

2015 URBAN MOBILITY Scorecard



2015 URBAN MOBILITY SCORECARD

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DISCLAIMER

The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the information presented herein.

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2015 Urban Mobility Scorecard

The national congestion recession is over. Urban areas of all sizes are experiencing the challenges seen in the early 2000s – population, jobs and therefore congestion are increasing. The U.S. economy has regained nearly all of the 9 million jobs lost during the recession and the total congestion problem is larger than the pre-recession levels. For the report and congestion data on your city, see:

<http://mobility.tamu.edu/ums>.

The data from 1982 to 2014 (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 2014, congestion caused urban Americans to travel an extra 6.9 billion hours and purchase an extra 3.1 billion gallons of fuel for a congestion cost of \$160 billion. Trucks account for \$28 billion (17 percent) of that cost, much more than their 7 percent of traffic.
- From 2013 to 2014, 95 of America's 100 largest metro areas saw increased traffic congestion, from 2012 to 2013 only 61 cities experienced increases.
- In order to reliably arrive on time for important freeway trips, travelers had to allow 48 minutes to make a trip that takes 20 minutes in light traffic.
- Employment was up by more than 500,000 jobs from 2013 to 2014 (1); if transportation investment continues to lag, congestion will get worse. Exhibit 2 shows the historical national congestion trend.
- More detailed speed data on more roads and more hours of the day 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 Scorecards*.

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,' travel and work schedule options and encouraging homes and jobs to be closer. This involves everyone - agencies, businesses, manufacturers, commuters and travelers. Each region should use the **combination of strategies that match its goals and vision**. The recovery from economic recession has proven that the problem will not solve itself.

Exhibit 1. Major Findings of the 2015 Urban Mobility Scorecard (471 U.S. Urban Areas)

(Note: See page 2 for description of changes since the 2012 report)

Measures of...	1982	2000	2010	2013	2014
... Individual Congestion					
Yearly delay per auto commuter (hours)	18	37	40	42	42
Travel Time Index	1.09	1.19	1.20	1.21	1.22
Planning Time Index (Freeway only)	--	--	--	--	2.41
"Wasted" fuel per auto commuter (gallons)	4	15	15	19	19
Congestion cost per auto commuter (2014 \$)	\$400	\$810	\$930	\$950	\$960
... The Nation's Congestion Problem					
Travel delay (billion hours)	1.8	5.2	6.4	6.8	6.9
"Wasted" fuel (billion gallons)	0.5	2.1	2.5	3.1	3.1
Truck congestion cost (billions of 2014 dollars)	--	-	--	--	\$28
Congestion cost (billions of 2014 dollars)	\$42	\$114	\$149	\$156	\$160

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.

Planning Time Index (PTI) – The ratio of travel time on the worst day of the month to travel time in free-flow conditions.

Wasted fuel – Extra fuel consumed during congested travel.

Congestion cost – The yearly value of delay time and wasted fuel by all vehicles.

Truck congestion cost - The yearly value of operating time and wasted fuel for commercial trucks.

Exhibit 2. National Congestion Measures, 1982 to 2014

Year	Travel Time Index	Delay Per Commuter (Hours)	Total Delay (Billion Hours)	Fuel Wasted (Billion Gallons)	Total Cost (Billions of 2014 Dollars)
2014	1.22	42	6.9	3.1	\$160
2013	1.21	42	6.8	3.1	\$156
2012	1.21	41	6.7	3.0	\$154
2011	1.21	41	6.6	2.5	\$152
2010	1.20	40	6.4	2.5	\$149
2009	1.20	40	6.3	2.4	\$147
2008	1.21	42	6.6	2.4	\$152
2007	1.21	42	6.6	2.8	\$154
2006	1.21	42	6.4	2.8	\$149
2005	1.21	41	6.3	2.7	\$143
2004	1.21	41	6.1	2.6	\$136
2003	1.20	40	5.9	2.4	\$128
2002	1.20	39	5.6	2.3	\$124
2001	1.19	38	5.3	2.2	\$119
2000	1.19	37	5.2	2.1	\$114
1999	1.18	36	4.9	2.0	\$106
1998	1.18	35	4.7	1.8	\$101
1997	1.17	34	4.5	1.7	\$97
1996	1.17	32	4.2	1.6	\$93
1995	1.16	31	4.0	1.5	\$87
1994	1.15	30	3.8	1.4	\$82
1993	1.15	29	3.6	1.4	\$77
1992	1.14	28	3.4	1.3	\$73
1991	1.14	27	3.2	1.2	\$69
1990	1.13	26	3.0	1.2	\$65
1989	1.13	25	2.8	1.1	\$62
1988	1.12	24	2.7	1.0	\$58
1987	1.12	23	2.5	0.9	\$55
1986	1.11	22	2.4	0.8	\$52
1985	1.11	21	2.3	0.7	\$51
1984	1.10	20	2.1	0.6	\$48
1983	1.10	19	2.0	0.5	\$45
1982	1.09	18	1.8	0.5	\$42

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>.

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

The *2015 Urban Mobility Scorecard* is the 4th that TTI and INRIX (2) have prepared. The data behind the *2015 Urban Mobility Scorecard* 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 900 million speeds on 1.3 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 *2015 Urban Mobility Scorecard* 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 Scorecard* can provide an estimate of the congestion effects on residents of every urban area. See Table 4 for a few 2014 congestion measures in each of the 370 urban areas that have not been intensively studied.
- Speeds collected by INRIX 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 *Reports/Scorecards* – 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.
- The measure of the variation in travel time from day-to-day now uses a more representative trip-based process (4) rather than the old dataset that used individual road links. The Planning Time Index (PTI) is based on the idea that travelers want to be on-time for an important trip 19 out of 20 times; so one would be late to work only one day per month (on-time for 19 out of 20 work days each month). For example, a PTI value of 1.80 indicates that a traveler should allow 36 minutes to make an important trip that takes 20 minutes in low traffic volumes. The new values are lower, and closer to real-world experience.
- 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 (5).

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

One Page of Congestion Problems

In the biggest regions and most congested corridors, traffic jams can occur at any hour, weekdays or weekends. The problems that travelers and shippers face include extra travel time, extra cost from wasted fuel and lost productivity and increasing unreliability where bad weather, roadwork, a malfunctioning traffic signal, a local event or a small accident or stalled vehicle can result in major delays. 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 2014 dollars):

- In 2014 – \$160 billion
- In 2000 – \$114 billion
- In 1982 – \$42 billion

Congestion wastes a massive amount of time, fuel and money. In 2014:

- 6.9 billion hours of extra time (more than the time it would take to drive to Pluto and back, if there was a road).
- 3.1 billion gallons of wasted fuel (more than 90 minutes worth of flow in the Missouri River).
- ...and if all that isn’t bad enough, folks making important trips had to plan for nearly 2 ½ times as much travel time as in light traffic conditions in order to account for the effects of unexpected crashes, bad weather, special events and other irregular congestion causes.

Congestion is also a type of tax

- \$160 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 53 million cases of poison ivy).
- 18 percent (\$28 billion) of the delay cost was the effect of congestion on truck operations; this does not include any value for the goods being transported in the trucks.
- The cost to the average auto commuter was \$960 in 2014 compared to an inflation-adjusted \$400 in 1982.

Congestion affects people who travel during the peak period. The average auto 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, 2014 auto commuters experienced:
 - an average of 63 hours of extra travel time
 - a road network that was congested for 6 hours of the average weekday
 - had a congestion tax of \$1,440

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.

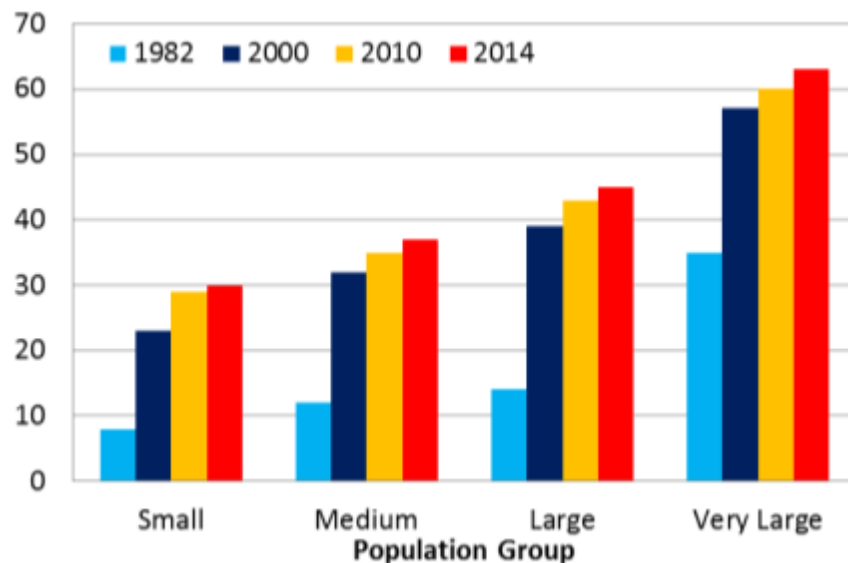
More Detail About Congestion Problems

Congestion, by every measure, has increased substantially over the 33 years covered in this report. And almost every area has “recovered” from the economic recession; almost all regions have worse congestion than before the 2008 crash. 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 off-peak 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-and-go 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



