 | 18 | 5 | 4,198 |
| Nevada | 666 | 43 | 0 | 0 | 43 | 6 | 715 |
| New Hampshire | 481 | 0 | 0 | 0 | 0 | 9 | 490 |
| New Jersey | 446 | 37 | 0 | 0 | 37 | 5 | 488 |
| New Mexico | 1,768 | 77 | 0 | 0 | 77 | 29 | 1,874 |
| New York | 3,858 | 154 | 0 | 17 | 171 | 87 | 4,116 |
| North Carolina | 2,567 | 79 | 121 | 0 | 200 | 232 | 2,999 |
| North Dakota | 2,513 | 0 | 0 | 0 | 0 | 0 | 2,513 |
| Ohio | 2,715 | 66 | 0 | 0 | 66 | 61 | 2,842 |
| Oklahoma | 2,481 | 177 | 36 | 0 | 213 | 56 | 2,750 |
| Oregon | 1,917 | 28 | 0 | 0 | 28 | 101 | 2,046 |
| Pennsylvania | 4,792 | 66 | 12 | 53 | 131 | 193 | 5,116 |
| Rhode Island | 73 | 1 | 0 | 0 | 1 | 6 | 80 |
| South Carolina | 3,284 | 356 | 0 | 0 | 356 | 21 | 3,661 |
| South Dakota | 3,319 | 5 | 2 | 0 | 7 | 14 | 3,340 |
| Tennessee | 3,278 | 101 | 0 | 0 | 101 | 37 | 3,416 |
| Texas | 8,157 | 457 | 47 | 14 | 518 | 779 | 9,454 |
| Utah | 1,501 | 15 | 1 | 0 | 16 | 18 | 1,535 |
| Vermont | 732 | 2 | 0 | 0 | 2 | 0 | 734 |
| Virginia | 2,970 | 334 | 59 | 0 | 393 | 69 | 3,432 |
| Washington | 1,906 | 42 | 0 | 0 | 42 | 33 | 1,981 |
| West Virginia | 1,552 | 12 | 0 | 0 | 12 | 0 | 1,564 |
| Wisconsin | 4,755 | 44 | 61 | 0 | 105 | 151 | 5,011 |
| Wyoming | 1,670 | 0 | 1 | 0 | 1 | 4 | 1,675 |
| U.S. Total | 130,343 | 3,117 | 748 | 119 | 3,984 | 3,032 | 137,359 |

OCTOBER 1997 TABLE HM-55 SHEET 3 OF 7

| STATE | RURAL MAJOR COLLECTOR | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2 LANES | DIVIDED HIGHWAYS - 4 OR MORE LANES | | | | OTHER [2/] | TOTAL |
| | | DEGREE OF ACCESS CONTROL | | | | | |
| | | NONE | PARTIAL | FULL | TOTAL | | |
| Alabama | 11,692 | 14 | 0 | 0 | 14 | 11 | 11,717 |
| Alaska | 1,372 | 0 | 0 | 0 | 0 | 10 | 1,382 |
| Arizona | 4,432 | 10 | 0 | 0 | 10 | 63 | 4,505 |
| Arkansas | 12,512 | 20 | 0 | 0 | 20 | 24 | 12,556 |
| California | 12,845 | 151 | 12 | 0 | 163 | 6 | 13,014 |
| Colorado | 5,973 | 0 | 14 | 0 | 14 | 5 | 5,992 |
| Connecticut | 1,200 | 7 | 0 | 0 | 7 | 0 | 1,207 |
| Delaware | 543 | 8 | 0 | 0 | 8 | 0 | 551 |
| Dist. of Columbia [3/] | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Florida | 4,472 | 22 | 0 | 0 | 22 | 48 | 4,542 |
| Georgia [4/] | 13,646 | 0 | 4 | 0 | 4 | 5 | 13,655 |
| Hawaii | 350 | 0 | 0 | 0 | 0 | 0 | 350 |
| Idaho | 5,199 | 0 | 42 | 0 | 42 | 33 | 5,274 |
| Illinois | 14,107 | 9 | 47 | 0 | 56 | 24 | 14,187 |
| Indiana | 10,366 | 274 | 51 | 0 | 325 | 7 | 10,698 |
| Iowa | 14,201 | 0 | 0 | 0 | 0 | 93 | 14,294 |
| Kansas | 22,928 | 33 | 0 | 0 | 33 | 9 | 22,970 |
| Kentucky | 6,957 | 11 | 0 | 0 | 11 | 1 | 6,969 |
| Louisiana | 6,436 | 553 | 0 | 0 | 553 | 58 | 7,047 |
| Maine | 3,204 | 0 | 0 | 0 | 0 | 0 | 3,204 |
| Maryland [3/] | 1,847 | 3 | 0 | 0 | 3 | 6 | 1,856 |
| Massachusetts | 1,740 | 0 | 0 | 0 | 0 | 56 | 1,796 |
| Michigan | 16,925 | 16 | 0 | 0 | 16 | 44 | 16,985 |
| Minnesota | 16,139 | 25 | 0 | 0 | 25 | 0 | 16,164 |
| Mississippi | 11,951 | 0 | 2 | 0 | 2 | 156 | 12,109 |
| Missouri | 18,006 | 0 | 0 | 0 | 0 | 1 | 18,007 |
| Montana | 7,069 | 0 | 0 | 0 | 0 | 4 | 7,073 |
| Nebraska | 11,511 | 1 | 1 | 0 | 2 | 3 | 11,516 |
| Nevada | 1,937 | 0 | 0 | 0 | 0 | 30 | 1,967 |
| New Hampshire | 1,200 | 0 | 0 | 0 | 0 | 0 | 1,200 |
| New Jersey | 1,563 | 0 | 0 | 0 | 0 | 17 | 1,580 |
| New Mexico | 3,832 | 60 | 0 | 0 | 60 | 64 | 3,956 |
| New York | 6,111 | 4 | 0 | 0 | 4 | 9 | 6,124 |
| North Carolina | 8,453 | 8 | 0 | 0 | 8 | 173 | 8,634 |
| North Dakota | 11,179 | 0 | 0 | 0 | 0 | 0 | 11,179 |
| Ohio | 11,219 | 51 | 152 | 12 | 215 | 416 | 11,850 |
| Oklahoma | 21,180 | 77 | 13 | 0 | 90 | 83 | 21,353 |
| Oregon | 9,218 | 0 | 0 | 0 | 0 | 0 | 9,218 |
| Pennsylvania | 8,033 | 0 | 0 | 0 | 0 | 25 | 8,058 |
| Rhode Island | 173 | 4 | 0 | 0 | 4 | 0 | 177 |
| South Carolina | 7,984 | 151 | 0 | 0 | 151 | 0 | 8,135 |
| South Dakota | 12,455 | 0 | 0 | 0 | 0 | 18 | 12,473 |
| Tennessee | 5,353 | 0 | 0 | 0 | 0 | 33 | 5,386 |
| Texas | 35,096 | 377 | 8 | 0 | 385 | 285 | 35,766 |
| Utah | 3,278 | 8 | 0 | 0 | 8 | 24 | 3,310 |
| Vermont | 1,988 | 4 | 0 | 0 | 4 | 0 | 1,992 |
| Virginia | 9,400 | 213 | 0 | 0 | 213 | 131 | 9,744 |
| Washington | 8,357 | 0 | 0 | 0 | 0 | 17 | 8,374 |
| West Virginia | 6,013 | 1 | 0 | 0 | 1 | 2 | 6,016 |
| Wisconsin | 13,538 | 30 | 0 | 0 | 30 | 11 | 13,579 |
| Wyoming | 2,405 | 0 | 0 | 0 | 0 | 22 | 2,427 |
| U.S. Total | 427,588 | 2,145 | 346 | 12 | 2,503 | 2,027 | 432,118 |

