## Access Across America: Transit 2014

Final Report CTS 14-11



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## ACCESSIBILITY OBSERVATORY

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### **Executive Summary**

Accessibility is the ease of reaching valued destinations. Accessibility can be measured for various transportation modes, to different types of destinations, and at different times of day. There are a variety of ways to define accessibility, but the number of destinations reachable within a given travel time is the most comprehensible and transparent—as well as the most directly comparable across cities. This report focuses on accessibility to jobs by transit. Jobs are the most significant non-home destination, but it is also possible to measure accessibility to other types of destinations. Transit is used for an estimated 5% of commuting trips in the United States, making it the second most widely used commute mode after driving.

This study estimates the accessibility to jobs by transit in 46 of the 50 largest (by population) metropolitan areas in the United States using transit schedules from January 2014. Some metropolitan areas are excluded due to a lack of available transit schedule data; these are Jacksonville, Memphis, Oklahoma City, and Richmond.

Travel times by transit are calculated using detailed pedestrian networks and full transit schedules for the 7:00 - 9:00 AM period. The calculations include all components of a transit journey, including "last mile" access and egress walking segments and transfers, and account for minute-by-minute variations in service frequency.

Rankings are determined by a weighted average of accessibility, giving a higher weight to closer jobs. Jobs reachable within ten minutes are weighted most heavily, and jobs are given decreasing weights as travel time increases up to 60 minutes. Based on this measure, the 10 metro areas with the greatest accessibility to jobs by transit, and for which sufficient data are available, are:

- 1. New York
- 2. San Francisco
- 3. Los Angeles
- 4. Washington
- 5. Chicago
- 6. Boston
- 7. Philadelphia
- 8. Seattle
- 9. Denver
- 10. San Jose

This report presents detailed accessibility values for each metropolitan area, as well as block-level maps that illustrate the spatial patterns of accessibility within each area. A separate publication, *Access Across America: Transit 2014 Methodology*, describes the data and methodology used in this evaluation.

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#### **1** Introduction

Accessibility is the ease of reaching valued destinations. It combines the simpler metric of mobility with the understanding that travel is driven by a desire to reach destinations. Accessibility can be measured for various transportation modes, to different types of destinations, and at different times of day. There are a variety of ways to define accessibility, but the number of destinations reachable within a given travel time is the most comprehensible and transparent—as well as the most directly comparable across cities. This report focuses on accessibility to jobs by transit. Jobs are the most significant non-home destination, but it is also possible to measure accessibility to other types of destinations. Transit is used for an estimated 5% of commuting trips in the United States, making it the second most widely used commute mode after driving.<sup>1</sup> The commute mode share of transit can be higher in individual metropolitan areas: 31% in the New York metropolitan area; 11% in Chicago; 8% in Seattle.<sup>2</sup>

Accessibility is not a new idea.<sup>3</sup> Historically, however, implementations of accessibility evaluation have typically focused on individual cities or metropolitan areas. Recent work has demonstrated the feasibility and value of systematically evaluating accessibility across multiple metropolitan areas by auto.<sup>4</sup> and by transit<sup>5</sup>

This study estimates the accessibility to jobs by transit in 46 of the 50 largest (by population) metropolitan areas in the United States using transit schedules from January 2014. Some metropolitan areas are excluded due to a lack of available transit schedule data; these are Jacksonville, Memphis, Oklahoma City, and Richmond. Table 1 lists the included metropolitan areas, ordered by the total employment within each.

Travel times by transit are calculated using detailed pedestrian networks and full transit schedules for the 7:00 - 9:00 AM period. The calculations include all components of a transit journey, including "last mile" access and egress walking segments and transfers, and account for minute-by-minute variations in service frequency.

Section 2 presents the accessibility values for the included metropolitan areas and ranks metropolitan areas by accessibility. Section 3 discusses these results and their implications. Section 4 provides data and maps describing patterns of accessibility in individual metropolitan areas. A separate document, *Access Across America: Transit 2014 Methodology*, describes the data and methodology used in the evaluation.

<sup>&</sup>lt;sup>1</sup>McKenzie (2014)

<sup>&</sup>lt;sup>2</sup>American Community Survey 2012 5-year estimates

<sup>&</sup>lt;sup>3</sup>See Hansen (1959) for its origins, and Geurs and Van Eck (2001) and Handy and Niemeier (1997) for reviews.

<sup>&</sup>lt;sup>4</sup>Levinson (2013), Levine et al. (2012)

<sup>&</sup>lt;sup>5</sup>Ramsey and Bell (2014), Tomer et al. (2011)

Rank	Area	Total Employment
1	New York	8,102,471
2	Los Angeles	5,239,396
3	Chicago	4,156,582
4	Boston*	3,402,940
5	Dallas	2,864,933
6	Philadelphia	2,690,018
7	Washington	2,647,658
8	Houston	2,543,501
9	Miami	2,194,802
10	Atlanta	2,180,785
11	San Francisco	1,900,319
12	Detroit	1,712,027
13	Phoenix	1,652,995
14	Minneapolis	1,652,044
15	Seattle	1,538,625
16	Riverside	1,470,777
17	San Diego	1,263,188
18	St. Louis	1,261,977
19	Baltimore	1,243,101
20	Denver	1,180,703
21	Tampa	1,108,850
22	Pittsburgh	1,083,900
23	Portland	982,307
24	Cincinnati	951,583
25	Kansas City	944,847
26	Orlando	930,605
27	Cleveland	925,055
28	San Antonio	862,085
29	Sacramento	839,857
30	Columbus	834,633
31	Providence	828,037
32	Indianapolis	813,598
33 34	Las Vegas	799,219
34 35	Austin San Jose	790,961 789,455
36	Charlotte	771,127
37	Milwaukee	742,523
38	Nashville	742,323
39	Virginia Beach	684,496
40	Louisville	576,300
41	Hartford	560,748
42	Buffalo	522,212
43	Raleigh	520,476
44	Salt Lake City	507,658
45	Birmingham	455,937
46	New Orleans	454,816
-		

Table 1: Metropolitan Areas Ranked by Total Employment

Employment totals are based on LEHD estimates and may not match other sources.

\* LEHD data is not available for Massachusetts. Data for Boston are drawn from the EPA Smart Location Database.

## 2 Accessibility to Jobs by Transit

#### 2.1 Accessibility Evaluation Results

Table 2 gives the accessibility values for each metropolitan area, in alphabetical order, based on January, 2014 transit schedules. The columns represent the number of jobs that a typical worker residing in the city can reach within 10, 20, 30, 40, 50, and 60 minutes of travel, between 7:00 and 9:00 AM, by transit and walking.

#### 2.2 Metropolitan Area Rankings

The rankings of accessibility across U.S. cities for 2014 are shown in Table 3. The first column provides a weighted average, where the jobs reachable within each threshold are given a decreasing weight as travel time increases. A job reachable within 10 minutes counts more toward the ranking than a job reachable within 20, and so on. The 10 metro areas where workers can, on average, reach the most jobs are listed below. Within the specific time thresholds, the rankings vary.

- 1. New York
- 2. San Francisco
- 3. Los Angeles
- 4. Washington
- 5. Chicago
- 6. Boston
- 7. Philadelphia
- 8. Seattle
- 9. Denver
- 10. San Jose

Additional details about each metropolitan area, including block-level maps of accessibility, are presented in Section 4.

Area	10 min	20 min	30 min	40 min	50 min	60 min
Atlanta	305	1,976	6,995	17,961	35,908	60,758
Austin	462	2,484	7,001	14,098	23,886	35,552
Baltimore	606	3,918	14,633	40,894	84,940	137,863
Birmingham	187	931	2,828	6,363	11,710	18,621
Boston	2,063	14,687	49,237	108,344	182,745	259,640
Buffalo	442	3,148	10,432	23,740	42,973	65,485
Charlotte	345	2,034	6,541	15,697	29,414	46,710
Chicago	1,632	13,998	48,116	111,655	201,289	305,915
Cincinnati	313	1,864	5,792	12,883	23,853	38,553
Cleveland	408	2,442	8,372	21,127	42,030	70,124
Columbus	424	2,879	9,506	20,978	37,506	58,754
Dallas	465	2,938	10,113	25,772	53,484	94,871
Denver	769	5,914	20,467	50,080	101,204	176,300
Detroit	320	1,967	6,373	15,406	31,289	55,746
Hartford	458	3,118	9,768	19,920	33,167	49,463
Houston	573	4,159	15,166	37,265	72,824	122,352
Indianapolis	308	1,928	6,263	14,812	28,383	46,757
Kansas City	350	2,074	6,696	15,152	27,419	43,160
Las Vegas	289	2,110	8,162	23,251	53,794	103,055
Los Angeles	1,315	10,952	43,430	112,696	229,019	396,020
Louisville	303	1,946	6,509	15,675	29,009	45,951
Miami	744	4,663	15,333	36,991	71,169	119,500
Milwaukee	874	5,510	19,216	45,827	84,443	129,472
Minneapolis	589	4,539	17,651	44,355	83,646	134,173
Nashville	346	1,615	5,232	11,636	20,279	31,371
New Orleans	475	2,785	8,364	17,310	28,188	39,601
New York	6,500	64,758	210,186	455,816	798,773	1,207,860
Orlando	276	1,560	4,921	11,786	23,508	41,315
Philadelphia	1,253	10,363	35,217	75,699	130,635	195,230
Phoenix	327	2,591	9,981	27,249	58,281	105,599
Pittsburgh	580	3,365	12,268	27,251	46,608	68,857
Portland Providence	760	5,132	18,723	46,997	90,563	145,276
Raleigh	591 269	3,037 2,273	8,252 6,372	16,428 12,481	27,252 22,151	40,245 35,390
Riverside	207	1,338	4,346	10,058	19,234	32,434
Sacramento	631	3,646	11,052	25,510	50,838	84,951
Salt Lake City	482	3,760	13,733	35,570	73,359	129,061
San Antonio	375	2,624	9,849	25,188	50,326	85,084
San Diego	667	3,973	12,752	31,549	64,588	113,365
San Francisco	2,296	20,157	65,246	138,025	234,068	349,072
San Jose	629	4,524	16,441	45,399	101,430	188,822
Seattle	1,330	8,291	26,141	61,488	114,651	182,877
St. Louis	362	2,189	7,804	20,422	41,557	70,902
Татра	326	2,042	6,865	16,212	30,920	51,026
Virginia Beach	297	1,569	4,784	10,672	19,995	33,006
Washington	1,362	12,357	47,759	112,703	210,260	335,139
9			, -	,	,	,

Table 2: Number of Jobs Reachable by Number of Minutes, 2014

Rank	Weighted Average	10 min	20 min	30 min	40 min	50 min	60 min
1	New York	New York	New York	New York	New York	New York	New York
2	San Francisco	San Francisco	San Francisco	San Francisco	San Francisco	San Francisco	Los Angeles
3	Los Angeles	Boston	Boston	Boston	Washington	Los Angeles	San Francisco
4	Washington	Chicago	Chicago	Chicago	Los Angeles	Washington	Washington
5	Chicago	Washington	Washington	Washington	Chicago	Chicago	Chicago
6	Boston	Seattle	Los Angeles	Los Angeles	Boston	Boston	Boston
7	Philadelphia	Los Angeles	Philadelphia	Philadelphia	Philadelphia	Philadelphia	Philadelphia
8	Seattle	Philadelphia	Seattle	Seattle	Seattle	Seattle	San Jose
9	Denver	Milwaukee	Denver	Denver	Denver	San Jose	Seattle
10	San Jose	Denver	Milwaukee	Milwaukee	Portland	Denver	Denver
11	Portland	Portland	Portland	Portland	Milwaukee	Portland	Portland
12	Milwaukee	Miami	Miami	Minneapolis	San Jose	Baltimore	Baltimore
13	Minneapolis	San Diego	Minneapolis	San Jose	Minneapolis	Milwaukee	Minneapolis
14	Baltimore	Sacramento	San Jose	Miami	Baltimore	Minneapolis	Milwaukee
15	Miami	San Jose	Houston	Houston	Houston	Salt Lake City	Salt Lake City
16	Houston	Baltimore	San Diego	Baltimore	Miami	Houston	Houston
17	Salt Lake City	Providence	Baltimore	Salt Lake City	Salt Lake City	Miami	Miami
18	San Diego	Minneapolis	Salt Lake City	San Diego	San Diego	San Diego	San Diego
19	Phoenix	Pittsburgh	Sacramento	Pittsburgh	Pittsburgh	Phoenix	Phoenix
20	Sacramento	Houston	Pittsburgh	Sacramento	Phoenix	Las Vegas	Las Vegas
21	Dallas	Salt Lake City	Buffalo	Buffalo	Dallas	Dallas	Dallas
22	Pittsburgh	New Orleans	Hartford	Dallas	Sacramento	Sacramento	San Antonio
23	San Antonio	Dallas	Providence	Phoenix	San Antonio	San Antonio	Sacramento
24	Las Vegas	Austin	Dallas	San Antonio	Buffalo	Pittsburgh	St. Louis
25	Buffalo	Hartford	Columbus	Hartford	Las Vegas	Buffalo	Cleveland
26	Cleveland	Buffalo	New Orleans	Columbus	Cleveland	Cleveland	Pittsburgh
27	Columbus	Columbus	San Antonio	Cleveland	Columbus	St. Louis	Buffalo
28	St. Louis	Cleveland	Phoenix	New Orleans	St. Louis	Columbus	Atlanta
29	Hartford	San Antonio	Austin	Providence	Hartford	Atlanta	Columbus
30	Atlanta	St. Louis	Cleveland	Las Vegas	Atlanta	Hartford	Detroit
31	Providence	Kansas City	Raleigh	St. Louis	New Orleans	Detroit	Tampa
32	New Orleans	Nashville	St. Louis	Austin	Providence	Tampa	Hartford
33	Tampa	Charlotte	Las Vegas	Atlanta	Tampa	Charlotte	Indianapolis
34	Detroit	Phoenix	Kansas City	Tampa	Charlotte	Louisville	Charlotte
35	Charlotte	Tampa	Tampa	Kansas City	Louisville	Indianapolis	Louisville
36	Louisville	Detroit	Charlotte	Charlotte	Detroit	New Orleans	Kansas City
37	Kansas City	Cincinnati	Atlanta	Louisville	Kansas City	Kansas City	Orlando
38	Indianapolis	Indianapolis	Detroit	Detroit	Indianapolis	Providence	Providence
39	Austin	Atlanta	Louisville	Raleigh	Austin	Austin	New Orleans
40	Raleigh	Louisville	Indianapolis	Indianapolis	Cincinnati	Cincinnati	Cincinnati
41	Cincinnati	Virginia Beach	Cincinnati	Cincinnati	Raleigh	Orlando	Austin
42	Orlando	Las Vegas	Nashville	Nashville	Orlando	Raleigh	Raleigh
43	Nashville	Orlando	Virginia Beach	Orlando	Nashville	Nashville	Virginia Beach
44	Virginia Beach	Raleigh	Orlando	Virginia Beach	Virginia Beach	Virginia Beach	Riverside
45	Riverside	Riverside	Riverside	Riverside	Riverside	Riverside	Nashville
46	Birmingham	Birmingham	Birmingham	Birmingham	Birmingham	Birmingham	Birmingham

### Table 3: Rank of Accessibility by Metropolitan Area, 2014

### **3** Discussion

This research provides a new methodology and dataset to enable inter-metropolitan comparisons of accessibility by transit in a way that is clearly understood and explainable, tracks with our experience and the available evidence, and incorporates the many factors that determine the usefulness of a transit system.

Not all jobs are the same. Some jobs are higher paying, some are lower skilled, and they exist in a variety of industries. Given sufficient data, one could differentiate accessibility by breaking down jobs by type and get different results. Accessibility to non-work locations (shopping, health care, education, etc.) is also important. Regardless of trip purpose, people who experience higher accessibility tend to travel shorter distances because origins and destinations are closer together.

But accessibility to jobs is not the only thing that people care about. If it were, cities would be situated on a minimum amount of space so people could live immediately adjacent to their jobs, or everyone would work from home. Measuring (and then valuing) accessibility to other opportunities and considering the trade-off between accessibility and living space are central problems of urban economics, regional science, and transportation and land-use planning. While being more accessible is generally better, there are costs as well as benefits associated with accessibility. If land is more valuable, its price is higher, and purchasers can afford less. Streets in places with more activities are inherently more crowded, and trips are less peaceful.

Accessibility is a function of both transportation and land-use decisions, which has important policy implications. There are two broad avenues to increasing accessibility: improving transportation systems and altering land-use patterns. Neither of these things can be easily shifted overnight, but over time they do change—both through direct plans and action and through market forces.

It is important to recognize that aggregate metrics such as these are also affected simply by the size of the areas being studied. For example, residents of central Minneapolis enjoy greater accessibility than those of central Milwaukee, but the expansive Minneapolis–Saint Paul metropolitan area includes far more suburban and exurban areas (with little or no transit service) than does the Milwaukee area.