Small = less than 500,000
Medium = 500,000 to 1 million

Large = 1 million to 3 million
Very Large = more than 3 million

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

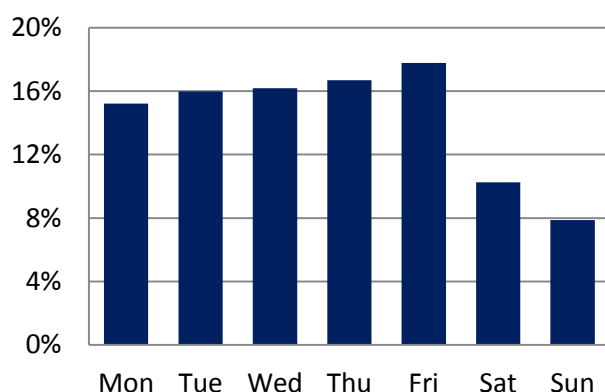
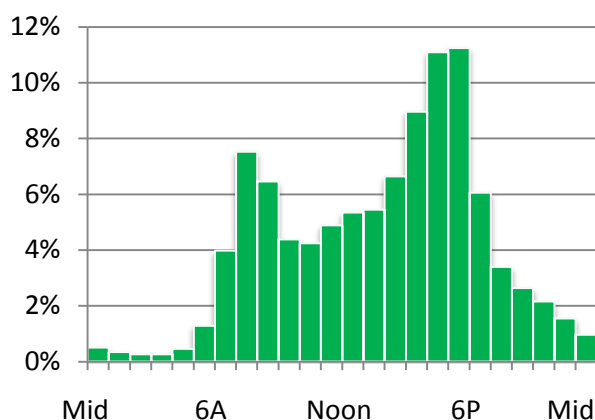


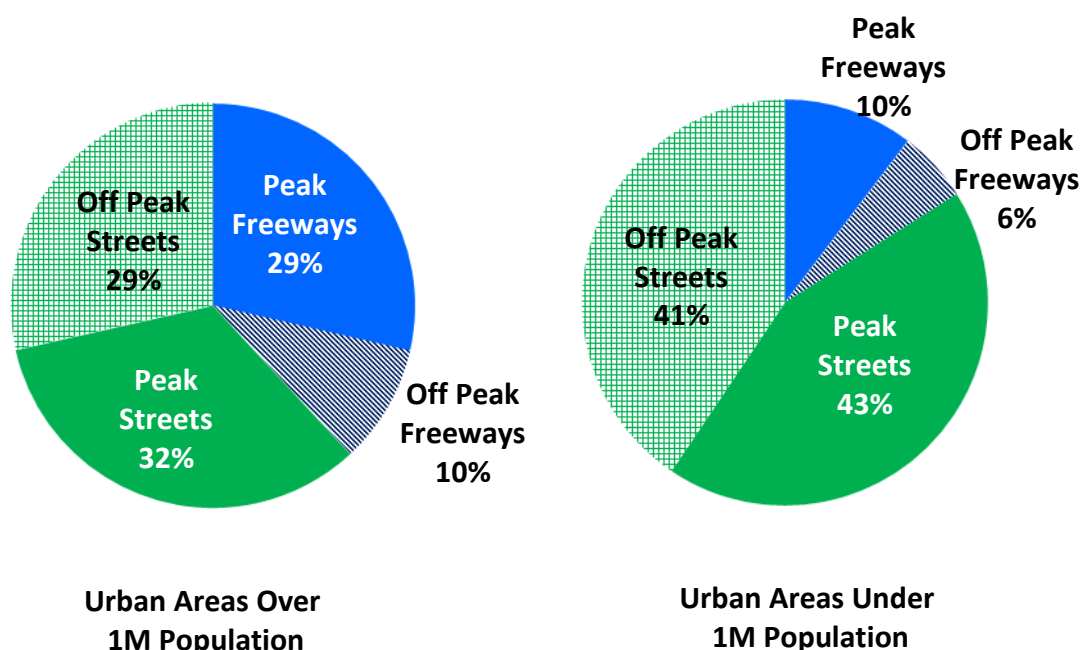
Exhibit 5. Percent of Delay for Hours of Day



Congestion on Freeways and Streets

- Streets have **more delay** than freeways, but there are also many more miles of streets (Exhibit 6).
- Approximately 40 percent of delay occurs in **off-peak hours**.
- Freeway delay is **much less** of the problem in areas under 1 million population.

Exhibit 6. Percent of Delay - Road Type and Time of Day

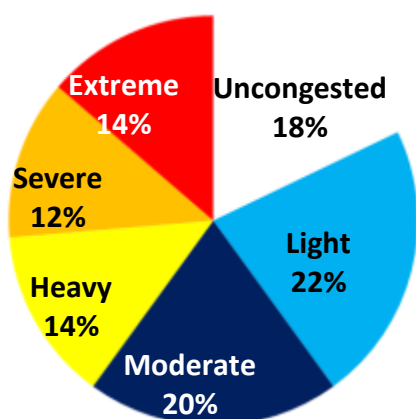


Rush Hour Congestion

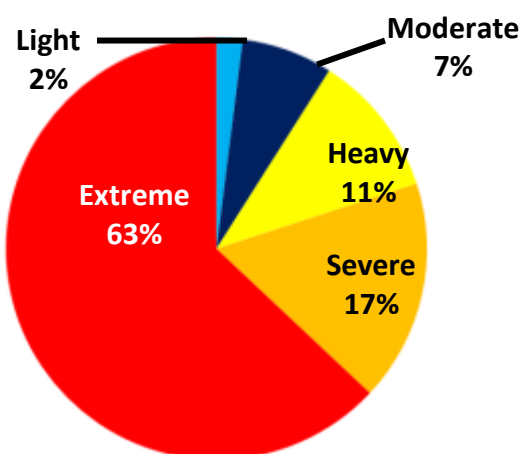
- Severe and extreme congestion levels affected only **1 in 9 trips in 1982**, but **1 in 4 trips in 2014**.
- The most congested sections of road account for **80% of peak period delays**, but only have 26% of the travel (Exhibit 7).

Exhibit 7. Peak Period Congestion in 2014

About 26% of trips are in severe congestion.....



...but those worst trips experience 80% of the extra travel time.

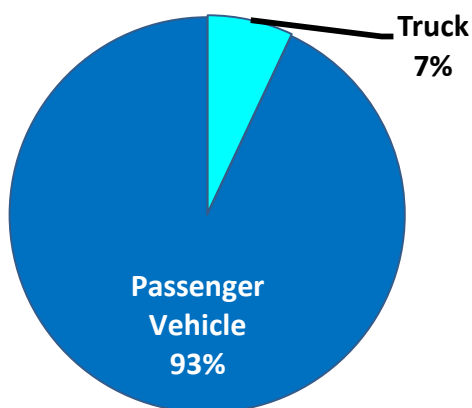


Truck Congestion

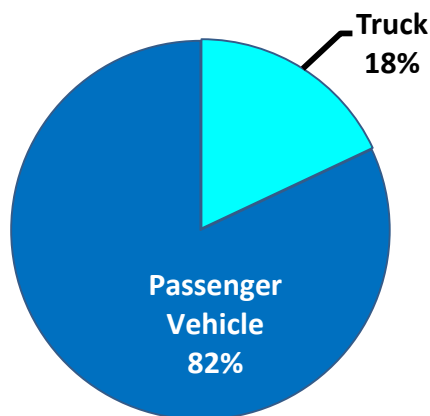
- Trucks account for 18 percent of the urban “congestion invoice” although they only represent 7 percent of urban travel (Exhibit 8).
- The costs in Exhibit 8 do not include the extra costs borne by private companies who build additional distribution centers, buy more trucks and build more satellite 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



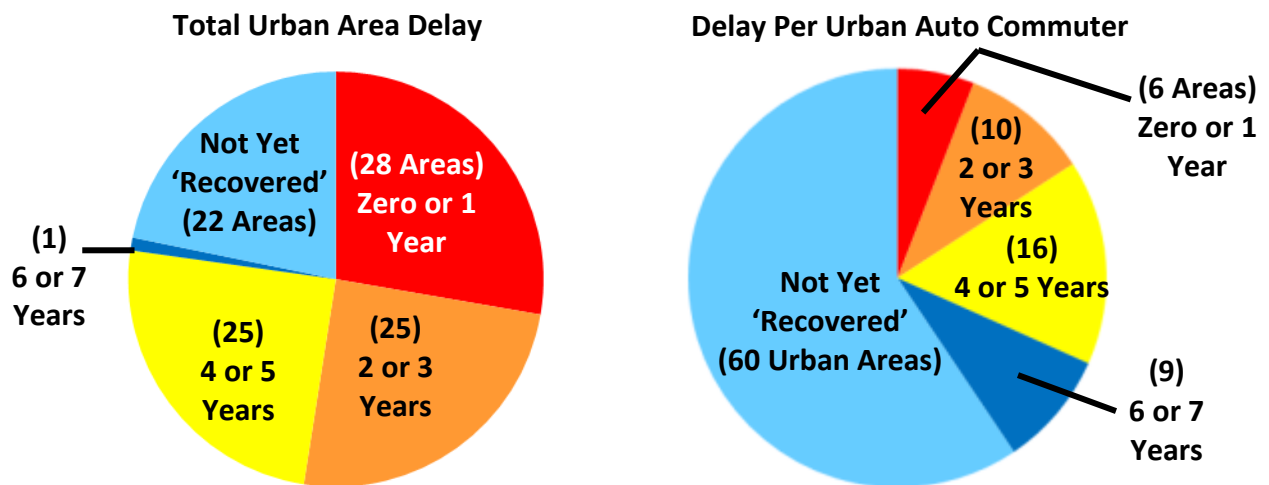
Congestion Cost by Vehicle Type



Since the Congestion Decline During the Recession

- American motorists are enduring about 5 percent more delay than the pre-recession peak in 2007. (Exhibit 2)
- While this is associated with a “good thing” -- economic and population growth in our major metro areas – it is also clear this growth is outpacing the investment in infrastructure and programs to address the increased demand on the network.
- Cities with employment and population growth faster than the national averages also experienced some of the biggest increases in traffic congestion.
- Cities that showed little to no change in traffic congestion were also those where employment and population growth was slower than the national average
- 53 of the 101 urban areas saw the total urban area delay exceed the pre-recession levels within 3 years; an immediate ‘snapback’ was seen in more than one-quarter of the studied regions.
- 22 areas still have lower total annual delay than in 2007/8. (Exhibit 9)
- In contrast to total delay, average auto commuter delay is still less than pre-recession levels in 60 areas
- Commuters in 16 areas saw the ‘rapid snapback’ - hours per commuter exceeding the 2007/8 values in 3 or fewer years. (Exhibit 8)

