INRIX® National Traffic Scorecard

2008 Annual Report

INRIX

THE LEADING PROVIDER OF TRAFFIC INFORMATION

INRIX® National Traffic Scorecard
2008 Annual Report

February 2009

THE LEADING PROVIDER OF TRAFFIC INFORMATION

Executive Summary

In June 2008, INRIX published the groundbreaking INRIX National Traffic Scorecard (available at http://scorecard.inrix.com). Using data from 2007, the initial Scorecard provided a comprehensive and consistent overview of where and when congestion exists on the major roads in America's top 100 metropolitan areas. This 2008 Scorecard, available less than 60 days after the end of 2008, summarizes the state of congestion in 2008 across the America and how it changed versus 2007.

Like most other aspects of society, 2008 was no ordinary year in terms of traffic or congestion, for several high profile reasons:

- **Fuel prices.** 2008 brought unprecedented fuel price volatility, with a massive and consistent increase through the first half of 2008 followed by an even greater plunge in prices during the second half of 2008. Overall, average fuel costs in 2008 were up nearly 20% from 2007.
- **Unemployment.** Peak hour traffic is largely associated with commuter traffic, people traveling to and from jobs. 2008 saw a steady increase in the nation's unemployment rate, with every month being higher than the comparable month in 2007.
- **Traffic Volume.** The combination of higher fuel prices and a struggling economy yielded a consistent decline in overall traffic volume. Official figures from the Federal Highway Administration (FHWA) show that the first eleven months of 2008 were substantially below 2007 levels, with percentage reductions never before recorded. Overall, FHWA reported a 3% reduction in vehicle miles traveled on the types of roads analyzed in this Scorecard.

Leveraging tens of billions of data points from 2006, 2007 and 2008 collected and archived by the INRIX Smart Dust Network, this Scorecard publishes the most up-to-date information regarding overall congestion and specific bottlenecks on the major roadways of urban America. By analyzing over 30,000 road segments on more than 47,000 miles of the major highways in the nation's 100 largest metropolitan areas, this report informs the ongoing debate of one of the nation's most frustrating and intractable issues: urban traffic congestion. How bad is congestion? Where is it worst? How has it changed? What can be done about it? This Scorecard provides the most comprehensive and timely national scale glimpse of the answers to these questions.

National Congestion Results and Trends

Overall, the nation's peak period time Travel Time Index (TTI) for 2008 was 1.09. This means that during peak driving times a random traveler on a random trip on the roads analyzed took 9% extra time, on average, than

Executive Summary

if there was no congestion. This represents a decrease in the Travel Time Index of 3.5% from 2007; more than reversing the increase of 1.9% between 2007 and 2006 (see Figure ES-1).

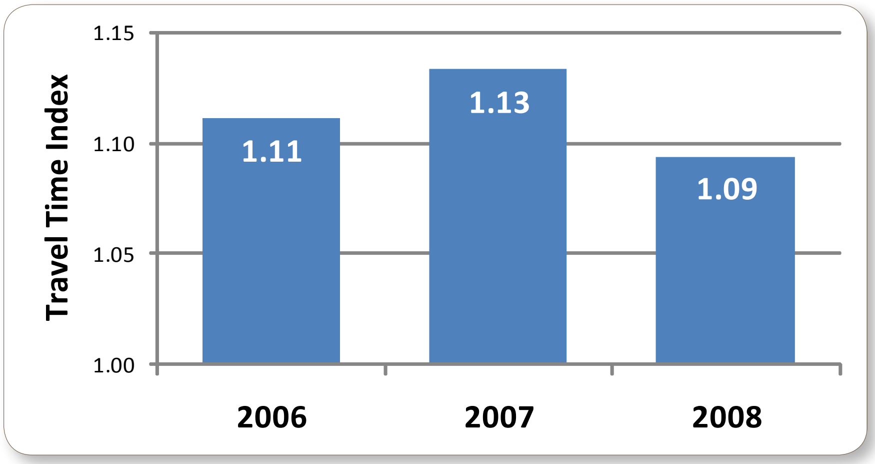


Figure ES-1: *National Travel Time Index by Year*

When considering the change in congestion – which is the extra amount the Travel Time Index is above 1.00 (a Travel Time Index of 1.00 would define an instance when no congestion existed and a trip was taken entirely in free flow conditions) – ***the decrease is even more startling: peak hour congestion on the major roads in urban America decreased nearly 30% in 2008 versus 2007***.

As the details in the Scorecard highlight, other key results include:

- National congestion was lower every hour of every day in 2008 versus 2007 – between 15% and 60% lower depending on the hour and day.
- Friday from 5 to 6 PM remained America's most congested hour of the week, although the Travel Time Index fell 23% from 1.26 to 1.20, just ahead of Thursday 5 to 6 PM, which had a TTI of 1.19 in 2008.
- Wednesday saw the biggest drop in congestion, with a 31% overall decrease in peak periods.
- Each weekday morning, peak hour congestion dropped much more than its corresponding evening peak hour congestion (See figure ES-2).
- National congestion levels were essentially the same when comparing the first and second halves of 2008, thus it seems that higher fuel prices in early 2008 and the slower economy later in the year netted the same drop in overall congestion.

Executive Summary

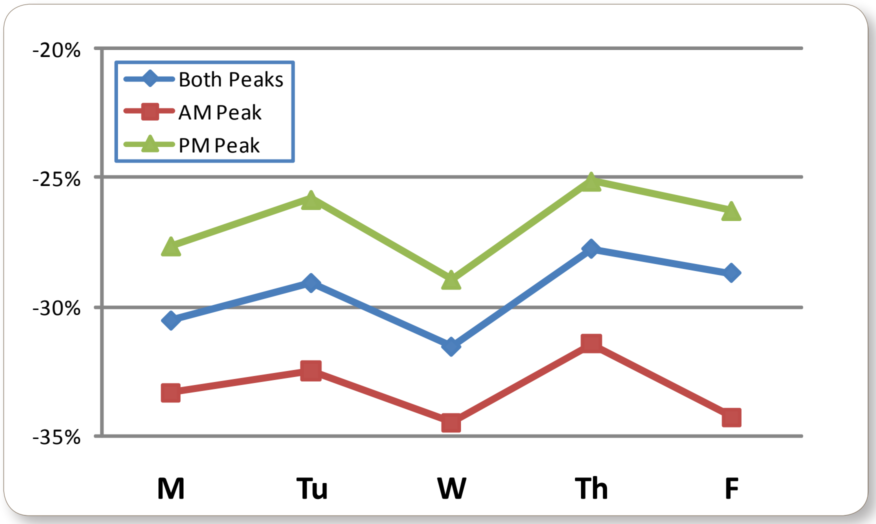


Figure ES-2: *% Drop in National Congestion by Day (2008 vs. 2007)*

- Congestion in off peak hours (outside of the AM and PM weekday commuting times) decreased by more than 36%, substantially outpacing the significant drop in peak hour congestion.

As expected, the health of the economy and higher average fuel costs led to decreased congestion – but the scale of the decrease, roughly 30%, is startling.

A 3% drop in vehicle miles traveled resulted in a 30% drop in peak period congestion in 2008.

Metropolitan Comparisons and Trends

While no region of the country was spared volatile fuel prices and some amount of economic stress, some regions clearly have had a better or worse relative impact. Couple these differences with variations in overall highway construction and maintenance activity – a key contributor to recurring regional congestion as highlighted in later sections – and the reduction in overall congestion varied widely by metropolitan area. Figure ES-3 highlights the nation's top 10 regions in terms of overall congestion, Travel Time Index (which normalizes the congestion data by road miles analyzed in each region, giving the fairest consumer-oriented view of congestion in a region), the biggest drops in Travel Time Index between 2007 and 2008, and the most congested "worst hour" rankings.

Executive Summary

Peak Period Congestion

Rank	Area (Population Rank)	% of Worst Market*	Rank Change from 2007
1	Los Angeles-Long Beach-Santa Ana CA (2)	100%	0
2	New York-Northern New Jersey-Long Island NY-NJ-PA (1)	87%	0
3	Chicago-Naperville-Joliet IL-IN-WI (3)	48%	0
4	Dallas-Fort Worth-Arlington TX (4)	39%	+1
5	Washington-Arlington-Alexandria DC-VA-MD-WV (8)	36%	-1
6	Houston-Sugar Land-Baytown TX (6)	34%	+1
7	San Francisco-Oakland-Fremont CA (12)	33%	-1
8	Boston-Cambridge-Quincy MA-NH (10)	27%	0
9	Seattle-Tacoma-Bellevue WA (15)	24%	0
10	Minneapolis-St. Paul-Bloomington MN-WI (16)	22%	+3

* % Compared to Worst Market (Los Angeles Region)

Peak Period Travel Time Index

Rank	Area (Population Rank)	TTI	Rank Change from 2007
1	Los Angeles-Long Beach-Santa Ana CA (2)	1.33	+1
2	Honolulu HI (54)	1.31	-1
3	Austin-Round Rock TX (37)	1.23	+4
4	San Francisco-Oakland-Fremont CA (12)	1.23	0
5	New York-Northern New Jersey-Long Island NY-NJ-PA (1)	1.22	0
6	Bridgeport-Stamford-Norwalk CT (56)	1.21	-3
7	Washington-Arlington-Alexandria DC-VA-MD-WV (8)	1.20	+1
8	Seattle-Tacoma-Bellevue WA (15)	1.20	-2
9	Chicago-Naperville-Joliet IL-IN-WI (3)	1.19	+1
10	San Jose-Sunnyvale-Santa Clara CA (31)	1.16	+1

% Decrease in Travel Time Index - 2007 to 2008

Rank	Area (Population Rank)	% Decrease
1	Honolulu HI (54)	10.7%
2	Riverside-San Bernardino-Ontario CA (14)	9.6%
3	San Diego-Carlsbad-San Marcos CA (17)	9.3%
4	Bridgeport-Stamford-Norwalk CT (56)	8.2%
5	Los Angeles-Long Beach-Santa Ana CA (2)	8.2%
6	Oxnard-Thousand Oaks-Ventura CA (63)	7.1%
7	Colorado Springs CO (83)	6.6%
8	Seattle-Tacoma-Bellevue WA (15)	6.6%
9	Miami-Fort Lauderdale-Pompano Beach FL (7)	6.4%
10	San Francisco-Oakland-Fremont CA (12)	6.2%

Worst Hour Travel Time Index

Rank	Area (Population Rank)	Day and Hour	TTI	Rank Change from 2007
1	Austin-Round Rock TX (37)	Th5pm	1.68	+3
2	Los Angeles-Long Beach-Santa Ana CA (2)	Th5pm	1.63	+1
3	Honolulu HI (54)	Th4pm	1.62	-2
4	Bridgeport-Stamford-Norwalk CT (56)	F5pm	1.61	-2
5	New York-Northern New Jersey-Long Island NY-NJ-PA (1)	F5pm	1.48	0
6	San Francisco-Oakland-Fremont CA (12)	Th5pm	1.48	0
7	Seattle-Tacoma-Bellevue WA (15)	F4pm	1.44	+1
8	Washington-Arlington-Alexandria DC-VA-MD-WV (8)	Th5pm	1.42	-1
9	Chicago-Naperville-Joliet IL-IN-WI (3)	Th5pm	1.36	+2
10	San Jose-Sunnyvale-Santa Clara CA (31)	Th5pm	1.36	0

Figure ES-3: *2008 Top 10 Rankings*

The Scorecard includes a detailed table with several different parameters than can be used to compare congestion and trends between the regions. Several highlights are included in the details of this table:

- 99 of the 100 regions saw congestion levels decrease. Baton Rouge, LA, with a 6% increase in overall congestion, was the only region with an increase from 2007, shooting it up the metropolitan rankings from 47th to 33rd in overall congestion.

99 of 100 regions saw congestion decrease in 2008.

- In almost all cases, when regions moved up a list, it was due to less congestion reduction than its peer regions in that category. For example, despite a 20% drop in congestion, the Minneapolis-St. Paul region moved from 13th to 10th in total congestion, passing Atlanta, Miami, and Philadelphia.
- Los Angeles moved ahead of Honolulu with the highest metropolitan Travel Time Index. Honolulu's 34% drop in congestion lowered its Travel Time Index from 1.45 to 1.31, where Los Angeles' 23% drop lowered its TTI from 1.44 to 1.33

Executive Summary

Bottlenecks

Nearly 31,000 individual road segments were analyzed to determine the extent and amount of average congestion each had in 2008. More than 6000 segments registered at least one hour of the week when one can expect to travel at less than half the free flow or uncongested speed. As expected based on the overall congestion data, the number and intensity of bottlenecks were down considerably from 2007. Overall 28% fewer segments had at least one hour of congestion in 2008. Figure ES-4 details the drop for each threshold.

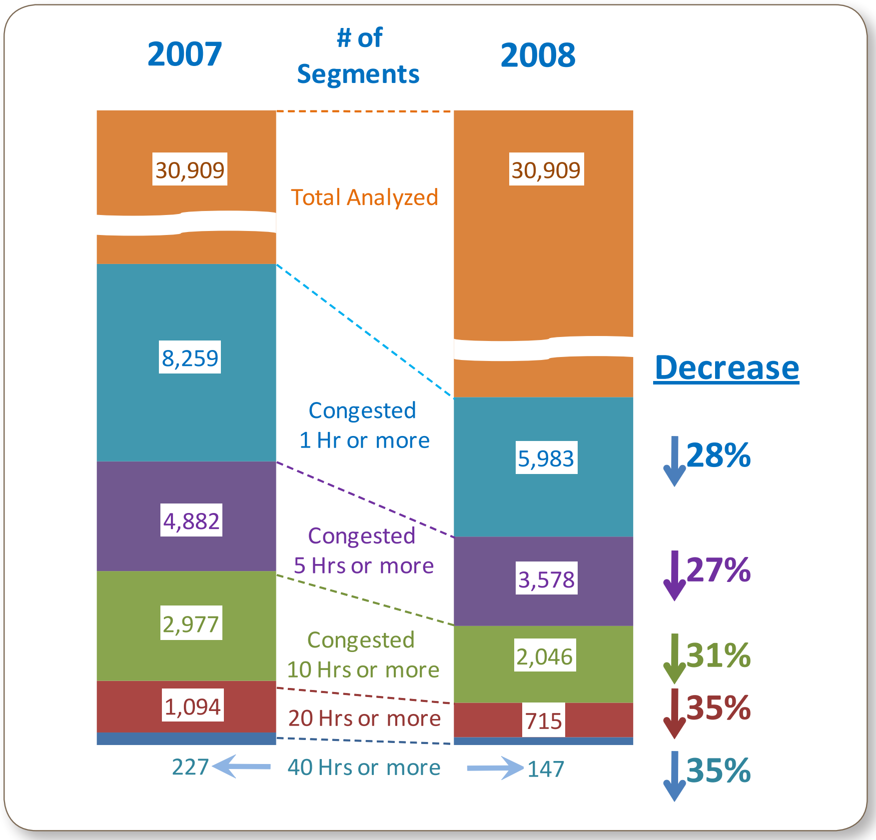


Figure ES-4: *Drop in Bottlenecks from 2007 to 2008*

The nation's worst bottleneck remained the same, a westbound stretch of the Cross Bronx Expressway/I-95 leading up to and including the Bronx River Parkway exit 4B interchange. As in 2007, it was congested an astounding 94 hours of the week, but the average speed while congested rose in 2008 to 11.2 MPH from 9.8 MPH.

Executive Summary

One third of the top 100 bottlenecks in 2007 were not in the top 100 in 2008. Five of the road segments that dropped out of the top 100 fell outside of the Top 1000 – four of these were on the Dan Ryan Expressway in Chicago, which was part of a multi-year construction project that ended in 2007.

As in 2007, more than half of the nation's top 1000 bottleneck segments (see Figure ES-5) were in the New York, Los Angeles and Chicago areas. Roughly one fourth of the nation's top 1000 bottlenecks in 2007 fell out of the top 1000 in 2008. Again, much of the volatility appears tied to the beginning or ending of long-term construction or maintenance projects. Overall, the top 1000 bottlenecks in 2008 were congested an average of 26 hours each week (versus 31 hours in 2007), with an average speed while congested of 18 MPH (versus 16 MPH in 2007).