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| STATE | URBAN INTERSTATE: DIVIDED HIGHWAYS, FULL ACCESS CONTROL: 4 LANES | URBAN INTERSTATE: DIVIDED HIGHWAYS, FULL ACCESS CONTROL: > 4 LANES | URBAN INTERSTATE: OTHER [2/] | URBAN INTERSTATE: TOTAL | OTHER URBAN FREEWAYS AND EXPRESSWAYS: 2 LANES | DIVIDED HIGHWAYS - 4 OR MORE LANES: DEGREE OF ACCESS CONTROL: NONE | DEGREE OF ACCESS CONTROL: PARTIAL | DEGREE OF ACCESS CONTROL: FULL | DIVIDED HIGHWAYS: TOTAL | OTHER [2/] | TOTAL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Alabama | 205 | 100 | 0 | 305 | 0 | 4 | 16 | 1 | 21 | 0 | 21 |
| Alaska | 25 | 9 | 19 | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Arizona | 115 | 58 | 0 | 173 | 8 | 5 | 2 | 76 | 83 | 0 | 91 |
| Arkansas | 94 | 47 | 0 | 141 | 9 | 4 | 21 | 51 | 76 | 27 | 112 |
| California | 124 | 952 | 3 | 1,079 | 40 | 2 | 159 | 1,122 | 1,283 | 11 | 1,334 |
| Colorado | 123 | 63 | 0 | 186 | 20 | 0 | 119 | 67 | 186 | 12 | 218 |
| Connecticut | 75 | 167 | 1 | 243 | 2 | 0 | 1 | 189 | 190 | 6 | 198 |
| Delaware | 11 | 30 | 0 | 41 | 0 | 0 | 0 | 11 | 11 | 0 | 11 |
| Dist. of Columbia [3/] | 3 | 9 | 1 | 13 | 0 | 1 | 14 | 3 | 18 | 1 | 19 |
| Florida | 266 | 247 | 0 | 513 | 4 | 0 | 42 | 359 | 401 | 0 | 405 |
| Georgia [4/] | 154 | 280 | 0 | 434 | 8 | 1 | 23 | 121 | 145 | 9 | 162 |
| Hawaii | 7 | 35 | 1 | 43 | 1 | 0 | 29 | 0 | 29 | 4 | 34 |
| Idaho | 70 | 9 | 0 | 79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Illinois | 317 | 317 | 8 | 642 | 4 | 5 | 10 | 54 | 69 | 2 | 75 |
| Indiana | 192 | 127 | 0 | 319 | 13 | 3 | 69 | 45 | 117 | 2 | 132 |
| Iowa | 100 | 47 | 0 | 147 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kansas | 98 | 76 | 0 | 174 | 3 | 2 | 73 | 55 | 130 | 3 | 136 |
| Kentucky | 123 | 103 | 0 | 226 | 3 | 0 | 5 | 83 | 88 | 2 | 93 |
| Louisiana | 202 | 80 | 0 | 282 | 0 | 5 | 18 | 22 | 45 | 0 | 45 |
| Maine | 54 | 1 | 0 | 55 | 1 | 0 | 3 | 13 | 16 | 0 | 17 |
| Maryland [3/] | 62 | 192 | 1 | 255 | 12 | 6 | 78 | 125 | 209 | 8 | 229 |
| Massachusetts | 74 | 329 | 0 | 403 | 18 | 0 | 0 | 185 | 185 | 2 | 205 |
| Michigan | 193 | 304 | 2 | 499 | 3 | 2 | 3 | 213 | 218 | 0 | 221 |
| Minnesota | 127 | 104 | 1 | 232 | 0 | 6 | 48 | 85 | 139 | 3 | 142 |
| Mississippi | 121 | 6 | 0 | 127 | 0 | 7 | 27 | 10 | 44 | 0 | 44 |
| Missouri | 157 | 212 | 0 | 369 | 114 | 9 | 126 | 2 | 137 | 37 | 288 |
| Montana | 53 | 0 | 0 | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Nebraska | 32 | 11 | 0 | 43 | 6 | 0 | 3 | 8 | 11 | 0 | 17 |
| Nevada | 41 | 42 | 0 | 83 | 0 | 7 | 0 | 24 | 31 | 4 | 35 |
| New Hampshire | 35 | 13 | 0 | 48 | 0 | 0 | 9 | 33 | 42 | 0 | 42 |
| New Jersey | 52 | 250 | 1 | 303 | 6 | 0 | 43 | 251 | 294 | 12 | 312 |
| New Mexico | 81 | 27 | 0 | 108 | 3 | 0 | 0 | 0 | 0 | 0 | 3 |
| New York | 299 | 402 | 1 | 702 | 38 | 14 | 179 | 551 | 744 | 42 | 824 |
| North Carolina | 205 | 137 | 0 | 342 | 26 | 8 | 91 | 138 | 237 | 9 | 272 |
| North Dakota | 37 | 3 | 0 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Ohio | 390 | 346 | 7 | 743 | 10 | 18 | 144 | 200 | 362 | 3 | 375 |
| Oklahoma | 132 | 77 | 0 | 209 | 2 | 1 | 18 | 111 | 130 | 2 | 134 |
| Oregon | 87 | 59 | 0 | 146 | 0 | 0 | 14 | 32 | 46 | 7 | 53 |
| Pennsylvania | 430 | 113 | 0 | 543 | 14 | 6 | 28 | 397 | 431 | 28 | 473 |
| Rhode Island | 14 | 34 | 0 | 48 | 1 | 4 | 14 | 43 | 61 | 6 | 68 |
| South Carolina | 87 | 71 | 0 | 158 | 4 | 1 | 34 | 30 | 65 | 0 | 69 |
| South Dakota | 48 | 1 | 0 | 49 | 0 | 0 | 0 | 0 | 0 | 3 | 3 |
| Tennessee | 179 | 144 | 0 | 323 | 2 | 13 | 14 | 84 | 111 | 2 | 115 |
| Texas | 451 | 578 | 1 | 1,030 | 160 | 119 | 181 | 565 | 865 | 213 | 1,238 |
| Utah | 58 | 111 | 0 | 169 | 3 | 0 | 5 | 0 | 5 | 0 | 8 |
| Vermont | 40 | 0 | 0 | 40 | 8 | 0 | 5 | 1 | 6 | 5 | 19 |
| Virginia | 149 | 241 | 5 | 395 | 18 | 31 | 19 | 130 | 180 | 24 | 222 |
| Washington | 102 | 160 | 0 | 262 | 38 | 0 | 86 | 108 | 194 | 84 | 316 |
| West Virginia | 81 | 9 | 1 | 91 | 1 | 0 | 0 | 9 | 9 | 0 | 10 |
| Wisconsin | 111 | 57 | 2 | 170 | 4 | 1 | 13 | 154 | 168 | 7 | 179 |
| Wyoming | 86 | 0 | 1 | 87 | 0 | 0 | 2 | 1 | 3 | 0 | 3 |
| U.S. Total | 6,372 | 6,790 | 56 | 13,218 | 607 | 285 | 1,788 | 5,762 | 7,835 | 580 | 9,022 |

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| STATE | OTHER URBAN PRINCIPAL ARTERIAL | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2 LANES | DIVIDED HIGHWAYS - 4 OR MORE LANES | | | | OTHER [2/] | TOTAL |
| | | DEGREE OF ACCESS CONTROL | | | | | |
| | | NONE | PARTIAL | FULL | TOTAL | | |
| Alabama | 301 | 441 | 9 | 0 | 450 | 232 | 983 |
| Alaska | 8 | 3 | 19 | 7 | 29 | 19 | 56 |
| Arizona | 166 | 297 | 19 | 0 | 316 | 546 | 1,028 |
| Arkansas | 281 | 21 | 6 | 8 | 35 | 264 | 580 |
| California | 1,367 | 2,010 | 243 | 40 | 2,293 | 2,194 | 5,854 |
| Colorado | 225 | 239 | 213 | 0 | 452 | 159 | 836 |
| Connecticut | 390 | 57 | 4 | 1 | 62 | 152 | 604 |
| Delaware | 31 | 78 | 4 | 1 | 83 | 21 | 135 |
| Dist. of Columbia [3/] | 5 | 22 | 2 | 0 | 24 | 51 | 80 |
| Florida | 493 | 2,014 | 0 | 0 | 2,014 | 140 | 2,647 |
| Georgia [4/] | 695 | 404 | 14 | 8 | 426 | 632 | 1,753 |
| Hawaii | 59 | 22 | 24 | 0 | 46 | 30 | 135 |
| Idaho | 88 | 7 | 10 | 0 | 17 | 117 | 222 |
| Illinois | 1,005 | 700 | 275 | 52 | 1,027 | 570 | 2,602 |
| Indiana | 966 | 258 | 78 | 9 | 345 | 240 | 1,551 |
| Iowa | 184 | 30 | 222 | 39 | 291 | 232 | 707 |
| Kansas | 223 | 58 | 74 | 2 | 134 | 285 | 642 |
| Kentucky | 225 | 186 | 65 | 1 | 252 | 157 | 634 |
| Louisiana | 210 | 328 | 37 | 7 | 372 | 263 | 845 |
| Maine | 122 | 7 | 5 | 2 | 14 | 38 | 174 |
| Maryland [3/] | 255 | 396 | 29 | 5 | 430 | 172 | 857 |
| Massachusetts | 1,171 | 132 | 82 | 0 | 214 | 166 | 1,551 |
| Michigan | 520 | 345 | 12 | 4 | 361 | 1,093 | 1,974 |
| Minnesota | 194 | 209 | 86 | 10 | 305 | 59 | 558 |
| Mississippi | 254 | 44 | 131 | 38 | 213 | 163 | 630 |
| Missouri | 958 | 49 | 18 | 2 | 69 | 88 | 1,115 |
| Montana | 78 | 15 | 3 | 0 | 18 | 78 | 174 |
| Nebraska | 142 | 125 | 38 | 5 | 168 | 109 | 419 |
| Nevada | 52 | 73 | 0 | 0 | 73 | 112 | 237 |
| New Hampshire | 134 | 11 | 2 | 0 | 13 | 23 | 170 |
| New Jersey | 536 | 281 | 67 | 8 | 356 | 413 | 1,305 |
| New Mexico | 95 | 281 | 19 | 3 | 303 | 121 | 519 |
| New York | 1,384 | 361 | 124 | 44 | 529 | 603 | 2,516 |
| North Carolina | 548 | 303 | 65 | 13 | 381 | 431 | 1,360 |
| North Dakota | 73 | 4 | 36 | 0 | 40 | 51 | 164 |
| Ohio | 771 | 148 | 142 | 30 | 320 | 903 | 1,994 |
| Oklahoma | 213 | 163 | 26 | 4 | 193 | 397 | 803 |
| Oregon | 280 | 180 | 2 | 0 | 182 | 166 | 628 |
| Pennsylvania | 1,153 | 382 | 37 | 30 | 449 | 669 | 2,271 |
| Rhode Island | 214 | 15 | 10 | 1 | 26 | 91 | 331 |
| South Carolina | 158 | 458 | 1 | 4 | 463 | 76 | 697 |
| South Dakota | 34 | 8 | 16 | 0 | 24 | 56 | 114 |
| Tennessee | 369 | 399 | 32 | 6 | 437 | 486 | 1,292 |
| Texas | 1,649 | 704 | 147 | 43 | 894 | 2,367 | 4,910 |
| Utah | 71 | 147 | 34 | 0 | 181 | 16 | 268 |
| Vermont | 78 | 2 | 0 | 0 | 2 | 17 | 97 |
| Virginia | 304 | 486 | 39 | 27 | 552 | 288 | 1,144 |
| Washington | 467 | 52 | 1 | 7 | 60 | 561 | 1,088 |
| West Virginia | 91 | 53 | 25 | 4 | 82 | 30 | 203 |
| Wisconsin | 619 | 294 | 140 | 12 | 446 | 246 | 1,311 |
| Wyoming | 94 | 32 | 48 | 0 | 80 | 31 | 205 |
| U.S. Total | 20,003 | 13,334 | 2,735 | 477 | 16,546 | 16,424 | 52,973 |

