TomTom
North American Congestion Index
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TomTom Congestion Index

It is our mission to get drivers to their destinations faster, safer and greener.

Over the years we have invested in new ideas and technologies with the aim of bringing significant benefits to drivers, businesses and society as a whole.

In 2007 we started a groundbreaking initiative that helped us to understand how we could guide drivers in a better way. We set out to build a more precise view of traffic flow over the entire road network to enable us to give drivers more exact route information and arrival times.

With the support of millions of TomTom customers we have captured anonymous travel time information in all the territories where we are active. Rather than relying on theoretical models, we are now able to understand real-life driving patterns by time of day, day of week, time of year and around special events. This initiative is unique in that we are able to capture, evaluate and redistribute vehicle-centric travel information on a global scale.

Over the years we have built the world’s largest database of historic travel times and the most detailed and accurate real-time traffic information available. Based on the insights we gained we have developed advanced routing technologies that help millions of drivers get to their destinations faster, safer and with lower emissions of greenhouse gases.

Contrary to popular belief, there are often multiple ways to reach a destination and avoid traffic congestion. Finding the fastest route is a complex task. Now, thanks to advanced routing technologies, motorists can drive with dynamic navigation systems which quickly react and adjust routes to the ever-changing traffic situations.

By helping drivers to find a faster route we can also demonstrate that the total available capacity on the road network increases. If a small percentage of drivers uses different (and faster) routes, congestion can be alleviated across the entire road network, thereby benefitting all drivers.

By offering a more accurate analysis of traffic flows, we help identify and pinpoint congestion trouble spots more effectively. And by routing traffic away from congested areas we can play a key role in easing congestion in cities and urban areas.

Our historical archive of real travel times has paved the way for the creation of the TomTom Congestion Index – the most accurate and comprehensive barometer of traffic congestion in major cities all over the world.
About the TomTom Congestion Index

With the publication of the TomTom Congestion Index we are aiming to provide the general public, industry and policy makers with unique and unbiased information about congestion levels in urban areas.

The methodology that is used in this report compares travel times during non-congested periods (free flow) with travel times in peak hours. The difference is expressed as a percentage increase in travel time. We take into account local roads, arterials and highways. All data is based on actual GPS based measurements and for each city the sample size is expressed in total number of measured miles for the period.

A comparison is made for the travel times during the quarter and this is compared with the same period a year ago.

As well as assigning and ranking the overall congestion levels of over 50 cities, the report evaluates the congestion levels in cities at different times of the day and on different days of the week.

Individual city reports include more detailed information such as the most congested day, average free flow speed, time delay per year for commuters and congestion levels on highways and local roads.

To download a copy of the report go to: www.tomtom.com/congestionindex.

If you would like to know more about TomTom's traffic solutions, please contact your local TomTom office or sales@tomtom.com.

For questions or comments about this report, please contact us at congestionindex@tomtom.com.

Note: words with a * are explained in the glossary at the end of the report.
North America

Top 5 - Increasing congestion

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<tr>
<th>City</th>
<th>Previous Congestion</th>
<th>Increase in congestion</th>
<th>Current</th>
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Top 5 - Decreasing congestion

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Top 10 cities

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Comparison per quarter

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# TomTom Congestion Index

## North America

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<td>20%</td>
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</tbody>
</table>
The weekly congestion pattern:
Best and worst peak periods of the week

Congestion level

21%

Ranking
- Ranking of city compared to continent: 11/26
- Previous ranking: 11
- Congestion level on highways: 12%
- Congestion level on non-highways: 30%
- Delay per hour driven in peak period: 27 min
- Delay per year with a 30 min commute: 71 h

Most congested specific day: Fri 30 Mar 2012
- Average free flow speed: 43 mph
- Average speed during worst peak period: 40 mph
- Total network length: 4,451 mi
- Total network length highways: 543 mi
- Total network length non-highways: 3,908 mi
- Total vehicle miles: 4,091,787 mi