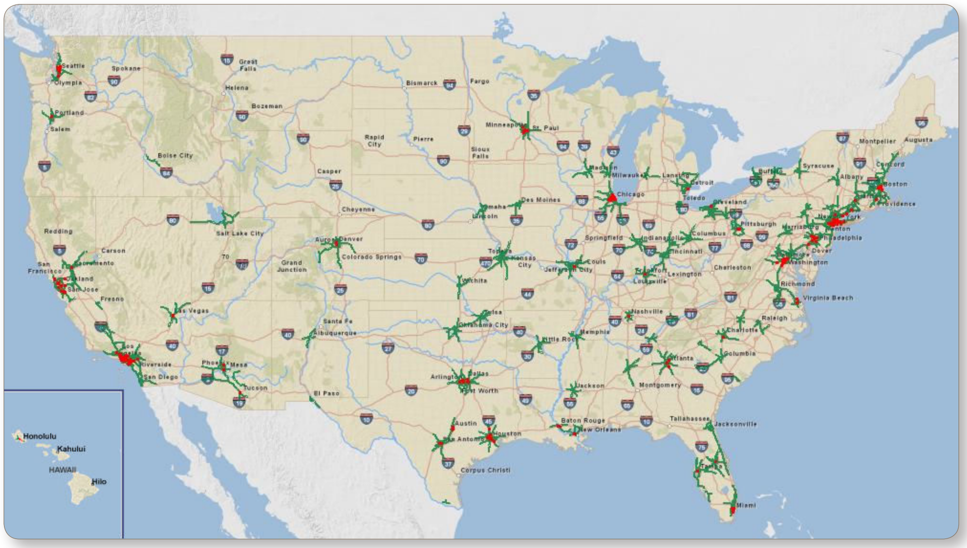


Figure ES-5: *Map of 1000 Worst National Bottlenecks in 2008*

Specific noteworthy bottleneck work zones include:

- The top 2007 bottleneck to have "0 hours" of congestion in 2008:
  — I-35E Southbound at I-694 in Minneapolis-St. Paul (63rd in 2007)
- The top 2007 bottleneck to fall out of the top 1000 bottlenecks in 2008:
  — Dan Ryan Expressway Southbound at Roosevelt Road in Chicago (from 15th worst in 2007 to 3356th in 2008)
- The top 2008 bottleneck not ranked in 2007:
  — Ronald Reagan Freeway/SR 118 Eastbound at Stearns Drive in Ventura County, California (ranked 154th in 2008)

Executive Summary

Conclusions

With a new presidential administration, the just-passed stimulus package, and the upcoming expiration of SAFETEA-LU, this is an important year for transportation issues. The Scorecard has generated some relevant findings to assist in both national and regional debates, including:

- **Volume changes have much bigger impacts under congested conditions.** FHWA data shows that in 2008, traffic on "urban interstates" was down 3% nationwide compared to 2007. This has translated to a nearly 30% reduction in peak hour congestion and an even larger 36% drop in off-peak congestion. This illustrates multiple issues:
  - **Demand management can have sizeable impact on congestion, even if total volume changes are modest.** Massive increases in fuel prices had effects similar to policy initiatives under consideration such as variable pricing, managed lane strategies and better travel information. When a road network is at capacity, adding or subtracting even a single vehicle has disproportionate effects for the network. This phenomenon has been well known for a long time, but this data illustrates it in real-world terms on a nationwide basis.
  - **While the drop in congestion is welcomed in general, the primary root causes – high fuel costs and lagging economic activity – are not.** Ideally, the nation's economy will turn around in short order and fuel prices will remain moderate. If so, we can expect congestion to largely snap back to levels comparable to 2007 levels or worse. While we all should cheer the reduction in congestion in 2008, we should be under no illusion that this is permanent. We must still continue to focus energies on policies and methods to tackle congestion. When the economy is growing again, congestion will likely move to the front and center again as the nation's primary surface transportation problem.
- **The linkage between work zones and bottlenecks.** The significant percentage of bottlenecks that appear to be related to work zones underscores the need to focus on managing work zones in ways that mitigate congestion. With the upcoming stimulus spending, the amount of work zones is likely to grow to numbers never before seen. Further, there is strong desire to move as quickly as possible in getting highway projects underway. Proper work zone planning will be essential if we are to keep the nation's highways from becoming a parking lot.

Table of Contents

Introduction

In June 2008, INRIX published the groundbreaking INRIX National Traffic Scorecard.[1] Using data from 2007, the initial Scorecard provided a comprehensive and consistent overview of where and when congestion existed on the major roads in America's top 100 metropolitan areas. This 2008 Annual Report of the Scorecard, available less than 60 days after the end of 2008, summarizes the state of congestion in 2008 across the U.S.

2008: A Blip or a Trend?

Historically, traffic volumes and congestion, like the size of the economy and the population have tended to consistently rise year after year. While the occasional recession or fuel price spike may halt the upward march of traffic, it has almost always been only a small and temporary pause. 2008 was different. As one might expect, in terms of traffic and congestion, 2008 was no ordinary year, on several fronts:

- **Fuel prices.** 2008 brought unprecedented fuel price volatility, with a massive and consistent increase through the first half of 2008 followed by an even greater plunge in prices during the second half of 2008 (see Figure 1). The cost of driving – and being stuck in traffic – was changing substantially on a nearly daily basis. The effect of the fuel price rise in early 2008 was so noticeable in terms of congestion that we published a special report highlighting and correlating these impacts.[2]

- **Unemployment.** 2008 saw a steady increase in the nation's unemployment rate, with every month being higher than the comparable month in 2007 (see figure 2). Peak hour traffic, largely associated with commuter traffic (people traveling to and from jobs), experienced a rapid decline over the year.

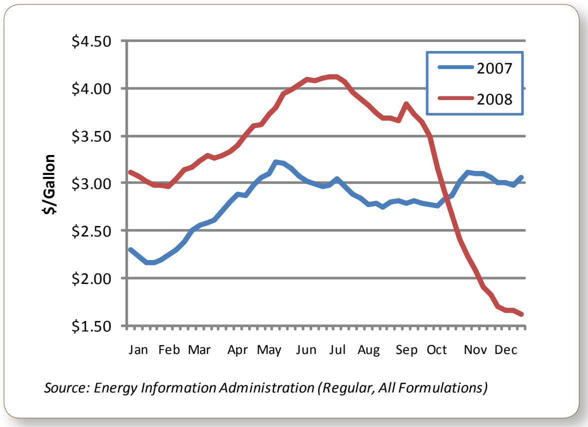


***Figure 1:** Weekly US Regular Fuel Prices*

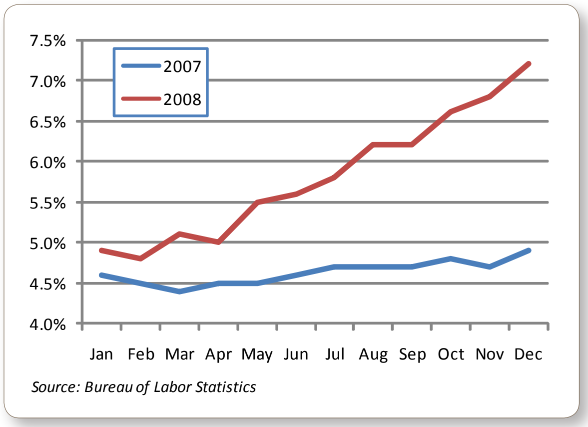


***Figure 2:** National Unemployment Rate*

[1] See http://scorecard.inrix.com/scorecard/2007 for the report.
[2] The Impact of Fuel Prices on Consumer Behavior and Traffic Congestion, published October 2008, see http://scorecard.inrix.com/scorecard/fuel for the report.

Introduction

- **Traffic Volume.** The combination of higher fuel prices and a struggling economy yielded a consistent decline in overall traffic volume. While month to month changes moved both up and down, each month from January to November in 2008 was consistently below 2007 levels. This is true for overall volumes and the specific category of roads – "Urban Interstates" – the category that most closely aligns to the roadway network analyzed in the Scorecard (see Figure 3). Overall, urban interstate traffic volume dropped 3% in 2008.

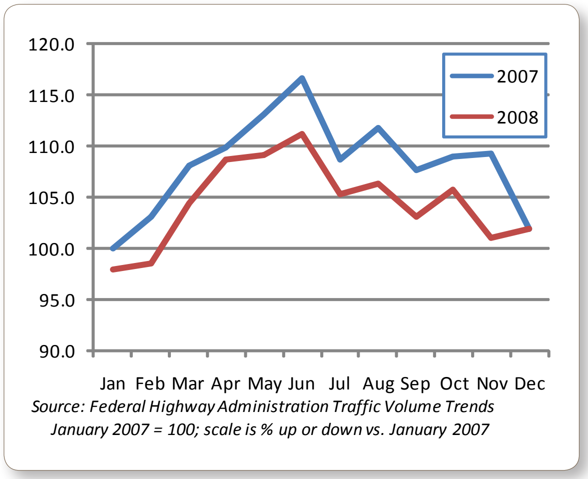


Figure 3: *Monthly Vehicle Miles Traveled, Urban Interstates*

So, 2008 wasn't just another year where things generally get somewhat worse in terms of congestion. Having the nation's most extensive traffic data repository, with more than three times the data points to leverage in 2008 versus 2007, has enabled INRIX to provide this unique, timely and important report summarizing how these unprecedented circumstances affected traffic congestion in 2008.

INRIX's Unique and Timely Traffic Data Archive

In 2006, INRIX introduced the Smart Dust Network, the first truly national traffic data collection network. The Scorecard has established an equally revolutionary approach to measuring the nation's traffic congestion problem. Leveraging tens of billions of data points from 2006, 2007 and 2008 collected and archived by the Smart Dust Network, this report publishes the most up-to-date information regarding overall congestion and specific bottlenecks on the major roadways of urban America.

By analyzing over 30,000 road segments on more than 47,000 miles of the major highways in the nation's 100 largest metropolitan areas, this report informs the ongoing debate of one of the nation's most frustrating and intractable issues: urban traffic congestion. How bad is congestion? Where is it worst? How has it changed? What can be done about it? This Scorecard provides the most comprehensive and timely national scale glimpse of the answers to these questions.

Methodology

The INRIX National Traffic Scorecard draws from several existing approaches to calculating traffic congestion and leverages new methods made possible by INRIX's proprietary data. This section provides background on the raw data and the processes used.

Source Data

The raw data comes from the historical traffic data warehouse of the INRIX Smart Dust Network. Since 2006, INRIX has acquired tens of billions of discrete "GPS-enabled probe vehicle" reports from vehicles traveling the nation's roads – including taxis, airport shuttles, service delivery vans, long haul trucks, and consumer vehicles. Each data report from these GPS-equipped vehicles includes the speed, location and heading of a particular vehicle at a reported date and time.

INRIX has developed efficient methods for interpreting probe vehicle reports that are provided in real-time to establish a current estimate of travel patterns in all major cities in the United States. These same methods can aggregate data over periods of time (annually in this report) to provide reliable information on speeds and congestion levels for segments of roads. With the nation's largest probe vehicle network, INRIX has the ability to generate the most comprehensive congestion analysis to date, covering the nation's largest 100 metropolitan areas.

Metropolitan Area

The US Census Bureau definition of Core Based Statistical Areas (CBSA)[3] is used to define metropolitan areas. This report uses the latest 2007 census estimates[4] to identify the top 100 areas.

Roads/Segments Analyzed

This report focuses on the major limited access roads in the top metropolitan areas in the United States. In all of its products, INRIX utilizes an industry convention known as "TMC location codes" developed and maintained by the nation's leading electronic map database vendors to uniquely define road segments. The typical road segment is the interchange and the portion of linear road leading up to the interchange across all lanes in a single direction of travel. The length of a segment will depend upon the length of the distance between interchanges. For this report, over 47,000 road miles in nearly 31,000 discrete road segments have been analyzed (see Figure 4).

[3] http://www.census.gov/population/www/estimates/aboutmetro.html

[4] http://www.census.gov/population/www/estimates/CBSA-est2007-pop-chg.html

Methodology

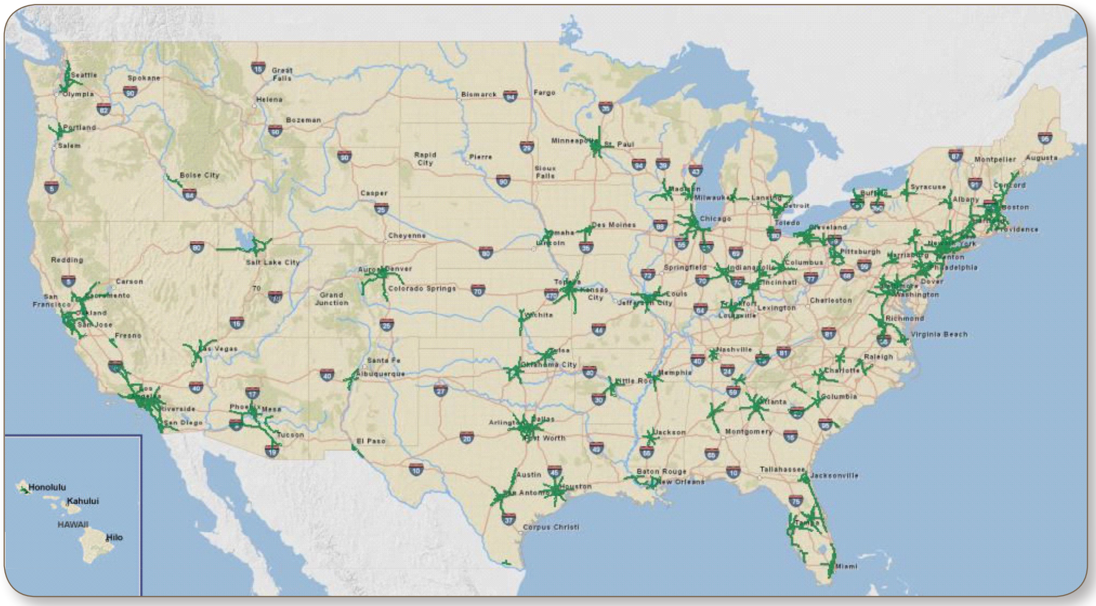


Figure 4: Roads Analyzed in Scorecard Are Indicated in Green

Analysis Time Period

The focus of this report is the calendar year 2008. In some cases, calendar year 2006 and 2007 data is utilized to enable year over year comparisons.

Road Segment Data

There are two key building blocks for the different analyses included in this report:

- **Reference speed (RS):** For each road segment, all probe vehicle reports obtained in overnight hours (where congestion is usually unlikely) in 2008 are analyzed. The 85th percentile of those data points is identified as the "reference speed" for that particular road segment. This is typically the speed of "free flow" traffic if and when no congestion exists. Each segment has a single reference speed.
- **Hourly average speed (HS):** All probe vehicle reports for each road segment are grouped by hour of day, day of week (e.g. Monday from 3 to 4pm) and an "average speed" for each time slot is established for each road segment. Thus, each segment has 168 corresponding hourly average speed values – representing 24 hours of each day muliplied by the seven days in a week.

Methodology

Overall Congestion Metrics – Regional and National

To assess congestion for a CBSA, INRIX utilizes several concepts that have been used in similar studies.

- **Travel Time Index (TTI):** TTI is the ratio of peak period travel time to free flow travel time. The TTI expresses the average amount of extra time it takes to travel in the peak relative to free-flow travel. A TTI of 1.3, for example, indicates a 20-minute free-flow trip will take 26 minutes during the peak travel time periods, a 6-minute (30 percent) travel time penalty.[5] For each road segment, a TTI is calculated for each hour of the week, using the formula TTI = RS/HS.
- **"Peak Hour" Congestion:** To assess and compare congestion levels year to year and between CBSAs, only "peak hours" are analyzed. Consistent with similar studies, peak hours are defined as the hours from 6 to 10 AM and 3 to 7 PM, Monday through Friday – 40 of the 168 hours of a week.

For each Metropolitan Area, an overall level of congestion is determined for each of the 40 peak hours by determining the extent and amount of average congestion on the analyzed road network. This is easy to compute once TTI's are calculated for each segment:

STEP 1: For each of the 40 peak hours, all road segments analyzed in the CBSA are checked. Each segment where the TTI > 1 is contributing congestion, and it is analyzed further.

STEP 2: For each segment contributing congestion, the amount the TTI is greater than 1 is multiplied by the length of the segment, resulting in a congestion factor.

STEP 3: For a given hour, the overall metropolitan congestion factor is the sum of the congestion factors calculated in STEP 2.

STEP 4: To establish the Metropolitan Travel Time Index for a given hour, the metropolitan congestion factor from STEP 3 is divided by the number of road miles analyzed.

STEP 5: A peak period Metropolitan Travel Time Index is determined by averaging the hourly Metropolitan Travel Time Indices from STEP 4.

New for this 2008 Annual Update, monthly Travel Time Index values have been calculated for each CBSA and nationally as well and are included in subsequent sections.

[5] See note at bottom of this link: http://www.bts.gov/publications/national_transportation_statistics/html/table_01_64.html

Methodology

Bottlenecks

With the unique ability to examine in detail nearly 31,000 urban highway road segments, INRIX identifies the specific locations in each metropolitan area – and can compare locations across the country – that are consistently congested. These are "bottlenecks."[6]

Congestion – and how to measure it – can be in the eye of the beholder. Is congestion defined as how bad a road segment is at its worst or is it how often the segment gets "congested" (and what is the threshold for "congestion" anyways – tapping the brakes, stop and go conditions, etc.)? INRIX has developed a method that combines both the amount of time a road segment is congested with the intensity of congestion during those periods. The process used to analyze each of the nearly 31,000 road segments is as follows:

- The same RS and HS values are utilized as in the overall congestion by metropolitan area portion of the study;
- All 168 hours of the week are considered, not just the 40 "peak hours." As will be evident in the data, severe bottlenecks aren't just limited to peak hours;
- For each hour of the week that the average speed is less than 50% of the reference speed (RS), the hour is considered "congested;"
- For all "congested" hours, the average intensity of the congestion is determined by establishing an average travel time ratio;
- The total bottleneck factor equals the number of hours of congested by the average travel time ratio.
- Each road segment's bottleneck factor can be compared with others in a metropolitan area and against all bottlenecks nationally. It can also be compared year-to-year, as we have in this Scorecard.

[6] From the Federal Highway Administration: Traffic Bottleneck: (Simple definition) A localized constriction of traffic flow. (Expanded definition) A localized section of highway that experiences reduced speeds and inherent delays due to a recurring operational influence or a nonrecurring impacting event.