OCTOBER 1997 TABLE HM-55 SHEET 6 OF 7

| STATE | URBAN MINOR ARTERIAL | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2 LANES | DIVIDED HIGHWAYS - 4 OR MORE LANES | | | | OTHER [2/] | TOTAL |
| | | DEGREE OF ACCESS CONTROL | | | | | |
| | | NONE | PARTIAL | FULL | TOTAL | | |
| Alabama | 1,395 | 116 | 1 | 0 | 117 | 462 | 1,974 |
| Alaska | 151 | 11 | 11 | 0 | 22 | 31 | 204 |
| Arizona | 574 | 97 | 6 | 0 | 103 | 598 | 1,275 |
| Arkansas | 880 | 2 | 0 | 0 | 2 | 122 | 1,004 |
| California | 5,556 | 1,673 | 508 | 0 | 2,181 | 2,551 | 10,288 |
| Colorado | 934 | 232 | 17 | 0 | 249 | 222 | 1,405 |
| Connecticut | 1,306 | 19 | 3 | 3 | 25 | 151 | 1,482 |
| Delaware | 107 | 21 | 2 | 0 | 23 | 29 | 159 |
| Dist. of Columbia [3/] | 62 | 14 | 2 | 2 | 18 | 92 | 172 |
| Florida | 1,586 | 1,196 | 6 | 0 | 1,202 | 240 | 3,028 |
| Georgia [4/] | 2,111 | 136 | 0 | 4 | 140 | 693 | 2,944 |
| Hawaii | 56 | 21 | 3 | 0 | 24 | 38 | 118 |
| Idaho | 390 | 0 | 4 | 0 | 4 | 82 | 476 |
| Illinois | 2,585 | 422 | 20 | 0 | 442 | 800 | 3,827 |
| Indiana | 2,165 | 71 | 3 | 0 | 74 | 182 | 2,421 |
| Iowa | 848 | 59 | 5 | 0 | 64 | 444 | 1,356 |
| Kansas | 782 | 75 | 5 | 0 | 80 | 208 | 1,070 |
| Kentucky | 984 | 61 | 17 | 0 | 78 | 104 | 1,166 |
| Louisiana | 1,218 | 124 | 0 | 0 | 124 | 263 | 1,605 |
| Maine | 243 | 4 | 0 | 0 | 4 | 32 | 279 |
| Maryland [3/] | 795 | 227 | 14 | 0 | 241 | 159 | 1,195 |
| Massachusetts | 3,055 | 33 | 2 | 0 | 35 | 13 | 3,103 |
| Michigan | 2,533 | 201 | 57 | 0 | 258 | 644 | 3,435 |
| Minnesota | 1,564 | 249 | 38 | 0 | 287 | 242 | 2,093 |
| Mississippi | 568 | 2 | 0 | 0 | 2 | 100 | 670 |
| Missouri | 1,303 | 49 | 1 | 0 | 50 | 376 | 1,729 |
| Montana | 198 | 6 | 0 | 0 | 6 | 12 | 216 |
| Nebraska | 435 | 45 | 0 | 0 | 45 | 58 | 538 |
| Nevada | 160 | 163 | 0 | 0 | 163 | 291 | 614 |
| New Hampshire | 398 | 14 | 2 | 0 | 16 | 12 | 426 |
| New Jersey | 2,792 | 40 | 0 | 0 | 40 | 254 | 3,086 |
| New Mexico | 189 | 79 | 0 | 0 | 79 | 55 | 323 |
| New York | 4,268 | 114 | 225 | 9 | 348 | 381 | 4,997 |
| North Carolina | 1,736 | 59 | 47 | 1 | 107 | 475 | 2,318 |
| North Dakota | 213 | 1 | 16 | 0 | 17 | 35 | 265 |
| Ohio | 2,623 | 113 | 77 | 32 | 222 | 743 | 3,588 |
| Oklahoma | 1,521 | 2 | 0 | 0 | 2 | 396 | 1,919 |
| Oregon | 803 | 38 | 0 | 0 | 38 | 141 | 982 |
| Pennsylvania | 2,991 | 59 | 8 | 11 | 78 | 213 | 3,282 |
| Rhode Island | 242 | 2 | 2 | 1 | 5 | 32 | 279 |
| South Carolina | 617 | 288 | 0 | 0 | 288 | 93 | 998 |
| South Dakota | 215 | 2 | 5 | 0 | 7 | 65 | 287 |
| Tennessee | 1,461 | 102 | 0 | 0 | 102 | 520 | 2,083 |
| Texas | 4,252 | 986 | 98 | 2 | 1,086 | 1,660 | 6,998 |
| Utah | 289 | 190 | 6 | 0 | 196 | 28 | 513 |
| Vermont | 147 | 0 | 0 | 0 | 0 | 2 | 149 |
| Virginia | 1,540 | 196 | 4 | 3 | 203 | 229 | 1,972 |
| Washington | 1,698 | 56 | 7 | 2 | 65 | 380 | 2,143 |
| West Virginia | 370 | 22 | 3 | 0 | 25 | 24 | 419 |
| Wisconsin | 1,532 | 241 | 3 | 0 | 244 | 222 | 1,998 |
| Wyoming | 125 | 7 | 3 | 0 | 10 | 16 | 151 |
| U.S. Total | 64,566 | 7,940 | 1,231 | 70 | 9,241 | 15,215 | 89,022 |

