

STATISTICAL REVIEW OF ROAD TRANSPORTATION IN INDIA

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Abstract

Road accidents continue to be a leading cause of death, disabilities and hospitalization in the country despite our commitment and efforts. India ranks first in the number of road accident deaths across the 199 countries and accounts for almost 11% of the accident related deaths in the World. Road traffic continues to be a major developmental issue, a public health concern and is a leading cause of death and injury across the World killing more than 1.35 million globally as reported in the Global Status report on Road Safety 2018 with 90% of these casualties taking place in the developing countries. Road accidents in India kill almost 1.5 lakh people annually. Accordingly, India accounts for almost 11% of the accident related, deaths in the World. The present paper focused on the causes of road accidents, inter-state comparison of road accident data, Motor Vehicles (Amendment) Act, 2019 and its implementation and road safety initiatives taken by the Government of India.

Keywords: Road Accidents, National Highway, Motor Vehicles, India

Introduction

Through road transport, goods and human resources can be transmitted from one place to another through road route. This transmission is possible either through motor vehicles or non motor vehicles. Everyone should be aware about the traffic rules and signals while driving their vehicles of road. Traffic etiquettes are essential for everyone. Any negligence on the part of driver

may cause temporary or permanent disability or even death. It suffers not only the injured people but also the family of that casualty. Driving below the age of 18 years should be strictly prohibited by law and strict to strict punishment provisions are required. Present paper highlights the details of registered motor vehicles, road accidents and causality involved, geographical view of road accidents, geographical details of person killed in road accidents, basic road statistics, national highways details of state and union territory.

Objectives

1. To know the total number of registered motor vehicles in India
2. To study the number of road accidents and persons involved.
3. To know the geographical view of road accidents and details of person killed in road accidents.

Research Methodology

The main source of collecting the information is annual reports of ministry of road transport and report on road accident in India.

Total Number of Registered Motor Vehicles in India: 2003-2019

(in thousands)

| Year (As on 31st March) | All Vehicles | Two Wheelers* | Cars, Jeeps and Taxis | Buses@ | Goods Vehicles | Others* |
|---|---------------------|----------------------|------------------------------|---------------|-----------------------|----------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2003 | 67,007 | 47,519 | 8,599 | 721 | 3,492 | 6,676 |
| 2004 | 72,718 | 51,922 | 9,451 | 768 | 3,749 | 6,828 |
| 2005 | 81,499 | 58,799 | 10,320 | 892 | 4,031 | 7,457 |
| 2006 | 89,618 | 64,743 | 11,526 | 992 | 4,436 | 7,921 |