#### 3.1 Transit Service Effects

In the context of transit, transportation improvements take the form of speed increases or frequency increases. Speed improvements increase accessibility by making destinations reachable in less time, but they are often difficult to achieve for transit vehicles operating in mixed traffic. Frequency improvements reduce the amount of time spent waiting for transit vehicles, leaving more time for travel toward valuable destinations. Speed and frequency are also linked: as average speeds increase, a fixed number of transit vehicles can serve the same route length with increasing frequency.<sup>6</sup>

This evaluation reflects the impact of transit service frequency by making the assumption that all departure times are equally valuable to users, and it includes full waiting times before each trip. This is an important difference relative to earlier national evaluations of transit accessibility, which typically use a single departure time and/or a fixed wait time.<sup>7</sup> This approach provides two important benefits. First, it avoids the assumptions that transit service with 30-minute frequency is as valuable as service with

<sup>&</sup>lt;sup>6</sup>Walker (2012) provides a detailed and accessible exploration of transit service fundamentals.

<sup>&</sup>lt;sup>7</sup>e.g. Tomer et al. (2011), Ramsey and Bell (2014)

10-minute frequency and that users suffer no inconvenience from adjusting their personal schedules to match transit schedules. Second, it allows more meaningful comparisons with accessibility evaluations for other transportation modes such as driving,<sup>8</sup> which typically use average speeds over time periods—implicitly assuming an equal value of departure times. As a result of this methodological choice, the accessibility results presented here are far more sensitive to service frequency effects than those of earlier transit accessibility evaluations. Cities with robust transit coverage but low service frequency are generally ranked lower than cities with comparable networks but higher frequencies.

#### 3.2 Land-Use Effects

Land-use-based approaches to improving transit accessibility revolve around proximity and density for both origins and destinations. Proximity to transit service is critical in overcoming the low speed of pedestrian access to and from stops and and stations. Density is the manifestation of the increasing value of more accessible locations. As residential areas become denser, more residents experience the local accessibility; as employment areas become denser, more jobs can be accessed through the same transit system.

Density is not determined solely by accessibility, however: land-use policies can restrict density where it would otherwise be high or encourage density where it might otherwise be low. Perhaps the most famous examples of such policies are Oregon's urban growth boundary laws, which encourage density by restricting the amount of land available for urban development, and the Height of Buildings Act of 1910, which restricts density in the District of Columbia by limiting building heights. Between these most salient examples lie a range of density-focused urban policies, typically embedded in zoning codes, which help determine each city's transit accessibility performance. In general, areas with higher residential and employment density can achieve greater transit accessibility given the same level of transit service.

At lower accessibility thresholds, and especially at the 10-minute threshold, the job accessibility experienced by a typical worker is determined primarily by local employment density and only secondarily, if at all, by transit service. With a 10-minute travel time budget, reaching a stop, waiting for a vehicle, and walking to the destination after alighting leave little time available for actually traveling on a transit vehicle. It is likely that most jobs within this threshold are reached solely by walking and do not involve a transit vehicle at all. The results presented in Table 3 for the 10-minute threshold look much like a ranking by employment and residential density. As the travel time threshold increases, so does the relative contribution of transit service and coverage to the rankings.

#### 3.3 Conclusions

The cities that make up the top 10 transit accessibility ranks all exhibit a combination of density and fast, frequent transit service. However, there is still significant variation within this group. In New York, San Francisco, Washington, and Chicago, fast heavy rail systems connect both urban and suburban areas with a highly employment-dense core. It is instructive to compare these cities to Atlanta, which has a similar rail system but a much more decentralized job distribution, and lower accessibility. Seattle

<sup>&</sup>lt;sup>8</sup>e.g. Levinson (2013), Levine et al. (2012)

and Denver both have rapidly expanding light rail systems, supported by extensive and frequent bus networks. Though Portland is famous for its streetcar service, this covers only a small part of the city. Its urban growth boundary, combined with frequent bus service throughout core areas and light rail connections to suburban areas, likely plays a more important role in providing high accessibility: by encouraging both residents and employers to locate in parts of the city already well served by transit, each new resident enjoys high accessibility but imposes only a marginal burden on the transit system's resources.

Transportation and land-use systems are both dynamic, and this report presents only a single snapshot in time. In constantly-evolving systems like these, it is also critical to monitor changes over time. A city that adopts a goal of increasing transit accessibility should be evaluated based on how effectively it advances that goal relative to a baseline. Using this data as a starting point, future reports in the Access Across America series will track the way that accessibility in these metropolitan areas evolves in response to transportation investments and land-use decisions.

## 4 Metropolitan Area Data and Maps

The following pages present summary accessibility data and maps for each of the included metropolitan areas. Metropolitan areas are presented in alphabetical order. The maps show 30-minute accessibility values at the Census block level; grey areas indicate locations outside of the metropolitan area. On the data summary pages, three different chart scales are used to accommodate the wide range of accessibility values across metropolitan areas. All charts using the same scale are plotted in the same color.

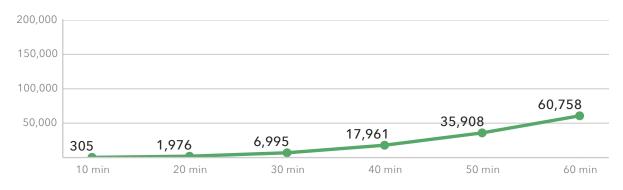
## Atlanta

Atlanta-Sandy Springs-Marietta, GA

Rank by Weighted Accessibility	30
Rank by Total Employment	9
Total Jobs	2,260,515
Average Job Density (per km <sup>2</sup> )	105
Total Workers	2,180,785
Average Worker Density (per km <sup>2</sup> )	101

Job and worker totals are based on LEHD estimates and may not match other sources.

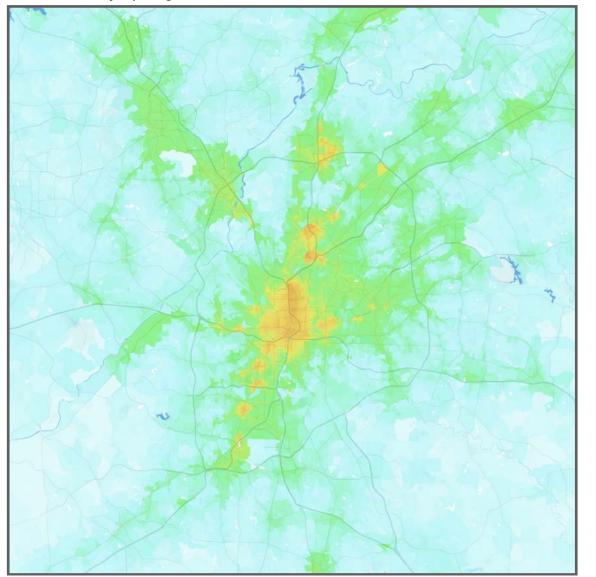
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Cobb Community Transit	January 15, 2014 – January 15, 2015
GRTA Xpress	January 01, 2013 - December 31, 2014
Metropolitan Atlanta Rapid Transit Authority	December 14, 2013 - December 18, 2014

## Atlanta

Atlanta-Sandy Springs-Marietta, GA



Jobs within 30 minutes by transit, averaged 7 - 9 AM



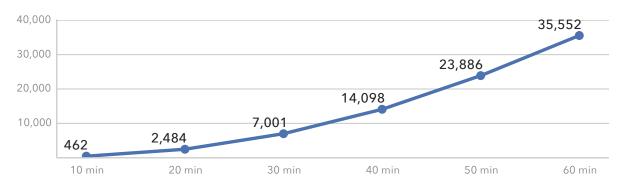
## Austin

Austin-Round Rock-San Marcos, TX

Rank by Weighted Accessibility	39
Rank by Total Employment	31
Total Jobs	851,758
Average Job Density (per km <sup>2</sup> )	78
Total Workers	790,961
Average Worker Density (per km <sup>2</sup> )	72

Job and worker totals are based on LEHD estimates and may not match other sources.

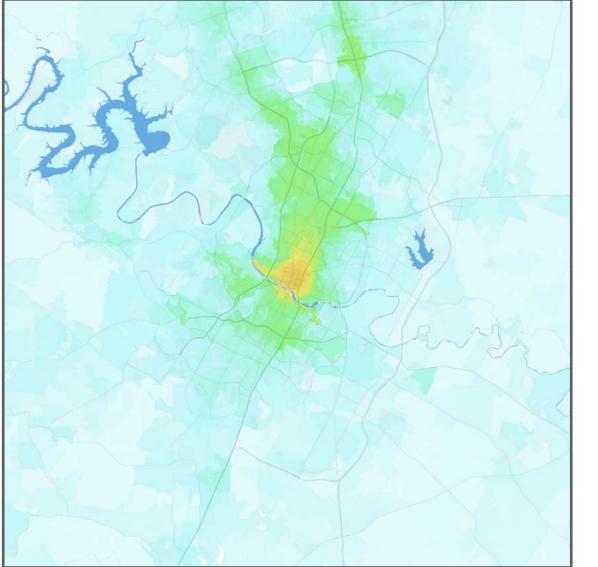
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Capital Metro	January 12, 2014 - August 23, 2014

## Austin

Austin-Round Rock-San Marcos, TX



Jobs within 30 minutes by transit, averaged 7 - 9 AM 0 - 1,000 1,000 - 2,500 2,500 - 5,000 5,000 - 7,500 7,500 - 10,000 10,000 - 25,000 25,000 - 50,000 50,000 - 75,000 75,000 - 100,000 100,000 - 250,000 250,000 - 500,000 500,000 - 750,000 750,000 - 1,000,000 1,000,000 +

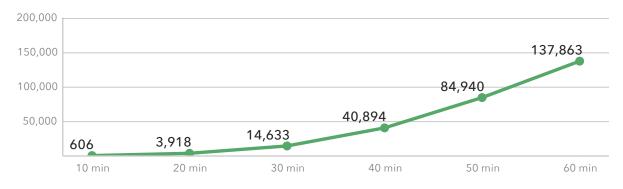
## Baltimore

Baltimore-Towson, MD

Rank by Weighted Accessibility	14
Rank by Total Employment	19
Total Jobs	1,229,454
Average Job Density (per km <sup>2</sup> )	182
Total Workers	1,243,101
Average Worker Density (per km <sup>2</sup> )	184

Job and worker totals are based on LEHD estimates and may not match other sources.

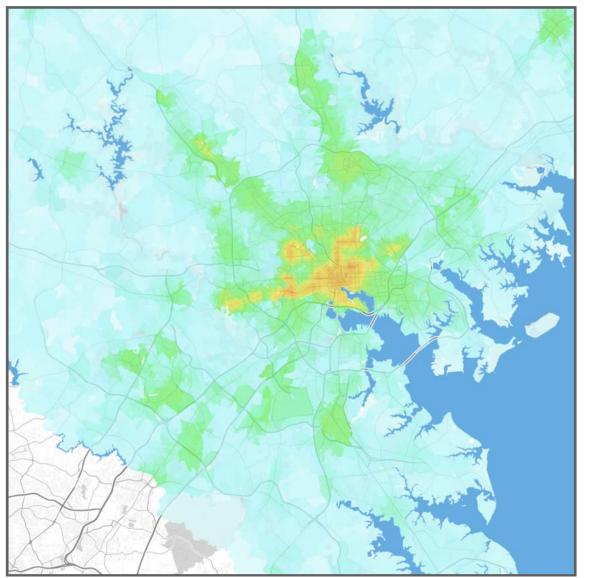
#### Job Accessibility by Travel Time Threshold



Agency	Dates
DC Circulator	January 20, 2014 - July 18, 2014
MET	January 20, 2014 - July 18, 2014
MTA Office of Local Transit Support	December 28, 2013 - August 23, 2014
Maryland Transit Administration	December 28, 2013 - August 23, 2014

## Baltimore

Baltimore-Towson, MD



Jobs within 30 minutes by transit, averaged 7 - 9 AM 0 - 1,000 1,000 - 2,500 2,500 - 5,000

5,000 - 7,500

7,500 - 10,000

10,000 - 25,000

25,000 - 50,000

50,000 - 75,000

75,000 - 100,000

100,000 - 250,000

250,000 - 500,000

500,000 - 750,000

750,000 - 1,000,000

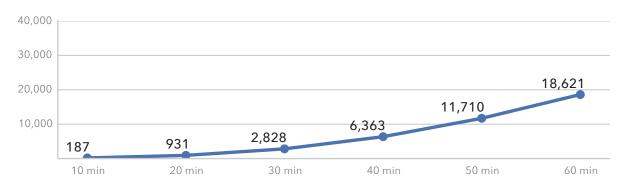
1,000,000 +

# **Birmingham** Birmingham-Hoover, AL

Rank by Weighted Accessibility	46
Rank by Total Employment	46
Total Jobs	482,882
Average Job Density (per km <sup>2</sup> )	35
Total Workers	455,937
Average Worker Density (per km <sup>2</sup> )	33

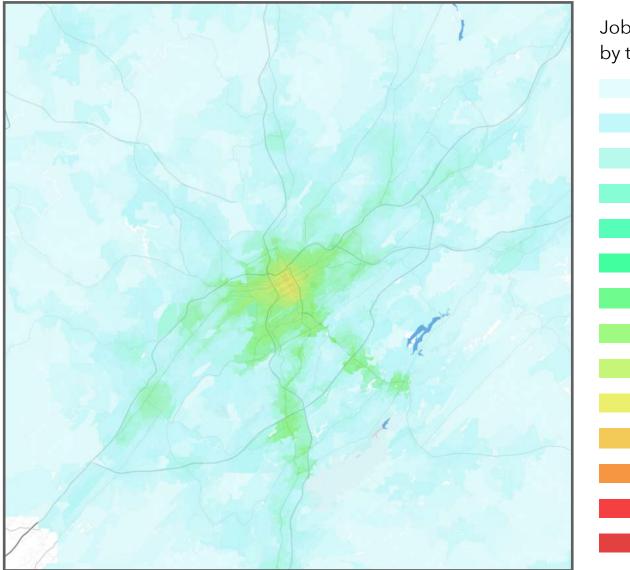
Job and worker totals are based on LEHD estimates and may not match other sources.

#### Job Accessibility by Travel Time Threshold



Agency	Dates
Birmingham Jefferson County Transit Authority	January 01, 2014 - December 31, 2014

## **Birmingham** Birmingham-Hoover, AL



Jobs within 30 minutes by transit, averaged 7 - 9 AM 0 - 1,000 1,000 - 2,500 2,500 - 5,000 5,000 - 7,500 7,500 - 10,000 10,000 - 25,000 25,000 - 50,000 50,000 - 75,000 75,000 - 100,000 100,000 - 250,000 250,000 - 500,000 500,000 - 750,000 750,000 - 1,000,000 1,000,000 +

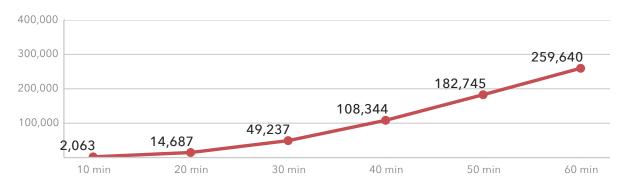
## Boston

Boston-Cambridge-Quincy, MA-NH

Rank by Weighted Accessibility	6
Rank by Total Employment	10
Total Jobs	2,207,906
Average Job Density (per km <sup>2</sup> )	244
Total Workers	3,402,940
Average Worker Density (per km <sup>2</sup> )	377

Job and worker totals are based on data from the EPA Smart Location Database and may not match other sources.

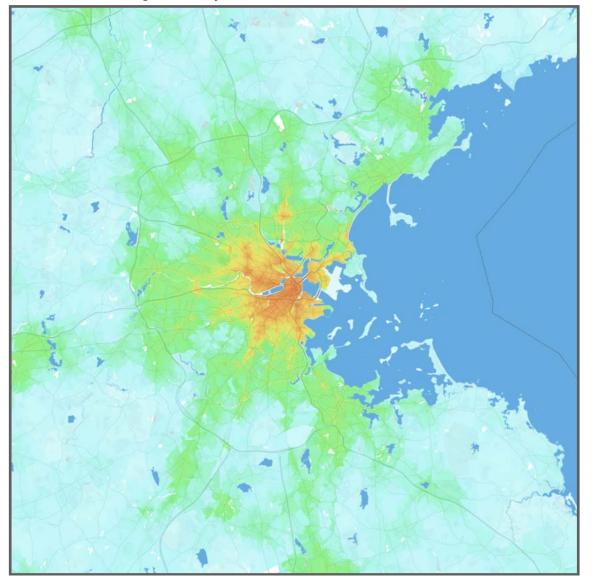
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Brockton Area Transit Authority	April 21, 2014 - January 08, 2020
Cape Ann Transportation Authority	August 01, 2009 - June 29, 2014
Cape Cod Regional Transit Authority (CCRTA)	May 24, 2013 - September 01, 2014
Lexpress	June 01, 2009 - June 30, 2010
Lowell Regional Transit Authority	January 01, 2000 - January 24, 2015
MBTA	December 05, 2013 - March 21, 2014
Massport	December 05, 2013 - March 21, 2014
Merrimack Valley Regional Transit Authority	October 26, 2012 - December 31, 2014
MetroWest Regional Transit Authority	September 24, 2013 - September 23, 2014
Montachusett Regional Transit Authority	September 01, 2012 - May 26, 2014
Rhode Island Public Transit Authority	March 01, 2014 - August 22, 2014

### Boston

Boston-Cambridge-Quincy, MA-NH



Jobs within 30 minutes by transit, averaged 7 - 9 AM



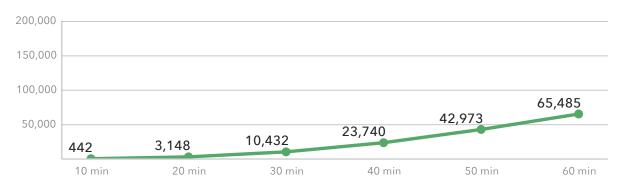
## **Buffalo**

Buffalo-Niagara Falls, NY

Rank by Weighted Accessibility	25
Rank by Total Employment	44
Total Jobs	544,584
Average Job Density (per km <sup>2</sup> )	134
Total Workers	522,212
Average Worker Density (per km <sup>2</sup> )	129

Job and worker totals are based on LEHD estimates and may not match other sources.

