## 2014 URBAN MOBILITY REPORT

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# 2014 URBAN MOBILITY REPORT Powered by INRIX Traffic Data 

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## 2014 Urban Mobility Report

The national "congestion recovery" continues. Urban areas of all sizes are experiencing the challenges seen in the early 2000s - population, jobs and therefore congestion are increasing. The total congestion problem is larger than the pre-recession levels, although the average commuter is "only" wasting as much time as in 2007 - more than a week's worth of vacation. For the report and congestion data on your city, see: http://mobility.tamu.edu/ums.

The data from 1982 to 2013 (see Exhibit 1) show that, short of major economic problems, congestion will continue to increase if projects, programs and policies are not expanded.

- The problem is very large. In 2013, congestion caused urban Americans to travel 6.8 billion hours more and to purchase an extra 3.1 billion gallons of fuel for a congestion cost of $\$ 153$ billion.
- The extra time American motorists endure is about 4 percent above its pre-recession peak in 2007. Employment was up by more than 400,000 jobs from 2012 to 2013 (1); if transportation investment continues to lag, congestion will get worse. Exhibit 2 shows the historical national congestion trend.
- More detailed speed data from INRIX (2) a leading private sector provider of travel time information for travelers and shippers, have caused congestion estimates in most urban areas to be higher than in previous Urban Mobility Reports.

The best mobility improvement programs involve a mix of strategies - adding capacity of all kinds, operating the system to get the 'best bang for the buck,' providing travel and work schedule options and capitalizing on market trends for home and job locations. This involves everyone - agencies, businesses, manufacturers, commuters and travelers. Each region should use the combination of strategies that match its goals and visions. The recovery from economic recession has proven that the problem will not solve itself.

## Exhibit 1. Major Findings of the 2014 Urban Mobility Report (471 U.S. Urban Areas) <br> (Note: See page 2 for description of changes since the 2012 report)

| Measures of... | 1982 | 2000 | 2010 | 2013 |
| :---: | :---: | :---: | :---: | :---: |
| ... Individual Congestion |  |  |  |  |
| Yearly delay per auto commuter (hours) | 18 | 37 | 40 | 42 |
| Travel Time Index | 1.09 | 1.19 | 1.20 | 1.21 |
| "Wasted" fuel per auto commuter (gallons) | 4 | 15 | 15 | 19 |
| Congestion cost per auto commuter (2013 dollars) | \$390 | \$800 | \$910 | \$930 |
| ... The Nation's Congestion Problem |  |  |  |  |
| Travel delay (billion hours) | 1.8 | 5.2 | 6.4 | 6.8 |
| "Wasted" fuel (billion gallons) | 0.5 | 2.1 | 2.5 | 3.1 |
| Congestion cost (billions of 2013 dollars) | \$41 | \$112 | \$147 | \$153 |
| Yearly delay per auto commuter - The extra time spent during the year traveling at congested speeds rather than free-flow speeds by private vehicle drivers and passengers who typically travel in the peak periods. |  |  |  |  |
| Travel Time Index (TTI) - The ratio of travel time in the peak period to travel time at free-flow conditions. A Travel Time Index of 1.30 indicates a 20-minute free-flow trip takes 26 minutes in the peak period. |  |  |  |  |
| Wasted fuel - Extra fuel consumed during congested travel. |  |  |  |  |
| Congestion cost - The yearly value of delay time and wasted fuel by all vehicles. |  |  |  |  |
|  |  |  |  |  |

# Turning Congestion Data Into Knowledge (And the New Data Providing a More Accurate View) 

The 2014 Urban Mobility Report is the $4^{\text {th }}$ prepared in partnership with INRIX (2). The data behind the 2014 Urban Mobility Report are hundreds of speed data points on almost every mile of major road in urban America for almost every 15-minute period of the average day of the week. For the congestion analyst, this means more than 700 million speeds on 1.1 million miles of U.S. streets and highways - an awesome amount of information. For the policy analyst and transportation planner, this means congestion problems can be described in detail, and solutions can be targeted with much greater specificity and accuracy.

Key aspects of the 2014 Urban Mobility Report are summarized below.

- Congestion estimates are presented for each of the 471 U.S. urban areas. Improvements in the INRIX traffic speed data and the data provided by the states to the Federal Highway Administration (3) means that for the first time the Urban Mobility Report can provide an estimate of the congestion effects on residents of every urban area.
- Speeds collected every 15 -minutes from a variety of sources every day of the year on almost every major road are used in the study. The data for all 96 15-minute periods of the day makes it possible to track congestion problems for the midday, overnight and weekend time periods. For more information about INRIX, go to www.inrix.com.
- This data improvement created significant difference in congestion estimates compared with past Urban Mobility Reports - more congestion overall, a higher percentage of congestion on streets and different congestion estimates for many urban areas. As has been our practice, past measure values were revised to provide our best estimate of congestion trends.
- More detail is provided on truck travel and congestion. Estimates of truck volume during the day were developed (in past reports, trucks were assumed to have the same patterns as cars travel). This changed delay and fuel estimates in different ways for several cities; for example, fuel wasted per commuter in Los Angeles is much less than in cities with similar delay per auto commuter values due to its higher proportion of freeway travel.
- Many of the slow speeds that were formerly considered 'too slow to be a valid observation' are now being retained in the INRIX dataset. Experience and increased travel speed sample sizes have increased the confidence in the data.
- Where speed estimates are required, the estimation process is benefitting from the increased number of speeds in the dataset. The methodology is described on the mobility study website (4).

More information on the performance measures and data can be found at: http://mobility.tamu.edu/resources/

Exhibit 2. National Congestion Measures, 1982 to 2013

| Year | Travel Time Index | Delay Per Commuter (Hours) | Total Delay (Billion Hours) | Fuel Wasted (Billion Gallons) | Total Cost (Billions of 2013 Dollars) |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 2013 | 1.21 | 42 | 6.8 | 3.1 | \$153 |
| 2012 | 1.21 | 41 | 6.7 | 3.0 | \$151 |
| 2011 | 1.21 | 41 | 6.6 | 2.5 | \$149 |
| 2010 | 1.20 | 40 | 6.4 | 2.5 | \$147 |
| 2009 | 1.20 | 40 | 6.3 | 2.4 | \$145 |
| 2008 | 1.21 | 42 | 6.6 | 2.4 | \$150 |
| 2007 | 1.21 | 42 | 6.6 | 2.8 | \$151 |
| 2006 | 1.21 | 42 | 6.4 | 2.8 | \$147 |
| 2005 | 1.21 | 41 | 6.3 | 2.7 | \$141 |
| 2004 | 1.21 | 41 | 6.1 | 2.6 | \$134 |
| 2003 | 1.20 | 40 | 5.9 | 2.4 | \$126 |
| 2002 | 1.20 | 39 | 5.6 | 2.3 | \$122 |
| 2001 | 1.19 | 38 | 5.3 | 2.2 | \$117 |
| 2000 | 1.19 | 37 | 5.2 | 2.1 | \$112 |
| 1999 | 1.18 | 36 | 4.9 | 2.0 | \$104 |
| 1998 | 1.18 | 35 | 4.7 | 1.8 | \$99 |
| 1997 | 1.17 | 34 | 4.5 | 1.7 | \$96 |
| 1996 | 1.17 | 32 | 4.2 | 1.6 | \$91 |
| 1995 | 1.16 | 31 | 4.0 | 1.5 | \$86 |
| 1994 | 1.15 | 30 | 3.8 | 1.4 | \$81 |
| 1993 | 1.15 | 29 | 3.6 | 1.4 | \$76 |
| 1992 | 1.14 | 28 | 3.4 | 1.3 | \$72 |
| 1991 | 1.14 | 27 | 3.2 | 1.2 | \$68 |
| 1990 | 1.13 | 26 | 3.0 | 1.2 | \$64 |
| 1989 | 1.13 | 25 | 2.8 | 1.1 | \$61 |
| 1988 | 1.12 | 24 | 2.7 | 1.0 | \$57 |
| 1987 | 1.12 | 23 | 2.5 | 0.9 | \$54 |
| 1986 | 1.11 | 22 | 2.4 | 0.8 | \$51 |
| 1985 | 1.11 | 21 | 2.3 | 0.7 | \$50 |
| 1984 | 1.10 | 20 | 2.1 | 0.6 | \$47 |
| 1983 | 1.10 | 19 | 2.0 | 0.5 | \$44 |
| 1982 | 1.09 | 18 | 1.8 | 0.5 | \$41 |

