Mapping Congestion
Infrastructure Stakeholder Summit I
Governor Larry Hogan NGA Chair’s Initiative
Boston, Mass
August 27, 2019
## Lowest to Highest: Congestion Ranking by Largest Urban Area (Peak Hours Annually Spent in Congestion per Driver)

<table>
<thead>
<tr>
<th>States</th>
<th>Hours</th>
<th>States</th>
<th>Hours</th>
<th>States</th>
<th>Hours</th>
<th>States</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wyoming</td>
<td>7</td>
<td>Oklahoma</td>
<td>12</td>
<td>Louisiana</td>
<td>20</td>
<td>Texas</td>
<td>39</td>
</tr>
<tr>
<td>West Virginia</td>
<td>8</td>
<td>Kansas</td>
<td>12</td>
<td>Connecticut</td>
<td>20</td>
<td>Maryland</td>
<td>39</td>
</tr>
<tr>
<td>Iowa</td>
<td>8</td>
<td>Oregon</td>
<td>12</td>
<td>Rhode Island</td>
<td>21</td>
<td>Illinois</td>
<td>44</td>
</tr>
<tr>
<td>North Dakota</td>
<td>8</td>
<td>Alabama</td>
<td>12</td>
<td>Tennessee</td>
<td>21</td>
<td>Massachusetts</td>
<td>44</td>
</tr>
<tr>
<td>Montana</td>
<td>9</td>
<td>Hawai</td>
<td>13</td>
<td>Nevada</td>
<td>22</td>
<td>Georgia</td>
<td>52</td>
</tr>
<tr>
<td>Alaska</td>
<td>9</td>
<td>Utah</td>
<td>13</td>
<td>Michigan</td>
<td>23</td>
<td>California</td>
<td>64</td>
</tr>
<tr>
<td>Maine</td>
<td>9</td>
<td>South Carolina</td>
<td>14</td>
<td>Pennsylvania</td>
<td>24</td>
<td>New York</td>
<td>63</td>
</tr>
<tr>
<td>Nebraska</td>
<td>10</td>
<td>Wisconsin</td>
<td>14</td>
<td>Arizona</td>
<td>27</td>
<td>New Jersey</td>
<td>70</td>
</tr>
<tr>
<td>South Dakota</td>
<td>10</td>
<td>North Carolina</td>
<td>15</td>
<td>Colorado</td>
<td>27</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vermont</td>
<td>10</td>
<td>Missouri</td>
<td>16</td>
<td>Delaware</td>
<td>28</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Idaho</td>
<td>10</td>
<td>Kentucky</td>
<td>17</td>
<td>Virginia</td>
<td>33</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mississippi</td>
<td>11</td>
<td>New Hampshire</td>
<td>18</td>
<td>Florida</td>
<td>34</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Arkansas</td>
<td>11</td>
<td>Indiana</td>
<td>19</td>
<td>Minnesota</td>
<td>35</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Mexico</td>
<td>12</td>
<td>Ohio</td>
<td>19</td>
<td>Washington</td>
<td>37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

National Urban Congestion Trends Improved from 2016 to 2017

**CONGESTED HOURS**

- **2016:** 4:43
- **2017:** 4:17
- **26 minutes**
  Average duration of daily congestion

**TRAVEL TIME INDEX**

- **2016:** 1.35
- **2017:** 1.33
- **2 points**
  Peak-period vs. off-peak travel times

**PLANNING TIME INDEX**

- **2016:** 2.62
- **2017:** 2.15
- **47 points**
  Unreliability (variability) of travel

**METROPOLITAN AREAS**

- **42%** All three measures improved
- **56%** Measures had no change or mixed results
- **2%** All three measures worsened

Source: Federal Highway Administration, 2018 *Data for all Territories not available.*
Urban Congestion Trends (2015 to 2016)

Source: Federal Highway Administration, 2018 *Data for all Territories not available.
Peak Period Highway Congestion (2012)

Notes: Highly congested segments are stop-and-go conditions with volume/service flow ratios greater than 0.95. Congested segments have reduced traffic speeds with volume/service flow ratios between 0.75 and 0.95. The volume/service flow ratio is estimated using the procedures outlined in the HPMS Field Manual Appendix N.


*Data for all Territories not available.
Predicted Peak Period Highway Congestion by 2045

Notes: Highly congested segments are stop-and-go conditions with volume/service flow ratios greater than 0.95. Congested segment have reduced traffic speeds with volume/service flow ratios between 0.75 and 0.95. The volume/service flow ratio is estimated using the procedures outlined in the HPMS Field Manual Appendix N.


Percent of workers with a commute of 90 minutes or more, by state

Source: American Community Survey, 2017 *Data for all Territories not available.
Percent of workers with a commute of 90 minutes or more, by census tract

Source: American Community Survey, 2017
Percent of Boston-area workers with a commute of 90 minutes or more, by census tract

Source: American Community Survey, 2017
Boston household commute times less than national average (shown with the Boston “T” system lines)

Source: American Community Survey, 2017
Congestion and Air Quality in the Greater Los Angeles Area

Source: Peng Hao, Evaluating Environmental Impact of Traffic Congestion in Real Time Based on Sparse Mobile Crowd-Sourced Data, University of California, Riverside (CalTrans), February 2018
Average trip segment speed

Source: Peng Hao, Evaluating Environmental Impact of Traffic Congestion in Real Time Based on Sparse Mobile Crowd-Sourced Data, University of California, Riverside (CalTrans), February 2018
Estimated Particulate Matter (2.5) Concentration in Annual Peak Hour

Source: Peng Hao, Evaluating Environmental Impact of Traffic Congestion in Real Time Based on Sparse Mobile Crowd-Sourced Data, University of California, Riverside (CalTrans), February 2018
Estimated CO$_2$ Concentration in Annual Peak Hour

Source: Peng Hao, Evaluating Environmental Impact of Traffic Congestion in Real Time Based on Sparse Mobile Crowd-Sourced Data, University of California, Riverside (CalTrans), February 2018
Los Angles Particulate Matter in Peak Traffic

Source: Peng Hao, Evaluating Environmental Impact of Traffic Congestion in Real Time Based on Sparse Mobile Crowd-Sourced Data, University of California, Riverside (CalTrans), February 2018