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SAN FRANCISCO (PRWEB) January 16, 2020 -- First Annual Index Ranks Climate Impact of Transportation for 100 Largest U.S. Metro Areas

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According to the Environmental Protection Agency, burning fossil fuels for transportation is the top contributor to greenhouse gas emissions in the United States, and the U.S. is second only to China as the world's top greenhouse gas producer, notes the United Nations Emissions Gap Report 2019. The Global Carbon Project also indicates that the world is setting new emissions records every year, which puts our country's transportation experts and city planners in the driver's seat to effect change.

StreetLight Data, Inc, the leader in Big Data analytics for mobility, recognizes that managing transportation is a major engine of climate change mitigation, and is providing new data to enable cities and agencies to manage and measure their progress. The company today unveiled its first annual U.S. Transportation Climate Impact Index, which ranks the country's 100 most populous metro areas based on several carbon-related transportation factors, including Vehicle Miles Traveled (VMT), bicycle and pedestrian commute metrics, population density, and circuity (the difference between an actual route taken and a straight line between origin and destination).

The nationwide multimode mobility metrics pioneered by StreetLight allow the company's data scientists to measure more than just transportation infrastructure – they can illustrate real-life mobility behavior and point cities toward behavior with the highest climate impact for their locality. As such, StreetLight Data's 2020 U.S. Transportation Climate Impact Index goes far beyond traditional transportation design-based measures (such as how many miles of bike paths exist), and draws on performance-based metrics (how much actual bike commuting people do).

This fresh perspective highlights the tight connection between transportation and urban planning. It offers insight into ways that cities with extensive car travel can successfully offset that carbon output, and shows that commuters might walk or bike even in the country's most brutal winter weather.

For the StreetLight Data 2020 U.S. Transportation Climate Impact Index, the company ranked the country's largest metro areas from 1 (best) to 100 (worst) on six individual factors: VMT, bike commuting miles, pedestrian commuting miles, transit ridership, population density, and circuity.

The StreetLight Data 2020 U.S. Transportation Climate Impact Index Top 10 U.S. Metro Areas:

The top metro areas generally have low VMT, high mileage in bike and pedestrian commuting, high per-capita transit use, high population density, and low circuity.

1. New York, NY Newark-Jersey City, NJ

2. San Francisco-Oakland-Hayward, CA
3. Madison, WI
4. Philadelphia, PA-Camden, NJ-Wilmington, DE
5. Boston-Cambridge-Newton, MA
6. San Jose-Sunnyvale-Santa Clara, CA
7. Des Moines-West Des Moines, IA
8. Lancaster, PA
9. New Haven-Milford, CT
10. Buffalo-Cheektowaga-Niagara Falls, NY

"Studying sustainable transportation metrics can help urban and community planners understand the potential for change and where to improve," said Laura Schewel, CEO and co-founder of StreetLight Data. "For example, can a city find ways to encourage more bike and pedestrian travel? Does the city's land-use planning lend itself to increasing density? A goal of our 2020 U.S. Transportation Climate Impact Index is to use objective and clear data to help spark discussions and new ways of addressing mobility in context."

Additional analysis of the 2020 U.S. Transportation Climate Impact Index top 10 U.S. metros:

1. New York, NY Newark-Jersey City, NJ
The New York metro area tops the index even with a very high level of VMT. New York's commuters drive notoriously long distances, but alternate-mode travel in the urban center makes up for those car miles. In New York, as with a handful of other cities in the index, a car is widely considered to be a liability. Traveling via car is frustratingly slow, and parking is expensive and difficult. Personal vehicles parked in many residential areas must be regularly moved for street cleaning and other services.

Fortunately, New York makes alternate modes easy to substitute in. The extensive transit system is the most-used in the country. New Yorkers also top the country in walking, which is an easy mode choice in a dense city. With plans to continue adding bike lanes at a furious pace, and implement congestion pricing for personal vehicles, New York is setting the pace for prioritizing alternate modes over cars.

2. San Francisco-Oakland-Hayward, CA
Despite the often clogged Bay Bridge and freeways full of commuters, the streets of San Francisco showcase new mobility transportation in all its sustainable glory: Bikes, pedestrians, scooters, skateboards and even hoverboards vie for space along the 1,260 miles of the city's hilly roadway, while ride-hailing services carry travelers to and from bustling BART and Caltrain stops.

The newly reopened Transbay Transit Terminal became an instant architectural icon, housing numerous bus lines, a rooftop park and potential future rail connections. The Sunday Streets program made a bold stab at Vision Zero safety initiatives by closing streets to cars one day a month. Starting in January, the city's famous Market Street will be permanently closed to private vehicles, while this city continues to add bike and pedestrian improvements at a frantic pace.

Due to its high levels of alternate mode use, San Francisco ranks second on our list with top-four scores for zero-emissions commuting, transit, and density.

3. Madison, WI
When Wisconsin rejected an $800 million federal grant to build high-speed rail between Madison and

Milwaukee, that money was redirected to California. Madison's rail dream may have withered, but this is a city with real dedication to sustainable transportation.

Much of Madison's transportation planning discussion centers on highway improvements, but alternative transportation is making inroads. The Metro system is the 16th most-used transit network in the country, and students at the University of Wisconsin-Madison contribute high bike and pedestrian commuting scores.

In fact, Madison placed in the top third on every factor except population density, and was boosted by a top-10 VMT score. Madison may not be the best in any single category, but its classic Midwesterner "pretty darned good" scores across the board earned it a top spot on our list.

4. Philadelphia, PA, Camden, NJ, Wilmington, DE
Philadelphia's commuters bike more miles per capita than in any other city on our list, and the pedestrian commuters aren't far behind. Yet Philly residents, politicians, and developers are currently debating the merits of protecting bike travel as pro-bike-lane house bill 792 moves through state congress.