National Congestion Results and Trends

The methodology used to measure overall congestion and to establish the metropolitan Travel Time Index for each of the weekly 40 drive time hours enables the calculation of overall national congestion metrics, by hour, by morning and evening drive time, by day and overall. New for the 2008 Annual Update is the inclusion of monthly data as well.

Overall Travel Time Index and Congestion

Overall, the nation's peak period time Travel Time Index for 2008 was 1.09. This means that during peak driving times[7] a random traveler on a random trip on the roads analyzed took on average 9% extra time than if there was no congestion. This represents a 3.5% decrease in the Travel Time Index from 2007 – more than reversing the increase of 1.9% between 2007 and 2006 (see Figure 5).

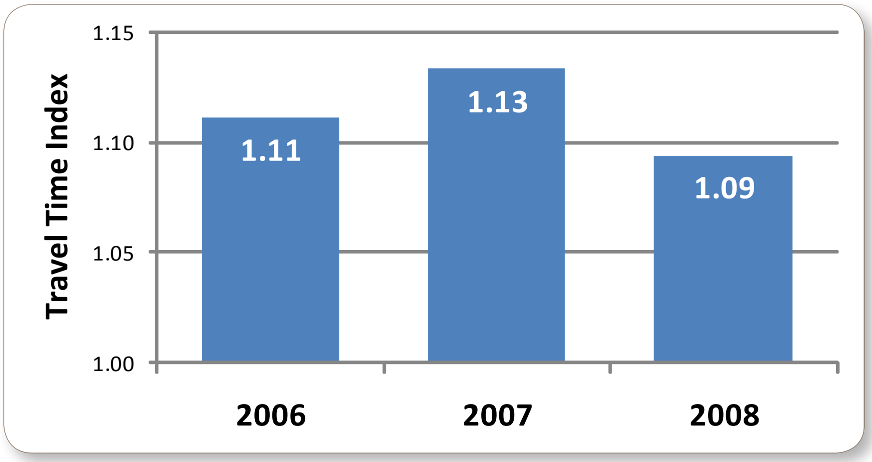


***Figure 5:** National Travel Time Index by Year*

When considering the change in congestion – which is the extra amount the Travel Time Index is above 1.00 (a Travel Time Index of 1.00 would define an instance when no congestion existed and a trip was taken entirely in free flow conditions) – the decrease is even more startling: ***peak hour congestion on the major roads in urban America decreased nearly 30% in 2008 versus 2007.*** So, if the average amount of delay time per traveler in 2007 was 44 hours[8], the approximate reduction in delay per traveler in 2008 was 13 hours. This means the average traveler "saved" 13 hours in time off the roads in 2008 versus 2007.

The data also reveal that off peak hours – the 128 hours of the week not analyzed in the peak driving hours – saw a larger percentage drop in congestion than the peak hours, down roughly 36% versus 2007.

[7] Peak period drive time hours are 6 – 10 AM and 3 – 7 PM, Monday through Friday.
[8] See Texas Transportation Institute's 2007 Urban Mobility Report, where the average annual delay per travel in 2005 in the 85 "large areas" studied was 44 hours (http://mobility.tamu.edu/ums/).

National Congestion Results and Trends

National Travel Time Index by Hour and Day of Week

A national perspective shows the Travel Time Index/overall congestion for every hour and day of the week was well below its level in 2007. Figure 6 shows the 2008 National Travel Time Index by the hour and day of the week (note: "5 PM" in the figures refers to the 5-6 PM hour, etc.). Figures 7-13 compare National TTI for each day and hour between 2007 and 2008.

Noteworthy findings:

— Friday from 5 to 6 PM remained America's most congested hour of the week, although the Travel Time Index fell 23% from 1.26 to 1.20, just ahead of Thursday 5 to 6 PM, which had a TTI of 1.19 in 2008.

— Wednesday saw the biggest drop in congestion, with a 31% overall decrease in peak hours.

— Each weekday morning, peak hour congestion dropped much more than its corresponding evening peak hour congestion (See figure 14).

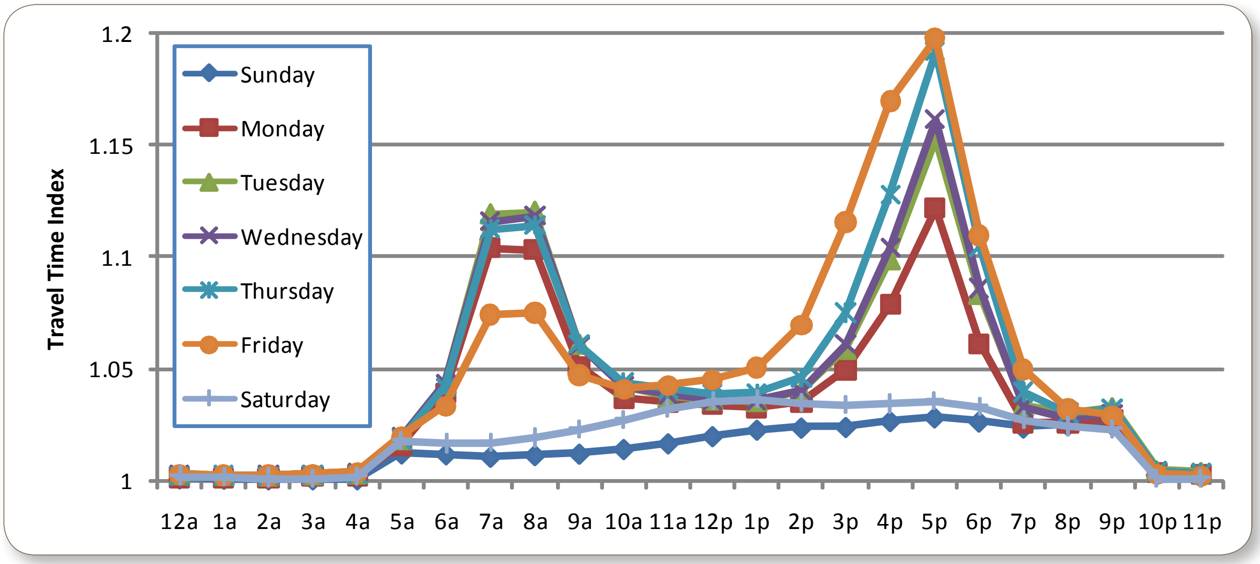


Figure 6: *2008 National Travel Time Index, by Hour and Day of Week*

National Congestion Results and Trends

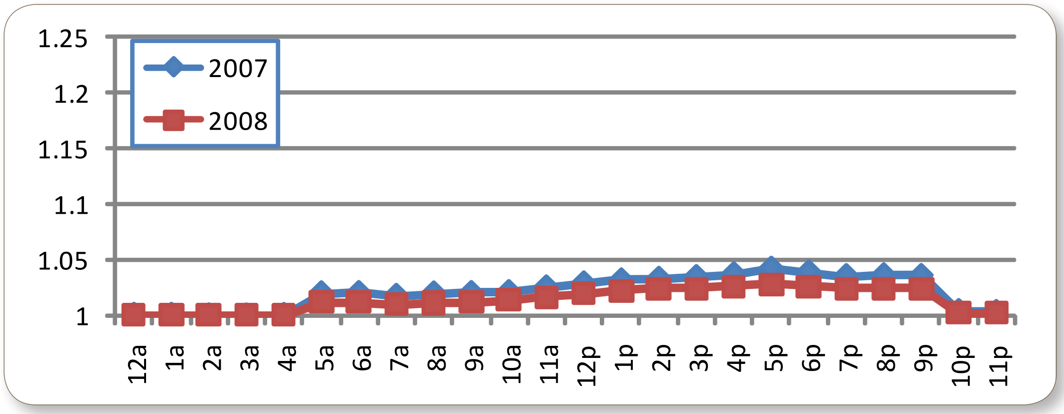


Figure 7: *National Travel Time Index for Sunday, by Hour*

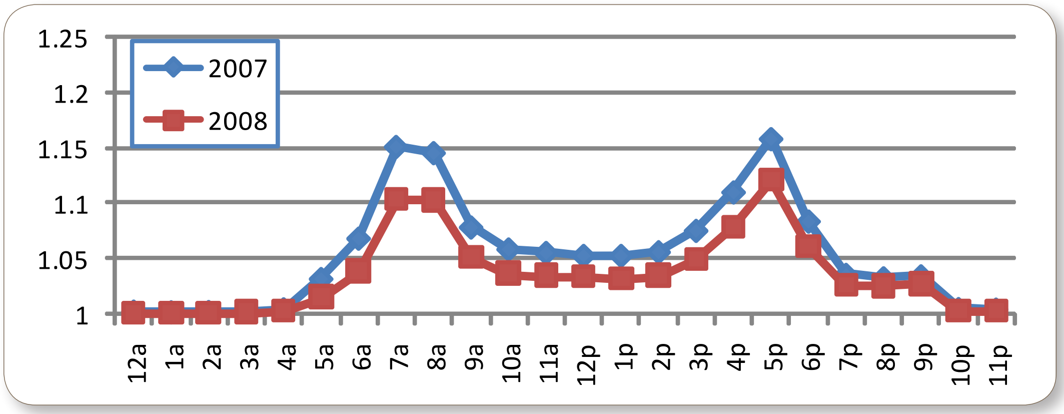


Figure 8: *National Travel Time Index for Monday, by Hour*

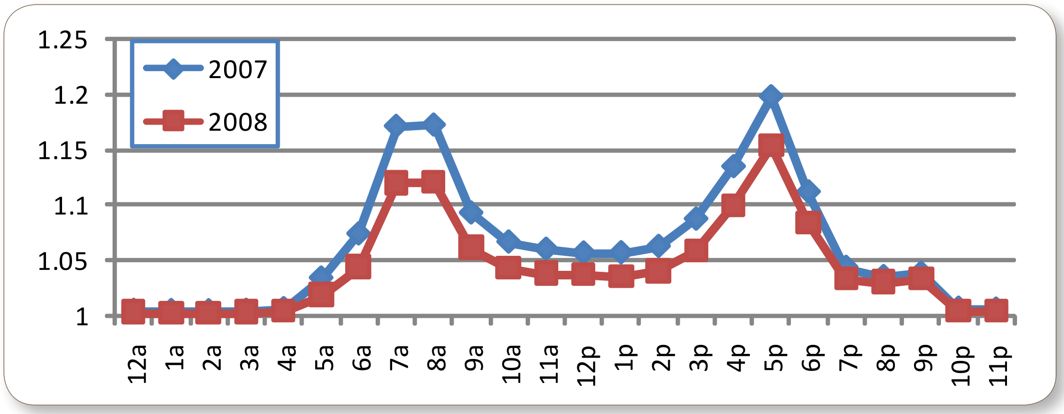


Figure 9: *National Travel Time Index for Tuesday, by Hour*

National Congestion Results and Trends

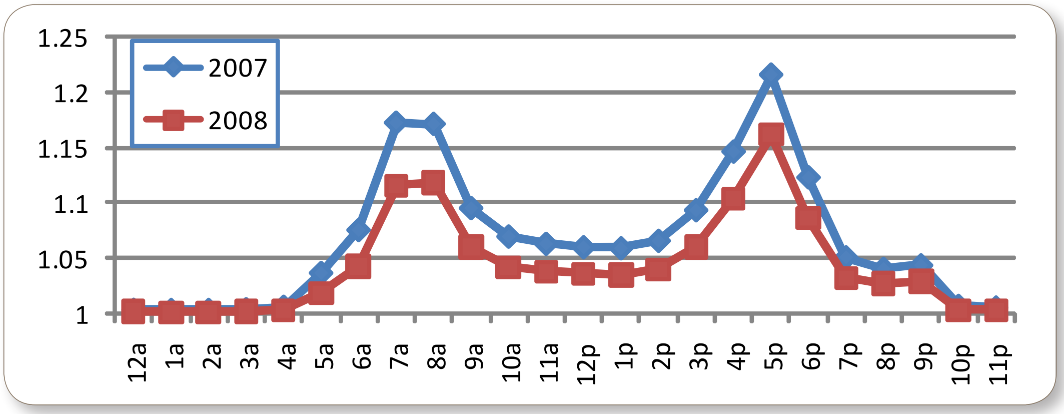


Figure 10: *National Travel Time Index for Wednesday, by Hour*

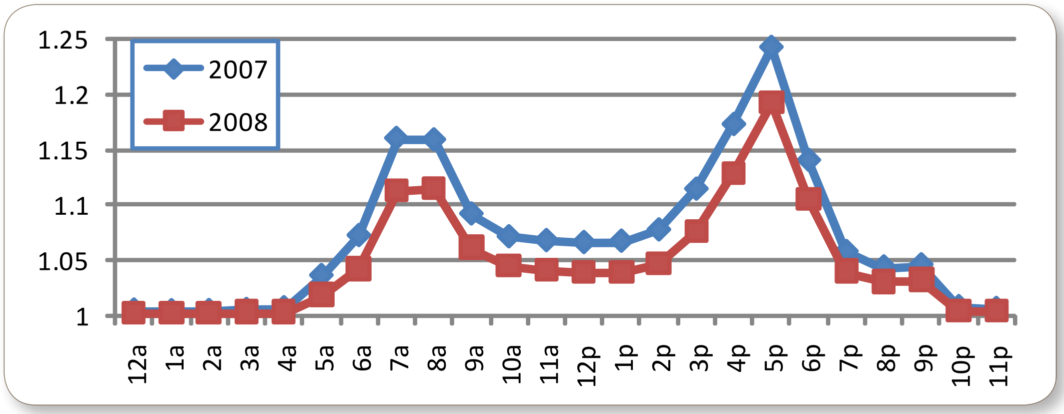


Figure 11: *National Travel Time Index for Thursday, by Hour*

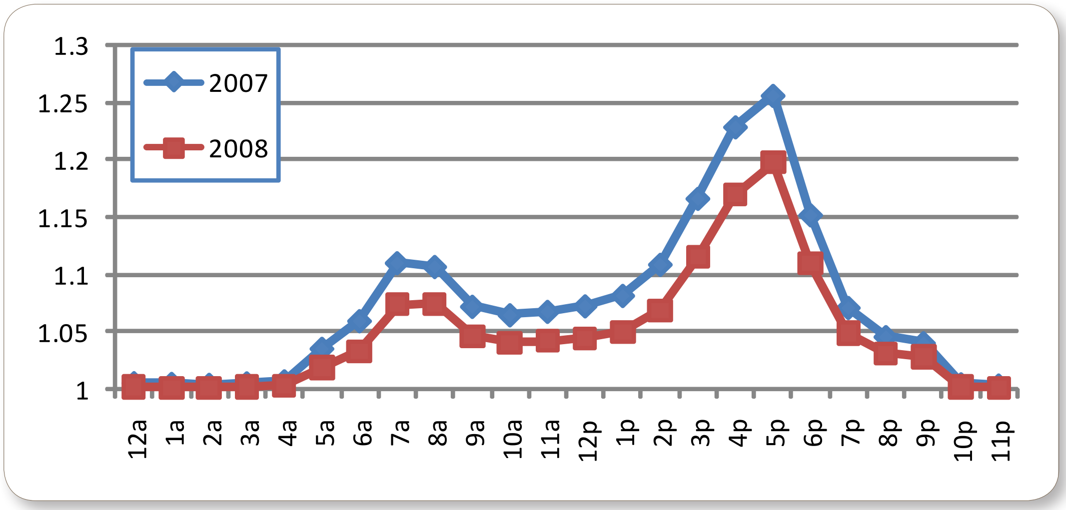


Figure 12: *National Travel Time Index for Friday, by Hour*

National Congestion Results and Trends

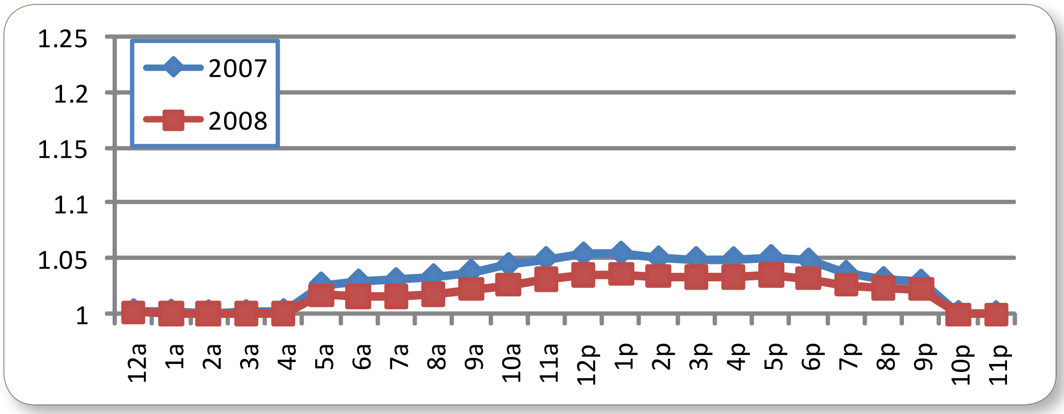


Figure 13: National Travel Time Index for Saturday, by Hour

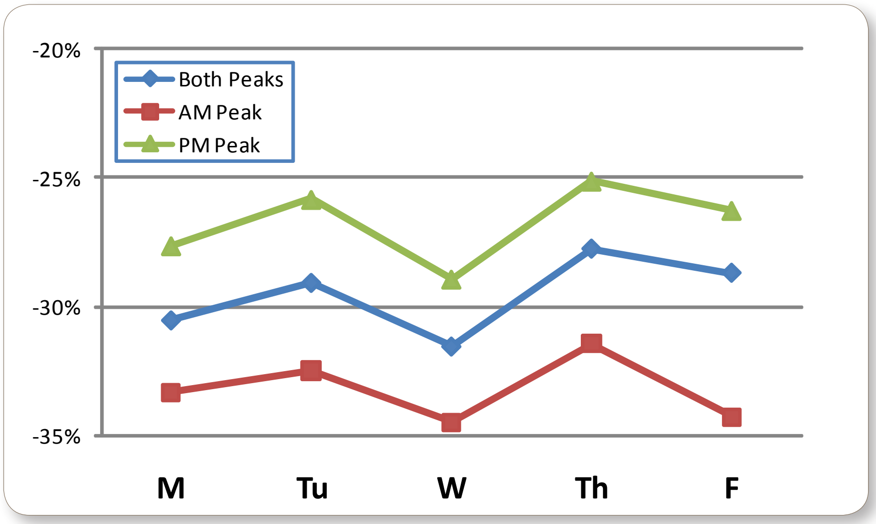


Figure 14: % Drop in National Congestion by Day (2008 vs. 2007)

National Congestion Results and Trends

Travel Time Index by Month

New for this update is the inclusion of monthly Travel Time Index calculations. Each metropolitan area summary page now includes the region's TTI by month. This also allows the calculation of a national TTI for each month. Figure 15 shows the changes in national TTI from month-to-month.