Congestion comparison
Delay per hour driven in peak period

Comparison per quarter

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The weekly congestion pattern:
Best and worst peak periods of the week

Ranking
- Ranking of city compared to continent: 20/26
- Previous ranking: 25
- Congestion level on highways: 9%
- Congestion level on non-highways: 28%
- Delay per hour driven in peak period: 20 min
- Delay per year with a 30 min commute: 57 h

Most congested specific day: Fri 24 Feb 2012
- Average free flow speed: 42 mi/h
- Average speed during worst peak period: 38 mi/h
- Total network length: 1 964 mi
- Total network length highways: 437 mi
- Total network length non-highways: 1 527 mi
- Total vehicle miles: 2 292 300 mi

Congestion comparison
- Delay per hour driven in peak period

Comparison per quarter

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The weekly congestion pattern:

Best and worst peak periods of the week

Congestion level

16%

Ranking

Ranking of city compared to continent: 19/26
Previous ranking: 14
Congestion level on highways: 10%
Congestion level on non-highways: 25%
Delay per hour driven in peak period: 19 min
Delay per year with a 30 min commute: 55 h

Most congested specific day: Sat 21 Jan 2012
Average free flow speed: 39 mph
Average speed during worst peak period: 35 mph
Total network length: 5,666 mi
Total network length highways: 837 mi
Total network length non-highways: 4,829 mi
Total vehicle miles: 4,316,250 mi

Congestion comparison

Delay per hour driven in peak period

Comparison per quarter

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Calgary

Congestion level

17%

Ranking
- Ranking of city compared to continent: 16/26
- Previous ranking: 13
- Congestion level on highways: 11%
- Congestion level on non-highways: 20%
- Delay per hour driven in peak period: 11 min
- Delay per year with a 30 min commute: 35 h

The weekly congestion pattern:
Best and worst peak periods of the week

Congestion comparison
Delay per hour driven in peak period

Comparison per quarter
The weekly congestion pattern:

Best and worst peak periods of the week

Chicago

Congestion level

19%

Ranking

- Ranking of city compared to continent: 14/26
- Previous ranking: 19
- Congestion level on highways: 11%
- Congestion level on non-highways: 27%
- Delay per hour driven in peak period: 21 min
- Delay per year with a 30 min commute: 59 h

Most congested specific day: Fri 20 Jan 2012
- Average free flow speed: 38 mi/h
- Average speed during worst peak period: 34 mi/h
- Total network length: 4,680 mi
- Total network length highways: 628 mi
- Total network length non-highways: 4,051 mi
- Total vehicle miles: 3,484,424 mi

Congestion comparison

Delay per hour driven in peak period

Comparison per quarter

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The weekly congestion pattern:
Best and worst peak periods of the week

Congestion level

16%

Ranking
- Ranking of city compared to continent: 18/26
- Previous ranking: 20
- Congestion level on highways: 11%
- Congestion level on non-highways: 24%
- Delay per hour driven in peak period: 22 min
- Delay per year with a 30 min commute: 61 h

Most congested specific day: Mon 9 Jan 2012
- Average free flow speed: 45 mph
- Average speed during worst peak period: 42 mph
- Total network length: 7,828 mi
- Total network length highways: 1,496 mi
- Total network length non-highways: 6,332 mi
- Total vehicle miles: 4,543,146 mi

Congestion comparison

Delay per hour driven in peak period

Comparison per quarter

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Detroit

The weekly congestion pattern:
Best and worst peak periods of the week

Congestion level

12%

Ranking
- Ranking of city compared to continent: 25/26
- Previous ranking: 23
- Congestion level on highways: 7%
- Congestion level on non-highways: 17%
- Delay per hour driven in peak period: 14 min
- Delay per year with a 30 min commute: 43 h

Most congested specific day: Thu 19 Jan 2012
- Average free flow speed: 41 m/h
- Average speed during worst peak period: 40 m/h
- Total network length: 4 878 mi
- Total network length highways: 518 mi
- Total network length non-highways: 4 361 mi
- Total vehicle miles: 1 983 078 mi

