CENTER FOR TRANSPORTATION STUDIES

Access Across America: Biking 2023

Final Report

Prepared by:

Accessibility Observatory
Center for Transportation Studies
University of Minnesota

CTS 25-04

Technical Report Documentation Page

1. Report No.	2.	3. Recipients Accession No.
CTS 25-04		

4. Title and Subtitle	5. Report Date
Access Across America: Biking 2023	May 2025
	6.

7. Author(s)	8. Performing Organization Report No.
Andrew Owen, Shirley Shiqin Liu, Saumya Jain, Eric M. Lind	

9. Performing Organization Name and Address	10. Project/Task/Work Unit No.
Accessibility Observatory University of Minnesota Minneapolis, MN 55455 United States	CTS #2021045
	11. Contract (C) or Grant (G) No. (c) 1036342 (wo) 6

12. Sponsoring Organization Name and Address	13. Type of Report and Period Covered
Center for Transportation Studies University of Minnesota University Office Plaza, Suite 440 2221 University Avenue SE Minneapolis, MN 55414	Final Report
	14. Sponsoring Agency Code

15. Supplementary Notes
https://cts.umn.edu/programs/ao/aaa
https://cts.umn.edu/publications/researchreports/

16. Abstract (Limit: 250 words)

Accessibility is the ease of reaching valued destinations. It can be measured for a wide array of 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 study estimates the accessibility to jobs by cycling (biking) for each of the United States' 11 million census blocks and analyzes these data in the 50 largest (by population) metropolitan areas. Travel times by biking are calculated using detailed roadway networks classified by their Level of Traffic Stress (LTS), which correspond to whether riders would use those roadways for travel by bike. Rankings are determined by a weighted average of job accessibility; a higher weight is given to closer jobs, as jobs closer to origins are more easily reached, and are thus more valuable, than those further away. Jobs reachable within ten minutes are weighted most heavily, and jobs are given decreasing weights as travel time increases up to 60 minutes.

This report presents detailed accessibility values for each metropolitan area, as well as block-level maps which illustrate the spatial patterns of accessibility within each area.

Year-over-year changes in accessibility by bike are provided for each area. The 2023 reporting year reflects the changes in bike infrastructure some cities have made, in part responding to changing travel behavior after the onset of the COVID-19 pandemic.

17. Document Analysis/Descriptors	18. Availability Statement
accessibility, bicycling, commuting, work trips, land use, travel time, travel behavior, urban transportation	No restrictions. Document available from: National Technical Information Services, Alexandria, Virginia 22312

19. Security Class (this report)	20. Security Class (this page)	21. No. of Pages	22. Price
Unclassified	Unclassified	177	

Access Across America: Biking 2023

Final Report

Prepared by:

Accessibility Observatory
Center for Transportation Studies
University of Minnesota

May 2025

Published by:

Center for Transportation Studies
University of Minnesota
University Office Plaza, Suite 440
2221 University Avenue SE
Minneapolis, MN 55414

Access Across America: Biking 2023

Prepared by the

Accessibility Observatory at the University of Minnesota

May 8, 2025

ACCESSIBILITY OBSERVATORY

UNIVERSITY OF MINNESOTA

Driven to Discover℠

Authors

Andrew Owen
Lead Researcher

Shirley Shiqin Liu
Researcher

Saumya Jain
Researcher

Eric Lind
Director

Accessibility Observatory
Center for Transportation Studies
University of Minnesota

Acknowledgements

The development of this report was made possible by sponsorship from:

- California Department of Transportation
- Connecticut Department of Transportation
- District of Columbia Department of Transportation
- Federal Highway Administration
- Florida Department of Transportation
- Illinois Department of Transportation
- Maryland Department of Transportation
- Massachusetts Department of Transportation
- Michigan Department of Transportation
- Minnesota Department of Transportation
- North Carolina Department of Transportation
- Texas Department of Transportation
- Virginia Department of Transportation

Executive Summary

Accessibility is the ease of reaching valued destinations. Accessibility, or access to opportunity, is reported here as the number of jobs (a particular destination) reachable within a given travel time, from a given place, starting at 8 AM on a typical weekday.

This study estimates the accessibility to jobs by *biking* for each of the United States' 11 million census blocks, and analyzes these data in the 50 largest (by population) metropolitan areas. Travel times by biking are calculated using detailed roadway networks classified by their Level of Traffic Stress (LTS).

Rankings in this report are determined by a weighted average of job accessibility; a higher weight is given to closer jobs, as jobs closer to origins are more easily reached, and are thus more valuable, than those further away. 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 ten metro areas with the greatest accessibility to jobs by biking, for low-stress networks (LTS 2) and medium-stress networks (LTS 3) in 2023 are:

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

The ten metro areas with the greatest 1-year gain in accessibility to jobs by biking for low-stress networks and medium-stress networks are:

Low-Stress	**Medium-Stress**
1. Charlotte	1. Charlotte
2. Detroit	2. Dallas
3. Cincinnati	3. Detroit
4. Dallas	4. Raleigh
5. Milwaukee	5. Phoenix
6. Providence	6. Cincinnati
7. Raleigh	7. Columbus
8. Salt Lake City	8. St. Louis
9. Chicago	9. Providence
10. Houston	10. Grand Rapids

This report presents detailed accessibility values for each metropolitan area, as well as block-level maps which illustrate the spatial patterns of accessibility within each area. A separate publication, *Access Across America: 2023 Methodology*, describes the data and methodology used in this evaluation.

Contents

1 Introduction

Accessibility is the ease and feasibility of reaching valuable 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 a wide range of 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. Jobs are a significant destination, stand in for many types of opportunities (a restaurant is a job site and a place to eat), and job accessibility is an important consideration in the attractiveness and usefulness of a place or area.

This report summarizes national job accessibility by *bike*. Bicycle mode share for commute trips in the U.S. is typically very low, and through 2020 remained stable at 0.5% of all commute trips;[1] however, the overall number of bicycle commuters nationwide has increased by 21.6% since 2010.[2]

Accessibility is not a new idea.[3] Historically, however, implementations of accessibility evaluation have typically focused on individual cities or metropolitan areas, as well as only on motorized modes. Recent work has demonstrated the feasibility and value of systematically evaluating accessibility across multiple metropolitan areas by auto[4], transit[5], and bike.[6] Work by Iacono et al. and Krizek et al., focusing on non-motorized accessibility analysis in the Minneapolis–St. Paul metropolitan area, discusses details and methodology in evaluating the use of accessibility metrics for the non-motorized commuting modes of biking and walking.[7]

Level of Traffic Stress (LTS) has been demonstrated to be an effective way to identify streets which are attractive or unattractive to bicyclists, and many methods of classifying roadways as suitable for bicycling have been proposed since the late 1980s.[8] One such early metric, Bicycle Stress Level (BSL), ranks streets based on motor vehicle traffic volume, prevailing speed, and curb lane width. Accordingly, resident populations can be segmented based on their cycling comfort levels for different types of roadways, drawing on age and cycling experience.[9]

LTS analysis relies on a variety of roadway characteristics, including the presence of bike lanes or paths, street lane configuration, and prevailing speeds; a value of 1 (lowest stress) to 4 (highest stress) is assigned to street segments based on these characteristics. The four types of cyclists[10] loosely align with these categories:

1. No way, no how—not interested in cycling; alternatively, suitable for most children.

[1] American Community Survey 2021 5-year estimates

[2] U.S. Census Bureau (2017)

[3] See Hansen (1959) for its origins, and Geurs and Van Eck (2001) and Handy and Niemeier (1997) for reviews.

[4] Levinson (2013), Levine et al. (2012)

[5] Ramsey and Bell (2014), Tomer et al. (2011)

[6] People for Bikes (2017)

[7] Iacono et al. (2010), Krizek et al. (2009)

[8] See Figliozzi and Blanc (2015) for a summary of proposed metrics, Mekuria et al. (2012); Furth et al. (2016) for outlines of LTS methodology, and Cesme et al. (2017) for empirical support of LTS.

[9] Sorton and Walsh (1994)

[10] Geller (2011), Dill and McNeil (2016), Furth (2007)

2. Interested but concerned—unwilling to bike next to fast traffic or in traffic on busy roads; strong preference for separated facilities.

3. Enthused and confident—willing to tolerate busy traffic conditions if there is designated space for bicycles.

4. Strong and fearless—willing to bike regardless of traffic conditions.

Upwards of 80% of the population of cyclists and potential cyclists may fall into category two, which suggests bicycle facilities falling under the LTS 2 classification as a reasonable target for new construction.[11]

Combining accessibility analysis and LTS evaluation has precedent both within individual cities[12] and across multiple areas.[13] However, data availability consistently remains an issue, and hyper-local accessibility analyses tend to rely on data sources which are inconsistent at best, and nonexistent at worst, in cities and areas outside the immediate focus;[14] a national-scope analysis with nationally-available data circumvents this issue.

This study estimates the accessibility to jobs by biking for each of the United States' 11 million census blocks, and analyzes these data in the 50 largest (by population) metropolitan areas. Table 1 lists the included metropolitan areas, ordered by the total employment within each.

Travel times by biking are calculated using detailed road networks for the entire country, with individual street links and intersections classified by LTS score. Biking travel times are assumed to remain constant throughout the day, in contrast to the varying travel times produced by transit schedules when calculating transit travel times, or due to congestion when traveling by auto. Biking travel speeds were held constant throughout all analysis areas.

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, and Section 4 provides data and maps describing patterns of accessibility in individual metropolitan areas. A separate document, *Access Across America: 2023 Methodology*, describes the data and methodology used in the evaluation.[15]

[11] Geller (2009); Dill and McNeil (2016); Furth et al. (2016)
[12] See Lowry et al. (2016) and Kent and Karner (2018) for local applications in Seattle and Baltimore, respectively
[13] People for Bikes (2017)
[14] Handy and Clifton (2001)
[15] See Murphy and Owen (2019) for additional methodology discussion and literature review

Table 1: Metropolitan Areas Ranked by Total Employment

Rank	Area	Total Employment
1	New York	8,410,529
2	Los Angeles	5,616,694
3	Chicago	4,155,704
4	Dallas	3,538,947
5	Houston	2,936,537
6	Philadelphia	2,781,193
7	Washington	2,716,380
8	Atlanta	2,632,989
9	Miami	2,478,051
10	Boston	2,374,391
11	Phoenix	2,115,071
12	San Francisco	2,104,929
13	Riverside	1,831,482
14	Detroit	1,813,158
15	Seattle	1,799,031
16	Minneapolis	1,795,044
17	Denver	1,396,585
18	San Diego	1,395,105
19	Tampa	1,356,558
20	St. Louis	1,296,261
21	Baltimore	1,229,425
22	Charlotte	1,207,605
23	Orlando	1,147,768
24	Portland	1,134,976
25	Pittsburgh	1,088,549
26	Austin	1,061,276
27	San Antonio	1,054,574
28	Cincinnati	1,029,717
29	Kansas City	1,028,537
30	Sacramento	998,088
31	Columbus	985,427
32	Indianapolis	982,039
33	Cleveland	959,078
34	Las Vegas	926,679
35	San Jose	924,305
36	Nashville	917,148
37	Providence	751,082
38	Milwaukee	748,932
39	Jacksonville	697,696
40	Virginia Beach	689,627
41	Raleigh	658,762
42	Salt Lake City	622,744
43	Louisville	605,943
44	Richmond	597,817
45	Oklahoma City	568,968
46	Grand Rapids	512,952
47	Buffalo	504,471
48	Birmingham	488,859
49	Memphis	485,618
50	Fresno	433,479

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

2 Accessibility to Jobs by Biking

Table 2 gives the low-stress accessibility values for each metropolitan area, in alphabetical order, based on OpenStreetMap road networks, and Table 3 gives the medium-stress accessibility values. The columns in each table 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, by biking.

Table 2: Cumulative Number of Jobs Reachable by Number of Minutes, Low Stress, 2023

Area	10 min	20 min	30 min	40 min	50 min	60 min
Atlanta	1,094	4,581	10,915	19,402	29,850	41,708
Austin	2,017	8,886	20,808	36,196	54,241	73,158
Baltimore	2,646	10,791	22,374	36,366	53,198	72,310
Birmingham	718	2,748	6,281	11,521	18,055	25,451
Boston	6,272	25,580	55,008	90,896	128,385	163,757
Buffalo	1,531	6,810	14,957	25,925	39,833	55,991
Charlotte	1,155	5,034	11,340	18,881	27,500	36,981
Chicago	5,101	22,332	49,046	82,460	123,742	170,800
Cincinnati	1,354	5,327	11,757	19,535	28,963	39,732
Cleveland	1,489	5,532	12,902	23,041	35,732	50,959
Columbus	1,805	7,415	17,107	30,049	46,468	64,913
Dallas	1,593	6,888	16,616	30,377	48,066	68,635
Denver	3,997	17,043	37,955	66,609	102,331	142,208
Detroit	1,405	6,421	15,505	28,952	46,755	68,057
Fresno	1,705	7,295	16,243	28,601	43,190	58,403
Grand Rapids	1,237	5,727	13,510	23,763	35,655	48,821
Houston	1,319	6,079	14,947	27,790	43,758	61,993
Indianapolis	1,541	6,091	13,561	23,783	36,677	51,293
Jacksonville	843	2,875	6,155	10,615	16,258	22,548
Kansas City	1,704	6,971	15,646	27,928	43,607	60,777
Las Vegas	1,341	6,832	17,567	34,140	56,897	83,881
Los Angeles	5,270	21,994	50,019	90,789	142,195	199,790
Louisville	1,335	5,701	13,592	24,353	36,819	50,503
Memphis	827	3,618	8,633	15,285	22,933	31,443
Miami	2,354	9,277	20,818	36,711	56,408	79,171
Milwaukee	2,935	12,461	28,532	50,934	77,831	107,774
Minneapolis	3,062	13,751	31,835	55,527	85,031	118,908
Nashville	1,265	5,569	12,336	20,708	29,565	38,952
New York	17,157	73,927	155,477	255,838	375,274	508,237
Oklahoma City	1,375	5,708	12,923	22,490	33,801	46,208
Orlando	1,117	4,400	9,799	17,450	27,177	38,405
Philadelphia	3,877	16,355	35,366	58,635	85,624	115,306
Phoenix	2,082	9,678	23,199	42,926	68,682	98,481
Pittsburgh	1,491	5,489	13,074	22,427	34,523	47,207
Portland	3,767	14,462	31,668	54,655	81,337	109,258
Providence	1,623	6,130	12,868	21,687	31,412	41,754
Raleigh	1,255	4,835	10,884	19,563	31,183	45,195
Richmond	1,727	6,663	13,929	22,385	31,647	42,025
Riverside	880	3,831	8,881	16,211	25,386	35,728
Sacramento	2,388	9,222	19,382	33,898	52,175	72,888
Salt Lake City	2,535	11,646	27,588	48,453	73,523	101,722
San Antonio	1,024	4,656	11,992	23,081	37,894	55,308
San Diego	2,226	7,860	16,772	29,254	44,948	63,292
San Francisco	8,957	38,597	77,340	115,279	154,637	190,657
San Jose	3,065	14,141	33,778	62,634	98,636	141,201
Seattle	8,259	26,061	45,706	69,903	100,316	132,040
St. Louis	1,293	5,323	12,354	22,391	34,688	47,785
Tampa	1,500	5,990	13,947	24,317	37,155	51,389
Virginia Beach	975	3,536	7,539	12,817	19,551	27,379
Washington	4,570	19,089	42,467	72,106	108,937	150,429

Table 3: Cumulative Number of Jobs Reachable by Number of Minutes, Medium Stress, 2023

Area	10 min	20 min	30 min	40 min	50 min	60 min
Atlanta	1,581	7,402	17,652	31,791	49,650	70,578
Austin	2,789	12,896	29,939	52,191	77,062	102,985
Baltimore	3,052	12,548	26,434	43,509	64,611	89,110
Birmingham	1,126	4,773	10,904	19,016	28,555	38,929
Boston	7,853	31,758	68,227	112,353	159,803	208,789
Buffalo	2,347	10,135	22,191	38,651	60,685	84,612
Charlotte	1,518	6,706	15,219	25,863	38,606	53,112
Chicago	7,725	30,861	62,206	103,803	154,146	209,173
Cincinnati	1,855	8,044	18,286	31,674	49,246	69,617
Cleveland	1,878	7,797	18,308	32,886	52,130	74,395
Columbus	2,604	11,001	24,037	40,995	62,451	85,729
Dallas	2,397	10,845	25,290	45,867	72,028	102,329
Denver	5,425	21,620	47,226	81,200	123,736	171,150
Detroit	1,684	7,990	19,624	37,046	60,268	87,992
Fresno	2,174	9,808	22,627	39,917	60,193	81,713
Grand Rapids	1,756	8,297	18,660	31,902	47,438	64,904
Houston	2,084	9,815	23,549	42,311	65,357	91,730
Indianapolis	1,924	7,938	17,882	31,713	49,383	69,458
Jacksonville	1,254	4,967	11,256	19,539	29,471	40,626
Kansas City	2,010	8,435	19,191	34,297	52,874	73,388
Las Vegas	2,078	11,313	28,787	55,907	91,835	132,721
Los Angeles	7,134	30,352	69,499	125,606	194,812	272,854
Louisville	1,496	6,482	15,586	28,256	42,765	59,199
Memphis	1,251	5,674	13,203	22,885	34,087	47,582
Miami	3,502	14,353	32,295	56,463	86,611	120,315
Milwaukee	3,622	15,622	35,789	62,711	95,201	131,034
Minneapolis	4,016	17,139	38,221	65,752	100,168	140,015
Nashville	1,669	7,588	16,874	27,865	39,925	52,638
New York	19,990	83,178	173,043	284,044	415,250	560,491
Oklahoma City	1,515	6,313	14,271	24,827	37,619	52,340
Orlando	1,738	7,269	16,912	30,477	48,474	69,764
Philadelphia	5,181	21,431	45,501	74,858	109,262	148,203
Phoenix	2,732	12,528	29,917	55,160	87,901	125,680
Pittsburgh	1,968	7,947	17,750	30,333	46,315	63,503
Portland	4,511	18,124	40,147	68,576	100,814	134,356
Providence	2,236	8,375	17,358	28,332	40,961	54,740
Raleigh	1,518	6,407	15,017	27,277	43,970	63,081
Richmond	2,160	8,717	18,328	30,113	43,623	58,902
Riverside	1,462	6,669	15,709	27,855	42,128	58,034
Sacramento	3,094	12,528	27,056	47,363	72,178	100,985
Salt Lake City	3,515	16,449	38,605	68,074	104,485	145,819
San Antonio	1,309	6,316	16,047	30,068	48,705	70,327
San Diego	3,234	12,088	26,510	45,777	70,234	98,118
San Francisco	12,620	49,665	92,463	135,336	179,745	219,197
San Jose	4,576	21,782	53,114	96,161	150,811	212,343
Seattle	8,975	28,720	51,764	81,051	117,534	155,186
St. Louis	1,811	7,574	17,694	31,766	48,222	66,510
Tampa	2,134	9,209	21,125	37,067	57,119	79,437
Virginia Beach	1,391	5,235	11,063	18,881	29,115	40,435
Washington	6,236	24,758	52,578	88,159	131,243	180,230

2.1 Metropolitan Area Rankings

The low-stress and medium-stress rankings of biking accessibility across U.S. cities for 2023 are shown in Table 4 and Table 5, respectively. The first column sorts cities according to 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 towards the ranking than a job reachable within 20, and so on. Within the specific time thresholds, the rankings vary.

Table 4: Rank of Accessibility by Metropolitan Area, Low Stress, 2023

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

Table 5: Rank of Accessibility by Metropolitan Area, Medium Stress, 2023

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

2.2 Annual Accessibility Change

Table 6 shows the 1-year change in low-stress weighted accessibility values for each metropolitan area, and Table 7 shows the 1-year change in medium-stress weighted accessibility values. Additional details about each metropolitan area, including block-level maps of accessibility, are presented in Section 4.

