TomTom North American Congestion Index

Disclaimer

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 kilometres 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

	Previous Congestion	Increase in congestion (0 4 8 12 16)	Current
Seattle	21%	4	25%
Houston	19%	3	22%
Ottawa	20%	2	22%
San Francisco	23%	1	24%
Miami	24%	1	25%

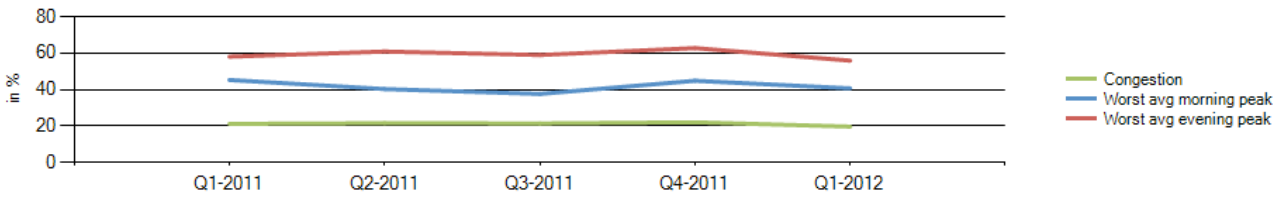
Top 5 - Decreasing congestion

	Previous Congestion	Decrease in congestion (0 4 8 12 16)	Current
Edmonton	24%	11	13%
New York	23%	6	17%
Boston	21%	5	16%
Minneapolis	16%	4	12%
Toronto	27%	4	23%

Top 10 cities

Rank	Prev. Year		City	Country	Congestion	Morning peak	Evening peak	Highways	Non-Highways
1	1	---	Los Angeles	United States	33%	56%	77%	28%	41%
2	2	---	Vancouver	Canada	30%	51%	65%	17%	34%
3	5	▲	Miami	United States	26%	42%	54%	12%	37%
4	12	▲	Seattle	United States	25%	48%	70%	20%	33%
5	6	▲	Tampa	United States	25%	31%	59%	13%	31%
6	9	▲	San Francisco	United States	25%	51%	62%	20%	33%
7	4	▼	Washington	United States	24%	44%	56%	16%	33%
8	18	▲	Houston	United States	23%	41%	65%	17%	32%
9	3	▼	Toronto	Canada	22%	47%	56%	15%	30%
10	15	▲	Ottawa	Canada	22%	55%	75%	19%	30%

Comparison per quarter



North America

Rank	Prev. Year		City	Country	Congestion	Morning peak	Evening peak	Highways	Non-Highways
1	1	---	Los Angeles	United States	33%	56%	77%	28%	41%
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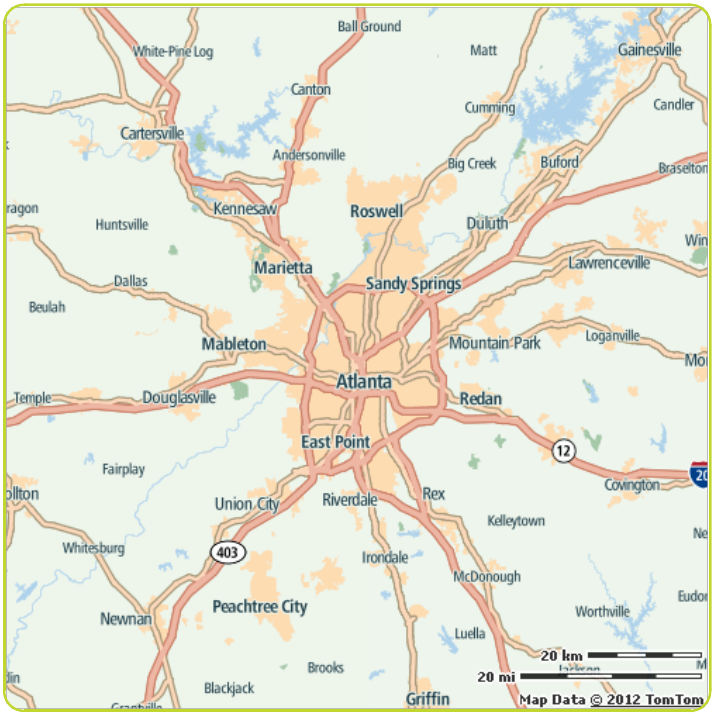
3	5	▲	Miami	United States	26%	42%	54%	12%	37%
4	12	▲	Seattle	United States	25%	48%	70%	20%	33%
5	6	▲	Tampa	United States	25%	31%	59%	13%	31%
6	9	▲	San Francisco	United States	25%	51%	62%	20%	33%
7	4	▼	Washington	United States	24%	44%	56%	16%	33%
8	18	▲	Houston	United States	23%	41%	65%	17%	32%
9	3	▼	Toronto	Canada	22%	47%	56%	15%	30%
10	15	▲	Ottawa	Canada	22%	55%	75%	19%	30%
11	11	---	Atlanta	United States	21%	38%	51%	12%	30%
12	7	▼	Montreal	Canada	20%	37%	63%	17%	26%
13	17	▲	San Diego	United States	19%	33%	47%	10%	34%
14	19	▲	Chicago	United States	19%	27%	43%	11%	27%
15	10	▼	New York	United States	17%	32%	41%	11%	28%
16	13	▼	Calgary	Canada	17%	17%	22%	11%	20%
17	16	▼	Philadelphia	United States	17%	29%	37%	9%	27%
18	20	▲	Dallas-Fort Worth	United States	16%	32%	41%	11%	24%
19	14	▼	Boston	United States	16%	28%	35%	10%	25%
20	25	▲	Baltimore	United States	15%	26%	40%	9%	28%
21	22	▲	Riverside	United States	15%	27%	38%	10%	27%
22	24	▲	Phoenix	United States	14%	27%	35%	7%	20%
23	8	▼	Edmonton	Canada	13%	20%	25%	1%	18%
24	26	▲	St. Louis	United States	13%	23%	27%	6%	23%
25	23	▼	Detroit	United States	12%	18%	28%	7%	17%
26	21	▼	Minneapolis	United States	12%	26%	29%	7%	20%

Atlanta



Congestion level

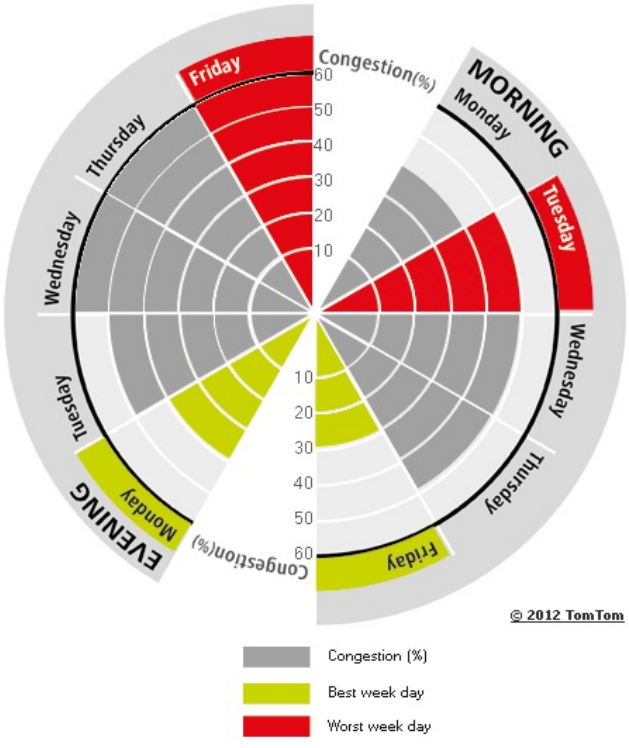
21%

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

The weekly congestion pattern:

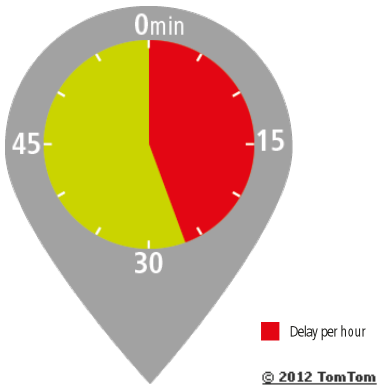
Best and worst peak periods of the week



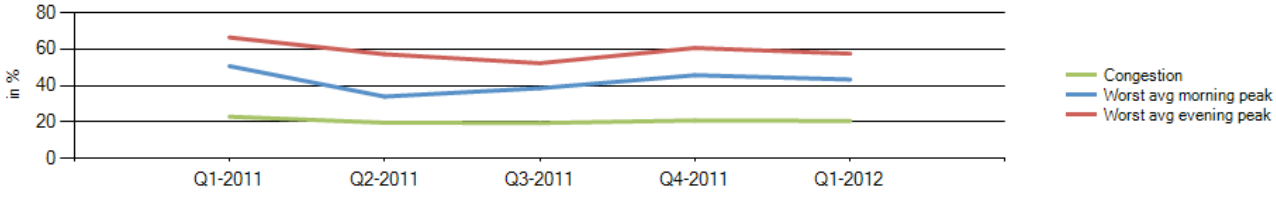
Most congested specific day	Fri 30 Mar 2012
Average free flow speed	69 km/h
Average speed during worst peak period	64 km/h
Total network length	7 164 km
Total network length highways	874 km
Total network length non-highways	6 290 km
Total vehicle kilometres	6 585 105 km

Congestion comparison

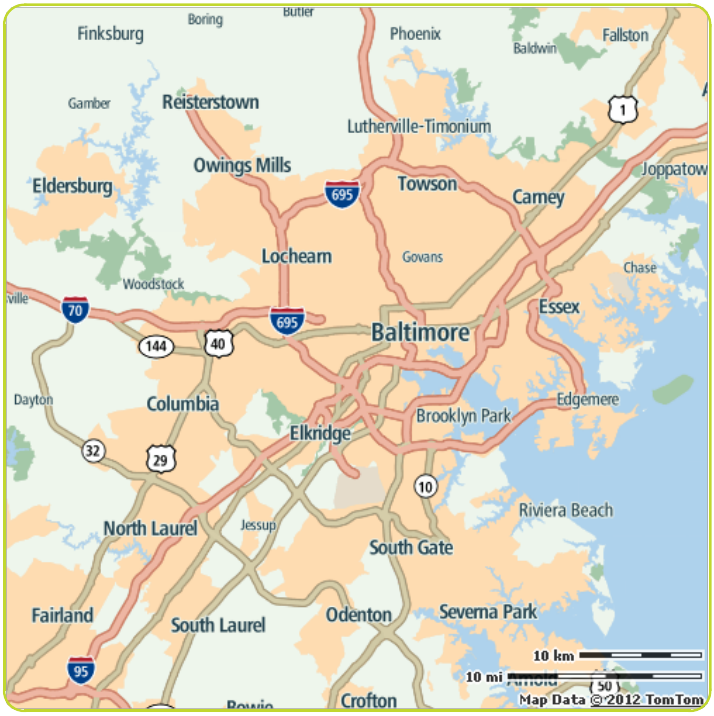
Delay per hour driven in peak period



Comparison per quarter



Baltimore



Congestion level

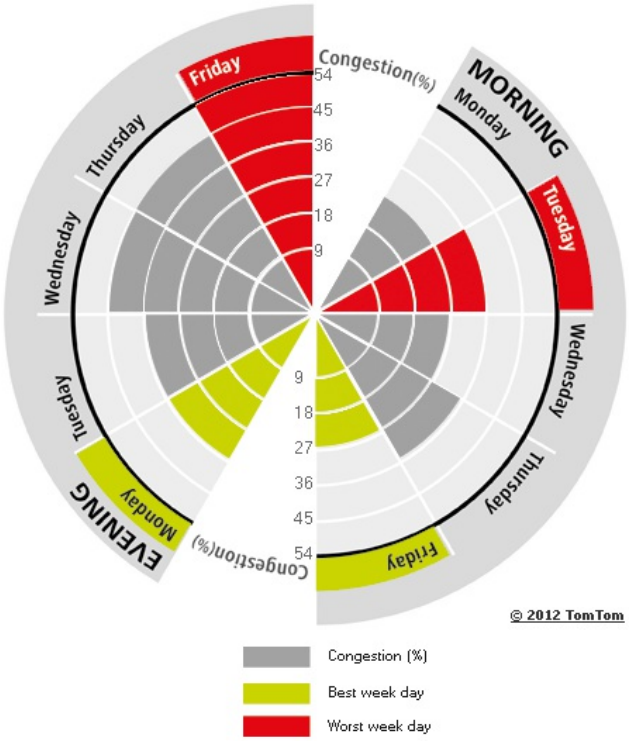
15%

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

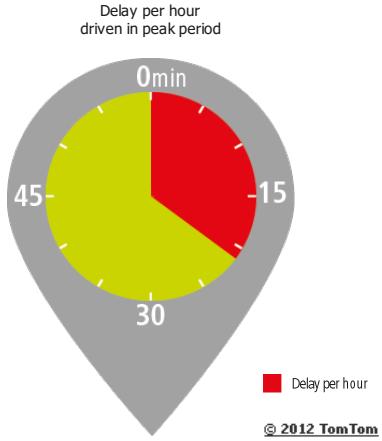
The weekly congestion pattern:

Best and worst peak periods of the week

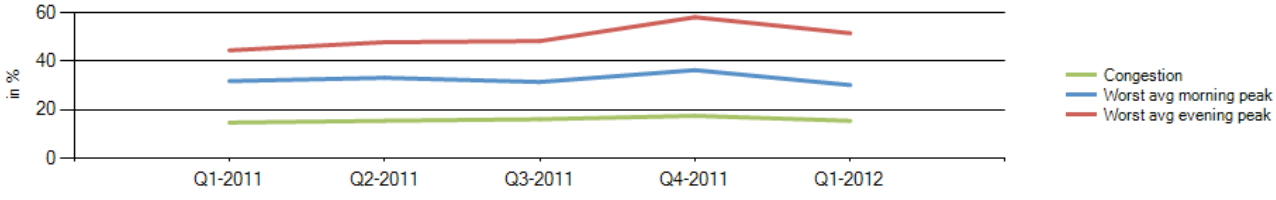


Most congested specific day	Fri 24 Feb 2012
Average free flow speed	67 km/h
Average speed during worst peak period	61 km/h
Total network length	3 161 km
Total network length highways	704 km
Total network length non-highways	2 457 km
Total vehicle kilometres	3 689 107 km