Notes:
See Exhibit 1 for explanation of measures.
For more congestion information and for congestion information on your city, see Tables 1 to 4 and http://mobility.tamu.edu/ums.

## One Page of Congestion Problems

In the biggest regions and most congested corridors, traffic jams can occur at any daylight hour, many nighttime hours and on weekends. The problems that travelers and shippers face include extra travel time, unreliable travel time and a transportation network that is vulnerable to a variety of every day, but never the same, events - bad weather, special events, roadwork, higher traffic volume, malfunctioning traffic signals, crashes and stalled vehicles. Some key measures are listed below. See data for your city at http://mobility.tamu.edu/ums/congestion data.

Congestion costs are increasing. The congestion "invoice" for the cost of extra time and fuel in the 471 U.S. urban areas was (all values in constant 2013 dollars):

- In 2014 - $\$ 153$ billion
- In 2000 - $\$ 112$ billion
- In 1982 - $\$ 41$ billion

Congestion wastes a massive amount of time, fuel and money. In 2013:

- 6.8 billion hours of extra time (equivalent to 47 million average summer vacations).
- 3.1 billion gallons of wasted fuel (more than 90 minutes worth of flow in the Missouri River).
- $\$ 153$ billion of delay and fuel cost (the negative effect of uncertain or longer delivery times, missed meetings, business relocations and other congestion-related effects are not included) (equivalent to the lost productivity, clinic visit and medication costs for more than 50 million cases of poison ivy).
- The cost to the average commuter was $\$ 930$ in 2014 compared to an inflation-adjusted \$390 in 1982.

Congestion affects people who travel during the peak period. The average commuter:

- Spent an extra 42 hours traveling in 2014 up from 18 hours in 1982.
- Wasted 19 gallons of fuel in 2014 - a week's worth of fuel for the average U.S. driver - up from 4 gallons in 1982.
- In areas with over one million persons, 2013 commuters experienced:
- an average of 62 hours of extra travel time
- suffered 6 hours of congested road conditions on the average weekday


## Congestion is also a problem at other hours.

- Approximately 41 percent of total delay occurs in the midday and overnight (outside of the peak hours) times of day when travelers and shippers expect free-flow travel. Many manufacturing processes depend on a free-flow trip for efficient production and congested networks interfere with those operations.


## More Detail About Congestion Problems

Congestion, by every measure, has increased substantially over the 32 years covered in this report. Traffic problems as measured by per-commuter measures are about the same as a decade ago, but because there are so many more commuters, and more congestion during offpeak hours, total delay has increased by almost one billion hours. The total congestion cost has also risen with more wasted hours, greater fuel consumption and more trucks stuck in stop-andgo traffic.

Immediate solutions and long-term plans are needed to reduce undesirable congestion. The recession reduced construction costs, or at least slowed their growth. Urban areas and states can still take advantage of this situation - but each area must craft a set of programs, policies and projects that are supported by their communities. This mix will be different in every city, but all of them can be informed by data and trend information.

Congestion is worse in areas of every size - it is not just a big city problem. The growing delays also hit residents of smaller cities (Exhibit 3). Big towns and small cities have congestion problems - every economy is different and smaller regions often count on good mobility as a quality-of-life aspect that allows them to compete with larger, more economically diverse regions. As the national economy improves, it is important to develop the consensus on action steps -- major projects, programs and funding efforts take 10 to 15 years to develop.

Exhibit 3. Congestion Growth Trend - Hours of Delay per Auto Commuter


Think of what else could be done with the 42 hours of extra time suffered by the average urban auto commuter in 2014:

- More than a week of vacation
- Equivalent to more than 550 David Letterman monologues
- Watch 28 tee-ball games
- Listen to 22 music recital programs


## Congestion Patterns

- Congestion builds through the week from Monday to Friday. The two weekend days have less delay than any weekday (Exhibit 4).
- Congestion is worse in the evening, but it can be a problem during any daylight hour (Exhibit 5).
- Midday hours comprise a significant share of the congestion problem.

Exhibit 4. Percent of Delay for Each Day


Exhibit 5. Percent of Delay for Hours of Day


## Congestion on Freeways and Streets

- Streets have more delay than freeways, but there are also many more miles of streets (Exhibit 6).
- Approximately 45 percent of delay occurs in off-peak hours.

Exhibit 6. Percent of Delay for Road Types - All Population Ranges


## Rush Hour Congestion

- In the combined data for all 471 urban areas, the severe and extreme congestion levels affected only 1 in 9 trips in 1982, but 1 in 4 trips in 2014 (Exhibit 7).
- The most congested sections of road account for $77 \%$ of peak period delays, but only have 26\% of the travel (Exhibit 7).
- Delay is nearly four times larger overall than in 1982 (Exhibit 2).

Exhibit 7. Peak Period Congestion in 2014

Almost 40\% of trips are in heavy congestion.....

...but those trips experience $89 \%$ of the extra travel time.


## Truck Congestion

- Trucks account for 17 percent of the urban "congestion invoice" although they only represent 7 percent of urban travel,
- The costs in Exhibit 8 do not include the extra costs borne by private companies who build additional distribution centers, buy more trucks and build more satellite office centers to allow them to overcome the problems caused by a congested and inefficient transportation network.

Exhibit 8. 2014 Congestion Cost for Urban Passenger and Freight Vehicles

Travel by Vehicle Type


Congestion Cost by Vehicle Type


## The Future of Congestion

Before the economic recession, congestion was increasing at between 2 and 4 percent every year - which meant that extra travel time for the average commuter increased slightly less than 1 hour every year. The economic recession set back that trend a few years, but the trend in the last few years indicates congestion is rising again. Congestion is the result of an imbalance between travel demand and the supply of transportation capacity - whether that is freeway lanes, bus seats or rail cars. If the number of residents or jobs goes up, or the miles or trips that those people make increases, the road and transit systems also need to expand. As the rising congestion levels in this report demonstrate, however, this is an infrequent occurrence, and travelers are paying the price for this inadequate response.