Exhibit 9. Number of Years Before Congestion Returned to Pre-Recession Levels



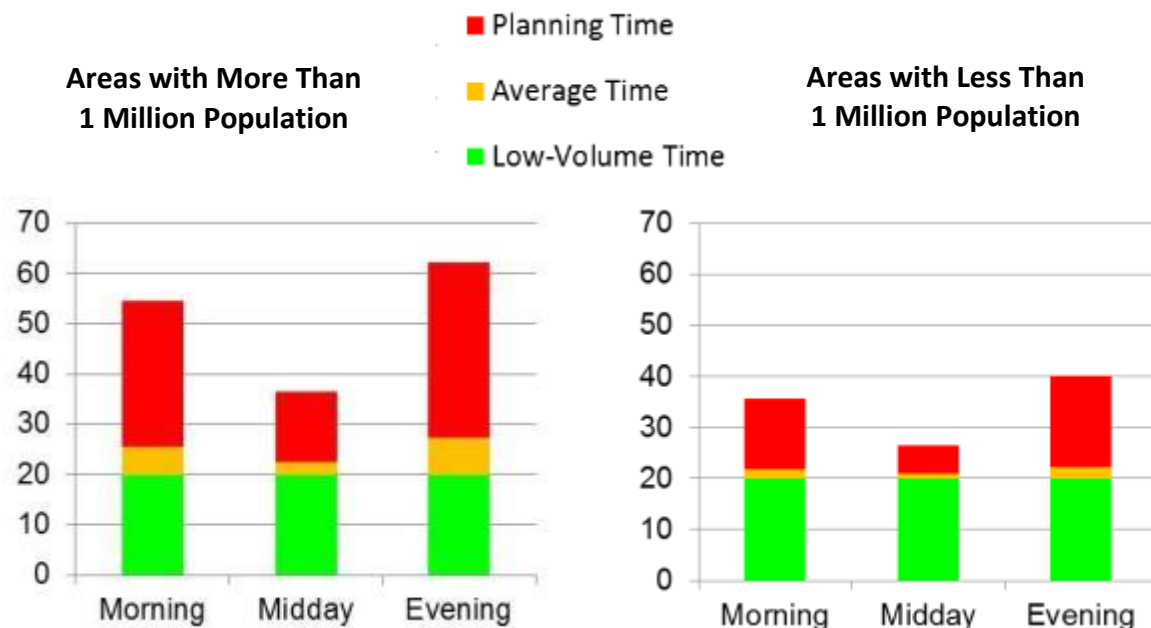
The Trouble With Planning Your Trip

We've all made urgent trips—catching an airplane, getting to a medical appointment, or picking up a child at daycare on time. We know we need to leave a little early to make sure we are not late for these important trips, and we understand that these trips will take longer during the “rush hour.” The need to add extra time isn't just a “rush hour” consideration. Trips during the off-peak can also take longer than expected. If we have to catch an airplane at 1 p.m., we might still be inclined to add a little extra time, and the data indicate that our intuition is correct.

Exhibit 10 illustrates this problem. Say your typical trip takes 20 minutes when there are few other cars on the road. That is represented by the green bar across the morning, midday, and evening. Your trip usually takes longer, on average, whether that trip is in the morning, midday, or evening. This “average trip time” is shown in the solid yellow bar in Exhibit 10 – in 2014 the average big city auto commute was 25 minutes in the morning and 27 minutes in the evening peak.

Now, if you have to make a very important trip during any of these time periods there is additional “planning time” you must allow to reliably arrive on-time. And, as shown in Exhibit 10 (red bar), it isn't just a “rush hour” problem – it can happen any time of the day and amounts to an extra 29 minutes in the morning, 35 minutes in the evening and even 14 minutes for your 20-minute trip in the midday. The news isn't much better for those planning trips in areas with fewer than 1 million people – 14 and 18 minutes longer in the morning and evening peaks. Data for individual urban areas is presented in Table 3 (in the back of the report).

Exhibit 10. How Much Extra Time Should You Allow to Be ‘On-Time’?



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. As the number of residents or jobs goes up in an improving economy, or the miles or trips that those people make increases, the road and transit systems also need to, in some combination, either expand or operate more efficiently. As the rising congestion levels in this report demonstrate, however, this is an infrequent occurrence. Travelers are not only paying the price for this inadequate response, but traffic congestion can also become a drain on further economic growth.

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 \$160 billion to \$192 billion in 2020 (in 2014 dollars).
- Delay will grow to 8.3 billion hours in 2020.
- Wasted fuel will increase to 3.8 billion gallons in 2020.
- The average commuter's congestion cost will grow to \$1,100 in 2020 (in 2014 dollars).
- The average commuter will waste 47 hours and 21 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; more policies, programs, projects, flexibility, options and understanding. 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.

There will also be a range of congestion targets. Many large urban areas, for example, use a target speed of 35 mph or 45 mph for their freeways; if speeds are above that level, there is not a ‘congestion problem.’ Smaller metro areas, however, typically decide that good mobility is one part of their quality-of-life goals, and have higher speed expectations. Even within a metro region, the congestion target will typically be different between downtown and the remote suburbs, different for freeways and streets, and different for rush hours than midday travel.

The level of congestion deemed unacceptable is a local decision. The Urban Mobility Scorecard uses one consistent, easily understood comparison level. But that level is not ‘the goal,’ it is only an expression of the problem. The Scorecard is only one of many pieces of information that should be considered when determining how much of the problem to solve.

Better data can play a valuable role in all of the analyses. Advancements in volume collection, travel speed data and origin to destination travel paths for people and freight allow transportation agencies at all government levels and the private sector to better identify existing chokepoints, possible alternatives and growth patterns. The solution begins with better understanding of the challenges, problems, possibilities and opportunities – where, when, how and how often mobility problems occur – and moves into similar questions about solutions – where, when, how can mobility be improved. These data will allow travelers to capitalize on new transportation services, identify novel programs, have better travel time reliability and improve their access to information.

More information on the possible solutions, places they have been implemented and the effects estimated in this report can be found on the website <http://mobility.tamu.edu/solutions> None of these ideas are the whole mobility solution, but they can all play a role.

- **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, new monitoring technologies and staffing plans, 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. More complex changes such as traffic signals that rapidly adapt to different traffic patterns, systems that smooth traffic flow and reduce traffic collisions and

communication technologies that assist travelers (in all modes) and the transportation network in achieving goals are also a part of the ‘get the best bang for the buck’ approach.

- **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. Some of the “more” will also be in the form of advancements in connected and autonomous vehicles – cars, trucks, buses and trains that communicate with each other and with the transportation network – that will reduce crashes and congestion.
- **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. There is much more transportation information available on websites, smartphones and apps, radio, TV and in their car or at their transit stop; the information involves displays of existing travel times, locations of roadwork or crashes, transit ridership and arrival information and a variety of trip planner resources. They allow travelers to make real-time decisions about when to depart on a trip, what route or mode to take, whether they are interested in paying a toll in order to guarantee an arrival time or perhaps just sleep in for a while and telecommute on a particularly bad day. In the past, this information was more difficult to find, tough to understand or was not updated very frequently. Today’s commuters have much better information, delivered when and where its needed in a format they can use to make decisions
- **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. These are not typically agency-led or agency-directed strategies – they are workers and managers getting together to identify virtuous combinations of work hours, commute modes, office space arrangements and electronic communication mechanisms. Companies have seen productivity increase when workers are able to adjust their hours and commute trips to meet family or other obligations. Those companies also save on parking space and office requirements and see less staff turnover and, therefore, lower recruiting and training costs.
- **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 mobility solution. Analytical advancements in fields of transportation, land development, education and other information sources mean that home purchasers have much more information about their commute options and the expectations they should have. A range of home types, locations and prices when matched with more information about, for example, historic travel times, elementary and secondary education quality, entertainment and cultural sites provides the type of information that consumers want.
- **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. Congestion does not have to be an all-day event, and in many cases improving travel time awareness and predictability can be a positive first step towards improving urban mobility.

Case studies, analytical methods and data are available to support development of these strategies and monitor the effectiveness of deployments. There are also many good state and regional mobility reports that provide ideas for communicating the findings of the data analysis.

Analysis Using the Best Congestion Data & Analysis Methodologies

The base data for the *2015 Urban Mobility Scorecard* 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 (5) 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. Commercial vehicles, smart phones and connected cars with location devices feed time and location data points to INRIX.
- 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 1.3 million miles in 2014).
- 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 (6).
- 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) (5).

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 21st Century Act (MAP-21) was signed into law on July 6, 2012 to fund surface transportation. Among other aspects, MAP-21 establishes performance-based planning and programming to improve transportation decision-making and increase the accountability and transparency of the Federal highway funding program (7).

