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<sup>1</sup>

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|---------------------------------------|--|---------------|------------------|--------------------------------|
| Report Title – first line             | Pages i and ii   | T1            |                  | 25 Point Census Report 2000    |
| Report Title – second line            | Pages i and ii   | T2            |                  |                                |
| Report Title – third line             | Pages i and ii   | T3            |                  |                                |
| Report Title or Heading – first line  | Left aligned in headers                                  | HL1           |                  | 25 Point Census Report 2000    |
| Report Title or Heading – second line | Left aligned in headers                                  | HL2           |                  |                                |
| Group Name                            | Right aligned in headers – first line                    | HR1           |                  | jdt, Mott MacDonald            |
| Client/Associate (where applicable)   | Right aligned in headers – second line                   | HR2           |                  | West Midlands Districts        |
| Project Number                        | Footers  | PRJNR         |                  | 47995                          |
| Report Number                         | Footers  | RPTNR         |                  | 037                            |
| Revision Letter                       | Issue and Revision Record on page ii and footers         | REV           |                  | A                              |
| Date of issue or report               | Page i, Issue and Revision Record on page ii and footers | DATE          |                  | May 2001                       |
| Initials of word processor            | Footers  | INI           |                  | KMC                            |

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West Midlands Metropolitan Districts

# 25 Point Census Report 2000

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# 25 Point Census Report 2000

## Issue and Revision Record

| <b>Rev</b> | <b>Date</b> | <b>Originator</b> | <b>Checker</b> | <b>Approver</b> | <b>Description</b> |
|------------|-------------|-------------------|----------------|-----------------|--------------------|
|            |             | K. Cullen         | J. Bates       | B. Storey       | First Issue        |
| A          | June 2001   |                   |                |                 |                    |

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## 1 Introduction

The data for this report has been collected from twenty five permanent automatic traffic counters spread proportionately throughout different road types and districts within the West Midlands county. Originally from the old 'Hundred Point Census Survey', they formed the twenty five permanent sites of the hundred locations which were monitored each year. The other seventy five locations were carried out as a mixture of either once monthly or four times yearly automatic counts which were then grossed up to annual figures using patterns from the permanent counts. These 'Hundred Point Surveys' originated in 1978 but in order to cut costs were reduced to the remaining twenty five sites in 1996. The locations and distributions of these sites can be found in Table 1 below. A further 25 sites are also monitored permanently which also classify vehicles by type and speed. These will be used to monitor changes in vehicle classifications and speeds and when combined with data from the 25 point census surveys should also provide information on seasonal variations.

**Table 1 Location of Survey Sites**

| Reference Number | District      | Road Type         | Location                                       |
|------------------|---------------|-------------------|--|
| HP05             | Wolverhampton | Class. Princ.     | Lichfield Road Stubby Ln to Peacock Ave        |
| HP10             | Coventry      | Class. Princ.     | Kenilworth Road North of Cannon Hill Road      |
| HP20             | Birmingham    | Class. Princ      | Stratford Road Fernley Rd to Evelyn Rd         |
| HP23             | Sandwell      | Class. Princ      | Dudley Port Tividale St to Fisher St           |
| HP24             | Birmingham    | Class. Princ.     | Watford Road Woodfall Ave to Northfield Rd     |
| HP02             | Birmingham    | Class. Non-Princ  | Salisbury Road Park Hill to Salisbury Close    |
| HP04             | Birmingham    | Class. Non-Princ. | Wharfdale Road Rushy Ln to Blythwood Rd        |
| HP08             | Solihull      | Class. Non-Princ  | Tanworth Lane North of Lady Ln                 |
| HP27             | Walsall       | Class. Non-Princ. | Foley Road East Streetly Rd to F'ston Rd       |
| HP29             | Dudley        | Class. Non-Princ. | Grange Road Halesowen By Pass to Illey Ln      |
| HP44             | Birmingham    | Unclassified      | Bulls Lane East of Bulls Lane Farm             |
| HP45             | Dudley        | Unclassified      | Uffmoor Lane Hagley Rd to Blakedown Rd         |
| HP46             | Dudley        | Unclassified      | Newland Grove Hallchurch Rd to Woodside Rd     |
| HP47             | Coventry      | Unclassified      | Arundel Road Foresters Rd to Bettman Close     |
| HP48             | Coventry      | Unclassified      | Torrington Avenue Wolfe Road to Templar Ave    |
| HP49             | Wolverhampton | Unclassified      | Northwood Park Rd Ireton Rd to Northwood Pk Cl |
| HP50             | Wolverhampton | Unclassified      | Mount Road Wakeley Hill to Dewsbury Drive      |
| HP52             | Birmingham    | Unclassified      | Sherwood Road Painswick Rd to Highfield Rd     |
| HP54             | Birmingham    | Unclassified      | Windermere Road Wakegreen Rd to Ashleigh Gar   |
| HP56             | Birmingham    | Unclassified      | Jerry's Lane Sheddington Rd to Rafor Rd        |
| HP58             | Walsall       | Unclassified      | Dangerfield Lane Stanley Rd to Broadwaters Rd  |
| HP61             | Walsall       | Unclassified      | St Annes Road Temple Rd to Stringes Ln         |
| HP64             | Sandwell      | Unclassified      | Shakespeare Road Swann Walk to Kennedy Walk    |
| HP68             | Solihull      | Unclassified      | Creynolds Lane Stratford Rd to Cheswick Way    |
| HP73             | Wolverhampton | Unclassified      | Coppice Road Meadow Road to Cranford Road      |