As one estimate of congestion in the near future, this report uses the expected population growth and congestion trends from the period of sustained economic growth between 2000 and 2005 to get an idea of what the next five years might hold. The basic input and analysis features:

- The combined role of the government and private sector will yield approximately the same rate of transportation system expansion (both roadway and public transportation). The analysis assumes that policies and funding levels will remain about the same.
- The growth in usage of any of the alternatives (biking, walking, work or shop at home) will continue at the same rate.
- The period before the economic recession (from 2000 to 2005) was used as the indicator of the effect of growth. These years had generally steady economic growth in most U.S. urban regions; these years are assumed to be the best indicator of the future level of investment in solutions and the resulting increase in congestion for each urban area.

The congestion estimate for any single region will be affected by the funding, project selections and operational strategies; the simplified estimation procedure used in this report did not capture these variations. Using this simplified approach the following offers an idea of the national congestion problem in 2020.

- The national congestion cost will grow from $\$ 153$ billion to $\$ 185$ billion in 2020 (in 2013 dollars).
- Delay will grow to 8.2 billion hours in 2020.
- Wasted fuel will increase to 3.7 billion gallons in 2020.
- The average commuter's congestion cost will grow to almost \$1,100 in 2020 (in 2013 dollars).
- The average commuter will waste 46 hours and 20 gallons in 2020.


## Congestion Relief - An Overview of the Strategies

We recommend a balanced and diversified approach to reduce congestion - one that focuses on more of everything. It is clear that our current investment levels have not kept pace with the problems. Most urban regions have big problems now - more congestion, poorer pavement and bridge conditions and less public transportation service than they would like. There will be a different mix of solutions in metro regions, cities, neighborhoods, job centers and shopping areas. Some areas might be more amenable to construction solutions, other areas might use more technology to promote and facilitate travel options, operational improvements, or land use redevelopment. In all cases, the solutions need to work together to provide an interconnected network of smart transportation services as well as improve the quality-of-life.

More information on the possible solutions, places they have been implemented, the effects estimated in this report and the methodology used to capture those benefits can be found on the website http://mobility.tamu.edu/solutions

- Get as much service as possible from what we have - Many low-cost improvements have broad public support and can be rapidly deployed. These operations programs require innovation, constant attention and adjustment, but they pay dividends in faster, safer and more reliable travel. Rapidly removing crashed vehicles, timing the traffic signals so that more vehicles see green lights, and improving road and intersection designs are relatively simple actions.
- Add capacity in critical corridors - Handling more freight or person travel on freeways, streets, rail lines, buses or intermodal facilities often requires "more." Important corridors or growing regions can benefit from more street and highway lanes, new or expanded public transportation facilities, and larger bus and rail fleets.
- Change the usage patterns - There are solutions that involve changes in the way employers and travelers conduct business to avoid traveling in the traditional "rush hours." Flexible work hours, internet connections or phones allow employees to choose work schedules that meet family needs and the needs of their jobs.
- Provide choices - This might involve different travel routes, travel modes or lanes that involve a toll for high-speed and reliable service. These options allow travelers and shippers to customize their travel plans.
- Diversify the development patterns - These typically involve denser developments with a mix of jobs, shops and homes, so that more people can walk, bike or take transit to more, and closer, destinations. Sustaining the quality-of-life and gaining economic development without the typical increment of congestion in each of these sub-regions appears to be part, but not all, of the solution.
- Realistic expectations are also part of the solution. Large urban areas will be congested. Some locations near key activity centers in smaller urban areas will also be congested. Identifying solutions and funding sources that meet a variety of community goals is challenging enough without attempting to eliminate congestion in all locations at all times. But congestion does not have to be an all-day event.


## Using the Best Congestion Data \& Analysis Methodologies

The base data for the 2014 Urban Mobility Report came from INRIX, the U.S. Department of Transportation and the states (2, 3). Several analytical processes were used to develop the final measures, but the biggest improvement in the last two decades is provided by the INRIX data. The speed data covering most travel on most major roads in U.S. urban regions eliminates the difficult process of estimating speeds and dramatically improves the accuracy and level of understanding about the congestion problems facing US travelers.

The methodology is described in a technical report (4) that is posted on the mobility report website: http://mobility.tamu.edu/ums/methodology/.

- The INRIX traffic speeds are collected from a variety of sources and compiled in their Historical Profile database. Fleet operators who have location devices on their vehicles feed time and location data points to INRIX. Individuals who have downloaded the INRIX smart phone app also contribute time/location data. The proprietary process filters inappropriate data (e.g., pedestrians walking next to a street) and compiles a dataset of average speeds for each road segment. TTI was provided a dataset of 15 -minute average speeds for each link of major roadway covered in the Historical Profile database (approximately 1.1 million miles in 2013).
- Traffic volume estimates were developed with a set of procedures developed from computer models and studies of real-world travel time and volume data. The congestion methodology uses daily traffic volume converted to 15 -minute volumes using a national traffic count dataset (5).
- The 15-minute INRIX speeds were matched to the 15-minute volume estimates for each road section on the FHWA maps.
- An estimation procedure was also developed for the sections of road that did not have INRIX data. As described in the methodology website, the road sections were ranked according to volume per lane and then matched with a similar list of sections with INRIX and volume per lane data (as developed from the FHWA dataset) (4).


## National Performance Measurement

"What Gets Measured, Gets Done"

Many of us have heard this saying, and it is very appropriate when discussing transportation system performance measurement.

Performance measurement at the national level is gaining momentum. Many state and local transportation agencies are implementing performance measurement activities to operate their systems as efficiently as possible with limited resources.

The Moving Ahead for Progress in the $21^{\text {st }}$ Century Act (MAP-21) was signed into law on July 6, 2012 to fund surface transportation. Among other aspects, MAP-21 establishes performancebased planning and programming to improve transportation decision-making and increase the accountability and transparency of the Federal highway funding program (6).

As part of the transition to a performance and outcome-based Federal highway funding program, MAP-21 establishes national performance goals in the following areas (6):

- Safety
- Infrastructure condition
- Congestion reduction
- System reliability
- Freight movement and economic vitality
- Environmental sustainability
- Reduced project delivery delays

MAP-21 requirements provide the opportunity to improve agency operations. While transportation professionals calculate required MAP-21 performance measures, there is an opportunity to also develop processes and measures to better understand their systems. The requirements of MAP-21 are specified through a Rulemaking process. At the time of this writing, the Notice of Proposed Rulemaking (NPRM) for system performance measures (congestion, reliability) has not been released by the United States Department of Transportation (USDOT).

While the specific requirements of MAP-21 related to system performance measures are not yet known, the data, measures, and methods in the Urban Mobility Report provide transportation professionals with a 32-year trend of foundational knowledge to inform performance measurement and target setting at the urban area level. The measures and techniques have stood the test of time to communicate mobility conditions and potential solutions.

## "Don't Let Perfect be the Enemy of Good"

Occasionally there is reluctance at transportation agencies to dive in and begin performance measurement activities because there is a concern that the data or methods are just not good enough. Over the years, the Urban Mobility Report has taken advantage of data improvements - and associated changes in analysis methods - and the use of more powerful computational methods (for example, geographic information systems). Such adaptations are typical when conducting on-going performance reporting. As the successful 32-year data trend of UMR suggests, changes can be made as improvements become available. The key is to get started!

## Concluding Thoughts

The national economy has improved since the last Urban Mobility Report, and unfortunately congestion has gotten worse. This has been the case in the past, and it appears that the economy-congestion linkage is as dependable as gravity. Some analysts had touted the decline in driving per capita and dip in congestion levels as a sign that traffic congestion would, in essence, fix itself. That is not happening.