#### Job Accessibility by Travel Time Threshold



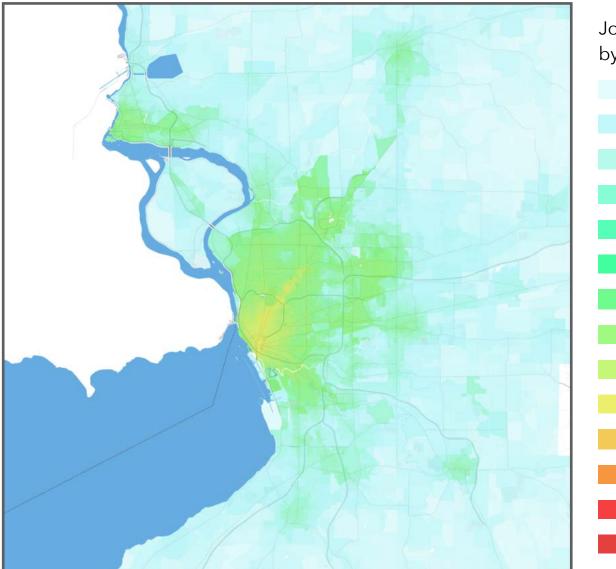
#### **Transit Schedules Included**

Agency Dates

NFTA - Metro January 15, 2014 - March 09, 2014

Buffalo

Buffalo-Niagara Falls, NY



Jobs within 30 minutes by transit, averaged 7 - 9 AM 0 - 1,000 1,000 - 2,500 2,500 - 5,000 5,000 - 7,500 7,500 - 10,000 10,000 - 25,000 25,000 - 50,000 50,000 - 75,000 75,000 - 100,000 100,000 - 250,000 250,000 - 500,000 500,000 - 750,000 750,000 - 1,000,000 1,000,000 +

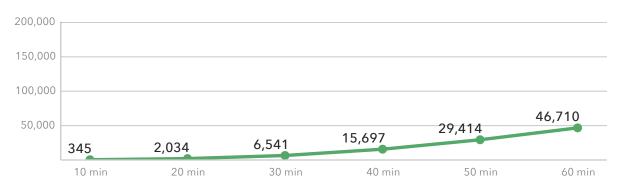
## Charlotte

Charlotte-Gastonia-Rock Hill, NC-SC

Rank by Weighted Accessibility	35
Rank by Total Employment	33
Total Jobs	839,916
Average Job Density (per km <sup>2</sup> )	105
Total Workers	771,127
Average Worker Density (per km <sup>2</sup> )	97

Job and worker totals are based on LEHD estimates and may not match other sources.

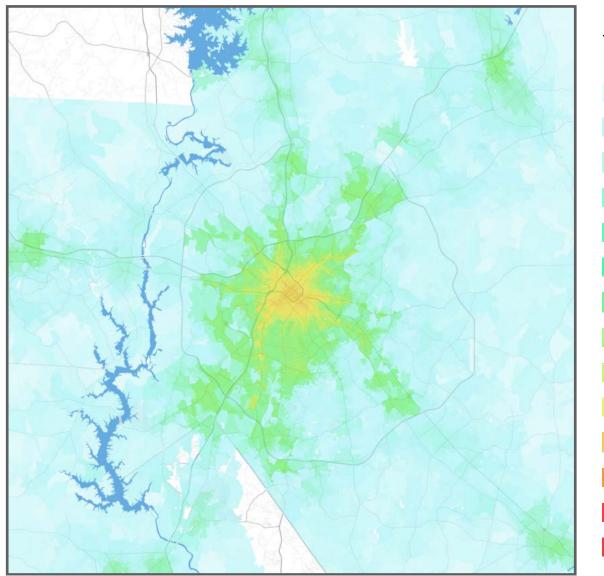
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Charlotte Area Transit System	January 10, 2013 - June 02, 2013

## Charlotte

Charlotte-Gastonia-Rock Hill, NC-SC



Jobs within 30 minutes by transit, averaged 7 - 9 AM 0 - 1,000 1,000 - 2,500 2,500 - 5,000 5,000 - 7,500 7,500 - 10,000 10,000 - 25,000 25,000 - 50,000 50,000 - 75,000 75,000 - 100,000 100,000 - 250,000 250,000 - 500,000

500,000 - 750,000

750,000 - 1,000,000

1,000,000 +

**Chicago** Chicago-Joliet-Naperville, IL-IN-WI

Rank by Weighted Accessibility	5
Rank by Total Employment	3
Total Jobs	4,255,555
Average Job Density (per km <sup>2</sup> )	228
Total Workers	4,156,582
Average Worker Density (per km <sup>2</sup> )	223

Job and worker totals are based on LEHD estimates and may not match other sources.

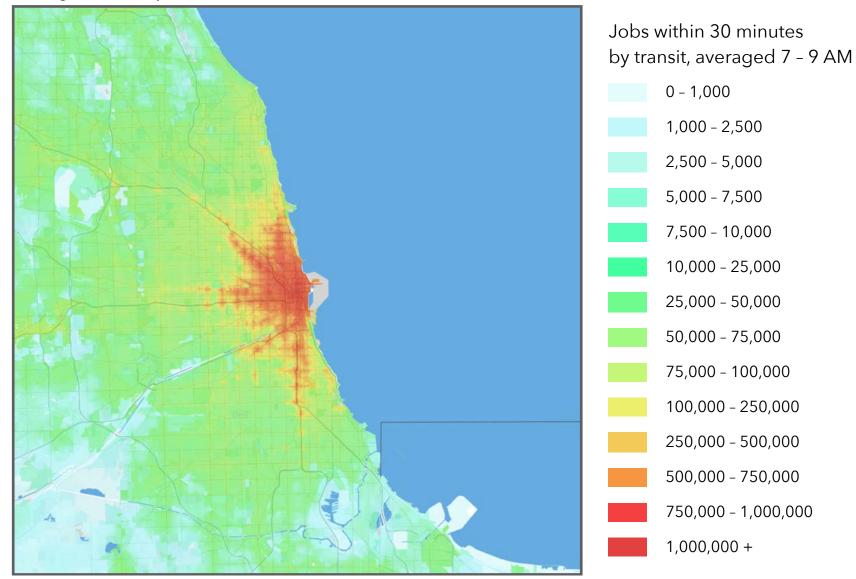
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Chicago Transit Authority	December 27, 2013 - February 28, 2014
Metra	January 01, 2014 - December 31, 2014
PACE	November 25, 2013 - March 15, 2014

## Chicago

Chicago-Joliet-Naperville, IL-IN-WI



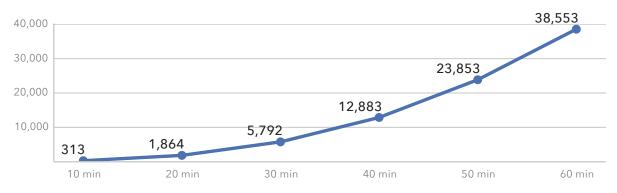
## Cincinnati

Cincinnati-Middletown, OH-KY-IN

Rank by Weighted Accessibility	41
Rank by Total Employment	27
Total Jobs	954,320
Average Job Density (per km <sup>2</sup> )	84
Total Workers	951,583
Average Worker Density (per $km^2$ )	84

Job and worker totals are based on LEHD estimates and may not match other sources.

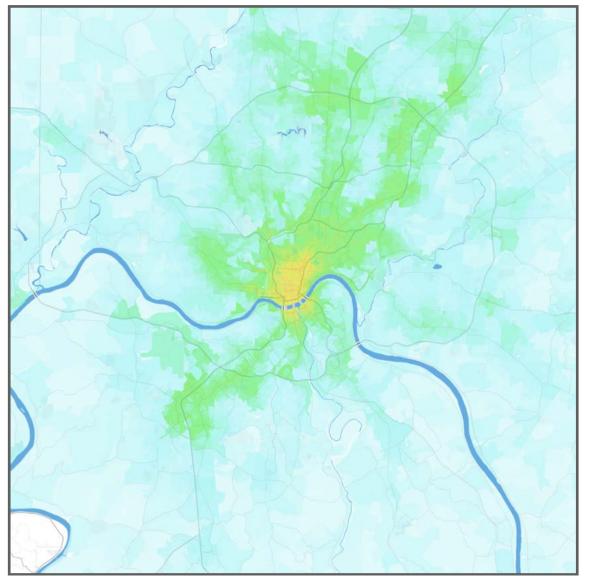
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Southwest Ohio Regional Transit Authority	February 17, 2014 - June 14, 2014
Transit Authority of Northern Kentucky	November 02, 2013 - April 30, 2014

## Cincinnati

Cincinnati-Middletown, OH-KY-IN



Jobs within 30 minutes by transit, averaged 7 - 9 AM 0 - 1,000



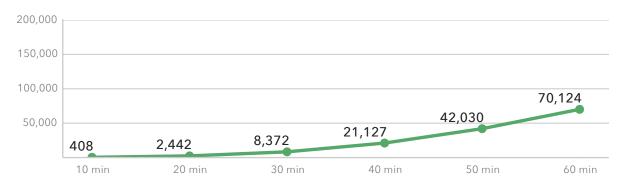
## Cleveland

Cleveland-Elyria-Mentor, OH

Rank by Weighted Accessibility	26
Rank by Total Employment	25
Total Jobs	984,589
Average Job Density (per km <sup>2</sup> )	190
Total Workers	925,055
Average Worker Density (per km <sup>2</sup> )	179

Job and worker totals are based on LEHD estimates and may not match other sources.

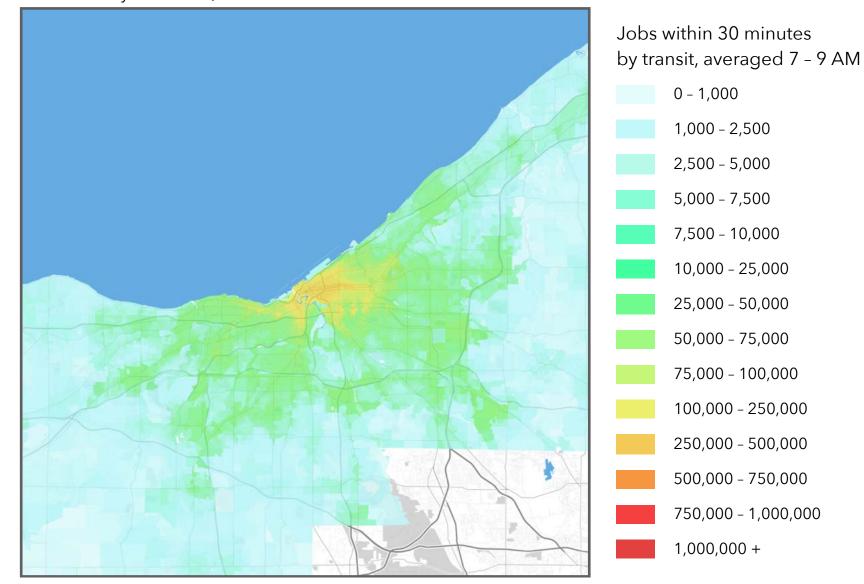
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Greater Cleveland Regional Transit Authority	December 15, 2013 - June 07, 2014

## Cleveland

Cleveland-Elyria-Mentor, OH



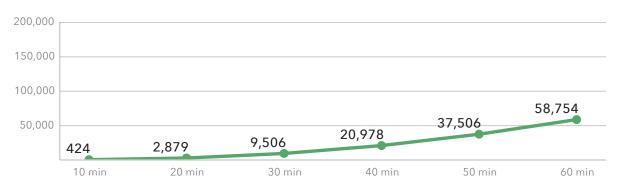
## Columbus

Columbus, OH

Rank by Weighted Accessibility	27
Rank by Total Employment	28
Total Jobs	902,579
Average Job Density (per km <sup>2</sup> )	88
Total Workers	834,633
Average Worker Density (per km <sup>2</sup> )	81

Job and worker totals are based on LEHD estimates and may not match other sources.

#### Job Accessibility by Travel Time Threshold

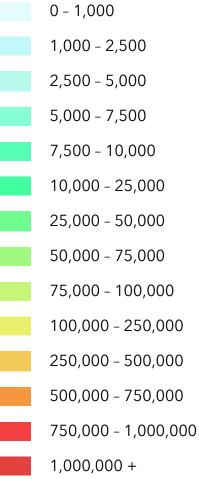


Agency	Dates
Central Ohio Transit Authority	January 06, 2014 - May 04, 2014

# Columbus

Columbus, OH





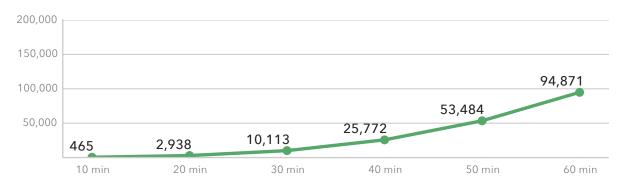
# Dallas

Dallas-Fort Worth-Arlington, TX

Rank by Weighted Accessibility	21
Rank by Total Employment	4
Total Jobs	2,974,327
Average Job Density (per km <sup>2</sup> )	129
Total Workers	2,864,933
Average Worker Density (per km <sup>2</sup> )	124

Job and worker totals are based on LEHD estimates and may not match other sources.

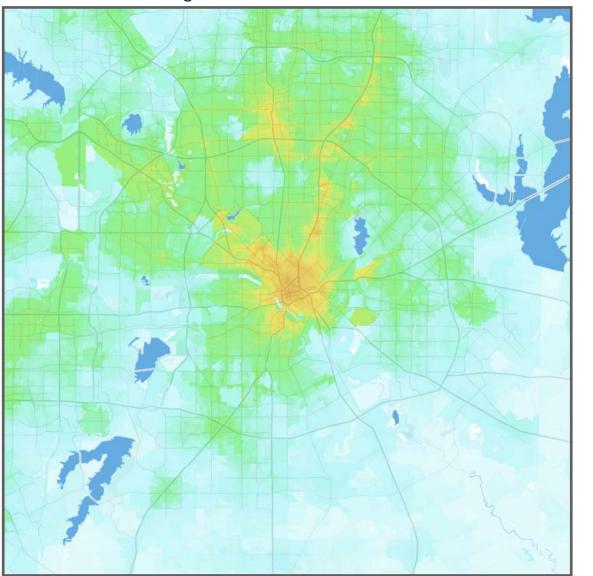
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Dallas Area Rapid Transit	November 04, 2013 - March 30, 2014
Fort Worth Transportation Authority	January 19, 2014 - September 13, 2014

# Dallas

Dallas-Fort Worth-Arlington, TX



Jobs within 30 minutes by transit, averaged 7 - 9 AM 0 - 1,000 1,000 - 2,500 2,500 - 5,000 5,000 - 7,500 7,500 - 10,000 10,000 - 25,000 25,000 - 50,000 50,000 - 75,000 75,000 - 100,000 100,000 - 250,000 250,000 - 500,000 500,000 - 750,000 750,000 - 1,000,000 1,000,000 +

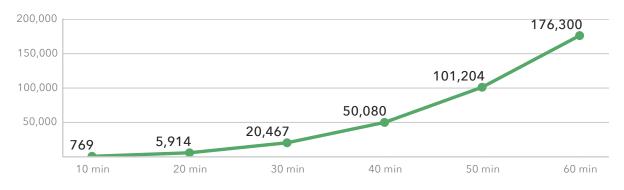
# Denver

Denver-Aurora-Broomfield, CO

Rank by Weighted Accessibility	9
Rank by Total Employment	18
Total Jobs	1,232,324
Average Job Density (per km <sup>2</sup> )	57
Total Workers	1,180,703
Average Worker Density (per km <sup>2</sup> )	55

Job and worker totals are based on LEHD estimates and may not match other sources.