With one of the lowest per-capita incomes on our list, Philly's commuters gravitate to the comprehensive SEPTA transit network. Transit options include subway, hybrid-power buses, streetcars, and regional rail.

Additionally, the City of Brotherly Love earns a high ranking for population density, which helps pull it onto the top-10 list.

5. Boston-Cambridge-Newton, MA
America's college town has long been walkable, and the Big Dig project to sink Boston's central artery underground made it even easier and safer for pedestrians to get around. South Boston and the Seaport have transformed from dark industrial buildings and parking lots into bustling residential and commercial centers.

Boston's aging MBTA is the third most-used transportation system per capita in the country, and South Station is second only to Logan Airport as the area's busiest transportation hub. Last April, Cambridge became the first city in the U.S. to make protected bike lanes mandatory on all city streets.

Although a recent series in the Boston Globe highlighted the city's increasingly nightmarish congestion problems, metro Boston clearly offers enough transportation alternatives to make it a model of sustainability.

6. San Jose-Sunnyvale-Santa Clara, CA
With the second highest per-capita income of any U.S. city (second only to Washington, DC), San Jose proves that disposable income doesn't have to drive people into personal vehicles. Not only do travelers bike and walk, but the VTA system sees high use.

Although the highways are some of the most congested in the country, transit ridership continues to rise in the nation's biggest tech hub. CalTrain recently approved a plan to run a minimum of eight trains an hour between San Jose and San Francisco, and BART plans to open new Silicon Valley stations.

Although San Jose's VMT ranking is higher than San Francisco's, car travel here is offset by strong bike commuting and population density scores. Given a differently defined boundary, the combined metro area of San Francisco and San Jose might have topped our list.

7. Des Moines-West Des Moines, IA
Des Moines is one of two cities with a zero-transit score to make our top 10, which means they are nailing green transportation even with a handicap. High biking scores and good pedestrian commuting contribute to this city's overall position.

Although the DART system didn't make APTA's transit-use list, the city offers extensive public transit plus a free downtown shuttle service. Winter pedestrians are incentivized to walk via four miles of indoor aerial skyways connecting downtown buildings, and the city has nearly 200 miles of on-street cycling paths.

Iowa governor Kim Reynolds recently asked DOT head Mark Lowe to resign, citing an unspecified "new direction" as the reason. Hopefully Iowa's largest city won't change where it's headed with low carbon impact.

8. Lancaster, PA
Lancaster has the best VMT and circuity of any other city on our entire list. Because VMT is weighted heavily in our rankings, the fact that Lancaster tops that category propelled it to our top 10 list despite low rankings in other fields.
For example, Lancaster has only a minimal bus and shuttle transit system, which isn't ranked by APTA. Few people bike or walk to work, in fact Lancaster's pedestrian commute ranking is one of the lowest on our list. But more than 3% of the population is Amish, many of whom travel by low-emission horse-drawn buggies. Although not every region has the option to shift travel to this type of horsepower, Lancaster does showcase the impact of effectively managing a region's VMT.

9. New Haven-Milford, CT
New Haven places in our top 10 despite having the worst circuity on the list. Those meandering car trips must be short, however, because New Haven has one of the country's best VMT scores. Near Yale, many residents work within a short distance from their homes.

Drivers may also be traveling the first or last mile to board New Haven's well-used bus and rail system. CT Transit expands bus routes every year, which connect with an extensive network of light rail lines.

Although New Haven proper is often hailed as a bike-centric city, our metrics show low bike commuting in the wider metro area. This locale makes the top 10 primarily on the strength of strong VMT and transit ratings.

10. Buffalo-Cheektowaga-Niagara Falls, NY
The cold winters and snow may be legendary, but Buffalo's dedicated bike and pedestrian commuters log enough miles to put their city in the top 20 on those metrics. Several bike share programs service the city and state university campuses. Although it is more used by seasonal tourists than commuters, Buffalo also offers the only bike ferry on our list.

A high percentage of Buffalo commuters use the NFTA-Metro system, perhaps due to the free service along the above-ground section downtown. Buffalo scores highly for both transit and population density.

Buffalo's strong rankings in bike, pedestrian, and transit are supported by a top third VMT score, showing that travelers will shift to alternate modes even in bad weather

Click here to explore StreetLight Data's 2020 U.S. Transportation Climate Impact Index interactive website and the full 100 U.S. metro areas and more context for the top 10.

Methodology:

During the fall of 2019 StreetLight Data analyzed the 100 most populous metro areas from the 2018 U.S. Census list of core-based statistical areas (CBSAs). The company scored the cities individually, per capita, by six core transportation factors: Vehicle Miles Traveled (VMT), bike commuting, pedestrian commuting, circuity, population density, and transit ridership.

StreetLight Data analyzes trips derived from location-based services (LBS) data, processed by our proprietary algorithm. Results were indexed values, not actual measurements, because StreetLight does not capture 100% of a city's movements. Overall rankings were derived using each individual factor's value scaled from 0 to a factor's weight. A higher ranking indicates a better score, with a lower ranking indicating a worse score, relative to other cities.

About StreetLight Data

StreetLight Data pioneered the use of Big Data analytics to help transportation professionals solve their biggest problems. Applying proprietary machine-learning algorithms to over four trillion spatial data points over time, StreetLight measures diverse travel patterns and makes them available on-demand via the world's first SaaS platform for mobility, StreetLight InSight®. From identifying sources of congestion to optimizing new infrastructure to planning for autonomous vehicles, StreetLight Data powers more than 3,000 global projects every month.

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