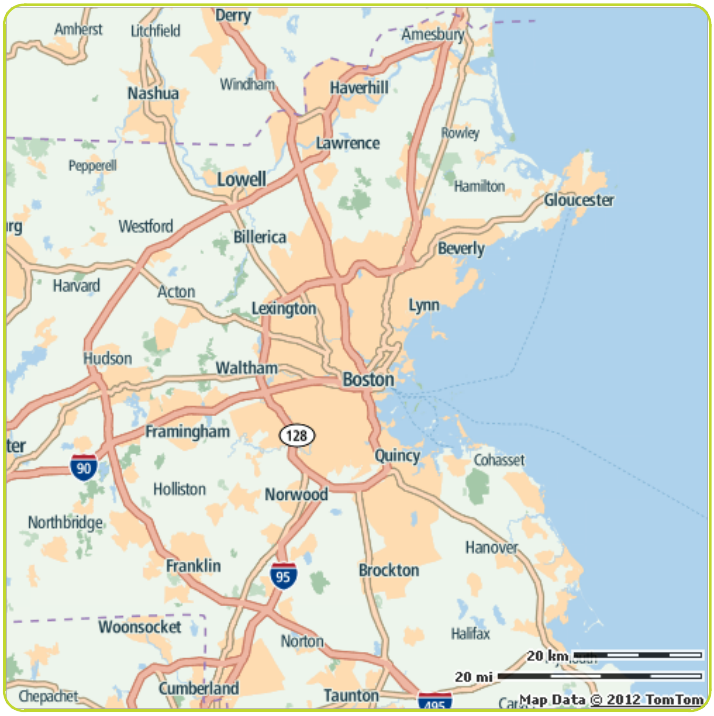
Congestion comparison



Comparison per quarter



Boston



Congestion level

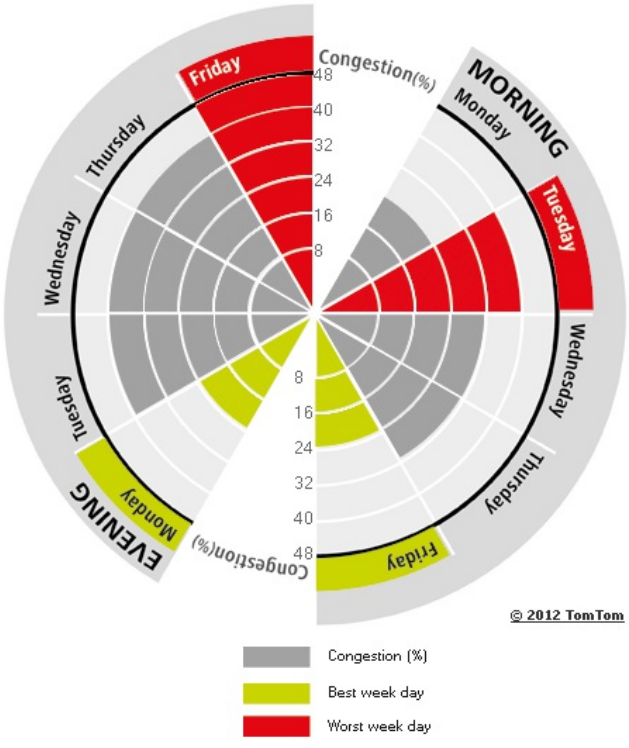
16%

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

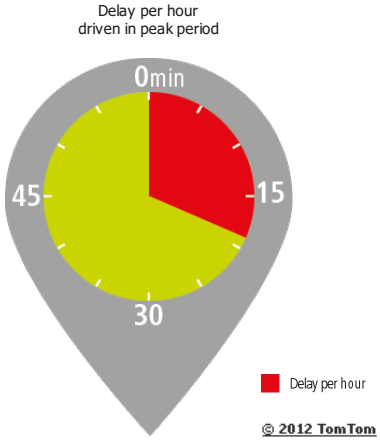
The weekly congestion pattern:

Best and worst peak periods of the week

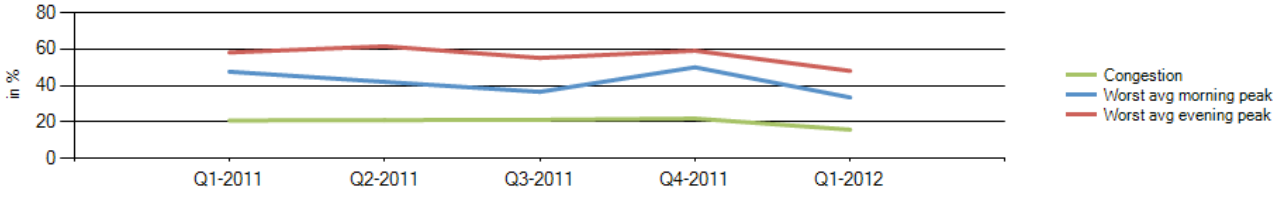


Most congested specific day	Sat 21 Jan 2012
Average free flow speed	62 km/h
Average speed during worst peak period	57 km/h
Total network length	9 119 km
Total network length highways	1 347 km
Total network length non-highways	7 772 km
Total vehicle kilometres	6 946 344 km

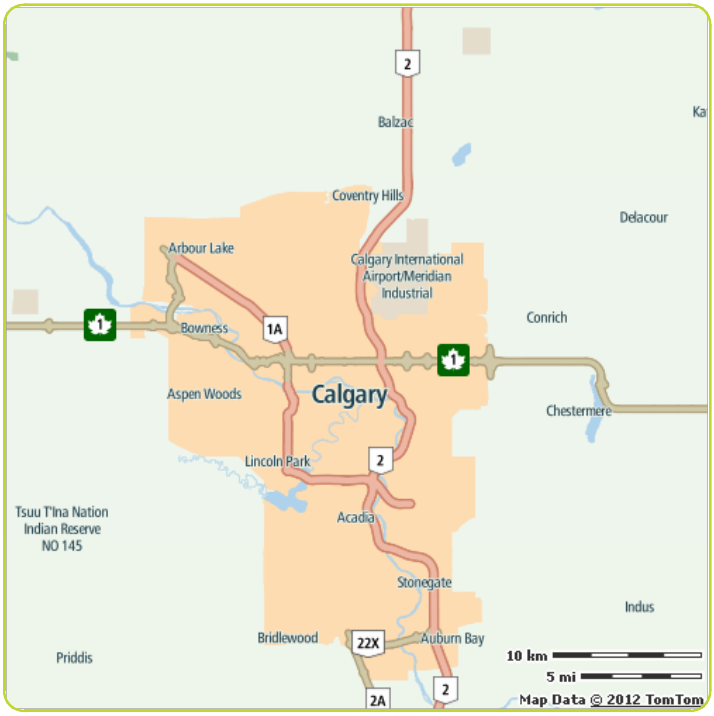
Congestion comparison



Comparison per quarter



Calgary



Congestion level

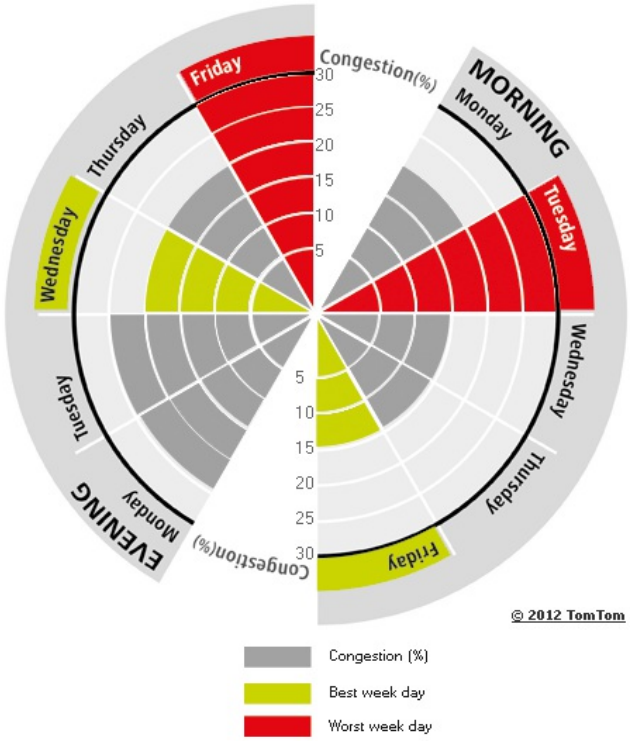
17%

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

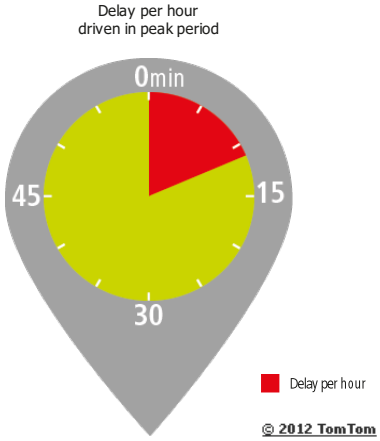
The weekly congestion pattern:

Best and worst peak periods of the week

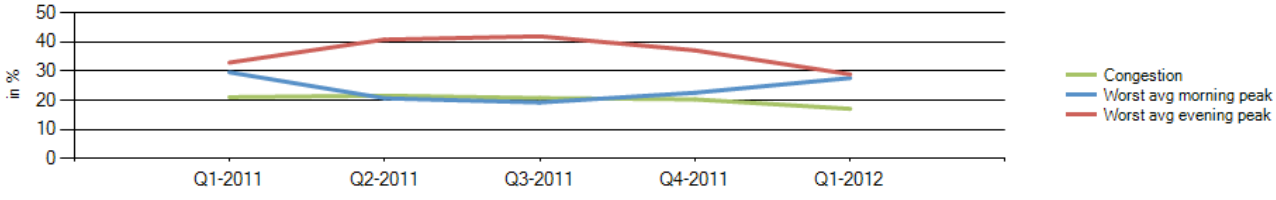


Most congested specific day	Tue 17 Jan 2012
Average free flow speed	68 km/h
Average speed during worst peak period	66 km/h
Total network length	1 516 km
Total network length highways	225 km
Total network length non-highways	1 292 km
Total vehicle kilometres	843 150 km

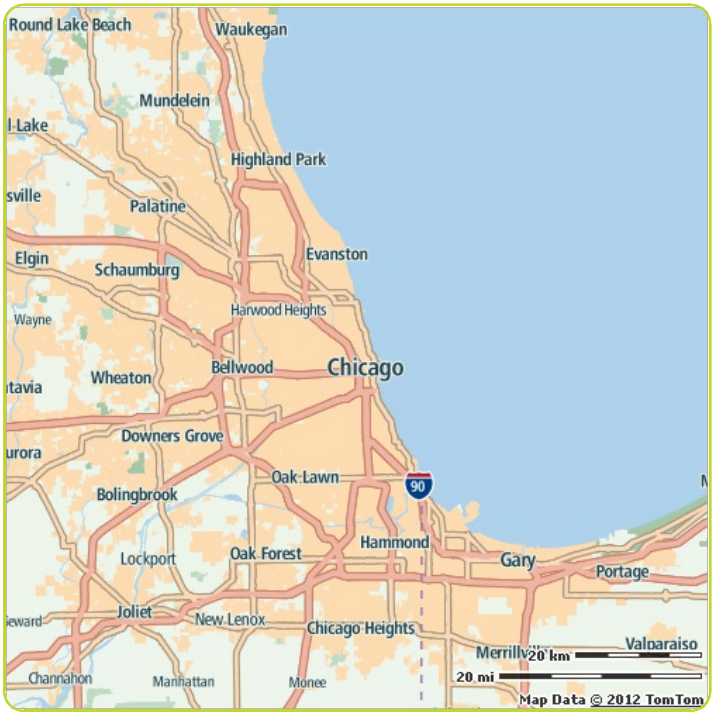
Congestion comparison



Comparison per quarter



Chicago



Congestion level

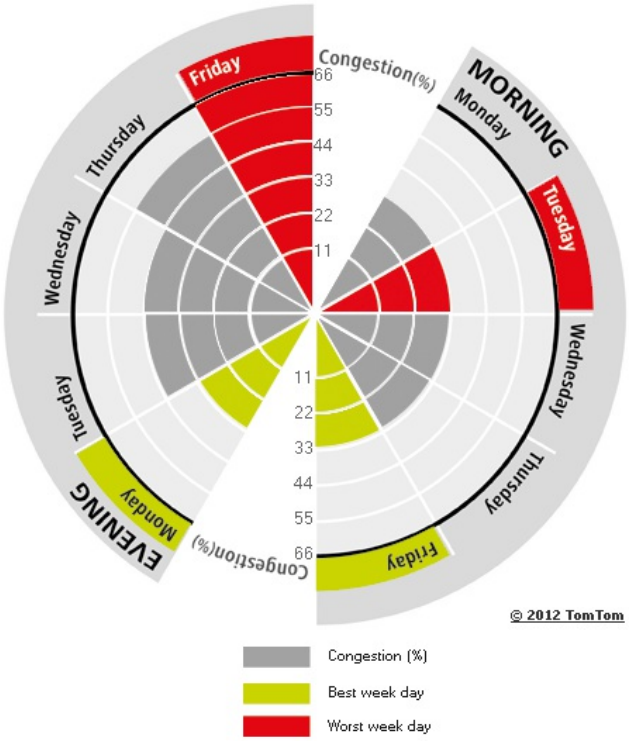
19%

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

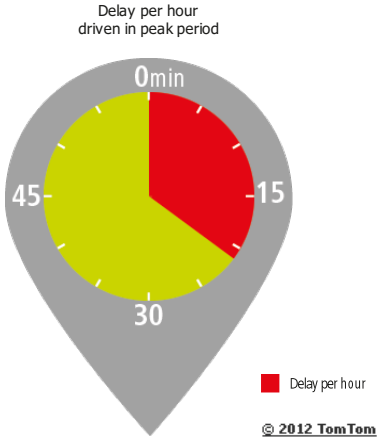
The weekly congestion pattern:

Best and worst peak periods of the week

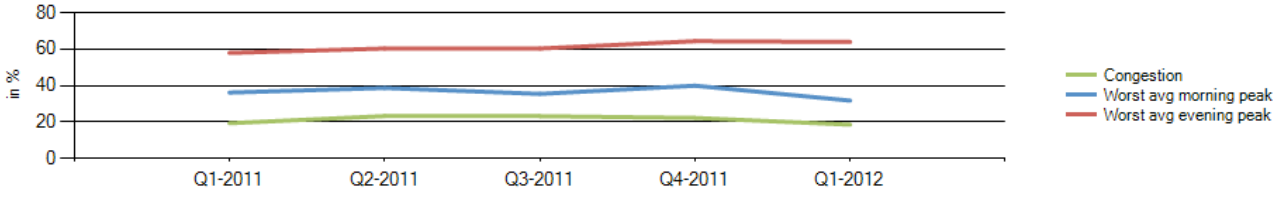


Most congested specific day	Fri 20 Jan 2012
Average free flow speed	61 km/h
Average speed during worst peak period	54 km/h
Total network length	7 531 km
Total network length highways	1 011 km
Total network length non-highways	6 520 km
Total vehicle kilometres	5 607 647 km

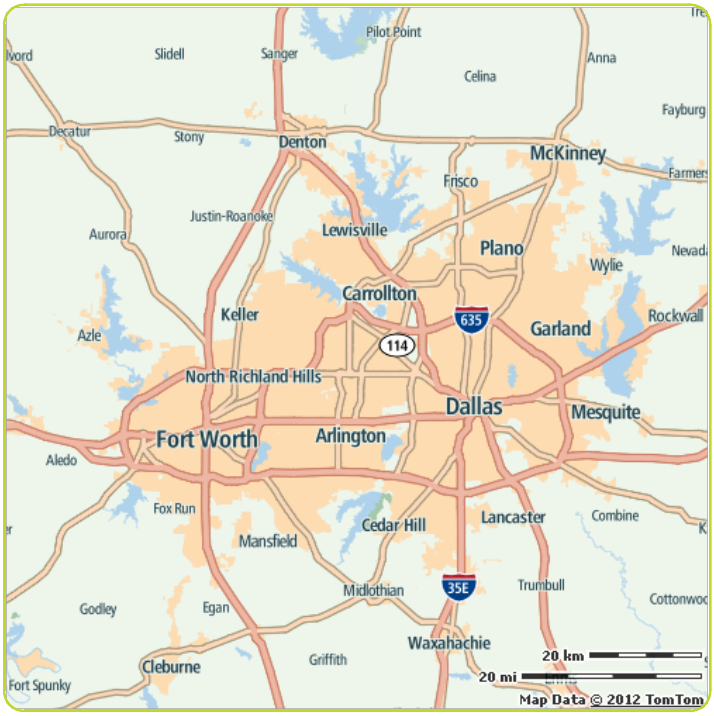
Congestion comparison



Comparison per quarter



Dallas-Fort Worth



Congestion level

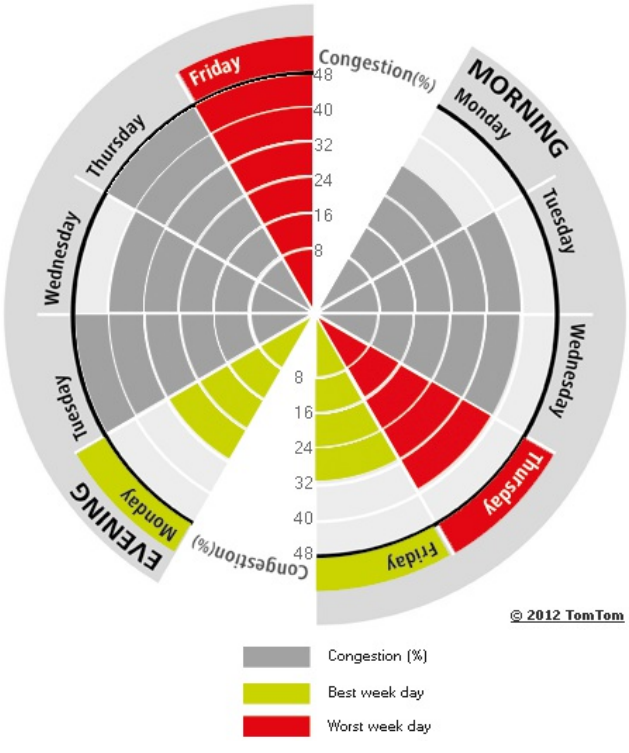
16%

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

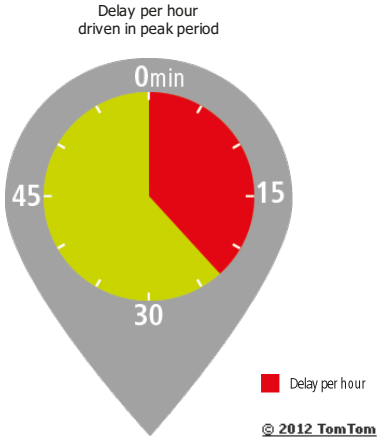
The weekly congestion pattern:

Best and worst peak periods of the week

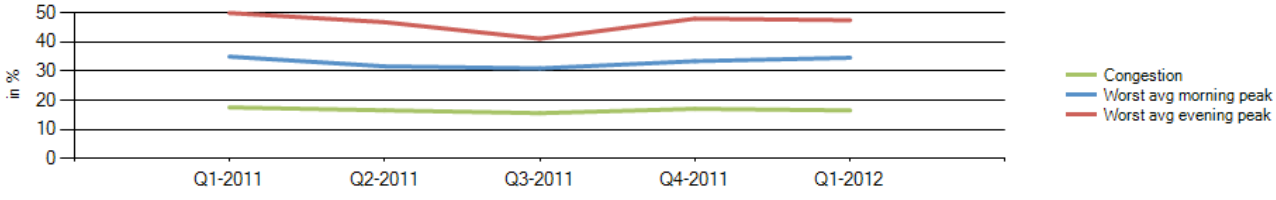


Most congested specific day	Mon 9 Jan 2012
Average free flow speed	72 km/h
Average speed during worst peak period	68 km/h
Total network length	12 598 km
Total network length highways	2 408 km
Total network length non-highways	10 190 km
Total vehicle kilometres	7 311 498 km

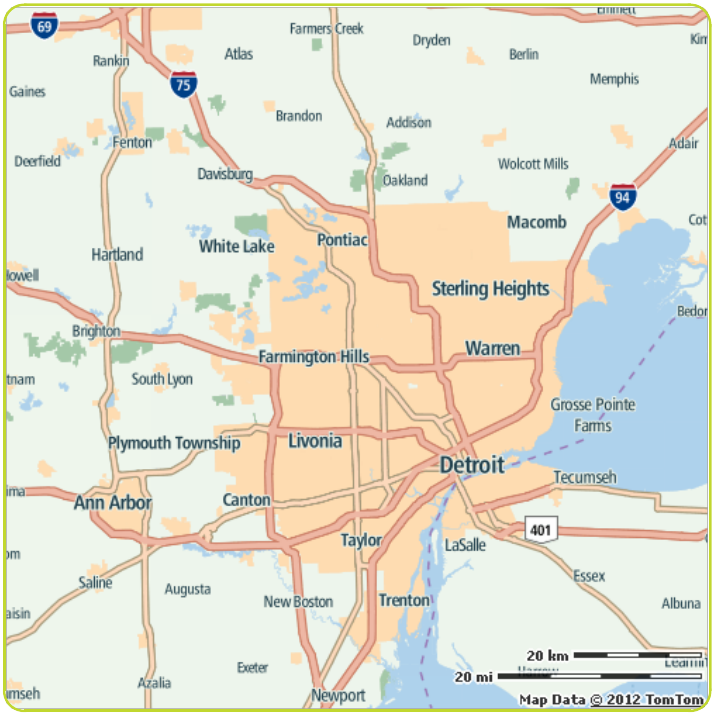
Congestion comparison



Comparison per quarter



Detroit



Congestion level

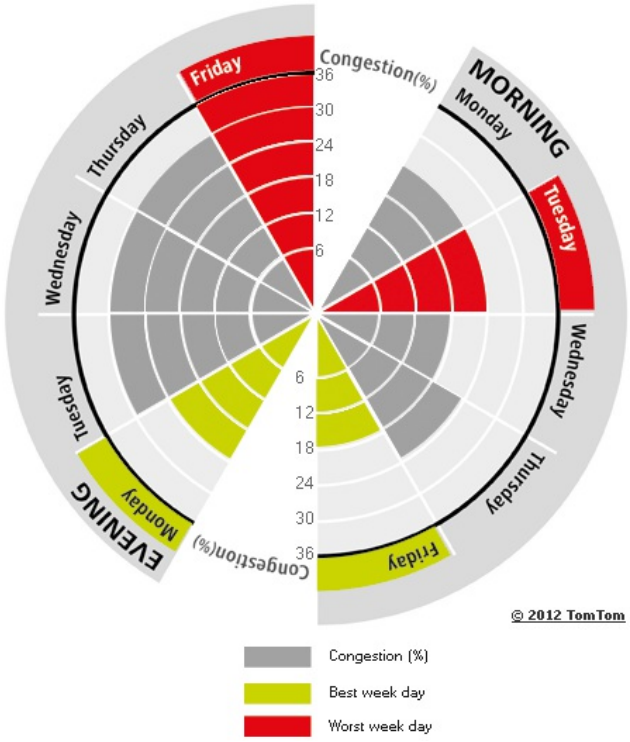
12%

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

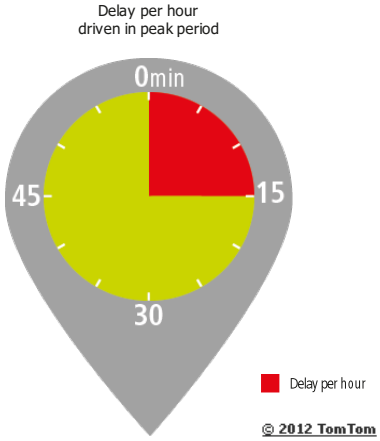
The weekly congestion pattern:

Best and worst peak periods of the week

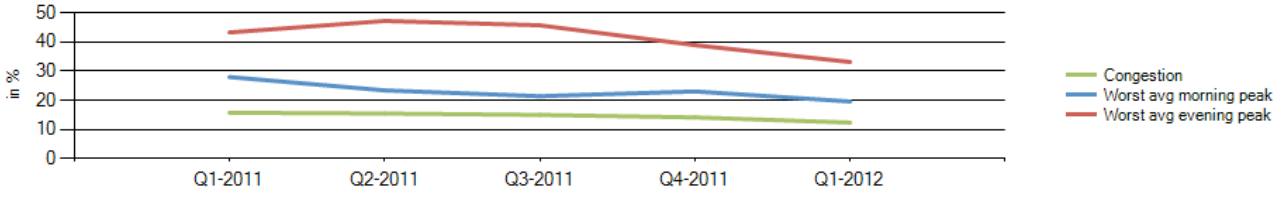


Most congested specific day	Thu 19 Jan 2012
Average free flow speed	66 km/h
Average speed during worst peak period	64 km/h
Total network length	7 851 km
Total network length highways	833 km
Total network length non-highways	7 018 km
Total vehicle kilometres	3 191 460 km

Congestion comparison



Comparison per quarter



Edmonton

Congestion level

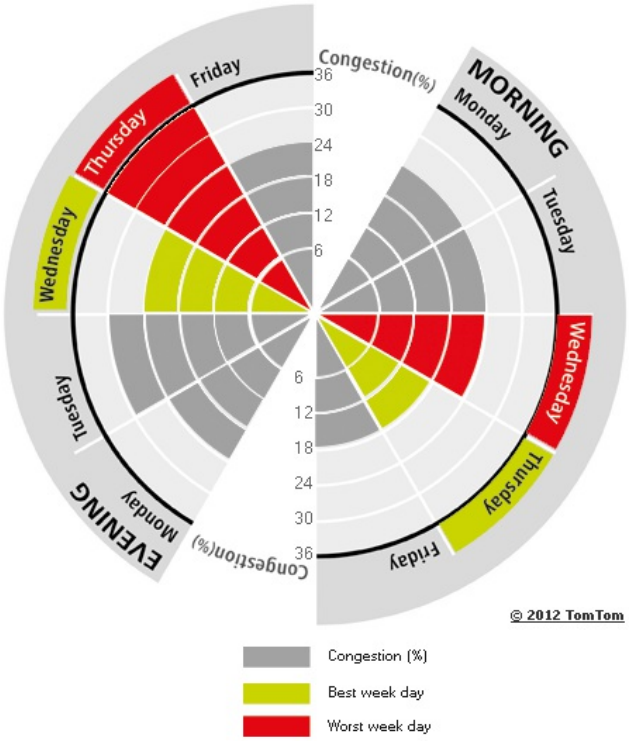
13%

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

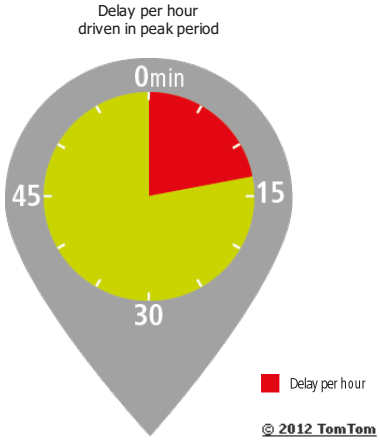
The weekly congestion pattern:

Best and worst peak periods of the week

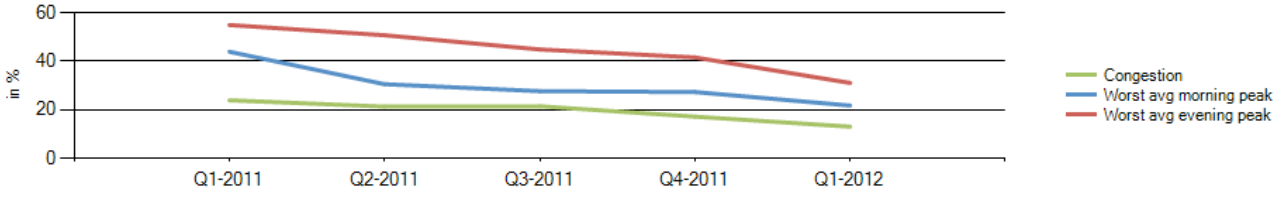


Most congested specific day	Thu 22 Mar 2012
Average free flow speed	64 km/h
Average speed during worst peak period	62 km/h
Total network length	1 416 km
Total network length highways	228 km
Total network length non-highways	1 188 km
Total vehicle kilometres	580 294 km