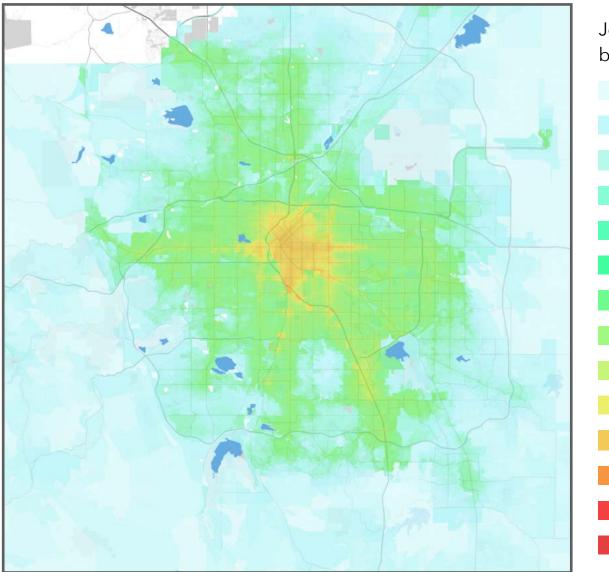
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Regional Transportation District	January 05, 2014 - May 10, 2014

## Denver

Denver-Aurora-Broomfield, CO





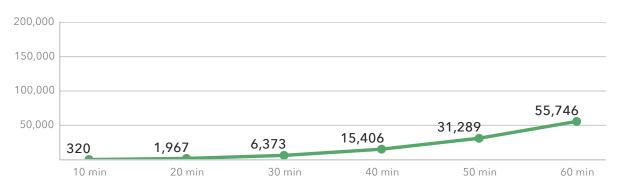
# Detroit

Detroit-Warren-Livonia, MI

Rank by Weighted Accessibility	34
Rank by Total Employment	12
Total Jobs	1,717,913
Average Job Density (per km <sup>2</sup> )	171
Total Workers	1,712,027
Average Worker Density (per km <sup>2</sup> )	170

Job and worker totals are based on LEHD estimates and may not match other sources.

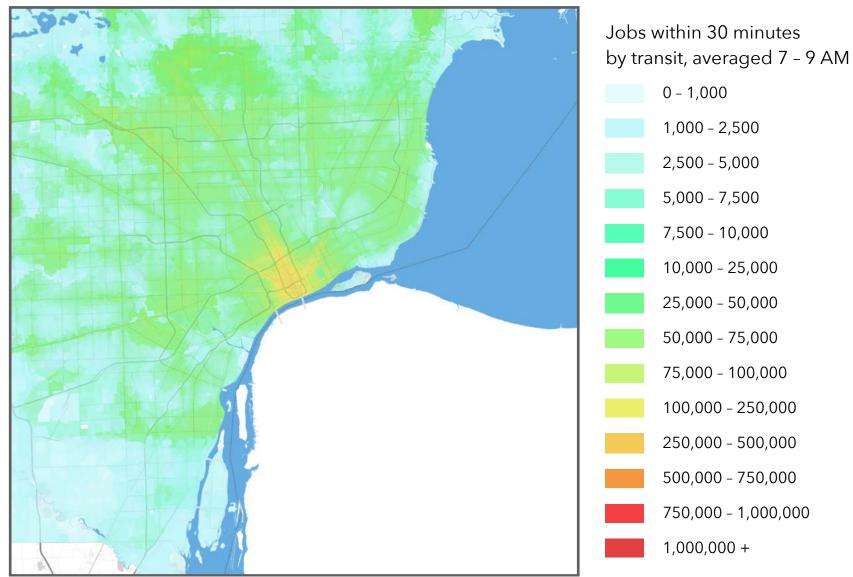
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Ann Arbor Transportation Authority	January 29, 2012 - August 25, 2012
Detroit Department of Transportation	February 03, 2014 - June 28, 2014
SMART	September 01, 2014 - January 04, 2015

Detroit

Detroit-Warren-Livonia, MI



37

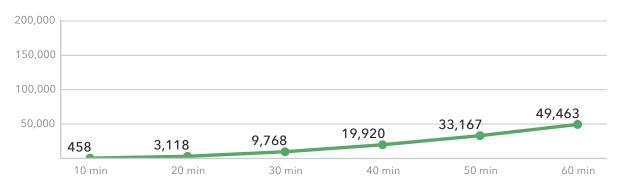
# Hartford

Hartford-West Hartford-East Hartford, CT

Rank by Weighted Accessibility	29
Rank by Total Employment	40
Total Jobs	616,469
Average Job Density (per km <sup>2</sup> )	157
Total Workers	560,748
Average Worker Density (per km <sup>2</sup> )	143

Job and worker totals are based on LEHD estimates and may not match other sources.

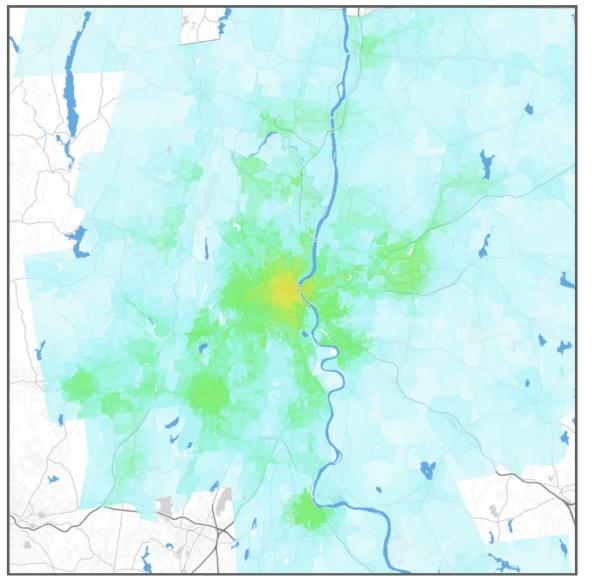
#### Job Accessibility by Travel Time Threshold



Agency	Dates
CTTransit- Hartford	May 04, 2014 - December 31, 2014
CTTransit- Meriden	January 06, 2013 - November 22, 2014
CTTransit- New Britain-Bristol	October 01, 2013 - October 25, 2014
CTTransit- New Haven	August 24, 2014 - December 07, 2014
CTTransit- Waterbury	October 24, 2011 - November 22, 2014
MNR Hudson Rail Link	January 18, 2014 - May 11, 2014
Metro-North Railroad	January 18, 2014 - May 11, 2014
NY Waterway	January 18, 2014 – May 11, 2014
PVTA	February 25, 2014 - September 01, 2014
Shore Line East	January 18, 2014 - May 11, 2014

# Hartford

Hartford-West Hartford-East Hartford, CT



Jobs within 30 minutes by transit, averaged 7 - 9 AM 0 - 1,000 1,000 - 2,500 2,500 - 5,000 5,000 - 7,500 7,500 - 10,000 10,000 - 25,000 25,000 - 50,000 50,000 - 75,000 75,000 - 100,000 100,000 - 250,000 250,000 - 500,000 500,000 - 750,000 750,000 - 1,000,000

1,000,000 +

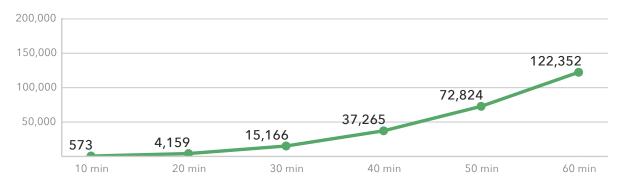
# Houston

Houston-Sugar Land-Baytown, TX

Rank by Weighted Accessibility	16
Rank by Total Employment	7
Total Jobs	2,636,575
Average Job Density (per km <sup>2</sup> )	115
Total Workers	2,543,501
Average Worker Density (per km <sup>2</sup> )	111

Job and worker totals are based on LEHD estimates and may not match other sources.

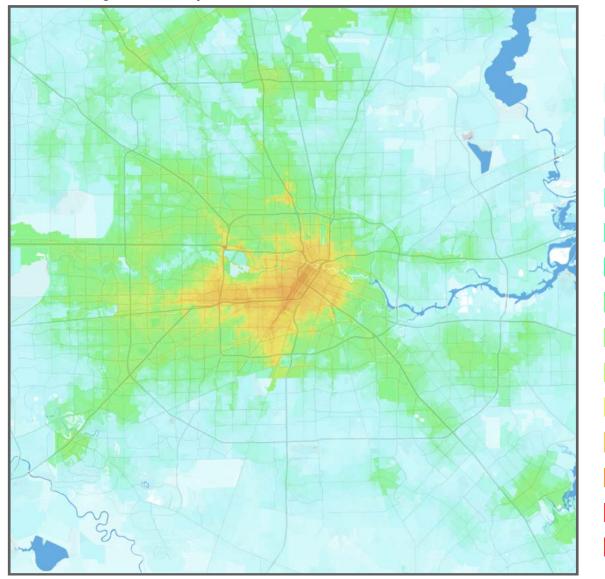
#### Job Accessibility by Travel Time Threshold



Agency Dates	
Metropolitan Transit Authority of Harris County	January 26, 2014 - June 07, 2014

# Houston

Houston-Sugar Land-Baytown, TX



0 – 1,000
1,000 - 2,500
2,500 - 5,000
5,000 - 7,500
7,500 - 10,000
10,000 - 25,000
25,000 - 50,000
50,000 - 75,000
75,000 - 100,000
100,000 - 250,000
250,000 - 500,000
500,000 - 750,000
750,000 - 1,000,000
1,000,000 +

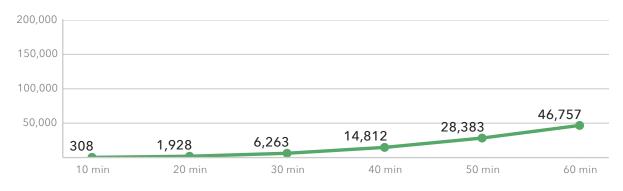
# Indianapolis

Indianapolis-Carmel, IN

Rank by Weighted Accessibility	38
Rank by Total Employment	29
Total Jobs	893,513
Average Job Density (per km <sup>2</sup> )	90
Total Workers	813,598
Average Worker Density (per km <sup>2</sup> )	81

Job and worker totals are based on LEHD estimates and may not match other sources.

#### Job Accessibility by Travel Time Threshold

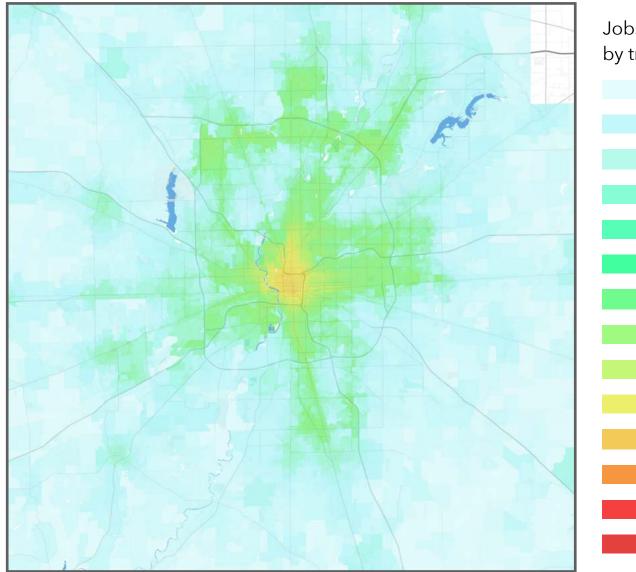


#### **Transit Schedules Included**

Agency Dates

IndyGo	January 22, 2014 - June 07, 2014
--------	----------------------------------

# Indianapolis Indianapolis-Carmel, IN



Jobs within 30 minutes by transit, averaged 7 - 9 AM 0 - 1,000 1,000 - 2,500 2,500 - 5,000 5,000 - 7,500 7,500 - 10,000 10,000 - 25,000 25,000 - 50,000 50,000 - 75,000 75,000 - 100,000 100,000 - 250,000 250,000 - 500,000 500,000 - 750,000 750,000 - 1,000,000

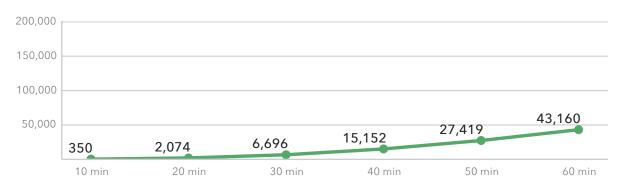
1,000,000 +

# Kansas City Kansas City, MO-KS

Rank by Weighted Accessibility	37
Rank by Total Employment	26
Total Jobs	961,827
Average Job Density (per km <sup>2</sup> )	47
Total Workers	944,847
Average Worker Density (per km <sup>2</sup> )	47

Job and worker totals are based on LEHD estimates and may not match other sources.

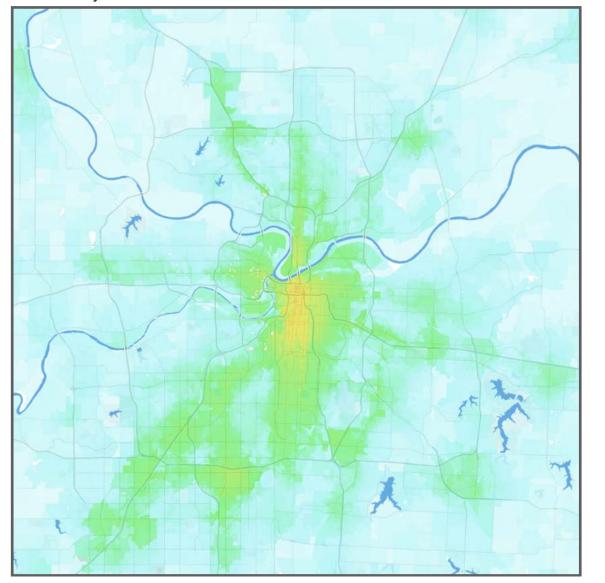
#### Job Accessibility by Travel Time Threshold



#### **Transit Schedules Included**

Agency	Dates
JOCO	January 01, 2013 – January 03, 2015
KCATA	January 05, 2014 - June 28, 2014

# Kansas City Kansas City, MO-KS



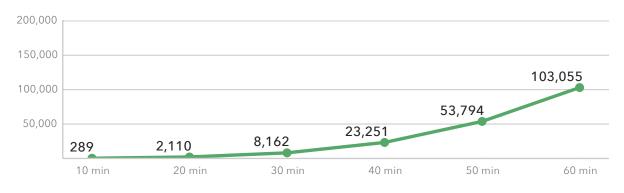


# **Las Vegas** Las Vegas-Paradise, NV

Rank by Weighted Accessibility	24
Rank by Total Employment	36
Total Jobs	818,942
Average Job Density (per km <sup>2</sup> )	40
Total Workers	799,219
Average Worker Density (per km <sup>2</sup> )	39

Job and worker totals are based on LEHD estimates and may not match other sources.

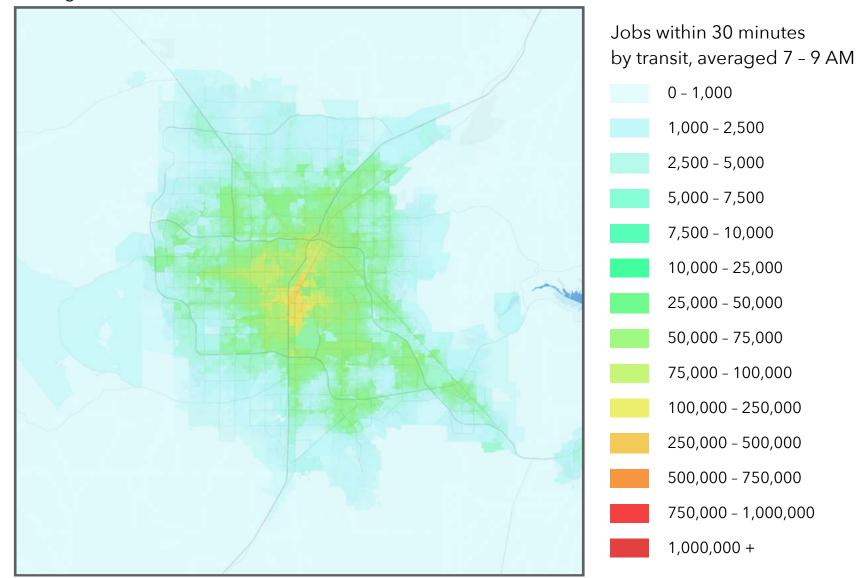
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Regional Transportation Commission of Southern Nevada	October 27, 2013 - October 25, 2014

# Las Vegas

Las Vegas-Paradise, NV



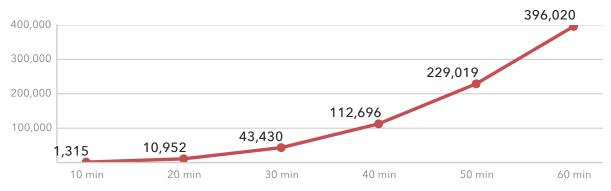
47

Los Angeles Los Angeles-Long Beach-Santa Ana, CA

Rank by Weighted Accessibility	3
Rank by Total Employment	2
Total Jobs	5,626,974
Average Job Density (per km <sup>2</sup> )	448
Total Workers	5,239,396
Average Worker Density (per km <sup>2</sup> )	417

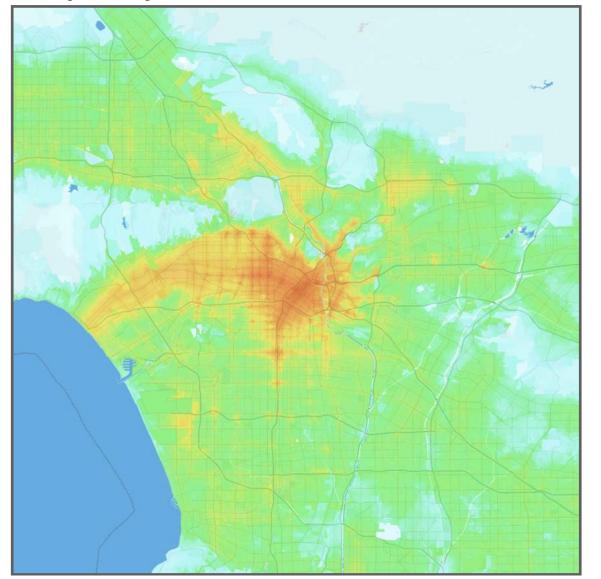
Job and worker totals are based on LEHD estimates and may not match other sources.

