

# TomTom European 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 kilometres for the period.

As well as assigning and ranking the overall congestion levels of over 120 cities\* on different continents, 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\*, 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](http://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](mailto:sales@tomtom.com).

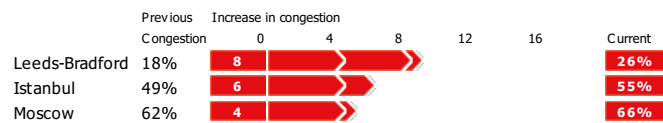
For questions or comments about this report, please contact us at [congestionindex@tomtom.com](mailto:congestionindex@tomtom.com).

Note: words with a \* are explained on the keywords page at the end of the report.

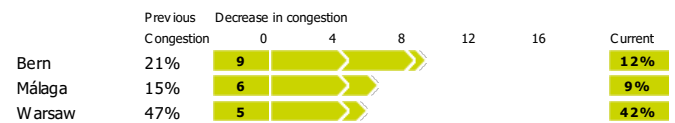
## Europe



## Top 3 - Increasing congestion



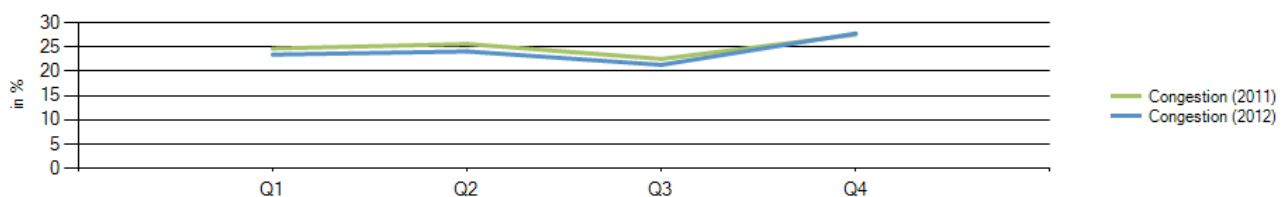
## Top 3 - Decreasing congestion



## Top 10 cities

Rank	CI change	City	Country	Congestion	Morning peak	Evening peak	Highways	Non-Highways
1	▲	Moscow	Russia	66%	106%	138%	62%	68%
2	▲	Istanbul	Turkey	55%	80%	125%	58%	51%
3	▼	Warsaw	Poland	42%	84%	88%	39%	46%
4	▲	Marseille	France	40%	77%	77%	24%	50%
5	▼	Palermo	Italy	39%	64%	64%	27%	49%
6	▲	Stuttgart	Germany	33%	59%	67%	32%	34%
7	---	Paris	France	33%	70%	65%	32%	34%
8	▼	Rome	Italy	33%	76%	63%	25%	37%
9	▼	Hamburg	Germany	32%	49%	55%	27%	36%
10	▼	Brussels	Belgium	32%	75%	81%	26%	37%

## Comparison per quarter



## Europe

Rank	CI change	City	Country	Congestion	Morning peak	Evening peak	Highways	Non-Highways
1	▲	Moscow	Russia	66%	106%	138%	62%	68%
2	▲	Istanbul	Turkey	55%	80%	125%	58%	51%
3	▼	Warsaw	Poland	42%	84%	88%	39%	46%
4	▲	Marseille	France	40%	77%	77%	24%	50%
5	▼	Palermo	Italy	39%	64%	64%	27%	49%
6	▲	Stuttgart	Germany	33%	59%	67%	32%	34%
7	---	Paris	France	33%	70%	65%	32%	34%
8	▼	Rome	Italy	33%	76%	63%	25%	37%
9	▼	Hamburg	Germany	32%	49%	55%	27%	36%
10	▼	Brussels	Belgium	32%	75%	81%	26%	37%
11	▼	Dublin	Ireland	29%	62%	62%	22%	39%
12	▼	Stockholm	Sweden	28%	62%	70%	25%	32%
13	---	Berlin	Germany	28%	42%	50%	24%	32%
14	▼	London	United Kingdom	27%	56%	55%	14%	36%
15	---	Nice	France	27%	41%	54%	15%	34%
16	▼	Cologne	Germany	26%	49%	54%	24%	32%
17	---	Lyon	France	26%	58%	56%	21%	34%
18	▲	Leeds-Bradford	United Kingdom	26%	54%	59%	22%	31%
19	▼	Vienna	Austria	25%	43%	50%	17%	32%
20	▼	Milan	Italy	25%	70%	55%	20%	29%
21	▲	Toulouse	France	25%	76%	56%	20%	32%
22	▼	Naples	Italy	25%	40%	45%	13%	37%
23	▲	Luxembourg	Luxembourg	25%	52%	59%	16%	37%
24	▲	Nottingham	United Kingdom	24%	59%	52%	6%	32%
25	▼	Budapest	Hungary	24%	46%	45%	6%	33%
26	▼	Manchester	United Kingdom	24%	62%	59%	16%	33%
27	▲	Munich	Germany	24%	49%	42%	18%	33%
28	▼	Prague	Czech Republic	23%	52%	40%	18%	29%
29	▼	Oslo	Norway	23%	61%	75%	19%	30%
30	▼	Strasbourg	France	23%	41%	64%	18%	30%
31	▼	Frankfurt am Main	Germany	22%	48%	41%	17%	30%
32	▲	Birmingham	United Kingdom	22%	46%	45%	16%	31%
33	▼	Liverpool	United Kingdom	21%	38%	39%	4%	27%
34	▲	Lille	France	21%	53%	48%	16%	27%
35	▼	Newcastle-Sunderland	United Kingdom	21%	41%	43%	15%	26%
36	▼	Lisbon	Portugal	20%	45%	51%	10%	21%
37	▼	Nantes	France	20%	52%	49%	15%	27%
38	▼	Genoa	Italy	20%	37%	38%	11%	32%
39	▼	Turin	Italy	20%	44%	39%	10%	25%
40	▼	The Hague	Netherlands	20%	46%	45%	11%	27%
41	▼	Rotterdam	Netherlands	19%	38%	55%	13%	29%
42	▼	Barcelona	Spain	19%	46%	38%	15%	22%
43	▼	Göteborg	Sweden	19%	33%	52%	17%	21%
44	▼	Glasgow	United Kingdom	18%	38%	42%	10%	25%
45	▼	Ruhr region west	Germany	18%	32%	35%	14%	29%
46	▼	Helsinki	Finland	18%	35%	40%	13%	23%
47	▼	Porto	Portugal	18%	31%	39%	9%	25%
48	▼	Copenhagen	Denmark	17%	42%	34%	8%	26%
49	▼	Amsterdam	Netherlands	17%	35%	39%	10%	29%
50	---	Ruhr region east	Germany	16%	29%	30%	12%	25%
51	▼	Palma de Mallorca	Spain	16%	25%	22%	7%	20%
52	▼	Madrid	Spain	14%	39%	29%	8%	20%
53	▼	Bern	Switzerland	13%	24%	38%	1%	31%
54	▼	Seville	Spain	13%	24%	20%	9%	17%
55	▼	Murcia	Spain	12%	18%	15%	5%	22%
56	▼	Valencia	Spain	11%	18%	19%	5%	19%
57	▼	Malmö	Sweden	10%	14%	18%	6%	22%
58	▼	Málaga	Spain	10%	16%	12%	5%	12%
59	▼	Zaragoza	Spain	9%	13%	13%	0%	18%

Aarhus



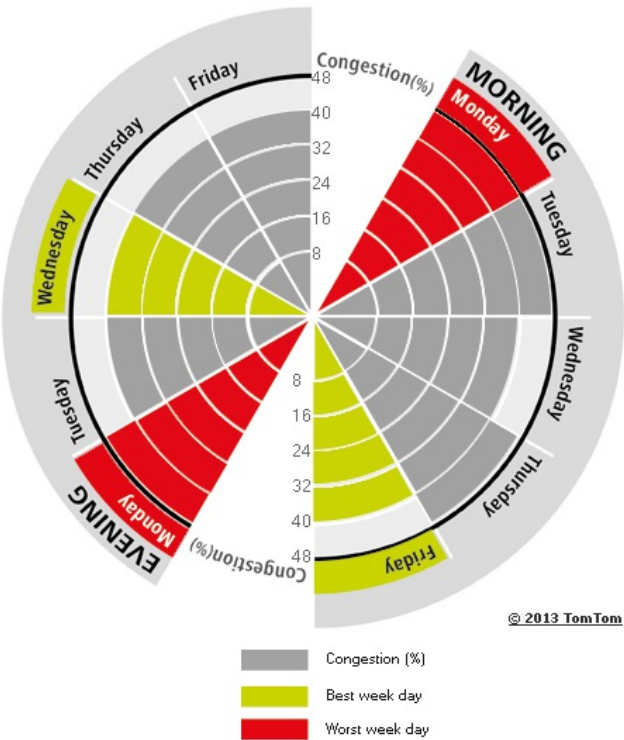
Congestion level

21%

Ranking

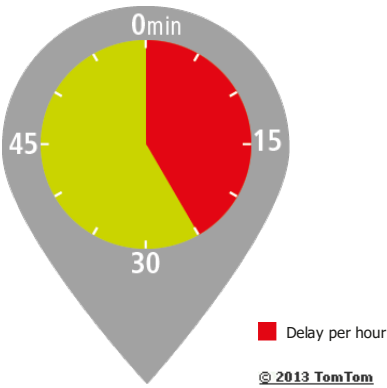
Congestion level on highways	5%
Congestion level on non-highways	23%
Delay per hour driven in peak period	24 min
Delay per year with a 30 min commute	65 h

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

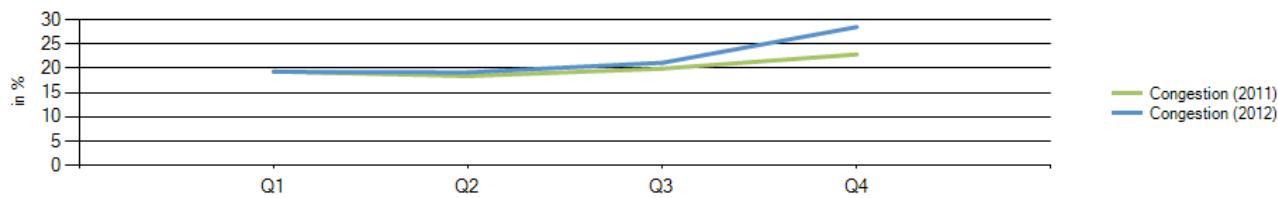


Most congested specific day	Mon 10 Dec 2012
Total network length	288 km
Total network length highways	19 km
Total network length non-highways	269 km
Total vehicle kilometres	2 259 634 km