Congestion comparison



Comparison per quarter



Houston

Congestion level

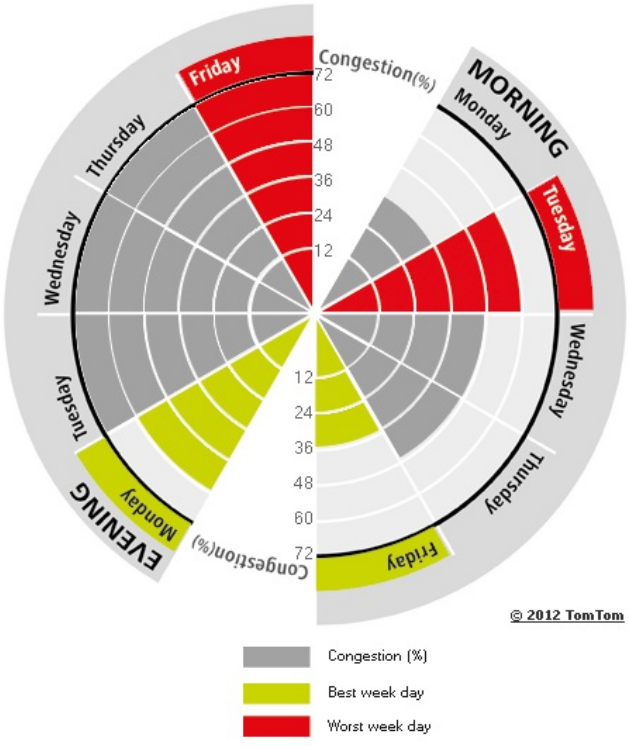
23%

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

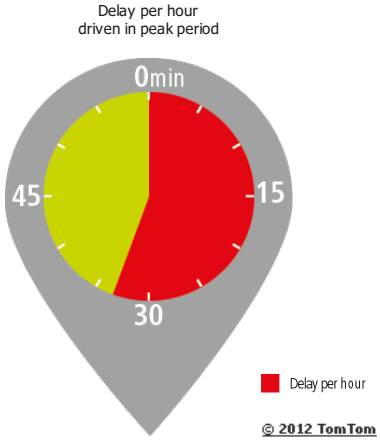
The weekly congestion pattern:

Best and worst peak periods of the week

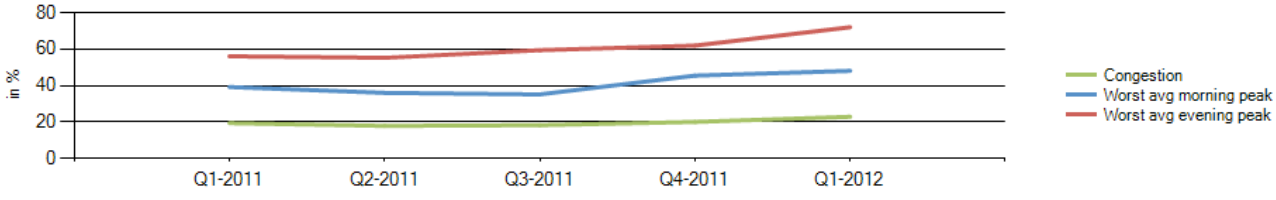


Most congested specific day	Fri 9 Mar 2012
Average free flow speed	72 km/h
Average speed during worst peak period	64 km/h
Total network length	5 845 km
Total network length highways	1 220 km
Total network length non-highways	4 625 km
Total vehicle kilometres	3 756 679 km

Congestion comparison



Comparison per quarter



Los Angeles

Congestion level

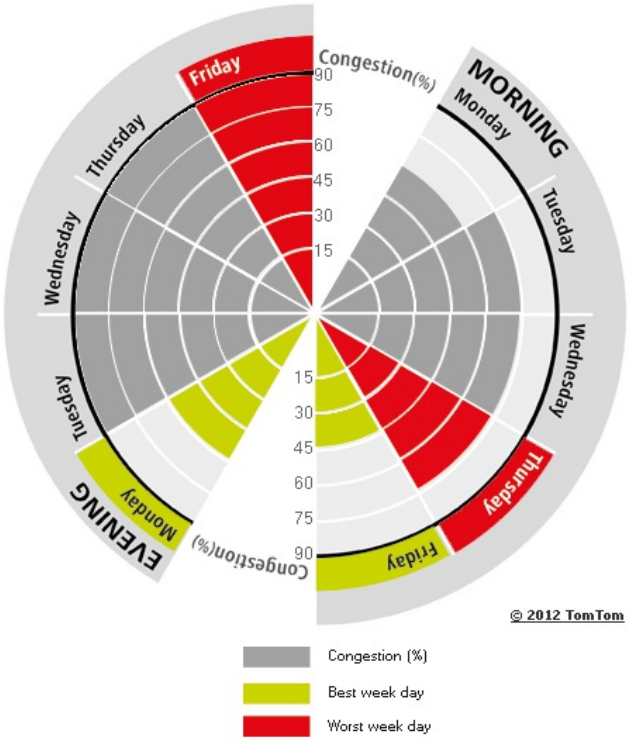
33%

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

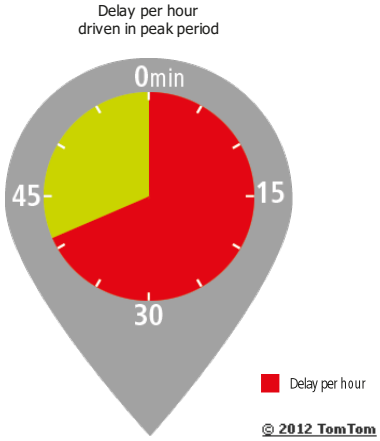
The weekly congestion pattern:

Best and worst peak periods of the week

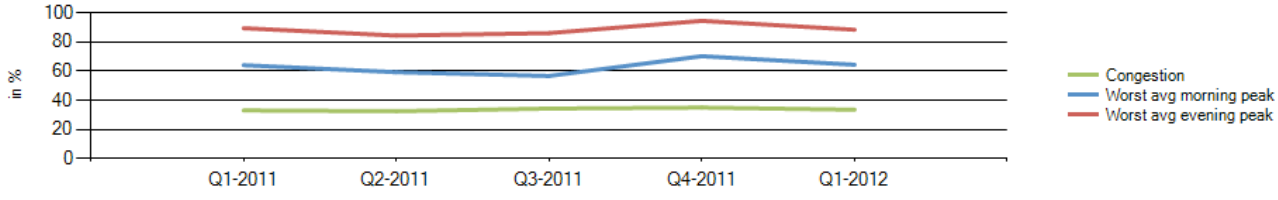


Most congested specific day	Fri 17 Feb 2012
Average free flow speed	63 km/h
Average speed during worst peak period	54 km/h
Total network length	10 145 km
Total network length highways	1 584 km
Total network length non-highways	8 561 km
Total vehicle kilometres	6 695 275 km

Congestion comparison



Comparison per quarter



Miami

Congestion level

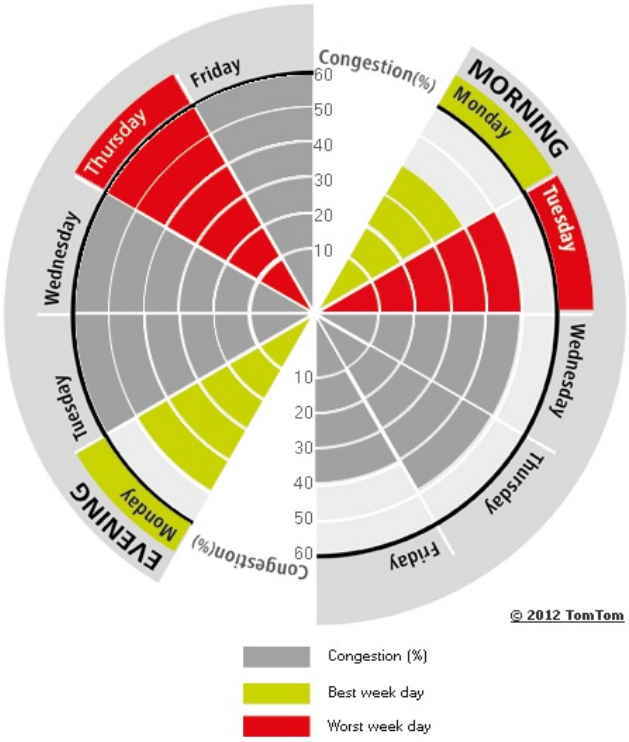
26%

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

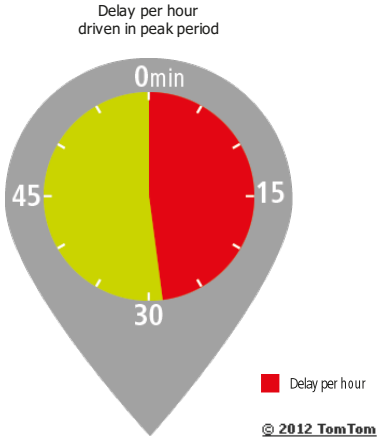
The weekly congestion pattern:

Best and worst peak periods of the week

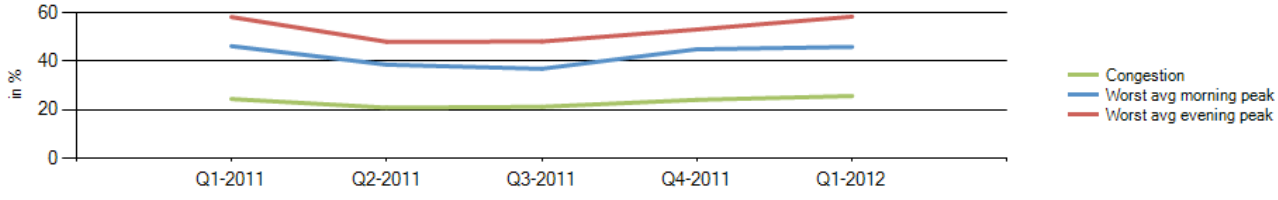


Most congested specific day	Fri 10 Feb 2012
Average free flow speed	68 km/h
Average speed during worst peak period	61 km/h
Total network length	6 795 km
Total network length highways	951 km
Total network length non-highways	5 844 km
Total vehicle kilometres	5 405 104 km

Congestion comparison



Comparison per quarter



Minneapolis

Congestion level

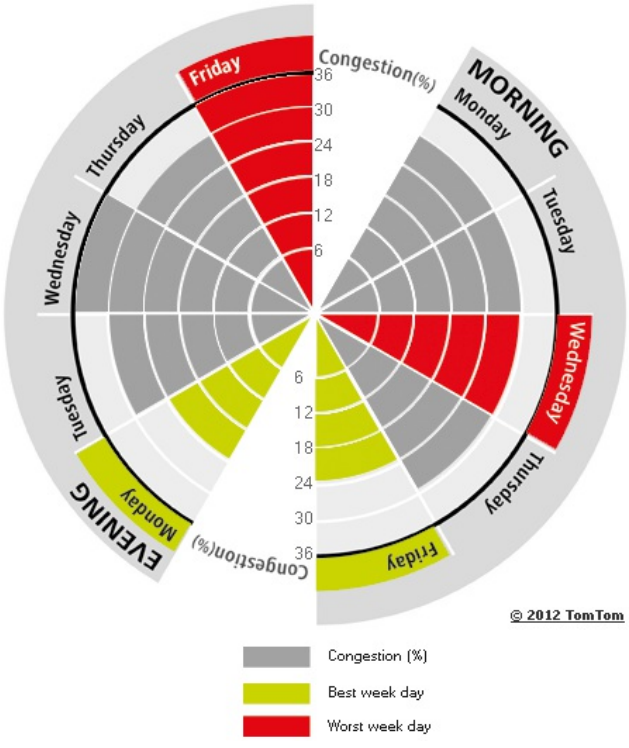
12%

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

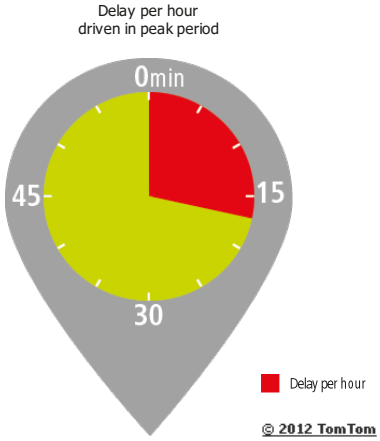
The weekly congestion pattern:

Best and worst peak periods of the week

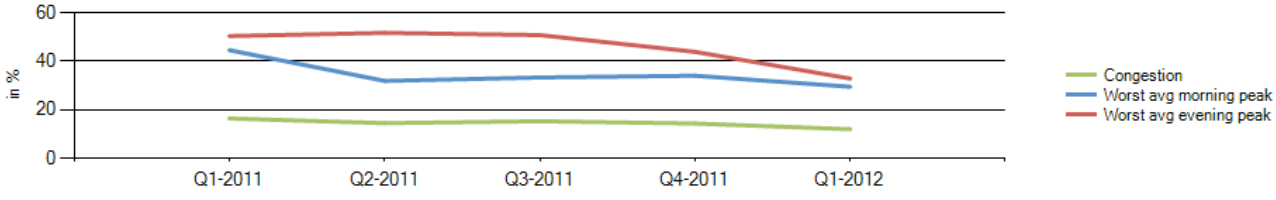


Most congested specific day	Fri 20 Jan 2012
Average free flow speed	65 km/h
Average speed during worst peak period	65 km/h
Total network length	5 552 km
Total network length highways	1 098 km
Total network length non-highways	4 454 km
Total vehicle kilometres	2 640 849 km