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 (7):

- 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 will calculate the required MAP-21 performance measures, there is also an opportunity to develop processes and other 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 Scorecard* provide transportation professionals with a 33-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* (and now the *Scorecard*) 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 33-year data trend of *UMR/UMS* 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 Scorecard*, 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 *2015 Urban Mobility Scorecard* points to national measures of the congestion problem for the 471 urban areas in 2014:

- \$160 billion of wasted time and fuel
- Including \$28 billion of extra truck operating time and fuel
- An extra 6.9 billion hours of travel and 3.1 billion gallons of fuel consumed

The average urban commuter in 2014:

- 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 \$960 per commuter

Traffic congestion has grown since the low point in 2009 during the economic recession. An additional 600 million hours and 700 million gallons of fuel were consumed in 2014 than in 2009. Congestion, in terms of average extra hours and gallons of fuel consumed by the average commuter, has not returned to pre-recession levels in 60 of the 101 urban areas that were intensively studied. But there have been increases in the extra hours of travel time and gallons those 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 project dollars are being spent wisely.

National Congestion Tables

Table 1. What Congestion Means to You, 2014

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		27		1,433	
Washington DC-VA-MD	82	1	1.34	8	35	1	1,834	1
Los Angeles-Long Beach-Anaheim CA	80	2	1.43	1	25	11	1,711	3
San Francisco-Oakland CA	78	3	1.41	2	33	3	1,675	4
New York-Newark NY-NJ-CT	74	4	1.34	8	35	1	1,739	2
Boston MA-NH-RI	64	6	1.29	17	30	4	1,388	9
Seattle WA	63	7	1.38	3	28	8	1,491	5
Chicago IL-IN	61	8	1.31	14	29	5	1,445	7
Houston TX	61	8	1.33	10	29	5	1,490	6
Dallas-Fort Worth-Arlington TX	53	11	1.27	19	22	23	1,185	14
Atlanta GA	52	12	1.24	25	20	44	1,130	22
Detroit MI	52	12	1.24	25	25	11	1,183	15
Miami FL	52	12	1.29	17	24	15	1,169	17
Phoenix-Mesa AZ	51	17	1.27	19	25	11	1,201	13
Philadelphia PA-NJ-DE-MD	48	22	1.24	25	23	18	1,112	26
San Diego CA	42	43	1.24	25	11	92	887	61

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.

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 \$17.67 per hour of person travel and \$94.04 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) 6th and 12th. 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, 2014, 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)	45		1.23		21		\$1,045	
San Jose CA	67	5	1.38	3	28	8	1,422	8
Riverside-San Bernardino CA	59	10	1.33	10	18	62	1,316	10
Austin TX	52	12	1.33	10	22	23	1,159	20
Portland OR-WA	52	12	1.35	7	29	5	1,273	11
Denver-Aurora CO	49	19	1.30	16	24	15	1,101	28
Oklahoma City OK	49	19	1.19	42	23	18	1,110	27
Baltimore MD	47	23	1.26	21	21	32	1,115	25
Minneapolis-St. Paul MN	47	23	1.26	21	18	62	1,035	36
Las Vegas-Henderson NV	46	27	1.26	21	21	32	984	42
Orlando FL	46	27	1.21	34	21	32	1,044	34
Nashville-Davidson TN	45	29	1.21	34	22	23	1,168	18
Virginia Beach VA	45	29	1.19	42	19	51	953	46
San Antonio TX	44	33	1.25	24	20	44	1,002	38
Charlotte NC-SC	43	35	1.23	29	17	70	963	44
Indianapolis IN	43	35	1.18	46	23	18	1,060	30
Louisville-Jefferson County KY-IN	43	35	1.20	37	22	23	1,048	32
Memphis TN-MS-AR	43	35	1.19	42	21	32	1,080	29
Providence RI-MA	43	35	1.20	37	21	32	951	47
Sacramento CA	43	35	1.23	29	19	51	958	45
St. Louis MO-IL	43	35	1.16	65	21	32	1,020	37
San Juan PR	43	35	1.31	14	24	15	1,150	21
Cincinnati OH-KY-IN	41	45	1.18	46	21	32	989	40
Columbus OH	41	45	1.18	46	20	44	933	49
Tampa-St. Petersburg FL	41	45	1.21	34	18	62	907	57
Kansas City MO-KS	39	51	1.15	76	18	62	933	49
Pittsburgh PA	39	51	1.19	42	21	32	889	59
Cleveland OH	38	55	1.15	76	22	23	887	61
Jacksonville FL	38	55	1.18	46	15	78	842	72
Milwaukee WI	38	55	1.17	54	22	23	987	41
Salt Lake City-West Valley City UT	37	66	1.18	46	22	23	1,059	31
Richmond VA	34	77	1.13	88	14	84	729	82

Large Urban Areas—over 1 million and less than 3 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—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.

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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) 6th and 12th. 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, 2014, 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)	37		1.18		18		\$870	
Honolulu HI	50	18	1.37	5	26	10	1,125	24
Bridgeport-Stamford CT-NY	49	19	1.36	6	22	23	1,174	16
Baton Rouge LA	47	23	1.22	32	25	11	1,262	12
Tucson AZ	47	23	1.22	32	23	18	1,128	23
Hartford CT	45	29	1.20	37	21	32	1,038	35
New Orleans LA	45	29	1.32	13	22	23	1,161	19
Tulsa OK	44	33	1.17	54	20	44	984	42
Albany NY	42	43	1.17	54	21	32	991	39
Charleston-North Charleston SC	41	45	1.23	29	20	44	1,047	33
Buffalo NY	40	49	1.17	54	21	32	918	53
New Haven CT	40	49	1.16	65	19	51	932	51
Grand Rapids MI	39	51	1.17	54	19	51	854	68
Rochester NY	39	51	1.16	65	20	44	889	59
Columbia SC	38	55	1.15	76	19	51	951	47
Springfield MA-CT	38	55	1.14	81	19	51	831	75
Toledo OH-MI	38	55	1.18	46	20	44	920	52
Albuquerque NM	36	70	1.16	65	19	51	886	63
Colorado Springs CO	35	72	1.16	65	17	70	772	78
Knoxville TN	35	72	1.14	81	17	70	849	70
Wichita KS	35	72	1.17	54	18	62	837	73
Birmingham AL	34	77	1.14	81	16	75	891	58
Raleigh NC	34	77	1.17	54	13	86	734	81
El Paso TX-NM	33	81	1.16	65	16	75	760	79
Omaha NE-IA	32	83	1.16	65	17	70	707	84
Allentown PA-NJ	30	86	1.17	54	15	78	694	87
Cape Coral FL	30	86	1.17	54	13	86	669	88
McAllen TX	30	86	1.15	76	13	86	649	89
Akron OH	27	89	1.12	91	15	78	634	90
Sarasota-Bradenton FL	26	90	1.16	65	12	91	589	92
Dayton OH	25	91	1.12	91	13	86	590	91
Fresno CA	23	92	1.11	97	11	92	495	96
Provo-Orem UT	21	94	1.12	91	15	78	708	83
Bakersfield CA	19	96	1.12	91	9	96	512	94

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) 6th and 12th. 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, 2014, 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		1.14		14		\$705	
Jackson MS	38	55	1.13	88	15	78	878	64
Little Rock AR	38	55	1.14	81	13	86	853	69
Pensacola FL-AL	38	55	1.17	54	18	62	849	70
Spokane WA	38	55	1.17	54	23	18	911	55
Worcester MA-CT	38	55	1.12	91	18	62	865	67
Anchorage AK	37	66	1.20	37	19	51	913	54
Boise City ID	37	66	1.16	65	18	62	833	74
Poughkeepsie-Newburgh NY-NJ	37	66	1.12	91	17	70	867	66
Madison WI	36	70	1.18	46	19	51	911	55
Boulder CO	35	72	1.20	37	19	51	752	80
Salem OR	35	72	1.16	65	21	32	876	65
Beaumont TX	34	77	1.15	76	15	78	800	77
Eugene OR	33	81	1.18	46	19	51	804	76
Greensboro NC	32	83	1.10	99	14	84	703	85
Corpus Christi TX	31	85	1.13	88	16	75	697	86
Oxnard CA	23	92	1.14	81	8	97	494	97
Brownsville TX	21	94	1.14	81	11	92	494	97
Winston-Salem NC	19	96	1.11	97	7	98	415	99
Laredo TX	18	98	1.16	65	10	95	496	95
Stockton CA	18	98	1.14	81	7	98	516	93
Lancaster-Palmdale CA	17	100	1.10	99	5	100	349	100
Indio-Cathedral City CA	6	101	1.05	101	2	101	149	101
101 Area Average	52		1.26		23		\$1,190	
Remaining Areas Average	16		1.09		7		\$370	
All 471 Area Average	42		1.22		19		\$960	

Very Large Urban Areas—over 3 million population.

Large Urban Areas—over 1 million and less than 3 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—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 \$17.67 per hour of person travel and \$94.04 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) 6th and 12th. 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, 2014

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)	231,970		99,490		\$885		\$5,260	
New York-Newark NY-NJ-CT	628,241	1	296,701	1	2,779	1	14,712	1
Los Angeles-Long Beach-Anaheim CA	622,509	2	195,491	2	1,721	2	13,318	2
Chicago IL-IN	302,609	3	147,031	3	1,482	3	7,222	3
Washington DC-VA-MD	204,375	4	88,130	6	710	6	4,560	5
Houston TX	203,173	5	94,300	4	1,118	4	4,924	4
Miami FL	195,946	6	90,320	5	736	5	4,444	6
Dallas-Fort Worth-Arlington TX	186,535	7	79,392	7	702	7	4,202	7
Philadelphia PA-NJ-DE-MD	157,183	8	77,456	8	683	9	3,669	8
Phoenix-Mesa AZ	155,730	9	75,938	9	692	8	3,641	9
Detroit MI	155,358	10	73,645	10	567	11	3,514	10
Boston MA-NH-RI	153,994	11	71,602	11	426	15	3,363	11
Atlanta GA	148,666	12	57,113	14	434	13	3,214	13
San Francisco-Oakland CA	146,013	13	62,320	12	360	18	3,143	14
Seattle WA	139,842	14	62,136	13	645	10	3,294	12
San Diego CA	79,412	20	20,742	36	192	35	1,658	21

Very Large Urban Areas—over 3 million population.