Congestion comparison

Comparison per quarter

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Edmonton

The weekly congestion pattern:
Best and worst peak periods of the week

Congestion level

13%

Ranking
- Ranking of city compared to continent: 23/26
- Previous ranking: 8
- Congestion level on highways: 1%
- Congestion level on non-highways: 18%
- Delay per hour driven in peak period: 13 min
- Delay per year with a 30 min commute: 40 h

Most congested specific day: Thu 22 Mar 2012
- Average free flow speed: 40 mph
- Average speed during worst peak period: 39 mph
- Total network length: 880 mi
- Total network length highways: 142 mi
- Total network length non-highways: 738 mi
- Total vehicle miles: 360,577 mi

Congestion comparison
- Delay per hour driven in peak period

Comparison per quarter

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The weekly congestion pattern:

Best and worst peak periods of the week

Congestion level

23%

Ranking
- Ranking of city compared to continent: 8/26
- Previous ranking: 18
- Congestion level on highways: 17%
- Congestion level on non-highways: 32%
- Delay per hour driven in peak period: 32 min
- Delay per year with a 30 min commute: 80 h

Most congested specific day: Fri 9 Mar 2012
- Average free flow speed: 45 mph
- Average speed during worst peak period: 10 mph
- Total network length: 3,632 mi
- Total network length highways: 758 mi
- Total network length non-highways: 2,874 mi
- Total vehicle miles: 2,334,788 mi

Congestion comparison

Delay per hour driven in peak period

Comparison per quarter

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Los Angeles

**The weekly congestion pattern:**
Best and worst peak periods of the week

**Congestion level**

33%

**Ranking**
- Ranking of city compared to continent: 1/26
- Previous ranking: 1
- Congestion level on highways: 28%
- Congestion level on non-highways: 41%
- Delay per hour driven in peak period: 40 min
- Delay per year with a 30 min commute: 92 h

**Most congested specific day**: Fri 17 Feb 2012
- Average free flow speed: 39 m/h
- Average speed during worst peak period: 34 m/h
- Total network length: 6,304 mi
- Total network length highways: 984 mi
- Total network length non-highways: 5,320 mi
- Total vehicle miles: 4,160,243 mi

**Congestion comparison**

Delay per hour driven in peak period

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**Comparison per quarter**

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The weekly congestion pattern:
Best and worst peak periods of the week

Congestion level
26%

Ranking
- Ranking of city compared to continent: 3/26
- Previous ranking: 5
- Congestion level on highways: 12%
- Congestion level on non-highways: 37%
- Delay per hour driven in peak period: 29 min
- Delay per year with a 30 min commute: 74 h

Most congested specific day: Fri 10 Feb 2012
- Average free flow speed: 42 mi/h
- Average speed during worst peak period: 38 mi/h
- Total network length: 4,222 mi
- Total network length highways: 591 mi
- Total network length non-highways: 3,631 mi
- Total vehicle miles: 3,358,569 mi

Congestion comparison
Delay per hour driven in peak period

Comparison per quarter

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The weekly congestion pattern:

Best and worst peak periods of the week

Congestion level

12%

Ranking

- Ranking of city compared to continent: 26/26
- Previous ranking: 21
- Congestion level on highways: 7%
- Congestion level on non-highways: 20%
- Delay per hour driven in peak period: 16 min
- Delay per year with a 30 min commute: 48 h

Most congested specific day: Fri 20 Jan 2012
- Average free flow speed: 40 m/h
- Average speed during worst peak period: 40 m/h
- Total network length: 3,450 mi
- Total network length highways: 682 mi
- Total network length non-highways: 7,768 mi
- Total vehicle miles: 1,640,944 mi

Congestion comparison

Delay per hour driven in peak period

Comparison per quarter

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The weekly congestion pattern:
Best and worst peak periods of the week