OCTOBER 1997 TABLE HM-55 SHEET 7 OF 7

| STATE | URBAN COLLECTOR | | | | | | |
|---|---|---|---|---|---|---|---|
| | 2 LANES | DIVIDED HIGHWAYS - 4 OR MORE LANES | | | | OTHER [2/] | TOTAL |
| | | DEGREE OF ACCESS CONTROL | | | | | |
| | | NONE | PARTIAL | FULL | TOTAL | | |
| Alabama | 2,031 | 38 | 0 | 0 | 38 | 94 | 2,163 |
| Alaska | 220 | 0 | 0 | 0 | 0 | 9 | 229 |
| Arizona | 1,379 | 119 | 0 | 0 | 119 | 251 | 1,749 |
| Arkansas | 897 | 11 | 1 | 0 | 12 | 20 | 929 |
| California | 9,036 | 413 | 8 | 0 | 421 | 568 | 10,025 |
| Colorado | 1,185 | 39 | 0 | 0 | 39 | 85 | 1,309 |
| Connecticut | 1,150 | 6 | 0 | 0 | 6 | 34 | 1,190 |
| Delaware | 211 | 6 | 0 | 0 | 6 | 6 | 223 |
| Dist. of Columbia [3/] | 119 | 7 | 0 | 0 | 7 | 26 | 152 |
| Florida | 4,946 | 530 | 16 | 0 | 546 | 414 | 5,906 |
| Georgia [4/] | 1,926 | 18 | 0 | 0 | 18 | 165 | 2,109 |
| Hawaii | 310 | 5 | 0 | 0 | 5 | 24 | 339 |
| Idaho | 503 | 0 | 0 | 0 | 0 | 7 | 510 |
| Illinois | 3,433 | 79 | 1 | 0 | 80 | 249 | 3,762 |
| Indiana | 2,148 | 5 | 0 | 0 | 5 | 50 | 2,203 |
| Iowa | 754 | 5 | 0 | 0 | 5 | 172 | 931 |
| Kansas | 972 | 3 | 2 | 0 | 5 | 32 | 1,009 |
| Kentucky | 1,095 | 7 | 0 | 0 | 7 | 44 | 1,146 |
| Louisiana | 1,262 | 17 | 0 | 0 | 17 | 28 | 1,307 |
| Maine | 475 | 0 | 0 | 0 | 0 | 9 | 484 |
| Maryland [3/] | 1,026 | 91 | 0 | 0 | 91 | 188 | 1,305 |
| Massachusetts | 2,533 | 0 | 0 | 0 | 0 | 1 | 2,534 |
| Michigan | 2,079 | 54 | 3 | 0 | 57 | 386 | 2,522 |
| Minnesota | 1,352 | 63 | 1 | 0 | 64 | 112 | 1,528 |
| Mississippi | 912 | 5 | 0 | 0 | 5 | 63 | 980 |
| Missouri | 1,551 | 6 | 0 | 0 | 6 | 49 | 1,606 |
| Montana | 286 | 6 | 0 | 0 | 6 | 1 | 293 |
| Nebraska | 385 | 19 | 0 | 0 | 19 | 6 | 410 |
| Nevada | 665 | 24 | 0 | 0 | 24 | 213 | 902 |
| New Hampshire | 281 | 2 | 0 | 0 | 2 | 1 | 284 |
| New Jersey | 2,090 | 8 | 0 | 0 | 8 | 67 | 2,165 |
| New Mexico | 400 | 26 | 0 | 0 | 26 | 28 | 454 |
| New York | 3,893 | 15 | 0 | 0 | 15 | 118 | 4,026 |
| North Carolina | 1,568 | 16 | 0 | 0 | 16 | 84 | 1,668 |
| North Dakota | 221 | 0 | 0 | 0 | 0 | 0 | 221 |
| Ohio | 3,366 | 10 | 5 | 0 | 15 | 176 | 3,557 |
| Oklahoma | 926 | 0 | 0 | 0 | 0 | 56 | 982 |
| Oregon | 1,144 | 4 | 0 | 0 | 4 | 38 | 1,186 |
| Pennsylvania | 3,671 | 15 | 0 | 0 | 15 | 68 | 3,754 |
| Rhode Island | 492 | 0 | 0 | 0 | 0 | 13 | 505 |
| South Carolina | 1,376 | 43 | 0 | 0 | 43 | 47 | 1,466 |
| South Dakota | 194 | 0 | 0 | 0 | 0 | 5 | 199 |
| Tennessee | 1,537 | 11 | 0 | 0 | 11 | 86 | 1,634 |
| Texas | 7,619 | 179 | 3 | 3 | 185 | 1,115 | 8,919 |
| Utah | 491 | 30 | 0 | 0 | 30 | 30 | 551 |
| Vermont | 208 | 3 | 0 | 0 | 3 | 0 | 211 |
| Virginia | 1,810 | 13 | 0 | 0 | 13 | 111 | 1,934 |
| Washington | 1,909 | 3 | 0 | 0 | 3 | 127 | 2,039 |
| West Virginia | 433 | 6 | 0 | 0 | 6 | 6 | 445 |
| Wisconsin | 1,450 | 33 | 1 | 0 | 34 | 7 | 1,491 |
| Wyoming | 464 | 1 | 0 | 0 | 1 | 7 | 472 |
| U.S. Total | 80,384 | 1,994 | 41 | 3 | 2,038 | 5,496 | 87,918 |

[1/] Traffic lanes: reflects the prevailing number of lanes (excluding parking lanes) carrying through traffic during the off-peak period. Access control: Full access control — preference has been given to through traffic movements by providing interchanges with selected public roads and by providing direct driveway connections. Partial access control — preference has been given to through traffic movement. In addition to possible interchanges there may be some crossing at grade with public roads, but direct private driveway connections have been minimized. [2/] Includes 3-lane roadways, one-way streets, undivided 4-lane highways, etc; for interstates it includes 2-lane roadways. [3/] 1995 data. [4/] Data estimated by FHWA.

## Speed Limits

Tables 5 and 6 provide information about state speed limit regulations. Table 5 (Table 3X28 from the *National Transportation Statistics*) lists state speed limits on primary roads and was obtained on the internet from a publication of the U.S. Department of Transportation, Bureau of Transportation Statistics. As a supplement to Table 5, which discusses only primary roads, Table 6 lists speed regulations for other road types. This table was made available on the internet by the National Highway Traffic Safety Administration. URL's for both web sites are listed in the References section.

Table 5. State maximum speed limits on primary roads.

Sheet 1 of 4

| State | State Maximum Before the National Maximum Speed Limit | State Maximums After the Repeal of the National Maximum Speed Limit | | | | Notes |
|---|---|---|---|---|---|---|
| | | Cars | | Trucks | | |
| | | Interstate | Other Primary | Interstate | Other Primary | |
| Alabama | 70 | 70 | 55 | 70 | 55 | Effective 5/9/96: 70 mph on Interstates; 65 mph on other 4 lane highways |
| Alaska | 70 | 65 | 55 | 65 | 55 | |
| Arizona | 75 | 75/55 | 55 | 75/55 | 55 | Effective 12/8/95: 75 mph on rural Interstates; urban Interstates remain 55 mph |
| Arkansas | 75 | 70 | 55 | 65 | 55 | Effective 7/17/96: speed limit raised from 65 to 70 mph on rural four-lane divided highways (cars only; trucks stay at 65 mph); restriction includes any truck weighing more than 26,000 lbs. and requiring a commercial driver's license to operate |
| California | 70 | 70 | 65 | 55 | 55 | Effective 1/7/96: freeways and expressways raised to 65 and 70 mph (rural) |
| Colorado | 70 | 75 | 55 | 75 | 55 | Effective 5/28/96: prima facie is 55 mph for 2 lane; 65 mph for 4 lane divided; maximum can now be 75 mph for any highway |
| Connecticut | 60 | 55 | 55 | 55 | 55 | |
| Delaware | 60 | 65 | 50 | 65 | 50 | Effective 1/26/96: raised I-495 and part of US 1 to 65 mph |
| District of Columbia | 60 | 55 | 50 | 50 | 50 | |
| Florida | 70 | 70 | 55 | 65 | 55 | Effective 4/8/96: only on part of Interstate 10 (Jacksonville to Pensacola); additional segments of I-75 and I-95 pending; Effective 11/96: some non-Interstate 4 lane divided segments posted at 65 mph |
| Georgia | 70 | 70 | 55 | 70 | 55 | Effective 7/1/96: 70 mph on Interstate and look-alike; 65 mph urban Interstate; 65 mph physically divided highways without controlled access |
| Hawaii | 70 | 55 | 55 | 55 | 55 | |
| Idaho | 70 | 75 | 65 | 75 | 65 | Effective 5/1/96: 75 mph on Interstates (cars and trucks); 65 mph other primary highways (cars and trucks) |