## 2 Purpose of Report

Under the SLS agreement, the purpose of the report is to inform districts of changes in total travel within the West Midlands County over the 2000 period. Changes are reported in vehicle-kilometres travelled, which, in addition to increases or decreases in traffic levels, also incorporate changes in road lengths from year to year.

## 3 Results

### 3.1 Changes in West Midlands Traffic

The tables below detail the results of the analysis showing increases or decreases in traffic on roads excluding motorways since 1987.

**Table 2 Total Travel in 000's Vehicle-kilometres 1987-2000, Annual (Excluding Motorways)**

| Year  | Trunk & Principal | Class. Non-Principal | Unclassified | Total      | Original Index** | New Index** |
|-------|-------------------|----------------------|--------------|------------|------------------|-------------|
| 1987  | 3,930,340         | 2,169,067            | 4,420,868    | 10,520,275 | 1.00             | 1.00        |
| 1988  | 4,054,790         | 2,374,591            | 4,293,024    | 10,722,405 | 1.02             | 1.02        |
| 1989  | 4,149,164         | 2,413,580            | 4,458,009    | 11,020,753 | 1.05             | 1.05        |
| 1990  | 4,181,260         | 2,444,819            | 4,720,705    | 11,346,785 | 1.08             | 1.08        |
| 1991  | 4,111,890         | 2,412,564            | 4,826,348    | 11,350,801 | 1.08             | 1.08        |
| 1992  | 4,061,026         | 2,438,890            | 4,839,255    | 11,339,172 | 1.08             | 1.08        |
| 1993  | 4,335,394         | 2,463,260            | 5,293,126    | 12,091,781 | 1.15             | 1.15        |
| 1994  | 4,148,750         | 2,564,577            | 5,457,778    | 12,171,105 | 1.16             | 1.16        |
| 1995  | 4,144,658         | 2,570,209            | 5,108,289    | 11,823,156 | 1.12             | 1.12        |
| 1996* | 4,019,491         | 2,589,957            | 5,170,552    | 11,780,000 | 1.12             | 1.12        |
| 1997  | 4,094,473         | 2,589,129            | 4,890,616    | 11,574,218 | 1.13             | 1.10        |
| 1998  | 4,359,565         | 2,621,862            | 4,827,327    | 11,808,754 | 1.08             | 1.12        |
| 1999  | 4,163,875         | 2,621,209            | 5,145,809    | 11,930,893 | 1.10             | 1.13        |
| 2000  | 4,105,498         | 2,598,439            | 5,075,567    | 11,779,504 |                  | 1.12        |

\*\*The full weekly flow was originally calculated by grossing up the average weekday flow by a standard factor. It is now possible to calculate the actually weekly flow. This has been done for 1997 to 2000 and the earlier years have been adjusted to make them comparable. When comparing the original indices with the new ones it can be seen that while the weekday flows have decreased over the last 3 years, the Saturday and Sunday flows have increased resulting in very little total change over the three years

The amended figures have been used where applicable in the rest of the report

Between 1999 and 2000 there has been a decrease of 1.3% on all roads excluding motorways. This is made up of, 1.4% on both trunk and principle and on unclassified roads and 0.8% on classified non-principal.