Montreal

Congestion level

20%

Ranking
- Ranking of city compared to continent: 12/26
- Previous ranking: 7
- Congestion level on highways: 17%
- Congestion level on non-highways: 26%
- Delay per hour driven in peak period: 30 min
- Delay per year with a 30 min commute: 76 h

Most congested specific day: Thu 12 Jan 2012
- Average free flow speed: 46 m/h
- Average speed during worst peak period: 40 m/h
- Total network length: 1,291 mi
- Total network length highways: 501 mi
- Total network length non-highways: 789 mi
- Total vehicle miles: 1,947,360 mi

Congestion comparison

Delay per hour driven in peak period

Comparison per quarter

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New York

The weekly congestion pattern:
Best and worst peak periods of the week

Congestion level

17%

Ranking
- Ranking of city compared to continent: 15/26
- Previous ranking: 10
- Congestion level on highways: 11%
- Congestion level on non-highways: 28%
- Delay per hour driven in peak period: 22 min
- Delay per year with a 30 min commute: 61 h

Most congested specific day: Fri 17 Feb 2012
- Average free flow speed: 39 m/h
- Average speed during worst peak period: 35 m/h
- Total network length: 9,403 m
- Total network length highways: 2,116 m
- Total network length non-highways: 7,287 m
- Total vehicle miles: 9,043,053 m

Congestion comparison

Delay per hour driven in peak period

Comparison per quarter

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The weekly congestion pattern:

Best and worst peak periods of the week

Congestion level

22%

Ranking
- Ranking of city compared to continent: 10/26
- Previous ranking: 15
- Congestion level on highways: 15%
- Congestion level on non-highways: 30%
- Delay per hour driven in peak period: 39 min
- Delay per year with a 30 min commute: 90 h

Most congested specific day: Thu 12 Jan 2012
- Average free flow speed: 45 m/h
- Average speed during worst peak period: 39 m/h
- Total network length: 235 mi
- Total network length highways: 82 mi
- Total network length non-highways: 152 mi
- Total vehicle miles: 253,515 mi

Congestion comparison

Delay per hour driven in peak period

Comparison per quarter
The weekly congestion pattern:

Best and worst peak periods of the week

Congestion level

17%

Ranking

- Ranking of city compared to continent: 17/26
- Previous ranking: 16
- Congestion level on highways: 9%
- Congestion level on non-highways: 27%
- Delay per hour driven in peak period: 20 min
- Delay per year with a 30 min commute: 57 h

Most congested specific day: Fri 24 Feb 2012

- Average free flow speed: 39 mph
- Average speed during worst peak period: 35 mph
- Total network length: 3,132 mi
- Total network length highways: 493 mi
- Total network length non-highways: 2,640 mi
- Total vehicle miles: 3,091,861 mi

Congestion comparison

Delay per hour driven in peak period

Comparison per quarter

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Phoenix

**The weekly congestion pattern:** Best and worst peak periods of the week

**Congestion level**

14%

**Ranking**
- Ranking of city compared to continent: 22/26
- Previous ranking: 24
- Congestion level on highways: 7%
- Congestion level on non-highways: 20%
- Delay per hour driven in peak period: 18 min
- Delay per year with a 30 min commute: 53 h

**Most congested specific day**
- Thu 26 Jan 2012
- Average free flow speed: 45 m/h
- Average speed during worst peak period: 43 m/h
- Total network length: 3,934 mi
- Total network length highways: 462 mi
- Total network length non-highways: 3,472 mi
- Total vehicle miles: 2,248,908 mi

**Congestion comparison**
- Delay per hour driven in peak period

**Comparison per quarter**

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The weekly congestion pattern:

- Best and worst peak periods of the week

**Congestion level**

15%

**Ranking**
- Ranking of city compared to continent: 21/26
- Previous ranking: 22

**Congestion level**
- City on highways: 10%
- City on non-highways: 27%

**Delay**
- Delay per hour driven in peak period: 19 min
- Delay per year with a 30-min commute: 55 h

**Most congested specific day**
- Wed 15 Feb 2012
  - Average free flow speed: 47 mph
  - Average speed during worst peak period: 45 mph
  - Total network length: 673 mi
  - Total network length highways: 311 mi
  - Total network length non-highways: 1,362 mi
  - Total vehicle miles: 3,552 mi