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| State | State Maximum Before the National Maximum Speed Limit | State Maximums After the Repeal of the National Maximum Speed Limit | | | | Notes |
|---|---|---|---|---|---|---|
| | | Cars | | Trucks | | |
| | | Interstate | Other Primary | Interstate | Other Primary | |
| Illinois | 70 | 65/55 | 55 | 55 | 55 | Effective 11/29/95: some urban Interstates 65 mph; effective 1/25/96: restricted unmarked county and township roads to 55 mph |
| Indiana | 70 | 65 | 55 | 60 | 55 | Legislation to raise defeated in House 1/96 |
| Iowa | 75 | 65 | 55 | 65 | 55 | Rural and urban Interstates remain at 65 and 55 respectively. Only portions of US 20 have been increased |
| Kansas | 75 | 70 | 65 | 70 | 65 | Effective 3/22/96 |
| Kentucky | 70 | 65 | 65 | 65 | 55 | Effective 8/15/97: Interstate or controlled access highway 70 mph; multi-lane divided highway with partial or no controlled access 65 mph |
| Louisiana | 70 | 65 | 55 | 65 | 55 | Effective 8/15/97: Interstate or controlled access highway 70 mph; multi-lane divided highway with partial or no controlled access 65 mph |
| Maine | 70 | 65 | 55 | 65 | 55 | |
| Maryland | 70 | 65 | 55 | 65 | 55 | Effective 7/18/96: speed limit increased on 85 additional miles of highway currently posted at 55 mph; Limits will be increased to 60 mph on 65 miles of highway and to 65 mph on 20 miles of highway 55 mph ; (includes Interstate 81 near the West Virginia and Pennsylvania state lines (to 65 mph), and Interstate 81 in the vicinity of Hagerstown (to 60 mph) |
| Massachusetts | 65 | 65 | 55 | 65 | 55 | Effective 1/29/96: raised to 65 mph on 13 major Interstates and highways, 2 sections of turnpike (1/29/96); Effective 7/1/96: Massachusetts Turnpike, Interstate 90, between I-95/Route 128 and the New York State line had several sections raised from 55 mph to 65 mph (the entire turnpike is now 65 mph from I-95 to the New York State line on the turnpike) |
| Michigan | 70 | 65 | 55 | 65 | 55 | Effective 12/18/96: 70 mph permanent on about 500 miles of roads; includes parts of I-94, I-69, I-96, I-75, US-131; Currently, most highways posted at 65 mph; 170 miles of urban highways at 55 mph; 500 miles mostly rural at 70 mph |

Sheet 3 of 4

| State | State Maximum Before the National Maximum Speed Limit | State Maximums After the Repeal of the National Maximum Speed Limit | | | | Notes |
|---|---|---|---|---|---|---|
| | | Cars | | Trucks | | |
| | | Interstate | Other Primary | Interstate | Other Primary | |
| Minnesota | 65 | 70 | 70 | 65 | | Approximately 120 miles of non-Interstate freeway and expressways will remain at 55 mph. All two-lane state highways will remain 55 mph |
| Mississippi | 70 | 70 | 65 | 70 | 65 | Effective 3/12/96 |
| Missouri | 70 | 70/60 | 65 | 70/60 | 65 | Effective 3/13/96 |
| Montana | unlimited | * | * | *65 | *60 | *Effective 12/8/95 : No maximum posted limit; "reasonable and prudent" (cars/day); 65 mph Interstate; 55 mph all other (cars/night); Trucks, maximum 65 day/night on Interstate; Triple truck combinations, 55 mph (day/night) all roads. |
| Nebraska | 75 | 75 | 60 | 75 | 60 | Effective 9/1/96 - 2 lane roads 60 mph ; 4 lane expressways 65 mph, with some exceptions |
| Nevada | unlimited | 75 | 70 | 75 | 55 | |
| New Hampshire | 70 | 65 | 55 | 65 | 55 | |
| New Jersey | 70 | 55 | 50 | 55 | 50 | |
| New Mexico | 70 | 75 | 60 | 75 | 60 | Effective 5/13/96 : 75 mph on Interstates; 70 mph on 4 lane with shoulders; 65 mph on 2 lane highways with shoulders ; 60 mph on 2 lane highways without shoulders |
| New York | 55 | 65 | 55 | 65 | 55 | |
| North Carolina | 70 | 70 | 55 | 70 | 55 | Effective 10/1/96 - 340 miles of non-Interstate controlled access to 70 mph |
| North Dakota | 75 | 70 | 65 | 70 | 65 | Effective 7/1/97 |
| Ohio | 70 | 65 | 65 | 55 | 55 | Effective 2/29/96 |
| Oklahoma | 70 | 75/70 | 65/55 | 75/70 | 55 | Raised to 70 on Interstates (60 for urban) and other 4 lane divided; 65 mph other state roads and other highways at night ; Effective 6/13/96 : Turnpike authority raised to 75 rural (minimum 50) ; 65 urban (minimum 40) 6/13/96 |
| Oregon | 75 | 65 | 55 | 55 | 55 | |
| Pennsylvania | 65 | 65 | 65 | 65 | 65 | Effective 7/13/95 : parts of US 15, 22/232, 119, 220, 222, 422, PA 43 to 65 mph |
| Rhode Island | 60 | 65 | 55 | 65 | 55 | Effective 5/12/96 : increased to 65 mph on approximately 45 miles of Interstate highways |
| Puerto Rico | 65 | 55 | 55 | 55 | 55 | |
| South Carolina | 70 | 65 | 55 | 65 | 55 | |
| South Dakota | 75 | 75 | 65 | 75 | 65 | Effective 4/1/96 : 75 mph Interstates; 65 mph major 2 lane highways ; (40 counties will keep 55 mph; 11 to 65 mph; rest undecided) |

Sheet 4 of 4

| State | State Maximum Before the National Maximum Speed Limit | State Maximums After the Repeal of the National Maximum Speed Limit | | | | Notes |
|---|---|---|---|---|---|---|
| | | Cars | | Trucks | | |
| | | Interstate | Other Primary | Interstate | Other Primary | |
| Tennessee | 75 | 65 | 55 | 65 | 55 | Effective 4/22/96 : Legislature approved raising some urban Interstates to 65 mph Effective 7/1/96 : divided lane limited access to 65 mph |
| Texas | 70 | 70 | 70 | 65 | 60 | Effective 12/8/95 : cars 70 day/65 night; 60 day/55 night for trucks on all roads |
| Utah | 70 | 75 | 55 | 75 | 55 | Governor signed bill 3/13/96 - pending Utah DOT posting signs |
| Vermont | 65 | 65 | 50 | 65 | 50 | |
| Virginia | 70 | 65 | 55 | 65 | 55 | Dulles Greenway raised to 65 mph |
| Washington | 70 | 70 | 55 | 60 | 55 | Effective 3/11/96 |
| West Virginia | 70 | 65 | 55 | 65 | 55 | |
| Wisconsin | 70 | 65 | 55 | 65 | 55 | |
| Wyoming | 75 | 75 | 65 | 75 | 65 | 75 rural Interstates; 60 urban Interstates; 65 on 4 and 2 lane roads; some secondary and mountainous roads remain at 55 mph |
| ***Note:** As of October 28, 1997. Some states may have made administrative or other changes that are not reflected here. Information contained in this chart was obtained from NHTSA and FHWA regional offices, state legislatures, and other sources. This information may contain inaccuracies. | | | | | | |

Table 6. Summary of state speed laws.

| | |
|---|---|
| Basic speed rule | A person shall not drive a vehicle at a speed greater than is reasonable and prudent speed under the conditions and actual and potential hazards then existing. § 28-701(A) |
| Statutory speed limit | 1. 15 mph approaching a school crossing § 28-701(B)(1)<br>2. 25 mph in business or residential district § 28-701(B)(2)<br>3. 65/55 mph in other locations § 28-701(B)(3) and 28-702.01(A)&(B)<br>4. 65 mph on interstate highways outside of urban areas with a population > 50,000 § 28-702.04(A)<br>5. 75 mph on particular highways § 28-701(B)(1) |
| Posted (maximum) speed limit | 7. Based on engineering and traffic investigation, the Director of the State Department of Transportation may alter the above maximum speed limits on the State highway system § 28-70<br>8. Based on engineering and traffic investigations, local governments may increase (but not > 65 mph) or decrease the speed limits on highways under their jurisdiction. § 28-703 |

## WHICH MEANS ARE USED TO DELINEATE LANE SEPARATIONS AND ROAD EDGES?

The following information on road markings has been divided into five sections: (1) lane separations, (2) curb markings, (3) road edge markers, (4) delineators, and (5) materials. The information provided in the first five tables was extracted from sections 3a. and 3b. of the *MUTCD* as well as the *Green Book*.

### Lane Separations

Table 7. Regulations for separating opposing traffic.