Table 6: 1-Year Change in Weighted Bicycle Accessibility to Jobs, Low Stress, 2023

Rank	Area	1-Year Change
1	**Charlotte**	+12.26%
2	**Detroit**	+7.16%
3	**Cincinnati**	+6.72%
4	**Dallas**	+6.01%
5	**Milwaukee**	+5.36%
6	**Providence**	+4.66%
7	**Raleigh**	+4.31%
8	**Salt Lake City**	+4.26%
9	**Chicago**	+3.80%
10	**Houston**	+3.13%
11	**Phoenix**	+2.96%
12	**St. Louis**	+2.63%
13	**Nashville**	+1.82%
14	**Tampa**	+1.75%
15	**Kansas City**	+1.66%
16	**Grand Rapids**	+1.53%
17	**Los Angeles**	+1.42%
18	**Las Vegas**	+1.32%
19	**Buffalo**	+1.31%
20	**Indianapolis**	+1.29%
21	**Minneapolis**	+1.05%
22	**Orlando**	+1.04%
23	**Oklahoma City**	+0.21%
24	**Jacksonville**	-0.14%
25	**Miami**	-0.53%
26	**Columbus**	-0.73%
27	**Riverside**	-0.79%
28	**Sacramento**	-0.82%
29	**San Diego**	-0.89%
30	**Philadelphia**	-1.01%
31	**Memphis**	-1.21%
32	**Denver**	-1.26%
33	**Cleveland**	-1.42%
34	**Richmond**	-1.49%
35	**Virginia Beach**	-2.33%
36	**Portland**	-2.59%
37	**San Antonio**	-2.71%
38	**Washington**	-2.76%
39	**San Jose**	-3.06%
40	**Boston**	-3.35%
41	**Baltimore**	-3.40%
42	**Seattle**	-3.68%
43	**Pittsburgh**	-4.30%
44	**San Francisco**	-5.01%
45	**New York**	-5.53%
46	**Fresno**	-7.09%
47	**Atlanta**	-8.14%
48	**Austin**	-8.65%
49	**Birmingham**	-10.62%
50	**Louisville**	-11.45%

Table 7: 1-Year Change in Weighted Bicycle Accessibility to Jobs, Medium Stress, 2023

Rank	Area	1-Year Change
1	**Charlotte**	+7.56%
2	**Dallas**	+5.18%
3	**Detroit**	+4.76%
4	**Raleigh**	+4.56%
5	**Phoenix**	+3.37%
6	**Cincinnati**	+3.29%
7	**Columbus**	+2.94%
8	**St. Louis**	+2.54%
9	**Providence**	+2.28%
10	**Grand Rapids**	+2.06%
11	**Riverside**	+1.97%
12	**Chicago**	+1.66%
13	**Tampa**	+1.43%
14	**Denver**	+1.17%
15	**Nashville**	+1.14%
16	**Salt Lake City**	+1.09%
17	**Los Angeles**	+0.92%
18	**Kansas City**	+0.87%
19	**Buffalo**	+0.65%
20	**Jacksonville**	+0.52%
21	**Oklahoma City**	+0.25%
22	**Milwaukee**	-0.19%
23	**San Antonio**	-0.64%
24	**Indianapolis**	-0.74%
25	**Memphis**	-0.94%
26	**Atlanta**	-0.99%
27	**Miami**	-1.15%
28	**Philadelphia**	-1.38%
29	**Houston**	-1.55%
30	**Cleveland**	-1.55%
31	**Sacramento**	-1.56%
32	**Birmingham**	-1.73%
33	**Virginia Beach**	-1.79%
34	**Minneapolis**	-2.21%
35	**San Diego**	-2.28%
36	**Orlando**	-2.69%
37	**Boston**	-2.69%
38	**Austin**	-3.08%
39	**Pittsburgh**	-3.20%
40	**Las Vegas**	-3.24%
41	**Seattle**	-3.75%
42	**Richmond**	-3.87%
43	**Portland**	-4.26%
44	**Washington**	-5.01%
45	**New York**	-5.01%
46	**Baltimore**	-5.43%
47	**San Francisco**	-6.35%
48	**San Jose**	-7.62%
49	**Fresno**	-7.90%
50	**Louisville**	-11.83%

3 Discussion

Accessibility is a function of both transportation networks 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. Within a bicycle context, transportation system improvements take the form of constructing new low-stress bicycle facilities, such as separated bike lanes, paths, and bicycle crossing signals.

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 which exhibit significantly lower job densities than those within the urban core.

3.1 Traffic Stress

The consideration of traffic stress and cycling comfort adds a layer of complexity to evaluating access to destinations by bicycle. A dense, compact city may have fewer low-stress bike routes into and out of its urban core, but residents may still experience high access to destinations due to the dense land-use; similarly, a lower-density city may have a robust and well-connected low-stress bicycle network, but residents experience lower access due to the smaller number of opportunities.

The four different LTS scores have some practical interpretations within accessibility analysis: if a cyclist were only willing to bike on off-street paths or small streets with little car traffic, their access to destinations in most places would be quite limited, and would be quantified by "lowest-stress" (LTS 1) access. "Low-stress" (LTS 2) access represents access experienced by people willing to use "good" bike infrastructure—namely, separated bike lanes and the paths included within the lowest-stress category. "Medium-stress" (LTS 3) access is experienced by people willing to use all bike infrastructure—lowest- and low-stress facilities, plus on-street unprotected bike lanes, certain shared lanes, and mixing with traffic on some non-arterial streets. LTS 4 access is "open streets" access—if all streets (except limited-access highways, freeways, and interstates, as these are excluded from the analysis) felt as safe as an off-street path, cyclists would experience this level of access.

Insights for bicycle network planning can be found in comparing bicycle access at different LTS tolerances. Access levels equivalent to those currently provided at the "open streets" level could be experienced by the majority of people who cycle or are interested in cycling, if low-stress bike infrastructure were constructed on or very near important routes, such as urban arterials. Thus, comparing the access currently experienced on the low-stress network with that on the "open streets" network quantifies the degree to which job access could be improved by providing low-stress bicycle facilities on high-stress routes. Such areas may lack good connections to the low-stress bike network, and aggregate analysis at the neighborhood level may offer planners a tool to identify where investments in low-stress bicycle facilities would have the greatest benefit in improving access to destinations.

Many cities exhibit different rankings between their low-stress and medium-stress job accessibility metrics—for example, Seattle ranks 5th by low-stress access, but only 6th by medium-stress access, while Chicago ranks 6th by low-stress access, and 5th by medium-stress access. Residents in Seattle

who are only willing to bike on low-stress facilities in general experience higher accessibility to jobs than those in Chicago; however, residents in Chicago who are willing to bike on all bicycle facilities experience slightly higher access to jobs as those in Seattle.

It is worth noting that bicycle network changes assigned to a given year may have existed previously, but never had been entered into OpenStreetMap by its user community. Thus, if not all existing bicycle facilities were tracked in previous years, then bicycle access may have been underreported, leading to larger changes in access than actually experienced by workers. Additionally, OpenStreetMap data are under consistent revision; because bicycle travel networks are sparse, relatively small numbers of changes in OpenStreetMap data for street segments and intersections can result in significant changes in access to jobs by bike. Such changes may be related to the installation of bicycle facilities, or may only be reflective of refinement of street classification, e.g. from "unclassified" to "residential," or the proper tagging of traffic signals. Differentiating between these two types of network changes is difficult on a national scale.

3.2 Land Use Effects

Land use-based approaches to improving biking accessibility revolve around proximity and density for both origins and destinations. Proximity to destinations is implicitly important in the mode of biking, due to its lower speeds. Density is the manifestation of the increasing value of more accessible locations, and influences how many opportunities are reachable on a given destination parcel. As residential areas become denser, more residents experience the local accessibility to a variety of destinations, and non-automobile transportation modes increase in extent and mode share; as employment areas become denser, more jobs can be accessed through the same transportation systems, such as bicycle route networks.

Note: The LODES dataset used in this report does not include job location data from the states of Alaska, or Mississippi. These states did not report these employment statistics to the Census for the 2021 year.[16] None of the top 50 metropolitan statistical areas reported on here lie within those states; however, Memphis borders both Arkansas and Mississippi, and thus access to jobs from areas within Memphis is likely to be underreported given the absence of those nearby job locations in the dataset.

3.3 Conclusions

The cities that make up the top 10 biking accessibility ranks for both the low-stress and medium-stress categories are mostly the same, with a few differences. Cities with large, high-density urban cores show up in both lists, reflecting the influence of land-use on bicycle access to destinations—that is, even if low-stress bicycle networks in New York, San Francisco, and Chicago were not extensive, local land-use density compensates for this lack. Cities with less-dense urban cores and fewer jobs overall, such as Denver and Philadelphia, may rely more on their bicycle networks to provide access to valuable destinations, and may perform well compared to their levels of "open streets" access, which depends more on land-use and job density. Sprawling cities with extensive urban highways and interstates, and

[16] a detailed LODES data release notes is here: https://lehd.ces.census.gov/doc/help/onthemap/LODESTechDoc.pdf

extensive networks of urban arterials with a lack of bike infrastructure, such as Miami, Jacksonville, and San Antonio, do not perform as well for medium-stress bicycle access when compared to "open streets" access, as shown by their lower medium-stress percentage ratios. Further, the total employment within a metropolitan area is not necessarily a good predictor of bicycle access to jobs; for instance, the Boston metropolitan area is ranked 10th largest by total employment in Table 1, but ranks 3rd by access to jobs on low-stress bicycle networks. Conversely, Dallas ranks 4th by total employment, but 12th by access to jobs on low-stress and medium-stress bike networks.

We report rankings for both low stress and medium stress, because most existing bicycle networks in North American cities include some combination of both categories. Medium-stress facilities (unprotected bike lanes on slightly busier roads, certain applications of "sharrows" for shared lanes, etc.) can be common, and are important to include when measuring access to destinations on the entire bike network. If the low-stress accessibility in a city is close to the medium-stress accessibility, that may indicate that the low-stress bicycle network performs well and is well-built—relatedly, it may indicate that a city's bike network predominantly includes low-stress facilities.

Land use systems and the non-motorized transportation landscapes are 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 which adopts a goal of increasing biking accessibility and safety (e.g., a comprehensive bike plan) should be evaluated based on how effectively it advances that goal relative to a baseline. Using these data as a starting point, future reports in the Access Across America: Biking series will track the way that biking accessibility in these metropolitan areas evolves in response to transportation and safety investments, as well as 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 map for each metropolitan area shows 30-minute biking accessibility values at the Census block level, on medium-stress bicycle networks; areas of more intense color have higher access to jobs.

On the data summary pages, three different chart scales are used in the first chart to accommodate the wide range of accessibility values across metropolitan areas. The third chart for each metropolitan area shows the accessibility ratios for lowest-stress, low-stress, and medium-stress bicycle networks compared to the maximum of "open streets" access. Cities with lower percentages for low-stress and medium-stress accessibility may have lower-performing bicycle networks, and cities with higher percentage ratios for low-stress and medium-stress accessibility may have more extensive, well-performing bicycle networks.

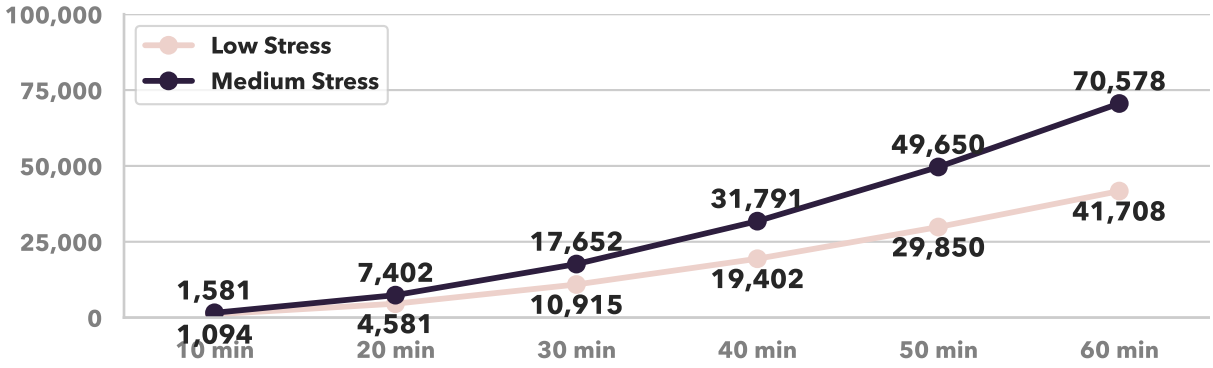
Atlanta

Atlanta-Sandy Springs-Roswell, GA

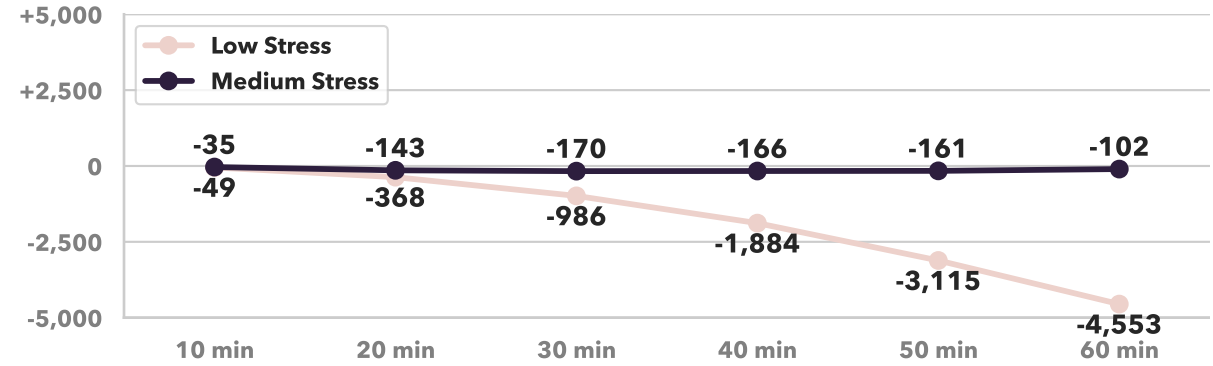
Rank by Weighted Low-Stress Bike Accessibility	**44**
Rank by Weighted Medium-Stress Bike Accessibility	**37**
Rank by Change in Low-Stress Bike Accessibility	**47**
Rank by Change in Medium-Stress Bike Accessibility	**26**
Rank by Total Employment	**8**
Total Jobs	**2,753,966**
Average Job Density (per mi^2)	**313**
Total Workers	**2,632,989**
Average Worker Density (per mi^2)	**299**

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

Biking Job Accessibility by Travel Time Threshold



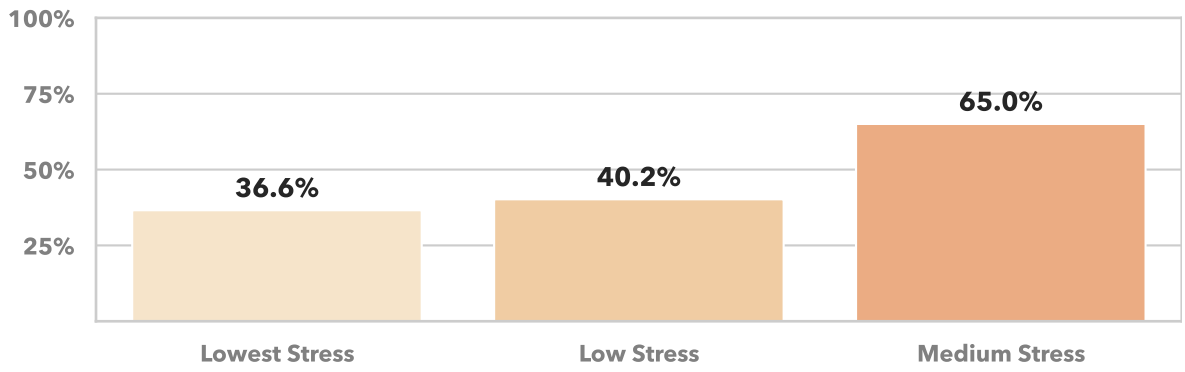
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Atlanta

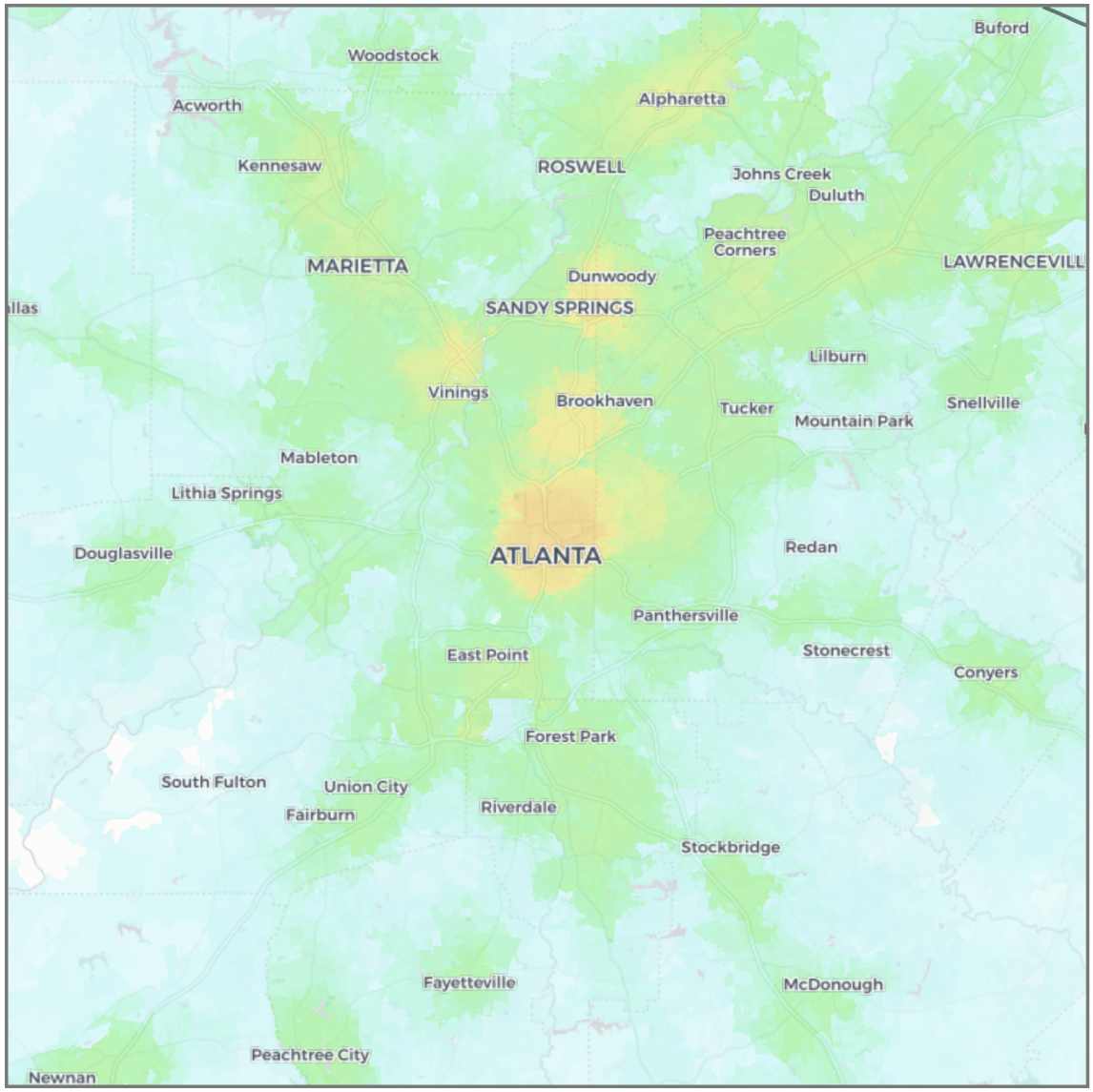
Atlanta-Sandy Springs-Roswell, GA

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Atlanta

Atlanta-Sandy Springs-Roswell, GA



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

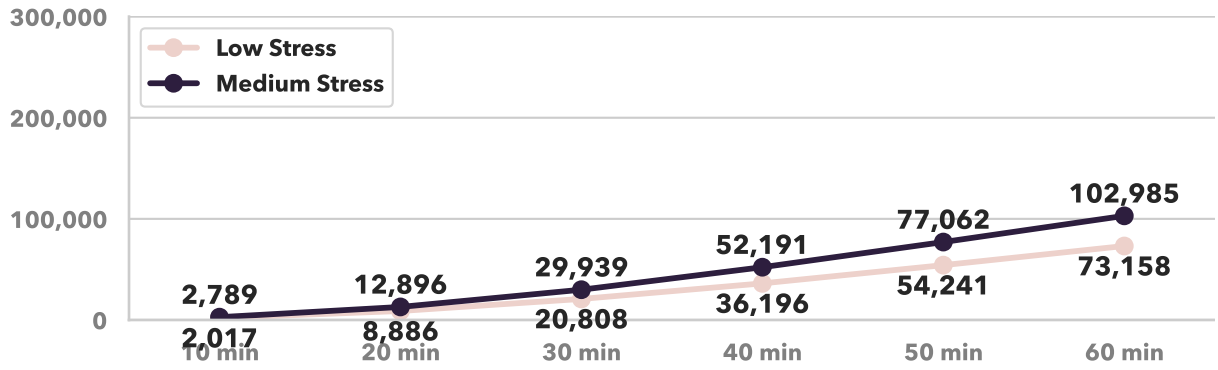
Austin

Austin-Round Rock-San Marcos, TX

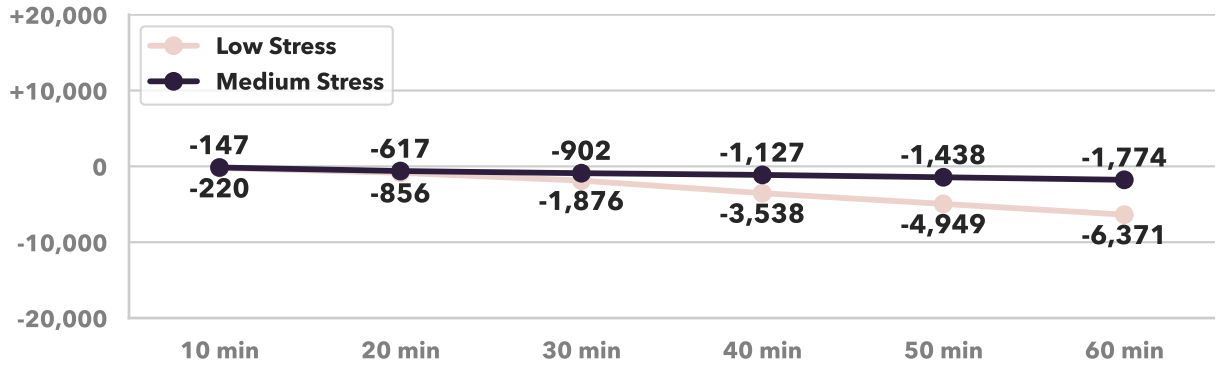
Rank by Weighted Low-Stress Bike Accessibility	**18**
Rank by Weighted Medium-Stress Bike Accessibility	**18**
Rank by Change in Low-Stress Bike Accessibility	**48**
Rank by Change in Medium-Stress Bike Accessibility	**38**
Rank by Total Employment	**26**
Total Jobs	**1,131,891**
Average Job Density (per mi^2)	**268**
Total Workers	**1,061,276**
Average Worker Density (per mi^2)	**251**