Congestion comparison



Comparison per quarter



Montreal

Congestion level

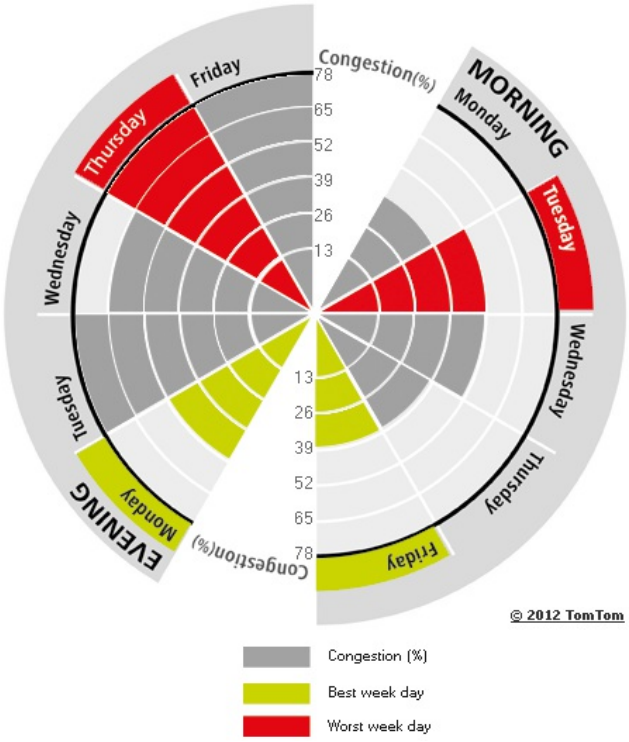
20%

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

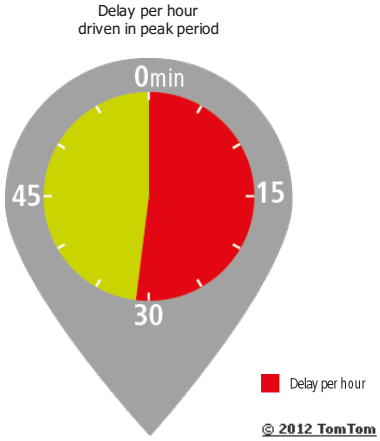
The weekly congestion pattern:

Best and worst peak periods of the week

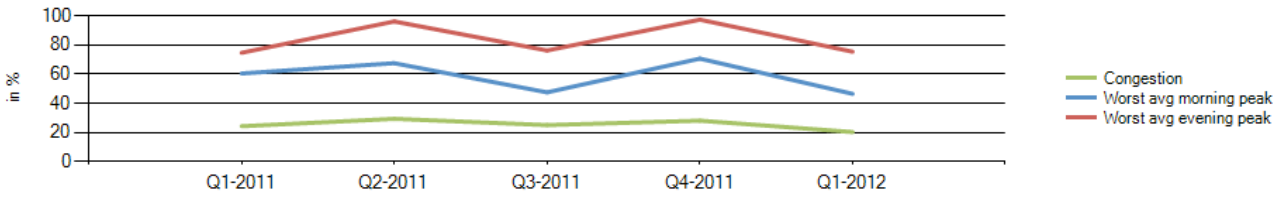


Most congested specific day	Thu 12 Jan 2012
Average free flow speed	74 km/h
Average speed during worst peak period	64 km/h
Total network length	2 077 km
Total network length highways	807 km
Total network length non-highways	1 270 km
Total vehicle kilometres	3 133 978 km

Congestion comparison



Comparison per quarter



New York

Congestion level

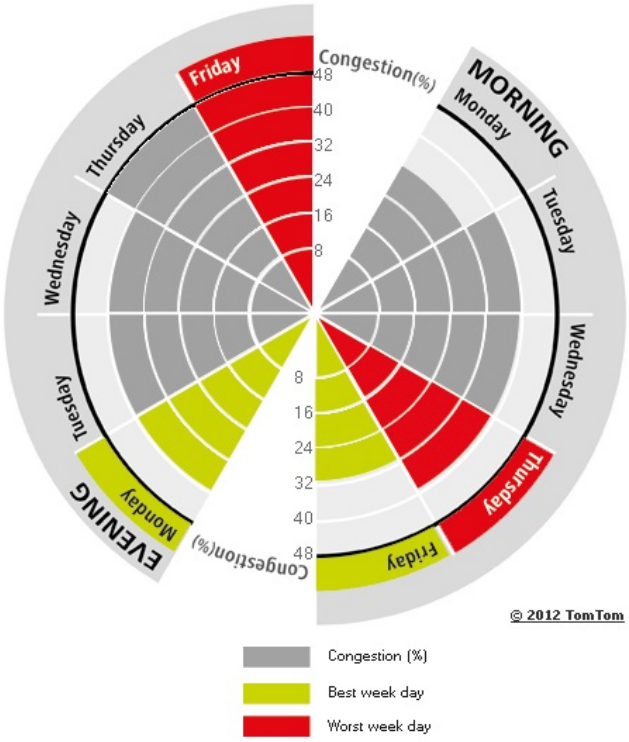
17%

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

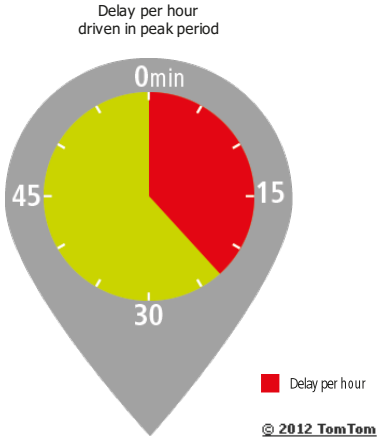
The weekly congestion pattern:

Best and worst peak periods of the week

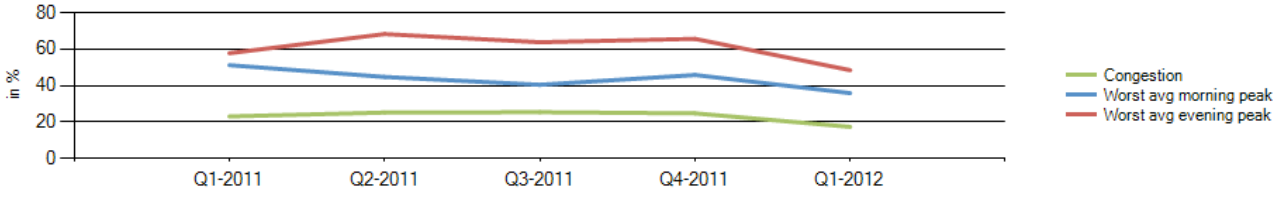


Most congested specific day	Fri 17 Feb 2012
Average free flow speed	62 km/h
Average speed during worst peak period	57 km/h
Total network length	15 132 km
Total network length highways	3 405 km
Total network length non-highways	11 727 km
Total vehicle kilometres	14 553 411 km

Congestion comparison



Comparison per quarter



Ottawa

Congestion level

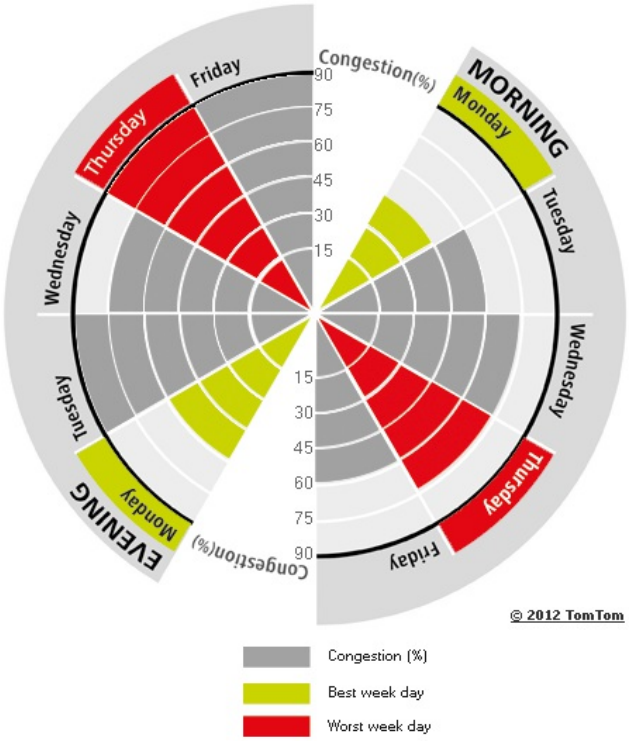
22%

Ranking

Ranking of city compared to continent	10/26
Previous ranking	15 ▲
Congestion level on highways	19%
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

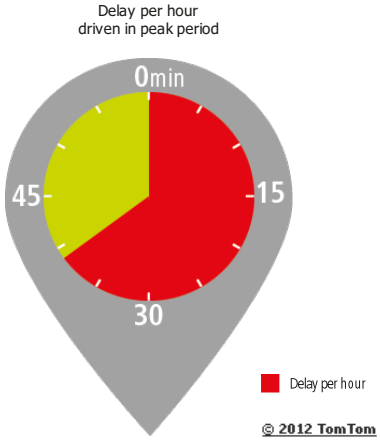
The weekly congestion pattern:

Best and worst peak periods of the week

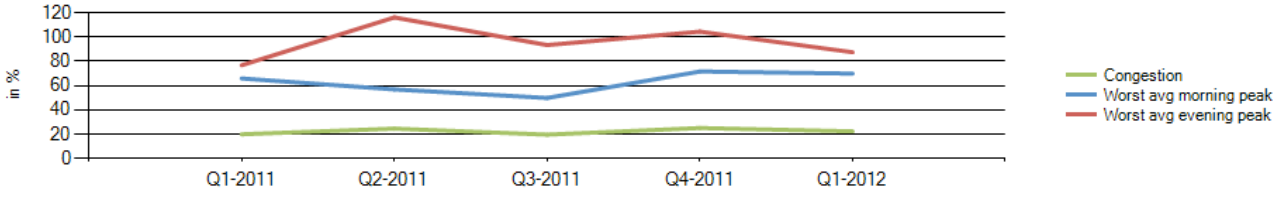


Most congested specific day	Thu 12 Jan 2012
Average free flow speed	73 km/h
Average speed during worst peak period	63 km/h
Total network length	378 km
Total network length highways	132 km
Total network length non-highways	245 km
Total vehicle kilometres	407 993 km

Congestion comparison



Comparison per quarter



Philadelphia

Congestion level

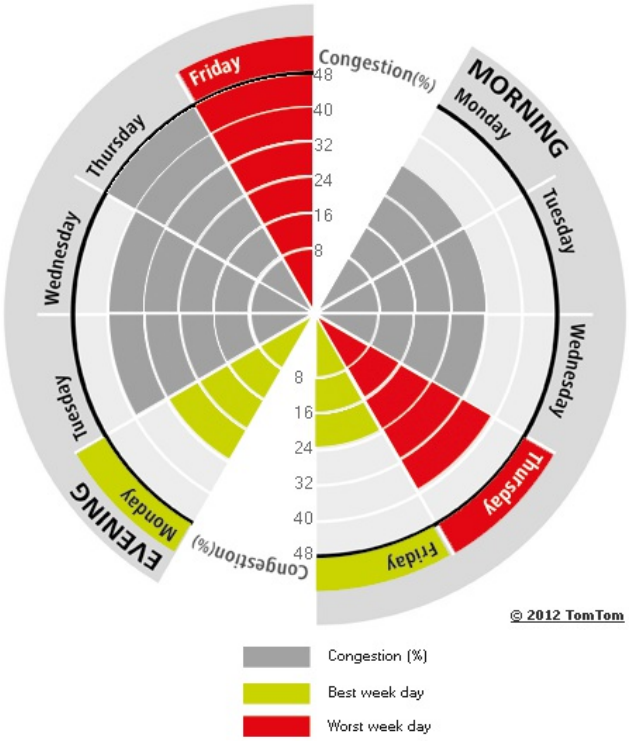
17%

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

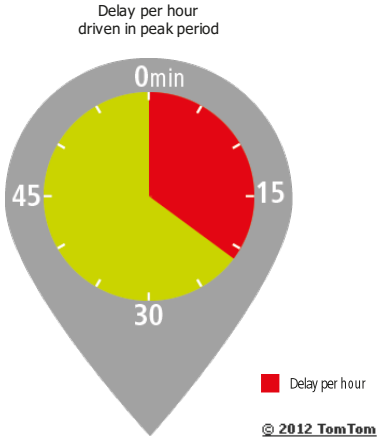
The weekly congestion pattern:

Best and worst peak periods of the week

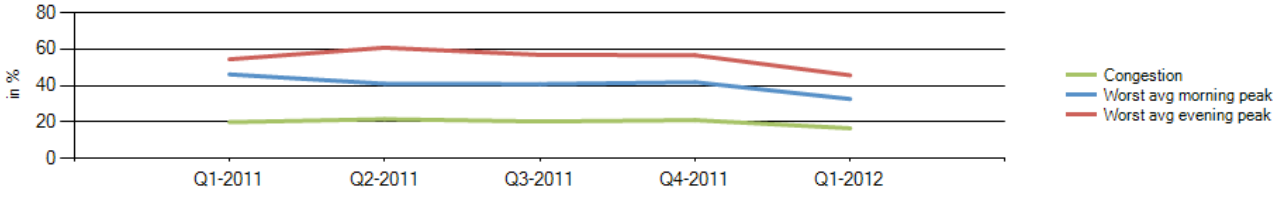


Most congested specific day	Fri 24 Feb 2012
Average free flow speed	62 km/h
Average speed during worst peak period	57 km/h
Total network length	5 041 km
Total network length highways	793 km
Total network length non-highways	4 248 km
Total vehicle kilometres	4 975 877 km

Congestion comparison



Comparison per quarter



Phoenix

Congestion level

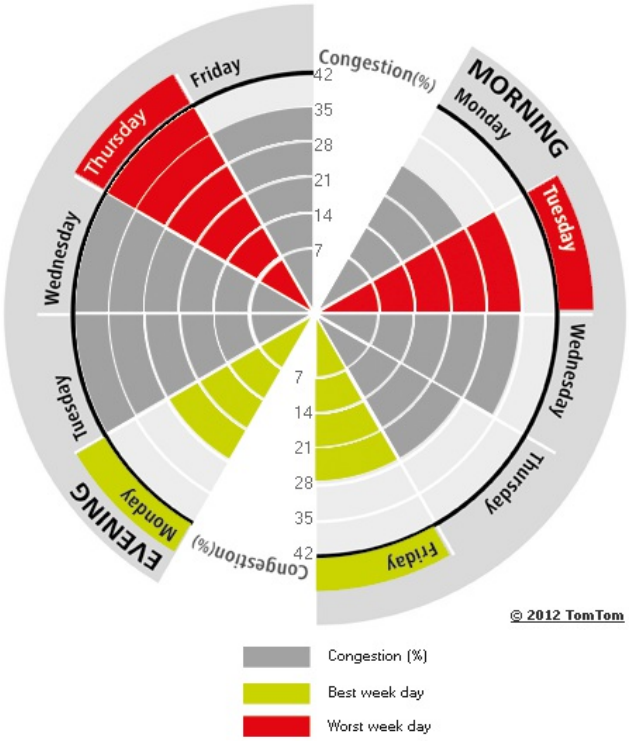
14%

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

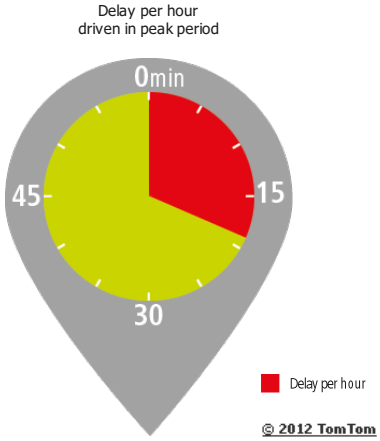
The weekly congestion pattern:

Best and worst peak periods of the week

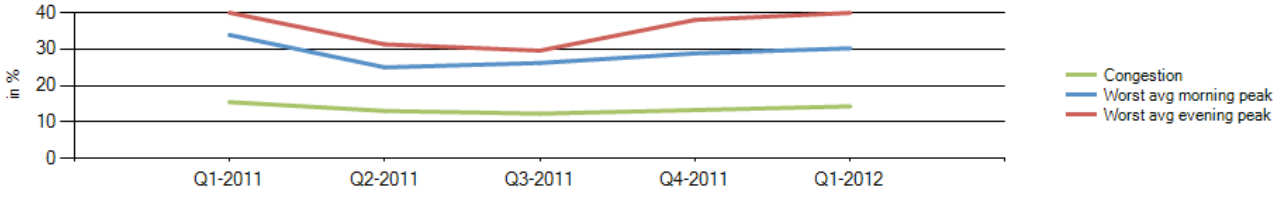


Most congested specific day	Thu 26 Jan 2012
Average free flow speed	73 km/h
Average speed during worst peak period	69 km/h
Total network length	6 331 km
Total network length highways	743 km
Total network length non-highways	5 588 km
Total vehicle kilometres	3 619 274 km

Congestion comparison



Comparison per quarter



Riverside

Congestion level

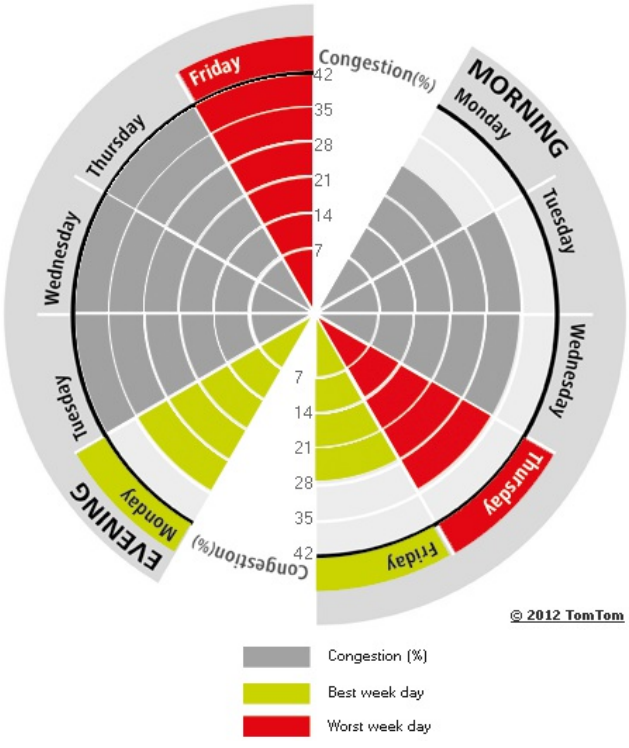
15%

Ranking

Ranking of city compared to continent	21/26
Previous ranking	22 ▲
Congestion level on highways	10%
Congestion level on non-highways	27%
Delay per hour driven in peak period	19 min
Delay per year with a 30 min commute	55 h

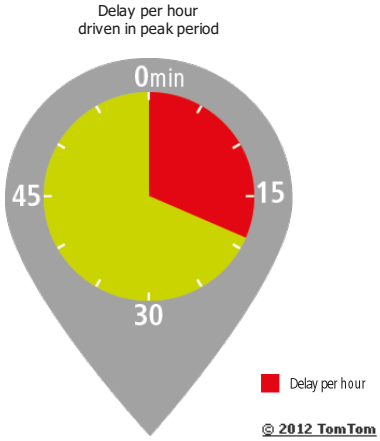
The weekly congestion pattern:

Best and worst peak periods of the week

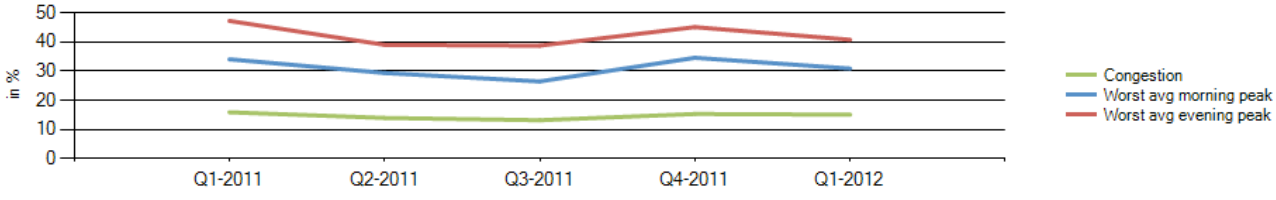


Most congested specific day	Wed 15 Feb 2012
Average free flow speed	75 km/h
Average speed during worst peak period	72 km/h
Total network length	2 692 km
Total network length highways	500 km
Total network length non-highways	2 192 km
Total vehicle kilometres	1 516 894 km

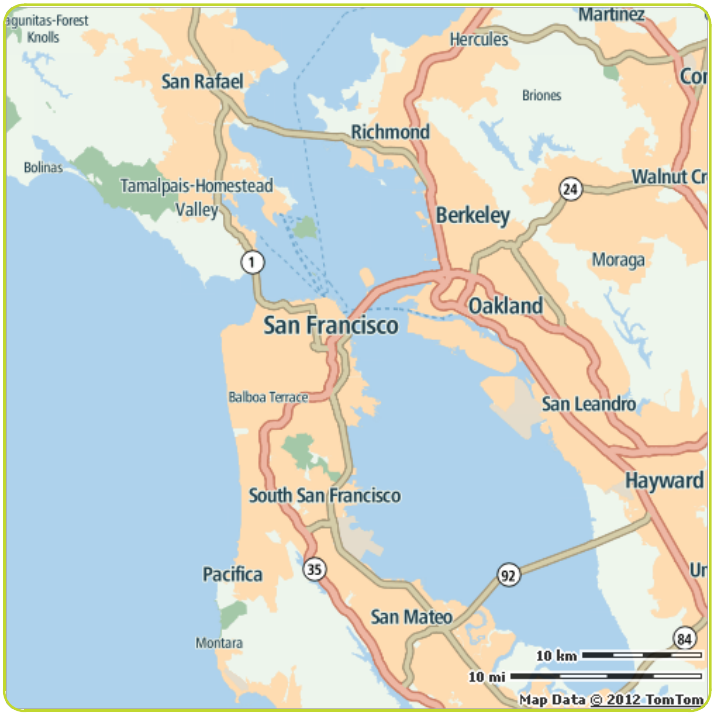
Congestion comparison



Comparison per quarter



San Francisco



Congestion level

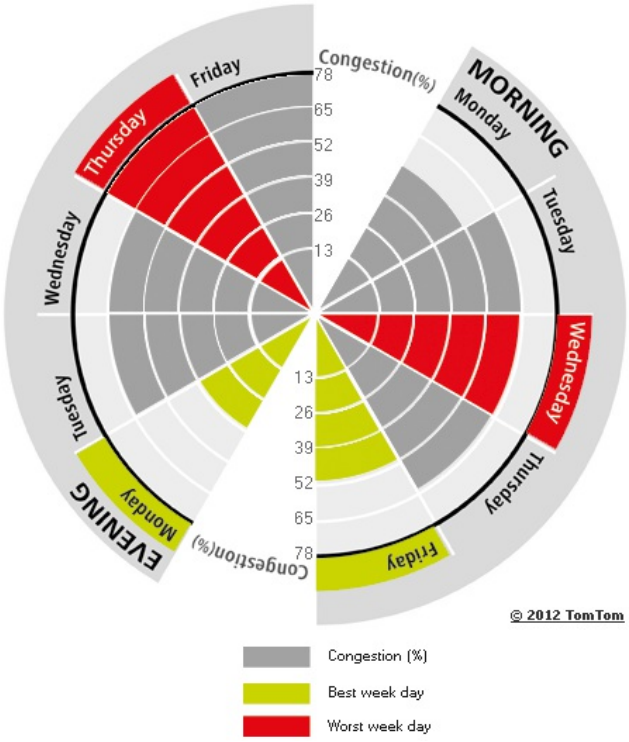
25%

Ranking

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

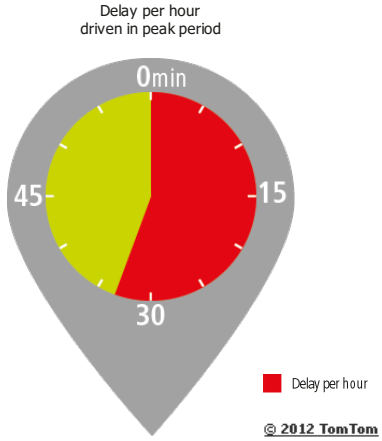
The weekly congestion pattern:

Best and worst peak periods of the week

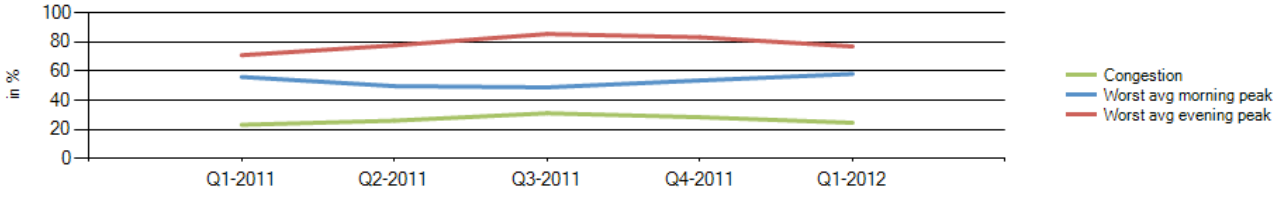


Most congested specific day	Wed 14 Mar 2012
Average free flow speed	60 km/h
Average speed during worst peak period	54 km/h
Total network length	1 828 km
Total network length highways	411 km
Total network length non-highways	1 417 km
Total vehicle kilometres	1 319 528 km

Congestion comparison



Comparison per quarter



Seattle

Congestion level

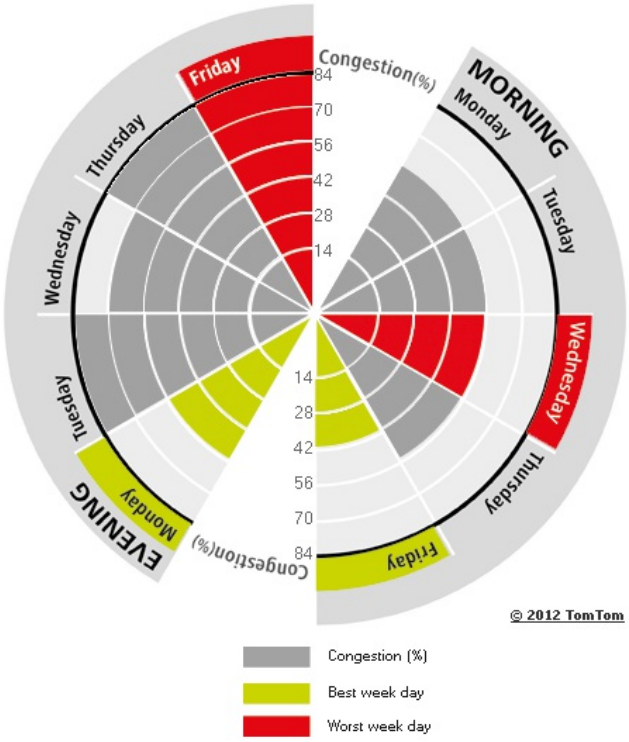
25%

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

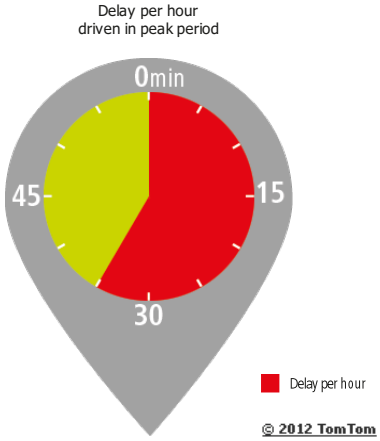
The weekly congestion pattern:

Best and worst peak periods of the week

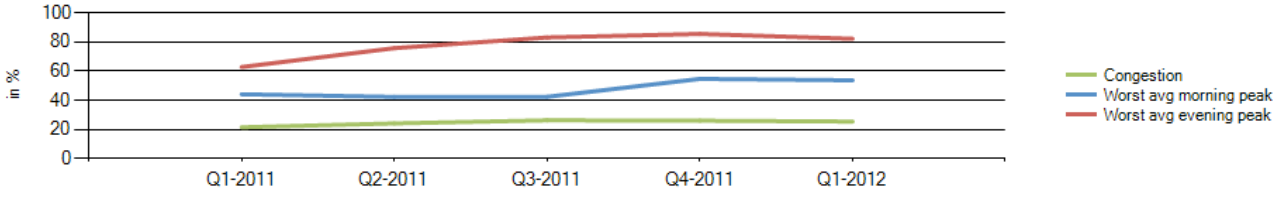


Most congested specific day	Thu 19 Jan 2012
Average free flow speed	61 km/h
Average speed during worst peak period	54 km/h
Total network length	2 558 km
Total network length highways	492 km
Total network length non-highways	2 067 km
Total vehicle kilometres	1 449 099 km