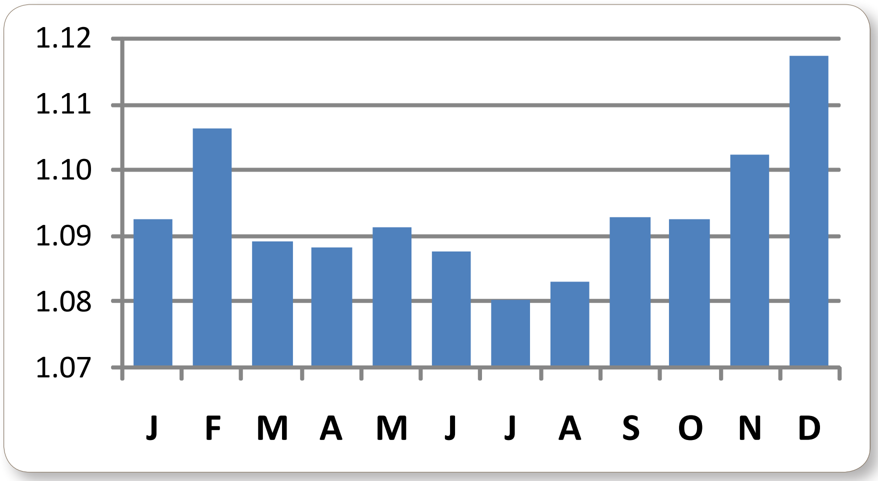


Figure 15: *2008 National Travel Time Index by Month*

It should be noted that traffic volumes have historically varied significantly from month-to-month over the course of a calendar year. It is anticipated that monthly TTI – both nationally and in each region – will exhibit similar characteristics, meaning that over time, it will be more meaningful to compare the same month from year to year, than the current month to the last month.

In 2008 however, given the dramatic change in circumstances from the first half to the second half of the year, it is meaningful to compare the average Travel Time Index from the first 6 months to the second 6 months of 2008. Interestingly, likely for very different reasons, the Travel Time Index for each half of 2008 is virtually identical: 1.093 for 1H 2008 versus 1.095 for 2H 2008.

Metropolitan Rankings

Table 1 provides market to market comparisons of metropolitan areas. As there are several different ways to quantify congestion, the table has many columns. The print version of the table is sorted on Peak Hour Congestion. The online version of this table, located at http://scorecard.inrix.com, can be sorted by all columns to show rankings based on each parameter.

Included in Table 1 are:

- **Metropolitan Area details**, including the official CBSA name, the total population and national rank and the number of road miles analyzed (which varies based on the size of the region and the extent of its limited access road network).
- **Peak Hour**[9] **Congestion results and rankings**, including the 2008 ranking and congestion level, referenced in terms of the percentage of the nation's worst overall congestion (Los Angeles), the 2007 ranking, the change in regional ranking and the percentage change in overall congestion from 2007 to 2008.
- **Peak Hour Travel Time Index results and rankings**, including the 2008 Travel Time Index and ranking, the 2007 ranking and the change in regional ranking and the percentage change in TTI from 2007 to 2008.
- **"Worst Hour" results**, including worst day/time for congestion in the region for 2008, the Travel Time Index during that hour and the comparison rank of the Travel Time Index to the worst hour TTI of other regions.
- **Off-Peak and Total Congestion**, including the 2008 ranking and congestion level, compared to the worst region for off peak hours (the 128 non-peak hours each week) and all hours/days (peak hours and off peak hours), and the percentage of overall congestion that occurred in peak versus off peak hours in 2008.

Figure 16 shows several "top 10" lists derived from the data in Table 1.

[9] Peak period drive time hours are 6 – 10 AM and 3 – 7 PM, Monday through Friday.

Metropolitan Rankings

Metropolitan Area				Peak Hour Congestion					Peak Hour Travel Time Index					Worst Hour			Congestion, All Hours/Days					
CBSA	Pop Rank	Approx. Population (000)	Road Miles Analyzed	Congestion Rank	% Congested Compared to Worst (LA)	2007 Congestion Rank	Change in Rank, 2008 vs. 2007	% Change in Congestion, 2008 vs. 2007	Travel Time Index (TTI) Rank	Travel Time Index (TTI)	2007 Travel Time Index (TTI) Rank	Change in TTI Rank, 2008 vs. 2007	% Change in TTI, 2008 vs. 2007	Worst Hour (Day/Hr)	Worst Hour TTI	Worst Hour TTI Rank	Off Peak Congestion Rank	% Off Peak Congestion Compared to Worst (NY)	All Hours/Days Congestion Rank	% Total Congestion Compared to Worst (LA)	% of Total Congestion from Peak Hours	% of Total Congestion from Off Peak Hours
Summary Top 100 Markets		**197,281**	**47029**					**-29%**		**1.09**			**-3.5%**	**F5pm**	**1.20**						**60%**	**40%**
Los Angeles-Long Beach-Santa Ana CA	2	12,876	1560	**1**	100%	1	0	-24%	1	1.33	2	1	-8.2%	Th5pm	1.63	2	2	82%	1	100%	68%	32%
New York-Northern New Jersey-Long Island NY-NJ-PA	1	18,816	2073	**2**	87%	2	0	-25%	5	1.22	5	0	-5.8%	F5pm	1.48	5	1	100%	2	98%	60%	40%
Chicago-Naperville-Joliet IL-IN-WI	3	9,525	1320	**3**	48%	3	0	-17%	9	1.19	10	1	-3.4%	Th5pm	1.36	9	3	45%	3	50%	66%	34%
Dallas-Fort Worth-Arlington TX	4	6,145	1618	**4**	39%	5	1	-13%	18	1.12	22	4	-2.4%	F5pm	1.31	17	5	29%	4	38%	70%	30%
Washington-Arlington-Alexandria DC-VA-MD-WV	8	5,307	903	**5**	36%	4		-26%	7	1.20	8	1	-5.9%	Th5pm	1.42	8	4	30%	5	36%	67%	33%
Houston-Sugar Land-Baytown TX	6	5,628	1170	**6**	34%	7	1	-16%	11	1.15	18	7	-2.3%	Th5pm	1.32	15	8	26%	7	33%	70%	30%
San Francisco-Oakland-Fremont CA	12	4,204	731	**7**	33%	6		-25%	4	1.23	4	0	-6.2%	Th5pm	1.48	6	6	28%	6	33%	67%	33%
Boston-Cambridge-Quincy MA-NH	10	4,483	1028	**8**	27%	8	0	-26%	12	1.13	15	3	-4.0%	F5pm	1.33	12	10	24%	8	28%	66%	34%
Seattle-Tacoma-Bellevue WA	15	3,309	616	**9**	24%	9	0	-28%	8	1.20	6	-2	-6.6%	F4pm	1.44	7	16	17%	10	23%	71%	29%
Minneapolis-St. Paul-Bloomington MN-WI	16	3,208	871	**10**	22%	13	3	-20%	13	1.13	19	6	-3.2%	Th5pm	1.32	13	20	14%	13	21%	74%	26%
Philadelphia-Camden-Wilmington PA-NJ-DE-MD	5	5,828	1017	**11**	21%	12	1	-28%	21	1.10	24	3	-3.4%	F5pm	1.23	25	7	28%	9	25%	57%	43%
Atlanta-Sandy Springs-Marietta GA	9	5,279	936	**12**	21%	10	-2	-36%	19	1.11	17	-2	-5.6%	F5pm	1.27	20	14	18%	12	21%	67%	33%
Phoenix-Mesa-Scottsdale AZ	13	4,179	1125	**13**	19%	15	2	-27%	27	1.09	29	2	-3.0%	T7am	1.15	39	9	26%	11	23%	56%	44%
Miami-Fort Lauderdale-Pompano Beach FL	7	5,413	739	**14**	19%	11	-3	-37%	15	1.13	12	-3	-6.4%	Th5pm	1.23	26	12	20%	14	20%	62%	38%
San Diego-Carlsbad-San Marcos CA	17	2,975	604	**15**	15%	14		-47%	17	1.13	9	-8	-9.3%	Th5pm	1.26	21	13	19%	16	18%	58%	42%
Denver-Aurora CO	21	2,465	936	**16**	15%	18	2	-26%	30	1.08	33	3	-2.7%	F5pm	1.16	38	11	20%	15	18%	56%	44%
Baltimore-Towson MD	20	2,668	682	**17**	13%	19	2	-30%	25	1.10	25	0	-3.6%	Th5pm	1.24	23	18	14%	17	14%	61%	39%
San Jose-Sunnyvale-Santa Clara CA	31	1,804	375	**18**	12%	20	2	-22%	10	1.16	11	1	-4.4%	Th5pm	1.36	10	23	12%	20	13%	65%	35%
Detroit-Warren-Livonia MI	11	4,468	790	**19**	12%	17	-2	-47%	33	1.08	23	-10	-6.1%	F5pm	1.19	31	19	14%	19	14%	60%	40%
Riverside-San Bernardino-Ontario CA	14	4,081	612	**20**	11%	16	-4	-57%	26	1.09	13	-13	-9.6%	F4pm	1.21	28	15	17%	18	14%	52%	48%
Austin-Round Rock TX	37	1,598	221	**21**	10%	26	5	-17%	3	1.23	7	4	-3.9%	Th5pm	1.68	1	53	5%	29	9%	77%	23%
Bridgeport-Stamford-Norwalk CT	56	895	241	**22**	10%	22	0	-32%	6	1.21	3	-3	-8.2%	F5pm	1.61	4	37	7%	26	10%	71%	29%
Portland-Vancouver-Beaverton OR-WA	23	2,175	381	**23**	10%	21	-2	-36%	14	1.13	14	0	-5.8%	F4pm	1.35	11	48	6%	28	9%	74%	26%
Sacramento-Arden-Arcade-Roseville CA	26	2,091	663	**24**	9%	24	0	-31%	38	1.07	35	-3	-2.9%	Th5pm	1.19	33	17	15%	21	12%	51%	49%
San Antonio TX	28	1,991	732	**25**	9%	25	0	-30%	40	1.07	42	2	-2.7%	F5pm	1.17	34	24	12%	23	11%	59%	41%
St. Louis MO-IL	18	2,804	944	**26**	9%	23	-3	-38%	45	1.05	47	2	-2.6%	Th5pm	1.10	52	22	13%	22	11%	55%	45%
Charlotte-Gastonia-Concord NC-SC	35	1,652	444	**27**	8%	28	1	-25%	23	1.10	26	3	-3.0%	F5pm	1.24	24	25	11%	24	10%	56%	44%
Pittsburgh PA	22	2,356	524	**28**	8%	29	1	-27%	32	1.08	36	4	-2.3%	F5pm	1.14	41	27	10%	27	9%	57%	43%
Kansas City MO-KS	29	1,985	1046	**29**	7%	27	-2	-38%	55	1.03	62	7	-2.0%	T5pm	1.08	64	21	13%	25	10%	49%	51%
Tampa-St. Petersburg-Clearwater FL	19	2,724	429	**30**	7%	30	0	-32%	29	1.08	28		-3.6%	F5pm	1.19	32	29	9%	30	8%	57%	43%
Cincinnati-Middletown OH-KY-IN	24	2,134	620	**31**	7%	33	2	-26%	42	1.05	49	7	-1.8%	Th5pm	1.16	36	33	8%	31	8%	59%	41%
Virginia Beach-Norfolk-Newport News VA-NC	34	1,659	305	**32**	6%	32	0	-29%	20	1.11	21	1	-3.7%	F4pm	1.32	14	46	6%	35	7%	65%	35%
Baton Rouge LA	67	770	223	**33**	6%	47	14	6%	16	1.13	30	14	0.8%	F5pm	1.31	16	57	5%	41	6%	68%	32%
Nashville-Davidson-Murfreesboro-Franklin TN	39	1,521	284	**34**	5%	31	-3	-46%	22	1.10	20	-2	-6.1%	Th5pm	1.27	19	67	4%	43	5%	71%	29%
Milwaukee-Waukesha-West Allis WI	38	1,544	346	**35**	5%	46	11	-4%	31	1.08	45	14	-0.3%	Th5pm	1.20	30	63	4%	44	5%	69%	31%
Orlando-Kissimmee FL	27	2,032	574	**36**	5%	35		-39%	46	1.05	46	0	-2.9%	Th5pm	1.11	49	28	10%	32	7%	48%	52%
New Orleans-Metairie-Kenner LA	51	1,030	353	**37**	5%	42	5	-22%	35	1.08	39	4	-2.0%	Th5pm	1.17	35	30	9%	34	7%	51%	49%
Cleveland-Elyria-Mentor OH	25	2,096	603	**38**	5%	36	-2	-33%	49	1.04	56	7	-2.0%	T5pm	1.09	58	38	7%	38	6%	57%	43%
Hartford-West Hartford-East Hartford CT	45	1,189	356	**39**	5%	41	2	-24%	37	1.07	37	0	-2.5%	F5pm	1.23	27	44	6%	40	6%	58%	42%
Las Vegas-Paradise NV	30	1,836	512	**40**	5%	37	-3	-36%	44	1.05	48	4	-2.4%	Th5pm	1.09	55	31	9%	36	7%	50%	50%
Providence-New Bedford-Fall River RI-MA	36	1,601	375	**41**	5%	39	-2	-31%	39	1.07	40	1	-2.7%	F5pm	1.15	40	39	7%	39	6%	55%	45%
Oklahoma City OK	44	1,193	723	**42**	5%	40	-2	-31%	57	1.03	70	13	-1.4%	F5pm	1.09	59	26	11%	33	7%	44%	56%
Honolulu HI	54	906	79	**43**	5%	38	-5	-34%	2	1.31	1		-10.7%	Th4pm	1.62	3	97	2%	53	4%	84%	16%
Jacksonville FL	40	1,301	475	**44**	5%	34	-10	-47%	43	1.05	41	-2	-4.0%	T5pm	1.10	53	32	8%	37	6%	50%	50%
New Haven-Milford CT	58	845	258	**45**	4%	44		-26%	28	1.09	31	3	-3.0%	F5pm	1.27	18	40	7%	42	6%	52%	48%
Louisville/Jefferson County KY-IN	42	1,234	576	**46**	4%	43	-3	-39%	62	1.03	66	4	-2.0%	Th5pm	1.09	56	43	7%	45	5%	50%	50%
Columbus OH	32	1,754	534	**47**	3%	48	1	-37%	69	1.03	68		-1.9%	F5pm	1.10	51	54	5%	51	4%	53%	47%
Birmingham-Hoover AL	47	1,108	511	**48**	3%	51	3	-30%	68	1.03	75	7	-1.3%	Th5pm	1.07	70	36	7%	46	5%	42%	58%
Indianapolis-Carmel IN	33	1,695	558	**49**	3%	45	-4	-47%	76	1.03	69	-7	-2.3%	T5pm	1.09	60	47	6%	49	4%	45%	55%
Salt Lake City UT	48	1,100	531	**50**	3%	50	0	-45%	78	1.03	72	-6	-2.1%	W5pm	1.07	73	35	8%	48	5%	38%	62%