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

Biking Job Accessibility by Travel Time Threshold



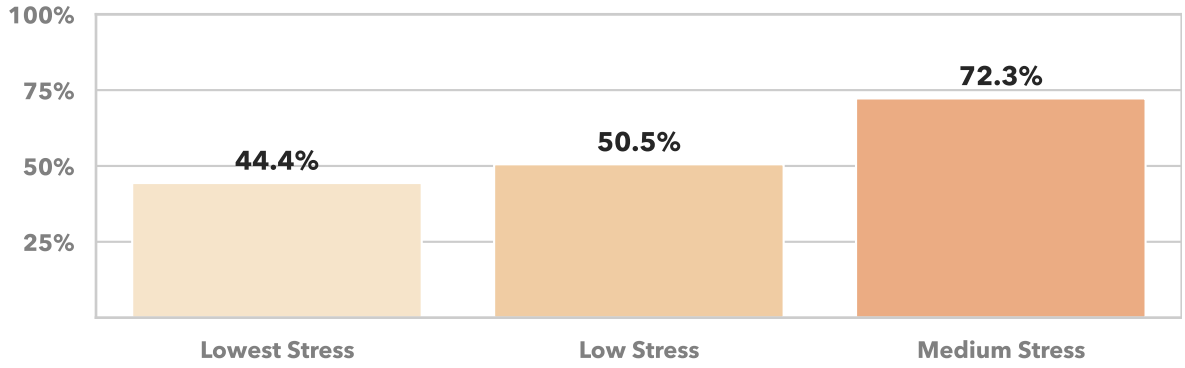
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Austin

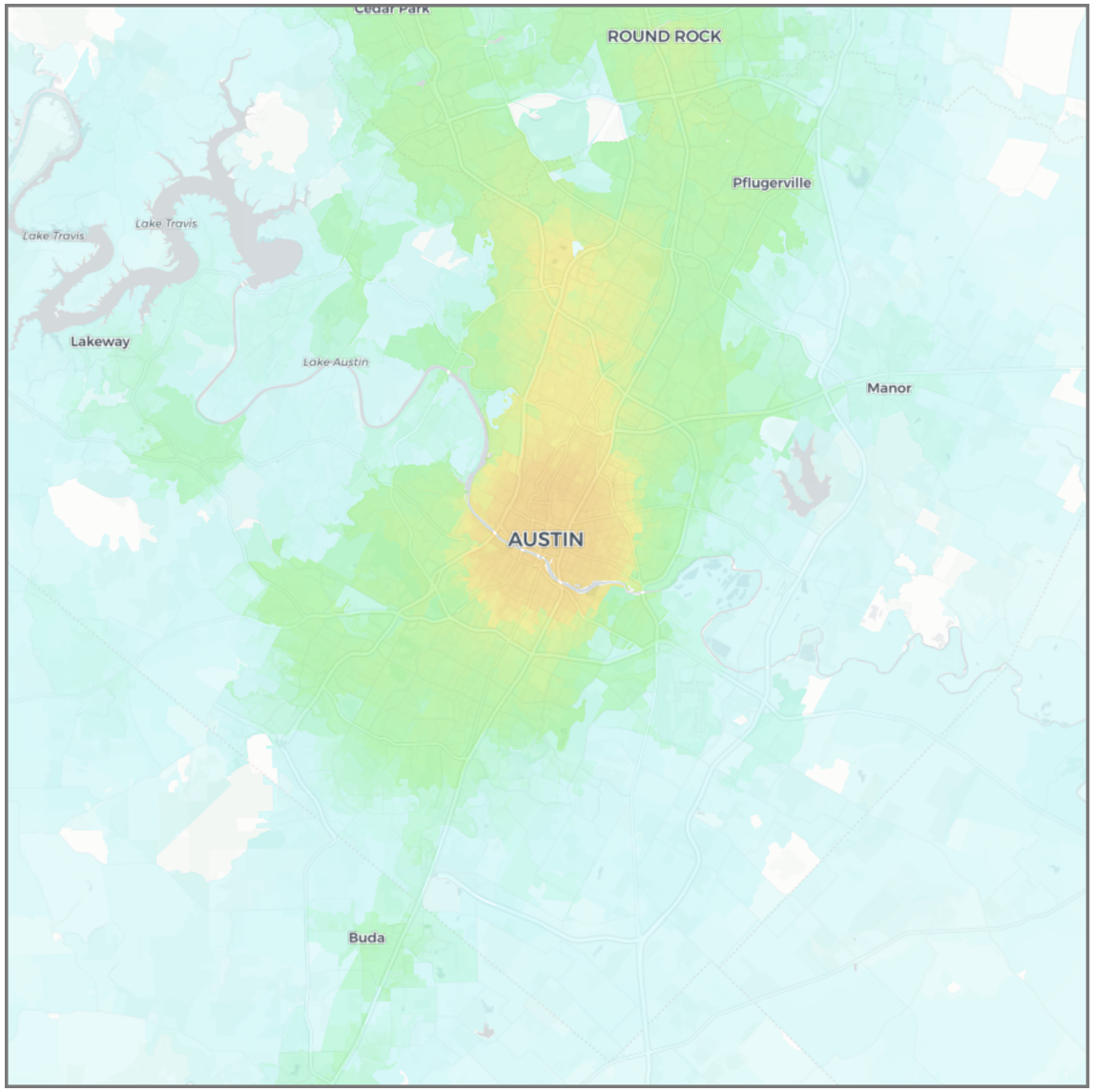
Austin-Round Rock-San Marcos, TX

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Austin

Austin-Round Rock-San Marcos, TX



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

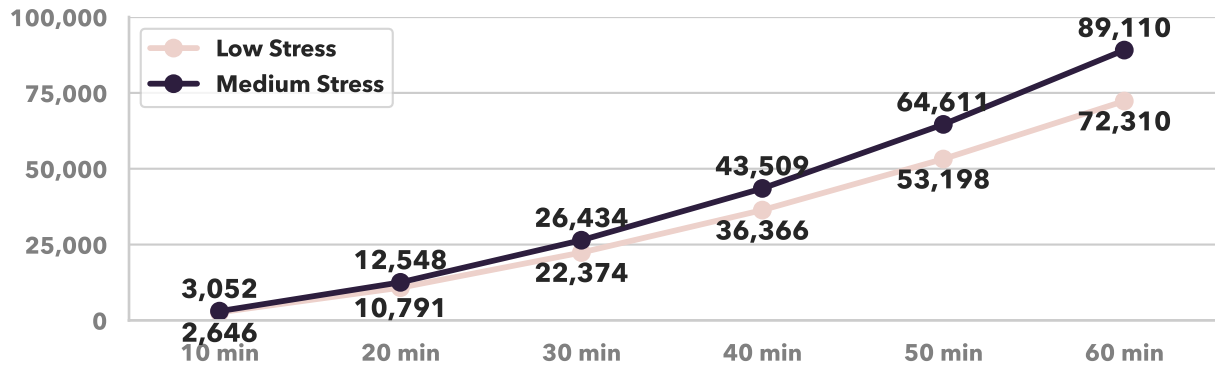
Baltimore

Baltimore-Columbia-Towson, MD

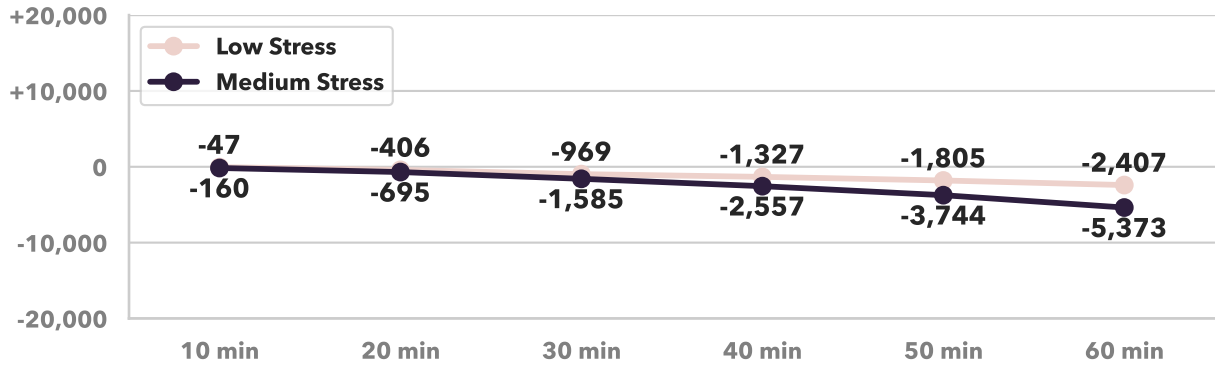
Rank by Weighted Low-Stress Bike Accessibility	**16**
Rank by Weighted Medium-Stress Bike Accessibility	**21**
Rank by Change in Low-Stress Bike Accessibility	**41**
Rank by Change in Medium-Stress Bike Accessibility	**46**
Rank by Total Employment	**21**
Total Jobs	**1,262,118**
Average Job Density (per mi^2)	**485**
Total Workers	**1,229,425**
Average Worker Density (per mi^2)	**472**

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

Biking Job Accessibility by Travel Time Threshold



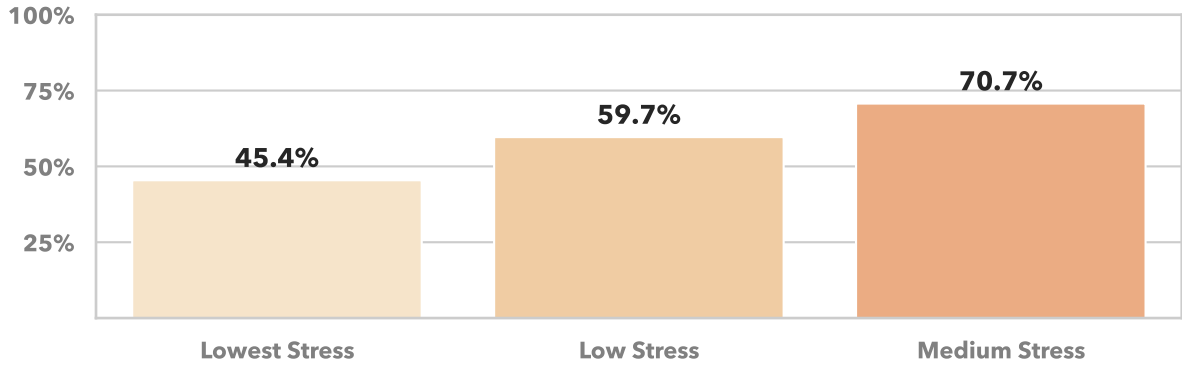
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Baltimore

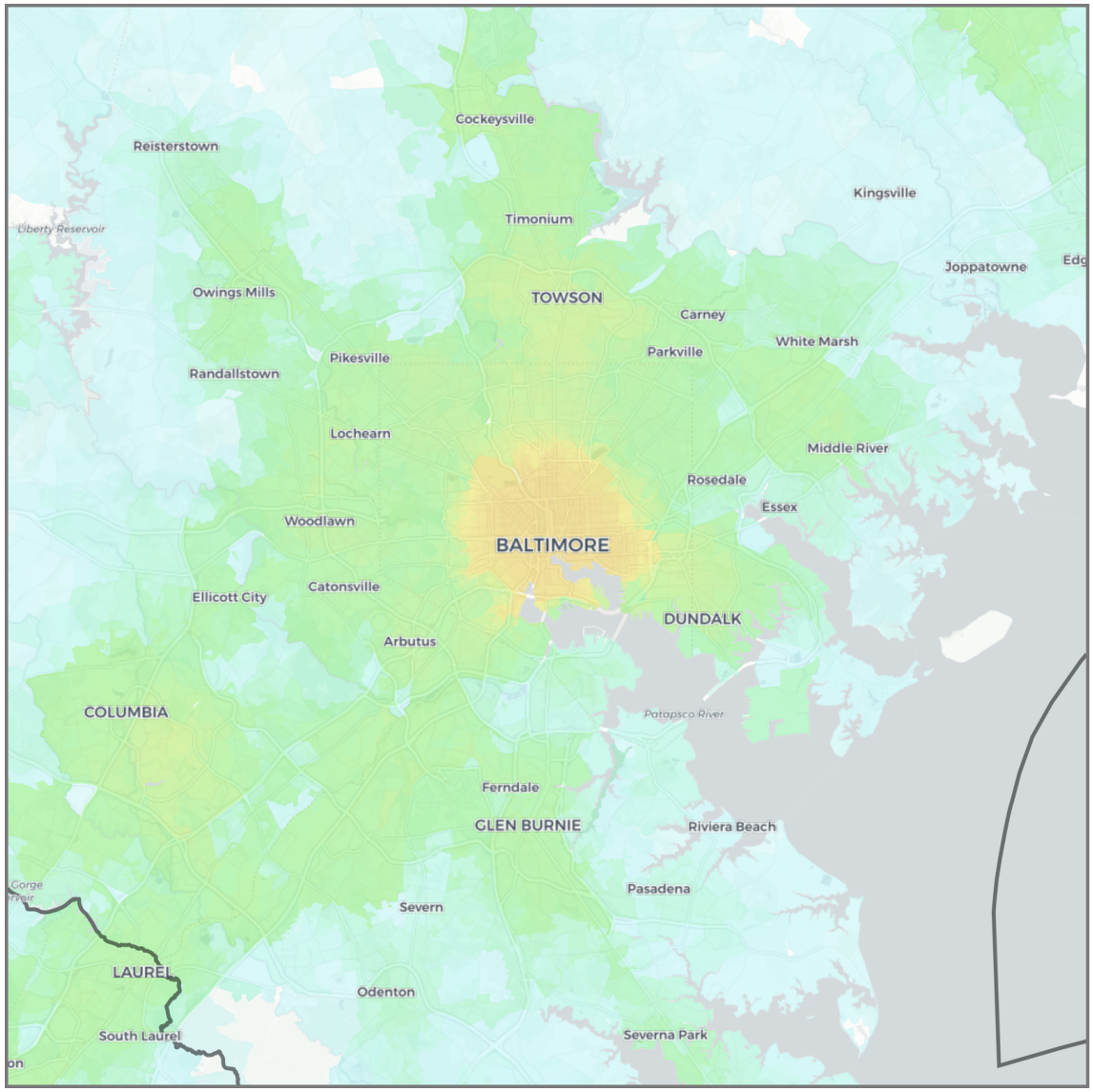
Baltimore-Columbia-Towson, MD

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Baltimore

Baltimore-Columbia-Towson, MD



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

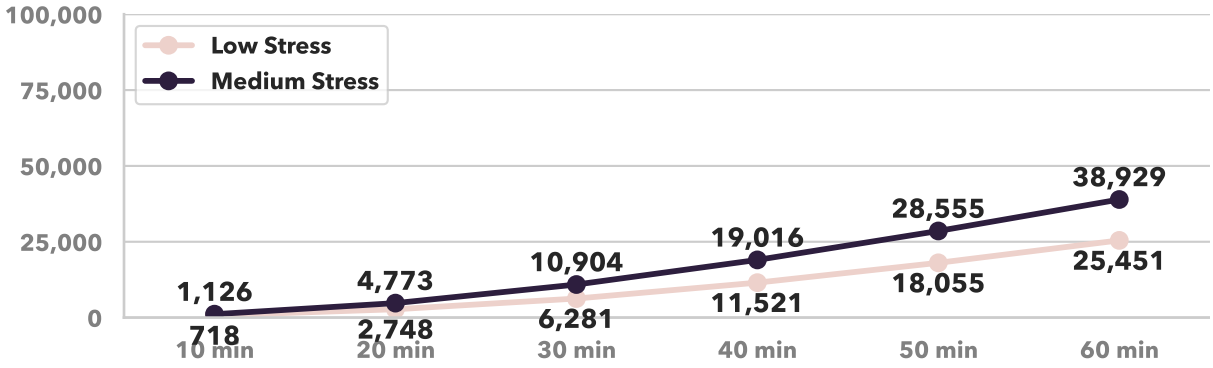
Birmingham

Birmingham, AL

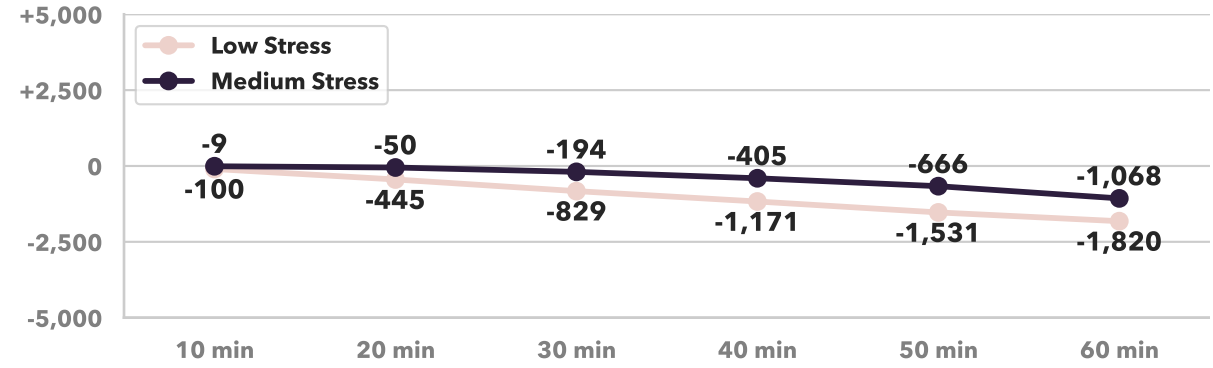
Rank by Weighted Low-Stress Bike Accessibility	**49**
Rank by Weighted Medium-Stress Bike Accessibility	**50**
Rank by Change in Low-Stress Bike Accessibility	**49**
Rank by Change in Medium-Stress Bike Accessibility	**32**
Rank by Total Employment	**48**
Total Jobs	**527,236**
Average Job Density (per mi^2)	**99**
Total Workers	**488,859**
Average Worker Density (per mi^2)	**92**

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

Biking Job Accessibility by Travel Time Threshold



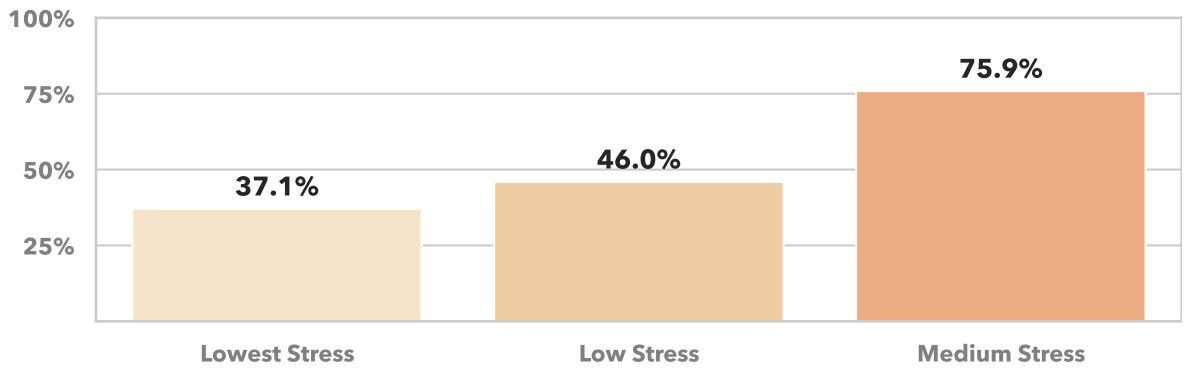
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Birmingham