The other seemingly dependable trend - not enough of any solution being deployed - also appears to be holding in most growing regions. That is really the lesson from this series of reports. The mix of solutions that are used is relatively less important than the amount of solution being implemented. All of the potential congestion-reducing strategies should be considered, and there is a role and location for most of the strategies.

- Getting more productivity out of the existing road and public transportation systems is vital to reducing congestion and improving travel time reliability.
- Businesses and employees can use a variety of strategies to modify their work schedules, traveling times and travel modes to avoid the peak periods, use less vehicle travel and increase the amount of electronic "travel."
- In growth corridors, there also may be a role for additional capacity to move people and freight more rapidly and reliably.
- Some areas are seeing renewed interest in higher density living in neighborhoods with a mix of residential, office, shopping and other developments. These places can promote shorter trips that are more amenable to walking, cycling or public transportation modes.

The 2014 Urban Mobility Report points to national measures of the congestion problem for the 471 urban areas in 2013:

- $\$ 153$ billion of wasted time and fuel
- An extra 6.8 billion hours of travel and 3.1 billion gallons of fuel consumed The average urban commuter in 2013:
- spent an extra 42 hours of travel time on roads than if the travel was done in low-volume conditions
- used 19 extra gallons of fuel
- which amounted to an average value of $\$ 930$ per commuter

Recent trends show traffic congestion has grown since the low point in 2009 during the economic recession. An additional 500 million hours and 700 million gallons of fuel were consumed in 2013 than in 2009. There have been increases in the extra hours of travel time and gallons commuters suffer showing that the economic recession has not been a permanent cure for traffic congestion problems.

States and cities have been addressing the congestion problems they face with a variety of strategies and more detailed data analysis. Some of the solution lies in identifying congestion that is undesirable - that which significantly diminishes the quality of life and economic productivity - and some lies in using the smart data systems and range of technologies, projects and programs to achieve results and communicate the effects to assure the public that their transportation project dollars are being spent wisely.

## National Congestion Tables

Table 1. What Congestion Means to You, 2013

| Urban Area | Yearly Delay per Auto Commuter |  | Travel Time Index |  | Excess Fuel per Auto Commuter |  | Congestion Cost per Auto Commuter |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hours | Rank | Value | Rank | Gallons | Rank | Dollars | Rank |
| Very Large Average (15 areas) | 63 |  | 1.32 |  | 26 |  | 1,419 |  |
| Washington DC-VA-MD | 82 | 1 | 1.34 | 8 | 34 | 1 | 1,809 | 1 |
| Los Angeles-Long Beach-Anaheim CA | 79 | 2 | 1.43 | 1 | 25 | 10 | 1,703 | 3 |
| San Francisco-Oakland CA | 77 | 3 | 1.40 | 2 | 32 | 3 | 1,664 | 4 |
| New York-Newark NY-NJ-CT | 73 | 4 | 1.34 | 8 | 34 | 1 | 1,724 | 2 |
| Boston MA-NH-RI | 63 | 6 | 1.29 | 17 | 29 | 4 | 1,374 | 8 |
| Seattle WA | 63 | 6 | 1.38 | 3 | 28 | 6 | 1,483 | 5 |
| Houston TX | 61 | 8 | 1.33 | 10 | 28 | 6 | 1,454 | 6 |
| Chicago IL-IN | 59 | 9 | 1.30 | 14 | 29 | 4 | 1,439 | 7 |
| Atlanta GA | 52 | 11 | 1.24 | 24 | 20 | 40 | 1,119 | 22 |
| Dallas-Fort Worth-Arlington TX | 52 | 11 | 1.27 | 19 | 22 | 21 | 1,171 | 14 |
| Detroit MI | 52 | 11 | 1.24 | 24 | 24 | 12 | 1,146 | 18 |
| Miami FL | 51 | 15 | 1.28 | 18 | 24 | 12 | 1,161 | 16 |
| Phoenix-Mesa AZ | 51 | 15 | 1.26 | 20 | 24 | 12 | 1,174 | 13 |
| Philadelphia PA-NJ-DE-MD | 47 | 21 | 1.24 | 24 | 23 | 17 | 1,111 | 23 |
| San Diego CA | 41 | 44 | 1.23 | 28 | 11 | 92 | 885 | 59 |

Very Large Urban Areas-over 3 million population.
Medium Urban Areas-over 500,000 and less than 1 million population.
Large Urban Areas-over 1 million and less than 3 miliion population.
Small Urban Areas-less than 500,000 population.
Yearly Delay per Auto Commuter-Extra travel time during the year divided by the number of people who commute in private vehicles in the urban area
Travel Time Index-The ratio of travel time in the peak period to the travel time at free-flow conditions. A value of 1.30 indicates a 20 -minute free-flow trip takes 26 minutes in the peak period.
Excess Fuel Consumed-Increased fuel consumption due to travel in congested conditions rather than free-flow conditions.
Congestion Cost-Value of travel time delay (estimated at $\$ 17.68$ per hour of person travel and $\$ 93.17$ per hour of truck time) and excess fuel consumption (estimated using state average cost per gallon for gasoline and diesel).
Note: Please do not place too much emphasis on small differences in the rankings. There may be little difference in congestion between areas ranked (for example) $6^{\text {th }}$ and $12^{\text {min }}$. The actual measure values should also be examined. The best congestion comparisons are made between similar urban areas.

Table 1. What Congestion Means to You, 2013, Continued

| Urban Area | Yearly Delay per Auto Commuter |  | Travel Time Index |  | Excess Fuel per Auto Commuter |  | Congestion Cost per Auto Commuter |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hours | Rank | Value | Rank | Gallons | Rank | Dollars | Rank |
| Large Average (31 areas) | 44 |  | 1.23 |  | 21 |  | 1,023 |  |
| San Jose CA | 65 | 5 | 1.37 | 4 | 27 | 9 | 1,358 | 9 |
| Riverside-San Bernardino CA | 57 | 10 | 1.32 | 11 | 18 | 57 | 1,265 | 10 |
| Portland OR-WA | 52 | 11 | 1.35 | 7 | 28 | 6 | 1,250 | 11 |
| Austin TX | 51 | 15 | 1.32 | 11 | 22 | 21 | 1,136 | 20 |
| Denver-Aurora CO | 49 | 19 | 1.30 | 14 | 24 | 12 | 1,091 | 25 |
| Oklahoma City OK | 47 | 21 | 1.19 | 41 | 21 | 27 | 1,049 | 28 |
| Minneapolis-St. Paul MN-WI | 46 | 23 | 1.26 | 20 | 18 | 57 | 1,022 | 33 |
| Baltimore MD | 45 | 25 | 1.25 | 23 | 20 | 40 | 1,058 | 27 |
| Las Vegas-Henderson NV | 45 | 25 | 1.26 | 20 | 21 | 27 | 958 | 42 |
| Nashville-Davidson TN | 45 | 25 | 1.20 | 36 | 22 | 21 | 1,164 | 15 |
| Indianapolis IN | 44 | 30 | 1.18 | 45 | 23 | 17 | 1,048 | 29 |
| Orlando FL | 44 | 30 | 1.21 | 33 | 20 | 40 | 1,019 | 34 |
| Virginia Beach VA | 44 | 30 | 1.19 | 41 | 18 | 57 | 923 | 50 |
| Charlotte NC-SC | 43 | 34 | 1.23 | 28 | 17 | 68 | 956 | 43 |
| Louisville-Jefferson County KY-IN | 43 | 34 | 1.20 | 36 | 21 | 27 | 999 | 37 |
| Providence RI-MA | 43 | 34 | 1.20 | 36 | 21 | 27 | 948 | 45 |
| Sacramento CA | 43 | 34 | 1.23 | 28 | 19 | 49 | 953 | 44 |
| San Antonio TX | 43 | 34 | 1.24 | 24 | 19 | 49 | 973 | 40 |
| Memphis TN-MS-AR | 42 | 40 | 1.18 | 45 | 21 | 27 | 1,045 | 30 |
| St. Louis MO-IL | 42 | 40 | 1.16 | 63 | 20 | 40 | 1,015 | 36 |
| San Juan PR | 42 | 40 | 1.30 | 14 | 24 | 12 | 1,140 | 19 |
| Tampa-St. Petersburg FL | 41 | 44 | 1.21 | 33 | 18 | 57 | 900 | 54 |
| Cincinnati OH-KY-IN | 40 | 47 | 1.18 | 45 | 21 | 27 | 975 | 39 |
| Columbus OH | 40 | 47 | 1.18 | 45 | 20 | 40 | 928 | 49 |
| Cleveland OH | 38 | 52 | 1.15 | 74 | 22 | 21 | 882 | 60 |
| Kansas City MO-KS | 38 | 52 | 1.15 | 74 | 18 | 57 | 922 | 51 |
| Pittsburgh PA | 38 | 52 | 1.19 | 41 | 20 | 40 | 866 | 64 |
| Jacksonville FL | 37 | 61 | 1.17 | 52 | 15 | 78 | 835 | 72 |
| Milwaukee WI | 37 | 61 | 1.17 | 52 | 22 | 21 | 982 | 38 |
| Salt Lake City-West Valley City UT | 36 | 67 | 1.18 | 45 | 21 | 27 | 1,019 | 34 |
| Richmond VA | 34 | 73 | 1.13 | 84 | 14 | 83 | 724 | 81 |