<table>
<tr><th>Marking Type</th><th colspan="4">Regulation/Suggestion</th></tr>
<tr><td rowspan="4">Separation of opposing traffic</td><td>General Applications</td><td>Means of Separation</td><td>Characteristics</td><td>Applications</td></tr>
<tr><td rowspan="3"><u>To be used</u> on the following two-way roads:<br>1. all rural arterials and collectors with a width of 18 ft (5.5 m) or more and an ADT of 1000 or greater<br>2. all urban arterials and collectors with a width of 20 ft (6.1m) or more and an ADT of 5000 or more<br>3. all highways with three or more lanes<br><u>Should be used</u> on urban arterials 20 ft (6.1 m) or wider with an ADT of 2500 or more<br><u>May be used</u> on other two-way roads that are 16 ft (4.8 m) or wider.<br><u>Other</u>: do not have to be located exactly at the center of the road.</td><td>Painted lines</td><td>Double yellow lines are used to separate traffic travelling in different directions. One or both of these lines may be broken. For further information on painted lines, see the next table.</td><td>Used in cases where medians and median barriers are not found to be necessary.</td></tr>
<tr><td>Medians</td><td>1. Medians can be raised, depressed, or flushed.<br>2. They should be a minimum of 4 ft (1.2 m) wide but may be up to 80 ft (24 m) or more<br>3. They are not consistently delineated with a road edge marker.<br>4. Widths for medians on roads with separate left-turn lanes are described in the next section.</td><td>Often used on arterials with four or more lanes.</td></tr>
<tr><td>Median barriers</td><td>If barriers are used to separate opposing traffic, they are usually delineated with a left road edge marker as described below.</td><td>Sometimes used on principal arterials or other streets if it is necessary to separate opposing traffic and there is no room for a median.</td></tr>
<tr><td colspan="5"><u>Comments</u>: Further information on medians and median barriers can be found in chapter IV of the Green Book.</td></tr>
</table>

Table 8. General attributes of painted lane separations.

| Marking type | Regulation/Suggestion | | | |
|---|---|---|---|---|
| | Color | Line Type | Length | Width |
| Painted lane separations | Yellow: used to separate traffic going in different directions.<br>White: used to separate traffic going in the same direction. | Broken lines are permissive.<br>Solid lines are restrictive.<br>Dotted lines are often used on highways to indicate lane drops. | For rural highways, broken lines should be approximately 10 ft (3 m) long with 30 ft (9 m) gaps in between them. This ratio of line length to gap length is consistent for all road types.*<br>Dotted lines may be 2 ft (.6 m) long with gaps of 4 ft (1.2 m). There are no specific guide lines for these types of lines other than that they be significantly shorter than broken lines. | 4 inches to 6 inches (100 mm to 150 mm) is the standard width for normal lines. |

***While the ratio remains consistent for all road types, line lengths on some roads vary by jurisdiction. For example :**

Table 9. Broken line lengths on urban roads.

| City | Lane separations for downtown roads |
|---|---|
| Ann Arbor | 12.5 ft (3.75 m) line, 37.5 ft (11.25 m) gap |
| Chicago | 6 ft (1.8 m) line, 18 ft (5.4 m) gap |
| New York | 10 ft (3 m) line, 30 ft (9 m) gap |

## Road edge markers

Table 10. Attributes of road edge markers.

<table>
<tr><th>Marking type</th><th colspan="5">Regulation/Suggestion</th></tr>
<tr><td></td><td>Physical Characteristics</td><td>Purpose</td><td colspan="2">Application</td><td>Other</td></tr>
<tr><td>Right-edge line markers</td><td>White, solid line<br>4 to 6 inches (100 mm to 150 mm) wide</td><td>Delineates right edge of roadway</td><td></td><td rowspan="2">1. Must be used on freeways, expressways, and all paved rural arterials with a width of 20 ft ( 6.1 m) or more.<br>2. Should be used on rural collectors of 20 ft (6.1 m) or wider when road edges are not otherwise delineated.</td><td rowspan="2">1. Markers must not be continued through intersections.<br>2. Markers should not be broken for driveways.</td></tr>
<tr><td>Left-edge line markers</td><td>Yellow, solid line<br>4 to 6 inches (100 mm to 150 mm) wide</td><td>Indicates left edge of roadway or driving/passing restrictions</td><td>Can be used on<br>1. divided one-way highways<br>2. ramps.</td></tr>
</table>

## Curb markings

Table 11. Regulations and guidelines for curb markings.

| Marking Type | Regulations/Suggestions | | |
|---|---|---|---|
| | Purpose | Colors | Miscellaneous |
| Curb Markings | 1. Indicate parking regulations.<br>2. Delineate curbs. | 1. Retroreflective solid yellow markings should be painted on curbs of islands where the curb serves to channel traffic to the right of the curb.<br>2. Retroreflective solid white markings should be used when traffic can pass on either side of the curb. | 1. Signs must be used with markings where curb markings are obliterated by snow or ice.<br>2. When curb markings are used to convey parking regulations, word markings should be placed on the curb if signs are not used. |

## Delineators

Table 12. Regulations and guidelines for delineators.

| Marking Type | Regulations/Suggestions | |
|---|---|---|
| Delineators | Definition | Retroreflective devices mounted above the roadway to indicate the alignment of the road |
| | Colors | 1. Must conform to stipulations for road edge markers.<br>2. Delineators should be red when used on a truck escape ramp. |
| | Design | 1. Retroreflector units, when illuminated by the upper beam of standard car lights, must be capable of retroreflecting light under normal atmospheric conditions from a distance of 1000 ft (305 m)<br>2. Retroreflective elements must have a diameter of a minimum of 3 inches (7.6 cm). |
| | Applications | <u>Delineators must be provided</u> on the right side of expressways, freeways, and on one side of interchange ramps unless all of the following conditions are met: (1) raised pavement markings are used continuously on all lane lines and tangents; (2) the route has large sections of tangent alignment; (3) and delineators are used to lead into all curves.<br><u>Delineators should be provided on</u> (1) the outside of curves on interchange ramps (single delineator); (2) on the far left side of a median crossover (double yellow delineators); (3) acceleration and deceleration lanes (double or vertically elongated delineators every 100 ft (30 m)). |
| | Placement | <u>Delineators should be placed</u> (1) so that the top of the highest reflector is 4 ft (1.2 m) above the roadway edge; (2) 2 to 8 ft (.6 to 2.4 m) outside the outer edge of the shoulder or in line with the roadside barrier that is 8 ft (2.4 m) or closer to the shoulder's edge; (3) at a constant distance from the road edge unless obstructions intrude in which case the delineator should be in line with the innermost edge of the obstruction.<br><u>Delineators should be spaced</u> (1) 200 to 528 ft (60 to 160 m) apart on mainline tangent intersections; (2) 100 ft (30 m) apart on ramp tangent sections; (3) in such a manner that several delineators are simultaneously visible when the road curves. |

## Materials

Tables 13 and 14 provide information concerning the retroreflectivity of pavement markings. The first table lists retroreflectivity values of the various materials used for pavement markings. The second table concerns the measurement of retroreflectivity. Both tables were obtained on the internet from the *3M Product Reference Gui*de and *3M Research Briefs*.

Table 13. *3M™ Stamark™ Durable Reflective Pavement Markings*.

| | Minimum Initial Retroreflective Brightness** | Usage | Application Surface | Adhesive Type |
|---|---|---|---|---|
| | ** millicandelas/sq m/lux (equivalent to millicandelas/sq ft/footcandle) measured by Retroluminometer at: 0.2° observation angle, 86° entrance angle. | | | |

**High Performance**

| | | | | |
|---|---|---|---|---|
| **Series 3801 (Patterned)** | | | | |
| A3811 White<br>A381I Yellow<br>*L380I White<br>*L381I Yellow | 1100<br>800<br>1100<br>800 | All standard longitudinal lines, word and symbol pavement markings. (Not warranted for crosswalks, stop bar applications.) | Clean, dry asphalt or Portland concrete | Pressure sensitive |
| **Series 5730** | | | | |
| 5730 White<br>5731 Yellow<br>*6330 White<br>*6331 Yellow | 550<br>410<br>550<br>410 | All standard pavement marking configurations | Clean, dry asphalt or Portland concrete | Pressure sensitive |
| **5760 White<br>**5751 Yellow | 550<br>410 | Stop bars, crosswalks, gore and channelizing markings, legends and symbols | Clean, dry asphalt or Portland concrete | Non-Adhesive. Use with E-44T contact adhesive. |
| (*Linered; **Non-Adhesive Coated) | | | | |

**Foil Tapes**

| | | | | |
|---|---|---|---|---|
| **Series 330** | | | | |
| 330 White<br>331 Yellow | 930<br>430 | **Moderate ADT's and free rolling traffic:** Lane lines, edge lines, channelizing lines, gore markings, word and symbol messages (Not recommended for areas of high encroachment.) | Clean, dry asphalt or Portland concrete | Pressure sensitive |

Comments: It is important to note that retroreflectivity values vary depending on the geometry of the instrument by which they are measured. Given this, there may be discrepancies in reported values of reflectivity for the same material. Thus, in reading any such table, it is important to note both the entrance angle and observation angle from which the retroreflectivity is measured. In general, retroreflectivity values are higher when lower entrance angles are used. If we assume that the source of illumination was .7 m above the marking surface, then the entrance viewing angle of 86° corresponds to an entrance viewing distance of 10 m.