Delay per hour driven in peak period



Comparison per quarter



## Bergen



## Congestion level

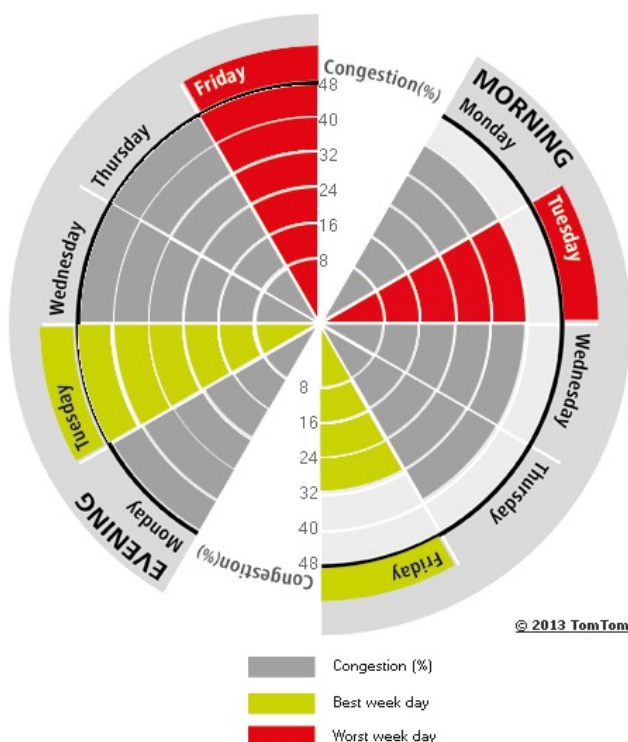
# 15%

## Ranking

Congestion level on highways	11%
Congestion level on non-highways	19%
Delay per hour driven in peak period	22 min
Delay per year with a 30 min commute	61 h

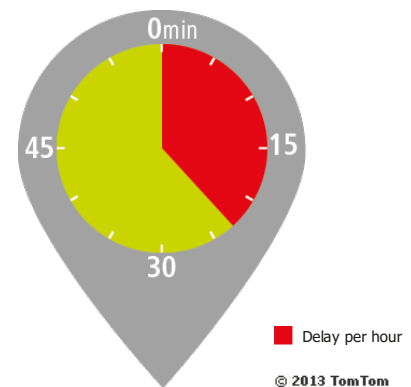
## The weekly congestion pattern:

Best and worst peak periods of the week

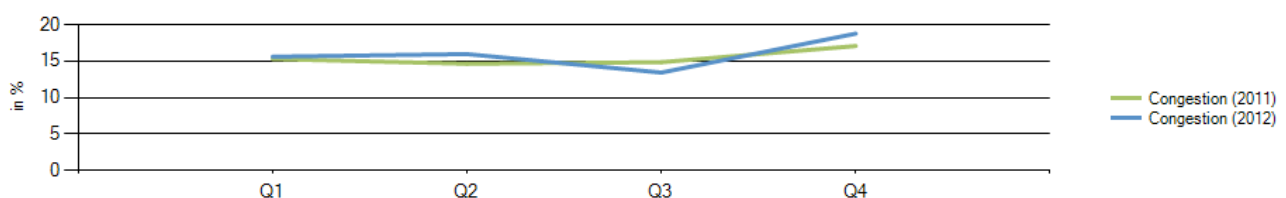


Most congested specific day	Mon 3 Dec 2012
Total network length	423 km
Total network length highways	63 km
Total network length non-highways	361 km
Total vehicle kilometres	1 135 052 km

## Delay per hour driven in peak period



## Comparison per quarter





## Copenhagen



### Congestion level

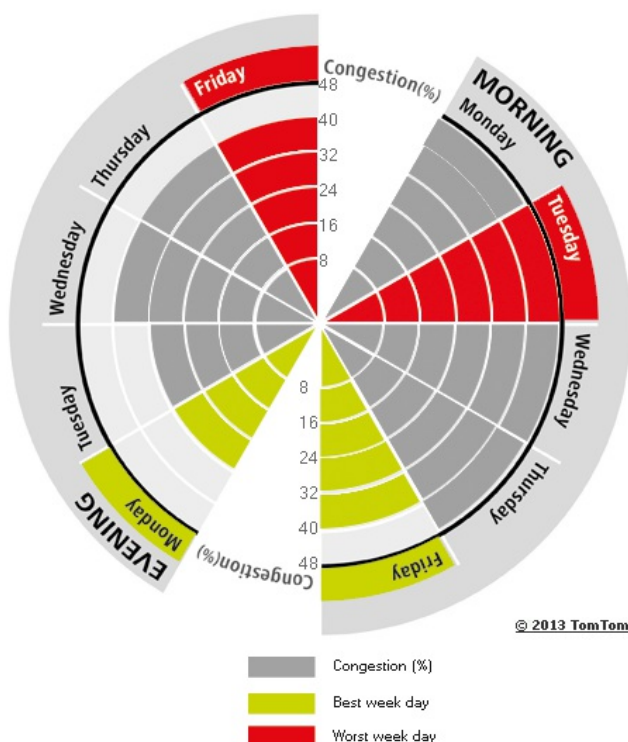
# 17%

### Ranking

Ranking of city compared to continent	48/59
Congestion level on highways	8%
Congestion level on non-highways	26%
Delay per hour driven in peak period	22 min
Delay per year with a 30 min commute	61 h

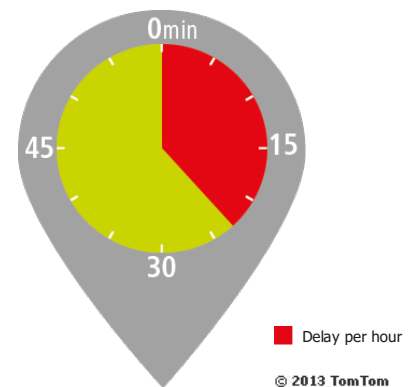
### The weekly congestion pattern:

Best and worst peak periods of the week

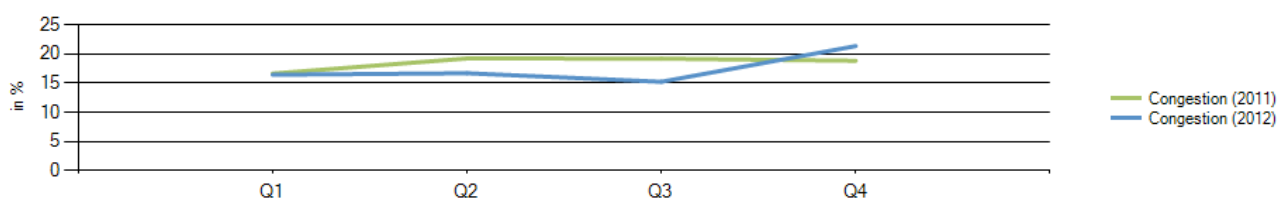


Most congested specific day	Mon 10 Dec 2012
Total network length	1 308 km
Total network length highways	258 km
Total network length non-highways	1 050 km
Total vehicle kilometres	21 641 048 km

### Delay per hour driven in peak period



### Comparison per quarter



## Göteborg



### Congestion level

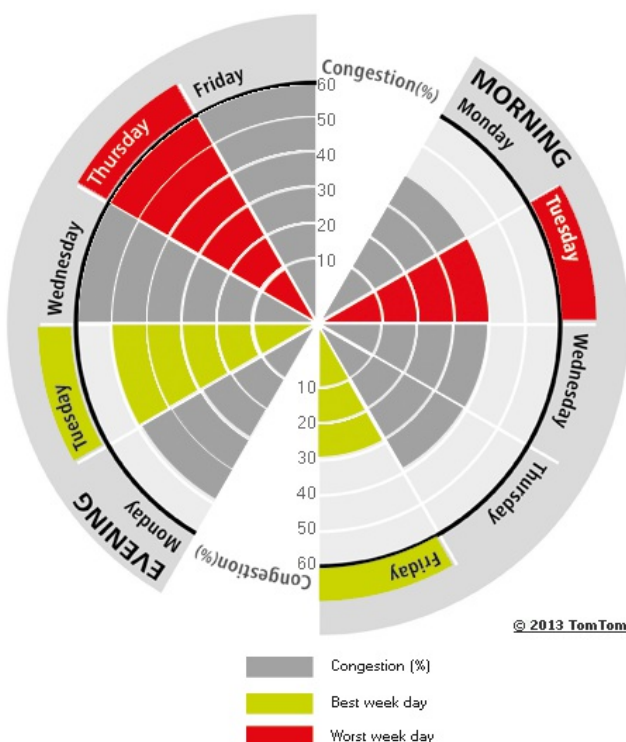
# 19%

### Ranking

Ranking of city compared to continent	43/59
Congestion level on highways	17%
Congestion level on non-highways	21%
Delay per hour driven in peak period	25 min
Delay per year with a 30 min commute	67 h

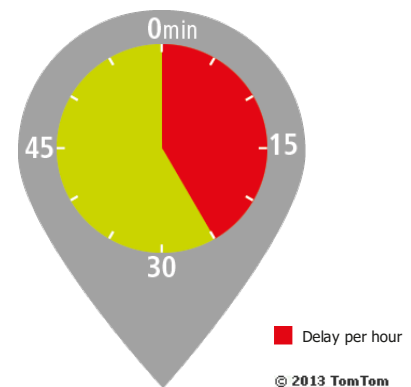
### The weekly congestion pattern:

Best and worst peak periods of the week

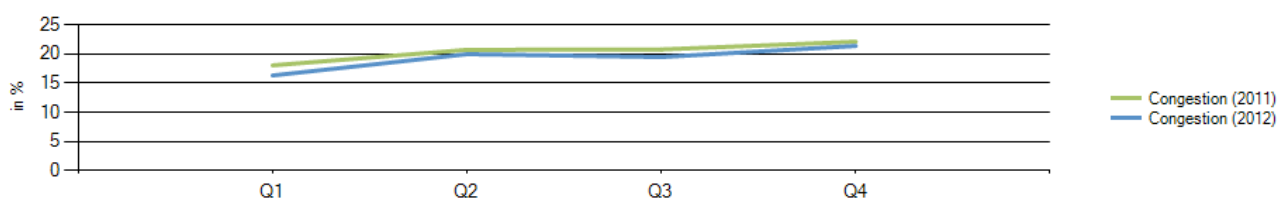


Most congested specific day	Tue 4 Dec 2012
Total network length	819 km
Total network length highways	107 km
Total network length non-highways	712 km
Total vehicle kilometres	3 928 307 km