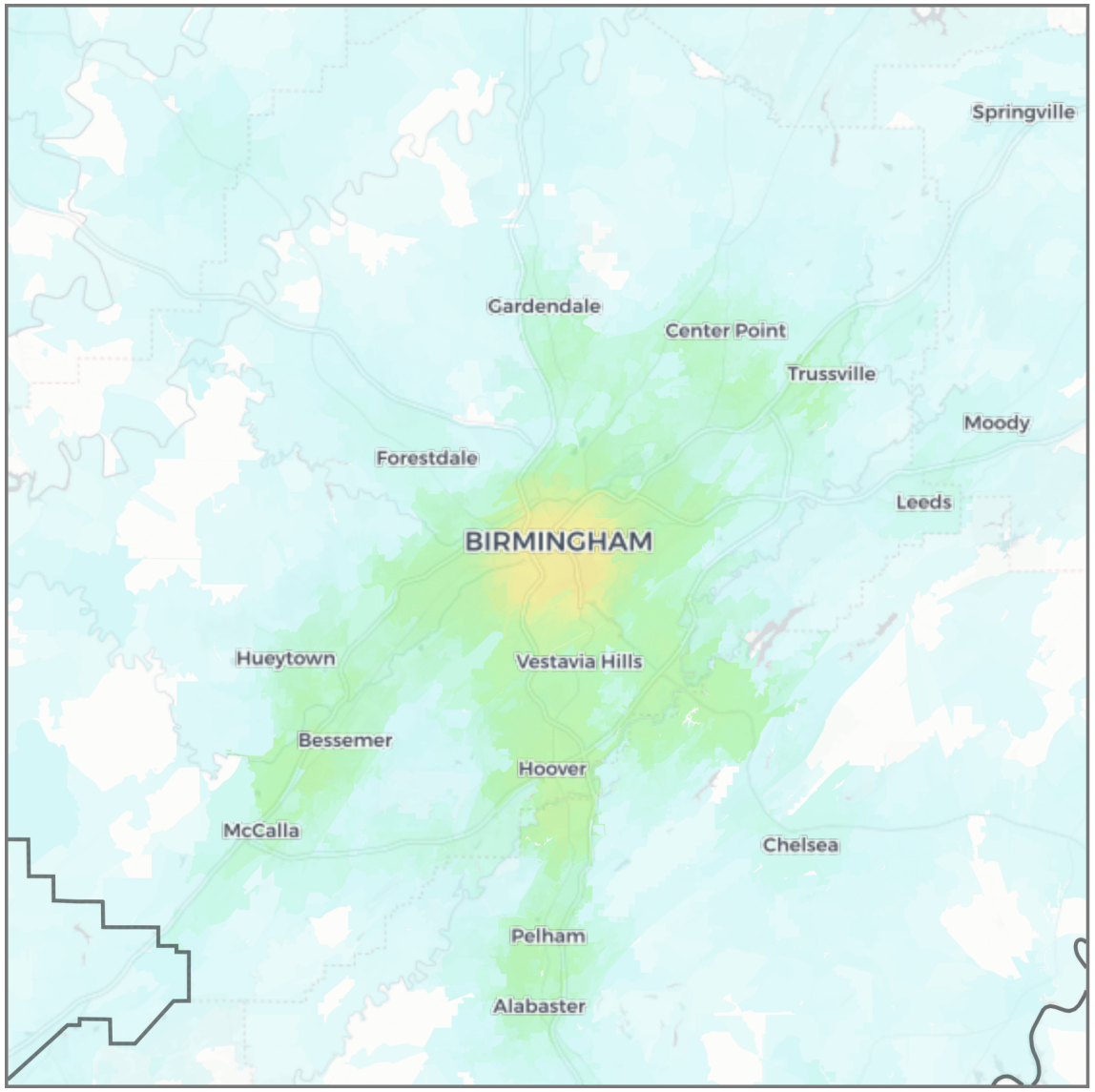
Birmingham, AL

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Birmingham

Birmingham, AL



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

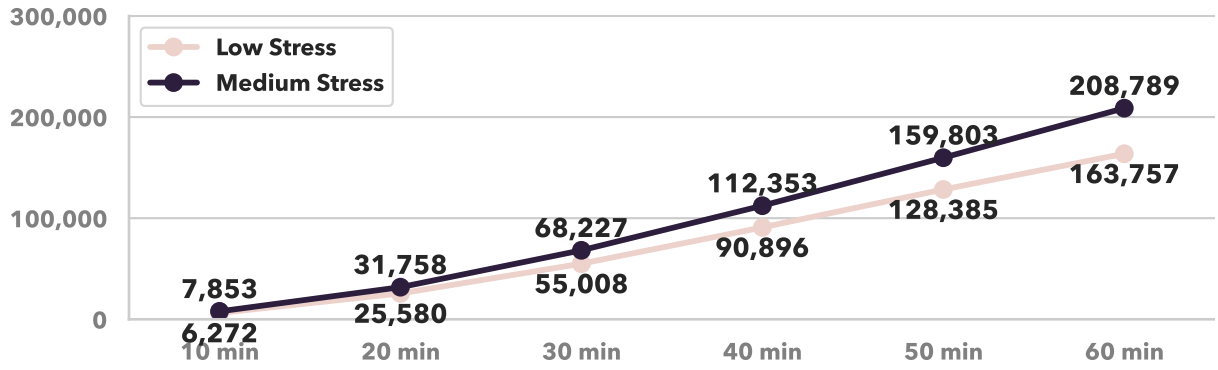
Boston

Boston-Cambridge-Newton, MA-NH

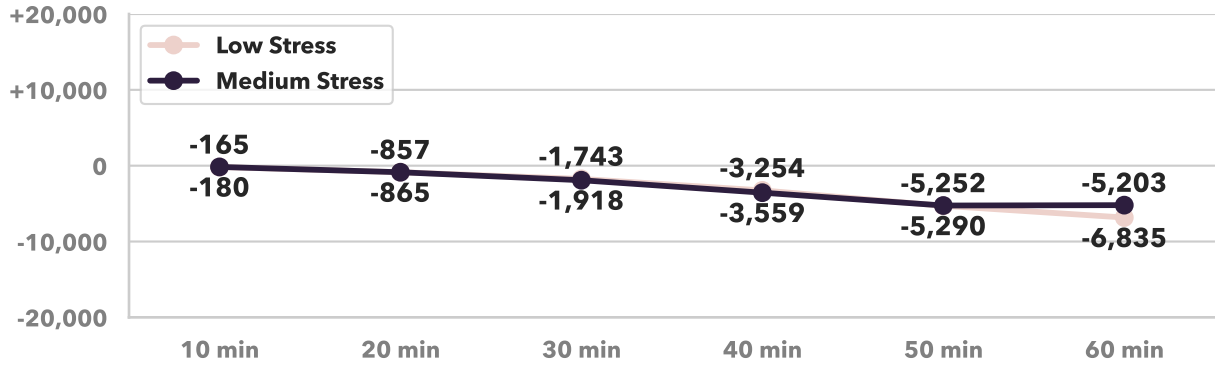
Rank by Weighted Low-Stress Bike Accessibility	**3**
Rank by Weighted Medium-Stress Bike Accessibility	**4**
Rank by Change in Low-Stress Bike Accessibility	**40**
Rank by Change in Medium-Stress Bike Accessibility	**37**
Rank by Total Employment	**10**
Total Jobs	**2,609,485**
Average Job Density (per mi^2)	**748**
Total Workers	**2,374,391**
Average Worker Density (per mi^2)	**681**

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

Biking Job Accessibility by Travel Time Threshold



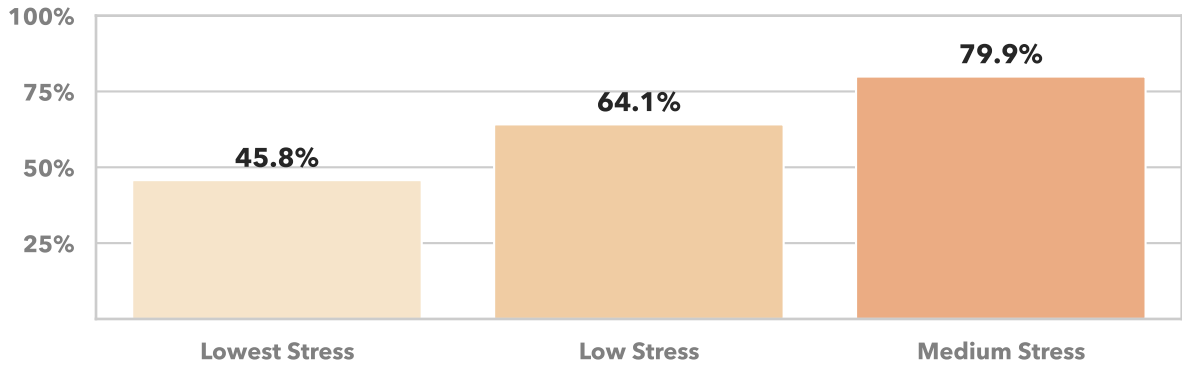
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Boston

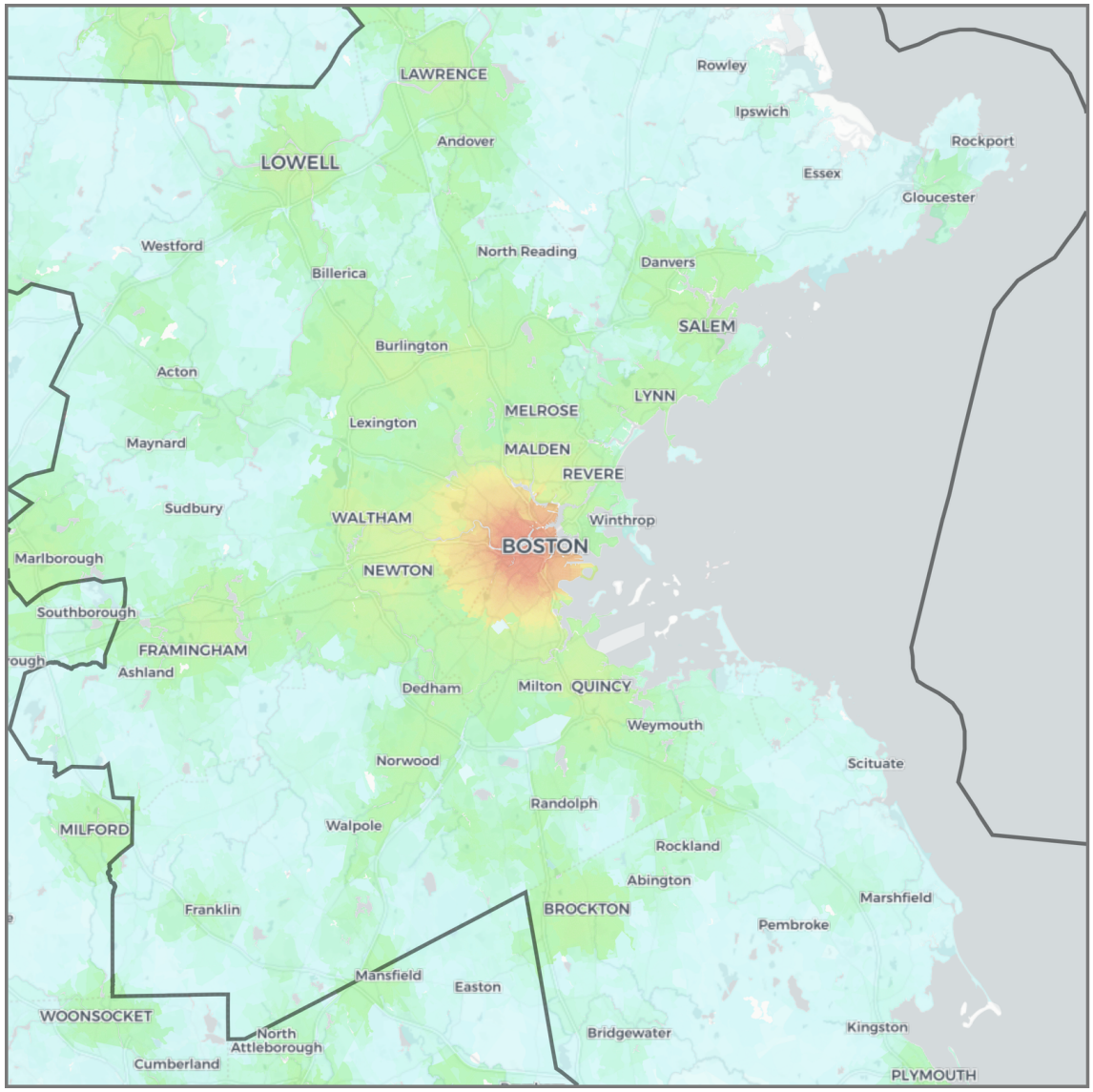
Boston-Cambridge-Newton, MA-NH

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Boston

Boston-Cambridge-Newton, MA-NH



Jobs within 30 minutes
(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border
CBSA boundary

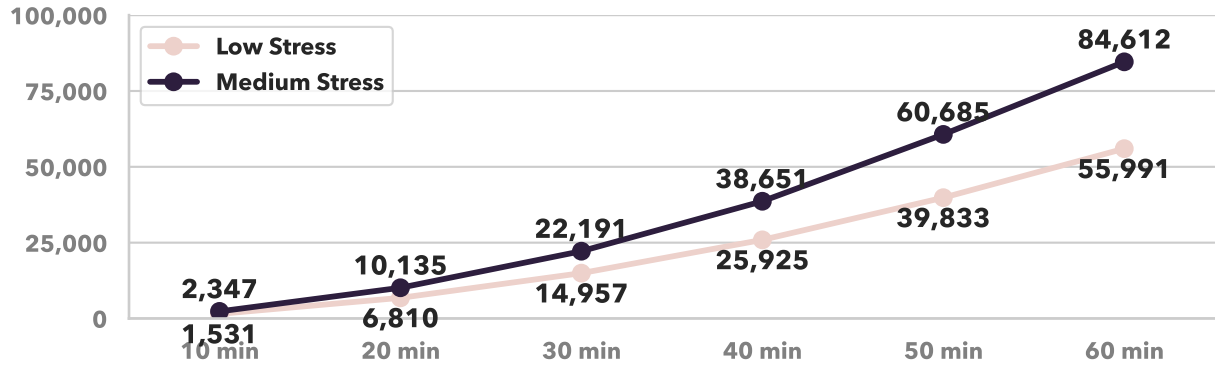
Buffalo

Buffalo-Cheektowaga, NY

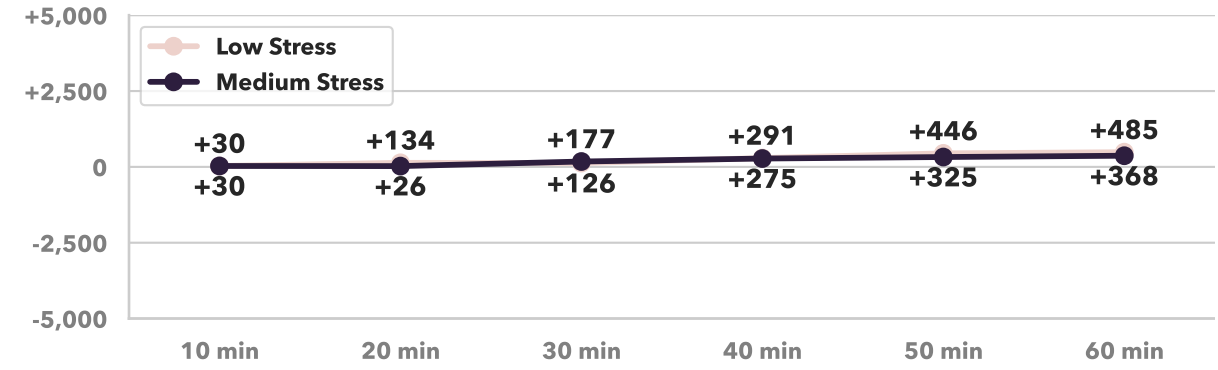
Rank by Weighted Low-Stress Bike Accessibility	**27**
Rank by Weighted Medium-Stress Bike Accessibility	**25**
Rank by Change in Low-Stress Bike Accessibility	**19**
Rank by Change in Medium-Stress Bike Accessibility	**19**
Rank by Total Employment	**47**
Total Jobs	**518,383**
Average Job Density (per mi^2)	**331**
Total Workers	**504,471**
Average Worker Density (per mi^2)	**322**

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

Biking Job Accessibility by Travel Time Threshold



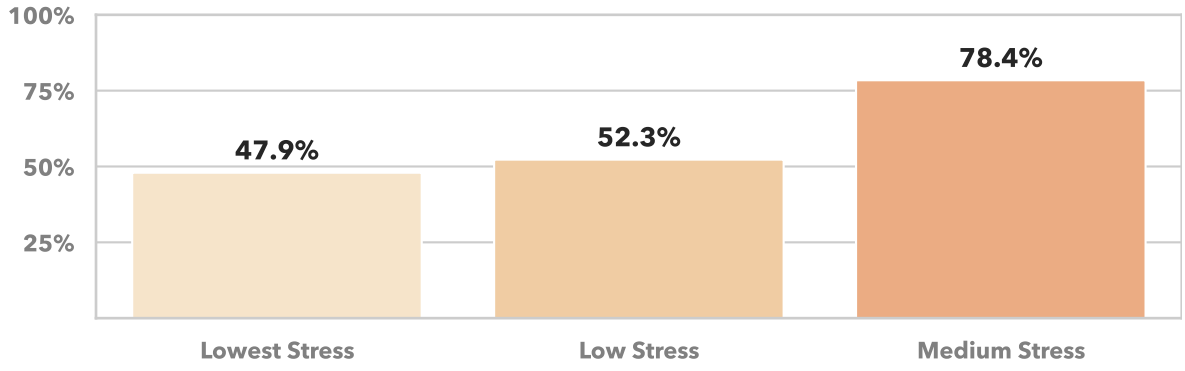
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Buffalo