Table 14. Measurement geometries of portable reflectometers.

| Instrument | Measurement Angles Entrance/Observation | Viewing Distance Entrance/Observation |
|---|---|---|
| Ecolux | 86.5 & 1.0 | 10.6 m /31 m |
| Eriksen | 86.5 & 1.5 | 10.6 m /21 m |
| Mirolux/2 | 86.5 & 1.5 | 10.6 m /21 m |
| Optronic | 86.5 & 1.5 | 10.6 m /21 m |
| Zehnter | 86.5 & 1.5 | 10.6 m /21 m |
| LTL 2000 | 88.76 & 1.05 | 30 m /30 m |
| Retrolux 1500 | 88.76 & 1.05 | 30 m /30 m |
| Mirolux 30 | 88.76 & 1.05 | 30 m /30 m |
| LTL 800 | 89.26 & 0.63 | 50 m /50 m |
| Comments: The last four instruments illustrate a new trend in the measurement of retroreflectivity. These instruments use what is known as "driver geometry" to measure retroreflective brightness. This means that the viewing distances are the same for the entrance angle and observation angle. These measurements are, therefore, more consistent with what a driver actually sees on the road. Recent research has also shown that data collected using viewing angles which are consistent with a 30 m distance are more reflective of the effectiveness of pavement markings. | | |

## WHAT KINDS OF INTERSECTIONS ARE THERE IN THE U.S. AND HOW ARE THEY MARKED AND CONTROLLED?

### Intersection Configurations

Intersection configurations are generally divided into five categories: tees, wyes, 4-leg crosses, multileg crosses, and merges/diverges (on/off ramps). These five types of configurations can further be divided into more specific categorizations. For example some 4-leg crosses are skewed, off-set, or channelized. Illustrations of these configurations are provided in Appendix B. There are other types of intersections which do not fall into any of the aforementioned five categories (e.g. traffic circles). These configurations, however, do not occur with enough frequency to be listed in a separate category, and therefore, most departments of transportation, classify them as miscellaneous or other.

### Intersection Controls

Controls for intersections generally fall into four categories : no control, yield sign, stop sign, or traffic signal.

### Statistical Data

State departments of transportation from Michigan, California, and New York were contacted in order to obtain statistical data concerning intersection configurations and the frequency with which various traffic controls are implemented. California and New York are the two most highly populated states in the U.S., and Michigan is quite populous as well. The three states are also geographically diverse and large in size, thus representing a significant fraction of the roads in the U.S. The data provided by each state includes a count of intersections as classified according to intersection configuration and traffic control method (see Appendices B, C, and D). Table 15 provides an overview of this data. Discrepancies in the data presentation can be attributed to the fact that states vary in their surveying techniques and their classification schemes.

Table 15. Summary of state intersection statistics.

| | **Configurations** | **Control types** |
|---|---|---|
| **MICHIGAN** | 41 intersection classifications. Each of these fall into one of the five categories mentioned above or are classified as other. | Traffic control measures are categorized into four categories (semiactuated signal, fully actuated signal, fixed-time signal, and no signal). In this table, no distinction is made between nonsignal control types (e.g. stop sign, yield sign, no control) |
| **CALIFORNIA** | Classified into six categories (four-legged, multilegged, offset, tee, wye, other) | Classified into 16 control types. Each of these fall into one of the four categories listed above or are classified as other. |
| **NEW YORK** (refers only to state highways) | Classified into six categories (wye, tee, 4 legs, 5 legs & >, on ramp, off ramp). | Classified into five categories ( signal, flasher, stop sign, yield sign, none). No distinction is made between signal types (e.g., fully actuated, etc.). |

## Intersection Marking

The information in Tables 16 and 17 concerns the regulations and guidelines for intersection markings. This information was extracted from part 3b of the *MUTCD* and chapter IX of the *Green Book*.

Table 16. Marking guidelines for turn lanes.

| **Lane Type** | | **Regulation/Suggestion** | |
|---|---|---|---|
| | | Implementation | Physical Characteristics |
| Left turn lanes | Median turn lanes | Should be provided when there is a high volume of left turns or when there is high-speed traffic.<br>If double turning lanes are provided, there must be signalization for a separate turning phase. | These lanes are located in a median or divisional island to the left of a one directional roadway.<br>Width: at least 10 ft (3 m) wide, preferably the width of the through lanes.<br>Length: depends on deceleration length, storage length, and taper length.<br>Other: medians can either be curbed dividers or yellow zebra zones. For a single turn lane, medians should be at least 14 ft (4.2 m) allowing for a 10 ft (3m) turn lane and a 4 ft (1.2 m) divider. For double turn lanes, medians are preferably greater than 28 ft (8.4 m). This allows for a divider of at least 4 ft (1.2 m) and turn lanes of at least 12 ft (3.6 m). Exceptions to these guidelines are made in areas where traffic moves slowly and signals are used to control the intersection.<br>Turn lanes should be separated from adjacent through traffic with a solid white line. |
| | Continuous turn lanes | Often provided in an urban setting where speeds are low and there are no more than two lanes of through traffic in each direction. | Width: between 10 ft (3 m) and 16 ft (4.8 m) wide<br>Markings: 1. Should be marked with both a broken yellow line and a solid yellow line on either side of the turn lane with the solid line being closer to the adjacent through traffic.<br>2. Turning arrows are optional. |
| Other turn lanes | | Provided when there is a need for increased capacity through an intersection. | Should be separated from adjacent through traffic with a solid white line. Arrows must be drawn on pavement if a through lane turns into a turn-only lane. |

Table 17. Other intersection markings.

| **Marking Type** | **Regulation/Suggestion** |
|---|---|
| Stop limit lines | Stop lines should be used if it is necessary to indicate the point behind which vehicles must stop. They should be 0.3 to 0.6 m and should be placed 1.2 m in advance of the nearest crosswalk line. If there is no crosswalk, the line should be between 1.2 m and 9 m from the intersecting travel path. |
| Turn lane lines | When there are dual left or right turn lanes, the separation of the two lanes may be delineated through the intersection. These lines may be solid or broken |
| Offset lane lines | Broken white lane lines should be continued through the intersection if the intersection is skewed or offset. |
| Comments: See Figure 3-9 in the *MUTCD* for illustrations | |

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## APPENDIX A – Manual on Uniform Traffic Control Devices, Part III

The following pages have been obtained directly from these five references:

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U.S. Department of Transportation, Federal Highway Administration. (1997b). *Manual on Uniform Traffic Control Devices.*,Washington, D.C.: http://www.ohs.fhwa.dot.gov/devices/mutcd/ mutcd3b1.pdf

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U.S. Department of Transportation, Federal Highway Administration. (1997b). *Manual on Uniform Traffic Control Devices.*,Washington, D.C.: http://www.ohs.fhwa.dot.gov/devices/mutcd/ mutcd3e1.pdf

## APPENDIX B – Michigan Intersection Statistics

Michigan Department of Transportation. (1998). Personal contact: Brad Hagerty (fax).

Configurations and control types

| **Intersection Type** | **Signal** | | | | | **Total** |
|---|---|---|---|---|---|---|
| | No Signal | Fixed Time | Semi-Actuated | Fully Actuated | Flasher | |
| Cross | 4901 | 1421 | 172 | 64 | 351 | 6909 |
| Broken Cross | 151 | 7 | | | 1 | 159 |
| Multi-Leg | 79 | 58 | 6 | 2 | 7 | 152 |
| Acute Skew | 904 | 227 | 38 | 3 | 71 | 1243 |
| Broken Acute Skew | 11 | | | | 1 | 12 |
| Obtuse Skew | 82 | 62 | 2 | | 5 | 151 |
| Broken Obtuse Skew | 1 | | | | | 1 |
| Offset Left/Right | 528 | 62 | 3 | | 9 | 602 |
| Offset Right/Left | 23 | 5 | | | | 28 |
| Tee Left | 5378 | 121 | 23 | 2 | 52 | 5576 |
| Tee Right | 5528 | 130 | 29 | 5 | 61 | 5751 |
| Terminal Tee | 80 | 30 | 7 | 2 | 38 | 157 |
| Broken Tee Left | 226 | 10 | | | | 236 |
| Broken Tee Right | 232 | 8 | | | 1 | 241 |
| Tee Left w/ Dir Xover | 89 | 31 | | | 2 | 122 |
| Tee Right w/ Dir Xover | 71 | 29 | | | 3 | 103 |
| Obtuse Wye Left | 316 | 8 | | | 9 | 333 |
| Broken Obtuse Wye Left | 22 | 1 | | | | 23 |
| Acute Wye Left | 417 | 22 | 2 | | 7 | 448 |
| Broken Acute Wye Left | 24 | 1 | | | | 25 |
| Obtuse Wye Right | 382 | 7 | | | 7 | 396 |
| Broken Obtuse Wye Right | 27 | 1 | | | 1 | 29 |
| Acute Wye Right | 371 | 14 | 1 | | 19 | 405 |
| Broken Acute Wye Right | 28 | 1 | | | | 29 |
| Merge from Left | 76 | | | | | 76 |
| Merge from Right | 845 | 1 | | 1 | | 847 |
| Diverge to Left | 65 | | | | | 65 |
| Diverge to Right | 803 | 1 | | | 1 | 805 |
| Merge from Left Negative | 44 | | | | | 44 |
| Merge from Right Negative | 802 | | | | | 802 |
| Diverge to Left Negative | 45 | | | | | 45 |
| Diverge to Right Negative | 799 | | | | 1 | 800 |
| Diverge to Right Opposite Merge from Right | 111 | 3 | | | | 114 |
| Merge from Right Opposite Diverge to Right | 98 | | 1 | | | 99 |
| Dir Xover + to - | 338 | 86 | | | | 424 |
| Dir Xover – to + | 344 | 93 | 1 | | 1 | 439 |
| Ramp Terminal – 3 Leg | 94 | 14 | 2 | 1 | 1 | 112 |
| Ramp Terminal – 4 Leg | 156 | 22 | 4 | 2 | 3 | 187 |
| Other | 202 | 34 | | | 12 | 248 |
| **Total** | 24691 | 2510 | 291 | 82 | 664 | 28238 |

## APPENDIX C – California Intersection Statistics

California Department of Transportation. (1998). Personal contact: Bob Brown.