**Congestion comparison**
- Delay per hour driven in peak period

**Comparison per quarter**

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Congestion</th>
<th>Worst avg. morning peak</th>
<th>Worst avg. evening peak</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1-2011</td>
<td>40%</td>
<td>50%</td>
<td>60%</td>
</tr>
<tr>
<td>Q2-2011</td>
<td>45%</td>
<td>55%</td>
<td>65%</td>
</tr>
<tr>
<td>Q3-2011</td>
<td>50%</td>
<td>60%</td>
<td>70%</td>
</tr>
<tr>
<td>Q4-2011</td>
<td>55%</td>
<td>65%</td>
<td>75%</td>
</tr>
<tr>
<td>Q1-2012</td>
<td>60%</td>
<td>70%</td>
<td>80%</td>
</tr>
</tbody>
</table>
San Francisco

**The weekly congestion pattern:**
Best and worst peak periods of the week

**Congestion level**

- Ranking of city compared to continent: 6/26
- Previous ranking: 9 (↑)
- Congestion level on highways: 20%
- Congestion level on non-highways: 33%
- Delay per hour driven in peak period: 33 min
- Delay per year with a 30 min commute: 81 h

**Most congested specific day:**
Wed 14 Mar 2012
- Average free flow speed: 37 mi/h
- Average speed during worst peak period: 34 mi/h
- Total network length: 1,136 mi
- Total network length highways: 755 mi
- Total network length non-highways: 880 mi
- Total vehicle miles: 8,199,157 mi

**Congestion comparison**

- Delay per hour driven in peak period

**Comparison per quarter**

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The weekly congestion pattern:

Best and worst peak periods of the week

**Congestion level**

25%

**Ranking**

- Ranking of city compared to continent: 4/26
- Previous ranking: 12
- Congestion level on highways: 20%
- Congestion level on non-highways: 33%
- Delay per hour driven in peak period: 35 min
- Delay per year with a 30 min commute: 84 h

**Most congested specific day**

Thu 19 Jan 2012

- Average free flow speed: 38 m/h
- Average speed during worst peak period: 34 m/h
- Total network length: 1,589 mi
- Total network length highways: 306 mi
- Total network length non-highways: 1,284 mi
- Total vehicle miles: 900,427 mi

**Congestion comparison**

- Delay per hour driven in peak period

**Comparison per quarter**

- Congestion
- Worst avg morning peak
- Worst avg evening peak

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The weekly congestion pattern:
Best and worst peak periods of the week

San Diego

Congestion level

19%

Ranking
- Ranking of city compared to continent: 13/26
- Previous ranking: 17
- Congestion level on highways: 10%
- Congestion level on non-highways: 34%
- Delay per hour driven in peak period: 24 min
- Delay per year with a 30 min commute: 65 h

Most congested specific day: Tue 7 Feb 2012
- Average free flow speed: 45 mi/h
- Average speed during worst peak period: 42 mi/h
- Total network length: 2,202 mi
- Total network length highways: 512 mi
- Total network length non-highways: 1,690 mi
- Total vehicle miles: 1,341,205 mi

Congestion comparison

Delay per hour driven in peak period
- 0 min
- 15 min
- 30 min
- 45 min

Comparison per quarter

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St. Louis

The weekly congestion pattern:
Best and worst peak periods of the week

Congestion level
13%

Ranking
- Ranking of city compared to continent: 24/26
- Previous ranking: 26
- Congestion level on highways: 6%
- Congestion level on non-highways: 23%
- Delay per hour driven in peak period: 15 min
- Delay per year with a 30 min commute: 46 h