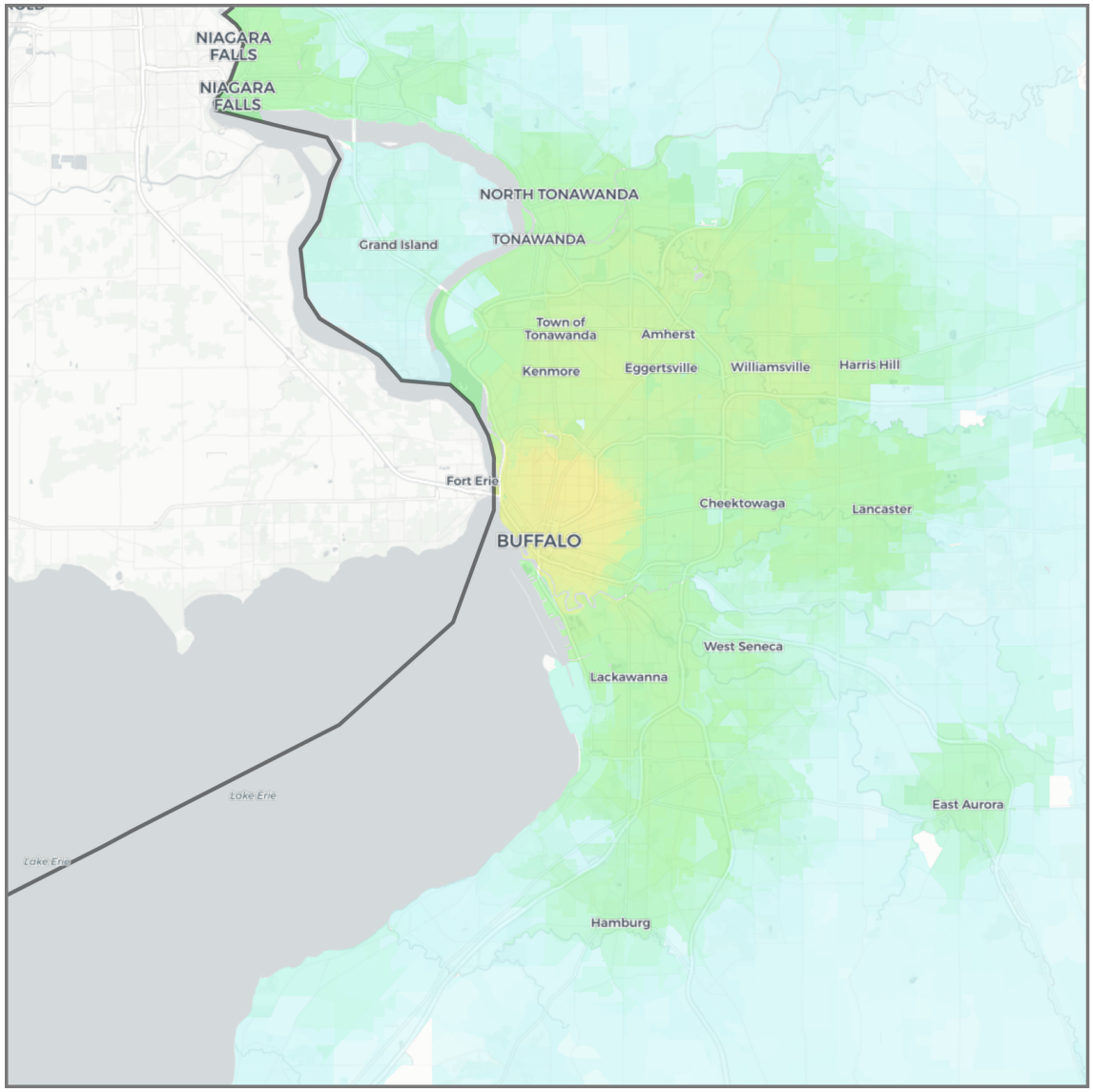
Buffalo-Cheektowaga, NY

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Buffalo

Buffalo-Cheektowaga, NY



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

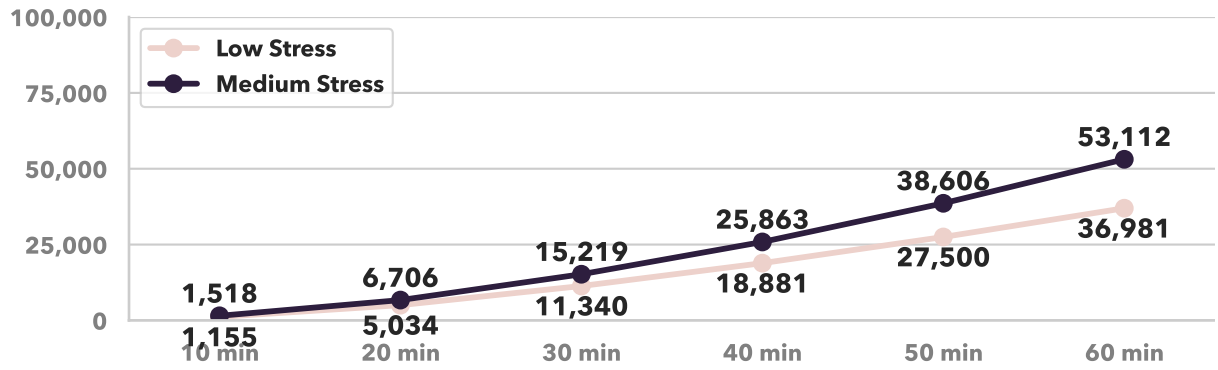
Charlotte

Charlotte-Concord-Gastonia, NC-SC

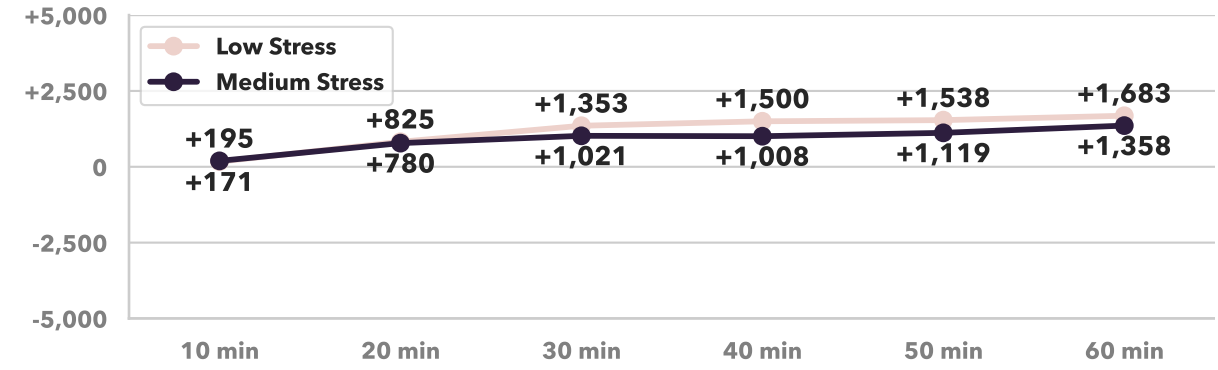
Rank by Weighted Low-Stress Bike Accessibility	**43**
Rank by Weighted Medium-Stress Bike Accessibility	**45**
Rank by Change in Low-Stress Bike Accessibility	**1**
Rank by Change in Medium-Stress Bike Accessibility	**1**
Rank by Total Employment	**22**
Total Jobs	**1,275,305**
Average Job Density (per mi^2)	**227**
Total Workers	**1,207,605**
Average Worker Density (per mi^2)	**215**

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

Biking Job Accessibility by Travel Time Threshold



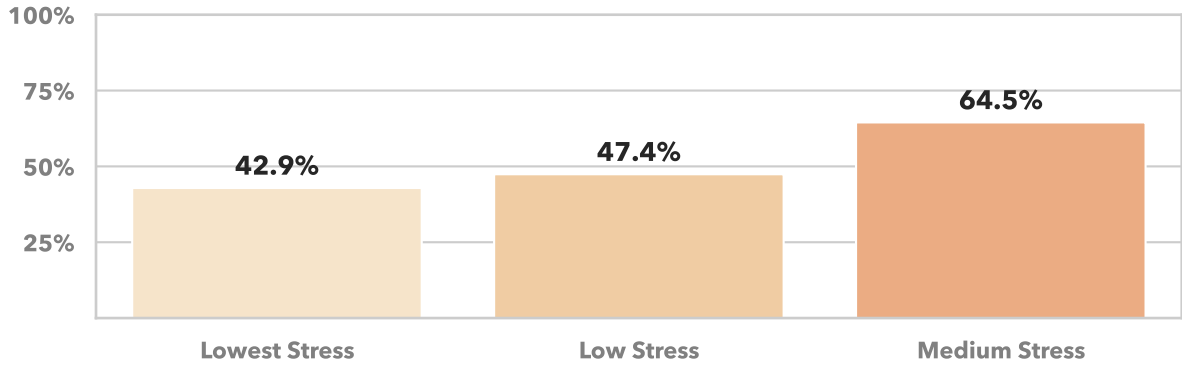
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Charlotte

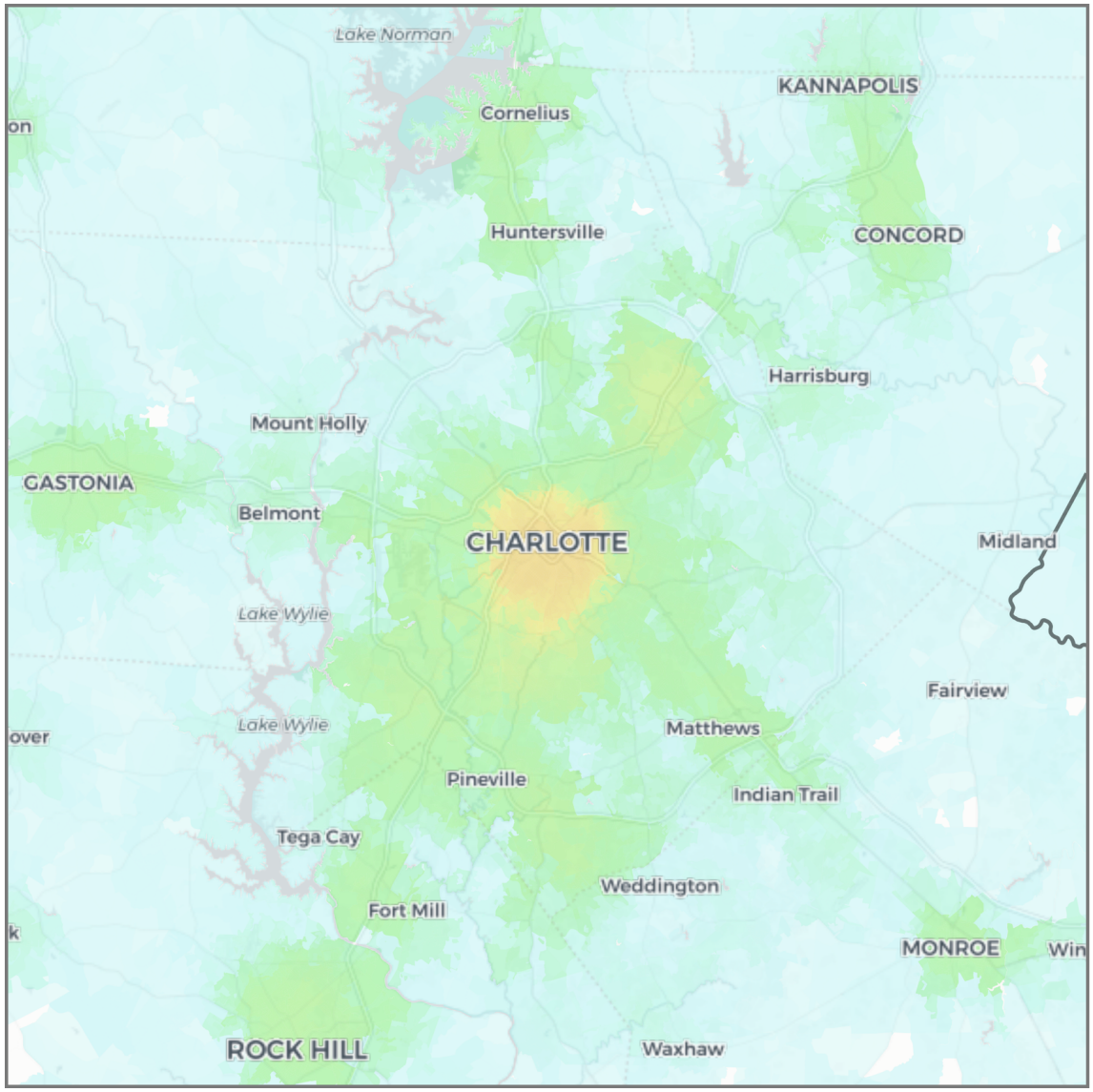
Charlotte-Concord-Gastonia, NC-SC

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Charlotte

Charlotte-Concord-Gastonia, NC-SC



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

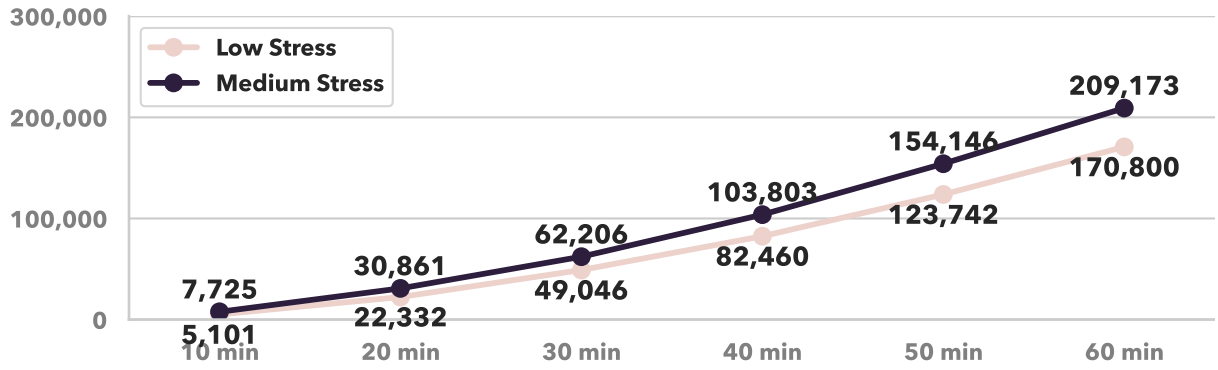
Chicago

Chicago-Naperville-Elgin, IL-IN

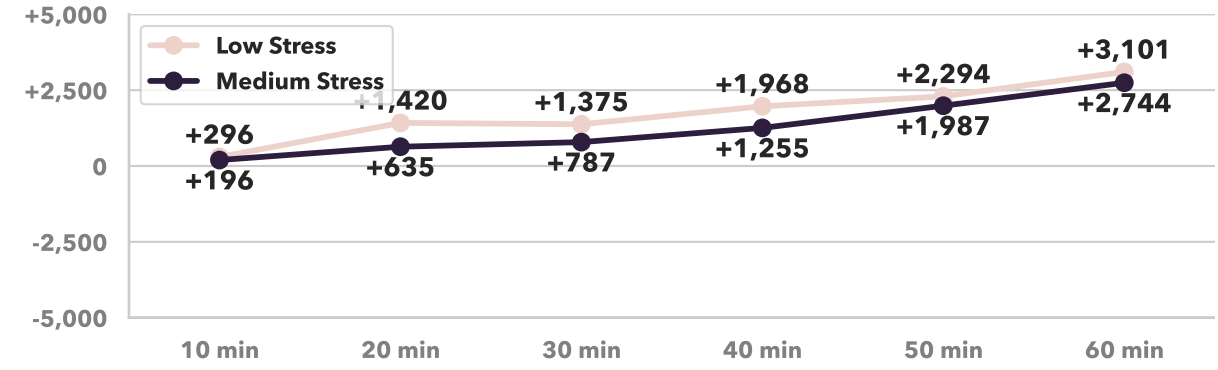
Rank by Weighted Low-Stress Bike Accessibility	**6**
Rank by Weighted Medium-Stress Bike Accessibility	**5**
Rank by Change in Low-Stress Bike Accessibility	**9**
Rank by Change in Medium-Stress Bike Accessibility	**12**
Rank by Total Employment	**3**
Total Jobs	**4,283,175**
Average Job Density (per mi^2)	**618**
Total Workers	**4,155,704**
Average Worker Density (per mi^2)	**600**

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

Biking Job Accessibility by Travel Time Threshold



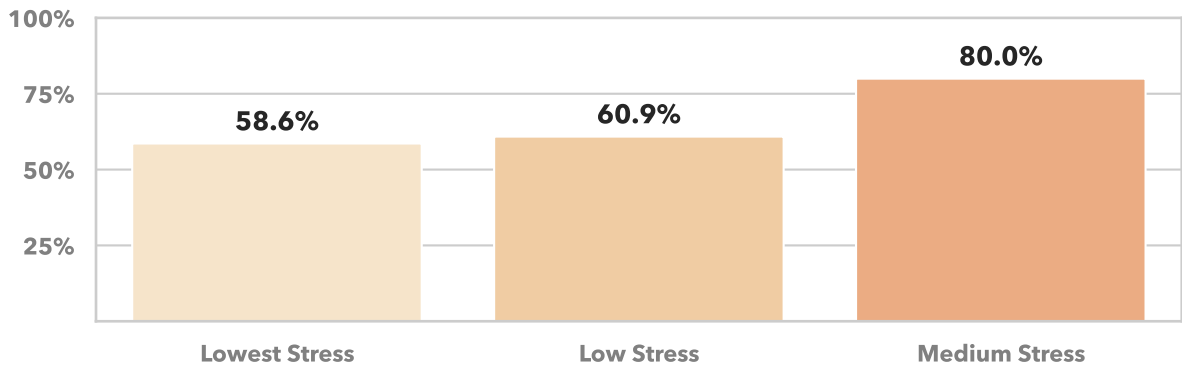
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Chicago

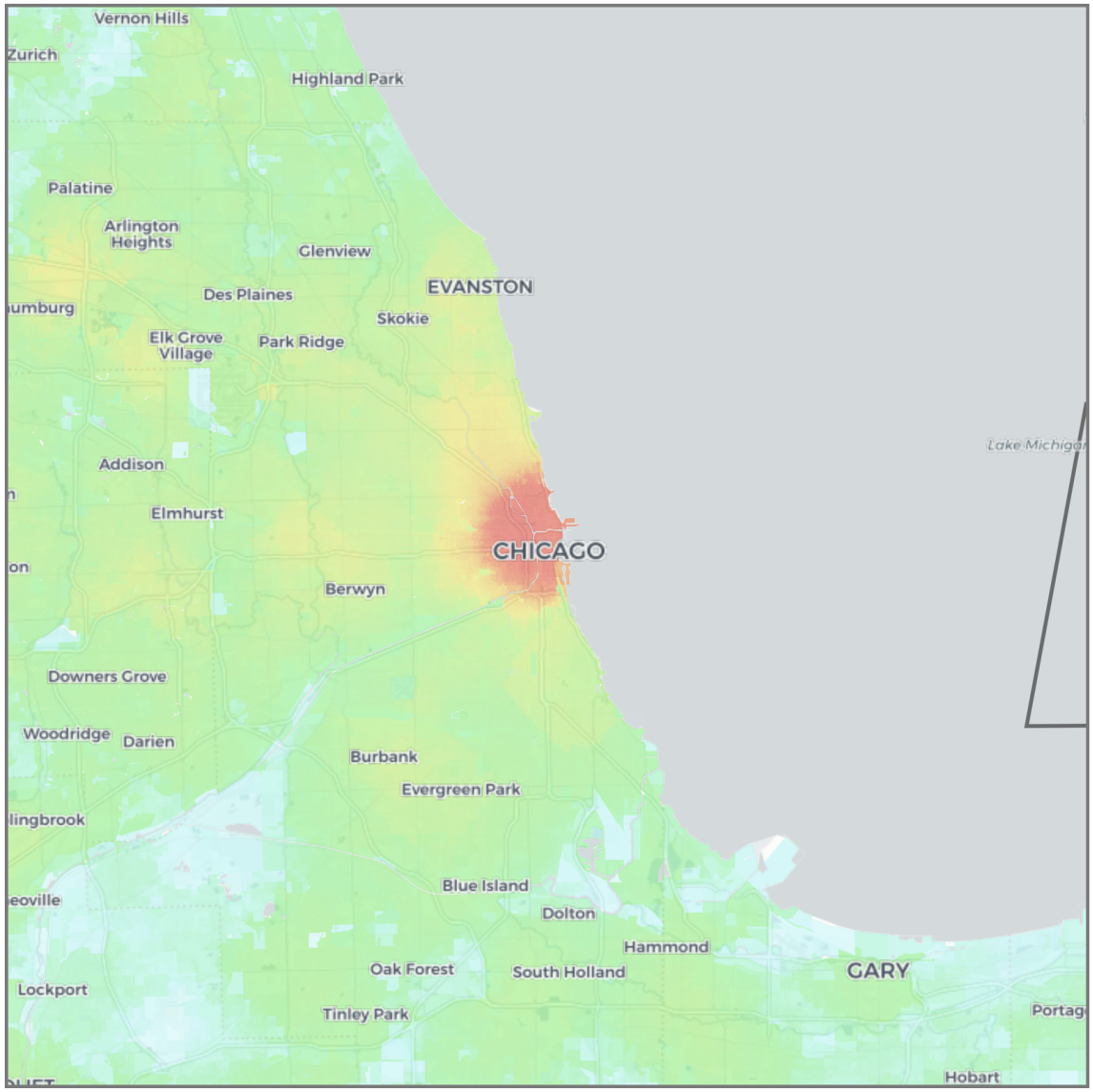
Chicago-Naperville-Elgin, IL-IN

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Chicago

Chicago-Naperville-Elgin, IL-IN



Jobs within 30 minutes
(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border
CBSA boundary

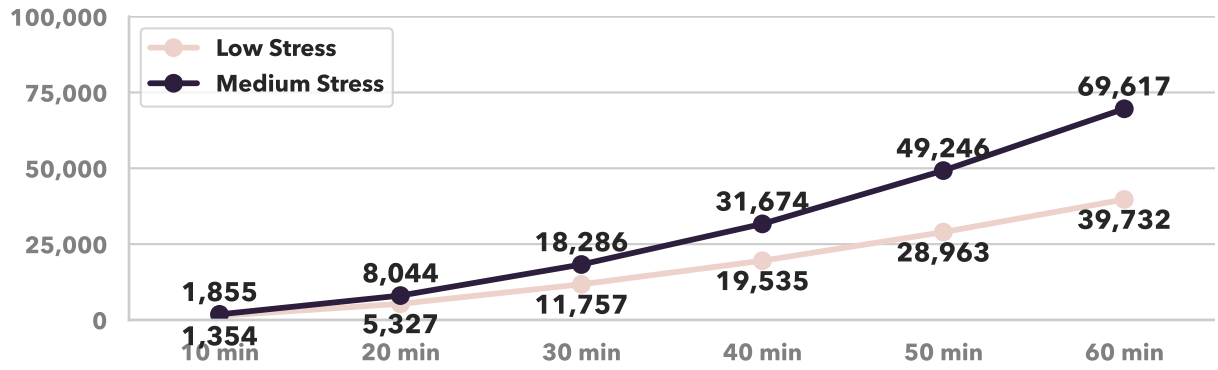
Cincinnati

Cincinnati, OH-KY-IN

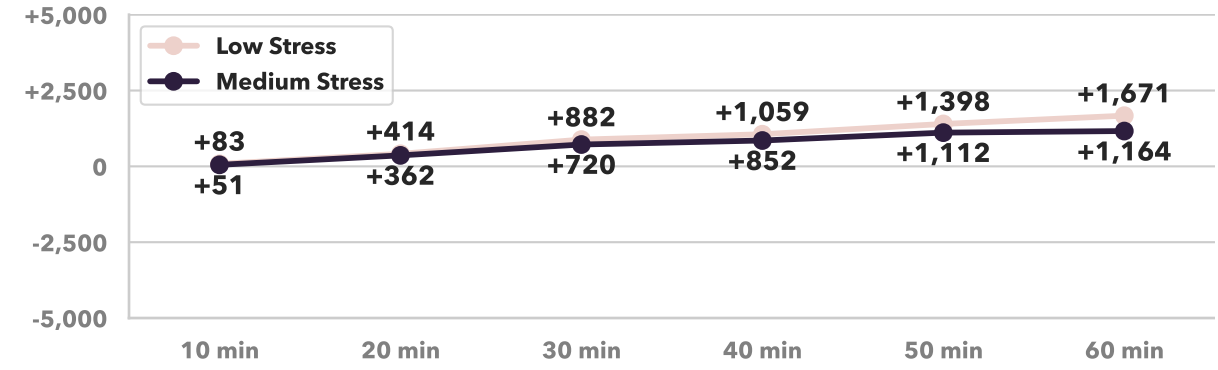
Rank by Weighted Low-Stress Bike Accessibility	**41**
Rank by Weighted Medium-Stress Bike Accessibility	**31**
Rank by Change in Low-Stress Bike Accessibility	**3**
Rank by Change in Medium-Stress Bike Accessibility	**6**
Rank by Total Employment	**28**
Total Jobs	**1,041,768**
Average Job Density (per mi^2)	**237**
Total Workers	**1,029,717**
Average Worker Density (per mi^2)	**234**