Table 1: *Metropolitan Area Rankings*

Metropolitan Rankings

Metropolitan Area				Peak Hour Congestion					Peak Hour Travel Time Index					Worst Hour			Congestion, All Hours/Days					
CBSA	Pop Rank	Approx. Population (000)	Road Miles Analyzed	Congestion Rank	% Congested Compared to Worst (LA)	2007 Congestion Rank	Change in Rank, 2008 vs. 2007	% Change in Congestion, 2008 vs. 2007	Travel Time Index (TTI) Rank	Travel Time Index (TTI)	2007 Travel Time Index (TTI) Rank	Change in TTI Rank, 2008 vs. 2007	% Change in TTI, 2008 vs. 2007	Worst Hour (Day/Hr)	Worst Hour TTI	Worst Hour TTI Rank	Off Peak Congestion Rank	% Off Peak Congestion Compared to Worst (NY)	All Hours/Days Congestion Rank	% Total Congestion Compared to Worst (LA)	% of Total Congestion from Peak Hours	% of Total Congestion from Off Peak Hours
Summary Top 100 Markets		197,281	47029					-29%		1.09			-3.5%	F5pm	1.20						60%	40%
Raleigh-Cary NC	49	1,048	295	51	3%	60	9	-26%	48	1.05	57	9	-1.6%	Th5pm	1.12	45	64	4%	59	3%	53%	47%
Tulsa OK	53	906	567	52	3%	62	10	-24%	80	1.02	92	12	-0.6%	Th5pm	1.06	78	41	7%	50	4%	40%	60%
Allentown-Bethlehem-Easton PA-NJ	62	804	384	53	3%	49	-4	-48%	58	1.03	53	-5	-3.0%	F5pm	1.07	68	34	8%	47	5%	36%	64%
Memphis TN-MS-AR	41	1,281	373	54	3%	54	0	-40%	56	1.03	59	3	-2.2%	F5pm	1.07	65	58	5%	55	3%	49%	51%
Little Rock-North Little Rock-Conway AR	78	666	465	55	2%	59	4	-32%	77	1.03	81	4	-1.1%	T7am	1.06	76	72	3%	65	3%	56%	44%
Oxnard-Thousand Oaks-Ventura CA	63	798	122	56	2%	53	-3	-46%	24	1.10	16	-8	-7.1%	F5pm	1.24	22	56	5%	58	3%	46%	54%
Harrisburg-Carlisle PA	94	529	326	57	2%	58	1	-37%	53	1.04	63	10	-1.8%	F5pm	1.12	48	59	4%	61	3%	47%	53%
Worcester MA	65	781	302	58	2%	55	-3	-48%	52	1.04	51		-3.2%	F5pm	1.11	50	45	6%	52	4%	38%	62%
Albuquerque NM	60	835	262	59	2%	57	-2	-43%	50	1.04	50	0	-2.9%	W5pm	1.09	54	66	4%	64	3%	48%	52%
Richmond VA	43	1,213	625	60	2%	56	-4	-47%	91	1.02	87	-4	-1.4%	Th5pm	1.04	92	49	6%	54	4%	38%	62%
Jackson MS	93	534	331	61	2%	52	-9	-53%	66	1.03	54	-12	-3.1%	W7am	1.05	79	50	5%	56	3%	40%	60%
Buffalo-Niagara Falls NY	46	1,128	304	62	2%	68	6	-26%	59	1.03	76	17	-0.9%	F5pm	1.07	74	76	3%	67	3%	53%	47%
El Paso TX	68	735	140	63	2%	69	6	-24%	36	1.07	38	2	-2.2%	Th5pm	1.13	43	78	3%	68	3%	54%	46%
Rochester NY	50	1,030	364	64	2%	67	3	-28%	75	1.03	82	7	-1.0%	W7am	1.06	77	83	3%	70	2%	55%	45%
Dayton OH	59	836	307	65	2%	66	1	-34%	65	1.03	73	8	-1.5%	Th5pm	1.08	63	60	4%	63	3%	43%	57%
Scranton-Wilkes-Barre PA	90	549	298	66	2%	61	-5	-46%	64	1.03	64	0	-2.2%	F4pm	1.07	67	51	5%	60	3%	39%	61%
Akron OH	71	699	313	67	2%	65	-2	-42%	74	1.03	74	0	-1.9%	T7am	1.07	69	74	3%	71	2%	49%	51%
Stockton CA	76	671	261	68	2%	63	-5	-52%	70	1.03	55	-15	-3.2%	F4pm	1.07	66	52	5%	62	3%	35%	65%
Ogden-Clearfield UT	96	518	144	69	2%	64	-5	-50%	41	1.06	32	-9	-5.0%	F5pm	1.16	37	92	2%	82	3%	57%	43%
Madison WI	89	556	394	70	1%	73	3	-40%	85	1.02	88	3	-1.2%	T5pm	1.04	89	77	3%	76	2%	45%	55%
Charleston-North Charleston SC	81	630	90	71	1%	71	0	-45%	34	1.08	27	-7	-4.7%	Th5pm	1.20	29	98	1%	89	1%	63%	37%
Chattanooga TN-GA	97	515	200	72	1%	81	9	-37%	61	1.03	71	10	-1.5%	F5pm	1.12	47	80	3%	79	2%	44%	56%
Grand Rapids-Wyoming MI	66	777	218	73	1%	87	14	-27%	73	1.03	77	4	-1.3%	F5pm	1.07	72	70	4%	73	2%	37%	63%
Lakeland FL	87	575	198	74	1%	74	0	-47%	67	1.03	60	-7	-2.5%	Su5am	1.09	61	42	7%	57	3%	24%	76%
Albany-Schenectady-Troy NY	57	853	289	75	1%	72	-3	-49%	82	1.02	79	-3	-1.9%	F5pm	1.05	82	90	2%	85	2%	49%	51%
Knoxville TN	75	682	192	76	1%	77	1	-42%	63	1.03	65	2	-2.1%	F5pm	1.09	57	81	3%	81	2%	42%	58%
Omaha-Council Bluffs NE-IA	61	830	306	77	1%	83	6	-36%	83	1.02	91	8	-1.0%	F5pm	1.05	85	75	3%	80	2%	40%	60%
Des Moines-West Des Moines IA	91	547	314	78	1%	88	10	-29%	84	1.02	96	12	-0.8%	F5pm	1.04	91	68	4%	74	2%	35%	65%
Syracuse NY	80	645	336	79	1%	85	6	-36%	92	1.02	97	5	-0.9%	T8am	1.03	97	82	3%	83	2%	41%	59%
Tucson AZ	52	967	192	80	1%	70	-10	-57%	72	1.03	52	-20	-3.6%	T9am	1.08	62	61	4%	69	2%	31%	69%
Boise City-Nampa ID	86	588	124	81	1%	79	-2	-47%	47	1.05	44	-3	-3.5%	Th5pm	1.13	44	99	1%	95	1%	63%	37%
Bakersfield CA	64	791	353	82	1%	80	-2	-48%	95	1.02	94		-1.2%	M8pm	1.03	96	55	5%	66	3%	28%	72%
Columbia SC	69	716	316	83	1%	75	-8	-52%	90	1.02	84	-6	-1.7%	F5pm	1.05	84	79	3%	84	2%	39%	61%
Cape Coral-Fort Myers FL	85	591	123	84	1%	82	-2	-52%	51	1.04	43	-8	-4.3%	T9am	1.12	46	65	4%	75	2%	29%	71%
Youngstown-Warren-Boardman OH-PA	88	571	305	85	1%	86	1	-44%	93	1.02	93	0	-1.2%	T10am	1.02	98	71	4%	77	2%	32%	68%
Poughkeepsie-Newburgh-Middletown NY	77	670	266	86	1%	84	-2	-46%	86	1.02	85		-1.4%	F5pm	1.05	86	62	4%	72	2%	28%	72%
Greenville-Mauldin-Easley SC	82	614	185	87	1%	95	8	-25%	79	1.02	89	10	-0.7%	Th5pm	1.04	87	94	2%	94	1%	47%	53%
Palm Bay-Melbourne-Titusville FL	92	536	190	88	1%	93	5	-32%	81	1.02	86	5	-1.0%	M11am	1.05	83	69	4%	78	2%	28%	72%
Wichita KS	84	596	367	89	1%	94	5	-29%	98	1.01	100	2	-0.4%	T10am	1.02	100	87	3%	88	2%	36%	64%
Springfield MA	74	683	202	90	1%	89		-51%	87	1.02	80	-7	-2.1%	F5pm	1.07	71	84	3%	86	2%	31%	69%
Fresno CA	55	899	117	91	1%	91	0	-51%	71	1.03	58	-13	-2.8%	W7am	1.05	80	93	2%	92	1%	37%	63%
Augusta-Richmond County GA-SC	95	529	198	92	1%	96	4	-38%	89	1.02	95	6	-1.0%	Th5pm	1.04	93	88	2%	91	1%	34%	66%
Colorado Springs CO	83	609	105	93	1%	76	-17	-68%	60	1.03	34	-26	-6.6%	F5pm	1.13	42	95	2%	98	1%	43%	57%
Portland-South Portland-Biddeford ME	98	513	203	94	1%	97	3	-37%	94	1.02	99	5	-0.9%	F5pm	1.04	88	85	3%	90	1%	29%	71%
McAllen-Edinburg-Mission TX	70	711	84	95	1%	98	3	-41%	54	1.03	61	7	-2.0%	F5pm	1.06	75	96	2%	99	1%	38%	62%
Greensboro-High Point NC	72	698	272	96	1%	90	-6	-63%	99	1.01	98		-1.6%	W8pm	1.02	99	89	2%	93	1%	29%	71%
Toledo OH	79	651	207	97	0%	78	-19	-76%	97	1.01	67	-30	-3.8%	T9am	1.03	95	91	2%	97	1%	29%	71%
Sarasota-Bradenton-Venice FL	73	687	168	98	0%	92	-6	-70%	96	1.01	78	-18	-2.8%	F5pm	1.04	90	73	3%	87	2%	18%	82%
Deltona-Daytona Beach-Ormond Beach FL	100	500	157	99	0%	99	0	-70%	100	1.01	90	-10	-2.1%	Su1pm	1.03	94	86	3%	96	1%	16%	84%
Modesto CA	99	511	52	100	0%	100	0	-51%	88	1.02	83	-5	-1.8%	F5pm	1.05	81	100	1%	100	0%	27%	73%

Table 1: *Metropolitan Area Rankings* (Continued)

Metropolitan Rankings

Several conclusions can be drawn from the metropolitan comparisons:

Peak Period Congestion

Rank	Area (Population Rank)	% of Worst Market*	Rank Change from 2007
1	Los Angeles-Long Beach-Santa Ana CA (2)	100%	0
2	New York-Northern New Jersey-Long Island NY-NJ-PA (1)	87%	0
3	Chicago-Naperville-Joliet IL-IN-WI (3)	48%	0
4	Dallas-Fort Worth-Arlington TX (4)	39%	+1
5	Washington-Arlington-Alexandria DC-VA-MD-WV (8)	36%	-1
6	Houston-Sugar Land-Baytown TX (6)	34%	+1
7	San Francisco-Oakland-Fremont CA (12)	33%	-1
8	Boston-Cambridge-Quincy MA-NH (10)	27%	0
9	Seattle-Tacoma-Bellevue WA (15)	24%	0
10	Minneapolis-St. Paul-Bloomington MN-WI (16)	22%	+3

* % Compared to Worst Market (Los Angeles Region)

Off-Peak Period Congestion

Rank	Area (Population Rank)	% of Worst Market*	Rank Change from 2007
1	New York-Northern New Jersey-Long Island NY-NJ-PA (1)	100%	0
2	Los Angeles-Long Beach-Santa Ana CA (2)	82%	0
3	Chicago-Naperville-Joliet IL-IN-WI (3)	45%	0
4	Washington-Arlington-Alexandria DC-VA-MD-WV (8)	30%	+2
5	Dallas-Fort Worth-Arlington TX (4)	29%	-1
6	San Francisco-Oakland-Fremont CA (12)	28%	+2
7	Philadelphia-Camden-Wilmington PA-NJ-DE-MD (5)	28%	0
8	Houston-Sugar Land-Baytown TX (6)	26%	+1
9	Phoenix-Mesa-Scottsdale AZ (13)	26%	+1
10	Boston-Cambridge-Quincy MA-NH (10)	24%	-5

* % Compared to Worst Market (New York City Region)

Total Congestion

Rank	Area (Population Rank)	% of Worst Market*	Rank Change from 2007
1	Los Angeles-Long Beach-Santa Ana CA (2)	100%	0
2	New York-Northern New Jersey-Long Island NY-NJ-PA (1)	98%	0
3	Chicago-Naperville-Joliet IL-IN-WI (3)	50%	0
4	Dallas-Fort Worth-Arlington TX (4)	38%	+1
5	Washington-Arlington-Alexandria DC-VA-MD-WV (8)	36%	-1
6	San Francisco-Oakland-Fremont CA (12)	33%	0
7	Houston-Sugar Land-Baytown TX (6)	33%	0
8	Boston-Cambridge-Quincy MA-NH (10)	28%	0
9	Philadelphia-Camden-Wilmington PA-NJ-DE-MD (5)	25%	0
10	Seattle-Tacoma-Bellevue WA (15)	23%	0

* % Compared to Worst Market (Los Angeles Region)

Peak Period Travel Time Index

Rank	Area (Population Rank)	TTI	Rank Change from 2007
1	Los Angeles-Long Beach-Santa Ana CA (2)	1.33	+1
2	Honolulu HI (54)	1.31	-1
3	Austin-Round Rock TX (37)	1.23	+4
4	San Francisco-Oakland-Fremont CA (12)	1.23	0
5	New York-Northern New Jersey-Long Island NY-NJ-PA (1)	1.22	0
6	Bridgeport-Stamford-Norwalk CT (56)	1.21	-3
7	Washington-Arlington-Alexandria DC-VA-MD-WV (8)	1.20	+1
8	Seattle-Tacoma-Bellevue WA (15)	1.20	-2
9	Chicago-Naperville-Joliet IL-IN-WI (3)	1.19	+1
10	San Jose-Sunnyvale-Santa Clara CA (31)	1.16	+1

Worst Hour Travel Time Index

Rank	Area (Population Rank)	Day and Hour	TTI	Rank Change from 2007
1	Austin-Round Rock TX (37)	Th5pm	1.68	+3
2	Los Angeles-Long Beach-Santa Ana CA (2)	Th5pm	1.63	+1
3	Honolulu HI (54)	Th4pm	1.62	-2
4	Bridgeport-Stamford-Norwalk CT (56)	F5pm	1.61	-2
5	New York-Northern New Jersey-Long Island NY-NJ-PA (1)	F5pm	1.48	0
6	San Francisco-Oakland-Fremont CA (12)	Th5pm	1.48	0
7	Seattle-Tacoma-Bellevue WA (15)	F4pm	1.44	+1
8	Washington-Arlington-Alexandria DC-VA-MD-WV (8)	Th5pm	1.42	-1
9	Chicago-Naperville-Joliet IL-IN-WI (3)	Th5pm	1.36	+2
10	San Jose-Sunnyvale-Santa Clara CA (31)	Th5pm	1.36	0

% Decrease in Peak Period Congestion - 2007 to 2008

Rank	Area (Population Rank)	% Decrease
1	Toledo OH (79)	76%
2	Deltona-Daytona Beach-Ormond Beach FL (100)	70%
3	Sarasota-Bradenton-Venice FL (73)	70%
4	Colorado Springs CO (83)	68%
5	Greensboro-High Point NC (72)	63%
6	Tucson AZ (52)	57%
7	Riverside-San Bernardino-Ontario CA (14)	57%
8	Jackson MS (93)	53%
9	Cape Coral-Fort Myers FL (85)	52%
10	Columbia SC (69)	52%

% Decrease in Travel Time Index - 2007 to 2008

Rank	Area (Population Rank)	% Decrease
1	Honolulu HI (54)	10.7%
2	Riverside-San Bernardino-Ontario CA (14)	9.6%
3	San Diego-Carlsbad-San Marcos CA (17)	9.3%
4	Bridgeport-Stamford-Norwalk CT (56)	8.2%
5	Los Angeles-Long Beach-Santa Ana CA (2)	8.2%
6	Oxnard-Thousand Oaks-Ventura CA (63)	7.1%
7	Colorado Springs CO (83)	6.6%
8	Seattle-Tacoma-Bellevue WA (15)	6.6%
9	Miami-Fort Lauderdale-Pompano Beach FL (7)	6.4%
10	San Francisco-Oakland-Fremont CA (12)	6.2%

***Figure 16:** 2008 Top 10 Rankings*

Metropolitan Rankings

- In almost all cases, when a region moved up a list, it was due to less congestion reduction than its peer regions in that category. For example, despite a 20% drop in congestion, the Minneapolis-St. Paul region moved from 13th to 10th in total congestion, passing Atlanta, Miami, and Philadelphia.
- 99 of the 100 regions saw congestion levels decrease. Baton Rouge, LA, with a 6% increase in overall congestion, was the only region with an increase from 2007, shooting it up the metropolitan rankings from 47th to 33rd in overall congestion.
- Los Angeles moved ahead of Honolulu with the highest metropolitan Travel Time Index. Honolulu's 34% drop in congestion lowered its Travel Time Index from 1.45 to 1.31, while Los Angeles' 23% drop lowered its TTI from 1.44 to 1.33.
- The largest drops in congestion by percentage are dominated by metropolitan areas of less than 1 million people. Many had modest congestion in 2007 when compared to larger regions, so modest drops in congestion resulted in larger percentage drops than the larger areas.
- The largest drops in congestion and rankings of the "big cities" included the Atlanta, Miami, Detroit, San Diego and the "Inland Empire" (Riverside-San Bernardino-Ontario) region of California, all having drops in peak hour congestion of at least 36% from 2007.

Overall, while congestion clearly dropped across the country, this drop was not uniform across all regions, and depending upon where one lives or when they travel, congestion – though likely better than in 2007 – was still substantial.

Bottlenecks

Nearly 31,000 individual road segments were analyzed to determine the extent and amount of average congestion each segment had in 2008. More than 6000 segments contained at least one hour of the week where one can expect to travel at less than half the uncongested speed. Based on the overall congestion data, the number and intensity of bottlenecks was down considerably from 2007. Overall 28% fewer segments had at least one hour of congestion in 2008. Figure 17 details the drop for each threshold. Also, 25 metropolitan areas had no significant bottlenecks (defined as congested four or more hours per week), up from 17 areas in 2007.