### Delay per hour driven in peak period



### Comparison per quarter



Helsinki



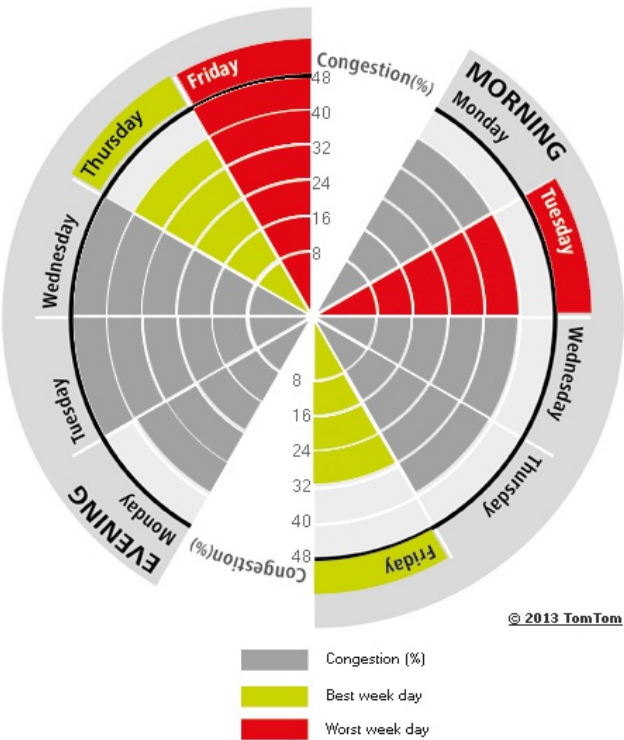
Congestion level

18%

Ranking

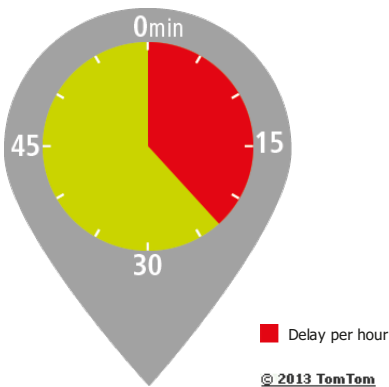
Ranking of city compared to continent	46/59
Congestion level on highways	13%
Congestion level on non-highways	23%
Delay per hour driven in peak period	22 min
Delay per year with a 30 min commute	61 h

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

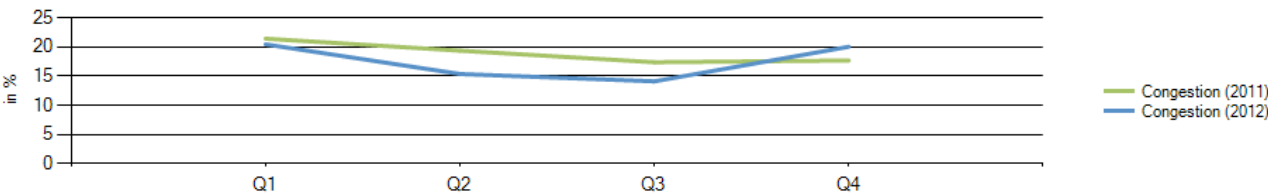


Most congested specific day	Fri 3 Feb 2012
Total network length	1 101 km
Total network length highways	310 km
Total network length non-highways	791 km
Total vehicle kilometres	19 619 269 km

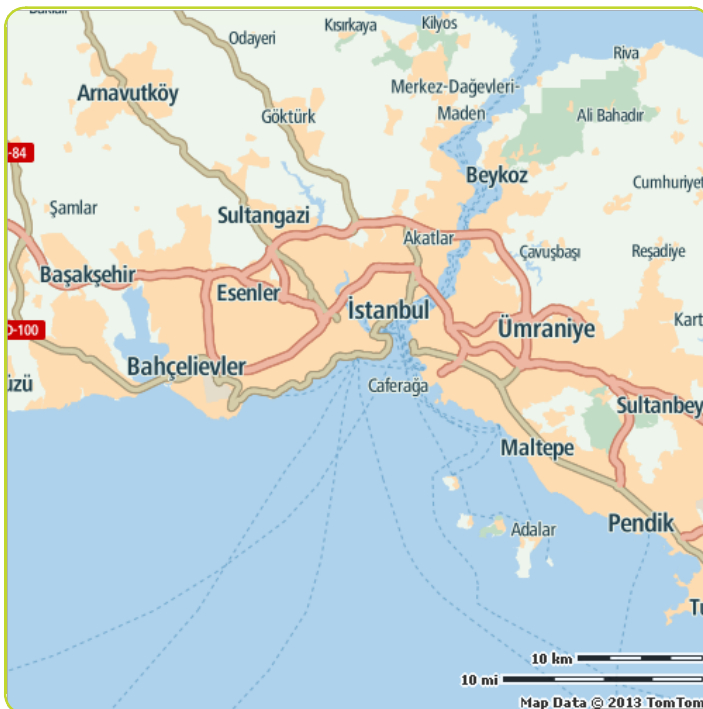
Delay per hour driven in peak period



Comparison per quarter



## Istanbul



## Congestion level

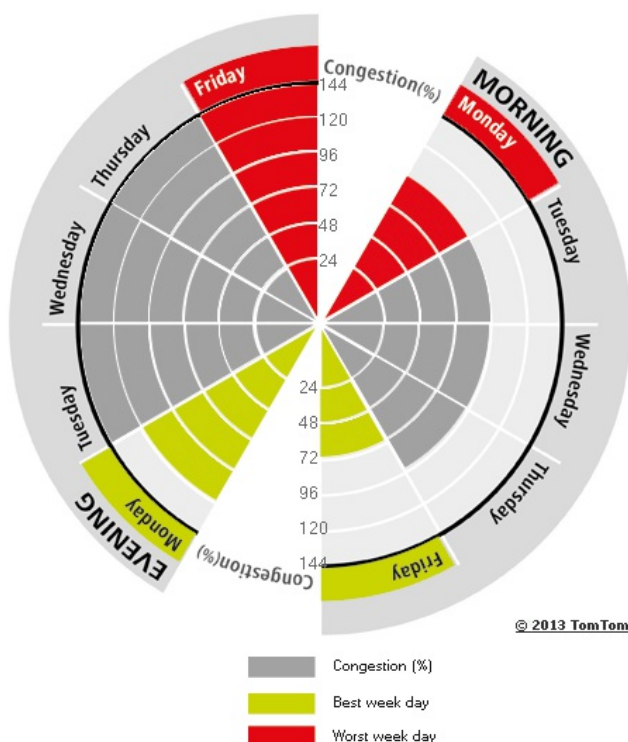
55%

## Ranking

Ranking of city compared to continent	2/59
Congestion level on highways	58%
Congestion level on non-highways	51%
Delay per hour driven in peak period	64 min
Delay per year with a 30 min commute	118 h

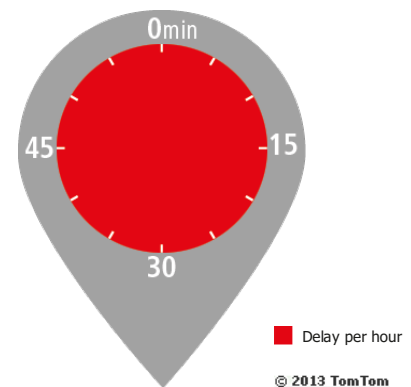
## The weekly congestion pattern:

Best and worst peak periods of the week

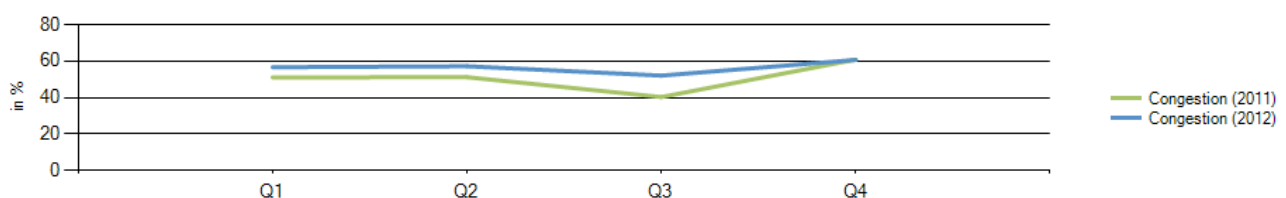


Most congested specific day	Thu 20 Dec 2012
Total network length	2 018 km
Total network length highways	401 km
Total network length non-highways	1 617 km
Total vehicle kilometres	5 089 539 km

## Delay per hour driven in peak period

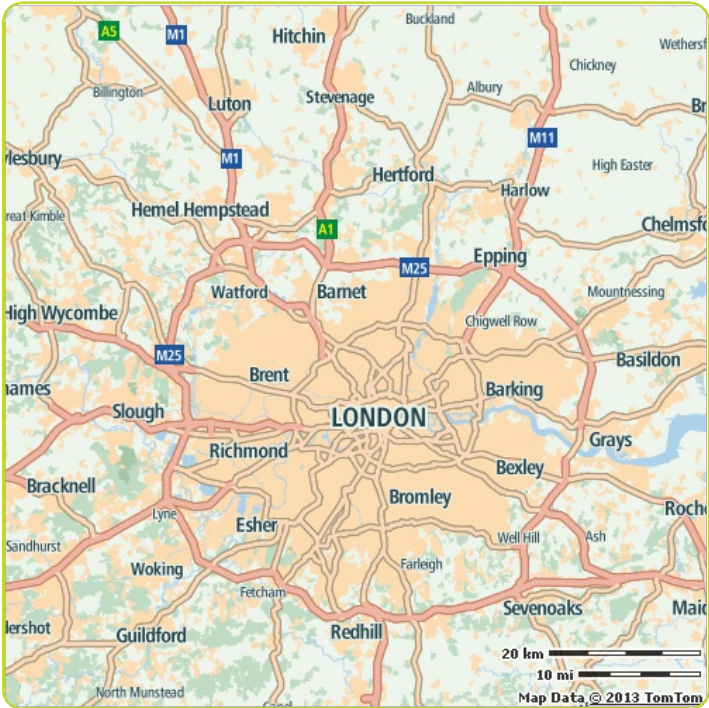


## Comparison per quarter





London



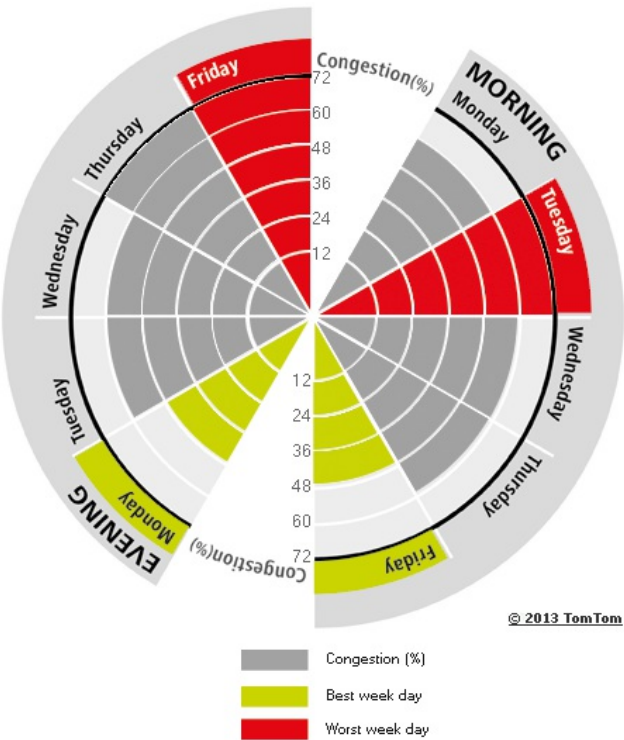
Congestion level

27%

Ranking

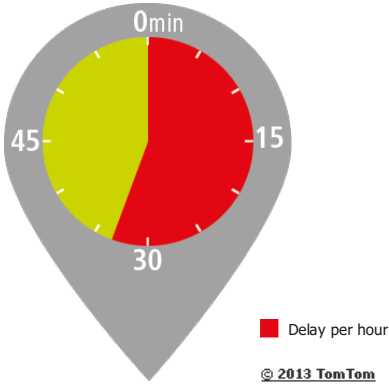
Ranking of city compared to continent	14/59
Congestion level on highways	14%
Congestion level on non-highways	36%
Delay per hour driven in peak period	33 min
Delay per year with a 30 min commute	81 h