**Table 3 Total Travel in 000's Vehicle-kilometres 1987-2000 7-9am Ave Weekday (Excluding Motorways)**

| Year  | Trunk & Principal | Class. Non-Principal | Unclassified | Total   | Index |
|-------|-------------------|----------------------|--------------|---------|-------|
| 1987  | 86,826            | 53,664               | 105,889      | 246,381 | 1.00  |
| 1988  | 89,986            | 58,498               | 97,711       | 246,199 | 1.00  |
| 1989  | 90,552            | 61,360               | 103,577      | 255,489 | 1.04  |
| 1990  | 91,935            | 60,459               | 115,087      | 267,482 | 1.09  |
| 1991  | 88,871            | 56,693               | 117,378      | 262,944 | 1.07  |
| 1992  | 85,611            | 55,780               | 112,562      | 253,954 | 1.03  |
| 1993  | 90,888            | 57,995               | 117,322      | 266,205 | 1.08  |
| 1994  | 83,242            | 60,366               | 128,113      | 271,722 | 1.10  |
| 1995  | 84,473            | 61,572               | 120,020      | 266,065 | 1.08  |
| 1996* | 81,369            | 63,074               | 122,126      | 266,569 | 1.08  |
| 1997  | 81,718            | 62,722               | 119,826      | 264,266 | 1.07  |
| 1998  | 88,234            | 64,292               | 111,210      | 263,736 | 1.07  |
| 1999  | 82,549            | 62,150               | 119,744      | 264,443 | 1.07  |
| 2000  | 78,680            | 61,877               | 118,562      | 259,119 | 1.05  |

During the morning peak overall traffic levels have decreased slightly. This decrease has occurred on all road types.

Changes in traffic levels in 2000 during this period showed similar patterns to those in the morning peak.

**Table 4 Total Travel in 000's Vehicle-kilometres 1987-2000 4-6pm Ave Weekday (Excluding Motorways)**

| Year  | Trunk & Principal | Class. Non-Principal | Unclassified | Total   | Index |
|-------|-------------------|----------------------|--------------|---------|-------|
| 1987  | 94,551            | 57,793               | 115,553      | 267,898 | 1.00  |
| 1988  | 96,936            | 61,458               | 114,386      | 272,781 | 1.02  |
| 1989  | 97,053            | 64,494               | 117,040      | 278,589 | 1.04  |
| 1990  | 99,374            | 63,493               | 129,861      | 292,729 | 1.09  |
| 1991  | 95,760            | 62,460               | 129,680      | 287,901 | 1.07  |
| 1992  | 94,537            | 62,792               | 129,256      | 286,586 | 1.07  |
| 1993  | 97,904            | 64,614               | 135,571      | 298,091 | 1.11  |
| 1994  | 96,173            | 65,504               | 143,331      | 305,008 | 1.14  |
| 1995  | 95,341            | 65,523               | 135,454      | 296,318 | 1.11  |
| 1996* | 92,351            | 65,409               | 138,853      | 296,292 | 1.11  |
| 1997  | 91,440            | 66,966               | 134,635      | 293,041 | 1.09  |
| 1998  | 96,476            | 67,608               | 132,794      | 296,878 | 1.11  |
| 1999  | 93,243            | 66,392               | 138,982      | 298,617 | 1.11  |
| 2000  | 90,754            | 65,120               | 135,877      | 291,751 | 1.09  |

\*1996 Figures based on an incomplete year. Final figures estimated from three quarters instead of four.