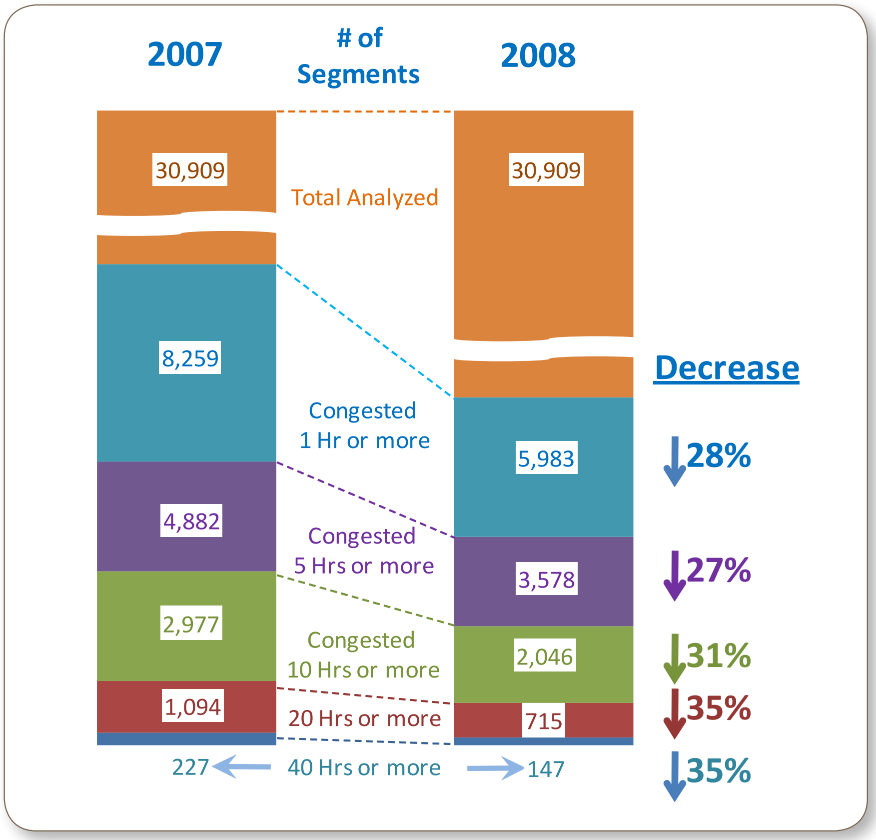


Figure17: Drop in Bottlenecks from 2007 to 2008

Nation's Worst 100 Bottlenecks

Table 2 details the nation's worst 100 bottlenecks for 2008.

The nation's worst bottleneck remained unchanged from 2007, North Bound I-95 (named the Cross Bronx Expressway) in Bronx, New York leading up to and including the Bronx River Parkway exit 4B interchange. As

Bottlenecks

2008 Rank	2007 Rank	Area (Pop Rank)	Road/Direction	Segment/Interchange	County	ST	Length (Mi)	Hours Congested	Avg Speed when Congested
1	1	New York (1)	Cross Bronx Expy WB/I 95 SB	BRONX RIVER PKWY/EXIT 4B	Bronx	NY	0.36	94	11.2
2	3	San Francisco (12)	I 580 WB	BELLAM BLVD	Marin	CA	0.38	65	8.1
3	5	New York (1)	Cross Bronx Expy WB/I 95 SB	I 895/SHERIDAN EXPY/EXIT 4A	Bronx	NY	0.55	93	11.9
4	2	New York (1)	Cross Bronx Expy WB/I 95 SB	WHITE PLAINS RD/EXIT 5	Bronx	NY	0.27	87	12.3
5	6	New York (1)	Harlem River Dr SB	3RD AVE	New York	NY	0.15	81	12.4
6	8	New York (1)	Van Wyck Expy/I 678 NB	LIBERTY AVE/EXIT 4	Queens	NY	0.58	77	13.1
7	10	Los Angeles (2)	Hollywood Fwy/US 101 SB	VERMONT AVE	Los Angeles	CA	0.64	77	14.0
8	12	Chicago (3)	Dan Ryan Expy/I 90/I 94 NB	CANALPORT AVE/CERMAK RD/EXIT 53	Cook	IL	0.52	77	13.6
9	16	New York (1)	Harlem River Dr SB	2ND AVE/125TH ST/EXIT 19	New York	NY	0.23	84	12.5
10	9	Chicago (3)	Eisenhower Expy/I 290 EB	US 12/US 20/US 45/EXIT 17	Cook	IL	0.98	57	12.3
11	4	New York (1)	Cross Bronx Expy WB/I 95 SB	WESTCHESTER AVE/EXIT 5	Bronx	NY	1.15	77	14.5
12	32	Los Angeles (2)	Hollywood Fwy/US 101 NB	LOS ANGELES ST	Los Angeles	CA	0.09	76	11.9
13	35	Los Angeles (2)	Hollywood Fwy/US 101 NB	SPRING ST	Los Angeles	CA	0.14	85	14.2
14	18	Los Angeles (2)	Harbor Fwy/I 110 NB	ADAMS BLVD	Los Angeles	CA	0.13	73	15.8
15	25	New York (1)	George Washington Brg EB/I 95 NB	CENTER AVE	Bergen	NJ	0.14	68	9.0
16	7	New York (1)	I 95 NB	US 1/US 9/US 46/EXIT 72	Bergen	NJ	0.42	66	9.7
17	124	New York (1)	Harlem River Dr NB	LOWER LVL WASHINGTON BRG	New York	NY	0.09	74	10.3
18	13	Los Angeles (2)	Hollywood Fwy/US 101 NB	ALAMEDA ST	Los Angeles	CA	0.26	73	14.0
19	334	Chicago (3)	Dan Ryan Expy/I 90/I 94 NB	RUBLE ST/EXIT 52B	Cook	IL	0.13	76	16.1
20	14	Los Angeles (2)	Hollywood Fwy/US 101 SB	MELROSE AVE	Los Angeles	CA	0.31	68	15.9
21	26	Los Angeles (2)	Harbor Fwy/I 110 NB	I 10/I 110/SANTA MONICA FWY	Los Angeles	CA	1.09	70	16.4
22	51	New Haven (58)	I 91 SB	I 95	New Haven	CT	0.47	63	13.4
23	193	New York (1)	Van Wyck Expy/I 678 NB	HILLSIDE AVE/EXIT 6	Queens	NY	0.27	79	14.4
24	42	New York (1)	Van Wyck Expy/I 678 NB	ATLANTIC AVE/EXIT 5	Queens	NY	0.47	75	12.7
25	219	Chicago (3)	Dan Ryan Expy/I 90/I 94 NB	18TH ST/EXIT 52C	Cook	IL	0.34	75	15.7
26	11	Los Angeles (2)	San Diego Fwy/I 405 NB	HWY 90	Los Angeles	CA	0.95	66	17.6
27	544	Chicago (3)	Dan Ryan Expy/I 90/I 94 NB	ROOSEVELT RD	Cook	IL	0.22	80	18.4
28	91	New York (1)	Van Wyck Expy/I 678 NB	JAMAICA AVE/EXIT 6	Queens	NY	0.16	74	13.7
29	38	Los Angeles (2)	Hollywood Fwy/US 101 SB	SILVER LAKE BLVD	Los Angeles	CA	0.40	76	17.5
30	43	New York (1)	Cross Bronx Expy EB/I 95 NB	JEROME AVE/EXIT 2A	Bronx	NY	0.45	70	14.8
31	47	New York (1)	Alexander Hamilton Brg EB/I 95 NB	I 87/EXIT 1	Bronx	NY	0.39	59	11.9
32	44	Chicago (3)	Eisenhower Expy/I 290 EB	25TH AVE/S 18TH AVE/EXIT 18	Cook	IL	0.91	56	14.7
33	17	New York (1)	Van Wyck Expy/I 678 NB	LINDEN BLVD/EXIT 3	Queens	NY	0.65	60	14.7
34	20	Los Angeles (2)	Hollywood Fwy/US 101 SB	HWY 2/SANTA MONICA BLVD	Los Angeles	CA	0.44	59	15.6
35	233	Chicago (3)	Kennedy Expy/I 90/I 94 WB	I 90/I 94 (CHICAGO) (NORTH)	Cook	IL	0.10	64	17.8
36	114	Chicago (3)	Kennedy Expy/I 90/I 94 WB	MONTROSE AVE/EXIT 43C	Cook	IL	0.27	61	16.9
37	19	New York (1)	Lincoln Tunl/Hwy 495 EB	TOLL PLAZA	Hudson	NJ	0.59	51	7.3
38	50	Los Angeles (2)	Santa Monica Fwy/I 110 EB	HOOVER ST	Los Angeles	CA	0.28	61	17.6
39	21	Los Angeles (2)	Hollywood Fwy/US 101 SB	NORMANDIE AVE	Los Angeles	CA	0.36	62	16.9
40	166	Chicago (3)	Kennedy Expy/I 90/I 94 WB	KOSTNER AVE/EXIT 43D	Cook	IL	0.18	58	16.7
41	59	New York (1)	Harlem River Dr SB	PARK AVE	New York	NY	0.44	58	14.9
42	76	New York (1)	Brooklyn Queens Expy/I 278 SB	FLUSHING AVE/EXIT 30	Kings	NY	0.44	55	12.3
43	39	Chicago (3)	Northwest Tollway/I 90 SB	I 190/EXIT 78	Cook	IL	0.69	48	11.6
44	126	Chicago (3)	Kennedy Expy/I 90 EB	I 94	Cook	IL	0.82	54	15.7
45	37	Los Angeles (2)	Harbor Fwy/Hwy 110 NB	3RD ST/4TH ST	Los Angeles	CA	0.21	57	15.6
46	85	San Francisco (12)	James Lick Fwy/I 80 NB	7TH ST/BRYANT ST	San Francisco	CA	0.41	44	10.9
47	33	Chicago (3)	Eisenhower Expy/I 290 WB	CENTRAL AVE/EXIT 23B	Cook	IL	0.55	52	15.4
48	70	New York (1)	Brooklyn Queens Expy/I 278 SB	TILLARY ST/EXIT 29	Kings	NY	0.87	58	12.6
49	296	San Francisco (12)	I 580 WB	I 238	Alameda	CA	0.77	48	15.2
50	60	Los Angeles (2)	Harbor Fwy/Hwy 110 SB	US 101/HOLLYWOOD FWY	Los Angeles	CA	0.48	58	16.7

Table 2: *2008 Worst 100 National Bottlenecks*

Bottlenecks

2008 Rank	2007 Rank	Area (Pop Rank)	Road/Direction	Segment/Interchange	County	ST	Length (Mi)	Hours Congested	Avg Speed when Congested
51	149	New Haven (58)	I 91 SB	HAMILTON ST/EXIT 2	New Haven	CT	0.21	49	15.5
52	69	Los Angeles (2)	Santa Monica Fwy/I 110 EB	I 110/HARBOR FWY	Los Angeles	CA	0.59	57	17.2
53	95	Chicago (3)	Eisenhower Expy/I 290 EB	17TH AVE/EXIT 19A	Cook	IL	0.55	55	17.3
54	82	Chicago (3)	Kennedy Expy/I 90 EB	HWY 171/CUMBERLAND AVE/EXIT 79	Cook	IL	0.75	54	17.0
55	41	Honolulu (54)	Moanalua Fwy/I H 201 EB	I H 1 (HONOLULU)	Honolulu	HI	0.27	36	9.0
56	98	San Francisco (12)	James Lick Fwy/I 80 NB	4TH ST/5TH ST	San Francisco	CA	0.52	46	12.9
57	56	Los Angeles (2)	Santa Ana Fwy/I 5 NB	IMPERIAL HWY	Los Angeles	CA	0.39	65	20.1
58	102	Los Angeles (2)	San Diego Fwy/I 405 NB	VENICE BLVD	Los Angeles	CA	0.39	45	15.3
59	71	Los Angeles (2)	Harbor Fwy/Hwy 110 NB	5TH ST/6TH ST	Los Angeles	CA	0.47	48	14.9
60	143	Chicago (3)	Eisenhower Expy/I 290 EB	9TH AVE/EXIT 19B	Cook	IL	0.48	55	18.0
61	549	Chicago (3)	Dan Ryan Expy/I 90/I 94 NB	TAYLOR ST/EXIT 52A	Cook	IL	0.17	64	19.7
62	72	Los Angeles (2)	Pasadena Fwy/Hwy 110 NB	SUNSET BLVD/EXIT 24A	Los Angeles	CA	0.32	43	14.3
63	28	Los Angeles (2)	Hollywood Fwy/US 101 SB	SUNSET BLVD	Los Angeles	CA	0.29	45	15.2
64	29	San Francisco (12)	I 238 NB	HWY 185/14TH ST/MISSION BLVD	Alameda	CA	0.38	70	22.7
65	93	Chicago (3)	Kennedy Expy/I 90 WB	FOSTER AVE/EXIT 83A	Cook	IL	0.40	57	18.9
66	94	Chicago (3)	Kennedy Expy/I 90 WB	LAWRENCE AVE/EXIT 84	Cook	IL	0.72	53	17.4
67	81	Los Angeles (2)	Harbor Fwy/Hwy 110 NB	OLYMPIC BLVD/9TH ST	Los Angeles	CA	0.51	48	15.7
68	68	Chicago (3)	Kennedy Expy/I 90 WB	CENTRAL AVE/EXIT 83B	Cook	IL	0.58	57	18.7
69	316	Chicago (3)	Kennedy Expy/I 90/I 94 WB	KEELER AVE/EXIT 44A	Cook	IL	0.51	52	17.8
70	86	Los Angeles (2)	Harbor Fwy/Hwy 110 NB	US 101/HOLLYWOOD FWY	Los Angeles	CA	0.64	39	13.7
71	75	Austin (37)	I 35 NB	RIVERSIDE DR/EXIT 233	Travis	TX	0.92	47	16.2
72	127	Chicago (3)	Kennedy Expy/I 90 WB	I 94/EDENS EXPY	Cook	IL	0.20	49	17.2
73	31	New York (1)	Major Deegan Expy/I 87 NB	153RD ST/RIVER AVE/EXIT 6	Bronx	NY	0.30	49	14.1
74	62	Austin (37)	I 35 SB	MLK BLVD/19TH ST/EXIT 235	Travis	TX	0.35	30	10.7
75	476	New York (1)	Gowanis Expy/I 278 EB	3RD AVE/EXIT 21	Kings	NY	0.37	43	11.5
76	236	Chicago (3)	Kennedy Expy/I 90/I 94 EB	KEELER AVE/EXIT 44A	Cook	IL	0.65	53	18.5
77	123	New York (1)	Long Island Expy/I 495 EB	WOODHAVEN BLVD	Queens	NY	0.62	47	16.1
78	88	Los Angeles (2)	Harbor Fwy/Hwy 110 NB	8TH ST/EXIT 22	Los Angeles	CA	0.32	40	14.2
79	83	Los Angeles (2)	San Diego Fwy/I 405 SB	HWY 2/SANTA MONICA BLVD	Los Angeles	CA	0.56	39	14.4
80	34	New York (1)	Hwy 495 EB	PARK AVE	Hudson	NJ	0.64	37	10.0
81	118	New York (1)	Belt Pkwy/Southern Pkwy WB	I 678/VAN WYCK EXPY/EXIT 20	Queens	NY	1.00	51	17.3
82	121	Los Angeles (2)	Hollywood Fwy/US 101 NB	HWY 110/PASADENA FWY	Los Angeles	CA	0.66	65	18.4
83	261	Chicago (3)	Kennedy Expy/I 90/I 94 EB	MONTROSE AVE/EXIT 43C	Cook	IL	0.21	50	17.5
84	140	Los Angeles (2)	San Diego Fwy/I 405 NB	NATIONAL BLVD	Los Angeles	CA	1.30	39	14.7
85	1508	Chicago (3)	Kennedy Expy/I 90/I 94 EB	KOSTNER AVE/EXIT 43D	Cook	IL	0.02	50	17.4
86	194	Los Angeles (2)	Santa Ana Fwy/ US 101 NB	1ST ST/EXIT 1B	Los Angeles	CA	0.42	45	15.0
87	101	Austin (37)	I 35 SB	MLK BLVD/19TH ST/EXIT 235A	Travis	TX	0.79	30	11.5
88	108	Los Angeles (2)	San Diego Fwy/I 405 NB	WASHINGTON BLVD/CULVER BLVD	Los Angeles	CA	0.34	44	17.4
89	79	New York (1)	FDR Dr SB	WILLIS AVENUE BRG/EXIT 18	New York	NY	0.28	57	14.0
90	74	New York (1)	George Washington Brg EB/I 95 NB	US 9/178TH ST/HENRY HUDSON PKWY	New York	NY	0.42	54	14.7
91	137	Los Angeles (2)	San Diego Fwy/I 405 NB	I 10/SANTA MONICA FWY	Los Angeles	CA	0.80	35	13.6
92	117	Austin (37)	I 35 SB	12TH ST/15TH ST/EXIT 234-235	Travis	TX	0.46	30	11.8
93	163	Dallas/Fort Worth (4)	Loop 820/I 820 NB	HWY 26/GRAPEVINE HWY/EXIT 22	Tarrant	TX	0.35	33	13.2
94	67	New York (1)	Van Wyck Expy/I 678 SB	GRAND CENTRAL PKWY/EXIT 10	Queens	NY	0.70	43	13.0
95	92	Los Angeles (2)	Hollywood Fwy/US 101 SB	WESTERN AVE	Los Angeles	CA	0.24	45	17.4
96	169	Chicago (3)	Edens Expy/I 94 SB	I 90/KENNEDY EXPY	Cook	IL	0.84	47	18.0
97	110	Los Angeles (2)	Harbor Fwy/I 110 NB	28TH ST	Los Angeles	CA	0.56	48	19.1
98	107	Los Angeles (2)	Pasadena Fwy/Hwy 110 SB	HILL ST/EXIT 24B	Los Angeles	CA	0.45	50	19.1
99	22	New York (1)	Hwy 495 EB	HWY 3	Hudson	NJ	0.26	32	9.7
100	54	Los Angeles (2)	San Diego Fwy/I 405 NB	LA TIJERA BLVD	Los Angeles	CA	1.01	43	18.0

Table 2: *2008 Worst 100 National Bottlenecks* (Continued)

Bottlenecks

in 2007, it was congested an astounding 94 hours of the week, but the average speed while congested rose in 2008 to 11.2 MPH from 9.8 MPH. Eight of the 10 worst bottlenecks in 2007 remained in the top 10 for 2008, with the other two moving to 11th and 16th places. They were replaced in the top 10 by 2007's 12th and 16th worst bottlenecks.