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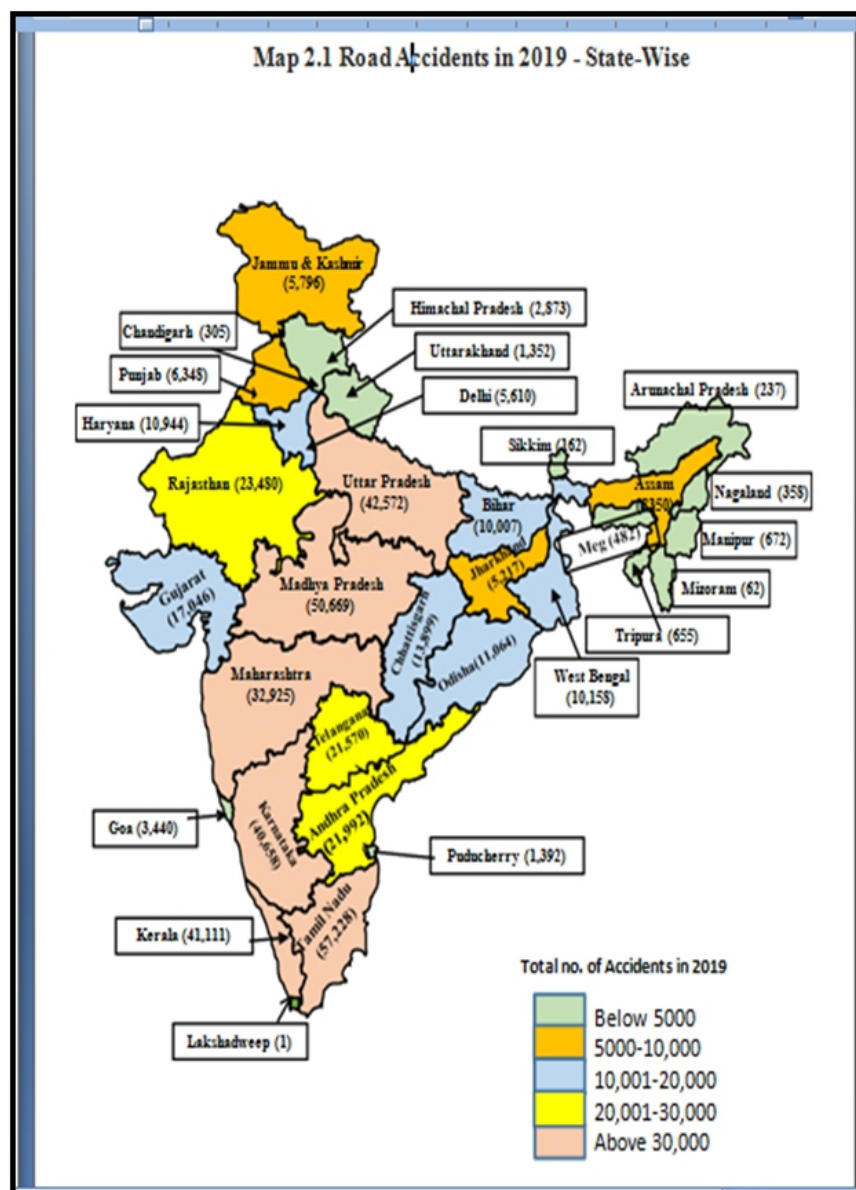
| | | | | | | |
|---------------------------|---------|---------|--------|-------|--------|--------|
| 2007 | 96,707 | 69,129 | 12,649 | 1,350 | 5,119 | 8,460 |
| 2008 | 105,353 | 75,336 | 13,950 | 1,427 | 5,601 | 9,039 |
| 2009 | 114,951 | 82,402 | 15,313 | 1,486 | 6,041 | 9,710 |
| 2010 | 127,746 | 91,598 | 17,109 | 1,527 | 6,432 | 11,080 |
| 2011 | 141,866 | 101,865 | 19,231 | 1,604 | 7,064 | 12,102 |
| 2012 | 159,491 | 115,419 | 21,568 | 1,677 | 7,658 | 13,169 |
| 2013 | 176,044 | 127,830 | 24,056 | 1,814 | 8,307 | 14,037 |
| 2014 | 190,704 | 139,410 | 25,998 | 1,887 | 8,698 | 14,712 |
| 2015 | 210,023 | 154,298 | 28,611 | 1,971 | 9,344 | 15,799 |
| 2016 | 230,031 | 168,975 | 30,242 | 1,757 | 10,516 | 18,541 |
| 2017 | 253,311 | 187,091 | 33,688 | 1,864 | 12,256 | 18,411 |
| 2018 | 272,587 | 202,755 | 36,453 | 1,943 | 12,773 | 18,663 |
| 2019 | 295,772 | 221,270 | 38,433 | 2,049 | 13,766 | 20,254 |
| CAGR (2009 to 2019) | 9.91 | 10.38 | 9.64 | 3.27 | 8.58 | 7.63 |