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

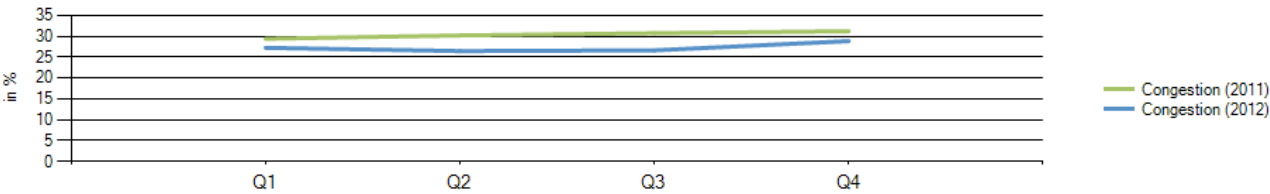


Most congested specific day	Fri 19 Oct 2012
Total network length	7 289 km
Total network length highways	705 km
Total network length non-highways	6 584 km
Total vehicle kilometres	377 135 563 km

Delay per hour driven in peak period



Comparison per quarter



Malmö



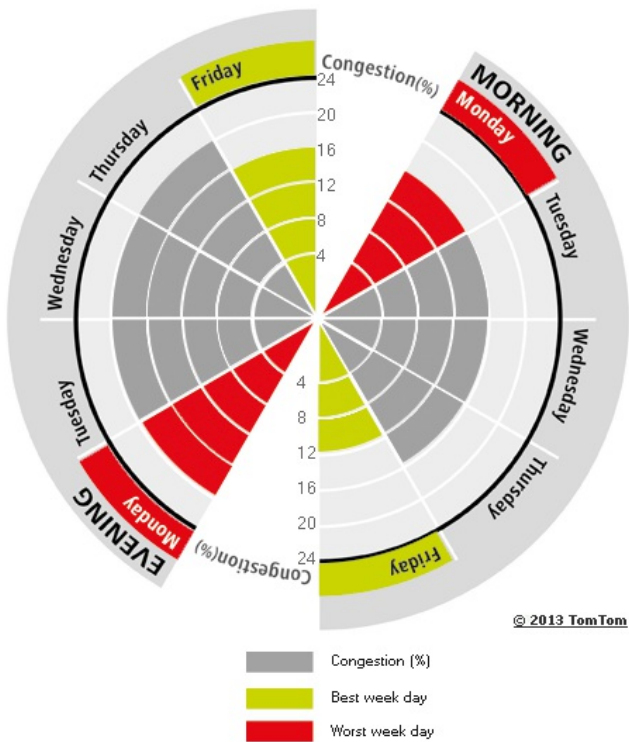
Congestion level

10%

Ranking

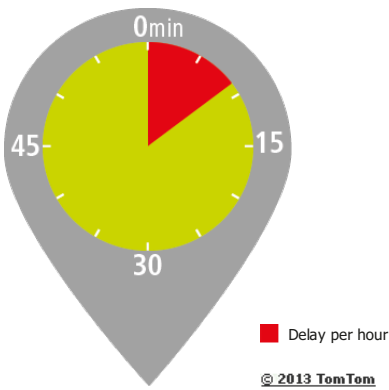
Ranking of city compared to continent	57/59
Congestion level on highways	6%
Congestion level on non-highways	22%
Delay per hour driven in peak period	9 min
Delay per year with a 30 min commute	30 h

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

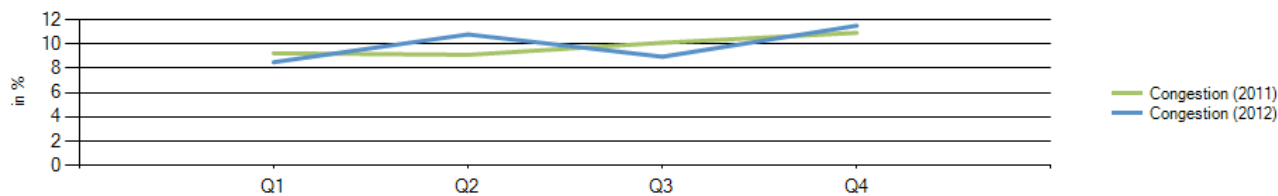


Most congested specific day	Sun 2 Dec 2012
Total network length	410 km
Total network length highways	160 km
Total network length non-highways	250 km
Total vehicle kilometres	2 613 128 km

Delay per hour driven in peak period



Comparison per quarter



Marseille



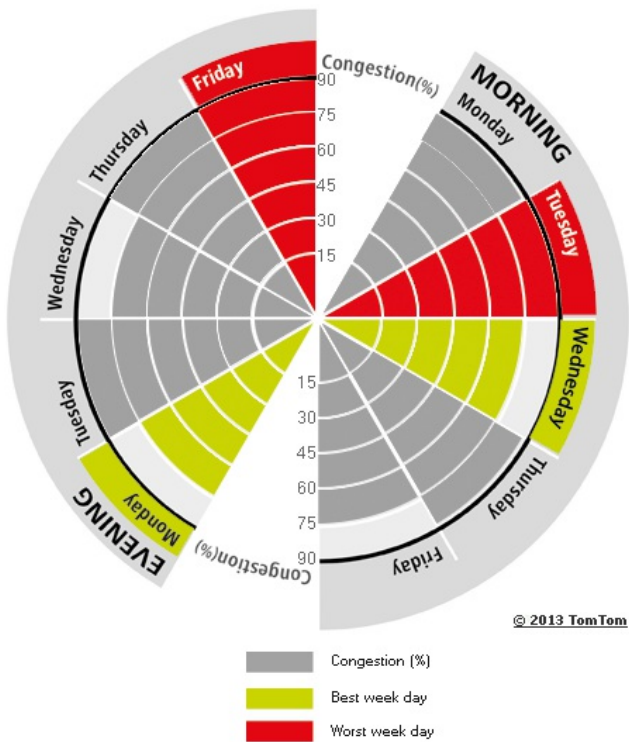
Congestion level

40%

Ranking

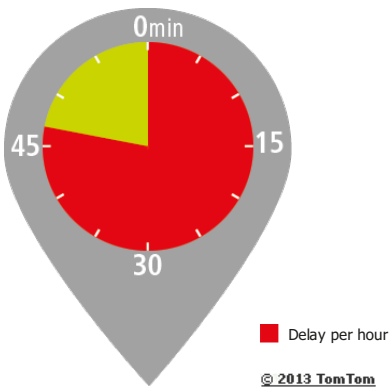
Ranking of city compared to continent	4/59
Congestion level on highways	24%
Congestion level on non-highways	50%
Delay per hour driven in peak period	46 min
Delay per year with a 30 min commute	99 h

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

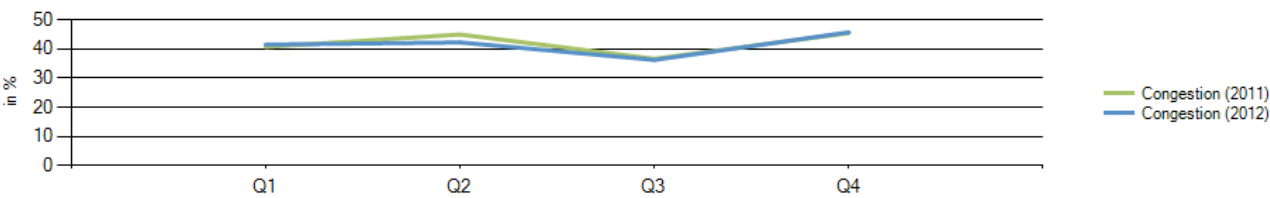


Most congested specific day	Tue 10 Jul 2012
Total network length	491 km
Total network length highways	78 km
Total network length non-highways	413 km
Total vehicle kilometres	5 254 194 km

Delay per hour driven in peak period



Comparison per quarter





## Moscow



## Congestion level

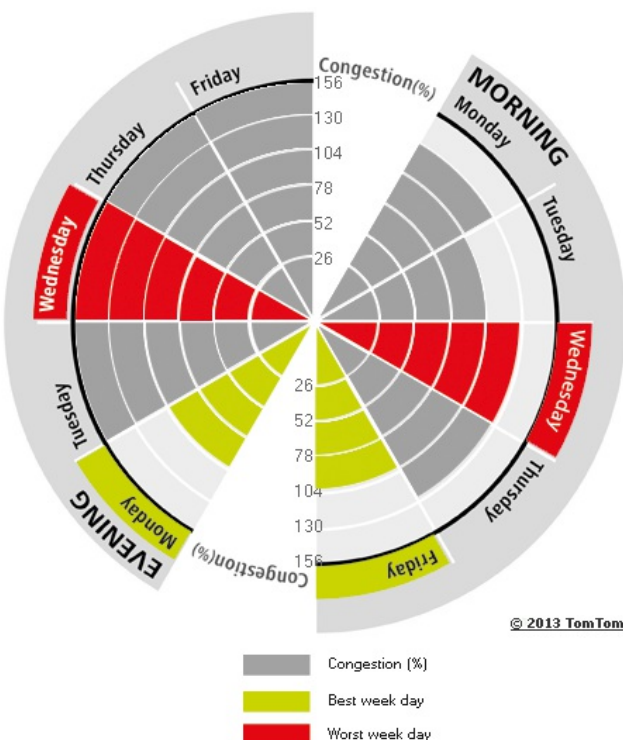
66%

## Ranking

Ranking of city compared to continent	1/59
Congestion level on highways	62%
Congestion level on non-highways	68%
Delay per hour driven in peak period	74 min
Delay per year with a 30 min commute	127 h