Beyond the top ten, the "mobility" of the bottlenecks up and down the list was significant. Thirty-three of the top 100 bottlenecks in 2007 were not in the top 100 in 2008. Five of those segments that dropped out of the top 100 fell outside of the Top 1000. Quick review suggests a strong correlation between work zone activity and bottlenecks. As an example, a single bottleneck in the 2007 top 100, I-35E Southbound at I-694 in Minneapolis-St. Paul which ranked 63rd worst in 2007, had no hours in 2008 where the average speed was half or less of free flow speed. This area was a work zone associated with a multi-year "Unweave the Weave" project[10] that has significantly improved the I-35E/ I-694 Interchange. Similarly, the other four segments that dropped from the top 100 in 2007 to outside the top 1000 in 2008 were segments of the Dan Ryan Expressway in Chicago that was part of a multi-year construction project that ended in 2007[11].

Figure 18 summarizes the collective improvement of congestion in the nation's worst bottlenecks. On average, these bottlenecks saw 3 less hours of congestion and saw speeds increase nearly 2 MPH. When factoring in fewer delays in these bottlenecks for less periods of the week, the nation's 100 worst were about 16% less congested in 2008 than in 2007.

Nation's 100 Worst Bottlenecks	2007	2008	Change
Bottleneck Length (Mi)	0.51	0.47	-7.8%
Hours of Congestion	58.9	55.5	-5.9%
Avg Speed While Congested (MPH)	12.9	14.6	13.1%
Overall Congestion Intensity			-15.8%

Figure 18: *Average Conditions of Nation's 100 Worst Bottlenecks*

Nation's Worst 1000 Bottlenecks

Figure 19 shows in red the locations of the nation's 1000 worst bottlenecks in 2008. As in 2007, more than half of the nation's top 1000 bottleneck segments were in the New York, Los Angeles and Chicago areas (see Figure 20).

[10] http://www.dot.state.mn.us/metro/projects/unweave/
[11] http://www.dot.state.il.us/press/GOVDan%20Ryan.pdf

Bottlenecks

Figure 19: Map of 1000 Worst National Bottlenecks in 2008

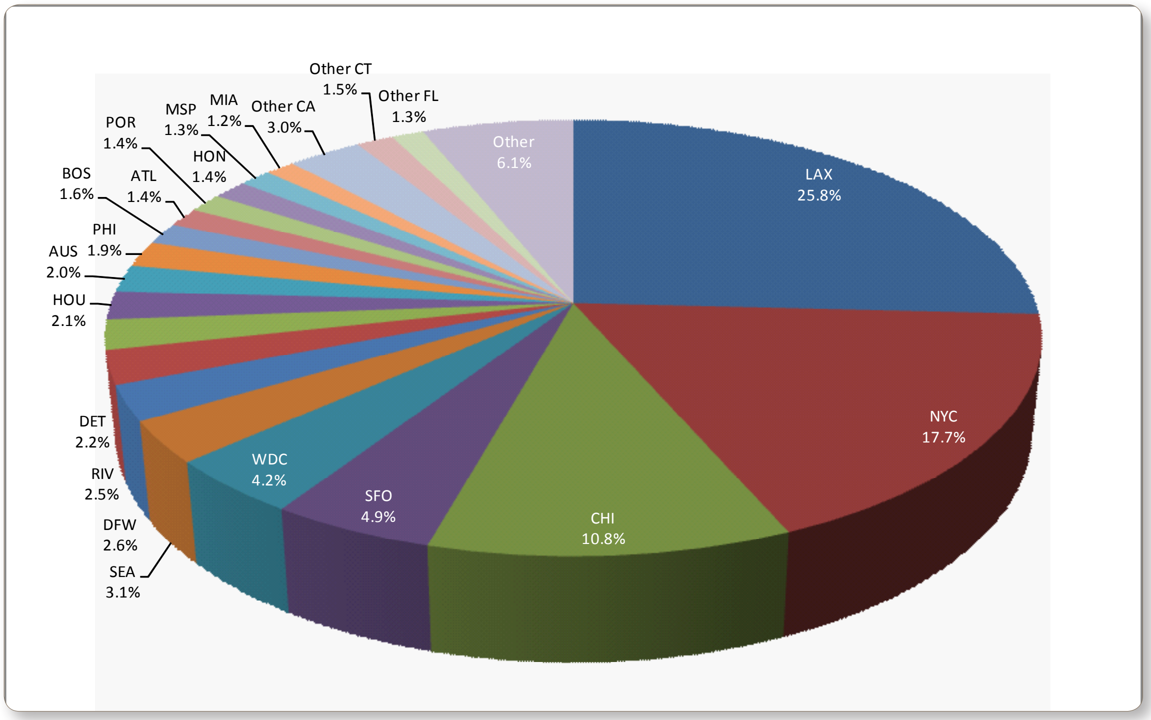


Figure 20: 2008 Worst 1000 National Bottlenecks by Metropolitan Areas

Bottlenecks

In 2008, 252 of the nation's top 1000 bottlenecks in 2007 fell from the top 1000. Again, much of the volatility appears tied to the beginning or ending of construction or maintenance projects. The highest ranking addition to the 2008 list of bottlenecks that did not have even one average hour of "congested" conditions in 2007 was Ronald Reagan Freeway/SR 118 Eastbound at Stearns Drive in Ventura County, California. Ranked 154th overall in 2008, this bottleneck was created as part of a widening project in the area that began in March 2008 and is expected to be completed in mid-2009.[12] Two other adjacent road segments also moved from no recurring congestion in 2007 to the top 1000 bottlenecks in 2008.

Overall, as Figure 21 highlights, the top 1000 bottlenecks in 2008 were congested an average of more than 5 hours less each week, with an average speed increase of 1.4 MPH than those in 2007, leading to a roughly 23% drop in congestion impacts of the top 1000 bottlenecks.

Nation's 1000 Worst Bottlenecks	2007	2008	Change
Bottleneck Length (Mi)	0.68	0.65	-4.4%
Hours of Congestion	31.1	25.9	-16.7%
Avg Speed While Congested (MPH)	16.4	17.8	8.2%
Overall Congestion Intensity			-22.8%

Figure 21: *Average Conditions of Nation's 1000 Worst Bottlenecks*

When examining the bottlenecks on a national basis, several conclusions can be drawn:

- Bottlenecks aren't just a mega city issue. While a majority of bottlenecks are in Los Angeles, New York and Chicago, 41 of the 100 areas had at least one bottleneck in the top 1000 in 2008.
- While down from 2007, more than 1000 road segments are congested, on average, at least 10 hours a week. Add in an accident, bad weather or a special event and these locations, though likely better on average than in 2007, can still gridlock quickly. Even with the "perfect storm" of conditions in 2008 that generally reduced congestion, there is still no margin for error on a large portion of our major highway network.
- Construction, while helping in the long run, can create long-term temporary bottlenecks. As the "stimulus package" signed into law in mid-February 2009 jump starts "shovel-ready" projects nationwide, planners of those projects should heed these results as evidence that careful maintenance of traffic planning should not be short-changed, as what appear as temporary bottlenecks from a project perspective can lead to recurring congestion for weeks, months or even years.

[12] http://www.dot.ca.gov/dist07/Publications/Inside7/story.php?id=99

Bottlenecks

- Several of the individual road segments identified as bottlenecks are connected to other segments also identified as bottlenecks – basically corridor bottlenecks. While these may be associated with an upstream interchange or geometric configuration issue, the length of these bottlenecks can be long and troubling for drivers.
- Moderate congestion can and does disappear. Perhaps since the birth of the interstate system, the national psyche has been conditioned to accept that congestion is bad, getting worse with little or no chance to stop it. More than 2000 road segments that had at least one hour of congestion in 2007 had no identified recurring congestion in 2008, clearly demonstrating that the march towards gridlock can be reversed. While the causes of the decline in 2008 – lower demand due to fuel prices and lower economic activity – aren't the most desired ways to achieve these reductions, it does show that it is possible reverse the trend. Policies that can influence demand at the right places and times may be able to show the same benefits.

Metropolitan Summaries

The 2008 Scorecard data for each of the top 100 metropolitan areas, rank ordered by peak period congestion, is summarized in Appendix A.

Figure 22 illustrates the improvements to the summaries from last year. The page on the right is the 2008 version of the report and the red boxes and arrows indicate new additions to allow greater comparisons between 2007 and 2008, as well as the new figure showing the region's Travel Time Index for each month in 2008.

To make room for the TTI by month chart, information about the region's worst bottleneck is now highlighted in the first line of the listing of worst regional bottlenecks. The listing also includes each bottleneck's 2007 National ranking to allow year-to-year relative comparison.

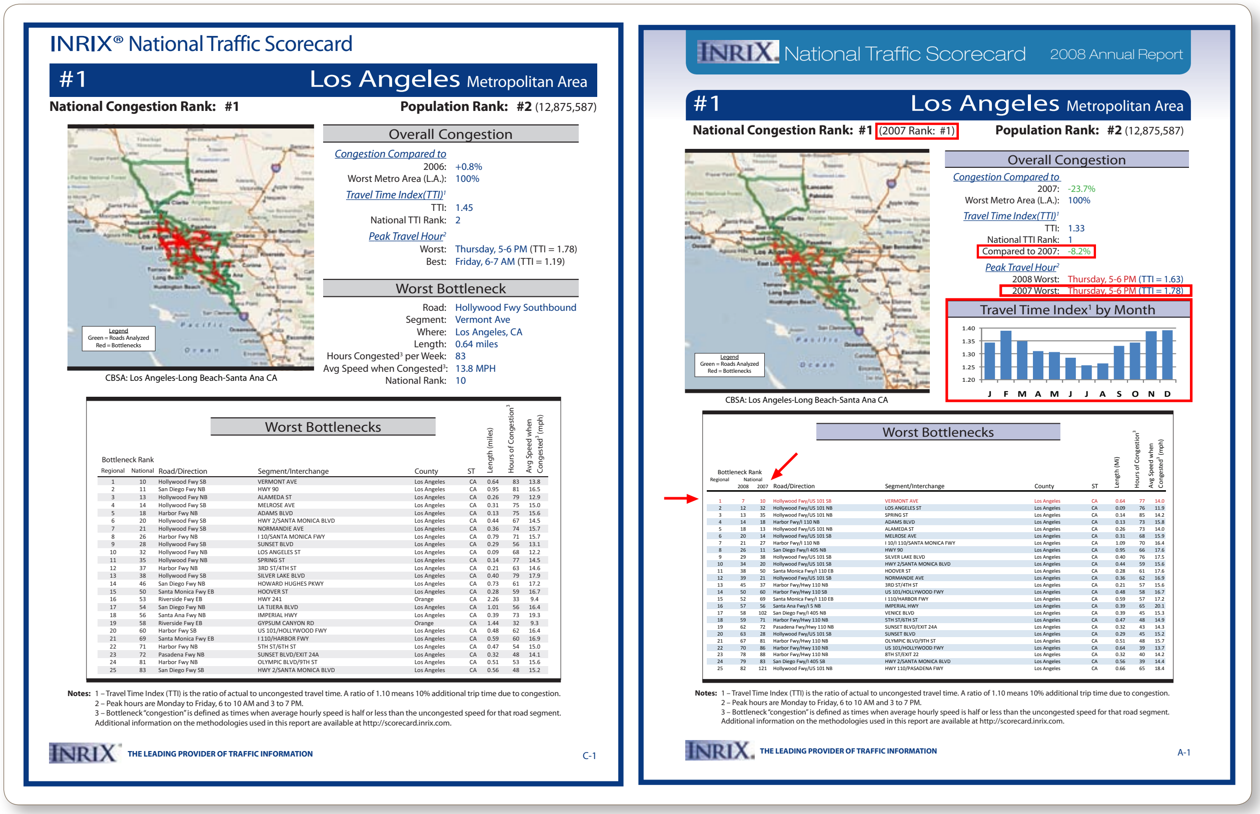


Figure 22: Comparison of 2007 and 2008 Scorecard Metropolitan Summary Page (2007 version on left)

Scorecard Relationship with Other Studies

As one would expect for an issue as relevant to our daily lives and economic system as traffic congestion, there are many recently published studies on the issue. This Scorecard expands upon and complements these reports. The following list is but a few of the notable recent reports:

— *2007 Annual Urban Mobility Report* (Texas Transportation Institute): http://mobility.tamu.edu/ums/

— *Unclogging America's Arteries*: Effective Relief for Highway Bottlenecks 1999-2004 (American Highway Users Alliance): http://www.highways.org/pdfs/bottleneck2004.pdf

— *Building Roads to Reduce Traffic Congestion in America's Cities: How Much and at What Cost?* (Reason Foundation): http://www.reason.org/ps346/state_by_state_congestion.pdf

— *Freight Performance Measurement: Travel Time in Freight-Significant Corridors* (Federal Highway Administration): http://ops.fhwa.dot.gov/freight/freight_analysis/perform_meas/fpmtraveltime/index.htm

— *America's Most Congested Cities* (Forbes Life Magazine): http://www.forbes.com/2008/04/10/congested-commute-cities-forbeslife-cx_mw_0410realestate.html

— *Where the Commuting Nightmares Are* (bizjournals): http://www.bizjournals.com/edit_special/56.html

— *The Road…Less Traveled: An Analysis of Vehicle Miles Traveled Trends in the U.S.*: http://www.brookings.edu/reports/2008/~/media/Files/rc/reports/2008/1216_transportation_tomer_puentes/vehicle_miles_traveled_report.pdf

While the Scorecard shares some common elements with these reports, it also has several unique features.

- Common elements
  — The Scorecard adopts the common convention of peak period drive time hours of 6 – 10 AM and 3 – 7 PM, Monday through Friday.
  — The Travel Time Index concept is now a standard metric to measure conditions relative to uncongested, free flow situations.
- Unique features
  — This report is based on data, technology and processes that have been designed to optimize very quick turnaround times between the end of the data collection period and the publishing of the Scorecard. Many of the reports utilize data that is many months or years old when published.
  — The Scorecard is completely based upon real data – tens of billions of data points from real consumer and commercial vehicles traveling on real road segments. It is not limited by sensor coverage nor is it an interpolation of data.

Scorecard Relationship with Other Studies

 — This is the first analysis to go to the detailed road segment level nationwide; it is also the first to look in depth by hour and day nationwide. Further, this report offers a unique opportunity to see trending by time, region or specific road segment.

Given the myriad of ways to calculate congestion and the wide range of raw data that is utilized, it is natural that different reports can have different results, rankings and indexes. When comparing differences between the Scorecard and other reports, it could be due to one or more of the following reasons:

- Many of the reports weight results by traffic volume and/or factor in the number of lanes on roadways; the Scorecard does not.
- Travel Time Index calculations are from a road user perspective based on complete random trips, not weighted by volumes, lane miles, or origin/destination weighting.
- Travel Time Index values in the Scorecard seem lower than some other studies. This is likely for two reasons:
  - — By using a data driven reference speed instead of a flat speed for free flow, such as 60 mph, results in lower uncongested speeds in most cases, meaning less congestion is calculated for the same average speeds; and
  - — INRIX coverage extends throughout entire metropolitan areas including highways and commuting corridors far away from city centers that may contribute less to congestion than roads in the urban core, lowering the index.
- Studies may have different metropolitan areas, or aggregate some regions such as Washington, D.C. and Baltimore. The Scorecard approach could easily adjust market boundaries to aggregate results differently, but is presently based on the standardized, Census CBSA definition.
- The Scorecard is focused on mainline lanes of limited access highways; other studies may include ramps, interchanges and arterials.

Acknowledgements and Contact Information

Acknowledgements

Rick Schuman, INRIX vice president of public sector, is the author of the INRIX National Traffic Scorecard and the driver behind the primary analysis of the metropolitan and bottleneck data.

INRIX historically works with data providers, technology partners, experts and our customers to address traffic issues in North America and Europe. Collaborating to create unique and important products is key to INRIX's success. This Scorecard is no different. INRIX would like to thank several organizations and individuals who have assisted in one way or another in creating the approaches used in the initial 2007 Scorecard, that are also used in this 2008 update. Tim Lomax and Shawn Turner of the Texas Transportation Institute, Rich Margiotta of Cambridge Systematics and Mark Hallenbeck of the University of Washington aided in development of the original Scorecard methodology. Kevin Loftus of INRIX's partner Clear Channel Total Traffic Network provided local market knowledge and assistance.