[^0]Yearly Delay per Auto Commuter-Extra travel time during the year divided by the number of people who commute in private vehicles in the urban area.
Travel Time Index-The ratio of travel time in the peak period to the travel time at free-flow conditions. A value of 1.30 indicates a 20 -minute free-flow trip takes 26 minutes in the peak period.
Excess Fuel Consumed—Increased fuel consumption due to travel in congested conditions rather than free-flow conditions.
Congestion Cost—Value of travel time delay (estimated at $\$ 17.68$ per hour of person travel and $\$ 93.17$ per hour of truck time) and excess fuel consumption (estimated using state average cost per gallon for gasoline and diesel).
Note: Please do not place too much emphasis on small differences in the rankings. There may be little difference in congestion between areas ranked (for example) $6^{\text {th }}$ and $12^{\text {th }}$. The actual measure values should also be examined. The best congestion comparisons are made between similar urban areas.

Table 1. What Congestion Means to You, 2013, Continued

| Urban Area | Yearly Delay per Auto Commuter |  | Travel Time Index |  | Excess Fuel per Auto Commuter |  | Congestion Cost per Auto Commuter |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hours | Rank | Value | Rank | Gallons | Rank | Dollars | Rank |
| Medium Average (33 areas) | 36 |  | 1.18 |  | 18 |  | 849 |  |
| Honolulu HI | 50 | 18 | 1.36 | 5 | 25 | 10 | 1,111 | 23 |
| Bridgeport-Stamford CT-NY | 49 | 19 | 1.36 | 5 | 21 | 27 | 1,154 | 17 |
| Baton Rouge LA | 46 | 23 | 1.22 | 31 | 23 | 17 | 1,203 | 12 |
| New Orleans LA | 45 | 25 | 1.31 | 13 | 21 | 27 | 1,131 | 21 |
| Tucson AZ | 45 | 25 | 1.21 | 33 | 22 | 21 | 1,072 | 26 |
| Hartford CT | 44 | 30 | 1.20 | 36 | 21 | 27 | 1,029 | 32 |
| Tulsa OK | 43 | 34 | 1.17 | 52 | 19 | 49 | 938 | 47 |
| Albany-Schenectady NY | 42 | 40 | 1.16 | 63 | 21 | 27 | 972 | 41 |
| Charleston-North Charleston SC | 41 | 44 | 1.22 | 31 | 20 | 40 | 1,033 | 31 |
| Grand Rapids MI | 40 | 47 | 1.17 | 52 | 19 | 49 | 841 | 70 |
| Buffalo NY | 39 | 50 | 1.17 | 52 | 21 | 27 | 914 | 52 |
| New Haven CT | 39 | 50 | 1.16 | 63 | 19 | 49 | 930 | 48 |
| Columbia SC | 38 | 52 | 1.15 | 74 | 18 | 57 | 941 | 46 |
| Rochester NY | 38 | 52 | 1.16 | 63 | 20 | 40 | 886 | 58 |
| Toledo OH-MI | 38 | 52 | 1.18 | 45 | 20 | 40 | 909 | 53 |
| Albuquerque NM | 37 | 61 | 1.16 | 63 | 19 | 49 | 875 | 61 |
| Springfield MA-CT | 37 | 61 | 1.13 | 84 | 19 | 49 | 829 | 73 |
| Birmingham AL | 34 | 73 | 1.14 | 79 | 16 | 71 | 889 | 57 |
| Knoxville TN | 34 | 73 | 1.14 | 79 | 17 | 68 | 846 | 68 |
| Raleigh NC | 34 | 73 | 1.16 | 63 | 13 | 86 | 731 | 80 |
| Wichita KS | 34 | 73 | 1.17 | 52 | 17 | 68 | 811 | 74 |
| Colorado Springs CO | 33 | 79 | 1.15 | 74 | 16 | 71 | 740 | 78 |
| El Paso TX-NM | 33 | 79 | 1.16 | 63 | 16 | 71 | 756 | 77 |
| Omaha NE-IA | 32 | 83 | 1.16 | 63 | 16 | 71 | 703 | 83 |
| Cape Coral FL | 31 | 84 | 1.18 | 45 | 13 | 86 | 663 | 88 |
| Allentown PA-NJ | 30 | 87 | 1.17 | 52 | 15 | 78 | 688 | 87 |
| McAllen TX | 29 | 88 | 1.15 | 74 | 13 | 86 | 637 | 89 |
| Akron OH | 26 | 89 | 1.11 | 94 | 14 | 83 | 617 | 90 |
| Sarasota-Bradenton FL | 26 | 89 | 1.16 | 63 | 12 | 91 | 578 | 92 |
| Dayton OH | 24 | 91 | 1.11 | 94 | 13 | 86 | 584 | 91 |
| Fresno CA | 22 | 93 | 1.10 | 97 | 11 | 92 | 479 | 97 |
| Provo-Orem UT | 21 | 95 | 1.12 | 90 | 15 | 78 | 702 | 84 |
| Bakersfield CA | 16 | 99 | 1.10 | 97 | 7 | 97 | 430 | 98 |

Medium Urban Areas-over 500,000 and less than 1 million population.
Yearly Delay per Auto Commuter-Extra travel time during the year divided by the number of people who commute in private vehicles in the urban area.
Travel Time Index-A value of 1.30 indicates a 20-minute free-flow trip takes 26 minutes in the peak period.
Excess Fuel Consumed-Increased fuel consumption due to travel in congested conditions rather than free-flow conditions.
Congestion Cost-Value of travel time delay and excess fuel consumption (estimated using state average cost per gallon for gasoline and diesel).
Note: Please do not place too much emphasis on small differences in the rankings. There may be little difference in congestion between areas ranked (for example) $6^{\text {th }}$ and $12^{\text {th }}$. The actual measure values should also be examined. The best congestion comparisons are made between similar urban areas.