Most congested specific day: Thu 12 Jan 2012
- Average free flow speed: 40 m/h
- Average speed during worst peak period: 42 m/h
- Total network length: 2,195 mi
- Total network length highways: 378 mi
- Total network length non-highways: 1,816 mi
- Total vehicle miles: 1,045,892 mi

Congestion comparison
Delay per hour driven in peak period

Comparison per quarter

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The weekly congestion pattern:
Best and worst peak periods of the week

Congestion level

25%

Ranking
Ranking of city compared to continent: 5/26
Previous ranking: 6
Congestion level on highways: 13%
Congestion level on non-highways: 31%
Delay per hour driven in peak period: 28 min
Delay per year with a 30 min commute: 73 h

Most congested specific day: Fri 17 Feb 2012
Average free flow speed: 43 mph
Average speed during worst peak period: 40 mph
Total network length: 1,942 mi
Total network length highways: 203 mi
Total network length non-highways: 1,738 mi
Total vehicle miles: 1,955,482 mi

Congestion comparison

Delay per hour driven in peak period

Comparison per quarter

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The weekly congestion pattern:

Best and worst peak periods of the week

Delay per hour driven in peak period:

- 31 min

Delay per year with a 30 min commute:

- 78 h

Toronto

Congestion level

22%

Ranking

- Ranking of city compared to continent: 9/26
- Previous ranking: 3
- Congestion level on highways: 15%
- Congestion level on non-highways: 30%

Most congested specific day: Fri 13 Jan 2012

- Average free flow speed: 42 m/h
- Average speed during worst peak period: 37 m/h
- Total network length: 1,186 mi
- Total network length highways: 572 mi
- Total network length non-highways: 2,613 mi

Total vehicle miles: 4,457,190 mi

Comparison per quarter

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The weekly congestion pattern:

- Best and worst peak periods of the week

**Congestion level**

- 30%

**Ranking**

- Ranking of city compared to continent: 2/26
- Previous ranking: 2
- Congestion level on highways: 17%
- Congestion level on non-highways: 34%
- Delay per hour driven in peak period: 34 min
- Delay per year with a 30 min commute: 83 h

**Most congested specific day**

- Wed 18 Jan 2012

- Average free flow speed: 35 mph
- Average speed during worst peak period: 30 mph
- Total network length: 781 mi
- Total network length highways: 75 mi
- Total network length non-highways: 706 mi
- Total vehicle miles: 584517 mi

**Congestion comparison**

- Delay per hour driven in peak period

**Comparison per quarter**

- Graph showing congestion levels per quarter from Q1-2011 to Q1-2012

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Washington

Congestion level

24%

Ranking
- Ranking of city compared to continent: 7/26
- Previous ranking: 4
- Congestion level on highways: 16%
- Congestion level on non-highways: 33%
- Delay per hour driven in peak period: 30 min
- Delay per year with a 30 min commute: 76 h

The weekly congestion pattern:
Best and worst peak periods of the week

Most congested specific day: Mon 9 Jan 2012
- Average free flow speed: 40 mi/h
- Average speed during worst peak period: 37 mi/h
- Total network length: 3,877 mi
- Total network length highways: 598 mi
- Total network length non-highways: 2,789 mi
- Total vehicle miles: 4,708,776 mi

Congestion comparison
- Delay per hour driven in peak period

Comparison per quarter

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## Evaluated cities

### North America

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th>Country</th>
<th>24/7</th>
<th>Morning peak</th>
<th>Evening peak</th>
<th>Weekdays</th>
<th>Weekend</th>
<th>Average speed (mph)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Los Angeles</td>
<td>United States</td>
<td>33</td>
<td>56</td>
<td>72</td>
<td>38</td>
<td>19</td>
<td>37</td>
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<tr>
<td>2</td>
<td>Vancouver</td>
<td>Canada</td>
<td>30</td>
<td>51</td>
<td>65</td>
<td>34</td>
<td>18</td>
<td>33</td>
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<td>42</td>
<td>54</td>
<td>29</td>
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<td>Dallas Fort Worth</td>
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<td>32</td>
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<td>United States</td>
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<td>Riverside</td>
<td>United States</td>
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<td>Phoenix</td>
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# Keywords