### 3.2 Comparisons With Traffic Changes in Great Britain

**Table 5 Total Travel in 000's Vehicle Kilometres – All Roads Excluding Motorways**

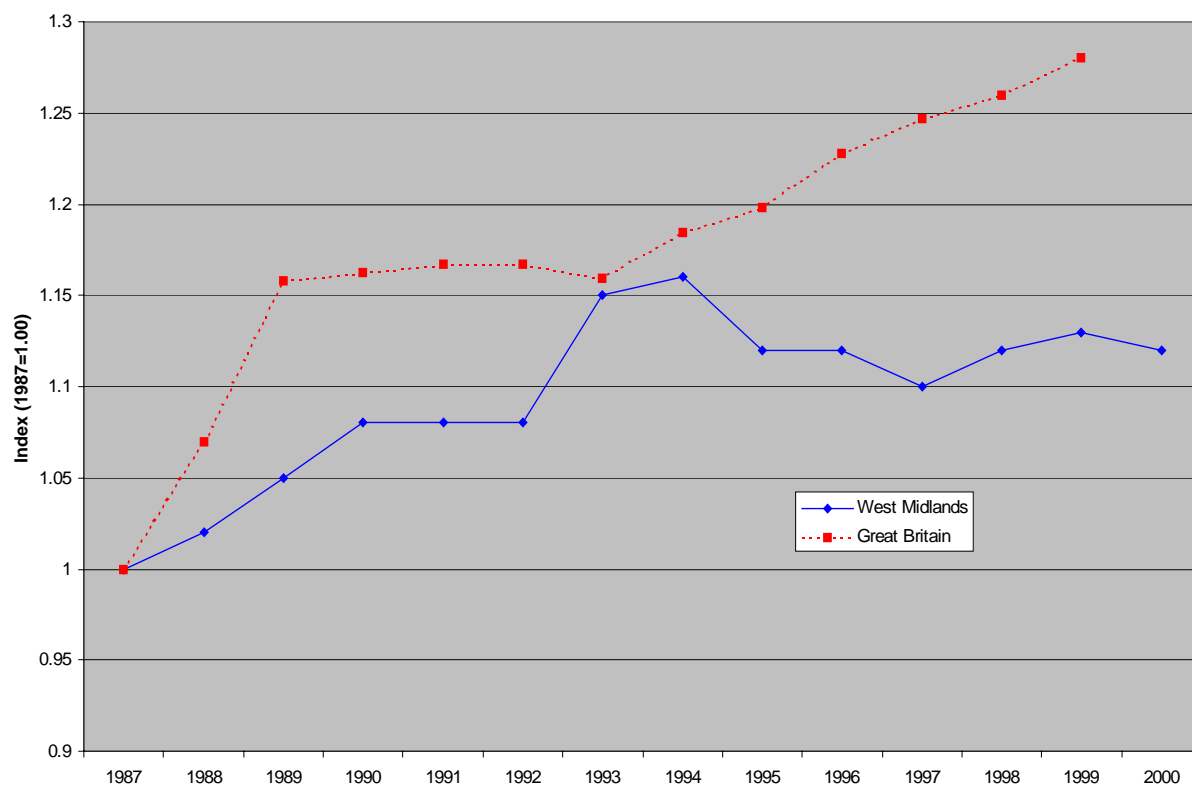
| Year | West Midlands |                 |             | Great Britain |       |
|------|---------------|-----------------|-------------|---------------|-------|
|      | Veh/Km        | Original Index* | New Index** | Veh/Km        | Index |
| 1987 | 10,520,275    | 1.00            | 1.00        | 300,400,000   | 1.00  |
| 1988 | 10,722,405    | 1.02            | 1.02        | 321,200,000   | 1.07  |
| 1989 | 11,020,753    | 1.05            | 1.05        | 347,900,000   | 1.16  |
| 1990 | 11,346,785    | 1.08            | 1.08        | 349,200,000   | 1.16  |
| 1991 | 11,350,801    | 1.08            | 1.08        | 350,600,000   | 1.17  |
| 1992 | 11,339,172    | 1.08            | 1.08        | 350,600,000   | 1.17  |
| 1993 | 12,091,781    | 1.15            | 1.15        | 348,300,000   | 1.16  |
| 1994 | 12,171,105    | 1.16            | 1.16        | 355,900,000   | 1.18  |
| 1995 | 11,823,156    | 1.12            | 1.12        | 360,000,000   | 1.20  |
| 1996 | 11,780,000    | 1.12            | 1.12        | 368,800,000   | 1.23  |
| 1997 | 11,574,218    | 1.13            | 1.10        | 374,600,000   | 1.25  |
| 1998 | 11,808,754    | 1.15            | 1.12        | 377,900,000   | 1.26  |
| 1999 | 11,930,893    | 1.15            | 1.13        | 383,400,000   | 1.28  |
| 2000 | 11,779,504    |                 | 1.12        |               |       |

Source: jdt 25pt census and Transport Statistics Great Britain 2000 Edition

\* See note on table 2

\*\*These figures have been rounded to the nearest two decimal places. The graph below has been produced using un-rounded figures.