Large Urban Areas—over 1 million and less than 3 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 \$94.04 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 \$17.67 per hour of person travel, \$94.04 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) 6th and 12th. 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, 2014, 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)	55,390		25,690		\$235		\$1,280	
San Jose CA	104,559	15	43,972	16	240	28	2,230	15
Minneapolis-St. Paul MN	99,710	16	38,542	19	327	20	2,196	17
Riverside-San Bernardino CA	99,058	17	30,732	23	361	17	2,201	16
Denver-Aurora CO	91,479	18	44,922	15	319	21	2,061	19
Baltimore MD	87,620	19	38,661	18	427	14	2,075	18
Portland OR-WA	72,341	21	39,611	17	375	16	1,763	20
Tampa-St. Petersburg FL	71,628	22	31,654	22	237	30	1,589	24
St. Louis MO-IL	69,350	23	32,991	21	328	19	1,637	22
San Antonio TX	64,328	24	28,809	25	251	27	1,462	25
Las Vegas-Henderson NV	63,693	25	30,001	24	158	45	1,375	26
San Juan PR	60,301	26	33,418	20	437	12	1,605	23
Sacramento CA	60,220	27	26,289	26	189	36	1,334	27
Orlando FL	52,723	28	23,938	31	212	33	1,207	28
Austin TX	51,116	29	21,654	33	182	39	1,140	31
Cincinnati OH-KY-IN	48,485	30	25,086	28	238	29	1,159	29
Virginia Beach VA	48,274	31	20,085	37	112	52	1,020	36
Indianapolis IN	46,435	32	25,066	29	259	26	1,142	30
Oklahoma City OK	45,652	33	21,027	35	166	43	1,030	34
Kansas City MO-KS	45,570	34	21,349	34	226	32	1,085	32
Cleveland OH	45,051	35	25,547	27	182	39	1,046	33
Pittsburgh PA	44,758	36	24,107	30	171	42	1,030	34
Columbus OH	40,025	37	19,870	38	162	44	921	41
Nashville-Davidson TN	38,977	39	19,093	39	285	22	1,013	38
Memphis TN-MS-AR	37,824	40	18,440	42	229	31	939	40
Providence RI-MA	37,809	41	18,853	41	121	49	846	45
Milwaukee WI	37,659	42	21,957	32	266	25	984	39
Louisville-Jefferson County KY-IN	35,622	45	17,841	43	186	38	860	43
Charlotte NC-SC	34,153	46	13,760	50	131	47	770	47
Jacksonville FL	29,680	48	12,063	53	101	57	659	49
Salt Lake City-West Valley City UT	26,925	51	16,304	46	267	24	779	46
Richmond VA	26,104	53	10,802	55	68	69	558	54

Very Large Urban Areas—over 3 million population.

Large Urban Areas—over 1 million and less than 3 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 \$94.04 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 \$17.67 per hour of person travel, \$94.04 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) 6th and 12th. 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, 2014, 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)	20,000		9,815		\$94		\$475	
New Orleans LA	39,159	38	18,895	40	281	23	1,014	37
Bridgeport-Stamford CT-NY	37,119	43	16,586	45	194	34	898	42
Tucson AZ	35,993	44	17,477	44	176	41	856	44
Tulsa OK	30,341	47	14,128	47	107	54	682	48
Hartford CT	28,296	49	13,406	51	115	50	656	50
Honolulu HI	27,672	50	14,118	48	74	63	616	53
Buffalo NY	26,851	52	14,053	49	103	56	620	52
Baton Rouge LA	23,163	54	12,104	52	189	36	623	51
Raleigh NC	23,128	55	9,159	62	71	66	504	55
Grand Rapids MI	21,536	56	10,552	56	58	74	470	59
Rochester NY	20,582	57	10,550	57	73	64	469	61
Albuquerque NM	20,452	58	10,961	54	112	52	501	56
Albany NY	20,409	59	10,164	58	88	58	479	58
Birmingham AL	19,385	60	9,105	63	139	46	501	56
El Paso TX-NM	19,127	61	9,360	60	77	62	439	62
Springfield MA-CT	18,431	62	9,335	61	54	77	408	64
Charleston-North Charleston SC	18,422	63	9,024	64	126	48	470	59
Omaha NE-IA	18,224	64	9,535	59	57	75	407	65
Allentown PA-NJ	17,114	65	8,743	65	66	70	393	67
Wichita KS	16,860	66	8,594	66	88	58	407	65
New Haven CT	16,430	67	7,949	69	69	67	384	68
Columbia SC	16,315	68	8,018	68	104	55	409	63
McAllen TX	16,226	69	7,336	73	49	83	355	72
Colorado Springs CO	16,058	70	7,700	71	50	81	356	71
Toledo OH-MI	15,905	71	8,451	67	79	61	381	69
Knoxville TN	14,946	72	7,180	74	87	60	367	70
Dayton OH	14,604	74	7,434	72	69	67	346	73
Sarasota-Bradenton FL	14,053	75	6,574	76	46	84	312	75
Cape Coral FL	12,959	78	5,637	83	44	85	288	79
Akron OH	12,283	81	6,586	75	50	81	284	80
Fresno CA	11,823	83	5,682	80	23	95	251	85
Provo-Orem UT	8,178	86	5,677	81	115	50	270	83
Bakersfield CA	8,001	89	3,743	90	65	71	215	87

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 \$94.04 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 \$17.67 per hour of person travel, \$94.04 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) 6th and 12th. 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, 2014, 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)	8,170		3,850		36		190	
Little Rock AR	14,799	73	5,262	84	61	72	336	74
Worcester MA-CT	13,143	76	6,432	77	52	80	302	77
Spokane WA	13,004	77	7,928	70	59	73	312	75
Poughkeepsie-Newburgh NY-NJ	12,843	79	5,723	79	55	76	299	78
Jackson MS	12,287	80	4,897	86	53	78	282	82
Boise City ID	11,963	82	5,673	82	40	87	269	84
Madison WI	11,159	84	5,773	78	72	65	283	81
Pensacola FL-AL	11,017	85	5,120	85	38	89	247	86
Beaumont TX	8,028	87	3,629	92	40	87	190	88
Corpus Christi TX	8,012	88	4,110	88	26	94	179	90
Greensboro NC	7,887	90	3,534	93	27	93	176	91
Anchorage AK	7,371	91	3,847	89	38	89	181	89
Salem OR	6,948	92	4,254	87	41	86	175	92
Eugene OR	6,354	93	3,728	91	32	92	155	93
Oxnard CA	6,282	94	2,241	95	16	97	134	96
Winston-Salem NC	6,111	95	2,400	94	21	96	135	95
Stockton CA	5,115	96	2,102	98	53	78	148	94
Lancaster-Palmdale CA	4,181	97	1,228	100	10	99	88	99
Boulder CO	4,080	98	2,204	96	10	99	89	98
Laredo TX	3,919	99	2,130	97	34	91	107	97
Brownsville TX	3,511	100	1,866	99	14	98	81	100
Indio-Cathedral City CA	1,685	101	660	101	9	101	40	101
101 Area Total	6,036,500		2,697,300		24,360		138,400	
101 Area Average	59,800		26,700		240		1,370	
Remaining Area Total	906,200		424,200		4,040		21,170	
Remaining Area Average	2,400		1,140		11		57	
All 471 Area Total	6,942,700		3,121,500		28,400		159,600	
All 471 Area Average	14,710		6,610		60		340	

Very Large Urban Areas—over 3 million population.

Large Urban Areas—over 1 million and less than 3 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 \$94.04 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 \$17.67 per hour of person travel, \$94.04 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) 6th and 12th. The actual measure values should also be examined. The best congestion comparisons are made between similar urban areas.

Table 3. How Reliable is Freeway Travel in Your Town, 2014

Urban Area	Freeway Planning Time Index		Freeway Travel Time Index		Freeway Commuter Stress Index	
	Value	Rank	Value	Rank	Value	Rank
Very Large Average (15 areas)	3.06		1.37		1.44	
Los Angeles-Long Beach-Anaheim CA	3.75	1	1.57	1	1.63	2
Washington DC-VA-MD	3.48	2	1.40	10	1.52	7
Seattle WA	3.41	4	1.47	5	1.59	4
San Francisco-Oakland CA	3.30	6	1.49	4	1.64	1
Chicago IL-IN	3.16	10	1.39	11	1.45	17
New York-Newark NY-NJ-CT	3.15	11	1.38	13	1.44	18
Houston TX	3.13	12	1.43	7	1.47	13
Miami FL	2.85	15	1.28	21	1.30	78
Boston MA-NH-RI	2.81	17	1.38	13	1.47	13
Detroit MI	2.80	18	1.26	23	1.28	80
Phoenix-Mesa AZ	2.66	21	1.24	28	1.34	64
San Diego CA	2.66	21	1.25	26	1.32	75
Dallas-Fort Worth-Arlington TX	2.65	23	1.34	18	1.38	49
Atlanta GA	2.48	30	1.25	26	1.34	64
Philadelphia PA-NJ-DE-MD	2.41	33	1.19	32	1.25	84

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.