Table 1. What Congestion Means to You, 2013, Continued

| Urban Area | Yearly Delay per Auto Commuter |  | Travel Time Index |  | Excess Fuel per Auto Commuter |  | Congestion Cost per Auto Commuter |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Hours | Rank | Value | Rank | Gallons | Rank | Dollars | Rank |
| Small Average (22 areas) | 30 |  | 1.13 |  | 14 |  | 689 |  |
| Jackson MS | 38 | 52 | 1.13 | 84 | 15 | 78 | 867 | 63 |
| Pensacola FL-AL | 38 | 52 | 1.17 | 52 | 18 | 57 | 845 | 69 |
| Spokane WA | 38 | 52 | 1.17 | 52 | 23 | 17 | 898 | 56 |
| Little Rock AR | 37 | 61 | 1.13 | 84 | 13 | 86 | 839 | 71 |
| Worcester MA-CT | 37 | 61 | 1.12 | 90 | 18 | 57 | 861 | 65 |
| Madison WI | 36 | 67 | 1.17 | 52 | 18 | 57 | 900 | 54 |
| Poughkeepsie-Newburgh NY-NJ | 36 | 67 | 1.12 | 90 | 16 | 71 | 856 | 67 |
| Anchorage AK | 35 | 70 | 1.19 | 41 | 18 | 57 | 860 | 66 |
| Boulder CO | 35 | 70 | 1.20 | 36 | 18 | 57 | 723 | 82 |
| Salem OR | 35 | 70 | 1.16 | 63 | 21 | 27 | 868 | 62 |
| Boise ID | 34 | 73 | 1.14 | 79 | 16 | 71 | 735 | 79 |
| Beaumont TX | 33 | 79 | 1.14 | 79 | 15 | 78 | 772 | 76 |
| Eugene OR | 33 | 79 | 1.17 | 52 | 19 | 49 | 793 | 75 |
| Corpus Christi TX | 31 | 84 | 1.12 | 90 | 16 | 71 | 690 | 86 |
| Greensboro NC | 31 | 84 | 1.10 | 97 | 14 | 83 | 698 | 85 |
| Oxnard CA | 23 | 92 | 1.13 | 84 | 8 | 96 | 487 | 96 |
| Brownsville TX | 22 | 93 | 1.14 | 79 | 11 | 92 | 491 | 94 |
| Winston-Salem NC | 19 | 96 | 1.11 | 94 | 7 | 97 | 411 | 99 |
| Laredo TX | 18 | 97 | 1.16 | 63 | 10 | 95 | 490 | 95 |
| Stockton CA | 18 | 97 | 1.13 | 84 | 7 | 97 | 511 | 93 |
| Lancaster-Palmdale CA | 16 | 99 | 1.10 | 97 | 5 | 100 | 347 | 100 |
| Indio-Cathedral City CA | 6 | 101 | 1.05 | 101 | 2 | 101 | 150 | 101 |
| 101 Area Average | 51 |  | 1.26 |  | 23 |  | 1,172 |  |
| Remaining Areas Average | 16 |  | 1.09 |  | 7 |  | 370 |  |
| All 472 Area Average | 42 |  | 1.21 |  | 19 |  | 950 |  |

Very Large Urban Areas-over 3 million population.
Large Urban Areas-over 1 million and less than 3 million population.
Medium Urban Areas-over 500,000 and less than 1 million population
Large Urban Areas-over 1 million and less than 3 million population. Small Urban Areas-less than 500,000 population.
Yearly Delay per Auto Commuter-Extra travel time during the year divided by the number of people who commute in private vehicles in the urban area.
Travel Time Index-The ratio of travel time in the peak period to the travel time at free-flow conditions. A value of 1.30 indicates a 20 -minute free-flow trip takes 26 minutes in the peak period.
Excess Fuel Consumed-Increased fuel consumption due to travel in congested conditions rather than free-flow conditions.
Congestion Cost-Value of travel time delay (estimated at $\$ 17.68$ per hour of person travel and $\$ 93.17$ per hour of truck time) and excess fuel consumption (estimated using state average cost per gallon for gasoline and diesel).
Note: Please do not place too much emphasis on small differences in the rankings. There may be little difference in congestion between areas ranked (for example) $6^{\text {th }}$ and $12^{\text {th }}$. The actual measure values should also be examined. The best congestion comparisons are made between similar urban areas.

Table 2. What Congestion Means to Your Town, 2013

| Urban Area | Travel Delay |  | Excess Fuel Consumed |  | Truck Congestion Cost |  | Total Congestion Cost |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1,000 Hours) | Rank | (1,000 Gallons) | Rank | (\$ million) | Rank | (\$ million) | Rank |
| Very Large Average (15 areas) | 229,718 |  | 98,481 |  | 874 |  | 5,207 |  |
| New York-Newark NY-NJ-CT | 622,952 | 1 | 294,204 | 1 | 2,755 | 1 | 14,588 | 1 |
| Los Angeles-Long Beach-Anaheim CA | 619,823 | 2 | 194,648 | 2 | 1,713 | 2 | 13,261 | 2 |
| Chicago IL-IN | 301,248 | 3 | 146,370 | 3 | 1,476 | 3 | 7,190 | 3 |
| Washington DC-VA-MD | 201,541 | 4 | 86,908 | 6 | 701 | 6 | 4,496 | 5 |
| Houston TX | 198,332 | 5 | 92,053 | 4 | 1,091 | 4 | 4,806 | 4 |
| Miami FL | 194,692 | 6 | 89,742 | 5 | 731 | 5 | 4,415 | 6 |
| Dallas-Fort Worth-Arlington TX | 184,328 | 7 | 78,453 | 7 | 694 | 7 | 4,153 | 7 |
| Philadelphia PA-NJ-DE-MD | 157,119 | 8 | 77,425 | 8 | 682 | 8 | 3,668 | 8 |
| Boston MA-NH-RI | 152,402 | 9 | 70,862 | 11 | 422 | 14 | 3,328 | 11 |
| Phoenix-Mesa AZ | 152,202 | 10 | 74,218 | 9 | 677 | 9 | 3,558 | 9 |
| Detroit MI | 150,587 | 11 | 71,384 | 10 | 549 | 11 | 3,407 | 10 |
| Atlanta GA | 147,164 | 12 | 56,536 | 14 | 429 | 13 | 3,181 | 13 |
| San Francisco-Oakland CA | 145,072 | 13 | 61,918 | 12 | 357 | 17 | 3,123 | 14 |
| Seattle WA | 139,107 | 14 | 61,809 | 13 | 642 | 10 | 3,277 | 12 |
| San Diego CA | 79,202 | 20 | 20,687 | 35 | 192 | 34 | 1,653 | 21 |

[^1]Large Urban Areas-over 1 million and less than 3 million population.
Medium Urban Areas-over 500,000 and less than 1 million population.
Travel Delay-Extra travel time during the year
Excess Fuel Consumed-Value of increased fuel consumption due to travel in congested conditions rather than free-flow conditions (using state average cost per gallon).
Truck Congestion Cost-Value of increased travel time and other operating costs of large trucks (estimated at $\$ 93.17$ per hour of truck time) and the extra diesel consumed (using state average cost per gallon).
Congestion Cost-Value of delay and fuel cost (estimated at $\$ 17.68$ per hour of person travel, $\$ 93.17$ per hour of truck time and state average fuel cost).
Note:Please do not place too much emphasis on small differences in the rankings. There may be little difference in congestion between areas ranked (for example) $6^{\text {th }}$ and $12^{\text {th }}$. The actual measure values should also be examined. The best congestion comparisons are made between similar urban areas.