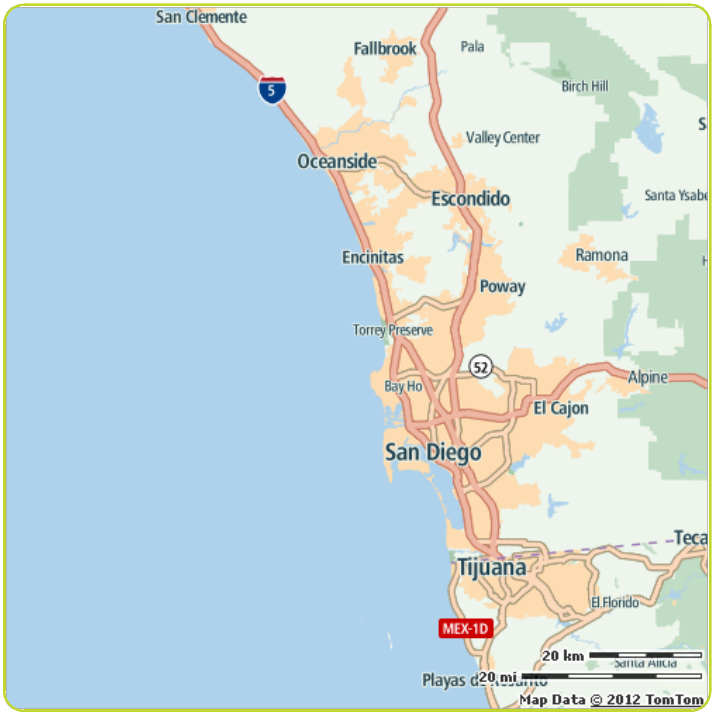
Congestion comparison



Comparison per quarter



San Diego



Congestion level

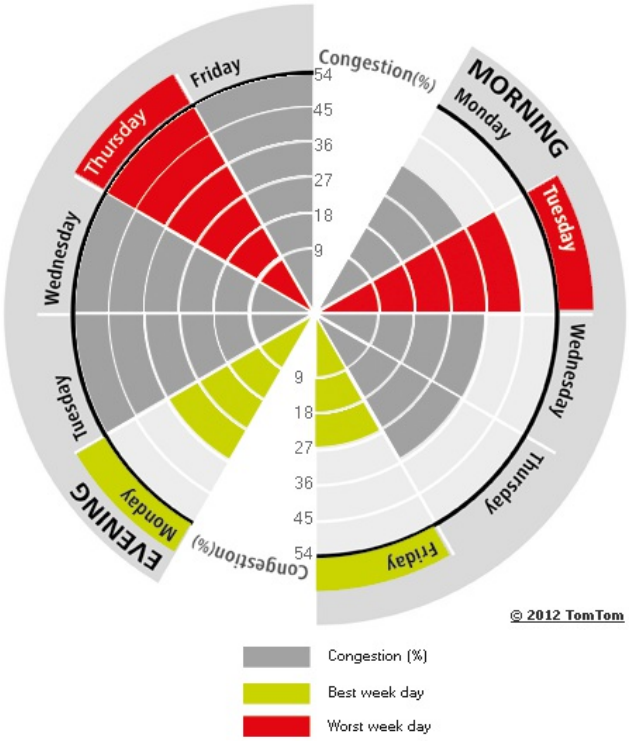
19%

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

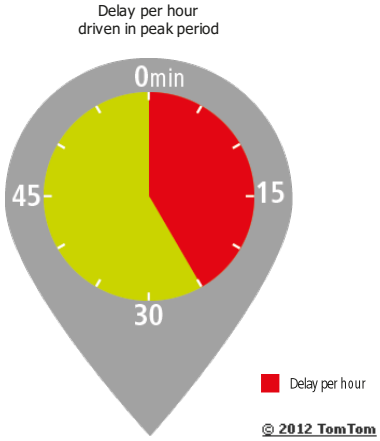
The weekly congestion pattern:

Best and worst peak periods of the week

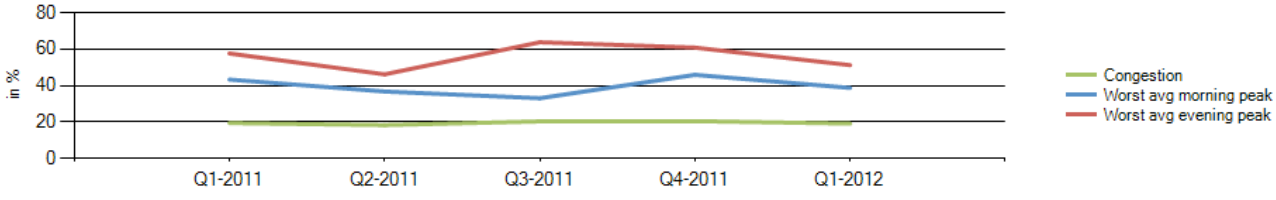


Most congested specific day	Tue 7 Feb 2012
Average free flow speed	72 km/h
Average speed during worst peak period	67 km/h
Total network length	3 544 km
Total network length highways	824 km
Total network length non-highways	2 720 km
Total vehicle kilometres	2 158 465 km

Congestion comparison



Comparison per quarter



St. Louis

Congestion level

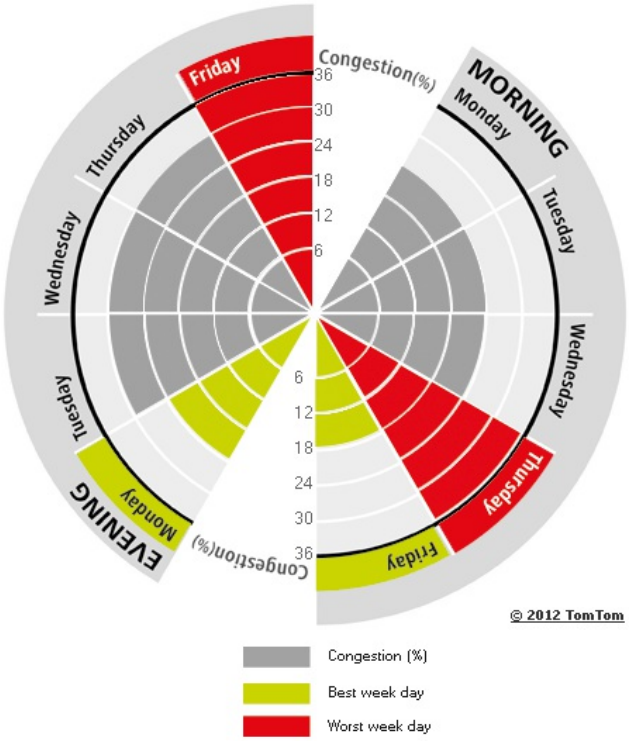
13%

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

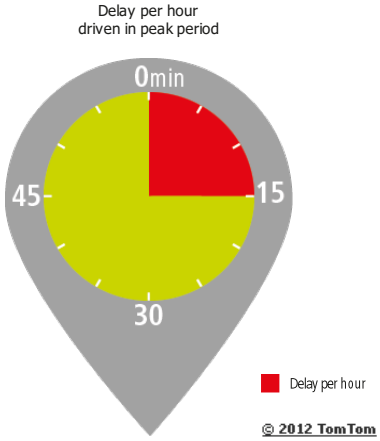
The weekly congestion pattern:

Best and worst peak periods of the week

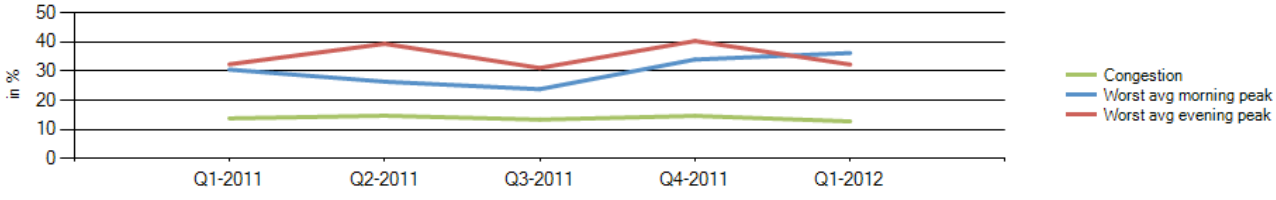


Most congested specific day	Thu 12 Jan 2012
Average free flow speed	65 km/h
Average speed during worst peak period	67 km/h
Total network length	3 533 km
Total network length highways	609 km
Total network length non-highways	2 923 km
Total vehicle kilometres	1 683 204 km

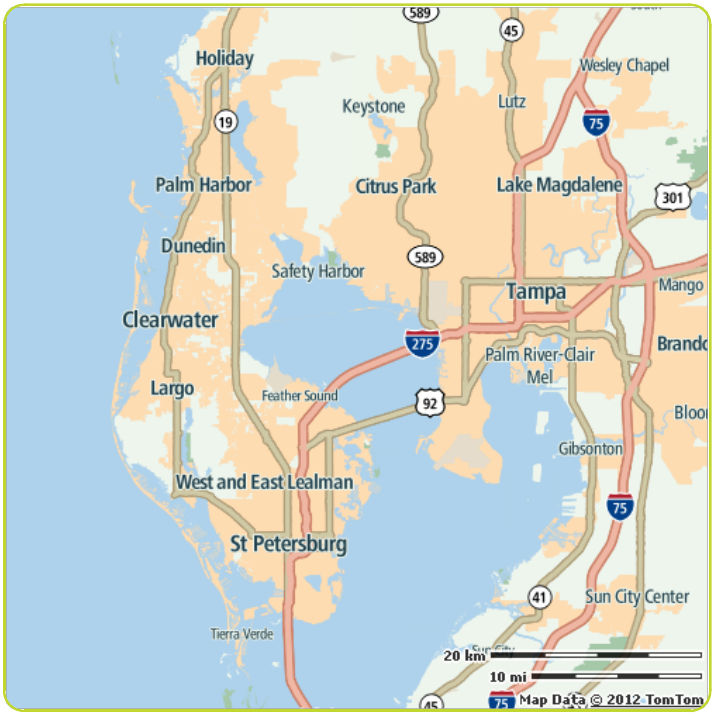
Congestion comparison



Comparison per quarter



Tampa



Congestion level

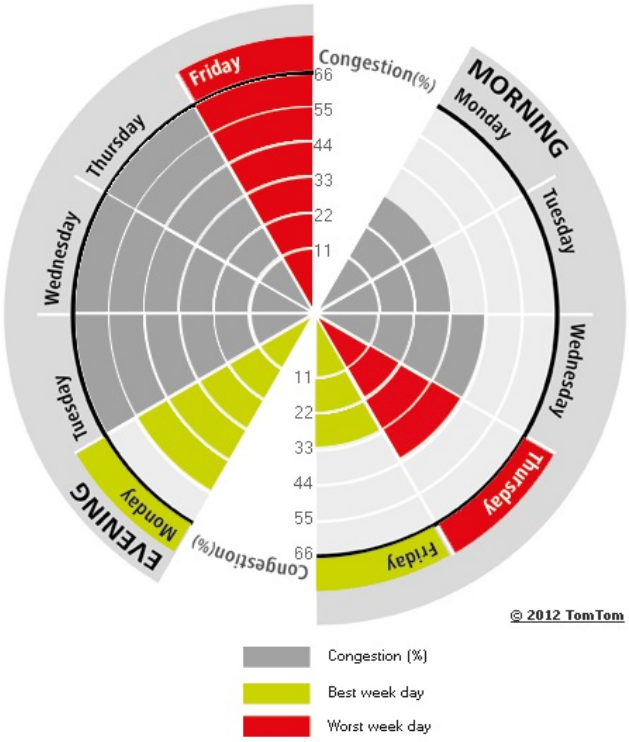
25%

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

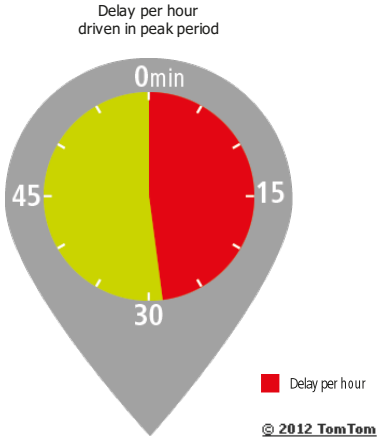
The weekly congestion pattern:

Best and worst peak periods of the week

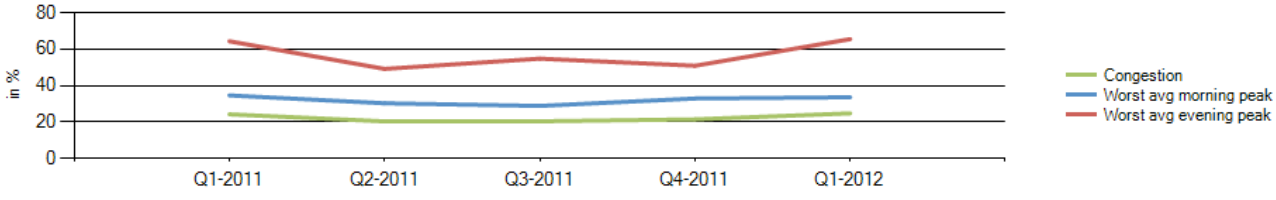


Most congested specific day	Fri 17 Feb 2012
Average free flow speed	70 km/h
Average speed during worst peak period	64 km/h
Total network length	3 125 km
Total network length highways	327 km
Total network length non-highways	2 797 km
Total vehicle kilometres	3 147 049 km