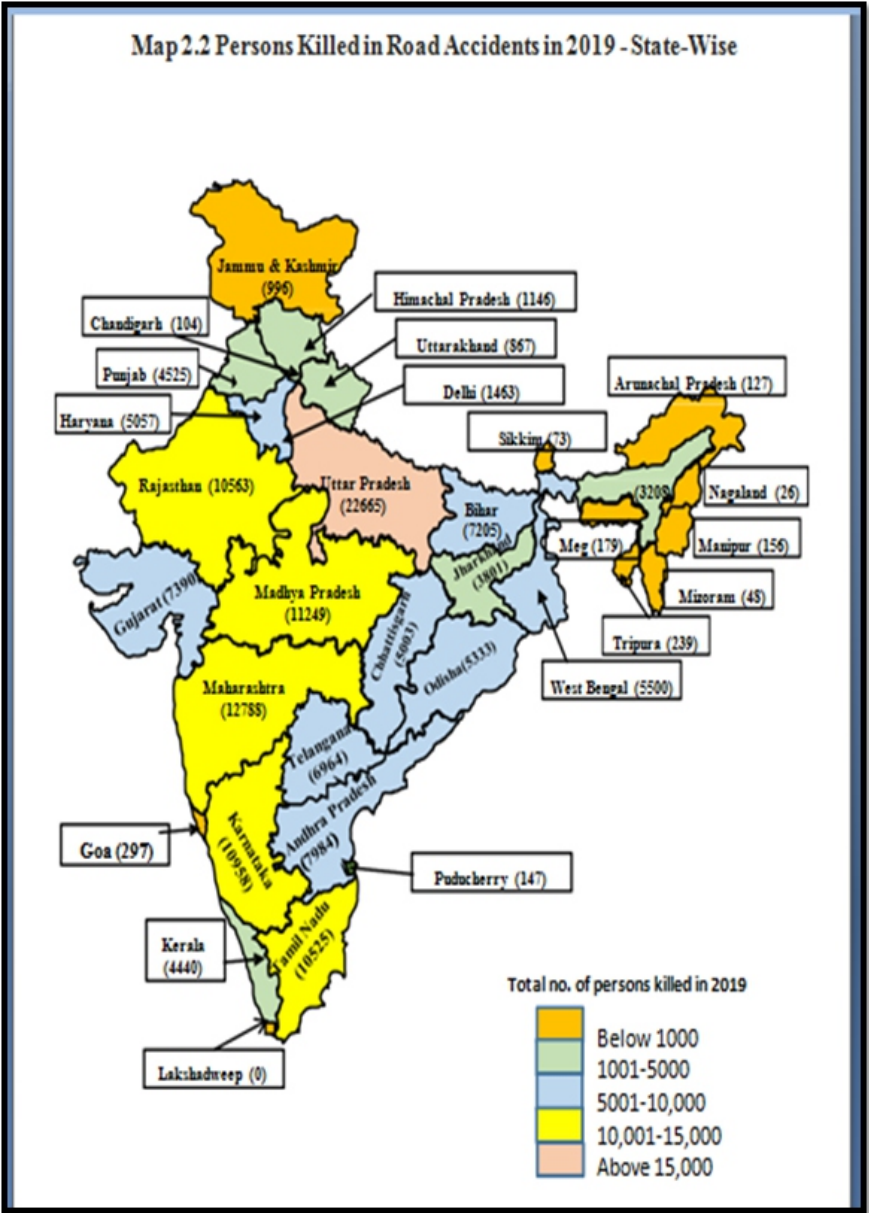
Source: Offices of State Transport Commissioners/UT Administrations.

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Number of Road Accidents and Persons Involved: 2005 to 2019

| Year | Number of Accidents Total | Fatal | Number of Persons Killed | Injured | Accident Severity* |
|-------------|--|------------------|---|----------------|-------------------------------|
| 2005 | 439,255 | 83491 (19.0) | 94,968 | 465,282 | 21.6 |
| 2006 | 460,920 | 93917 (20.4) | 105,749 | 496,481 | 22.9 |
| 2007 | 479,216 | 101161 (21.1) | 114,444 | 513,340 | 23.9 |
| 2008 | 484,704 | 106591 (22.0) | 119,860 | 523,193 | 24.7 |
| 2009 | 486,384 | 110993 (22.8) | 125,660 | 515,458 | 25.8 |
| 2010 | 499,628 | 119558 (23.9) | 134,513 | 527,512 | 26.9 |
| 2011 | 497,686 | 121618 (24.4) | 142,485 | 511,394 | 28.6 |
| 2012 | 490,383 | 123093 (25.1) | 138,258 | 509,667 | 28.2 |
| 2013 | 486,476 | 122589 (25.2) | 137,572 | 494,893 | 28.3 |
| 2014 | 489,400 | 125828 (25.7) | 139,671 | 493,474 | 28.5 |
| 2015 | 501,423 | 131726 (26.3) | 146,133 | 500,279 | 29.1 |
| 2016 | 480,652 | 136071 (28.3) | 150,785 | 494,624 | 31.4 |
| 2017 | 464,910 | 134796 (29.0) | 147,913 | 470,975 | 31.8 |
| 2018 | 467,044 | 137726 (29.5) | 151,417 | 469,418 | 32.4 |
| 2019 | 449,002 | 137689 (30.7) | 151,113 | 451,361 | 33.7 |