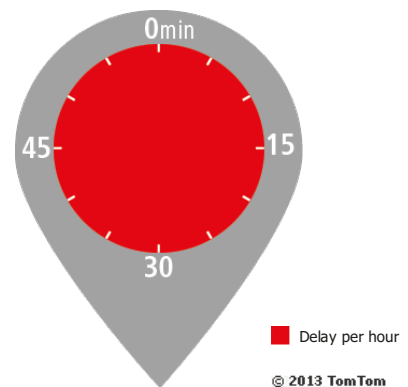
## The weekly congestion pattern:

Best and worst peak periods of the week

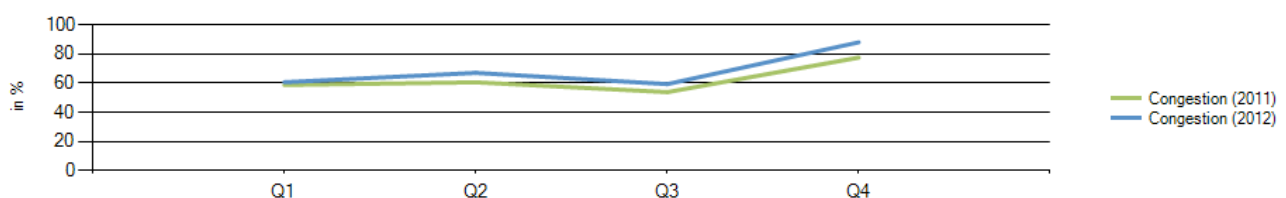


Most congested specific day	Thu 29 Nov 2012
Total network length	2 062 km
Total network length highways	371 km
Total network length non-highways	1 691 km
Total vehicle kilometres	2 016 548 km

## Delay per hour driven in peak period



## Comparison per quarter





## Odense



### Congestion level

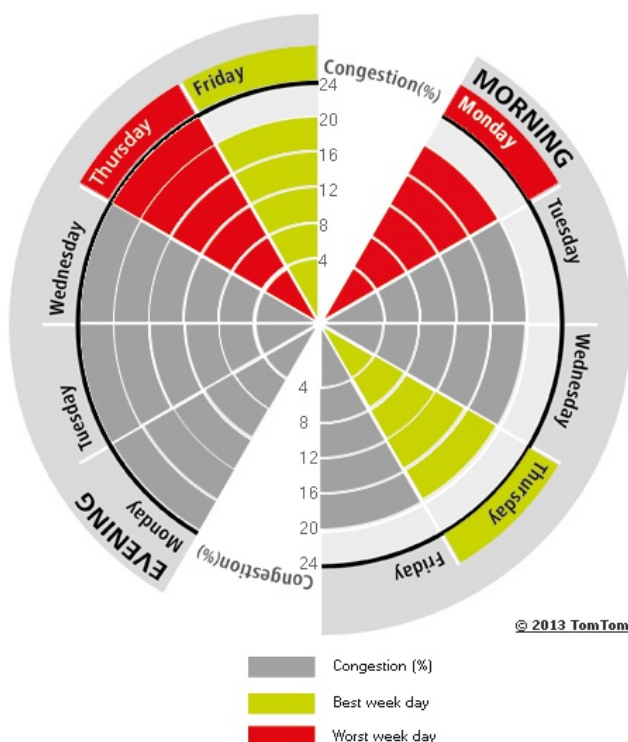
# 11%

### Ranking

Congestion level on highways	3%
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

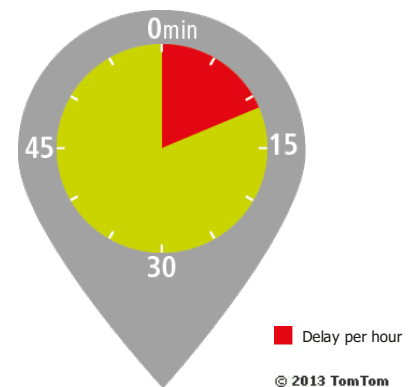
### The weekly congestion pattern:

Best and worst peak periods of the week

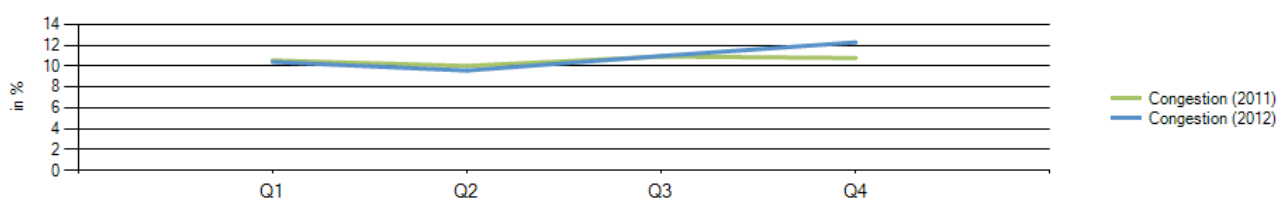


Most congested specific day	Sun 23 Dec 2012
Total network length	331 km
Total network length highways	54 km
Total network length non-highways	277 km
Total vehicle kilometres	4 696 765 km

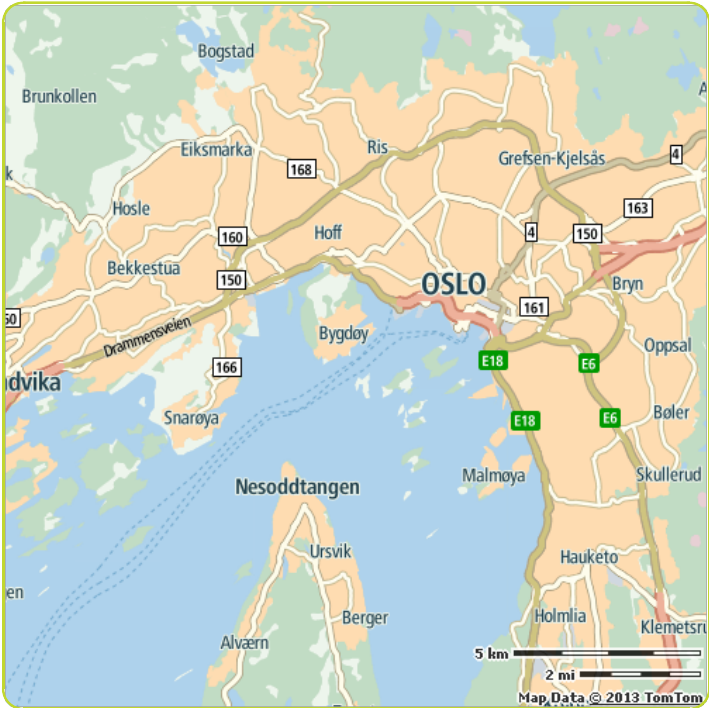
### Delay per hour driven in peak period



### Comparison per quarter



Oslo



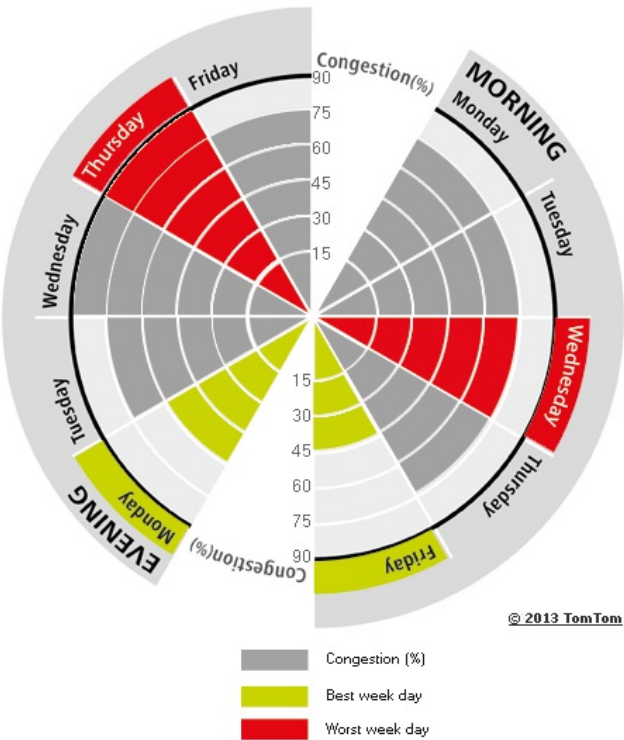
Congestion level

23%

Ranking

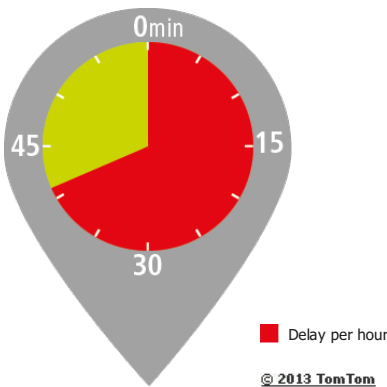
Ranking of city compared to continent	29/59
Congestion level on highways	19%
Congestion level on non-highways	30%
Delay per hour driven in peak period	41 min
Delay per year with a 30 min commute	93 h

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

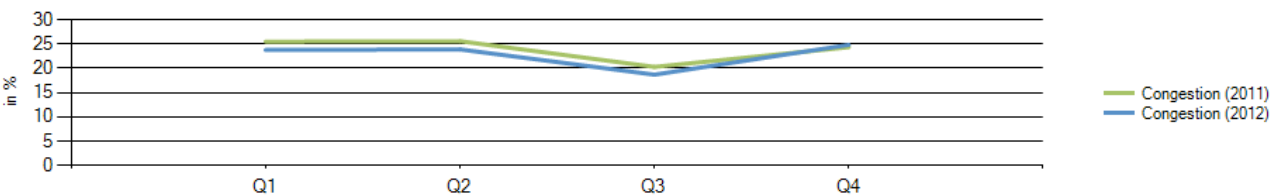


Most congested specific day	Mon 9 Jan 2012
Total network length	533 km
Total network length highways	125 km
Total network length non-highways	408 km
Total vehicle kilometres	5 803 123 km