Configurations and control types

Page 1 of 3

| Configuration | Control Type | Number |
|---|---|---|
| Four-legged | no control | 200 |
| | stop signs on cross street only | 3,792 |
| | stop signs on mainline only | 18 |
| | 4-way stop signs | 71 |
| | 4-way flash (red on cross street) | 29 |
| | 4-way flash (red on mainline) | 6 |
| | 4-way flash (red on all) | 46 |
| | yield signs on cross street | 9 |
| | yield signs on mainline | 0 |
| | pre-timed signals (2-phase) | 333 |
| | pre-timed signals (m-phase) | 45 |
| | semi-actuated signals (2-phase) | 106 |
| | semi-actuated signals (m-phase) | 75 |
| | fully actuated signals (2-phase) | 204 |
| | fully actuated signals (m-phase) | 1,179 |
| | other | 12 |
| | invalid data | 0 |
| | no data given | 0 |
| | total | 6,119 |
| Multilegged | no control | 9 |
| | stop signs on cross street only | 98 |
| | stop signs on mainline only | 1 |
| | 4-way stop signs | 6 |
| | 4-way flash (red on cross street) | 2 |
| | 4-way flash (red on mainline) | 1 |
| | 4-way flash (red on all) | 0 |
| | yield signs on cross street | 0 |
| | yield signs on mainline | 0 |
| | pre-timed signals (2-phase) | 12 |
| | pre-timed signals (m-phase) | 8 |
| | semi-actuated signals (2-phase) | 7 |
| | semi-actuated signals (m-phase) | 2 |
| | fully actuated signals (2-phase) | 3 |
| | fully actuated signals (m-phase) | 33 |
| | other | 1 |
| | invalid data | 0 |
| | no data given | 0 |
| | total | 183 |
| Offset | no control | 31 |
| | stop signs on cross street only | 580 |
| | stop signs on mainline only | 0 |
| | 4-way stop signs | 0 |
| | 4-way flash (red on cross street) | 1 |
| | 4-way flash (red on mainline) | 1 |
| | 4-way flash (red on all) | 1 |
| | yield signs on cross street | 0 |

| Configuration | Control Type | Number |
| --- | --- | --- |
| Offset | yield signs on mainline | 0 |
| | pre-timed signals (2-phase) | 24 |
| | pre-timed signals (m-phase) | 4 |
| | semi-actuated signals (2-phase) | 15 |
| | semi-actuated signals (m-phase) | 3 |
| | fully actuated signals (2-phase) | 10 |
| | fully actuated signals (m-phase) | 32 |
| | other | 0 |
| | invalid data | 0 |
| | no data given | 0 |
| | total | 702 |
| Tee | no control | 1,360 |
| | stop signs on cross street only | 8,901 |
| | stop signs on mainline only | 70 |
| | 4-way stop signs | 21 |
| | 4-way flash (red on cross street) | 19 |
| | 4-way flash (red on mainline) | 0 |
| | 4-way flash (red on all) | 3 |
| | yield signs on cross street | 7 |
| | yield signs on mainline | 2 |
| | pre-timed signals (2-phase) | 39 |
| | pre-timed signals (m-phase) | 6 |
| | semi-actuated signals (2-phase) | 36 |
| | semi-actuated signals (m-phase) | 40 |
| | fully actuated signals (2-phase) | 62 |
| | fully actuated signals (m-phase) | 334 |
| | other | 17 |
| | invalid data | 0 |
| | no data given | 0 |
| | total | 10,197 |
| Wye | no control | 220 |
| | stop signs on cross street only | 817 |
| | stop signs on mainline only | 26 |
| | 4-way stop signs | 2 |
| | 4-way flash (red on cross street) | 2 |
| | 4-way flash (red on mainline) | 1 |
| | 4-way flash (red on all) | 0 |
| | yield signs on cross street | 9 |
| | yield signs on mainline | 2 |
| | pre-timed signals (2-phase) | 4 |
| | pre-timed signals (m-phase) | 1 |
| | semi-actuated signals (2-phase) | 1 |
| | semi-actuated signals (m-phase) | 0 |
| | fully actuated signals (2-phase) | 9 |
| | fully actuated signals (m-phase) | 8 |
| | other | 3 |
| | invalid data | 0 |
| | no data given | 0 |
| | total | 1,105 |

| Configuration | Control Type | Number |
| --- | --- | --- |
| Other | no control | 51 |
| | stop signs on cross street only | 117 |
| | stop signs on mainline only | 3 |
| | 4-way stop signs | 1 |
| | 4-way flash (red on cross street) | 0 |
| | 4-way flash (red on mainline) | 0 |
| | 4-way flash (red on all) | 0 |
| | yield signs on cross street | 4 |
| | yield signs on mainline | 0 |
| | pre-timed signals (2-phase) | 4 |
| | pre-timed signals (m-phase) | 2 |
| | semi-actuated signals (2-phase) | 2 |
| | semi-actuated signals (m-phase) | 1 |
| | fully actuated signals (2-phase) | 3 |
| | fully actuated signals (m-phase) | 15 |
| | other | 2 |
| | invalid data | 0 |
| | no data given | 0 |
| | total | 205 |

## APPENDIX D - New York Intersection Statistics

New York Department of Transportation. (1998). Personal Contact: Donald Terry

Configurations and control types
(state highways only)

Page 1 of 2

| Configuration | Control | Left turn lane | Number |
|---|---|---|---|
| Four-legged | signal | yes | 996 |
| | | no | 1,392 |
| | flasher | yes | 29 |
| | | no | 294 |
| | stop | yes | 239 |
| | | no | 3903 |
| | yield | yes | 19 |
| | | no | 139 |
| | none | yes | 5 |
| | | no | 219 |
| Multilegged | signal | yes | 28 |
| | | no | 19 |
| | flasher | yes | 3 |
| | | no | 1 |
| | stop | yes | 26 |
| | | no | 1 |
| | yield | yes | 4 |
| | | no | 0 |
| | none | yes | 7 |
| | | no | -- |
| Tee | signal | yes | 446 |
| | | no | 848 |
| | flasher | yes | 27 |
| | | no | 148 |
| | stop | yes | 756 |
| | | no | 18,921 |
| | yield | yes | 90 |
| | | no | 1,554 |
| | none | yes | 57 |
| | | no | 6,546 |
| Wye | signal | yes | 17 |
| | | no | 40 |
| | flasher | yes | 0 |
| | | no | 8 |
| | stop | yes | 17 |
| | | no | 636 |
| | yield | yes | 7 |
| | | no | 208 |
| | none | yes | 9 |
| | | no | 549 |
| On ramp | none | -- | 1,576 |
| Off ramp | none | -- | 2,119 |

The following pages contain intersection data obtained from the state Departments of Transportation from Michigan, California, and New York. Each table provides a count of intersections as classified according to intersection configuration and traffic control. The table below provides a brief overview of the information contained in the following pages.

| | **Configurations** | **Control types** |
|---|---|---|
| **MICHIGAN** | 41 intersection classifications. Each of these fall into one of the five categories mentioned in section III. of this report or are classified as "other." | Traffic control measures are categorized into four categories (semi actuated signal, fully actuated signal, fixed time signal, and no signal). In this table, no distinction is made between non-signal control types (e.g. stop sign, yield sign, no control) |
| **NEW YORK**[1] | Classified into six categories (Y, T, 4 legs, 5 legs & >, on ramp, off ramp). | Classified into five categories ( signal, flasher, stop sign, yield sign, none). No distinction is made between signal types (e.g. fully actuated, etc.). |
| **CALIFORNIA**[2] | Classified into six categories (four-legged, multi-legged, offset, T, Y, other) | Classified into 16 control types. Each of these fall into one of the four categories listed in section III. of this report or are classified as "other." |

[1]information obtained from New York refers only to state highways

[2]California classifies intersections by highway group as well.