Basic Road Statistics of India

| S. No. | Category | 2018 | | | 2019(P) | | | Increase/Decrease | |
|--------|------------------|-----------|-----------|--------------------------------|-----------|-----------|----------------------------------|-------------------------|---------------------------|
| | | Total | Surface d | %age Share of Col.(i) in total | Total | Surface d | % age Share of col.(iv) in total | Absolute value (iv)-(i) | Percentage (vii)/(i)* 100 |
| | | (i) | (ii) | (iii) | (iv) | (v) | (vi) | (vii) | (viii) |
| 1 | National Highway | 126,350 | 126,350 | 2.03 | 132,499 | 132,499 | 2.08 | 6,149 | 4.86 |
| 2 | State Highway | 186,908 | 185,495 | 3 | 179,535 | 178,384 | 2.82 | -7,373 | -3.94 |
| 3 | District Roads | 611,268 | 580,064 | 9.83 | 633,383 | 607,588 | 9.94 | 22,115 | 3.61 |
| 4 | Rural Roads(*) | 4,409,582 | 2,295,053 | 70.94 | 4,541,631 | 2,429,388 | 71.27 | 132,049 | 2.99 |
| 5 | Urban Roads | 534,142 | 415,859 | 8.59 | 541,636 | 428,157 | 8.5 | 7,494 | 1.4 |
| 6 | Project Roads | 347,547 | 145,471 | 5.59 | 343,163 | 157,171 | 5.39 | -4,384 | 1.26 |

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| | | | | | | | | | |
|---|--------------------------------|-----------|-----------|--|-----------|-----------|--|---------|------|
| 7 | Total (including JRY Roads) | 6,215,797 | 3,931,494 | | 6,371,847 | 4,116,390 | | 156,050 | 2.51 |
| 8 | % age share to total | | 63.2 | | | 64.6 | | | |

State/UT-wise details of NHs As on 31st Dec 2021

| S. No. | Name of State/UT | National Highway No. | Total No. of NH's | Total length (in km) |
|--------|-------------------|---|-------------------|----------------------|
| (1) | (2) | (3) | (4) | (5) |
| 1 | Andhra Pradesh | 16, 216, 216A, 716, 26, 326, 326A, 30, 40, 140, 340, 340C, 42, 44, 544D, 150A, 65, 165, 516D, 565, 765, 67, 167, 69, 71, 75, 167A, 516E, 167B, 365BB, 365BG, 544DD, 544E, 130CD, 716A, 716B, 516C, 167BG, 544F, 167K, 342, NE7, 440, 516B, 340B, 167AD, 167AG, 516F, 516W, 150C, 716G, 216E, 216H, 163G | 54 | 8,207 |
| 2 | Arunachal Pradesh | 13, 113, 313, 513, 713, 713A, 15, 115, 215, 315, 315A, 415, 515, | 13 | 2,537 |
| 3 | Assam | 2, 702, 702C, 702D, 6, 306, 8, 208A, 15, 115, 215, 315, 315A, 415, 515, 715, 715A, 17, 117, 117A, 217, 27, 127, 127A, 127B, 127C, 127D, 127E, 427, 627, 29, 129, 329, 329A, 37, 715K, 137, 137G | 38 | 4,077 |
| | | 19, 119, 219, 319, 20, 120, 22, 122, 122A, 322, 722, 922, 27, 227, 227A, 327, 327A, 527, | | |

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| | | | | |
|---|--------------|---|----|-------|
| 4 | Bihar | 527A, 527B, 527C , 527D, 727, 727A, 31, 131, 131A , 231, 331, 431, 531, 33, 133, 133B, 333, 333A, 333B, 139, 124C, 227F, 227J, 227L, 727AA, 133E, 122B, 333C, 527E, 327AD, 319A, 131B, 131G, 119A, 119D, 139W | 54 | 5,940 |
| 5 | Chandigarh | 5 | 1 | 15 |
| 6 | Chhattisgarh | 30, 130, 130A, 130B, 130C, 130D, 930, 43, 343, 45, 49, 149B, 53, 153, 353, 63, 163, 163A, 130CD, 143B, | 20 | 3,620 |
| 7 | Delhi | 9, 44, 48, 148A, 248BB, 709B, 344M, 148AE, 148NA, 344N, 344P, NE3, | 13 | 157 |
| 8 | Goa | 748, 66, 366, 566, 748AA, 166S | 6 | 299 |

| S. No. | Name of State/UT | National Highway No. | Total No. of NH's | Total length (in km) |
|--------|------------------|---|-------------------|----------------------|
| (1) | (2) | (3) | (4) | (5) |
| 9 | Gujarat | 27, 927D, 41, 141, 341, 47, 147, 48, 848, 848A, 848B, 51, 151, 251, 351, 53, 753B, 953, 56, 58, 64, 68, 168, 168A, 756, 148M, 751D, 751DD, 351F, 147D, 751, 151A, 754K, NE1, NE4, 351K, 351G, 151K, 848K, 151AD, 927C, 927K, | 43 | 7,885 |
| 10 | Haryana | 703, 5, 105, 7, 907, 9, 709, 709A , 11, 919, 334B, 44, 344, 444A, 48, 148A, 148B, 248A, 52, 152, 352, 352A, 54, 254, 248BB, 152A, 907G, 352R, 352W, | 39 | 3,259 |