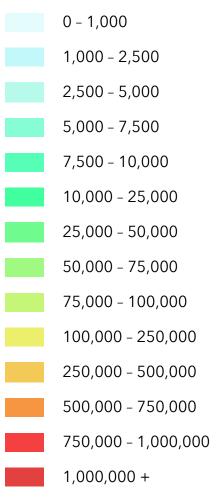
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Big Blue Bus	February 04, 2014 - June 14, 2016
Eastern Sierra Transit Authority	January 01, 2014 - January 01, 2015
Irvine Shuttle	December 01, 2009 - December 31, 2010
Laguna Beach Transit	October 21, 2013 - January 01, 2015
Metro - Los Angeles	December 15, 2013 - June 28, 2014
Metrolink Trains	April 22, 2013 - July 01, 2015
North County Transit District	October 06, 2013 - April 05, 2014
OMNITRANS	January 06, 2014 - August 31, 2014
Orange County Transportation Authority	October 13, 2013 - February 08, 2014
Riverside Transit Agency	December 20, 2013 - May 10, 2014
Thousand Oaks Transit	August 25, 2012 - August 25, 2013
Torrance Transit	July 14, 2013 - October 04, 2014
Victor Valley Transit Authority	January 01, 2014 - January 01, 2016

Los Angeles Los Angeles-Long Beach-Santa Ana, CA





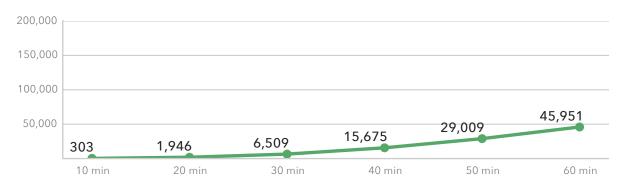
# Louisville

Louisville/Jefferson County, KY-IN

Rank by Weighted Accessibility	36
Rank by Total Employment	42
Total Jobs	591,128
Average Job Density (per km <sup>2</sup> )	56
Total Workers	576,300
Average Worker Density (per km <sup>2</sup> )	54

Job and worker totals are based on LEHD estimates and may not match other sources.

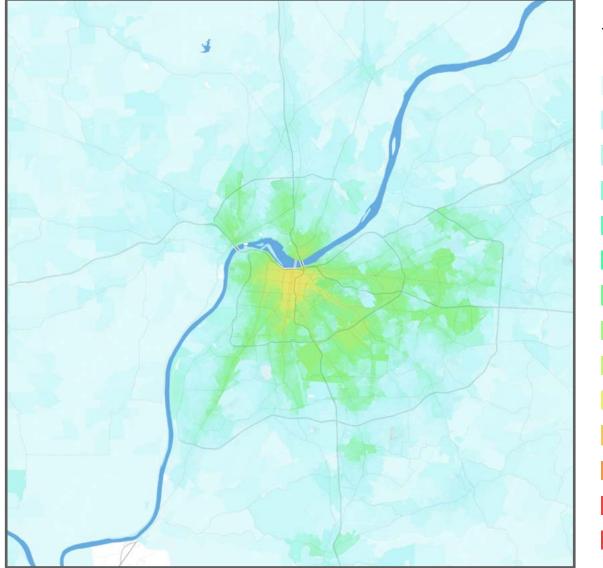
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Transit Authority of River City	January 26, 2014 - June 07, 2014

## Louisville

Louisville/Jefferson County, KY-IN



Jobs within 30 minutes by transit, averaged 7 - 9 AM 0 - 1,000 1,000 - 2,500 2,500 - 5,000 5,000 - 7,500 7,500 - 10,000 10,000 - 25,000 25,000 - 50,000 50,000 - 75,000 75,000 - 100,000 100,000 - 250,000 250,000 - 500,000 500,000 - 750,000 750,000 - 1,000,000 1,000,000 +

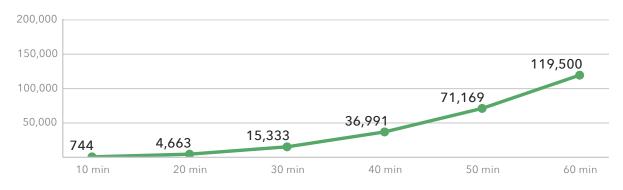
# Miami

Miami-Fort Lauderdale-Pompano Beach, FL

Rank by Weighted Accessibility	15
Rank by Total Employment	8
Total Jobs	2,261,356
Average Job Density (per km <sup>2</sup> )	172
Total Workers	2,194,802
Average Worker Density (per km <sup>2</sup> )	167

Job and worker totals are based on LEHD estimates and may not match other sources.

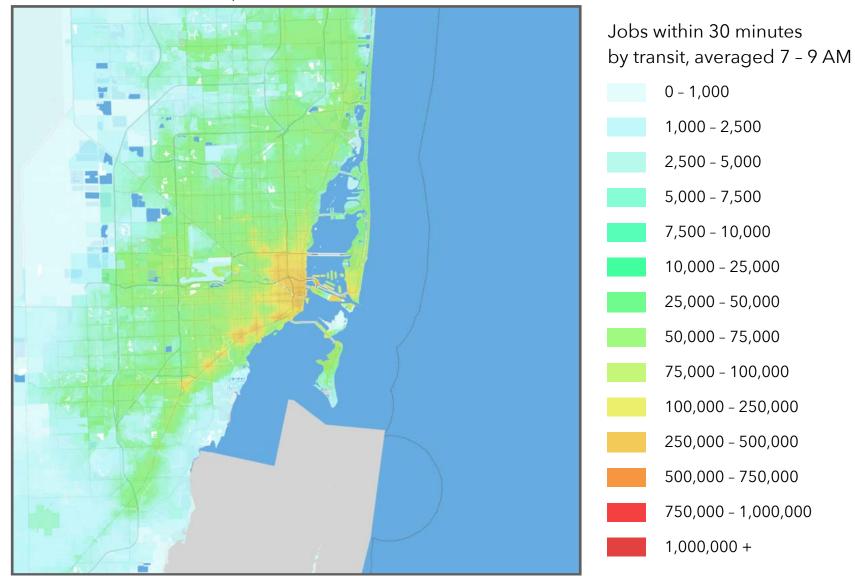
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Broward County Transit	January 10, 2014 - April 26, 2014
Miami Dade Transit	November 14, 2013 - September 06, 2014

# Miami

Miami-Fort Lauderdale-Pompano Beach, FL



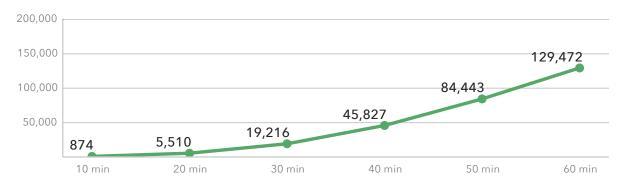
# Milwaukee

Milwaukee-Waukesha-West Allis, WI

Rank by Weighted Accessibility	12
Rank by Total Employment	35
Total Jobs	819,051
Average Job Density (per km <sup>2</sup> )	217
Total Workers	742,523
Average Worker Density (per km <sup>2</sup> )	197

Job and worker totals are based on LEHD estimates and may not match other sources.

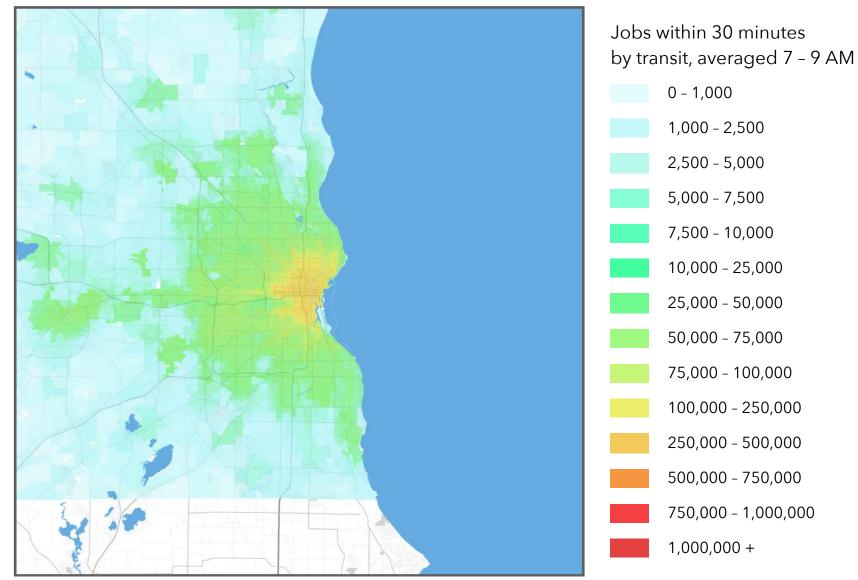
### Job Accessibility by Travel Time Threshold



Agency	Dates
Milwaukee County Transit System	January 19, 2014 - March 23, 2014

# Milwaukee

Milwaukee-Waukesha-West Allis, WI



**Minneapolis** Minneapolis-St. Paul-Bloomington, MN-WI

Rank by Weighted Accessibility	13
Rank by Total Employment	14
Total Jobs	1,702,530
Average Job Density (per km <sup>2</sup> )	109
Total Workers	1,652,044
Average Worker Density (per km <sup>2</sup> )	106

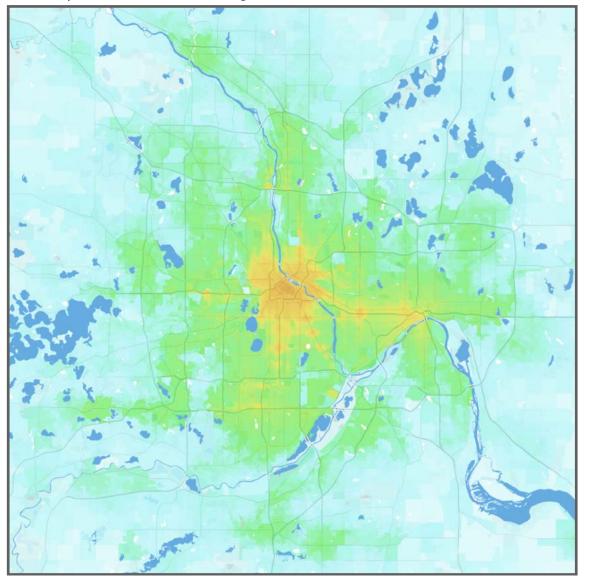
Job and worker totals are based on LEHD estimates and may not match other sources.

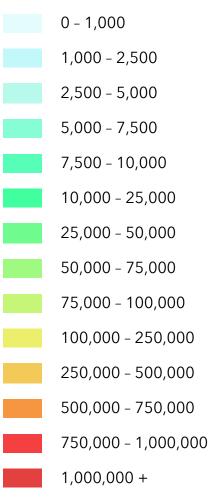
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Airport (MAC)	January 25, 2014 - March 07, 2014
Anoka County	January 25, 2014 - March 07, 2014
MVTA	November 12, 2013 - March 07, 2014
Maple Grove	January 25, 2014 - March 07, 2014
Metro	November 12, 2013 - March 07, 2014
Metro Transit	January 25, 2014 - March 07, 2014
Minnesota Valley	January 25, 2014 - March 07, 2014
Plymouth	January 25, 2014 - March 07, 2014
Prior Lake	January 25, 2014 - March 07, 2014
Scott County	January 25, 2014 - March 07, 2014
Shakopee	January 25, 2014 - March 07, 2014
SouthWest Transit	January 25, 2014 - March 07, 2014
University of Minnesota	January 25, 2014 - March 07, 2014

**Minneapolis** Minneapolis-St. Paul-Bloomington, MN-WI





# Nashville

Nashville-Davidson-Murfreesboro-Franklin, TN

Rank by Weighted Accessibility	43
Rank by Total Employment	37
Total Jobs	771,508
Average Job Density (per km <sup>2</sup> )	52
Total Workers	701,990
Average Worker Density (per km <sup>2</sup> )	48

Job and worker totals are based on LEHD estimates and may not match other sources.

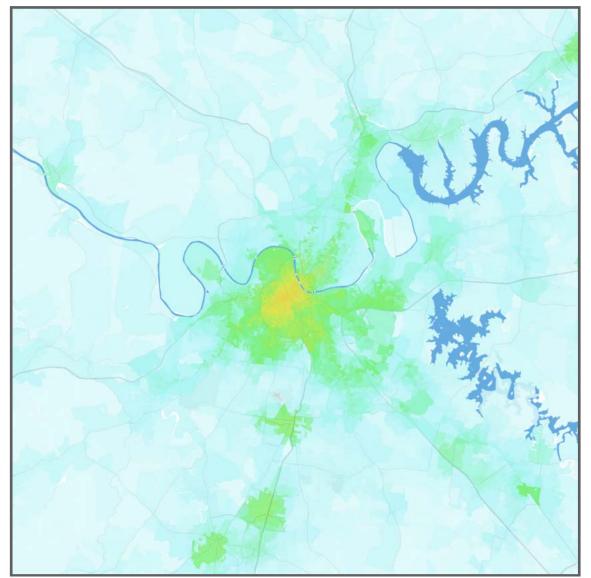
#### Job Accessibility by Travel Time Threshold



Agency	Dates
MTA	March 30, 2014 - March 28, 2015
RTA	March 30, 2014 - March 28, 2015

# Nashville

Nashville-Davidson-Murfreesboro-Franklin, TN



0 - 1,000
1,000 - 2,500
2,500 - 5,000
5,000 - 7,500
7,500 - 10,000
10,000 - 25,000
25,000 - 50,000
50,000 - 75,000
75,000 - 100,000
100,000 - 250,000
250,000 - 500,000
500,000 - 750,000
750,000 - 1,000,000
1,000,000 +

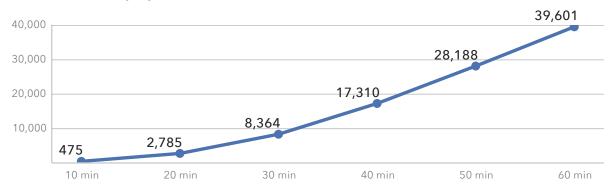
# **New Orleans**

New Orleans-Metairie-Kenner, LA

Rank by Weighted Accessibility	32
Rank by Total Employment	45
Total Jobs	484,686
Average Job Density (per km <sup>2</sup> )	63
Total Workers	454,816
Average Worker Density (per km <sup>2</sup> )	59

Job and worker totals are based on LEHD estimates and may not match other sources.