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

Biking Job Accessibility by Travel Time Threshold



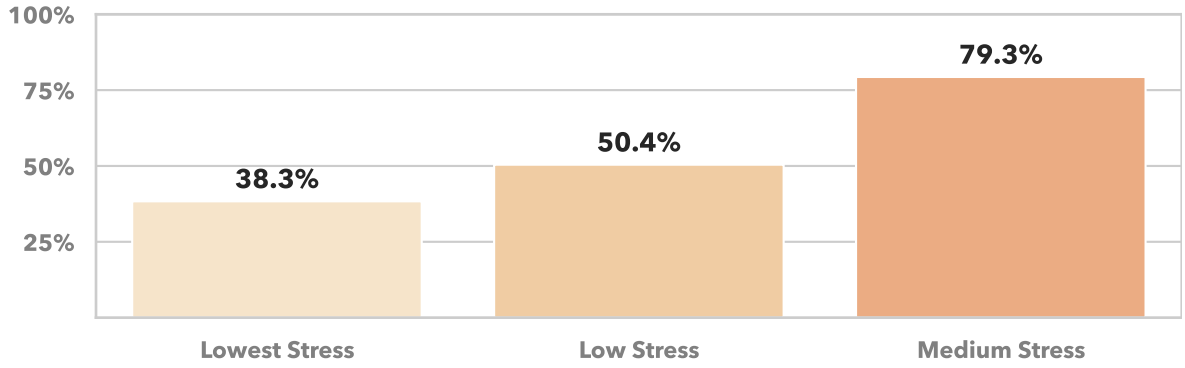
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Cincinnati

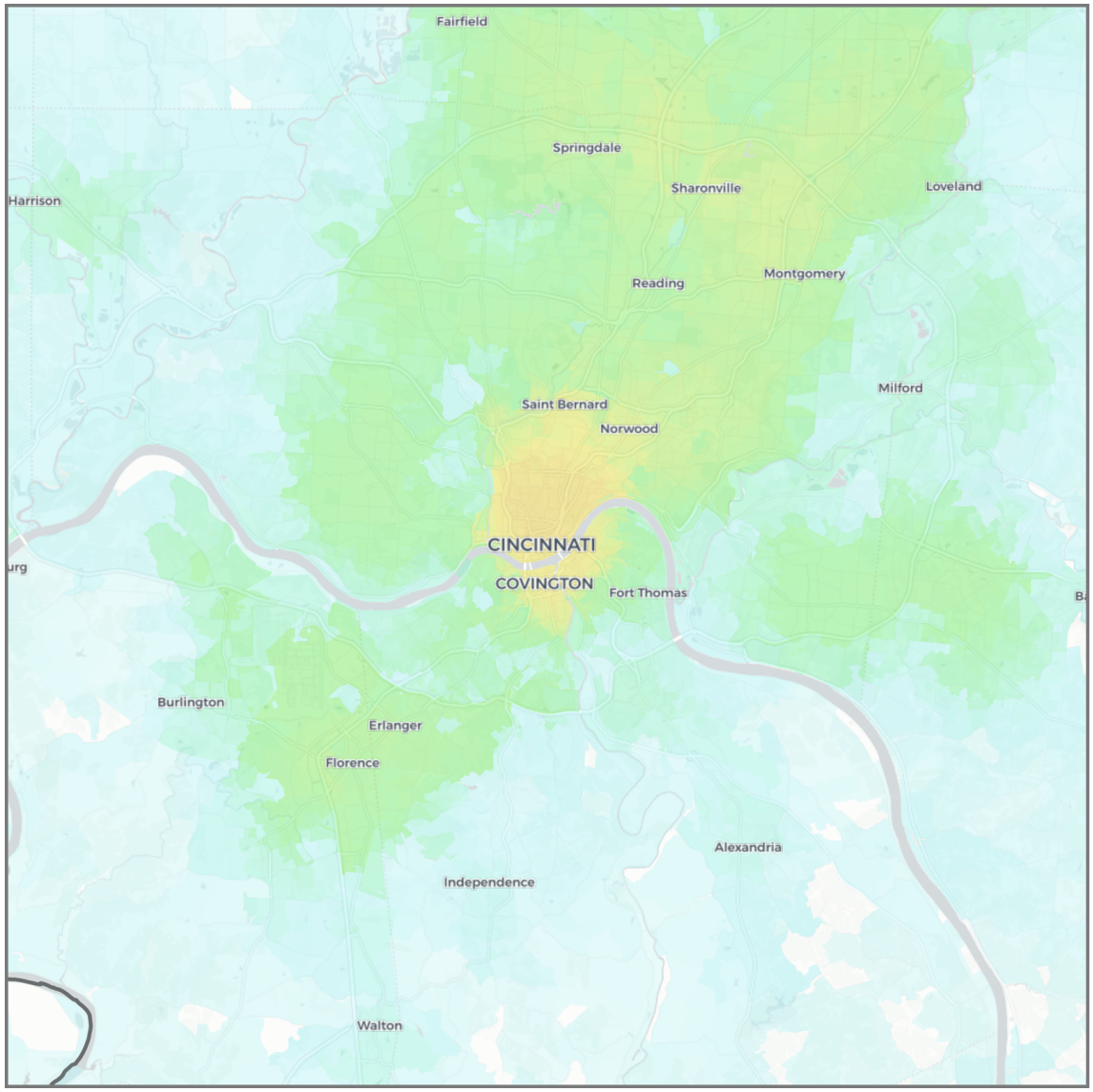
Cincinnati, OH-KY-IN

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Cincinnati

Cincinnati, OH-KY-IN



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

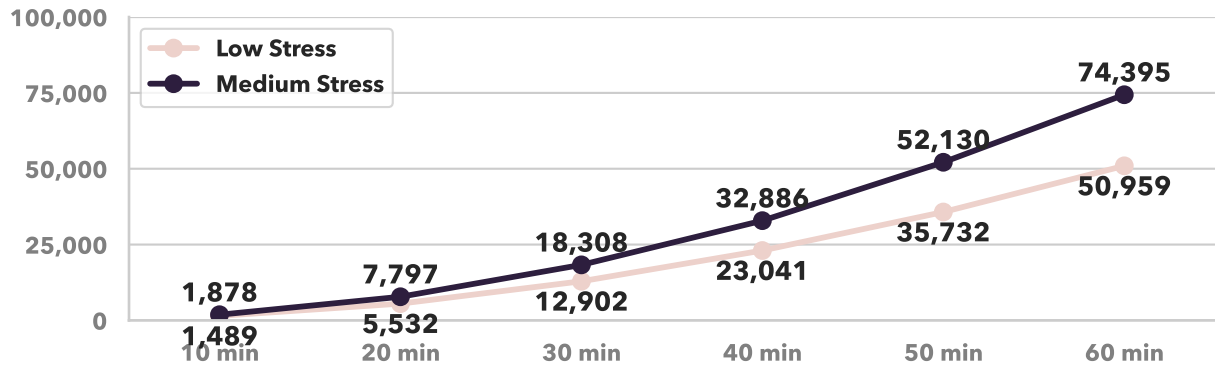
Cleveland

Cleveland, OH

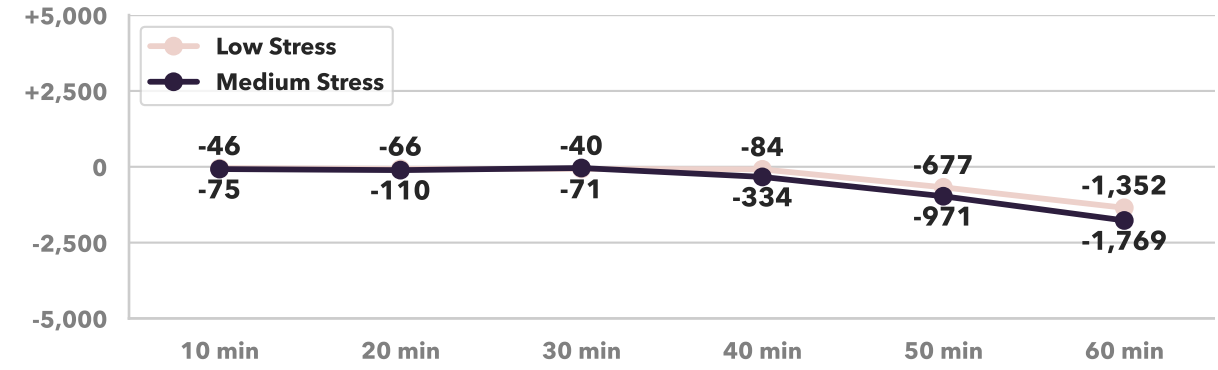
Rank by Weighted Low-Stress Bike Accessibility	**33**
Rank by Weighted Medium-Stress Bike Accessibility	**30**
Rank by Change in Low-Stress Bike Accessibility	**33**
Rank by Change in Medium-Stress Bike Accessibility	**30**
Rank by Total Employment	**33**
Total Jobs	**1,011,009**
Average Job Density (per mi^2)	**374**
Total Workers	**959,078**
Average Worker Density (per mi^2)	**355**

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

Biking Job Accessibility by Travel Time Threshold



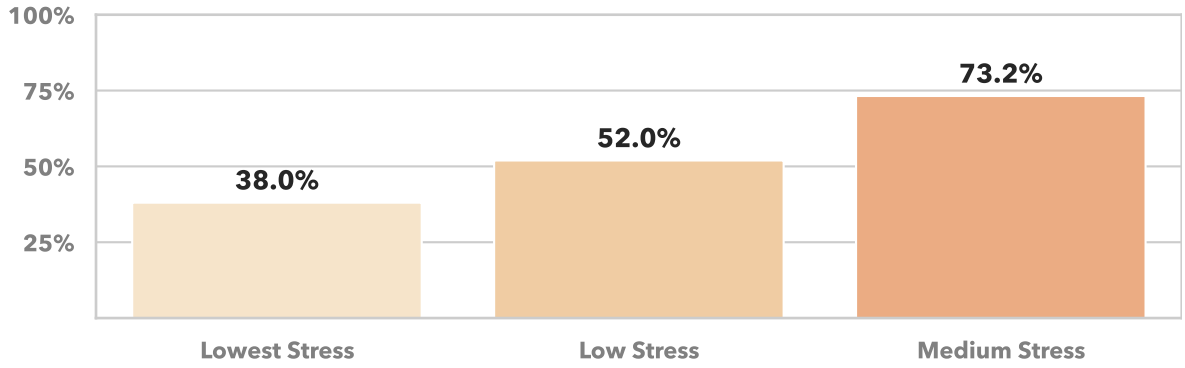
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Cleveland

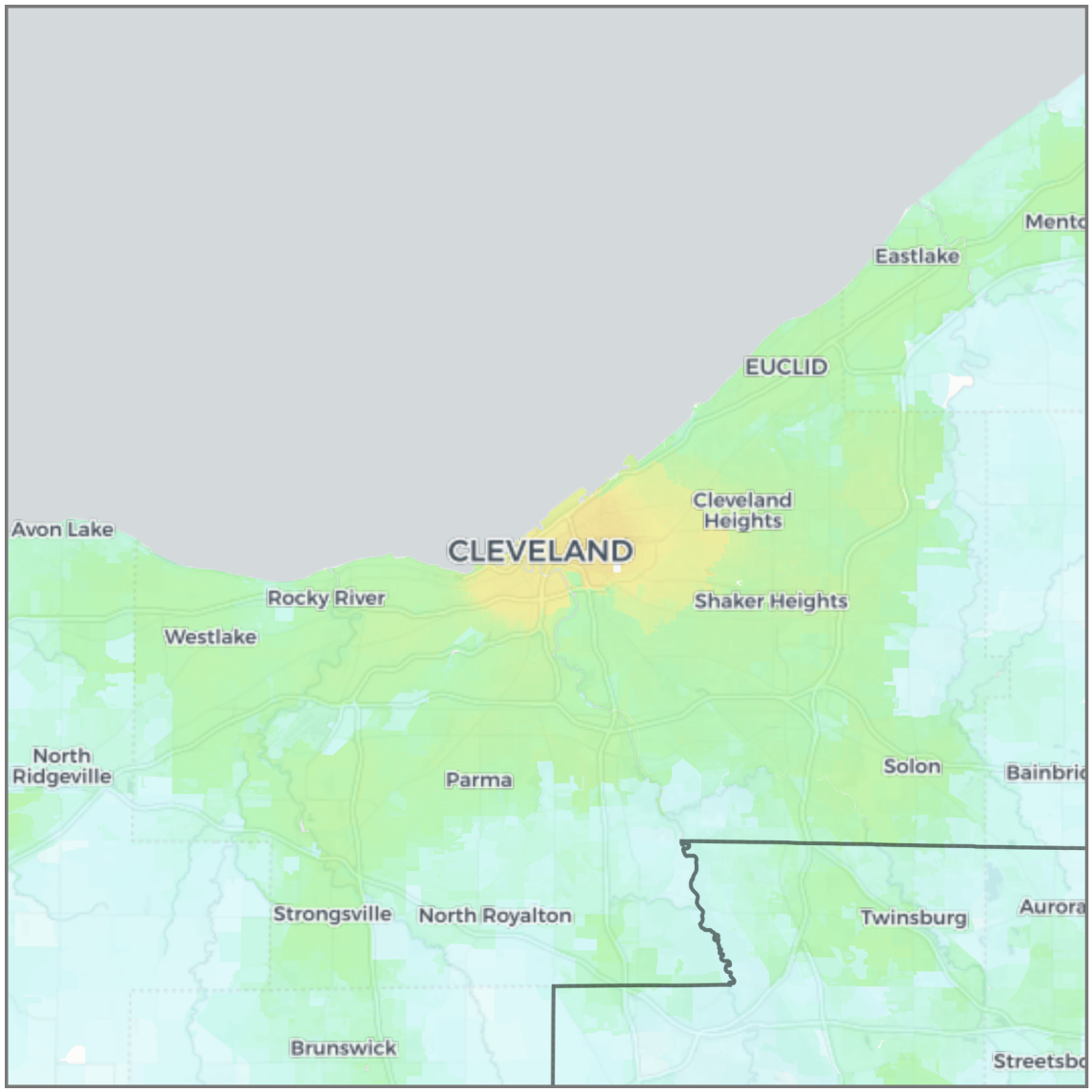
Cleveland, OH

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Cleveland

Cleveland, OH



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

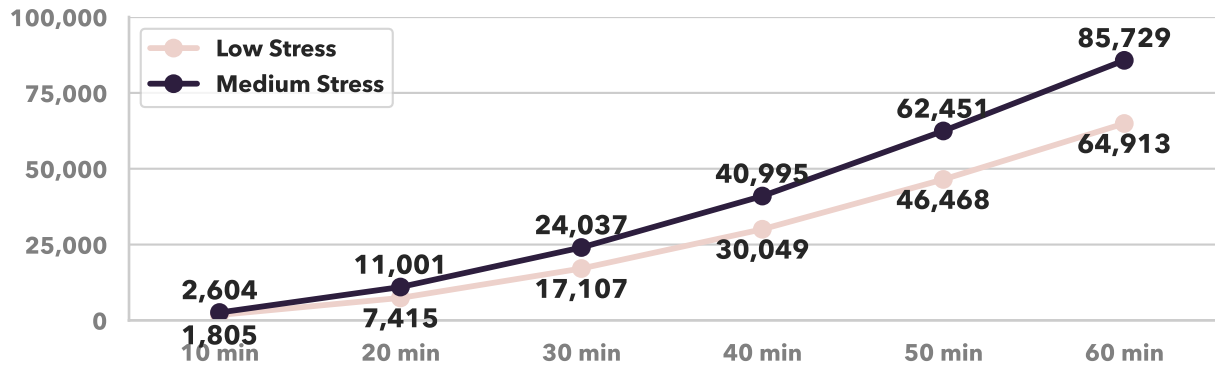
Columbus

Columbus, OH

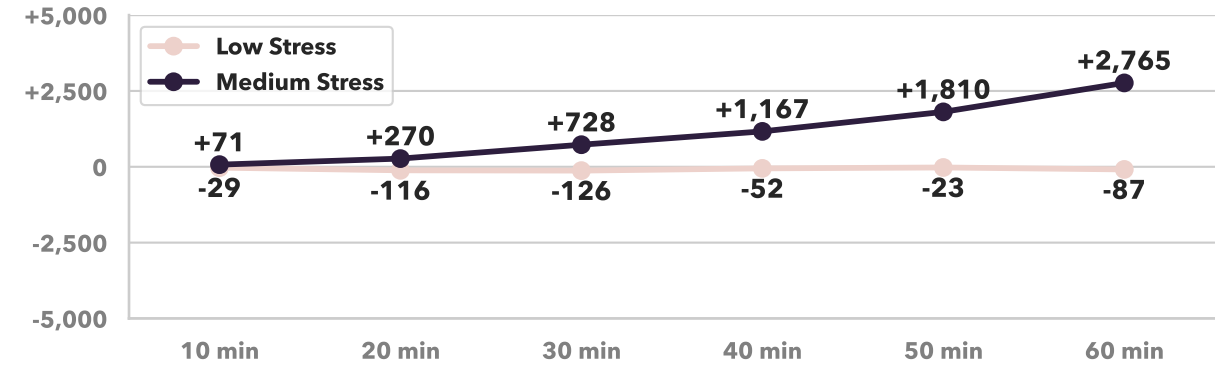
Rank by Weighted Low-Stress Bike Accessibility	**22**
Rank by Weighted Medium-Stress Bike Accessibility	**23**
Rank by Change in Low-Stress Bike Accessibility	**26**
Rank by Change in Medium-Stress Bike Accessibility	**7**
Rank by Total Employment	**31**
Total Jobs	**1,072,244**
Average Job Density (per mi^2)	**223**
Total Workers	**985,427**
Average Worker Density (per mi^2)	**205**

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

Biking Job Accessibility by Travel Time Threshold



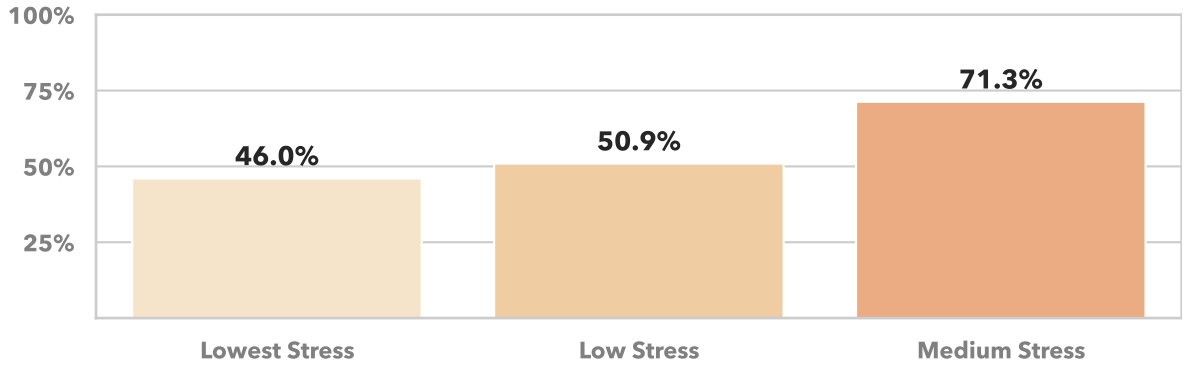
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Columbus