Figure 1 below shows changes in traffic in the West Midlands compared with Great Britain expressed as an index.

**Figure 1 Indices of Traffic Growth on Roads Excluding Motorways – West Midlands v Great Britain**

### 3.3 Daily Variations

Figures in Table 6 show the percentage of 24 hour flow contained in selected times on an average weekday on the three types of road. For example, on unclassified roads the 12-hour (0700-1900) flow is 80.5% of the 24-hour total flow. The percentages in Table 6 can also be used to convert short-term counts into flows covering a longer time period. For instance to convert a 12-hour flow on an unclassified road to a 24-hour flow, the 12-hour flow should be divided by 0.805

**Table 6 Percentage of 24 Hour Traffic Flows in Selected Periods of an Average Weekday 2000**

| Time Period | Trunk and Principal | Classified Non-Princ. | Unclassified |
|-------------|---------------------|-----------------------|--------------|
| 0800-0900   | 6.6                 | 9.0                   | 9.1          |
| 1700-1800   | 7.4                 | 8.5                   | 8.9          |
| 0700-1900   | 78.6                | 80.6                  | 80.5         |
| 0600-2200   | 91.9                | 94.4                  | 94.3         |

### 3.4 Weekly Variations

Tables 7 to 9 provide factors by which flows on a particular day should be divided to give the flow on an average weekday. For example, to convert a 24 hour count undertaken on a Monday on an unclassified road to an average weekday, divide by 0.949.

**Table 7 Proportion of Weekday Flows to Average Weekday Flows – Trunk and Principal Roads**

| Time Period | Monday | Tuesday | Wednesday | Thursday | Friday |
|-------------|--------|---------|-----------|----------|--------|
| 0700-0900   | 0.942  | 1.008   | 1.029     | 1.023    | 1.000  |
| 1600-1800   | 0.972  | 1.001   | 1.016     | 1.011    | 1.000  |
| 0700-1900   | 0.966  | 0.996   | 1.008     | 1.007    | 1.024  |
| 24 Hour     | 0.951  | 0.989   | 1.003     | 1.014    | 1.042  |

**Table 8 Proportion of Weekday Flows to Average Weekday Flows – Classified Non-Principal Roads**

| Time Period | Monday | Tuesday | Wednesday | Thursday | Friday |
|-------------|--------|---------|-----------|----------|--------|
| 0700-0900   | 0.951  | 1.017   | 1.027     | 1.022    | 0.983  |
| 1600-1800   | 0.967  | 1.012   | 1.022     | 1.025    | 0.973  |
| 0700-1900   | 0.956  | 0.998   | 1.014     | 1.010    | 1.022  |
| 24 Hour     | 0.942  | 0.996   | 1.016     | 1.020    | 1.027  |

**Table 9 Proportion of Weekday Flows to Average Weekday Flows – Unclassified Roads**

| Time Period | Monday | Tuesday | Wednesday | Thursday | Friday |
|-------------|--------|---------|-----------|----------|--------|
| 0700-0900   | 0.952  | 1.012   | 1.028     | 1.021    | 0.985  |
| 1600-1800   | 0.956  | 1.009   | 1.025     | 1.015    | 0.995  |
| 0700-1900   | 0.951  | 0.991   | 1.011     | 1.007    | 1.017  |
| 24 Hour     | 0.949  | 0.992   | 1.005     | 1.018    | 1.041  |

### 3.5 Seasonal Variations, Changes in Vehicle Classifications and Speeds

Information on all the above will be provided by either the 25 point classified counts or a combination of these and the 25 point census surveys. Data from the 25 point classified counts is being analysed at the moment and should be available within the next month.