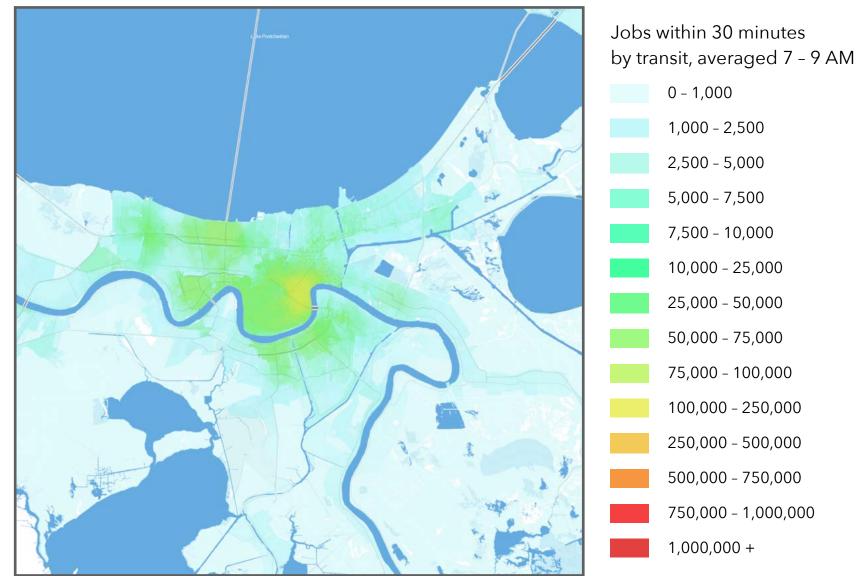
#### Job Accessibility by Travel Time Threshold



Agency	Dates
New Orleans RTA	June 29, 2014 - January 03, 2015

## **New Orleans**

New Orleans-Metairie-Kenner, LA



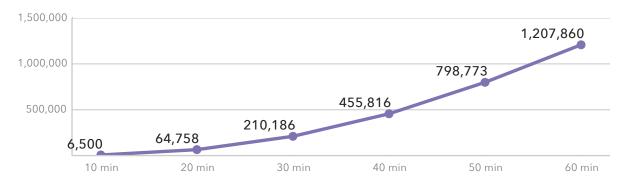
# **New York**

New York-Northern New Jersey-Long Island, NY-NJ-PA

Rank by Weighted Accessibility	1
Rank by Total Employment	1
Total Jobs	8,297,892
Average Job Density (per km <sup>2</sup> )	479
Total Workers	8,102,471
Average Worker Density (per km <sup>2</sup> )	468
	1

Job and worker totals are based on LEHD estimates and may not match other sources.

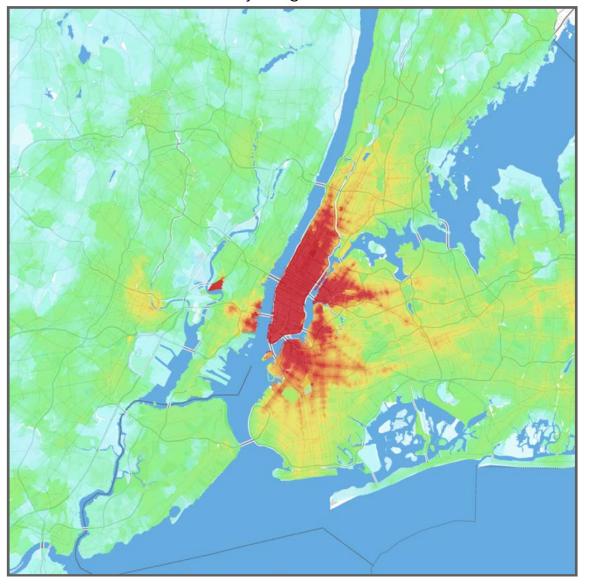
#### Job Accessibility by Travel Time Threshold



Agency	Dates
CTTransit- Stamford	July 20, 2014 - November 07, 2015
Long Island Rail Road	November 02, 2013 - May 18, 2014
MNR Hudson Rail Link	January 18, 2014 - May 11, 2014
MTA Bus Company	February 02, 2014 - April 05, 2014
MTA New York City Transit	December 15, 2013 - December 31, 2014
MTA New York City Transit - Bronx	January 05, 2014 - April 05, 2014
MTA New York City Transit - Brooklyn	January 04, 2014 - April 05, 2014
MTA New York City Transit - Manhattan	January 04, 2014 - April 05, 2014
MTA New York City Transit - Queens	January 04, 2014 - April 05, 2014
MTA New York City Transit - Staten Island	January 05, 2014 - April 05, 2014
Metro-North Railroad	January 18, 2014 - May 11, 2014
Monroe County Transit Authority	May 01, 2010 - September 30, 2014
NJ TRANSIT BUS	February 20, 2014 - August 18, 2014
NJ TRANSIT RAIL	January 16, 2014 - July 14, 2014
NY Waterway	January 18, 2014 - May 11, 2014
Nassau Inter-County Express	January 12, 2014 - June 21, 2014
New York City Department of Transportation	January 01, 2013 - December 31, 2019
Port Authority Trans-Hudson Corporation	January 26, 2014 - January 01, 2015
Rockland County Department of Public Transportation	October 17, 2011 - April 06, 2013
Shore Line East	January 18, 2014 - May 11, 2014
Westchester County Department of Transportation	January 06, 2014 - June 21, 2014

## **New York**

New York-Northern New Jersey-Long Island, NY-NJ-PA





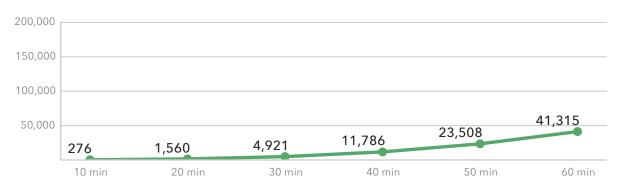
# Orlando

Orlando-Kissimmee-Sanford, FL

Rank by Weighted Accessibility	42
Rank by Total Employment	23
Total Jobs	1,024,046
Average Job Density (per km <sup>2</sup> )	114
Total Workers	930,605
Average Worker Density (per km <sup>2</sup> )	103

Job and worker totals are based on LEHD estimates and may not match other sources.

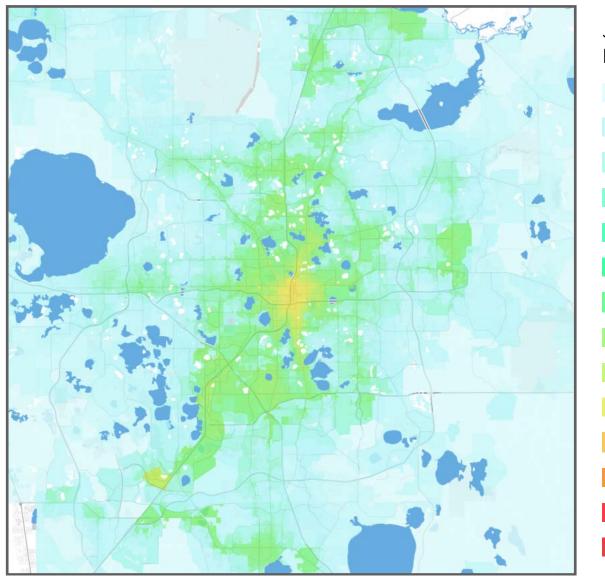
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Central Florida Regional Transit Authority	December 23, 2013 - April 05, 2014

# Orlando

Orlando-Kissimmee-Sanford, FL



Jobs within 30 minutes by transit, averaged 7 - 9 AM 0 - 1,000 1,000 - 2,500 2,500 - 5,000 5,000 - 7,500 7,500 - 10,000 10,000 - 25,000

25,000 - 50,000

50,000 - 75,000

75,000 - 100,000

100,000 - 250,000

250,000 - 500,000

500,000 - 750,000

750,000 - 1,000,000

1,000,000 +



Philadelphia Philadelphia-Camden-Wilmington, PA-NJ-DE-MD

Rank by Weighted Accessibility	7
Rank by Total Employment	6
Total Jobs	2,681,835
Average Job Density (per km <sup>2</sup> )	225
Total Workers	2,690,018
Average Worker Density (per km <sup>2</sup> )	226

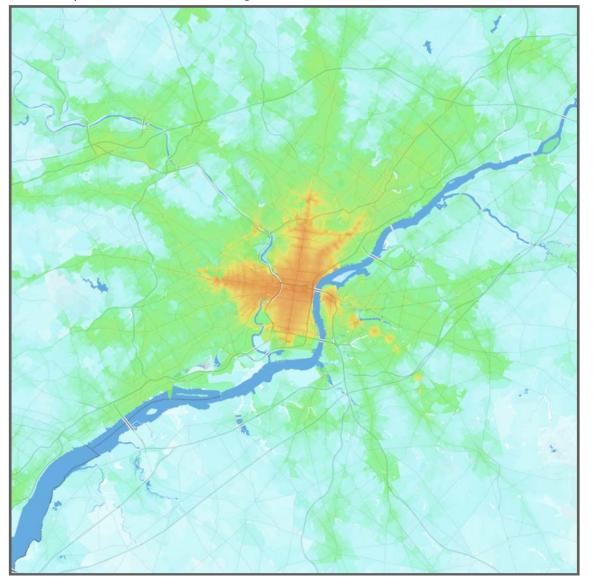
Job and worker totals are based on LEHD estimates and may not match other sources.

### Job Accessibility by Travel Time Threshold



Agency	Dates
DART First State	February 09, 2014 - May 17, 2014
MTA Office of Local Transit Support	December 28, 2013 - August 23, 2014
Maryland Transit Administration	December 28, 2013 - August 23, 2014
NJ TRANSIT BUS	February 20, 2014 - August 18, 2014
NJ TRANSIT RAIL	January 16, 2014 - July 14, 2014
Port Authority Transit Corporation	June 15, 2013 - June 15, 2023
SEPTA	January 19, 2014 - June 21, 2014

Philadelphia Philadelphia-Camden-Wilmington, PA-NJ-DE-MD



Jobs within 30 minutes by transit, averaged 7 - 9 AM



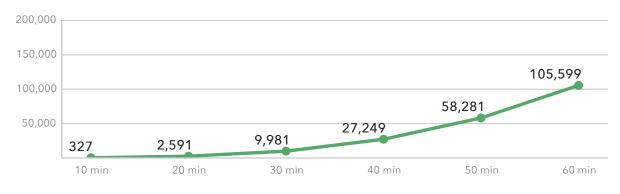
# Phoenix

Phoenix-Mesa-Glendale, AZ

Rank by Weighted Accessibility	19
Rank by Total Employment	13
Total Jobs	1,708,003
Average Job Density (per km <sup>2</sup> )	45
Total Workers	1,652,995
Average Worker Density (per km <sup>2</sup> )	44

Job and worker totals are based on LEHD estimates and may not match other sources.

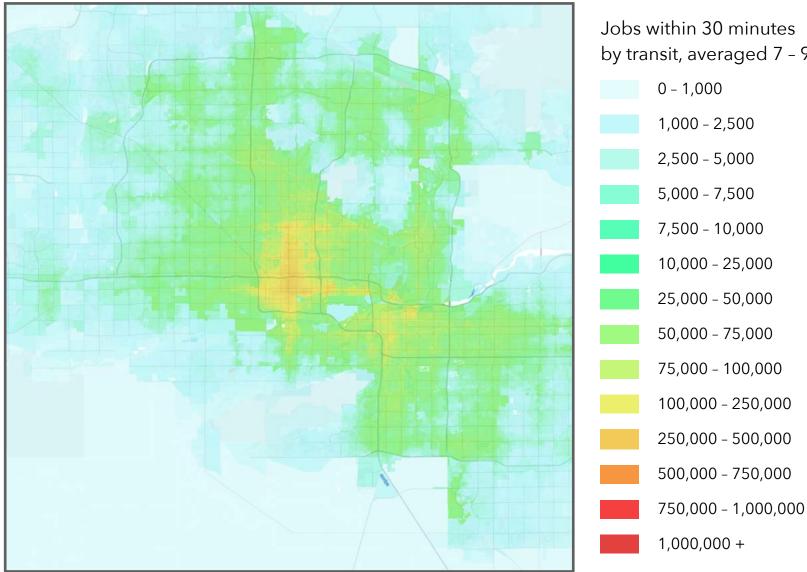
## Job Accessibility by Travel Time Threshold



Agency	Dates
Valley Metro	February 27, 2014 - August 25, 2014

# Phoenix

Phoenix-Mesa-Glendale, AZ



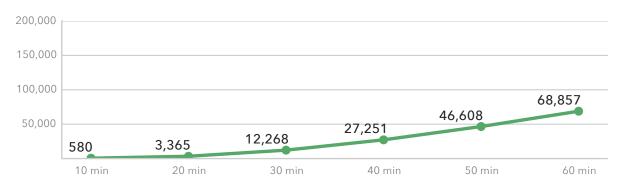
by transit, averaged 7 - 9 AM 0 - 1,000 1,000 - 2,500 2,500 - 5,000 5,000 - 7,500

# **Pittsburgh** Pittsburgh, PA

Rank by Weighted Accessibility	22
Rank by Total Employment	22
Total Jobs	1,110,788
Average Job Density (per km <sup>2</sup> )	81
Total Workers	1,083,900
Average Worker Density (per km <sup>2</sup> )	79

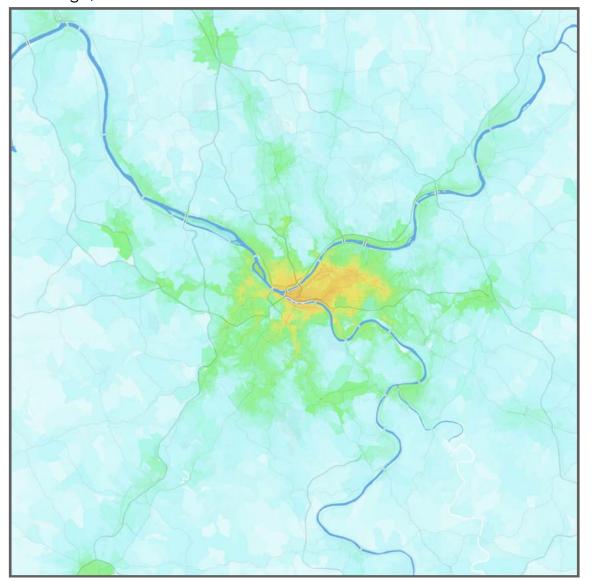
Job and worker totals are based on LEHD estimates and may not match other sources.

## Job Accessibility by Travel Time Threshold



Agency	Dates
Port Authority of Allegheny County	March 16, 2014 - June 14, 2014

# **Pittsburgh**, PA



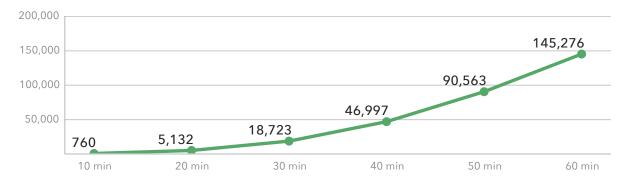
# Portland

Portland-Vancouver-Hillsboro, OR-WA

Rank by Weighted Accessibility	11
Rank by Total Employment	24
Total Jobs	1,004,182
Average Job Density (per km <sup>2</sup> )	58
Total Workers	982,307
Average Worker Density (per km <sup>2</sup> )	57

Job and worker totals are based on LEHD estimates and may not match other sources.

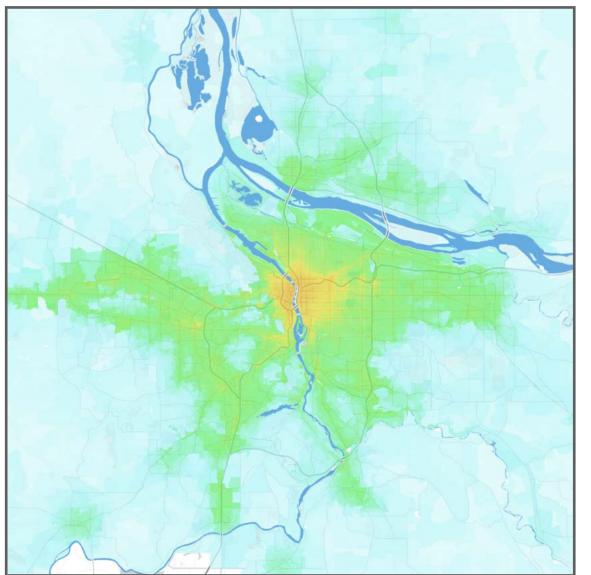
#### Job Accessibility by Travel Time Threshold



Agency	Dates
C-TRAN	January 26, 2014 - May 10, 2014
Caravan Airport Transportation	January 01, 2013 – January 01, 2015
Cascades POINT	January 01, 2013 – January 01, 2015
Cherriots	March 04, 2012 - June 01, 2015
Columbia Area Transit	January 01, 2012 - January 01, 2015
Columbia County Rider	January 01, 2012 – January 01, 2015
Mt. Hood Express	October 01, 2013 - January 01, 2015
NorthWest POINT	January 01, 2012 – January 01, 2015
Ride Connection	January 01, 2012 – January 01, 2015
Sandy Area Metro	January 01, 2011 - January 01, 2015
South Metro Area Regional Transit	January 01, 2013 – January 01, 2015
Sunset Empire Transportation District	August 18, 2013 - September 30, 2014
Swan Island TMA	January 01, 2013 – January 01, 2015
TriMet	February 04, 2014 - May 05, 2014
Valley Retriever	January 01, 2013 - January 01, 2015

# Portland

Portland-Vancouver-Hillsboro, OR-WA



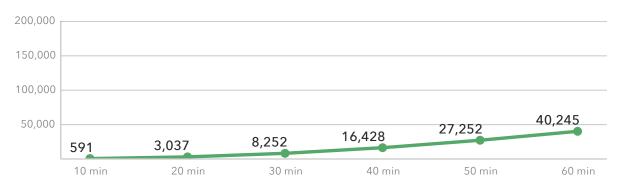
# Providence

Providence-New Bedford-Fall River, RI-MA

Rank by Weighted Accessibility	31
Rank by Total Employment	39
Total Jobs	652,831
Average Job Density (per km <sup>2</sup> )	159
Total Workers	828,037
Average Worker Density (per km <sup>2</sup> )	201

Job and worker totals are based on LEHD estimates and may not match other sources.