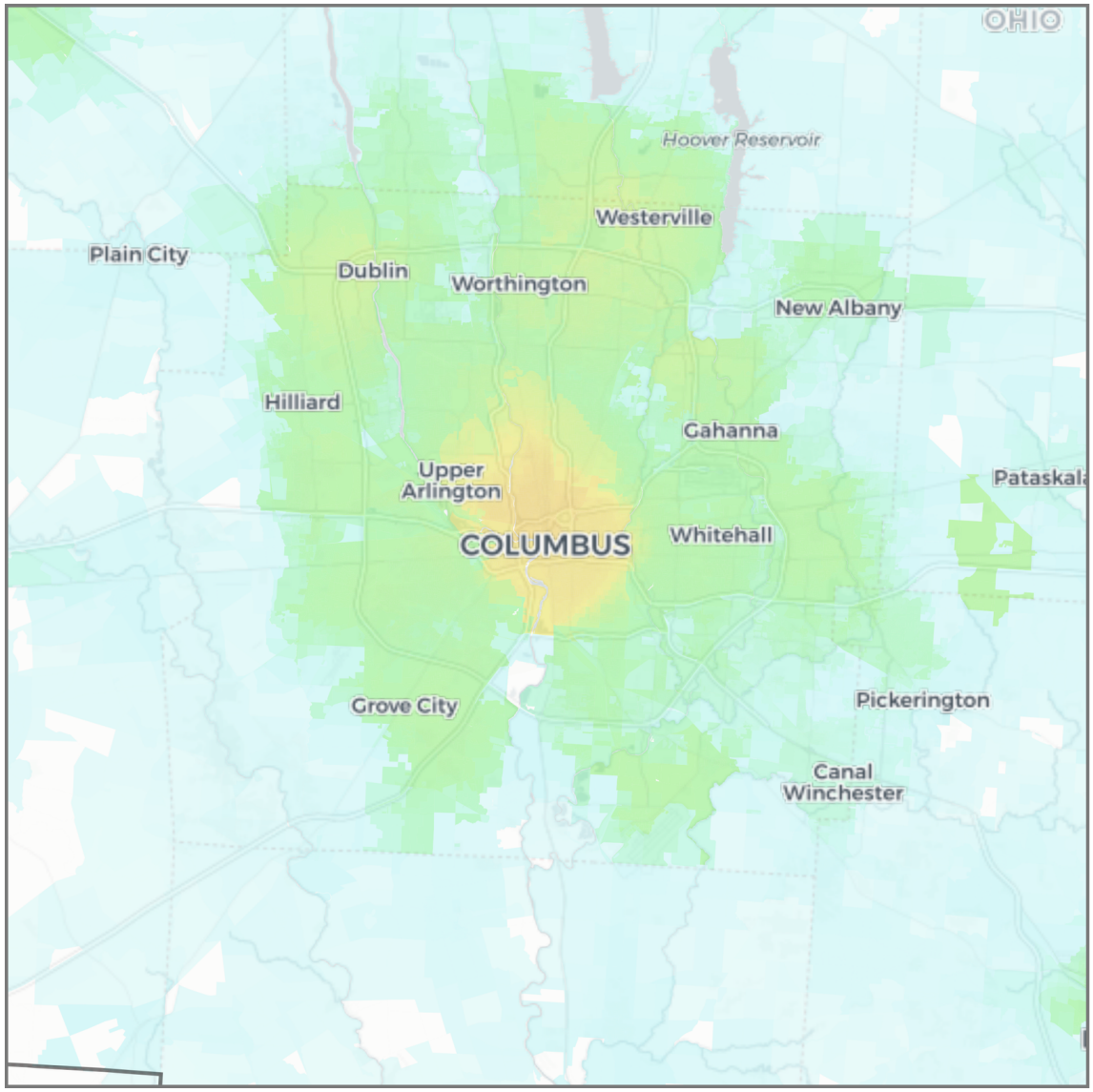
Columbus, OH

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Columbus

Columbus, OH



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

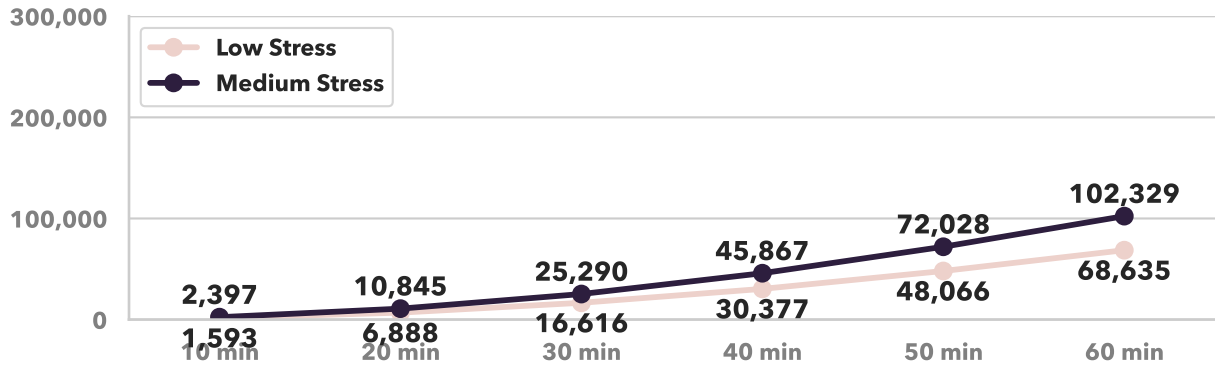
Dallas

Dallas-Fort Worth-Arlington, TX

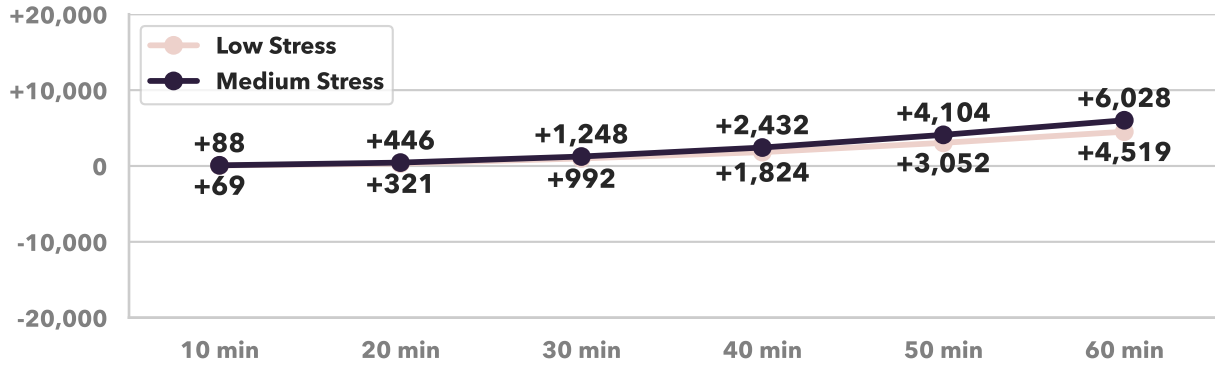
Rank by Weighted Low-Stress Bike Accessibility	**23**
Rank by Weighted Medium-Stress Bike Accessibility	**22**
Rank by Change in Low-Stress Bike Accessibility	**4**
Rank by Change in Medium-Stress Bike Accessibility	**2**
Rank by Total Employment	**4**
Total Jobs	**3,733,267**
Average Job Density (per mi^2)	**430**
Total Workers	**3,538,947**
Average Worker Density (per mi^2)	**407**

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

Biking Job Accessibility by Travel Time Threshold



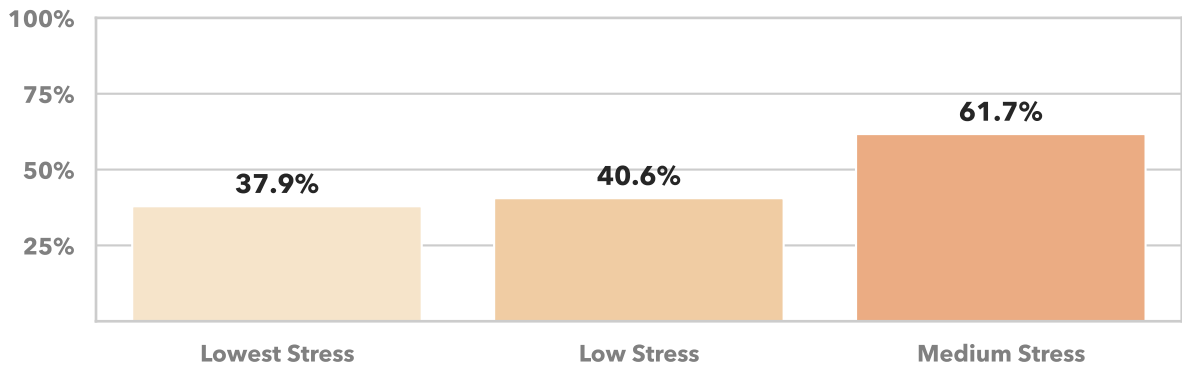
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Dallas

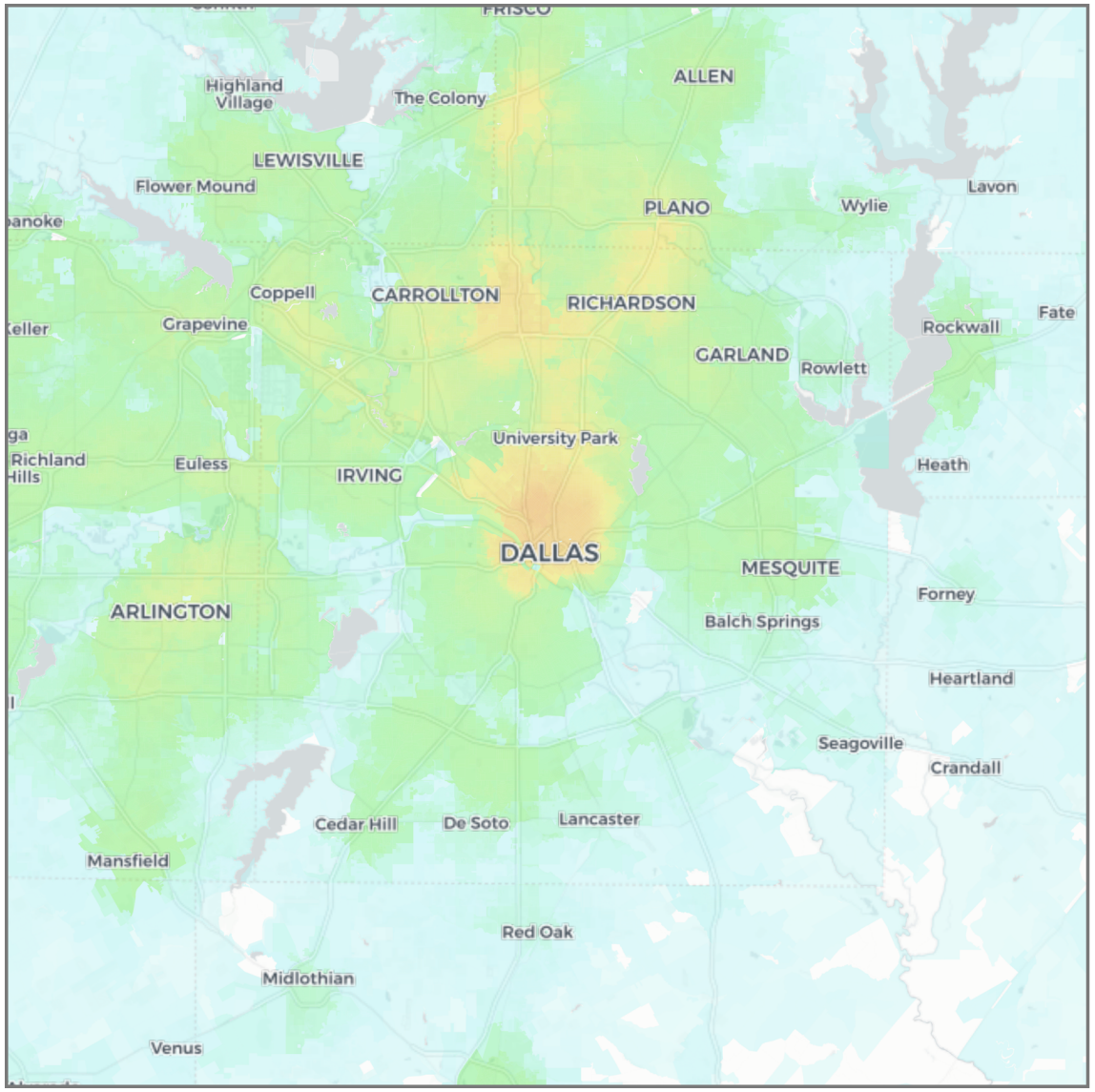
Dallas-Fort Worth-Arlington, TX

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Dallas

Dallas-Fort Worth-Arlington, TX



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

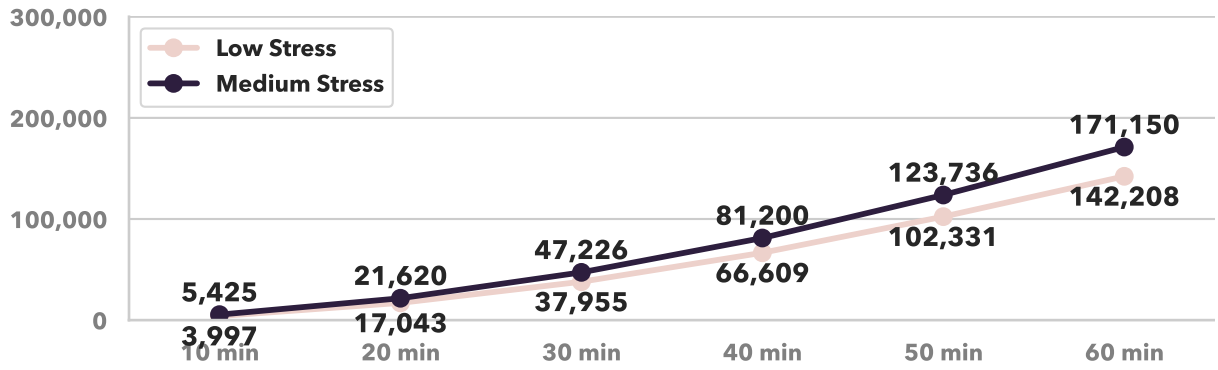
Denver

Denver-Aurora-Centennial, CO

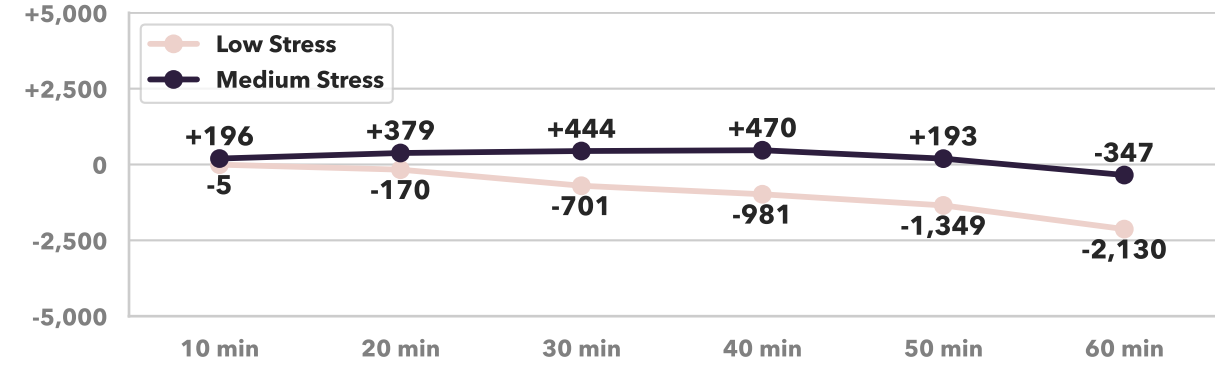
Rank by Weighted Low-Stress Bike Accessibility	**8**
Rank by Weighted Medium-Stress Bike Accessibility	**9**
Rank by Change in Low-Stress Bike Accessibility	**32**
Rank by Change in Medium-Stress Bike Accessibility	**14**
Rank by Total Employment	**17**
Total Jobs	**1,469,448**
Average Job Density (per mi^2)	**176**
Total Workers	**1,396,585**
Average Worker Density (per mi^2)	**167**

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

Biking Job Accessibility by Travel Time Threshold



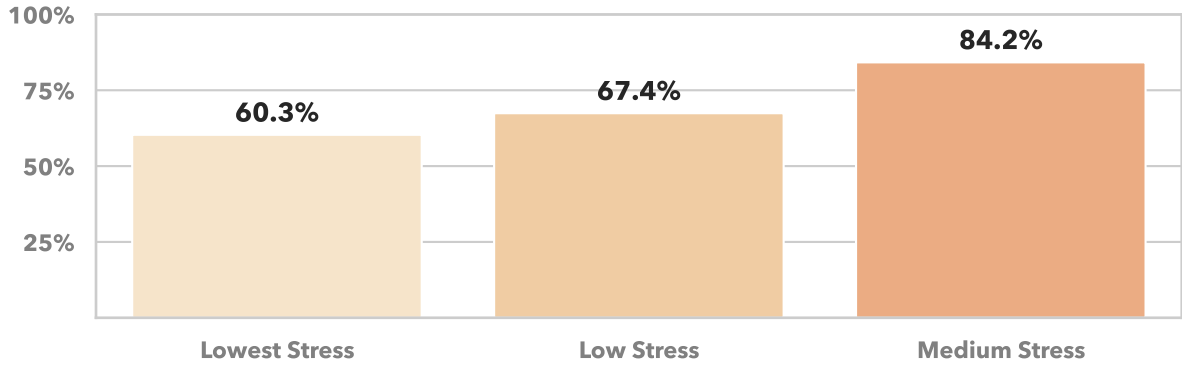
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Denver