Delay per hour driven in peak period



Comparison per quarter



## Palermo



### Congestion level

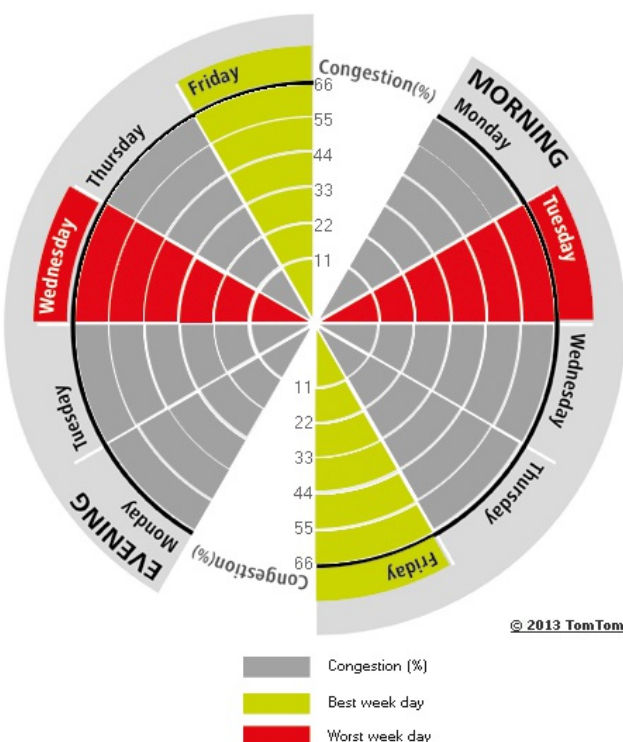
# 39%

### Ranking

Ranking of city compared to continent	5/59
Congestion level on highways	27%
Congestion level on non-highways	49%
Delay per hour driven in peak period	38 min
Delay per year with a 30 min commute	89 h

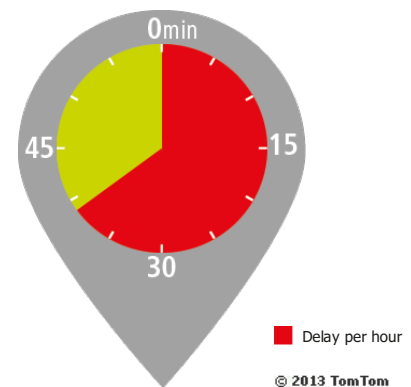
### The weekly congestion pattern:

Best and worst peak periods of the week

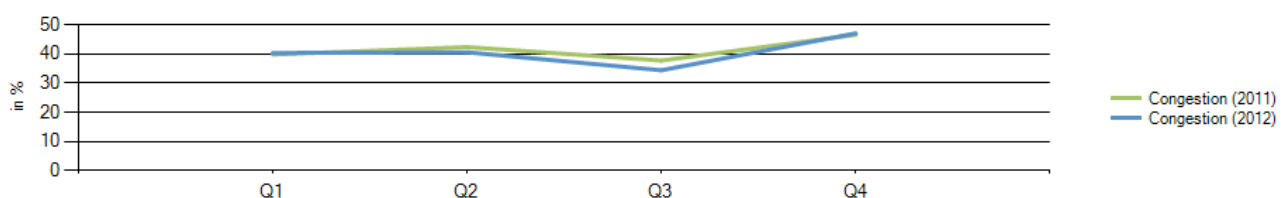


Most congested specific day	Thu 6 Dec 2012
Total network length	327 km
Total network length highways	50 km
Total network length non-highways	276 km
Total vehicle kilometres	1 617 171 km

### Delay per hour driven in peak period



### Comparison per quarter









## Stavanger



### Congestion level

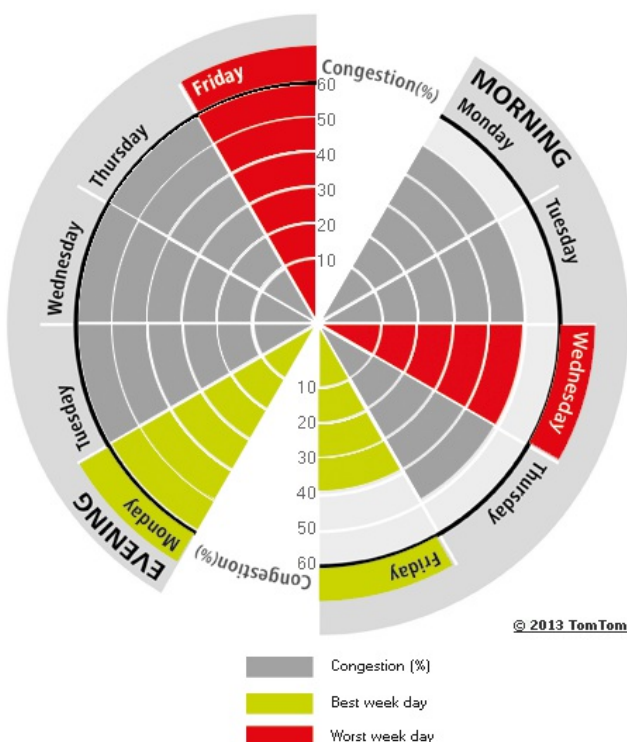
# 20%

### Ranking

Congestion level on highways	16%
Congestion level on non-highways	22%
Delay per hour driven in peak period	31 min
Delay per year with a 30 min commute	78 h

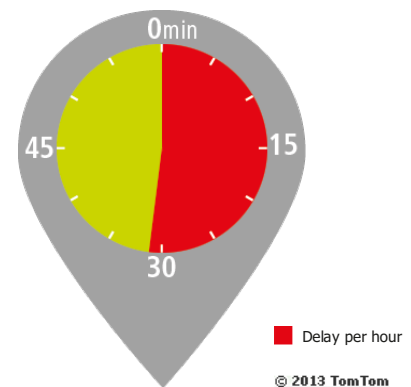
### The weekly congestion pattern:

Best and worst peak periods of the week

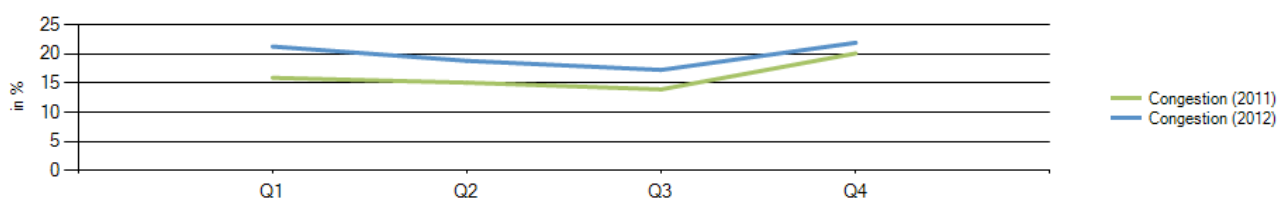


Most congested specific day	Wed 12 Dec 2012
Total network length	276 km
Total network length highways	34 km
Total network length non-highways	242 km
Total vehicle kilometres	918 848 km

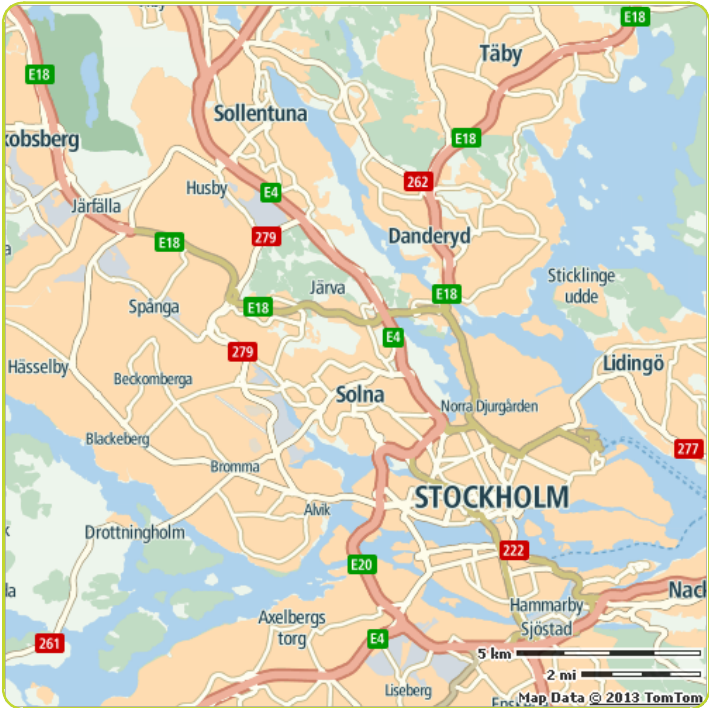
### Delay per hour driven in peak period



### Comparison per quarter



Stockholm



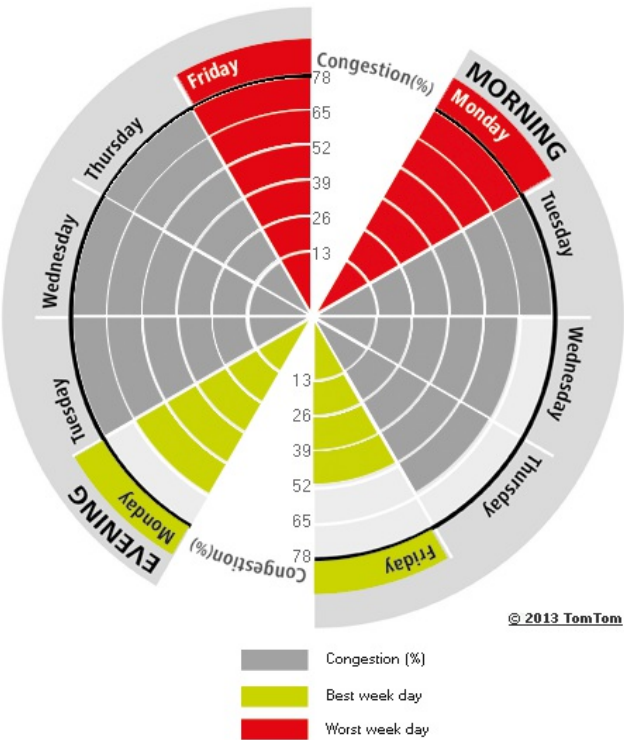
Congestion level

28%

Ranking

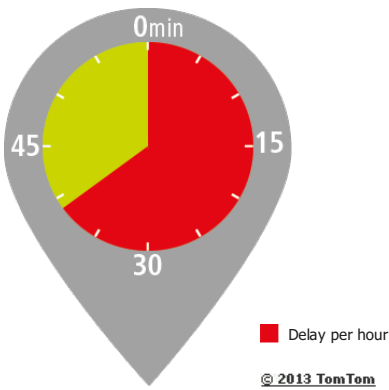
Ranking of city compared to continent	12/59
Congestion level on highways	25%
Congestion level on non-highways	32%
Delay per hour driven in peak period	39 min
Delay per year with a 30 min commute	90 h

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

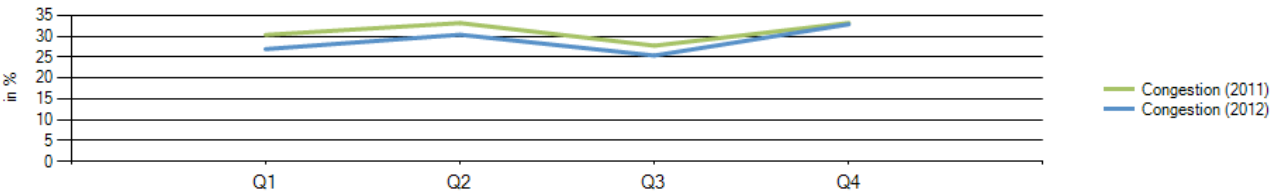


Most congested specific day	Wed 5 Dec 2012
Total network length	1 115 km
Total network length highways	229 km
Total network length non-highways	886 km
Total vehicle kilometres	7 705 364 km