| | | | | |
|----|-------------------|--|----|-------|
| | | 709AD, 334D, 152D, 148NA, 344N, 344P, NE2, NE5, NE4, 152G | | |
| 11 | Himachal Pradesh | 3, 103, 303, 503, 503A, 5, 105, 205, 305, 505, 505A, 705, 7, 707, 907, 907A, 44, 154, 154A, | 19 | 2,607 |
| 12 | Jammu and Kashmir | 1, 501, 701, 44, 244, 144, 144A, 444, 244A, 701A, NE5 | 11 | 1,752 |
| 13 | Jharkhand | 114A, 18, 118, 19, 419, 20, 220, 320, 22, 522, 33, 133, 133A, 133B, 333, 333A, 39, 139, 43, 143, 143A, 343, 49, 143H, 143D, 320G, 143AG, 320D, 218, 143B, 320B | 31 | 3,430 |
| 14 | Karnataka | 44, 48, 648, 748, 948, 50, 150, 150A, 52, 160, 65, 66, 766, 766C, 67, 167, 367, 69, 169, 169A, 369, 73, 173, 75, 275, 181, 166E, 548B, 561A, 752K, 161A, 544DD, 544E, 548H, 748AA, 367A, 948A, 369E, 373, 275K, 766I, 766IE, NE7, 167N, 150C | 45 | 7,656 |
| 15 | Kerala | 544, 744, 66, 766, 966, 966A, 966B, 183, 183A, 85, 185, | 11 | 1,782 |
| 16 | Ladakh | 1, 3, 301 | 3 | 806 |
| 17 | Madhya Pradesh | 719, 27, 30, 34, 934, 135, 135B, 39, 339, 339B, 539, 43, 543, 943, 44, 45, 46, 146, 146B, 346, 47, 347, 347C, 347B, 547, 52, 552, 752B, 752C, 56, 548C, 752G, 161G, 347A, 753L, 147E, 135BB, 135BD, 135BG, 135C, 347BG, 552G, 752D, 753BE, NE4, 543K | 46 | 8,911 |

| S. No. | Name of State/UT | National Highway No. | Total No. of NH's | Total length (inkm) |
|--------|------------------|--|-------------------|---------------------|
| (1) | (2) | (3) | (4) | (5) |
| 18 | Maharashtra | 130D, 930, 543, 44, 47, 347C, 547, 48, 348A, 348, 548, 848, 848A, 50, 150, 52, 53, 353C, 353D, 353E, 753, 753A, 753B, 953, 60, 160, 61, 161, 361, 63, 65, 965, 66, 166, 166A, 548C, 753E, 548H, 752G, 561, 753F, 548A, 166I, 266, 548B, 548CC, 161II, 161G, 361II, 548D, 561A, 965C, 752I, 965G, 752K, 347A, 930D, 361B, 353B, 247, 161A, 361C, 161E, 353I, 753J, 753L, 353J, 353K, 752E, 752H, 753M, 548H, 160A, 160B, 753C, 965D, 753BB, 160D, 348B, 348BB, 753AB, 160C, 166H, 761, 753H, 166D, 652, 465, 647, 461B, 160H, 361F, 965DD, 166F, 166G, 548DD, NE4, 547E, 753BE, 548DG, 150C, 543K | 102 | 18,317 |
| 19 | Manipur | 137, 137A, | 11 | 1,840 |
| 20 | Meghalaya | 6, 106, 206, 217, 127B , | 5 | 1,156 |
| 21 | Mizoram | 2, 102B , 302, 502, 502A, 6, 306, 306A, 108, | 9 | 1,423 |