Table 2. What Congestion Means to Your Town, 2013, Continued

| Urban Area | Travel Delay |  | Excess Fuel Consumed |  | Truck Congestion Cost |  | Total Congestion Cost |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1,000 Hours) | Rank | (1,000 Gallons) | Rank | (\$ million) | Rank | (\$ million) | Rank |
| Large Average (31 areas) | 54,211 |  | 25,162 |  | 228 |  | 1,254 |  |
| San Jose CA | 99,825 | 15 | 41,981 | 16 | 229 | 30 | 2,130 | 16 |
| Minneapolis-St. Paul MN-WI | 98,477 | 16 | 38,065 | 18 | 324 | 20 | 2,169 | 15 |
| Riverside-San Bernardino CA | 95,271 | 17 | 29,557 | 23 | 347 | 18 | 2,117 | 17 |
| Denver-Aurora CO | 90,623 | 18 | 44,502 | 15 | 316 | 21 | 2,042 | 18 |
| Baltimore MD | 83,126 | 19 | 36,678 | 19 | 405 | 15 | 1,969 | 19 |
| Tampa-St. Petersburg FL | 71,064 | 21 | 31,405 | 22 | 235 | 28 | 1,576 | 24 |
| Portland OR-WA | 71,002 | 22 | 38,878 | 17 | 368 | 16 | 1,731 | 20 |
| St. Louis MO-IL | 68,951 | 23 | 32,801 | 21 | 327 | 19 | 1,628 | 22 |
| San Antonio TX | 62,497 | 24 | 27,989 | 25 | 244 | 27 | 1,420 | 25 |
| Las Vegas-Henderson NV | 62,032 | 25 | 29,219 | 24 | 154 | 45 | 1,338 | 26 |
| Sacramento CA | 59,881 | 26 | 26,141 | 26 | 188 | 36 | 1,327 | 27 |
| San Juan PR | 59,788 | 27 | 33,134 | 20 | 434 | 12 | 1,591 | 23 |
| Orlando FL | 51,433 | 28 | 23,352 | 31 | 207 | 33 | 1,177 | 28 |
| Austin TX | 50,055 | 29 | 21,205 | 33 | 178 | 39 | 1,117 | 31 |
| Cincinnati OH-KY-IN | 47,833 | 30 | 24,748 | 29 | 235 | 28 | 1,143 | 29 |
| Virginia Beach VA | 46,750 | 31 | 19,451 | 38 | 109 | 53 | 988 | 36 |
| Indianapolis IN | 45,894 | 32 | 24,774 | 28 | 256 | 26 | 1,129 | 30 |
| Kansas City MO-KS | 45,055 | 33 | 21,108 | 34 | 223 | 31 | 1,073 | 32 |
| Cleveland OH | 44,774 | 34 | 25,390 | 27 | 181 | 37 | 1,039 | 33 |
| Pittsburgh PA | 43,622 | 35 | 23,496 | 30 | 167 | 41 | 1,005 | 35 |
| Oklahoma City OK | 43,128 | 36 | 19,864 | 36 | 156 | 44 | 973 | 39 |
| Columbus OH | 39,793 | 37 | 19,755 | 37 | 160 | 43 | 916 | 40 |
| Nashville-Davidson TN | 38,822 | 38 | 19,017 | 39 | 283 | 22 | 1,009 | 34 |
| Providence RI-MA | 37,666 | 40 | 18,782 | 40 | 121 | 49 | 842 | 43 |
| Milwaukee WI | 37,469 | 41 | 21,847 | 32 | 265 | 24 | 979 | 38 |
| Memphis TN-MS-AR | 36,597 | 42 | 17,842 | 42 | 222 | 32 | 908 | 41 |
| Louisville-Jefferson County KY-IN | 33,942 | 45 | 16,999 | 43 | 177 | 40 | 820 | 44 |
| Charlotte NC-SC | 33,900 | 46 | 13,658 | 49 | 130 | 47 | 765 | 46 |
| Jacksonville FL | 29,418 | 47 | 11,957 | 52 | 100 | 57 | 652 | 48 |
| Richmond VA | 25,934 | 52 | 10,731 | 55 | 68 | 68 | 555 | 54 |
| Salt Lake City-West Valley City UT | 25,931 | 53 | 15,702 | 46 | 257 | 25 | 750 | 47 |

Very Large Urban Areas-over 3 million population.
Medium Urban Areas—over 500,000 and less than 1 million population.
Large Urban Areas-over 1 million and less than 3 million population
Small Urban Areas-less than 500,000 population
Travel Delay-Extra travel time during the year
Excess Fuel Consumed-Value of increased fuel consumption due to travel in congested conditions rather than free-flow conditions (using state average cost per gallon).
Truck Congestion Cost-Value of increased travel time and other operating costs of large trucks (estimated at $\$ 93.17$ per hour of truck time) and the extra diesel consumed (using state average cost per gallon)
Congestion Cost-Value of delay and fuel cost (estimated at $\$ 17.68$ per hour of person travel, $\$ 93.17$ per hour of truck time and state average fuel cost)
Note:Please do not place too much emphasis on small differences in the rankings. There may be little difference in congestion between areas ranked (for example) $6^{\text {th }}$ and $12^{\text {th }}$. The actual measure values should also be examined. The best congestion comparisons are made between similar urban areas