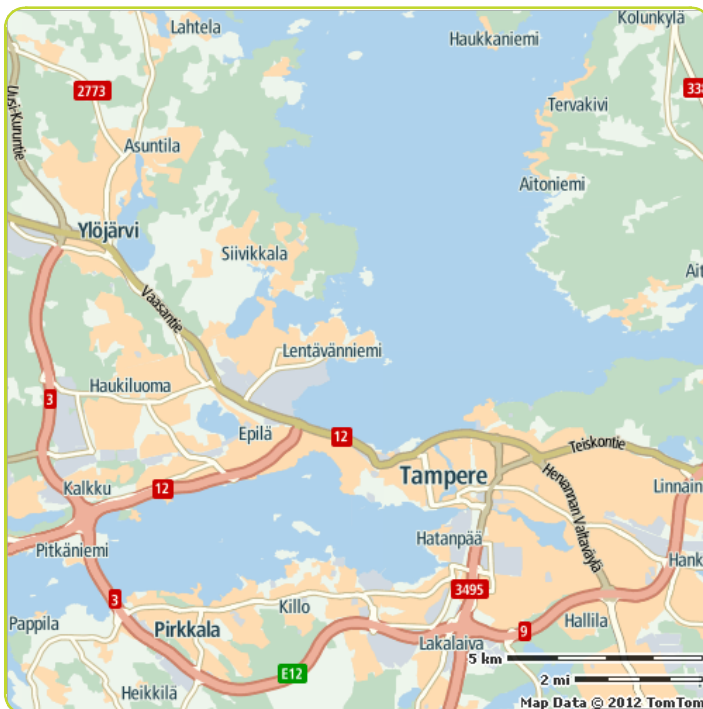
Delay per hour driven in peak period



Comparison per quarter



## Tampere



### Congestion level

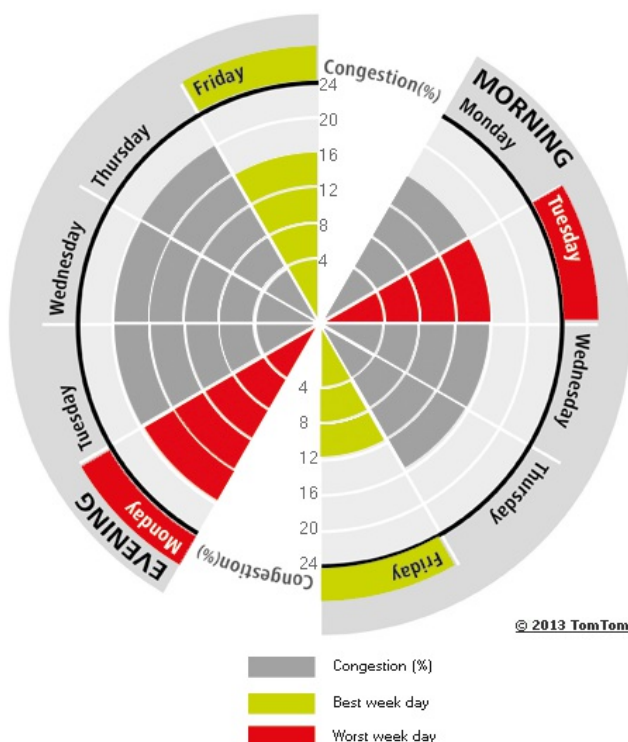
9%

### Ranking

Congestion level on highways	5%
Congestion level on non-highways	19%
Delay per hour driven in peak period	9 min
Delay per year with a 30 min commute	30 h

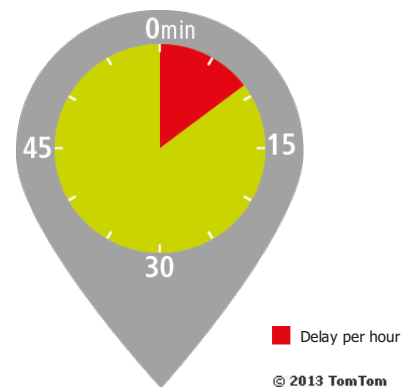
### The weekly congestion pattern:

Best and worst peak periods of the week

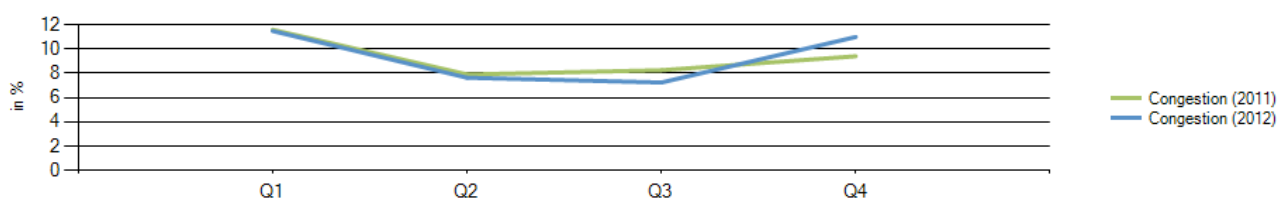


Most congested specific day	Mon 2 Apr 2012
Total network length	372 km
Total network length highways	151 km
Total network length non-highways	222 km
Total vehicle kilometres	4 191 176 km

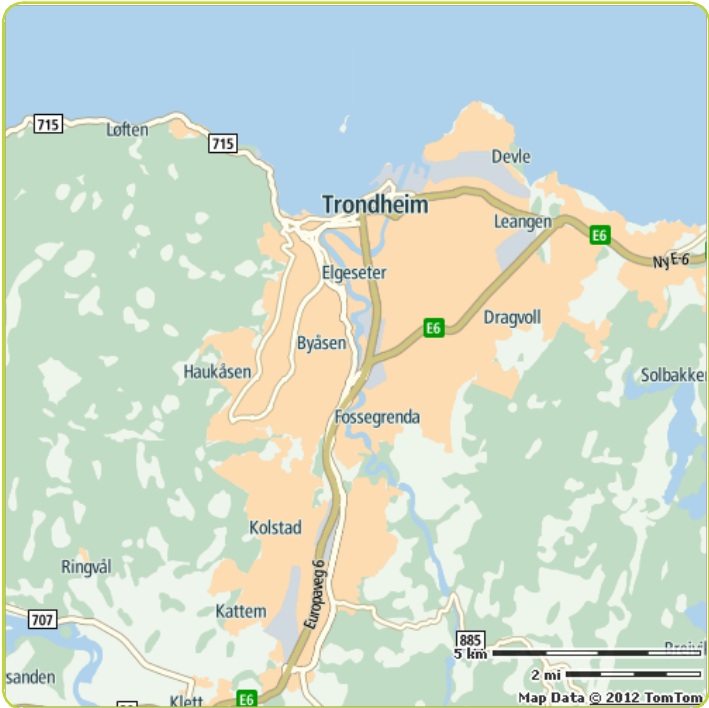
### Delay per hour driven in peak period



### Comparison per quarter



Trondheim



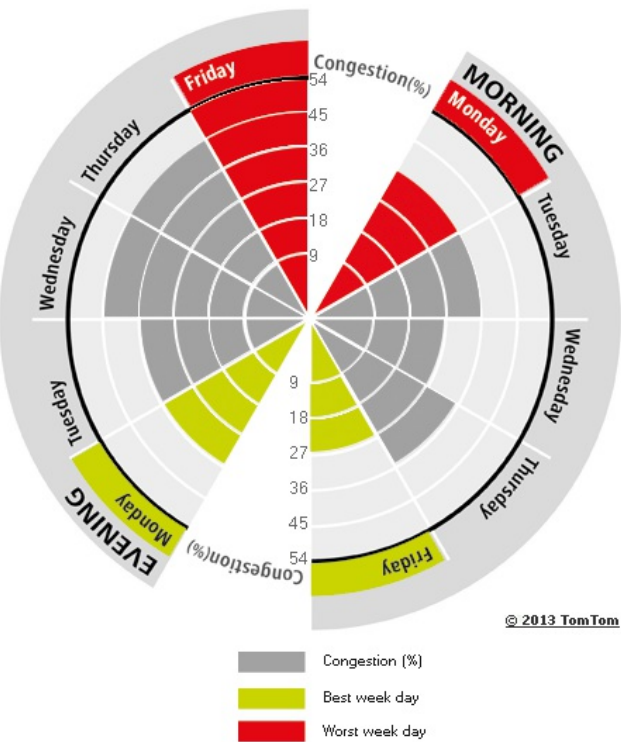
Congestion level

15%

Ranking

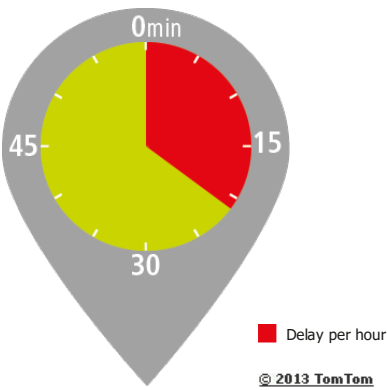
Congestion level on highways	14%
Congestion level on non-highways	20%
Delay per hour driven in peak period	20 min
Delay per year with a 30 min commute	57 h

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

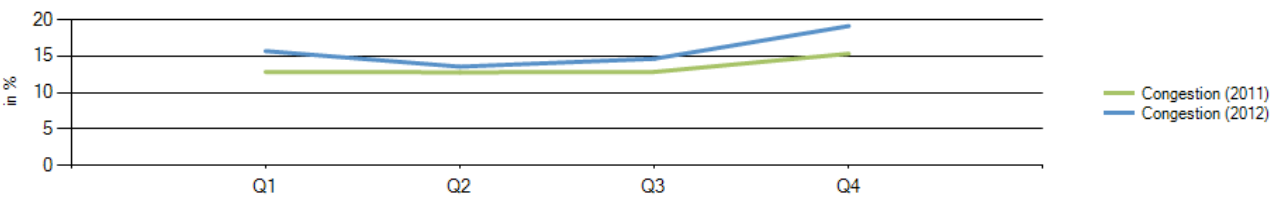


Most congested specific day	Thu 25 Oct 2012
Total network length	191 km
Total network length highways	61 km
Total network length non-highways	130 km
Total vehicle kilometres	635 915 km