Small Urban Areas—less than 500,000 population.

Freeway Planning Time Index—A travel time reliability measure that represents the total travel time that should be planned for a trip to be late for only 1 work trip per month. A PTI of 2.00 means that 40 minutes should be planned for a 20-minute trip in light traffic (20 minutes x 2.00 = 40 minutes).

Freeway Travel Time Index—The ratio of travel time in the peak period to the travel time at low volume conditions. A value of 1.30 indicates a 20-minute free-flow trip takes 26 minutes in the peak period (20 minutes x 1.30 = 26 minutes). Note that the TTI reported in Table 3 is only for freeway facilities to compare to the freeway-only PTI values.

Freeway Commuter Stress Index – The travel time index calculated for only the peak direction in each peak period (a measure of the extra travel time for a commuter).

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) 6th and 12th. The actual measure values should also be examined.

Table 3. How Reliable is Freeway Travel in Your Town, 2014, Continued

Urban Area	Freeway Planning Time Index		Freeway Travel Time Index		Freeway Commuter Stress Index	
	Value	Rank	Value	Rank	Value	Rank
Large Average (31 areas)	2.46		1.23		1.37	
Portland OR-WA	3.27	7	1.42	9	1.48	12
San Jose CA	3.24	8	1.43	7	1.52	7
Riverside-San Bernardino CA	3.21	9	1.36	16	1.54	6
Denver-Aurora CO	2.97	13	1.35	17	1.42	23
San Juan PR	2.93	14	1.38	13	1.44	18
Baltimore MD	2.85	15	1.26	23	1.34	64
Minneapolis-St. Paul MN	2.72	20	1.32	20	1.37	53
Charlotte NC-SC	2.61	24	1.21	30	1.29	79
Austin TX	2.58	25	1.50	3	1.59	4
Sacramento CA	2.58	25	1.19	32	1.24	85
Virginia Beach VA	2.52	29	1.17	37	1.23	88
Louisville-Jefferson County KY-IN	2.42	32	1.15	45	1.44	18
Tampa-St. Petersburg FL	2.39	34	1.19	32	1.24	85
Cincinnati OH-KY-IN	2.37	35	1.15	45	1.19	92
Nashville-Davidson TN	2.36	36	1.18	35	1.26	81
Orlando FL	2.34	37	1.16	40	1.22	89
Jacksonville FL	2.27	39	1.14	50	1.18	96
Providence RI-MA	2.25	42	1.18	35	1.21	90
Columbus OH	2.21	44	1.12	58	1.42	23
Las Vegas-Henderson NV	2.18	46	1.15	45	1.51	9
St. Louis MO-IL	2.16	47	1.13	54	1.40	34
Salt Lake City-West Valley City UT	2.13	49	1.11	62	1.42	23
Indianapolis IN	2.12	51	1.11	62	1.41	27
San Antonio TX	2.12	51	1.33	19	1.36	55
Memphis TN-MS-AR	2.08	55	1.14	50	1.42	23
Oklahoma City OK	2.08	55	1.15	45	1.43	21
Kansas City MO-KS	1.99	59	1.11	62	1.38	49
Milwaukee WI	1.97	60	1.17	37	1.19	92
Cleveland OH	1.96	62	1.10	69	1.38	49
Pittsburgh PA	1.80	77	1.14	50	1.43	21
Richmond VA	1.76	80	1.07	79	1.35	61

Very Large Urban Areas—over 3 million population.

Large Urban Areas—over 1 million and less than 3 million population.

Freeway Planning Time Index—A travel time reliability measure that represents the total travel time that should be planned for a trip to be late for only 1 work trip per month. A PTI of 2.00 means that 40 minutes should be planned for a 20-minute trip in light traffic (20 minutes x 2.00 = 40 minutes).

Freeway Travel Time Index—The ratio of travel time in the peak period to the travel time at low volume conditions. A value of 1.30 indicates a 20-minute free-flow trip takes 26 minutes in the peak period (20 minutes x 1.30 = 26 minutes). Note that the TTI reported in Table 3 is only for freeway facilities to compare to the freeway-only PTI values.

Freeway Commuter Stress Index—The travel time index calculated for only the peak direction in each peak period (a measure of the extra travel time for a commuter).

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) 6th and 12th. The actual measure values should also be examined.

Table 3. How Reliable is Freeway Travel in Your Town, 2014, Continued

Urban Area	Freeway Planning Time Index		Freeway Travel Time Index		Freeway Commuter Stress Index	
	Value	Rank	Value	Rank	Value	Rank
Medium Average (33 areas)	2.08		1.14		1.38	
New Orleans LA	3.46	3	1.45	6	1.49	11
Bridgeport-Stamford CT-NY	3.32	5	1.39	11	1.50	10
Baton Rouge LA	2.80	18	1.21	30	1.24	85
Honolulu HI	2.58	25	1.51	2	1.62	3
Charleston-North Charleston SC	2.54	28	1.16	40	1.47	13
Hartford CT	2.30	38	1.16	40	1.20	91
Colorado Springs CO	2.21	44	1.13	54	1.39	46
Buffalo NY	2.13	49	1.12	58	1.41	27
Raleigh NC	2.11	53	1.12	58	1.40	34
Tucson AZ	2.11	53	1.14	50	1.47	13
Toledo OH-MI	2.07	57	1.07	79	1.41	27
New Haven CT	2.05	58	1.12	58	1.40	34
Albany NY	1.97	60	1.11	62	1.40	34
Birmingham AL	1.96	62	1.08	75	1.36	55
Bakersfield CA	1.95	64	1.07	79	1.34	64
Wichita KS	1.93	65	1.11	62	1.40	34
Grand Rapids MI	1.89	67	1.06	86	1.41	27
Columbia SC	1.88	68	1.08	75	1.38	49
Albuquerque NM	1.87	69	1.08	75	1.39	46
Rochester NY	1.83	72	1.09	72	1.40	34
Sarasota-Bradenton FL	1.83	72	1.03	96	1.40	34
Akron OH	1.82	74	1.06	86	1.34	64
Knoxville TN	1.82	74	1.07	79	1.36	55
Allentown PA-NJ	1.78	78	1.09	72	1.40	34
El Paso TX-NM	1.73	81	1.17	37	1.16	97
Tulsa OK	1.73	81	1.08	75	1.40	34
Fresno CA	1.72	84	1.06	86	1.33	73
Cape Coral FL	1.70	87	1.04	95	1.40	34
Dayton OH	1.68	88	1.05	92	1.34	64
Omaha NE-IA	1.65	90	1.10	69	1.39	46
Springfield MA-CT	1.65	90	1.05	92	1.36	55
McAllen TX	1.62	92	1.16	40	1.34	64
Provo-Orem UT	1.53	94	1.03	96	1.34	64

Medium Urban Areas—over 500,000 and less than 1 million population.

Freeway Planning Time Index—A PTI of 2.00 means that 40 minutes should be planned for a 20-minute trip in light traffic (20 minutes x 2.00 = 40 minutes).

Freeway Travel Time Index—A value of 1.30 indicates a 20-minute free-flow trip takes 26 minutes in the peak period (20 minutes x 1.30 = 26 minutes).

Freeway Commuter Stress Index—The travel time index calculated for only the peak direction in each peak period (a measure of the extra travel time for a commuter).

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) 6th and 12th. The actual measure values should also be examined.

Table 3. How Reliable is Freeway Travel in Your Town, 2014, Continued

Urban Area	Freeway Planning Time Index		Freeway Travel Time Index		Freeway Commuter Stress Index	
	Value	Rank	Value	Rank	Value	Rank
Small Average (22 areas)	1.76		1.09		1.30	
Boulder CO	2.48	30	1.27	22	1.26	81
Stockton CA	2.27	39	1.13	54	1.15	99
Anchorage AK	2.26	41	1.26	23	1.19	92
Boise City ID	2.23	43	1.15	45	1.14	101
Oxnard CA	2.15	48	1.11	62	1.36	55
Madison WI	1.92	66	1.13	54	1.41	27
Little Rock AR	1.85	70	1.11	62	1.15	99
Spokane WA	1.84	71	1.07	79	1.41	27
Winston-Salem NC	1.81	76	1.06	86	1.33	73
Jackson MS	1.78	78	1.07	79	1.36	55
Eugene OR	1.73	81	1.09	72	1.41	27
Poughkeepsie-Newburgh NY-NJ	1.72	84	1.05	92	1.35	61
Worcester MA-CT	1.71	86	1.06	86	1.34	64
Beaumont TX	1.68	88	1.16	40	1.16	97
Salem OR	1.62	92	1.06	86	1.40	34
Corpus Christi TX	1.47	95	1.10	69	1.35	61
Pensacola FL-AL	1.47	95	1.02	99	1.40	34
Greensboro NC	1.44	97	1.03	96	1.32	75
Laredo TX	1.44	97	1.23	29	1.19	92
Lancaster-Palmdale CA	1.41	99	1.02	99	1.32	75
Brownsville TX	1.35	100	1.07	79	1.37	53
Indio-Cathedral City CA	1.32	101	1.01	101	1.26	81
101 Area Average	2.66		1.28		1.40	
Remaining Area Average	1.74		1.08		1.21	
All 471 Area Average	2.41		1.23		1.35	

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.

Freeway Planning Time Index—A travel time reliability measure that represents the total travel time that should be planned for a trip to be late for only 1 work trip per month. A PTI of 2.00 means that 40 minutes should be planned for a 20-minute trip in light traffic (20 minutes x 2.00 = 40 minutes).