<table>
<thead>
<tr>
<th>Keywords</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Free Flow Speed</td>
<td>Measured average road speed during a free flow situation (usually at night).</td>
</tr>
<tr>
<td>Average observed speeds</td>
<td>Average observed speeds within specific time periods.</td>
</tr>
<tr>
<td>Cities</td>
<td>In this report urban areas in all countries with TomTom HD Traffic are evaluated. In these countries all urban areas that include a country capital and all urban areas that have over 50,000 inhabitants are included. A maximum of 20 urban areas per country is evaluated.</td>
</tr>
<tr>
<td>City</td>
<td>See Cities.</td>
</tr>
<tr>
<td>Congestion level</td>
<td>See TomTom Congestion Level.</td>
</tr>
<tr>
<td>Delay per hour driven in peak period</td>
<td>Delay in minutes per hour driven during morning and evening peak times compared to free flow situations. For example, 22 minutes delay per hour at peak times indicates that a one hour journey driven at free flow times will take an additional 22 minutes at peak times.</td>
</tr>
<tr>
<td>Delay per year for commuters</td>
<td>See Time delay per year for commuters.</td>
</tr>
<tr>
<td>FRC</td>
<td>Functional Road Class, an industry standard that defines different road categories. FRCo = highways, FRC1 = international roads/district roads, FRC2 = major roads, FRC3 = secondary roads, FRC4 = connecting roads.</td>
</tr>
<tr>
<td>Free flow</td>
<td>See free flow situation.</td>
</tr>
<tr>
<td>Free flow condition</td>
<td>See Free Flow Speed.</td>
</tr>
<tr>
<td>Free flow situation</td>
<td>A journey made without any delay caused by traffic congestion. This most typically occurs during the night.</td>
</tr>
<tr>
<td>Free Flow Speed</td>
<td>See Average Free Flow Speed.</td>
</tr>
<tr>
<td>Highways</td>
<td>See FRC.</td>
</tr>
<tr>
<td>Most congested day</td>
<td>See most congested specific day.</td>
</tr>
<tr>
<td>Most congested specific day</td>
<td>The day with the highest Congestion Level.</td>
</tr>
<tr>
<td>Non-highways</td>
<td>See FRC.</td>
</tr>
<tr>
<td>Peak hours</td>
<td>See Peak period.</td>
</tr>
<tr>
<td>Peak period</td>
<td>Based on real traffic measurements, the busiest one-hour long period in the morning and in the evening period were determined for every evaluated city.</td>
</tr>
<tr>
<td>Road network</td>
<td>In this report all speed measurements on roads classified as FRCo through FRC4 within the urban areas contribute to the statistics.</td>
</tr>
<tr>
<td>Time delay per year for commuters</td>
<td>Delay per year with a 30 minute commute. Based on 230 work days per year and two peak periods per day.</td>
</tr>
<tr>
<td>TomTom Congestion Level</td>
<td>Increase in overall travel times when compared to a free flow situation. For example, a Congestion Level of 12% corresponds to 12% longer travel times compared to a free flow situation.</td>
</tr>
<tr>
<td>Total network length</td>
<td>Total length of the evaluated network in miles.</td>
</tr>
<tr>
<td>Total network length highways</td>
<td>Total length of the evaluated network in miles for FRCo and FRC1 only.</td>
</tr>
<tr>
<td>Total network length non-highways</td>
<td>Total length of the evaluated network in miles for FRC2, FRC3 and FRC4 only.</td>
</tr>
<tr>
<td>Total vehicle miles</td>
<td>Total distance covered by all TomTom user measurements, used for this specific report.</td>
</tr>
<tr>
<td>Travel time</td>
<td>TomTom’s historic traffic database contains over six trillion anonymous speed measurements. These speed measurements are used to calculate the travel times on individual road segments and entire networks.</td>
</tr>
<tr>
<td>Urban area</td>
<td>Geographical area that takes population size and network layout into account. Speed measurements within the defined urban area contribute to the statistics.</td>
</tr>
<tr>
<td>Urban network</td>
<td>The road network in an urban area.</td>
</tr>
</tbody>
</table>
Explanation of tables and figures