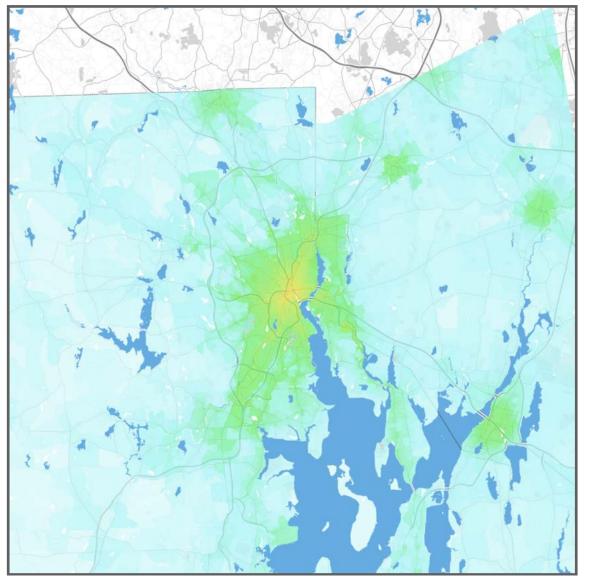
#### Job Accessibility by Travel Time Threshold



Agency	Dates
Brockton Area Transit Authority	January 01, 2008 – January 08, 2020
MBTA	December 05, 2013 - March 21, 2014
Massport	December 05, 2013 - March 21, 2014
MetroWest Regional Transit Authority	September 24, 2013 - September 23, 2014
Rhode Island Public Transit Authority	March 01, 2014 - August 22, 2014

# Providence

Providence-New Bedford-Fall River, RI-MA



# Raleigh Raleigh-Cary, NC

Rank by Weighted Accessibility	40
Rank by Total Employment	43
Total Jobs	574,859
Average Job Density (per km <sup>2</sup> )	105
Total Workers	520,476
Average Worker Density (per km <sup>2</sup> )	95

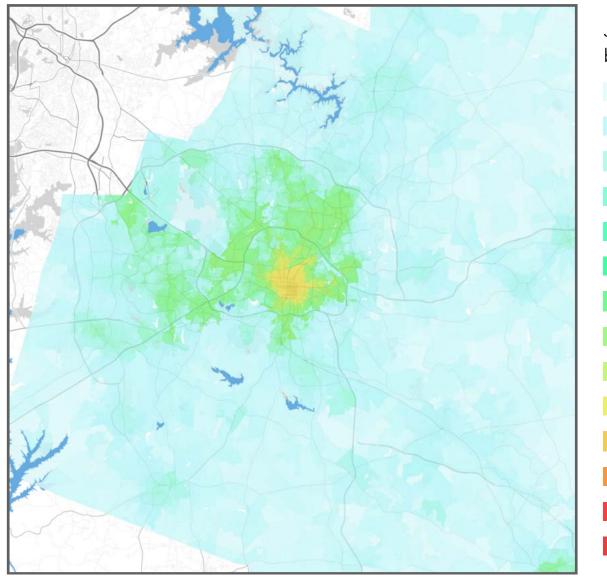
Job and worker totals are based on LEHD estimates and may not match other sources.

### Job Accessibility by Travel Time Threshold



Agency	Dates
Capital Area Transit	January 01, 2014 - January 03, 2015
Cary Transit	December 01, 2013 - September 29, 2014
Durham Area Transit Authority	August 13, 2012 - September 29, 2014
NCSU Wolfline	January 01, 2013 - August 18, 2014

Raleigh Raleigh-Cary, NC



Jobs within 30 minutes by transit, averaged 7 - 9 AM 0 - 1,000 1,000 - 2,500 2,500 - 5,000 5,000 - 7,500 7,500 - 10,000 10,000 - 25,000

25,000 - 50,000

50,000 - 75,000

75,000 - 100,000

100,000 - 250,000

250,000 - 500,000

500,000 - 750,000

750,000 - 1,000,000

1,000,000 +

# Riverside

Riverside-San Bernardino-Ontario, CA

Rank by Weighted Accessibility	45
Rank by Total Employment	20
Total Jobs	1,198,157
Average Job Density (per km <sup>2</sup> )	17
Total Workers	1,470,777
Average Worker Density (per km <sup>2</sup> )	21

Job and worker totals are based on LEHD estimates and may not match other sources.

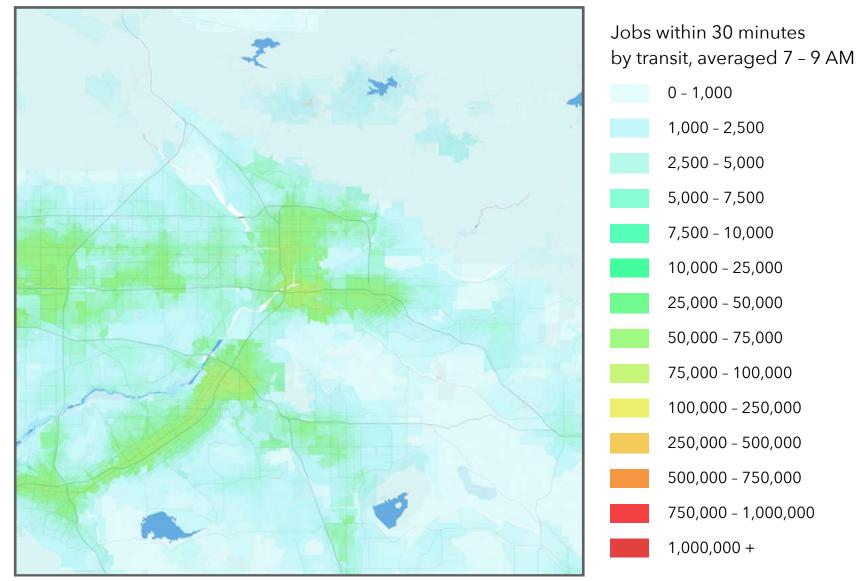
### Job Accessibility by Travel Time Threshold



Agency	Dates
Beaumont Transit System	January 01, 2013 – January 01, 2015
Corona Cruiser	January 01, 2013 – January 01, 2015
Metrolink Trains	April 22, 2013 - July 01, 2015
OMNITRANS	January 06, 2014 - August 31, 2014
Orange County Transportation Authority	October 13, 2013 - February 08, 2014
Riverside Transit Agency	December 20, 2013 - May 10, 2014
Sunline Transit Agency	September 01, 2013 - September 06, 2014
Victor Valley Transit Authority	January 01, 2014 - January 01, 2016

# Riverside

Riverside-San Bernardino-Ontario, CA



08

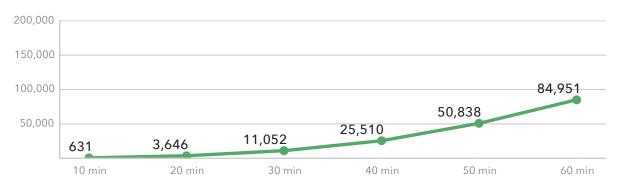
# Sacramento

Sacramento-Arden-Arcade-Roseville, CA

Rank by Weighted Accessibility	20
Rank by Total Employment	32
Total Jobs	849,840
Average Job Density (per km <sup>2</sup> )	64
Total Workers	839,857
Average Worker Density (per km <sup>2</sup> )	64

Job and worker totals are based on LEHD estimates and may not match other sources.

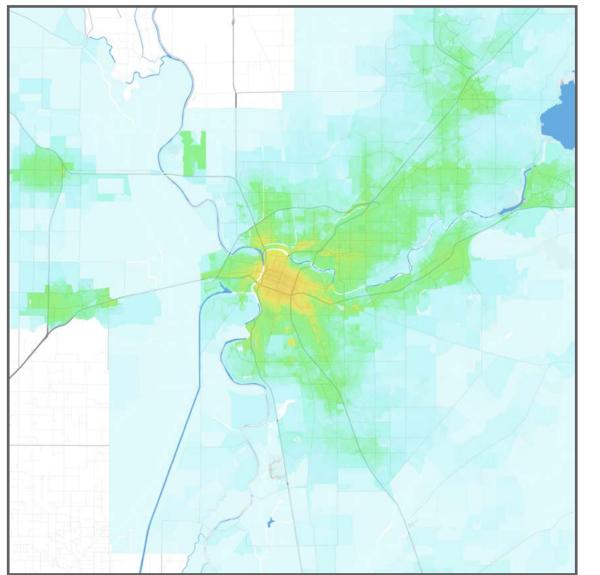
## Job Accessibility by Travel Time Threshold



Agency	Dates
Alpine Meadows Shuttle	January 01, 2007 - January 01, 2015
Fairfield and Suisun Transit	January 01, 2013 – January 01, 2015
Homewood Ski Shuttle	January 01, 2007 – January 01, 2015
Night Rider (Airport Minibus)	January 01, 2007 – January 01, 2015
Northstar-at-Tahoe	January 01, 2007 – January 01, 2015
Sacramento Regional Transit	January 05, 2014 - June 14, 2014
Squaw Valley USA	January 01, 2007 – January 01, 2015
Tahoe Area Regional Transit	January 01, 2007 – January 01, 2015
Town of Truckee	January 01, 2007 – January 01, 2015
Unitrans (Davis)	January 05, 2014 - June 05, 2014
Verde Lynx	January 01, 2013 – January 01, 2015
Yolobus (Yolo County)	February 16, 2014 - December 31, 2015

# Sacramento

Sacramento-Arden-Arcade-Roseville, CA



Jobs within 30 minutes by transit, averaged 7 - 9 AM

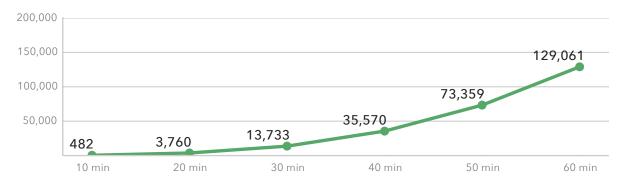


# Salt Lake City Salt Lake City, UT

Rank by Weighted Accessibility	17
Rank by Total Employment	41
Total Jobs	607,239
Average Job Density (per km <sup>2</sup> )	25
Total Workers	507,658
Average Worker Density (per km <sup>2</sup> )	21

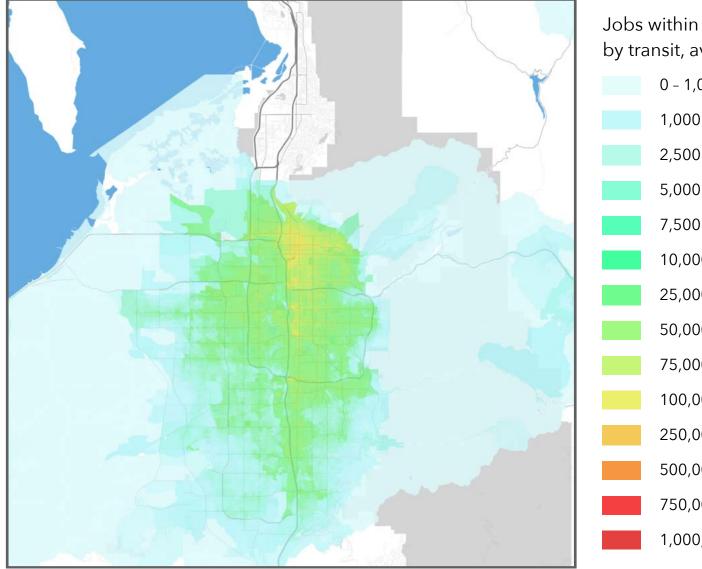
Job and worker totals are based on LEHD estimates and may not match other sources.

## Job Accessibility by Travel Time Threshold



Agency	Dates
Utah Transit Authority	December 08, 2013 - April 12, 2014

# Salt Lake City Salt Lake City, UT





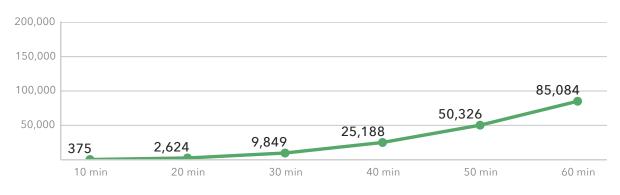
# San Antonio

San Antonio-New Braunfels, TX

Rank by Weighted Accessibility	23
Rank by Total Employment	34
Total Jobs	835,350
Average Job Density (per km <sup>2</sup> )	44
Total Workers	862,085
Average Worker Density (per km <sup>2</sup> )	46

Job and worker totals are based on LEHD estimates and may not match other sources.

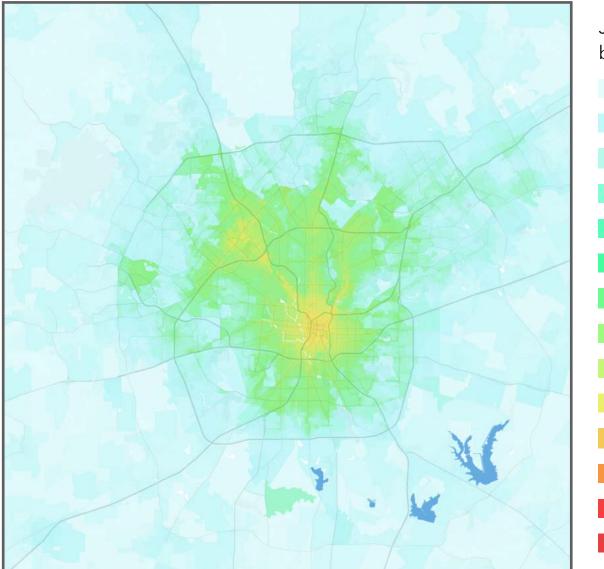
### Job Accessibility by Travel Time Threshold



Agency	Dates
VIA Metropolitan Transit	November 04, 2013 - April 20, 2014

# San Antonio

San Antonio-New Braunfels, TX



Jobs within 30 minutes by transit, averaged 7 – 9 AM 0 – 1,000 1,000 – 2,500 2,500 – 5,000 5,000 – 7,500 5,000 – 7,500 10,000 – 25,000 50,000 – 75,000 50,000 – 75,000 100,000 – 250,000

250,000 - 500,000

500,000 - 750,000

750,000 - 1,000,000

1,000,000 +

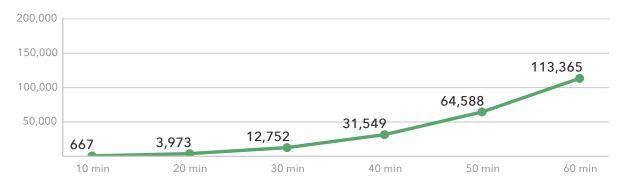


**San Diego** San Diego-Carlsbad-San Marcos, CA

Rank by Weighted Accessibility	18
Rank by Total Employment	17
Total Jobs	1,249,215
Average Job Density (per km <sup>2</sup> )	115
Total Workers	1,263,188
Average Worker Density (per km <sup>2</sup> )	116

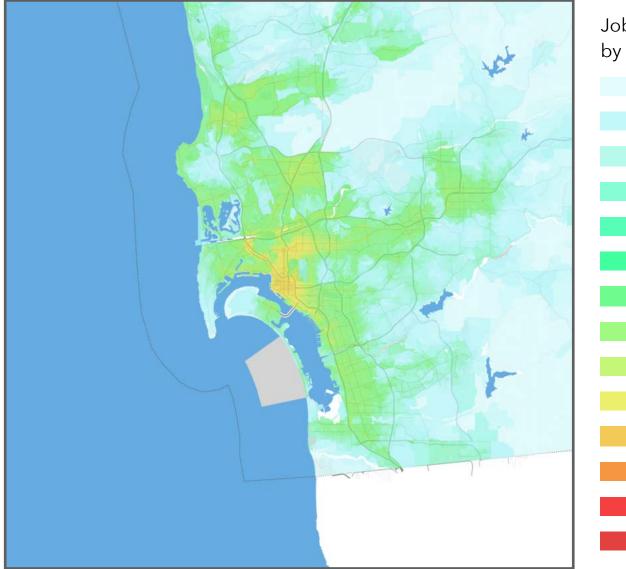
Job and worker totals are based on LEHD estimates and may not match other sources.

### Job Accessibility by Travel Time Threshold



Agency	Dates
MTS	September 01, 2013 - June 07, 2014
Metrolink Trains	April 22, 2013 - July 01, 2015
North County Transit District	October 06, 2013 - April 05, 2014
Orange County Transportation Authority	October 13, 2013 - February 08, 2014
Riverside Transit Agency	December 20, 2013 - May 10, 2014

**San Diego** San Diego-Carlsbad-San Marcos, CA



# San Francisco

San Francisco-Oakland-Fremont, CA

Rank by Weighted Accessibility	2
Rank by Total Employment	11
Total Jobs	2,013,749
Average Job Density (per km <sup>2</sup> )	315
Total Workers	1,900,319
Average Worker Density (per km <sup>2</sup> )	297

Job and worker totals are based on LEHD estimates and may not match other sources.