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Freeway Commuter Stress Index – The travel time index calculated for only the peak direction in each peak period (a measure of the extra travel time for a commuter).

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) 6th and 12th. The actual measure values should also be examined.

Table 4. Key Congestion Measures for 370 Urban Areas, 2014

Urban Area	Annual Hours of Delay		Annual Congestion Cost	
	Total (000)	Per Auto Commuter	Total (Million \$)	\$ per Auto Commuter
Aberdeen-Bel Air S-Bel Air N MD	4,533	20	112	489
Abilene TX	1,039	9	24	201
Aguadilla-Isabela-San Sebastian PR	4,840	16	130	424
Albany GA	1,342	13	31	301
Alexandria LA	1,376	15	34	368
Altoona PA	1,095	13	24	291
Amarillo TX	3,087	14	72	322
Ames IA	452	4	9	82
Anderson IN	1,317	14	31	329
Anderson SC	1,057	13	27	323
Ann Arbor MI	8,658	28	194	621
Anniston AL	987	11	23	260
Antioch CA	4,448	15	100	347
Appleton WI	2,896	12	73	307
Arecibo PR	1,931	13	51	354
Asheville NC	7,849	26	178	590
Athens-Clarke County GA	2,340	17	52	371
Atlantic City NJ	6,514	24	152	561
Auburn AL	1,272	15	30	356
Augusta-Richmond County GA-SC	12,338	30	282	689
Avondale-Goodyear AZ	2,893	13	70	310
Bangor ME	822	14	19	322
Barnstable Town MA	7,520	29	163	627
Battle Creek MI	1,128	13	25	291
Bay City MI	957	13	23	320
Bellingham WA	1,460	12	33	278
Beloit WI-IL	420	6	11	160
Bend OR	1,164	12	31	329
Benton Harbor-St. Joseph-Fair Plain MI	774	15	18	355
Billings MT	1,595	12	35	268
Binghamton NY-PA	2,679	16	64	382
Bismarck ND	969	10	21	220
Blacksburg VA	695	7	15	149
Bloomington IN	1,036	9	24	204
Bloomington-Normal IL	1,495	10	33	233
Bonita Springs FL	6,731	19	148	424
Bowling Green KY	1,219	14	29	325
Bremerton WA	3,265	16	77	379
Bristol TN-VA	923	12	22	289
Brunswick GA	888	11	20	252
Burlington NC	1,176	9	26	192
Burlington VT	1,983	17	46	382
Camarillo CA	1,229	17	27	368
Canton OH	4,761	16	107	367
Cape Girardeau MO-IL	676	10	15	214
Carbondale IL	855	11	20	264
Carson City NV	681	7	15	149
Cartersville GA	858	13	20	301
Casa Grande AZ	537	6	14	163

Table 4. Key Congestion Measures for 370 Urban Areas, 2014 (continued)

Urban Area	Annual Hours of Delay		Annual Congestion Cost	
	Total (000)	Per Auto Commuter	Total (Million \$)	\$ per Auto Commuter
Casper WY	792	10	21	265
Cedar Rapids IA	1,479	7	31	153
Champaign IL	1,966	13	46	291
Charleston WV	3,399	21	78	481
Charlottesville VA	1,349	13	29	275
Chattanooga TN-GA	11,261	28	294	730
Cheyenne WY	914	11	24	295
Chico CA	829	8	19	179
Clarksville TN-KY	2,051	12	52	298
Cleveland TN	983	13	22	294
Coeur d'Alene ID	1,850	17	41	385
College Station-Bryan TX	2,588	14	63	344
Columbia MO	1,884	14	42	304
Columbus GA-AL	4,190	15	93	325
Columbus IN	681	8	16	191
Concord CA	21,712	35	466	752
Concord NC	2,562	12	59	269
Conroe-The Woodlands TX	3,744	14	83	307
Conway AR	770	10	17	229
Corvallis OR	608	6	15	149
Cumberland MD-WV-PA	908	14	23	345
Dalton GA	1,171	13	26	291
Danbury CT-NY	2,937	16	68	382
Danville IL	539	9	13	207
Danville VA-NC	734	9	16	202
Davenport IA-IL	5,335	18	120	402
Davis CA	553	7	13	169
Daytona Beach-Port Orange FL	4,944	23	114	524
Decatur AL	753	10	17	237
Decatur IL	1,119	11	27	266
DeKalb IL	641	8	14	187
Deltona FL	2,561	13	59	296
Denton-Lewisville TX	11,039	29	263	683
Des Moines IA	6,142	12	129	260
Dothan AL	1,236	15	30	370
Dover DE	1,332	11	31	249
Dover-Rochester NH-ME	906	10	20	219
Dubuque IA-IL	768	11	16	221
Duluth MN-WI	2,462	20	56	451
Durham NC	9,575	26	206	558
Eau Claire WI	1,145	10	30	275
El Centro-Calexico CA	439	4	10	87
El Paso de Robles-Atascadero CA	314	4	8	106
Elkhart IN-MI	2,107	14	52	337
Elmira NY	762	11	18	250
Erie PA	3,445	17	87	419
Evansville IN-KY	3,742	16	89	370
Fairbanks AK	635	9	15	212
Fairfield CA	1,980	14	42	303
Fajardo PR	547	6	15	151
Fargo ND-MN	5,255	26	110	551
Farmington NM	1,046	12	28	336

Table 4. Key Congestion Measures for 370 Urban Areas, 2014 (continued)

Urban Area	Annual Hours of Delay		Annual Congestion Cost	
	Total (000)	Per Auto Commuter	Total (Million \$)	\$ per Auto Commuter
Fayetteville NC	6,163	18	131	393
Fayetteville-Springdale-Rogers AR-MO	7,564	24	167	520
Flagstaff AZ	872	10	28	335
Flint MI	9,342	25	214	570
Florence AL	1,232	14	28	326
Florence SC	1,104	11	28	272
Florida-Imbrey-Barceloneta PR	892	12	24	310
Fond du Lac WI	498	6	13	160
Fort Collins CO	5,606	19	122	425
Fort Smith AR-OK	2,062	16	46	358
Fort Walton Beach-Navarre-Wright FL	4,897	23	107	494
Fort Wayne IN	9,252	28	212	641
Frederick MD	2,405	16	59	394
Fredericksburg VA	4,004	25	95	607
Gadsden AL	962	14	23	342
Gainesville FL	3,404	17	75	369
Gainesville GA	2,137	15	49	343
Galveston TX	505	6	11	122
Gastonia NC-SC	2,656	15	60	339
Gilroy-Morgan Hill CA	1,474	14	33	311
Glens Falls NY	1,222	17	29	391
Goldsboro NC	705	11	16	244
Grand Forks ND-MN	714	7	16	164
Grand Junction CO	1,363	10	30	212
Great Falls MT	776	11	17	234
Greeley CO	1,596	13	36	285
Green Bay WI	3,728	17	95	431
Greenville NC	1,525	11	34	255
Greenville SC	10,389	24	260	602
Guayama PR	1,193	14	32	383
Gulfport MS	4,463	19	98	411
Hagerstown MD-WV-PA	3,223	16	80	392
Hammond LA	757	10	19	239
Hanford CA	106	1	4	37
Harlingen TX	1,530	10	34	228
Harrisburg PA	10,342	23	254	562
Harrisonburg VA	815	10	18	237
Hattiesburg MS	1,159	13	26	298
Hazleton PA	656	13	15	283
Hemet CA	495	3	11	62
Hickory NC	4,423	19	98	427
High Point NC	2,866	16	63	345
Hinesville GA	462	7	10	169
Holland MI	1,688	15	37	341
Hot Springs AR	732	11	15	232
Houma LA	2,424	16	60	397
Huntington WV-KY-OH	3,280	16	77	362
Huntsville AL	7,253	23	159	510
Idaho Falls ID	621	6	14	135
Iowa City IA	740	6	16	125
Ithaca NY	867	16	20	370
Jackson MI	1,182	13	26	280

Table 4. Key Congestion Measures for 370 Urban Areas, 2014 (continued)

Urban Area	Annual Hours of Delay		Annual Congestion Cost	
	Total (000)	Per Auto Commuter	Total (Million \$)	\$ per Auto Commuter
Jackson TN	1,024	13	28	367
Jacksonville NC	1,428	13	31	284
Janesville WI	611	8	16	209
Jefferson City MO	607	8	14	172
Johnson City TN	1,594	12	37	272
Johnstown PA	711	10	16	235
Jonesboro AR	1,089	15	24	338
Joplin MO	1,252	15	29	335
Juana Diaz PR	907	11	24	296
Kailua (Honolulu County)-Kaneohe HI	1,254	10	29	227
Kalamazoo MI	5,136	23	115	515
Kankakee IL	873	10	22	244
Kennewick-Richland WA	2,780	12	67	281
Kenosha WI	1,133	8	30	219
Killeen TX	2,533	11	58	254
Kingsport TN-VA	1,665	15	40	357
Kingston NY	1,482	17	34	394
Kissimmee FL	7,814	22	185	517
Kokomo IN	1,174	12	27	264
La Crosse WI-MN	1,350	12	35	323
Lady Lake-The Villages FL	606	5	14	111
Lafayette IN	2,473	15	59	363
Lafayette LA	7,047	26	194	715
Lafayette-Louisville-Erie CO	1,083	12	23	264
Lake Charles LA	2,352	15	64	414
Lake Havasu City AZ	358	4	11	114
Lake Jackson-Angleton TX	694	9	16	205
Lakeland FL	4,022	14	96	331
Lancaster PA	7,807	18	187	441
Lansing MI	7,742	24	168	513
Las Cruces NM	1,126	8	32	220
Lawrence KS	1,430	13	34	310
Lawton OK	838	8	19	187
Lebanon PA	580	7	14	166
Leesburg-Eustis-Tavares FL	1,279	9	31	203
Leominster-Fitchburg MA	1,546	13	34	283
Lewiston ID-WA	579	9	14	200
Lewiston ME	722	11	18	273
Lexington Park-Cal-Ches Ranch Est MD	743	15	16	329
Lexington-Fayette KY	8,250	27	199	656
Lima OH	938	12	25	325
Lincoln NE	5,544	19	124	428
Livermore CA	1,395	16	31	358
Lodi CA	571	8	13	179
Logan UT	793	8	25	234
Lompoc CA	440	6	10	126
Longmont CO	1,238	12	27	266
Longview TX	1,512	15	35	342
Longview WA-OR	985	15	24	367
Lorain-Elyria OH	2,550	14	58	308
Lubbock TX	2,933	12	67	269
Lynchburg VA	2,328	18	50	387