Future Updates

Leveraging the nation's most robust historical traffic data warehouse, INRIX is committed to publishing this report on an annual basis. Based on input and feedback, INRIX will continue to improve and expand the report in areas such as additional road coverage (the interstate network, arterials, additional metropolitan areas, etc.) and adding metrics, such as travel reliability and trending analysis.

There are many possible extensions and expansions to the information provided in this report. We welcome inquiries from public agencies and transportation data analysts to conduct more in-depth regional or national analyses based upon our traffic data archive and look forward to partnering to tap local knowledge and domain expertise to take full advantage of our data, and to incorporate and correlate with additional data sets (i.e., construction, incidents, weather, etc.).

INRIX will also continue to publish Scorecard Special Reports on key topics, similar to The Impact of Fuel Prices on Consumer Behavior and Traffic Congestion released in Fall, 2008.

About Us

INRIX is a leading innovator of real-time, historical and predictive traffic information, offering the broadest coverage, exceptional accuracy and innovative technologies to ensure the success of our customers' navigation and traffic-enabled solutions. INRIX provides traffic, navigation, and location-based services to more than 65 industry-leading customers.

Acknowledgements and Contact Information

INRIX is different from other traffic information providers, with the broadest coverage in the most locations: 145 metropolitan areas and more than 120,000 miles of roads in the U.S., Canada, and Europe. With its unique fusion of traditional sensors and nearly a million GPS-enabled vehicles, INRIX ensures the highest accuracy of its traffic data. And, with the launch of INRIX Connected Services in mid-2008, INRIX is now aggregating and delivering new in-car solutions featuring third generation routing and other innovative dynamic content such as safety and weather alerts, fuel prices, news/stocks/weather/sports, business and category search, movie times, and travel information.

Highest Quality —

INRIX has consistently introduced breakthrough solutions including predictive traffic technologies, Total Fusion and Connected Services. In a further industry effort to demystify the quality analysis of traffic information, INRIX also recently published *Benchmarking Traffic Data Quality: Best Practices for Analyzing the Quality of Traffic Information* (see Figure 23), which is available at www.inrix.com. This 60-page technical primer on traffic data quality provides a benchmark from which to evaluate the many components that make up the quality of traffic information. With respect to data integrity and quality, INRIX leads the industry with its sharp focus on quality using intelligent data fusion, advanced analytics and extensive quality processes.

Figure 23: Benchmarking Trafiic Data Quality Technical Primer

Broadest Coverage—

INRIX provides coverage in more markets and more roadways within markets than any other company. Leveraging its unique Smart Dust Network, INRIX provides accurate real-time, historical and traffic fusion speed information for major freeways, highways and arterials in every major metropolitan area in the U.S. and Canada. Additionally, INRIX recently introduced real-time flow coverage for roadways throughout the entire U.K. and the Netherlands, and real-time incident coverage for 16 countries in Europe.

Acknowledgements and Contact Information

Smart Dust Network—

The INRIX Smart Dust Network is a breakthrough in traffic technology that dramatically advances the accuracy, coverage and quality of INRIX services. It collects more data about traffic conditions than any solution on the market today, acquiring real-time and historical data from hundreds of public and private sources – including anonymous, real-time GPS probe data from nearly a million commercial fleet, delivery and taxi vehicles; toll tag data from systems such as California's FasTrak system; and road occupancy and speed measurements from Departments of Transportation around the country. INRIX is the first company in the industry to make use of all these valuable data sources.

The INRIX Smart Dust Network also factors in real-time incident data from across around the United States, as well as hundreds of market-specific criteria that affect traffic, such as construction and road closures, sports games and entertainment events, school schedules and weather forecasts.

While some traffic solutions rely entirely on road sensors – which are expensive and often error-prone – INRIX's wide range of data sources enables it to provide high-quality information in cities and states where accurate traffic data was not previously available – such as Miami, Las Vegas, New York, Tampa, San Antonio and Providence, R.I. In fact, recent ground truth testing shows that INRIX technology was able to deliver an 8-15% accuracy advantage over traditional embedded road sensors.

Innovative Technologies—

INRIX innovations in predictive, historical and real-time traffic technologies and solutions enable our customers to introduce enhanced products and services using accurate time estimation and dynamic route guidance capabilities – all critical for the next generation of navigation solutions.

Additionally, INRIX's innovations in business strategy have further enabled the company to scale through key strategic partnerships, business models, and its focus on the needs of customers.

INRIX Connected Services—

The INRIX Connected Services platform offers an unparalleled suite of content services providing navigation OEMs and location-based service application developers with private label, go-to-market solutions for in-vehicle, personal navigation device (PND), wireless phone and other connected devices. The INRIX Connected Services platform encompasses the world's first 'third generation' routing engine, dynamic traffic data covering 800,000 miles of roadways in North America, additional location-relevant content, and a developer zone designed to greatly simplify creation of location-based service applications.

Acknowledgements and Contact Information

Public Sector Solutions

Leading transportation agencies, consultants, integrators, and academic institutions are using INRIX data today to support their operations, applications and analyses. INRIX real-time traffic information is available to the I-95 Corridor Coalition and government transportation agencies under contract in 11 states including Alabama, Delaware, Florida, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, Washington, D.C., and Wisconsin. Collaborating with these early adopters, INRIX has been able to refine and hone our product offerings, pricing and licensing terms, as well as demonstrate the value of our data to the public sector. Real-time, fusion and historical traffic services are available today covering all major roadways in your state/region.

Contact Us

Business Contact

Inquiries from public agencies and potential industry partners to build upon this Scorecard should contact:

Rick Schuman, Vice President of Public Sector, INRIX

rick@inrix.com

Media Contacts

Press inquiries related to this Scorecard should contact:

Maggie Miller, Weber Shandwick

310-854-8385

MMiller@webershandwick.com

Scorecard Input

Your feedback on the Scorecard is important to us. To provide comments on the Scorecard, including how we can improve future versions, please use the feedback form provided on http://scorecard.inrix.com.

Appendix A | Top 100 Metropolitan Scorecards

This Appendix contains the 100 Metropolitan Scorecard Summary sheets in national congestion rank order. Each metropolitan Scorecard features information related to the overall congestion metrics, a map of the roads analyzed and the locations of bottlenecks, and details of the top bottlenecks.

#9 Seattle Metropolitan Area

National Congestion Rank: #9 (2007 Rank: #9) **Population Rank: #15** (3,309,347)

CBSA: Seattle-Tacoma-Bellevue WA

Overall Congestion

Congestion Compared to

2007: -28..5%
Worst Metro Area (L.A.): 24%

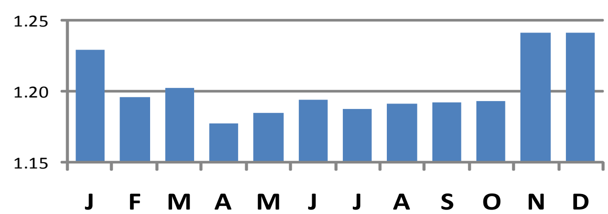
Travel Time Index(TTI)[1]

TTI: 1.20
National TTI Rank: 8
Compared to 2007: -6.6%

Peak Travel Hour[2]

2008 Worst: Friday, 4-5 PM (TTI = 1.44)
2007 Worst: Friday, 4-5 PM (TTI = 1.55)

Travel Time Index[1] by Month



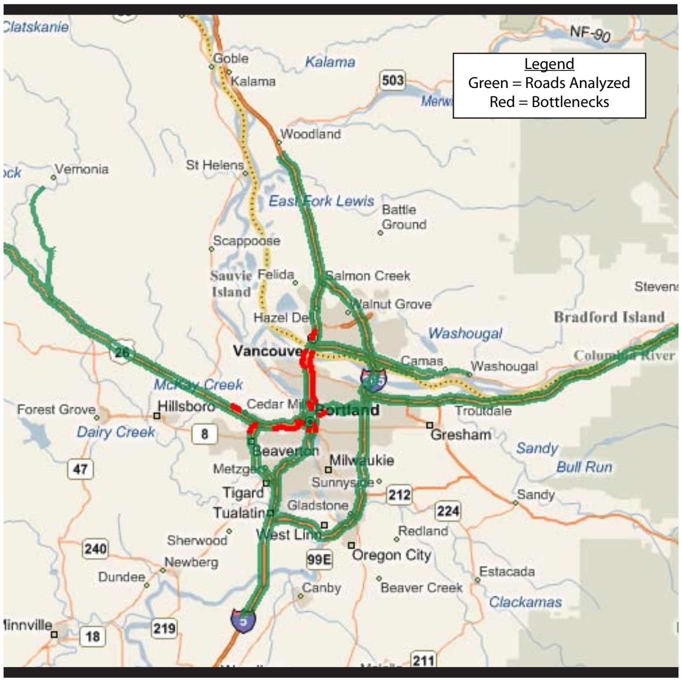
Worst Bottlenecks

Bottleneck Rank Regional	National 2008	National 2007	Road/Direction	Segment/Interchange	County	ST	Length (Mi)	Hours of Congestion[3]	Avg Speed when Congested[3] (mph)
1	112	99	Hwy 520 WB	BELLEVUE WAY/LAKE WASHINGTON BLVD	King	WA	0.33	24	10.0
2	154	214	Hwy 520 WB	84TH AVE	King	WA	0.43	32	15.3
3	160	216	Hwy 520 WB	108TH AVE	King	WA	0.48	17	8.2
4	251	228	I 405 SB	HWY 169/S 4TH ST/EXIT 4	King	WA	0.73	32	18.2
5	255	279	I 405 SB	8TH ST/SE 12TH ST/EXIT 12	King	WA	1.09	25	14.9
6	287	182	I 5 SB	45TH ST/EXIT 169	King	WA	1.46	34	21.3
7	315	298	I 405 SB	4TH ST/SE 13TH ST/EXIT 13	King	WA	0.22	20	13.0
8	357	483	I 405 NB	30TH ST/EXIT 6	King	WA	1.14	21	14.3
9	370	454	I 5 NB	I 90/DEARBORN ST/EXIT 164	King	WA	1.36	33	22.4
10	390	328	Hwy 520 WB	92ND AVE	King	WA	0.78	22	15.4
11	402	380	I 5 NB	SEATTLE FWY/EXIT 163	King	WA	1.62	32	23.1
12	426	1255	Hwy 518 EB	I 5	King	WA	0.16	19	13.2
13	427	513	I 405 NB	HWY 900/NE 4TH ST/EXIT 4	King	WA	0.53	20	14.6
14	442	324	I 5 NB	JAMES ST/EXIT 164	King	WA	0.69	28	19.6
15	447	644	I 405 NB	44TH ST/EXIT 7	King	WA	0.66	21	16.9
16	557	731	I 405 NB	HWY 900/N 5TH ST/EXIT 5	King	WA	0.84	18	15.7
17	572	616	I 5 NB	CORSON AVE/EXIT 162	King	WA	0.45	25	22.6
18	610	266	I 5 SB	RAVENNA BLVD/EXIT 170	King	WA	0.70	24	22.3
19	621	886	I 5 SB	LAKEVIEW BLVD/EXIT 168	King	WA	0.23	20	18.4
20	689	1256	I 90 WB	I 5	King	WA	0.85	19	15.7
21	715	862	I 5 SB	FAIRVIEW AVE/MERCER ST/EXIT 167	King	WA	0.70	19	19.2
22	732	835	I 5 SB	HWY 520/EXIT 168	King	WA	1.36	19	19.5
23	734	374	I 5 SB	HWY 522/73RD ST/EXIT 171	King	WA	0.69	22	23.1
24	756	796	I 405 NB	HWY 181/VALLEY HWY/EXIT 1	King	WA	0.56	23	22.9
25	833	1210	I 405 NB	LAKE WASHINGTON BLVD/EXIT 9	King	WA	1.95	17	19.0

Notes: 1 – Travel Time Index (TTI) is the ratio of actual to uncongested travel time. A ratio of 1.10 means 10% additional trip time due to congestion.
2 – Peak hours are Monday to Friday, 6 to 10 AM and 3 to 7 PM.
3 – Bottleneck "congestion" is defined as times when average hourly speed is half or less than the uncongested speed for that road segment.
Additional information on the methodologies used in this report are available at http://scorecard.inrix.com.

#23 Portland Metropolitan Area

National Congestion Rank: #23 (2007 Rank: #21) **Population Rank: #23** (2,175,113)



CBSA: Portland-Vancouver-Beaverton OR-WA

Overall Congestion

Congestion Compared to

2007:	-35.7%
Worst Metro Area (L.A.):	10%

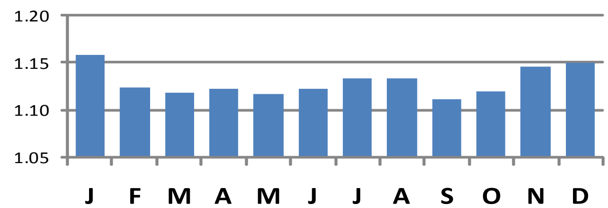
Travel Time Index(TTI)[1]

TTI:	1.13
National TTI Rank:	14
Compared to 2007:	-5.8%

Peak Travel Hour[2]

2008 Worst:	Friday, 4-5 PM (TTI = 1.35)
2007 Worst:	Friday, 5-6 PM (TTI = 1.51)

Travel Time Index[1] by Month



Worst Bottlenecks

Bottleneck Rank Regional	National 2008	National 2007	Road/Direction	Segment/Interchange	County	ST	Length (Mi)	Hours of Congestion[3]	Avg Speed when Congested[3] (mph)
1	335	364	I 5 NB	MARINE DR/EXIT 307	Multnomah	OR	0.76	23	14.8
2	501	442	I 5 NB	VICTORY BLVD/EXIT 306	Multnomah	OR	0.51	20	15.9
3	530	664	I 5 SB	N BROADWAY ST/EXIT 302	Multnomah	OR	0.56	21	15.8
4	584	701	I 5 NB	COLUMBIA BLVD/EXIT 306	Multnomah	OR	0.76	19	16.2
5	587	651	I 84 WB	GRAND AVE/HWY 99E/PACIFIC HWY	Multnomah	OR	0.20	20	15.6
6	665	727	I 5 NB	N TOMAHAWK ISLAND DR/EXIT 308	Multnomah	OR	0.53	23	20.0
7	699	736	I 5 NB	ALBERTA ST/EXIT 303	Multnomah	OR	0.73	15	14.0
8	712	704	I 5 NB	KILLINGSWORTH ST/EXIT 303	Multnomah	OR	1.12	16	15.3
9	748	754	I 5 SB	VICTORY BLVD/EXIT 306	Multnomah	OR	0.60	21	20.2
10	846	829	I 5 NB	US 30 BYP/LOMBARD ST/EXIT 305	Multnomah	OR	0.32	15	16.5
11	978	1066	Sunset Hwy/US 26 EB	SKYLINE BLVD/EXIT 71	Multnomah	OR	0.57	18	20.7
12	987	963	I 5 NB	PORTLAND BLVD/EXIT 304	Multnomah	OR	0.93	14	17.0
13	994	1373	Sunset Hwy/US 26 EB	I 405/MARKET ST	Multnomah	OR	0.60	20	20.0
14	1224	1502	I 5 SB	WEIDLER ST/EXIT 302	Multnomah	OR	0.28	16	20.6
15	1281	1936	Sunset Hwy/US 26 EB	HWY 8	Multnomah	OR	0.31	14	20.2
16	1515	1682	I 5 SB	MARINE DR/EXIT 307	Multnomah	OR	0.65	13	20.9
17	1530	1570	I 84 EB	LLOYD BLVD/NE 1ST AVE/EXIT 1	Multnomah	OR	0.68	14	21.5
18	1588	1739	Beaverton Tigard Fwy/Hwy 217 SB	WALKER RD/EXIT 1	Washington	OR	0.92	11	19.2
19	1623	1265	I 5 NB	I 405	Multnomah	OR	0.62	12	18.6
20	1649	1136	Sunset Hwy/US 26 EB	CANYON RD/EXIT 72	Multnomah	OR	0.79	14	23.8
21	1677	1078	Sunset Hwy/US 26 EB	CANYON RD/EXIT 73	Multnomah	OR	1.14	14	23.6
22	1712	2439	I 405 SB	I 5 (PORTLAND) (SOUTH)	Multnomah	OR	0.15	8	14.5
23	1718	709	Pacific Hwy/I 5 SB	MILL PLAIN BLVD/EXIT 1	Clark	WA	0.64	10	19.2
24	1838	1288	I 5 NB	I 405/US 30/EXIT302	Multnomah	OR	0.80	10	18.9
25	1839	2684	Sunset Hwy/US 26 WB	CORNELL RD/EXIT 65	Washington	OR	0.94	11	22.6

Notes: 1 – Travel Time Index (TTI) is the ratio of actual to uncongested travel time. A ratio of 1.10 means 10% additional trip time due to congestion.
2 – Peak hours are Monday to Friday, 6 to 10 AM and 3 to 7 PM.
3 – Bottleneck "congestion" is defined as times when average hourly speed is half or less than the uncongested speed for that road segment.
Additional information on the methodologies used in this report are available at http://scorecard.inrix.com.