Delay per hour driven in peak period



Comparison per quarter





## Turku



## Congestion level

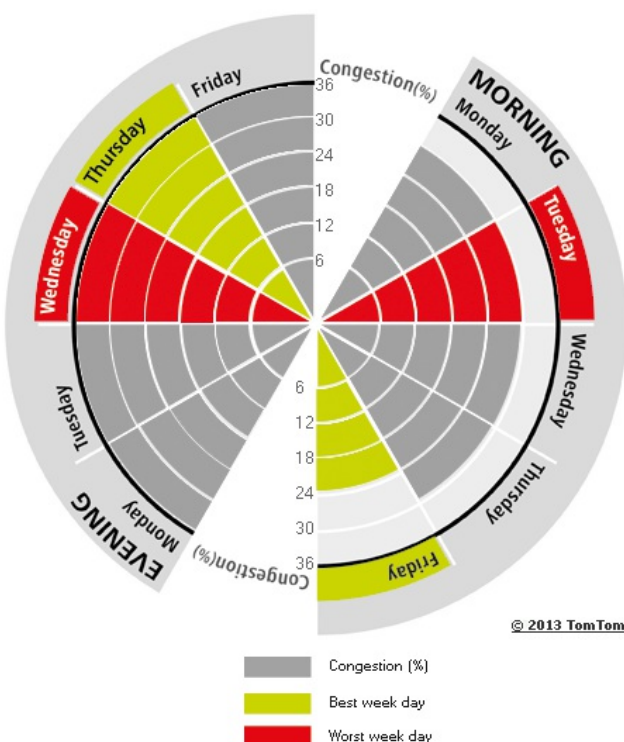
# 19%

## Ranking

Congestion level on highways	12%
Congestion level on non-highways	26%
Delay per hour driven in peak period	17 min
Delay per year with a 30 min commute	50 h

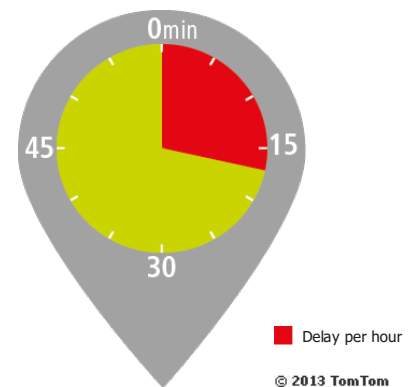
## The weekly congestion pattern:

Best and worst peak periods of the week

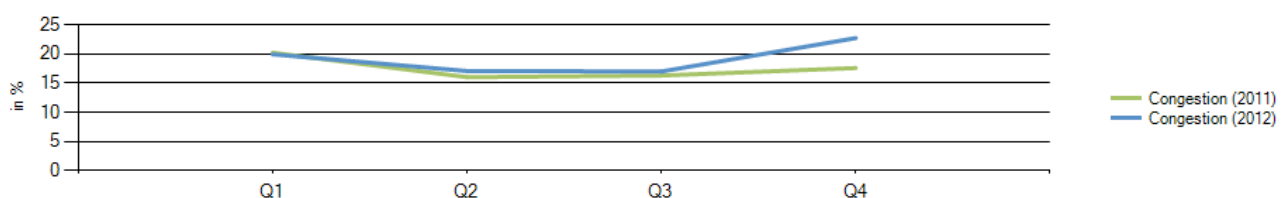


Most congested specific day	Mon 17 Dec 2012
Total network length	322 km
Total network length highways	112 km
Total network length non-highways	209 km
Total vehicle kilometres	2 493 328 km

## Delay per hour driven in peak period



## Comparison per quarter



## Warsaw



## Congestion level

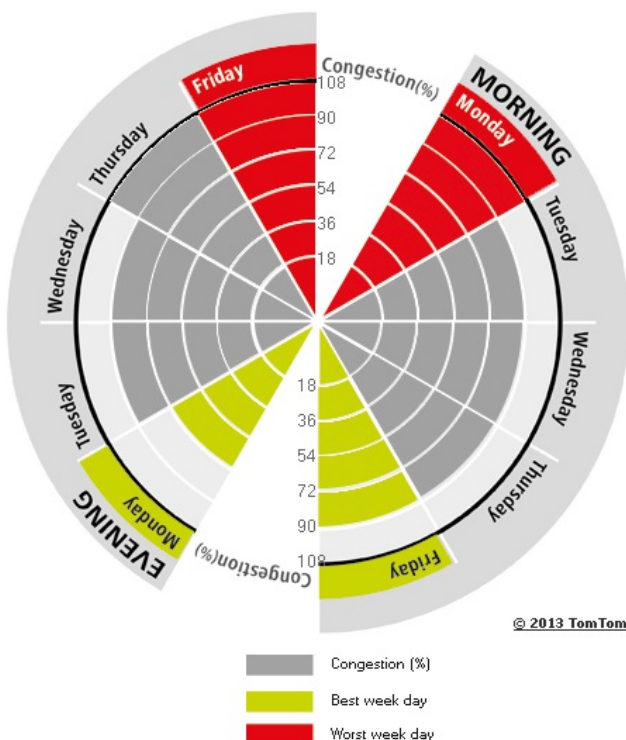
42%

## Ranking

Ranking of city compared to continent	3/59
Congestion level on highways	39%
Congestion level on non-highways	46%
Delay per hour driven in peak period	51 min
Delay per year with a 30 min commute	105 h

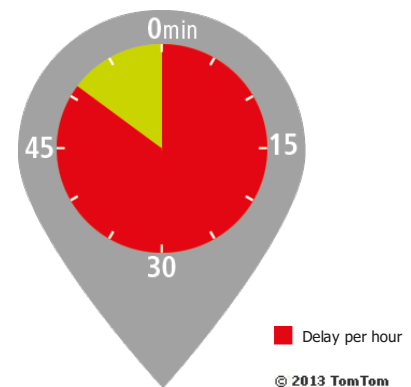
## The weekly congestion pattern:

Best and worst peak periods of the week

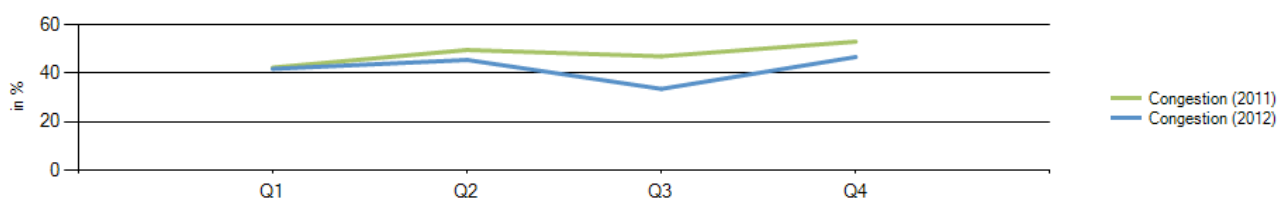


Most congested specific day	Tue 18 Dec 2012
Total network length	1 005 km
Total network length highways	357 km
Total network length non-highways	648 km
Total vehicle kilometres	6 666 320 km

## Delay per hour driven in peak period



## Comparison per quarter



## Evaluated cities

## Europe

Rank	City	Country	24/7	Morning peak	Congestion Level (%)		
					Evening peak	Weekdays	Weekend
1	Moscow	Russia	66	106	138	81	34
2	Istanbul	Turkey	55	80	125	59	45
3	Warsaw	Poland	42	84	88	50	19
4	Marseille	France	40	77	77	45	22
5	Palermo	Italy	39	64	64	44	25
6	Stuttgart	Germany	33	59	67	39	15
7	Paris	France	33	70	65	38	19
8	Rome	Italy	33	76	63	39	15
9	Hamburg	Germany	32	49	55	35	22
10	Brussels	Belgium	32	75	81	39	12
11	Dublin	Ireland	29	62	62	34	17
12	Stockholm	Sweden	28	62	70	33	14
13	Berlin	Germany	28	42	50	31	15
14	London	United Kingdom	27	56	55	31	18
15	Nice	France	27	41	54	30	17
16	Cologne	Germany	26	49	54	32	11
17	Lyon	France	26	58	56	30	16
18	Leeds-Bradford	United Kingdom	26	54	59	30	14
19	Vienna	Austria	25	43	50	29	12
20	Milan	Italy	25	70	55	31	10
21	Toulouse	France	25	76	56	29	11
22	Naples	Italy	25	40	45	28	15
23	Luxembourg	Luxembourg	25	52	59	30	9
24	Nottingham	United Kingdom	24	59	52	28	12
25	Budapest	Hungary	24	46	45	28	13
26	Manchester	United Kingdom	24	62	59	28	11
27	Munich	Germany	24	49	42	27	13
28	Prague	Czech Republic	23	52	40	28	8
29	Oslo	Norway	23	61	75	27	8
30	Strasbourg	France	23	41	64	27	9
31	Frankfurt am Main	Germany	22	48	41	26	9
32	Birmingham	United States	22	46	45	25	10
33	Liverpool	United Kingdom	21	38	39	24	14
34	Lille	France	21	53	48	25	9
35	Newcastle-Sunderland	United Kingdom	21	41	43	23	12
36	Lisbon	Portugal	20	45	51	24	9
37	Nantes	France	20	52	49	24	10
38	Genoa	Italy	20	37	38	23	12
39	Turin	Italy	20	44	39	23	10
40	The Hague	Netherlands	20	46	45	23	12
41	Rotterdam	Netherlands	19	38	55	23	8
42	Barcelona	Spain	19	46	38	23	8
43	Gothenburg	Sweden	19	33	52	22	9
44	Glasgow	United Kingdom	18	38	42	21	11
45	Ruhr region west	Germany	18	32	35	21	8
46	Helsinki	Finland	18	35	40	20	9
47	Porto	Portugal	18	31	39	20	10
48	Copenhagen	Denmark	17	42	34	20	8
49	Amsterdam	Netherlands	17	35	39	20	8
50	Ruhr region east	Germany	16	29	30	19	7
51	Palma de Mallorca	Spain	16	25	22	18	8
52	Madrid	Spain	14	39	29	17	4
53	Bern	Switzerland	13	24	38	16	3
54	Seville	Spain	13	24	20	15	6
55	Murcia	Spain	12	18	15	14	5
56	Valencia	Spain	11	18	19	13	6
57	Malmö	Sweden	10	14	18	11	7
58	Málaga	Spain	10	16	12	11	5
59	Zaragoza	Spain	9	13	13	11	4

## 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	TomTom evaluated capital cities as well as cities with a population of over 800 000. Next to the cities that meet these criteria, additional key cities are chosen and added in some countries.
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. These 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 most congested cities.
Top 3 - increasing congestion	Top 3 cities with largest increase in the Congestion Level compared to the previous year.
Top 3 - decreasing congestion	Top 3 cities with largest decrease in the Congestion Level compared to the previous year.
Top 10 cities / evaluated cities	Ranking of cities according to Congestion Levels.
• Rank	Rank according to Congestion Levels.
• CI change	Change in the Congestion Level compared to one year earlier.
• 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 Level over the past quarters.
• 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.
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). Available in Quarterly reports, not available in Annual reports.
Worst average evening peak	Highest Congestion Level during the 5 evening peak periods (work days). Available in Quarterly reports, not available in Annual reports.