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| | | | | |
|----|------------|---|----|--------|
| 22 | Nagaland | 2, 202, 702, 702A, 702B, 702D, 29, 129, 129A, 229, 329A, 202K | 12 | 1,670 |
| 23 | Orissa | 16, 316, 516, 18, 20, 220, 520, 26, 326, 326A, 130C, 143, 49, 149, 53, 153B. 353, 55, 57, 157, 59, 63, 126, 130CD, 316A, 516A, 157A, 126A, 655, 720, 143H, 320D, | 32 | 5,897 |
| 24 | Puducherry | 32, 332, | 2 | 64 |
| 25 | Punjab | 3, 503, 503A, 703, 703A. 5. 205, 205A, 7, 9, 44, 344, 344A, 344B, 148B, 52, 152. 54. 154, 154A, 254, 754, 62, 354, 148BB, 105B, 152A, 703B, 354E, 354B, 703AA, NE5, NE5A, 503D, 754A, 754AD, 205K | 37 | 4,105 |
| 26 | Rajasthan | 709, 11, 919, 21, 23, 123, 25, 125, 325, 27, 927A, 44, 48, 148, 148B, 148D. 248, 248A, 448, 52, 552, 752, 54, 56, 156, 58, 158, 458, 758, 62, 162, 162A, 68, 168, 168A, 954, 311, 921, 70, 925, 925A, 911, 552G, 754K, 911A, 148C, 968, 752D, NE4, NE4C, 125A | 51 | 10,477 |
| 27 | Sikkim | 10, 310, 310A, 310AG. 710. 510, 717A, 717B, | 8 | 709 |

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| S. No. | Name of State/UT | National Highway No. | Total No. of NH's | Total length (in km) |
|--------|------------------|--|-------------------|----------------------|
| (1) | (2) | (3) | (4) | (5) |
| 28 | Tamil Nadu | 16, 716, 32, 132, 332, 532, 36, 136, 336, 536, 38, 138, 40, 42, 44, 544, 744, 944, 48, 648, 948, 66, 75, 77, 79, 81, 181, 381, 83, 183, 85, 87, 544H, 179A, 383, 381A, 381B, 785, 716A, 744A, 948A, 338, 136B, 179B, 132B, 179D, 332A, 844, 716B, NE7 | 50 | 6,858 |
| 29 | Telangana | 30, 44, 150, 353C, 61, 161, 63, 163, 563, 65, 365, 365A, 365B, 363, 565, 765, 167, 353B, 161B, 365BB, 365BG, 765D, 161AA, 161BB, 167K, 765DG, 167N, 930P, 150C, 163G | 30 | 4,926 |
| 30 | Tripura | 8, 108, 108A, 208, 208A, 108B, | 6 | 854 |
| 31 | Uttar Pradesh | 307, 9, 509, 709A , 19, 219, 519, 719, 21, 123, 24, 27, 227A, 727, 727A, 927, 28, 128, 30, 230, 330, 330B, 530, 330A , 730, 730A , 31, 731, 731A, 931, 931A, 34, 334, 334A, 334B, 334C, 534, 734, 234, 35, 135, 135B, 335, 39, 339, 539, 44, 344, 552, 709B, 135BB, 730H, 321, 731AG, 709AD, 319D, 124C, 727B, 727H, 727G, 128B, 128C, 328, 328A, 330D, 530B, 730B, 731K, 727BB, 730S, 730C, 334D, 128A, 135C, 135A, 124D, 321G, 334DD, 727AA, 731B, NE2, NE3, NE6, 227B, 344G, 344BG | 87 | 12,245 |

| | | | | |
|--------------------|--------------------|---|----|---------|
| 32 | Uttarakhand | 7, 107, 107A, 307, 507, 707, 707A, 9, 109, 109D, 309, 309A, 309B, 30, 34, 134, 334, 334A, 534, 734, 344, 731K, 109K, 344BG | 24 | 3,449 |
| 33 | West Bengal | 10, 110, 12, 112, 512, 14, 114, 114A, 314, 16, 116, 116B, 17, 317, 317A, 517, 717, 717A, 18, 19, 419, 27, 327, 327B, 31, 131A, 33, 133A, 49, 316A, 116A, 327C, 312, 218 | 34 | 3,675 |
| 34 | A & N Islands | 4, | 1 | 331 |
| 35 | Dadar Nagar Haveli | 848A, NE4, | 2 | 37 |
| 36 | Daman & Diu | 848B, 251, | 2 | 22 |
| Total length (km.) | | | | 140,995 |

Conclusion

Human life is too much precious for us. We should take care of it. Without road transportation we cannot move from one place to another. Negligence while driving not only affects our life but the life or family of other one too. So we should follow the traffic rules and be very conscious while driving. Government of India and Ministry of Road Transport and Highway are also doing well in this field. But self-consciousness is essential for it.

Reference:

1. Report on Road Accident in India 2019.
2. Annual reports of Ministry of Road Transport and Highway 2021-22.