Table 2. What Congestion Means to Your Town, 2013, Continued

| Urban Area | Travel Delay |  | Excess Fuel Consumed |  | Truck Congestion Cost |  | Total Congestion Cost |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1,000 Hours) | Rank | (1,000 Gallons) | Rank | (\$ million) | Rank | (\$ million) | Rank |
| Medium Average (33 areas) | 19,605 |  | 9,619 |  | 92 |  | 464 |  |
| New Orleans LA | 38,133 | 39 | 18,399 | 41 | 274 | 23 | 988 | 36 |
| Bridgeport-Stamford CT-NY | 36,474 | 43 | 16,298 | 45 | 191 | 35 | 883 | 42 |
| Tucson AZ | 34,176 | 44 | 16,594 | 44 | 167 | 41 | 813 | 45 |
| Tulsa OK | 28,915 | 48 | 13,464 | 50 | 102 | 54 | 649 | 49 |
| Hartford CT | 28,054 | 49 | 13,291 | 51 | 114 | 50 | 649 | 49 |
| Honolulu HI | 27,344 | 50 | 13,951 | 48 | 74 | 63 | 609 | 52 |
| Buffalo NY | 26,716 | 51 | 13,983 | 47 | 102 | 54 | 617 | 51 |
| Raleigh NC | 23,031 | 54 | 9,120 | 62 | 71 | 65 | 502 | 55 |
| Baton Rouge LA | 22,072 | 55 | 11,534 | 53 | 180 | 38 | 593 | 53 |
| Grand Rapids MI | 21,234 | 56 | 10,404 | 57 | 58 | 72 | 463 | 61 |
| Rochester NY | 20,493 | 57 | 10,504 | 56 | 73 | 64 | 467 | 59 |
| Albuquerque NM | 20,206 | 58 | 10,829 | 54 | 111 | 52 | 495 | 57 |
| Albany-Schenectady NY | 20,031 | 59 | 9,976 | 58 | 86 | 59 | 469 | 58 |
| Birmingham AL | 19,335 | 60 | 9,081 | 63 | 139 | 46 | 500 | 56 |
| El Paso TX-NM | 19,028 | 61 | 9,311 | 60 | 77 | 62 | 437 | 62 |
| Springfield MA-CT | 18,368 | 62 | 9,303 | 61 | 54 | 76 | 406 | 63 |
| Charleston-North Charleston SC | 18,178 | 63 | 8,905 | 64 | 125 | 48 | 464 | 60 |
| Omaha NE-IA | 18,118 | 64 | 9,479 | 59 | 57 | 74 | 404 | 64 |
| Allentown PA-NJ | 16,956 | 65 | 8,662 | 65 | 66 | 70 | 390 | 67 |
| New Haven CT | 16,380 | 66 | 7,924 | 69 | 69 | 67 | 383 | 68 |
| Wichita KS | 16,343 | 67 | 8,330 | 67 | 85 | 60 | 395 | 66 |
| Columbia SC | 16,130 | 68 | 7,927 | 68 | 102 | 54 | 404 | 64 |
| McAllen TX | 15,942 | 69 | 7,208 | 73 | 48 | 82 | 349 | 71 |
| Toledo OH-MI | 15,723 | 70 | 8,355 | 66 | 78 | 61 | 377 | 69 |
| Colorado Springs CO | 15,406 | 71 | 7,387 | 71 | 48 | 82 | 341 | 73 |
| Knoxville TN | 14,903 | 72 | 7,160 | 74 | 87 | 58 | 366 | 70 |
| Dayton OH | 14,433 | 74 | 7,346 | 72 | 68 | 68 | 342 | 72 |
| Sarasota-Bradenton FL | 13,796 | 75 | 6,454 | 75 | 45 | 84 | 306 | 76 |
| Cape Coral FL | 12,854 | 77 | 5,591 | 81 | 43 | 85 | 286 | 79 |
| Akron OH | 11,943 | 81 | 6,404 | 76 | 49 | 81 | 277 | 82 |
| Fresno CA | 11,454 | 82 | 5,505 | 82 | 23 | 95 | 243 | 85 |
| Provo-Orem UT | 8,104 | 86 | 5,626 | 80 | 113 | 51 | 267 | 83 |
| Bakersfield CA | 6,708 | 92 | 3,138 | 93 | 54 | 76 | 180 | 88 |

[^2]Truck Congestion Cost-Value of increased travel time and other operating costs of large trucks (estimated at $\$ 93.17$ per hour of truck time) and the extra diesel consumed (using state average cost per gallon).
Congestion Cost-Value of delay and fuel cost (estimated at $\$ 17.68$ per hour of person travel, $\$ 93.17$ per hour of truck time and state average fuel cost).
 actual measure values should also be examined. The best congestion comparisons are made between similar urban areas.

Table 2. What Congestion Means to Your Town, 2013, Continued

| Urban Area | Travel Delay |  | Excess Fuel Consumed |  | Truck Congestion Cost |  | Total Congestion Cost |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | (1,000 Hours) | Rank | (1,000 Gallons) | Rank | (\$ million) | Rank | (\$ million) | Rank |
| Small Average (22 areas) | 7,993 |  | 3,768 |  | 36 |  | 187 |  |
| Little Rock AR | 14,556 | 73 | 5,176 | 83 | 60 | 71 | 331 | 74 |
| Worcester MA-CT | 13,079 | 76 | 6,401 | 77 | 51 | 80 | 300 | 77 |
| Spokane WA | 12,825 | 78 | 7,819 | 70 | 58 | 72 | 308 | 75 |
| Poughkeepsie-Newburgh NY-NJ | 12,672 | 79 | 5,646 | 79 | 55 | 75 | 295 | 78 |
| Jackson MS | 12,131 | 80 | 4,835 | 86 | 52 | 79 | 278 | 81 |
| Madison WI | 11,019 | 83 | 5,701 | 78 | 71 | 65 | 279 | 80 |
| Pensacola FL-AL | 10,971 | 84 | 5,099 | 84 | 38 | 87 | 246 | 84 |
| Boise ID | 10,553 | 85 | 5,005 | 85 | 35 | 90 | 237 | 86 |
| Corpus Christi TX | 7,932 | 87 | 4,068 | 88 | 27 | 93 | 177 | 89 |
| Greensboro NC | 7,818 | 88 | 3,503 | 91 | 27 | 93 | 174 | 90 |
| Beaumont TX | 7,743 | 89 | 3,500 | 92 | 38 | 87 | 184 | 87 |
| Anchorage AK | 6,945 | 90 | 3,625 | 90 | 36 | 89 | 170 | 92 |
| Salem OR | 6,890 | 91 | 4,218 | 87 | 40 | 86 | 173 | 91 |
| Eugene OR | 6,268 | 93 | 3,678 | 89 | 32 | 92 | 154 | 93 |
| Oxnard CA | 6,185 | 94 | 2,206 | 95 | 16 | 97 | 132 | 96 |
| Winston-Salem NC | 6,058 | 95 | 2,379 | 94 | 21 | 96 | 134 | 95 |
| Stockton CA | 5,067 | 96 | 2,082 | 98 | 53 | 78 | 147 | 94 |
| Lancaster-Palmdale CA | 4,154 | 97 | 1,220 | 100 | 11 | 99 | 88 | 98 |
| Boulder CO | 3,927 | 98 | 2,121 | 96 | 10 | 100 | 86 | 99 |
| Laredo TX | 3,873 | 99 | 2,105 | 97 | 33 | 91 | 106 | 97 |
| Brownsville TX | 3,494 | 100 | 1,857 | 99 | 14 | 98 | 81 | 100 |
| Indio-Cathedral City CA | 1,690 | 101 | 662 | 101 | 9 | 101 | 40 | 101 |
| 101 Area Total | 5,949,155 |  | 2,657,594 |  | 23,997 |  | 136,416 |  |
| 101 Area Average | 58,903 |  | 26,313 |  | 238 |  | 1,351 |  |
| All 472 Area Total | 6,800,000 |  | 3,100,000 |  | 27,200 |  | 153,000 |  |
| All 472 Area Average | 14,400 |  | 6,560 |  | 60 |  | 325 |  |

Very Large Urban Areas-over 3 million population.
Medium Urban Areas-over 500,000 and less than 1 million population.
Travel Delay-Extra travel time during the year.
Small Urban Areas-less than 500,000 population
ravel Delay-Extra travel time during the year 3 milion population.
Truck Congestion Cost-Value of increased travel time and other operating costs of large trucks (estimated at $\$ 93.17$ per hour of truck time) and the extra diesel consumed (using state average cost per gallon)
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[^0]:    Large Urban Areas-over 1 million and less than 3 million population.

[^1]:    Very Large Urban Areas-over 3 million population.

[^2]:    Travel Delay-Extra travel time during the year
    Excess Fuel Consumed-Value of increased fuel consumption due to travel in congested conditions rather than free-flow conditions (using state average cost per gallon).