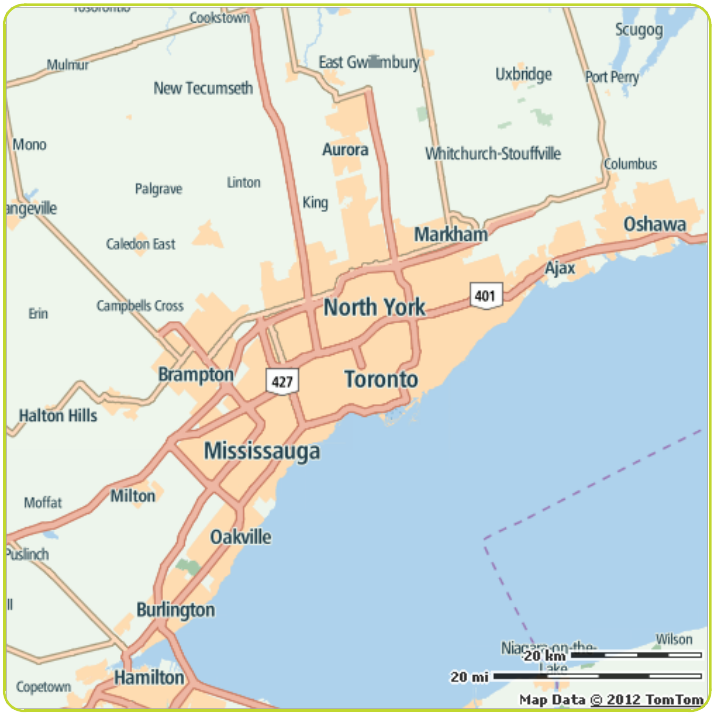
Congestion comparison



Comparison per quarter



Toronto



Congestion level

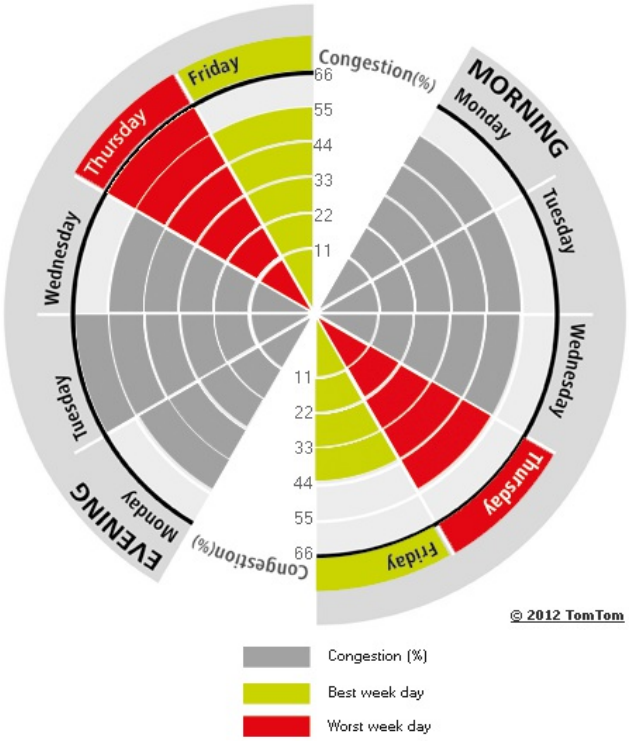
22%

Ranking

Ranking of city compared to continent	9/26
Previous ranking	3
Congestion level on highways	15%
Congestion level on non-highways	30%
Delay per hour driven in peak period	31 min
Delay per year with a 30 min commute	78 h

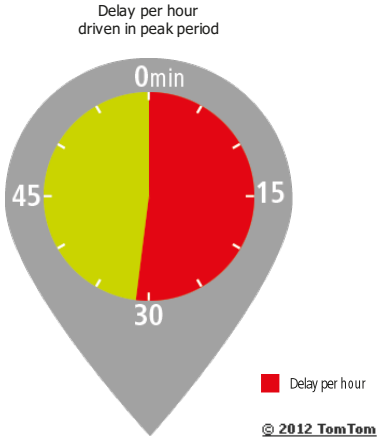
The weekly congestion pattern:

Best and worst peak periods of the week

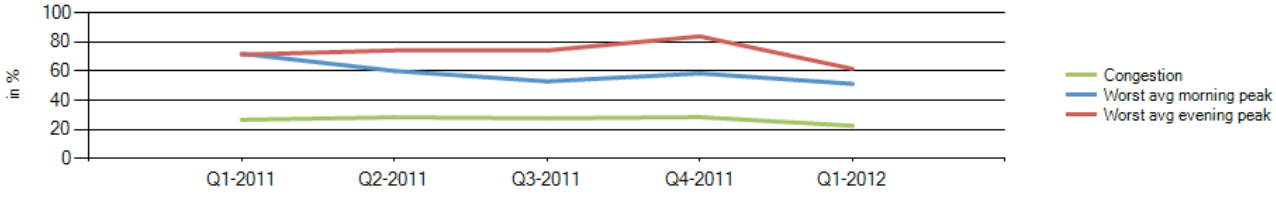


Most congested specific day	Fri 13 Jan 2012
Average free flow speed	67 km/h
Average speed during worst peak period	59 km/h
Total network length	5 127 km
Total network length highways	921 km
Total network length non-highways	4 206 km
Total vehicle kilometres	7 173 165 km

Congestion comparison



Comparison per quarter



Vancouver

Congestion level

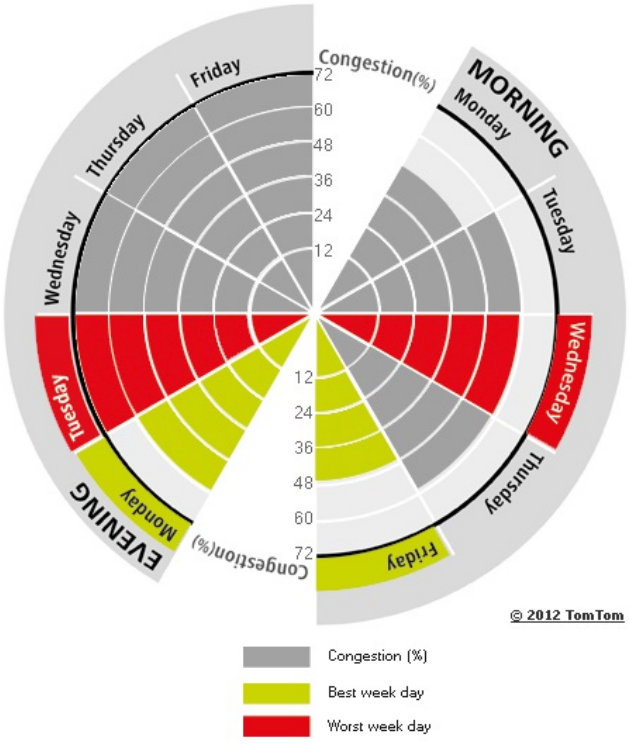
30%

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

The weekly congestion pattern:

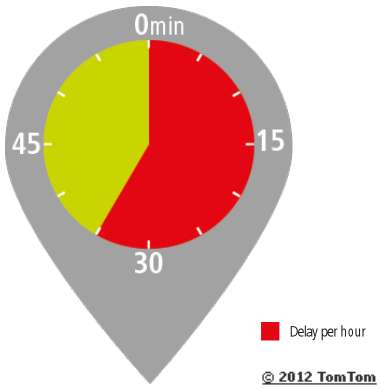
Best and worst peak periods of the week



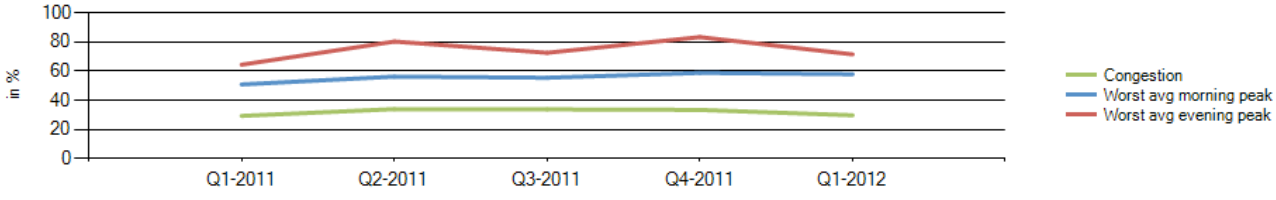
Most congested specific day	Wed 18 Jan 2012
Average free flow speed	57 km/h
Average speed during worst peak period	48 km/h
Total network length	1 257 km
Total network length highways	121 km
Total network length non-highways	1 136 km
Total vehicle kilometres	940 690 km

Congestion comparison

Delay per hour driven in peak period



Comparison per quarter



Washington

Congestion level

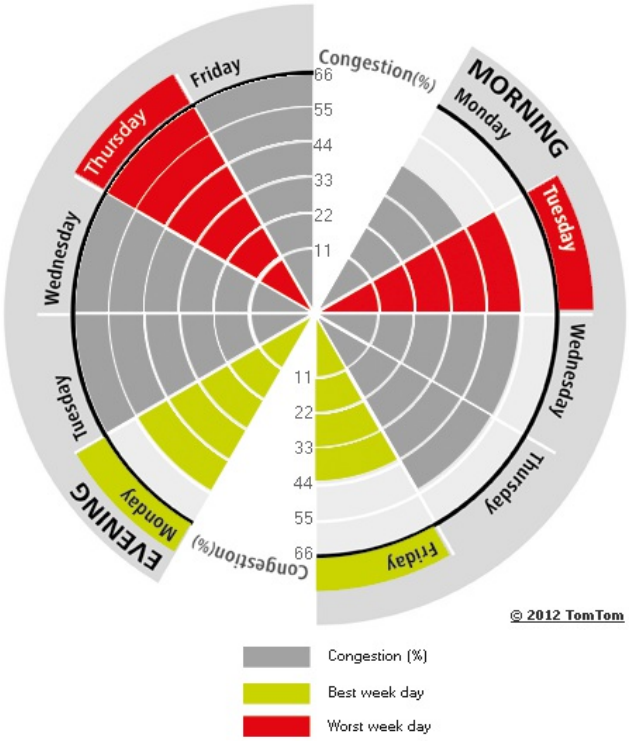
24%

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

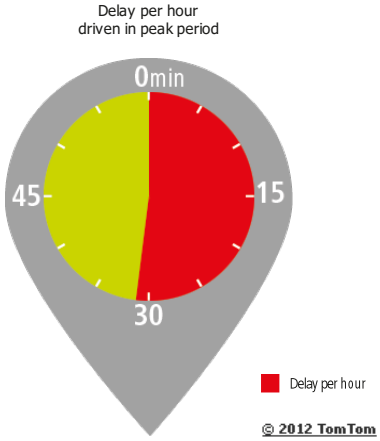
The weekly congestion pattern:

Best and worst peak periods of the week

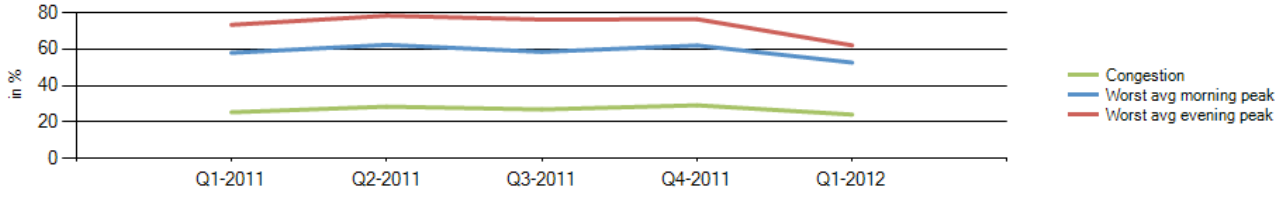


Most congested specific day	Mon 9 Jan 2012
Average free flow speed	65 km/h
Average speed during worst peak period	59 km/h
Total network length	5 451 km
Total network length highways	963 km
Total network length non-highways	4 488 km
Total vehicle kilometres	7 577 250 km

Congestion comparison



Comparison per quarter



Evaluated cities

North America

Rank	City	Country	Congestion Level (%)					Average speed (km/h)
			24/7	Morning peak	Evening peak	Weekdays	Weekend	
1	Los Angeles	United States	33	56	77	38	19	59
2	Vancouver	Canada	30	51	65	34	18	52
3	Miami	United States	26	42	54	29	15	64
4	Seattle	United States	25	48	70	29	14	58
5	Tampa	United States	25	31	59	27	17	67
6	San Francisco	United States	25	51	62	27	19	57
7	Washington	United States	24	44	56	28	14	63
8	Houston	United States	23	41	65	26	13	68
9	Toronto	Canada	22	47	56	26	11	64
10	Ottawa	Canada	22	55	75	28	9	69
11	Atlanta	United States	21	38	51	23	12	67
12	Montreal	Canada	20	37	63	25	7	70
13	San Diego	United States	19	33	47	22	12	69
14	Chicago	United States	19	27	43	21	10	59
15	New York	United States	17	32	41	20	10	60
16	Calgary	Canada	17	17	22	20	9	67
17	Philadelphia	United States	17	29	37	19	10	60
18	Dallas-Fort Worth	United States	16	32	41	18	10	70
19	Boston	United States	16	28	35	18	9	60
20	Baltimore	United States	15	26	40	18	7	65
21	Riverside	United States	15	27	38	18	8	71
22	Phoenix	United States	14	27	35	16	8	71
23	Edmonton	Canada	13	20	25	14	11	64
24	St. Louis	United States	13	23	27	14	8	63
25	Detroit	United States	12	18	28	14	8	65
26	Minneapolis	United States	12	26	29	14	7	64

Keywords

Keywords	Definition
Average Free Flow Speed	Measured average road speed during a free flow situation (usually at night).
Average observed speeds	Average observed speeds within specific time periods.
Cities	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 800 000 inhabitants are included. A maximum of 20 urban areas per country is evaluated.
City	See Cities.
Congestion level	See TomTom Congestion Level.
Delay per hour driven in peak period	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.
Delay per year for commuters	See Time delay per year for commuters.
FRC	Functional Road Class, an industry standard that defines different road categories. FRC0 = highways, FRC1 = international roads/slip roads, FRC2 = major roads, FRC3 = secondary roads, FRC4 = connecting roads.
Free flow	See Free flow situation.
Free flow condition	See Free flow situation.
Free flow situation	A journey made without any delay caused by traffic congestion. This most typically occurs during the night.
Free Flow Speed	See Average Free Flow Speed.
Highways	See FRC.
Most congested day	See most congested specific day.
Most congested specific day	The day with the highest Congestion Level.
Non-highways	See FRC
Peak hours	See Peak period.
Peak period	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.
Road network	In this report all speed measurements on roads classified as FRC0 through FRC4 within the urban areas contribute to the statistics.
Time delay per year for commuters	Delay per year with a 30 minute commute. Based on 230 work days per year and two peak periods per day.
TomTom Congestion Level	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.
Total network length	Total length of the evaluated network in kilometres.
Total network length highways	Total length of the evaluated network in kilometres for FRC0 and FRC1 only.
Total network length non-highways	Total length of the evaluated network in kilometres for FRC2, FRC3 and FRC4 only.
Total vehicle kilometres	Total distance covered by all TomTom user measurements, used for this specific report.
Travel time	TomTom's historic traffic database contains over six trillion anonymous speed measurements. Theses speed measurements are used to calculate the travel times on individual road segments and entire networks.
Urban area	Geographical area that takes population size and network layout into account. Speed measurements within the defined urban area contribute to the statistics.
Urban network	The road network in an urban area.

Explanation of tables and figures

Pages for continents

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

Pages for cities

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