Pages for continents

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congestion Level</td>
<td>Average Congestion Level across all cities evaluated on the continent.</td>
</tr>
<tr>
<td>Map of the continent</td>
<td>Image of the continent showing the 5 most congested cities.</td>
</tr>
<tr>
<td>Top 5 - increasing congestion</td>
<td>Top 5 cities with largest increase in the Congestion Level compared to the previous quarter.</td>
</tr>
<tr>
<td>Top 5 - decreasing congestion</td>
<td>Top 5 cities with largest decrease in the Congestion Level compared to the previous quarter.</td>
</tr>
<tr>
<td>Top 10 cities</td>
<td>Ranking of cities according to Congestion Levels.</td>
</tr>
<tr>
<td>• Rank</td>
<td>Rank according to Congestion Levels.</td>
</tr>
<tr>
<td>• Previous rank</td>
<td>Rank according to city Congestion Levels in the previous year.</td>
</tr>
<tr>
<td>• Congestion</td>
<td>Congestion Level.</td>
</tr>
<tr>
<td>• Morning peak</td>
<td>Average Congestion Level during morning peak periods on work days.</td>
</tr>
<tr>
<td>• Evening peak</td>
<td>Average Congestion Level during evening peak periods on work days.</td>
</tr>
<tr>
<td>• Highways</td>
<td>Average Congestion Level for highways only.</td>
</tr>
<tr>
<td>• Non-highways</td>
<td>Average Congestion Level for non-highways only.</td>
</tr>
<tr>
<td>Comparison per quarter</td>
<td>Change in Congestion Levels over the last year.</td>
</tr>
<tr>
<td>• Congestion</td>
<td>Average Congestion Level for all the cities evaluated.</td>
</tr>
<tr>
<td>• Worst average morning peak</td>
<td>Highest Congestion Level during the 5 morning peak periods (work days) in all cities evaluated.</td>
</tr>
<tr>
<td>• Worst average evening peak</td>
<td>Highest Congestion Level during the 5 evening peak periods (work days) in all cities evaluated.</td>
</tr>
</tbody>
</table>

Pages for cities

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congestion Level</td>
<td>Average Congestion Level across all roads in the city.</td>
</tr>
<tr>
<td>Ranking of city compared to continent</td>
<td>Rank of the city according to Congestion Level compared to other evaluated cities on the continent.</td>
</tr>
<tr>
<td>Congestion Level on highways</td>
<td>Congestion Level for highways only.</td>
</tr>
<tr>
<td>Congestion Level on non-highways</td>
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</tr>
<tr>
<td>Delay per hour driven in peak period</td>
<td>Average delay in minutes for a one hour journey driven in the peak periods.</td>
</tr>
<tr>
<td>Delay per year with a 30 minute commute</td>
<td>The total accumulated delay over one year for a 30 minute commute driven in the peak periods on work days.</td>
</tr>
<tr>
<td>Speed during worst peak period</td>
<td>Average speed during most congested weekly rush hour.</td>
</tr>
<tr>
<td>The weekly congestion pattern</td>
<td>Average Congestion Levels for the 10 peak periods in a week (morning and evening peak hours on 3 working days).</td>
</tr>
<tr>
<td>Comparison per quarter</td>
<td>Change in Congestion Level over the past quarters.</td>
</tr>
<tr>
<td>Congestion</td>
<td>Average Congestion Level across the city.</td>
</tr>
<tr>
<td>Worst average morning peak</td>
<td>Highest Congestion Level during the 5 morning peak periods (work days).</td>
</tr>
<tr>
<td>Worst average evening peak</td>
<td>Highest Congestion Level during the 5 evening peak periods (work days).</td>
</tr>
</tbody>
</table>