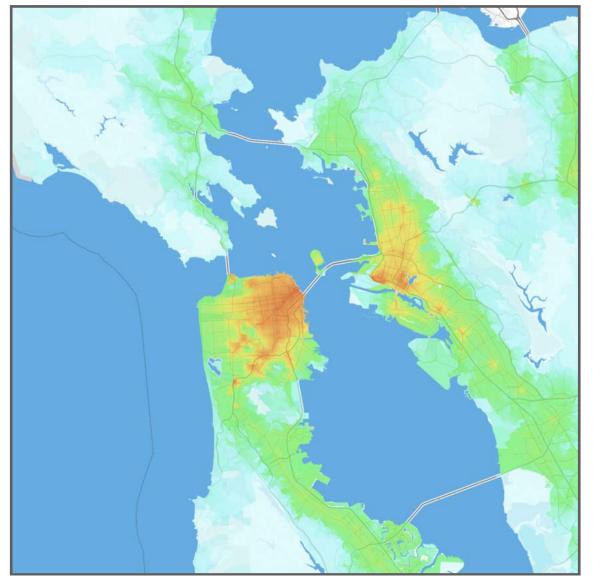
### Job Accessibility by Travel Time Threshold



Agency	Dates
AC Transit	January 11, 2014 - March 22, 2014
AirBART	September 10, 2012 - January 01, 2014
Bay Area Rapid Transit	September 10, 2012 - January 01, 2014
Baylink	January 01, 2012 - December 31, 2012
Caltrain	October 01, 2012 - October 01, 2023
Cloverdale Transit	January 01, 2013 - January 01, 2015
County Connection	December 22, 2013 - June 15, 2014
Fairfield and Suisun Transit	January 01, 2013 - January 01, 2015
Golden Gate Ferry	January 01, 2012 - December 31, 2012
Golden Gate Transit	November 22, 2013 - March 08, 2014
Harbor Bay Ferry	January 01, 2012 - December 31, 2012
Healdsburg Transit	January 01, 2013 – January 01, 2015
Marin Transit	December 08, 2013 - June 08, 2014
Menlo Park Midday Shuttle	January 23, 2010 - December 31, 2013
Modesto Area Express	January 01, 2014 - January 01, 2016
SamTrans	January 22, 2014 - June 14, 2014
San Francisco Municipal Transportation Agency	February 01, 2014 - April 11, 2014
San Joaquin Regional Transit District (RTD)	January 14, 2014 - July 31, 2014
Santa Cruz Metro	February 27, 2014 - June 18, 2014
Sonoma County Transit	January 01, 2013 – January 01, 2015
VTA	January 06, 2014 - April 13, 2014

# San Francisco

San Francisco-Oakland-Fremont, CA



Jobs within 30 minutes by transit, averaged 7 - 9 AM 0 - 1,000 1,000 - 2,500 2,500 - 5,000 5,000 - 7,500 7,500 - 10,000 10,000 - 25,000 25,000 - 50,000 50,000 - 75,000 75,000 - 100,000 100,000 - 250,000 250,000 - 500,000 500,000 - 750,000

750,000 - 1,000,000

1,000,000 +

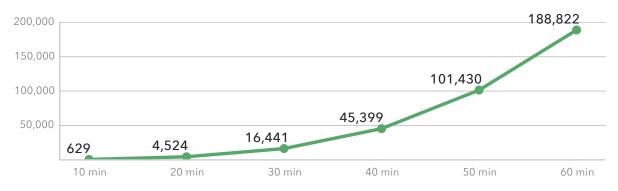
# San Jose

San Jose-Sunnyvale-Santa Clara, CA

Rank by Weighted Accessibility	10
Rank by Total Employment	30
Total Jobs	878,127
Average Job Density (per km <sup>2</sup> )	127
Total Workers	789,455
Average Worker Density (per km <sup>2</sup> )	114

Job and worker totals are based on LEHD estimates and may not match other sources.

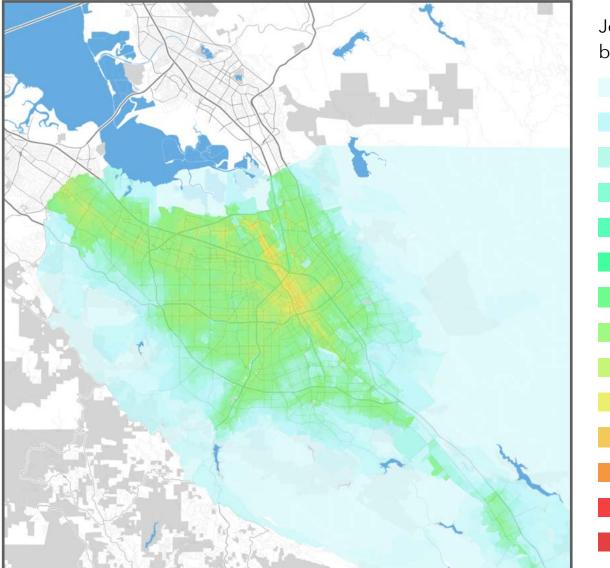
#### Job Accessibility by Travel Time Threshold



Agency	Dates
AC Transit	January 11, 2014 - March 22, 2014
Caltrain	October 01, 2012 - October 01, 2023
Menlo Park Midday Shuttle	January 23, 2010 - December 31, 2013
SamTrans January 22, 2014 - June 14, 2014	
San Benito County Express	July 01, 2013 - September 01, 2014
Santa Cruz Metro	February 27, 2014 - June 18, 2014
VTA	January 06, 2014 - April 13, 2014

# San Jose

San Jose-Sunnyvale-Santa Clara, CA



Jobs within 30 minutes by transit, averaged 7 - 9 AM



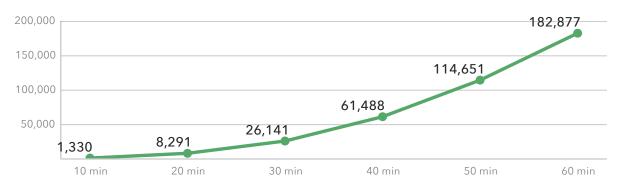
# Seattle

Seattle-Tacoma-Bellevue, WA

Rank by Weighted Accessibility	8
Rank by Total Employment	15
Total Jobs	1,651,547
Average Job Density (per km <sup>2</sup> )	109
Total Workers	1,538,625
Average Worker Density (per km <sup>2</sup> )	101

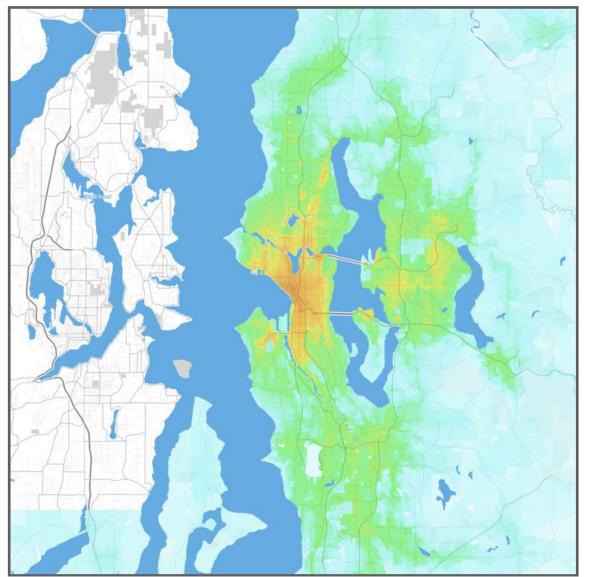
Job and worker totals are based on LEHD estimates and may not match other sources.

#### Job Accessibility by Travel Time Threshold



Agency	Dates
City of Seattle	October 12, 2013 - February 14, 2014
InterCity Transit February 25, 2014 - February 25, 2019	
Island Transit	January 01, 2008 - December 31, 2014
Kingcounty Marine Divison October 12, 2013 - February 14, 2014	
Kitsap Transit November 01, 2013 - December 31, 2014	
Mason Transit October 01, 2011 - October 31, 2012	
Metro Transit	October 12, 2013 - February 14, 2014
Sound Transit	October 12, 2013 - February 14, 2014
Washington State Ferries	February 06, 2014 - April 05, 2014

**Seattle** Seattle-Tacoma-Bellevue, WA



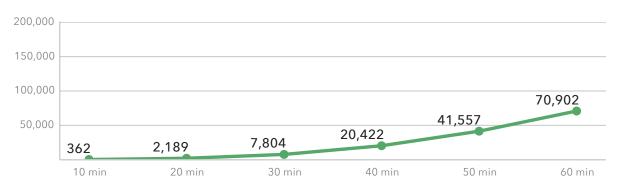
# St. Louis

St. Louis, MO-IL

Rank by Weighted Accessibility	28
Rank by Total Employment	16
Total Jobs	1,282,275
Average Job Density (per km <sup>2</sup> )	57
Total Workers	1,261,977
Average Worker Density (per km <sup>2</sup> )	57

Job and worker totals are based on LEHD estimates and may not match other sources.

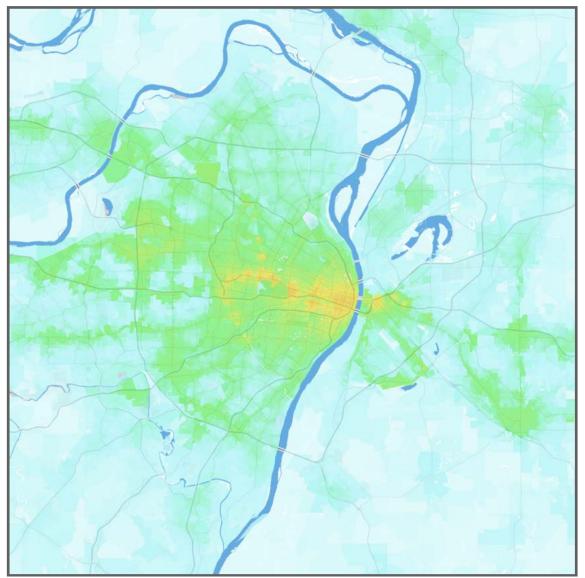
### Job Accessibility by Travel Time Threshold



Agency	Dates
JeffCo Express	March 01, 2014 - May 01, 2015
Metro St. Louis	December 02, 2013 - June 08, 2014

St. Louis

St. Louis, MO-IL

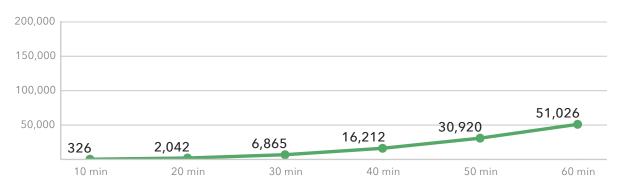


**Tampa** Tampa-St. Petersburg-Clearwater, FL

Rank by Weighted Accessibility	33
Rank by Total Employment	21
Total Jobs	1,112,664
Average Job Density (per km <sup>2</sup> )	171
Total Workers	1,108,850
Average Worker Density (per km <sup>2</sup> )	170

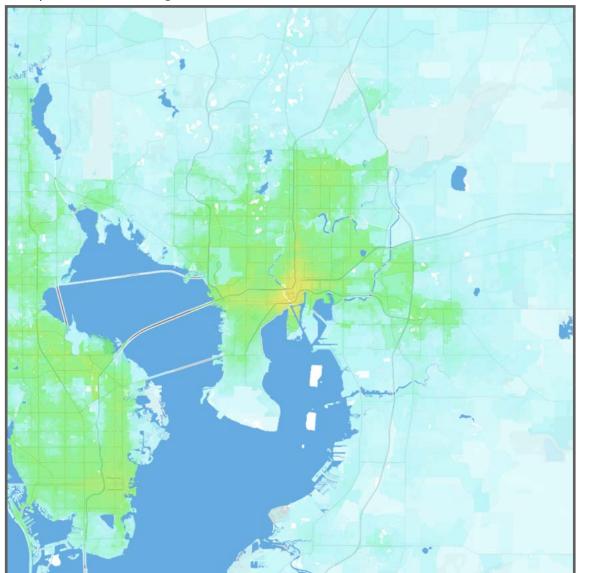
Job and worker totals are based on LEHD estimates and may not match other sources.

#### Job Accessibility by Travel Time Threshold



Agency	Dates
Hillsborough Area Regional Transit	November 17, 2013 - July 19, 2014
PSTA	February 09, 2014 - October 04, 2014

**Tampa** Tampa-St. Petersburg-Clearwater, FL



Virginia Beach Virginia Beach-Norfolk-Newport News, VA-NC

Rank by Weighted Accessibility	44
Rank by Total Employment	38
Total Jobs	695,288
Average Job Density (per km <sup>2</sup> )	102
Total Workers	684,496
Average Worker Density (per km <sup>2</sup> )	101

Job and worker totals are based on LEHD estimates and may not match other sources.

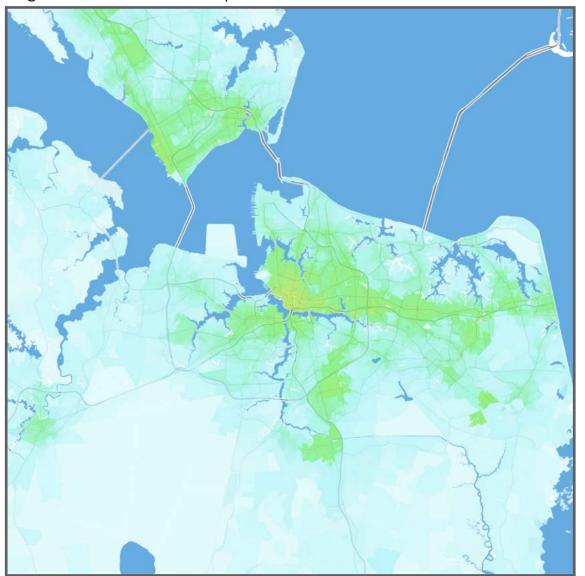
### Job Accessibility by Travel Time Threshold



Agency	Dates
Hampton Roads Transit (HRT)	October 01, 2013 - June 21, 2014

# Virginia Beach

Virginia Beach-Norfolk-Newport News, VA-NC



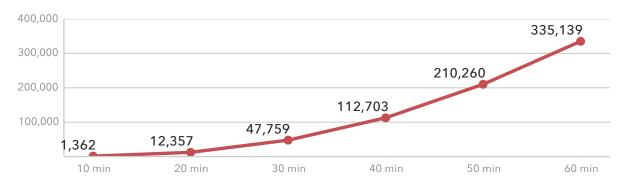
# Washington

Washington-Arlington-Alexandria, DC-VA-MD-WV

Rank by Weighted Accessibility	4
Rank by Total Employment	5
Total Jobs	2,839,321
Average Job Density (per km <sup>2</sup> )	196
Total Workers	2,647,658
Average Worker Density (per km <sup>2</sup> )	183

Job and worker totals are based on LEHD estimates and may not match other sources.

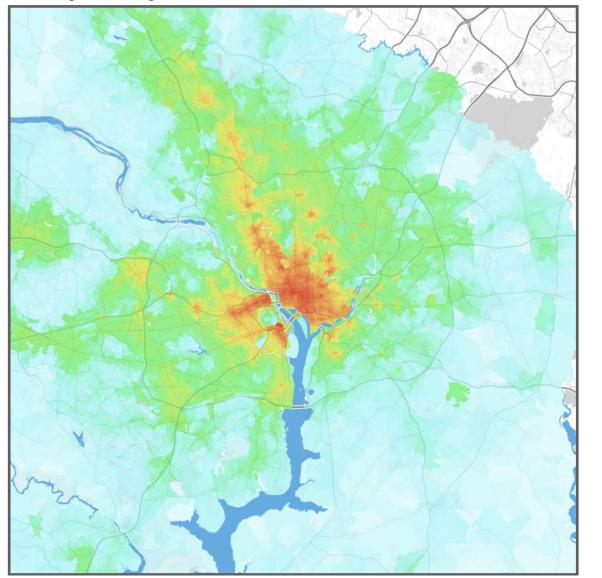
## Job Accessibility by Travel Time Threshold



Agency	Dates
Arlington Transit	January 20, 2014 - December 31, 2015
DC Circulator	January 20, 2014 - July 18, 2014
Fairfax Connector	September 28, 2013 - March 31, 2017
MET	January 20, 2014 - July 18, 2014
MTA Office of Local Transit Support	December 28, 2013 - August 23, 2014
Maryland Transit Administration	December 28, 2013 - August 23, 2014
Montgomery County MD Ride On	September 05, 2010 - May 01, 2011
Virginia Railway Express	November 08, 2010 - November 09, 2014

# Washington

Washington-Arlington-Alexandria, DC-VA-MD-WV



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