Table 4. Key Congestion Measures for 370 Urban Areas, 2014 (continued)

Urban Area	Annual Hours of Delay		Annual Congestion Cost	
	Total (000)	Per Auto Commuter	Total (Million \$)	\$ per Auto Commuter
Macon GA	2,271	15	51	337
Madera CA	360	4	8	87
Manchester NH	2,302	13	53	311
Mandeville-Covington LA	1,753	18	45	470
Manhattan KS	478	5	11	109
Mankato MN	602	8	13	182
Mansfield OH	838	10	19	232
Manteca CA	623	7	16	177
Marysville WA	2,630	16	62	389
Mauldin-Simpsonville SC	886	7	22	169
Mayaguez PR	1,468	13	39	353
McKinney TX	1,811	9	43	215
Medford OR	1,989	11	47	267
Merced CA	1,317	9	33	218
Michigan City-La Porte IN-MI	844	12	21	297
Middletown OH	850	8	20	182
Midland MI	735	10	18	238
Midland TX	972	7	25	188
Mission Viejo-Lk Forest-San Clemente CA	17,389	28	361	590
Missoula MT	1,443	15	32	334
Mobile AL	10,396	30	236	670
Modesto CA	6,656	18	159	421
Monessen-California PA	563	8	13	183
Monroe LA	1,820	14	45	356
Monroe MI	829	9	19	201
Montgomery AL	6,494	24	149	553
Morgantown WV	1,065	14	24	311
Morristown TN	1,001	19	24	458
Mount Vernon WA	857	15	21	367
Muncie IN	1,063	11	25	247
Murrieta-Temecula-Menifee CA	3,084	7	72	162
Muskegon MI	2,697	16	59	348
Myrtle Beach-Socastee SC-NC	7,452	30	188	754
Nampa ID	2,109	13	47	283
Napa CA	1,178	13	26	290
Nashua NH-MA	3,372	14	78	324
New Bedford MA	1,563	10	34	219
Newark OH	621	7	14	167
North Port-Port Charlotte FL	1,806	10	41	216
Norwich-New London CT-RI	3,017	20	69	451
Ocala FL	1,994	12	47	276
Odessa TX	1,605	13	39	330
Ogden-Layton UT	10,408	18	339	581
Olympia-Lacey WA	3,929	20	94	481
Oshkosh WI	513	6	13	155
Owensboro KY	1,010	13	27	335
Palm Coast-Daytona Bch-Port Orange FL	9,849	20	230	471
Panama City FL	3,395	21	77	485
Parkersburg WV-OH	965	14	22	317
Pascagoula MS	778	14	18	323
Peoria IL	4,743	17	110	391
Petaluma CA	634	9	15	201

Table 4. Key Congestion Measures for 370 Urban Areas, 2014 (continued)

Urban Area	Annual Hours of Delay		Annual Congestion Cost	
	Total (000)	Per Auto Commuter	Total (Million \$)	\$ per Auto Commuter
Pine Bluff AR	626	7	14	160
Pittsfield MA	556	7	12	150
Pocatello ID	656	9	15	199
Ponce PR	1,862	13	50	336
Port Huron MI	1,209	13	28	297
Port St. Lucie FL	8,123	19	189	448
Porterville CA	228	3	6	73
Portland ME	2,973	14	70	332
Portsmouth NH-ME	1,479	15	33	349
Pottstown PA	948	9	22	199
Prescott Valley-Prescott AZ	1,156	12	27	285
Pueblo CO	1,690	11	38	250
Racine WI	1,412	10	37	256
Radcliff-Elizabethtown KY	918	10	21	221
Rapid City SD	1,153	12	27	281
Reading PA	5,183	19	125	465
Redding CA	2,093	16	46	345
Reno NV	8,300	20	179	428
Roanoke VA	4,585	20	105	465
Rochester MN	1,581	13	34	282
Rock Hill SC	1,355	12	35	311
Rockford IL	7,221	23	173	558
Rocky Mount NC	714	11	15	228
Rome GA	1,029	16	24	361
Round Lk Bch-McHenry-Grayslake IL-WI	402	1	10	34
Saginaw MI	2,082	17	46	364
Salinas CA	2,037	10	47	233
Salisbury MD-DE	1,164	11	27	258
San Angelo TX	899	8	20	188
San German-Cabo Rojo-Sabana Grnd PR	749	6	20	159
San Luis Obispo CA	822	10	18	218
Santa Barbara CA	3,993	20	89	434
Santa Clarita CA	3,703	15	86	341
Santa Cruz CA	3,806	21	82	444
Santa Fe NM	1,790	19	42	437
Santa Maria CA	1,890	13	43	299
Santa Rosa CA	5,915	19	128	407
Saratoga Springs NY	843	11	20	267
Savannah GA	8,013	28	179	619
Scranton PA	8,297	21	188	473
Seaside-Monterey CA	1,606	13	35	287
Sheboygan WI	523	7	13	177
Sherman TX	735	9	19	228
Shreveport LA	8,412	27	222	713
Sierra Vista AZ	565	7	13	156
Simi Valley CA	690	5	14	110
Sioux City IA-NE-SD	598	5	14	127
Sioux Falls SD	2,743	15	66	368
Slidell LA	791	8	21	212
South Bend IN-MI	5,205	18	125	425
South Lyon-Howell MI	2,376	18	65	505
Spartanburg SC	3,250	16	82	406

Table 4. Key Congestion Measures for 370 Urban Areas, 2014 (continued)

Urban Area	Annual Hours of Delay		Annual Congestion Cost	
	Total (000)	Per Auto Commuter	Total (Million \$)	\$ per Auto Commuter
Springfield IL	2,222	13	51	287
Springfield MO	7,403	25	166	556
Springfield OH	796	9	18	195
St. Augustine FL	1,055	13	23	275
St. Cloud MN	2,190	19	51	438
St. George UT	1,146	10	32	281
St. Joseph MO-KS	936	10	24	263
State College PA	516	5	11	116
Sumter SC	927	12	24	308
Syracuse NY	9,443	22	224	530
Tallahassee FL	5,846	28	130	621
Temple TX	1,014	11	26	267
Terre Haute IN	1,812	19	43	452
Texarkana TX-AR	1,014	12	25	294
Texas City TX	1,917	16	42	349
Thousand Oaks CA	5,486	25	116	527
Titusville FL	542	7	13	159
Topeka KS	2,533	16	62	388
Tracy CA	126	1	3	38
Trenton NJ	6,970	24	157	532
Turlock CA	111	1	3	31
Tuscaloosa AL	2,563	17	61	403
Twin Rivers-Highstown NJ	1,178	17	26	384
Tyler TX	2,028	14	53	379
Uniontown-Connellsville PA	453	9	10	200
Utica NY	2,288	19	53	433
Vacaville CA	665	7	14	143
Valdosta GA	1,246	15	29	351
Vallejo CA	3,828	21	83	456
Vero Beach-Sebastian FL	1,475	18	35	418
Victoria TX	1,014	14	24	336
Victorville-Hesperia CA	4,286	12	102	292
Villas NJ	800	12	19	286
Vineland NJ	1,150	11	26	262
Visalia CA	1,980	8	46	190
Waco TX	2,039	11	52	276
Waldorf MD	1,713	14	41	326
Walla Walla-WA-OR	258	4	7	118
Warner Robins GA	1,646	11	36	247
Waterbury CT	3,851	20	90	458
Waterloo IA	532	4	11	88
Watsonville CA	1,118	14	25	315
Wausau WI	868	11	22	283
Weirton-Steubenville WV-OH-PA	742	10	18	239
Wenatchee WA	772	10	19	251
West Bend WI	658	9	17	229
Westminster-Eldersburg MD	1,101	14	27	354
Wheeling WV-OH	954	11	24	275
Wichita Falls TX	1,031	10	25	239
Williamsport PA	1,045	20	23	434
Wilmington NC	4,905	20	106	435
Winchester VA	977	13	22	293

Table 4. Key Congestion Measures for 370 Urban Areas, 2014 (continued)

Urban Area	Annual Hours of Delay		Annual Congestion Cost	
	Total (000)	Per Auto Commuter	Total (Million \$)	\$ per Auto Commuter
Winter Haven FL	2,888	13	71	329
Yakima WA	2,187	15	52	368
Yauco PR	443	5	12	121
York PA	3,801	15	90	368
Youngstown OH-PA	7,744	20	181	466
Yuba City CA	1,212	9	30	227
Yuma AZ-CA	1,531	11	41	292
Zephyrhills FL	602	12	14	274

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