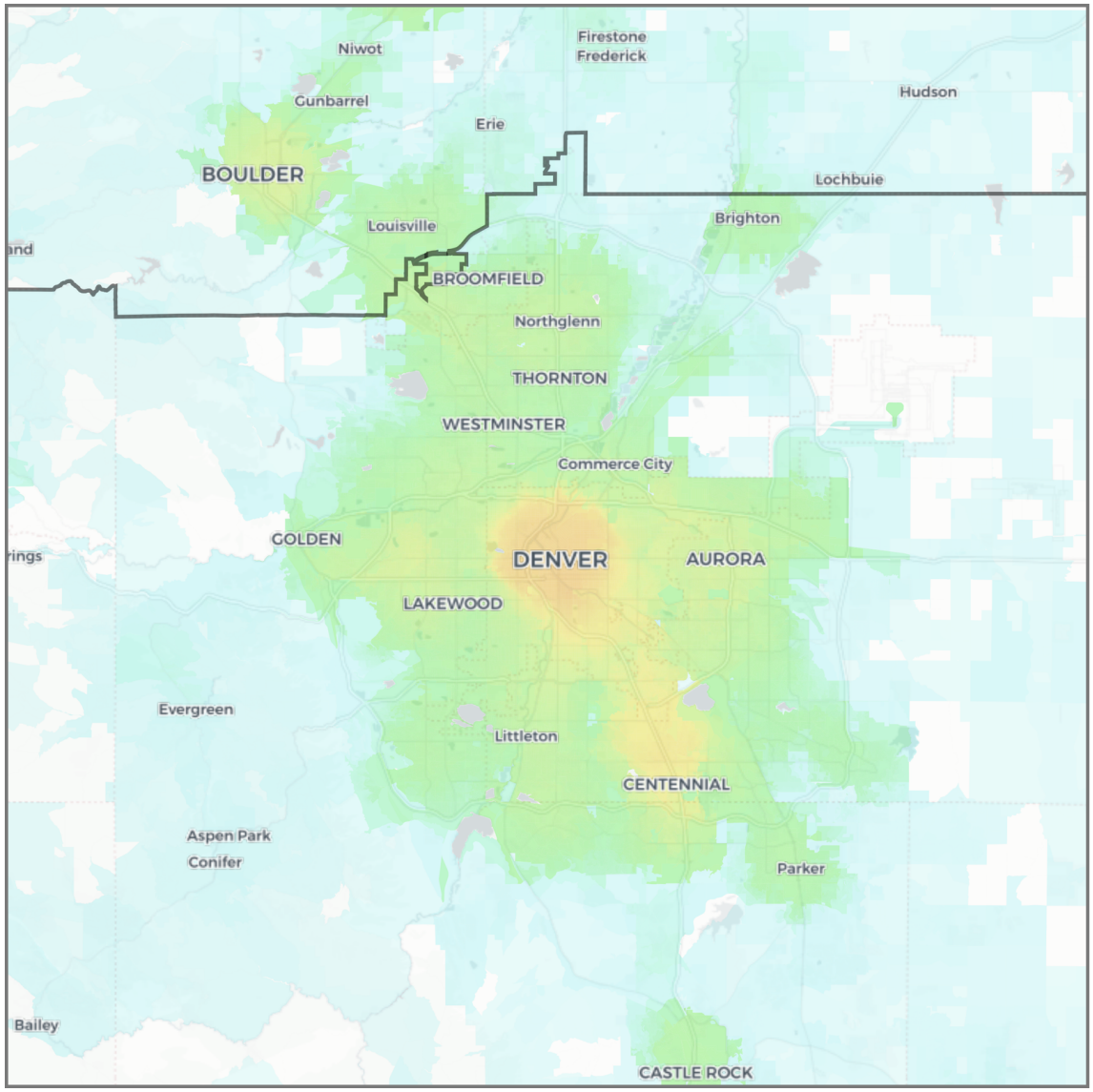
Denver-Aurora-Centennial, CO

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Denver

Denver-Aurora-Centennial, CO



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

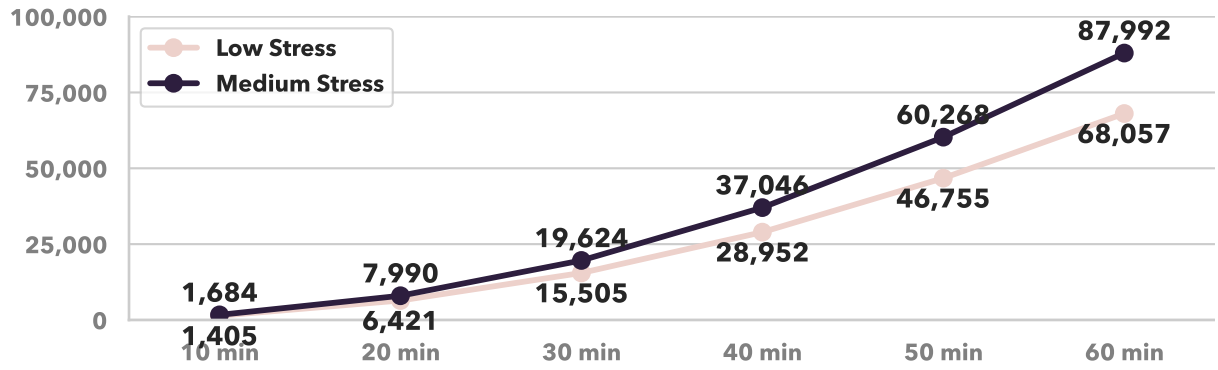
Detroit

Detroit-Warren-Dearborn, MI

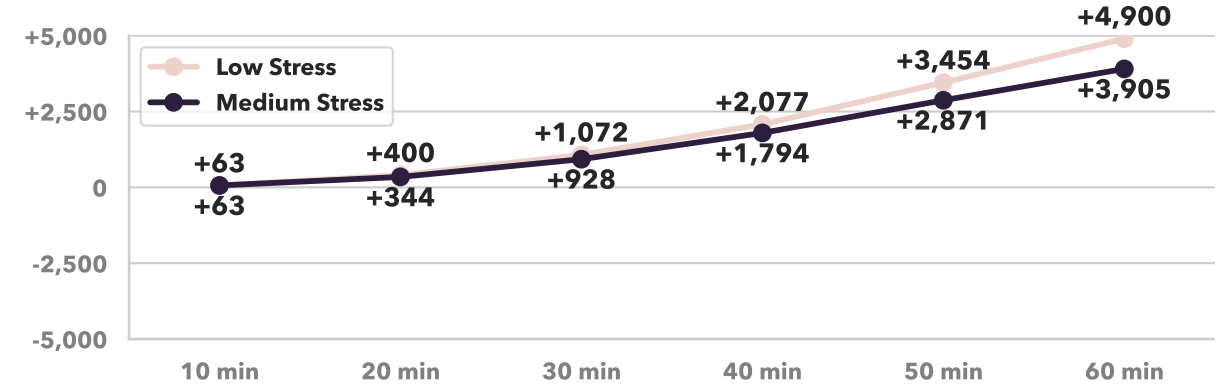
Rank by Weighted Low-Stress Bike Accessibility	**26**
Rank by Weighted Medium-Stress Bike Accessibility	**28**
Rank by Change in Low-Stress Bike Accessibility	**2**
Rank by Change in Medium-Stress Bike Accessibility	**3**
Rank by Total Employment	**14**
Total Jobs	**1,848,019**
Average Job Density (per mi^2)	**474**
Total Workers	**1,813,158**
Average Worker Density (per mi^2)	**465**

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

Biking Job Accessibility by Travel Time Threshold



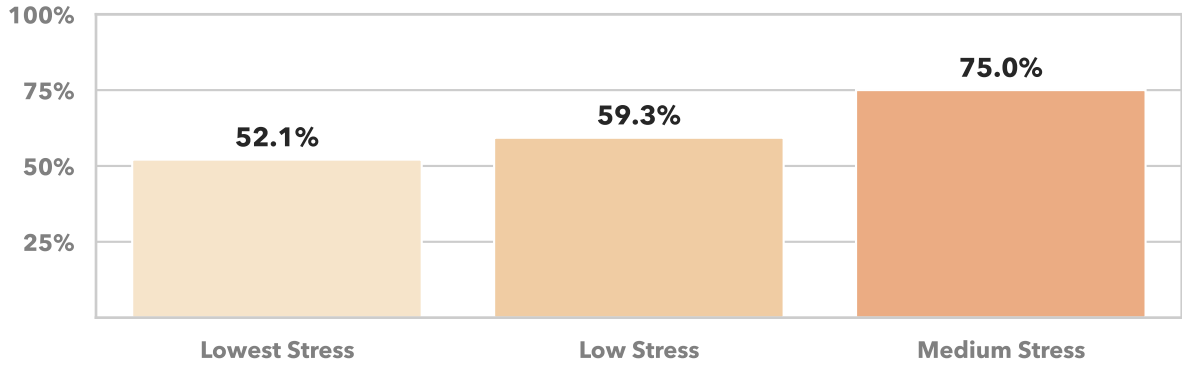
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Detroit

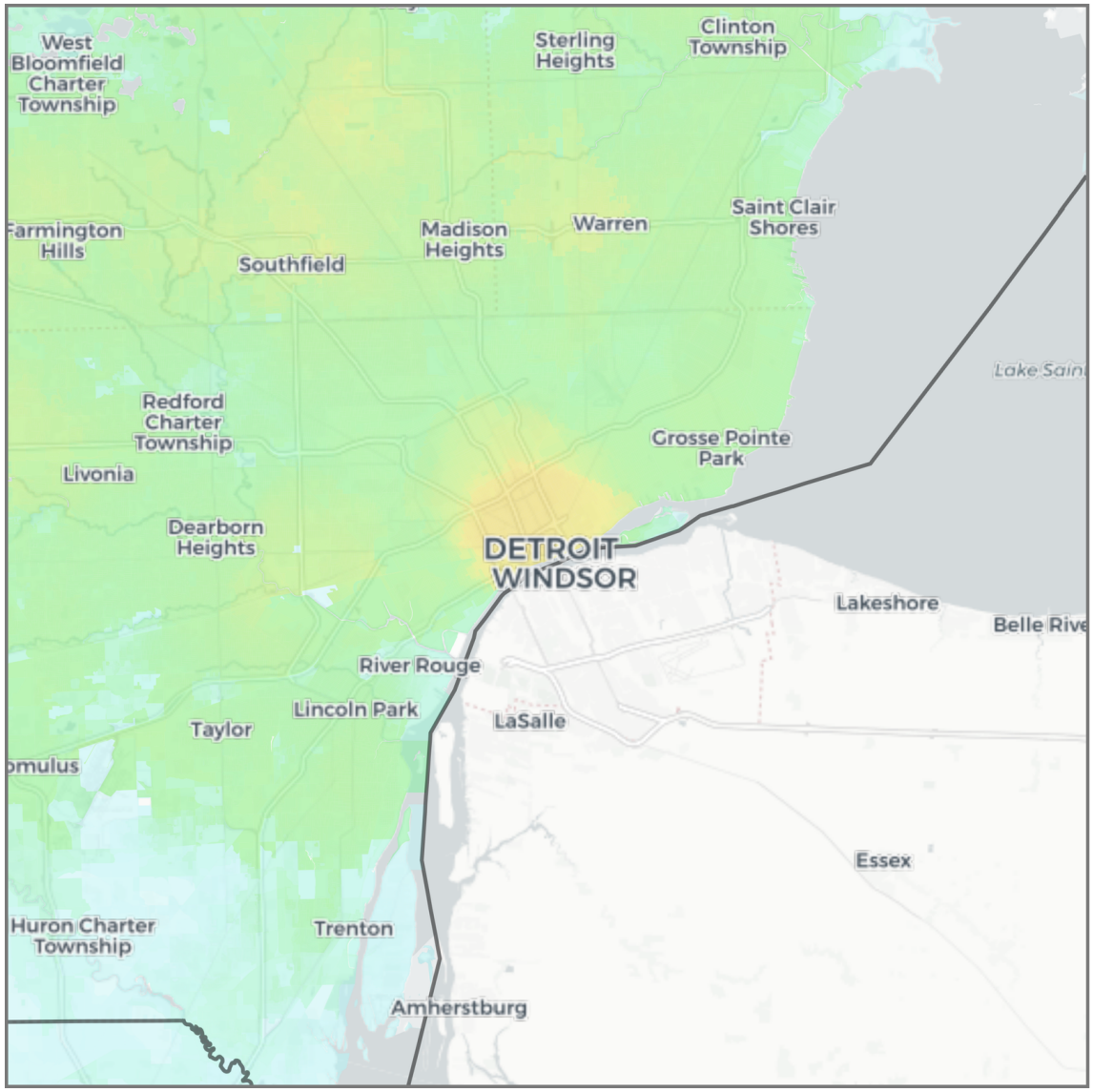
Detroit-Warren-Dearborn, MI

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Detroit

Detroit-Warren-Dearborn, MI



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

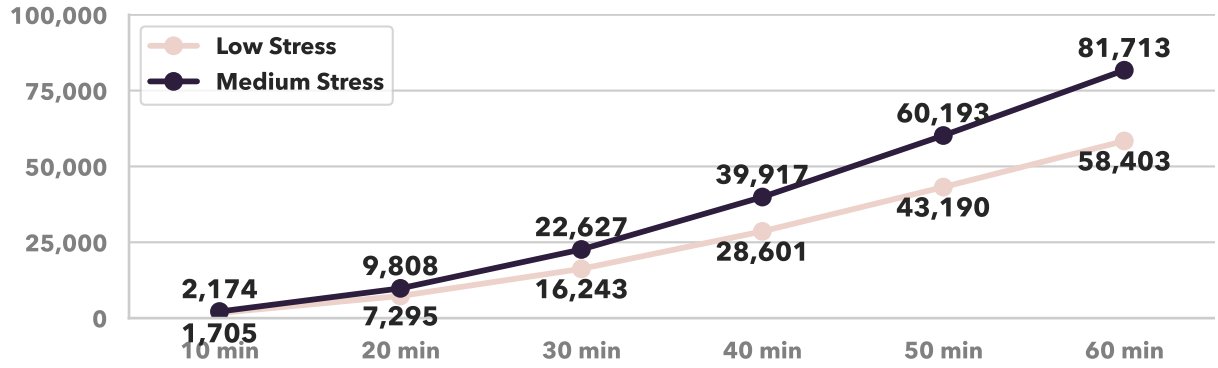
Fresno

Fresno, CA

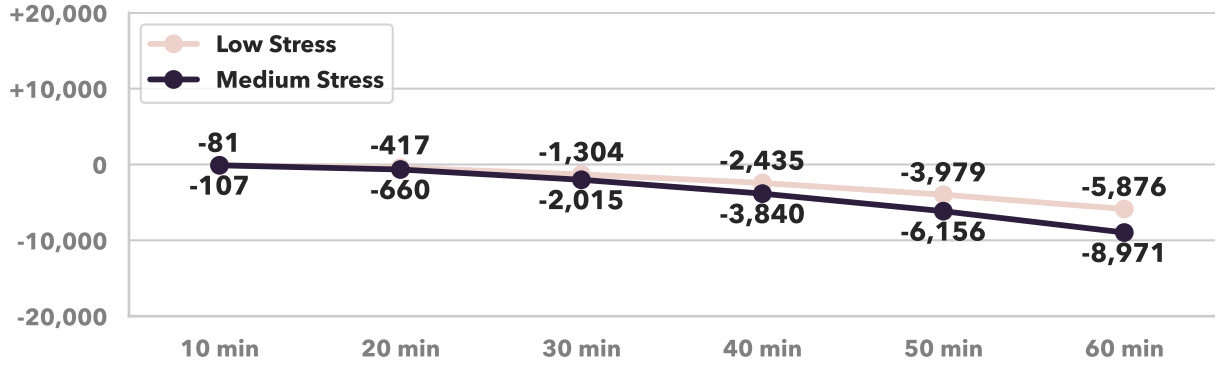
Rank by Weighted Low-Stress Bike Accessibility	**24**
Rank by Weighted Medium-Stress Bike Accessibility	**26**
Rank by Change in Low-Stress Bike Accessibility	**46**
Rank by Change in Medium-Stress Bike Accessibility	**49**
Rank by Total Employment	**50**
Total Jobs	**431,714**
Average Job Density (per mi^2)	**53**
Total Workers	**433,479**
Average Worker Density (per mi^2)	**53**

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

Biking Job Accessibility by Travel Time Threshold



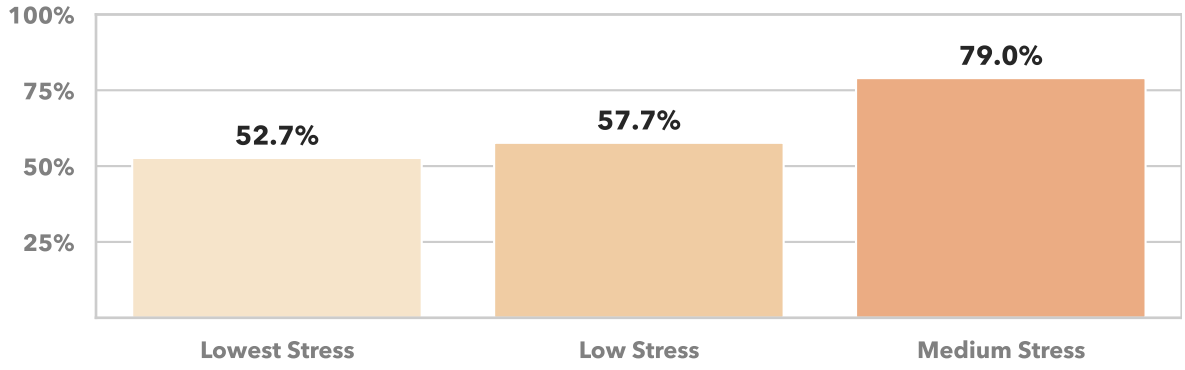
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Fresno

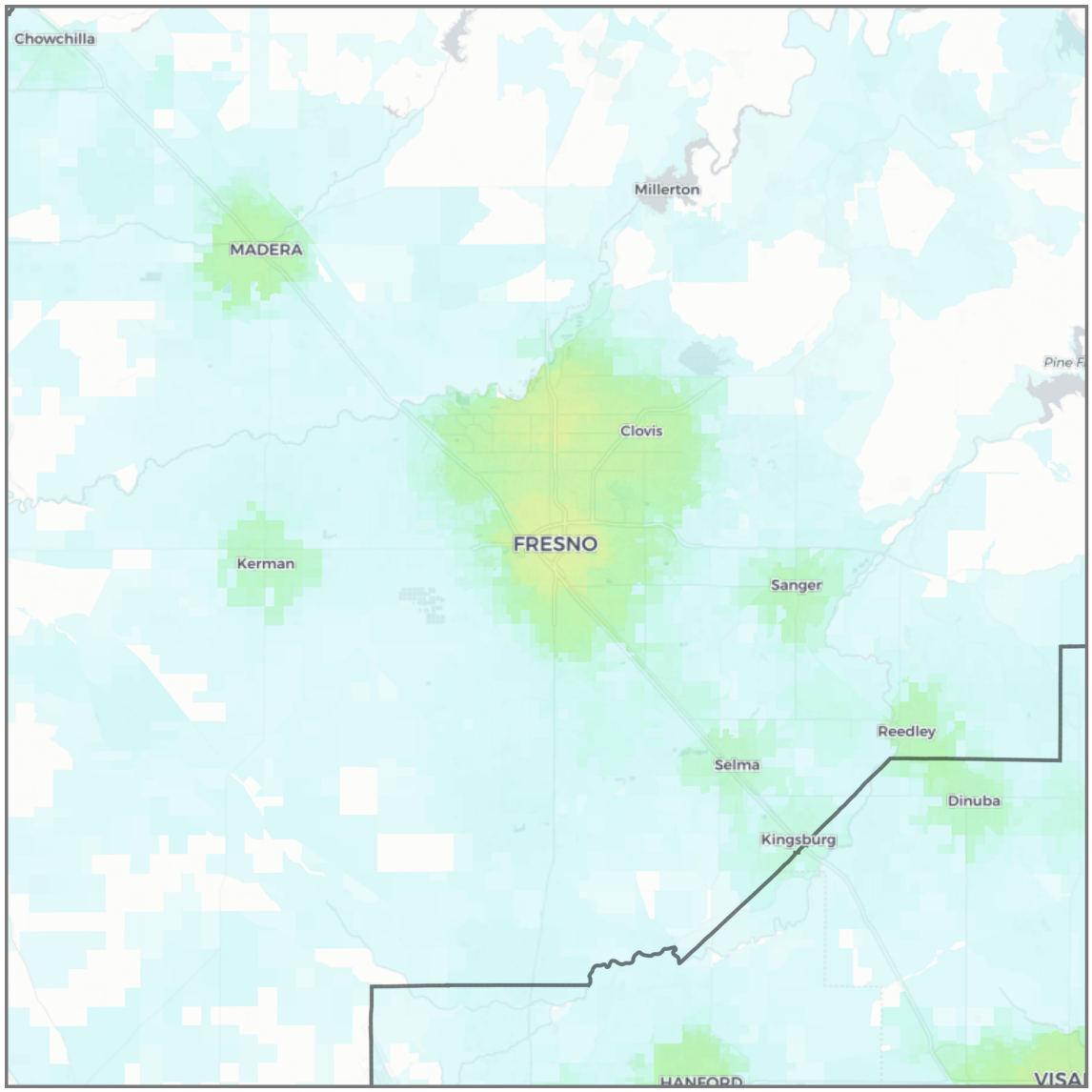
Fresno, CA

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Fresno

Fresno, CA



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

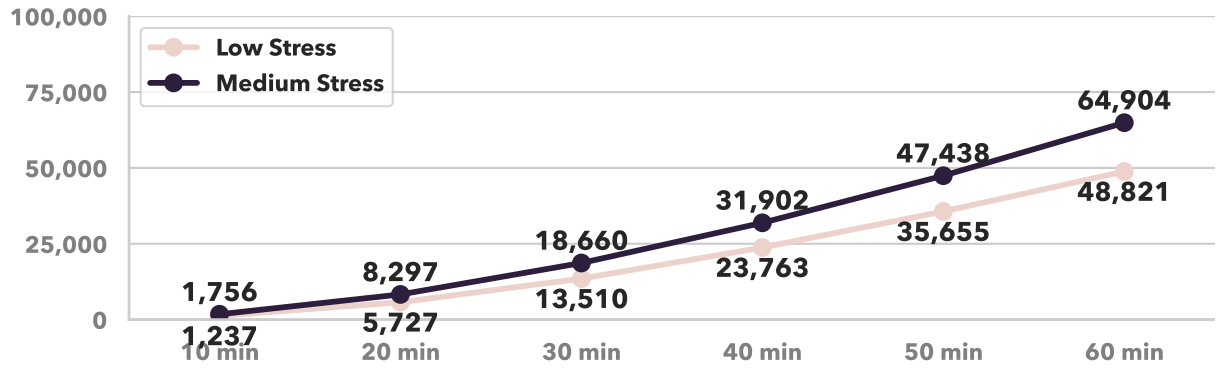
Grand Rapids

Grand Rapids-Wyoming-Kentwood, MI

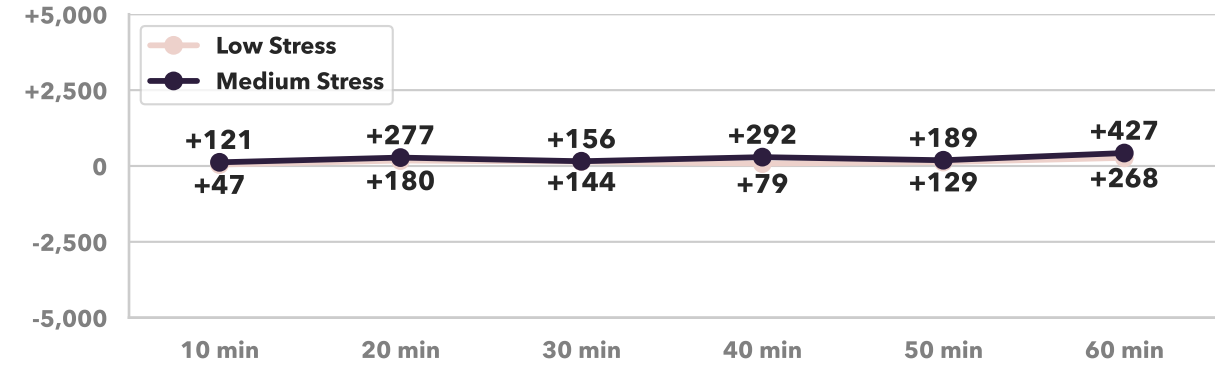
Rank by Weighted Low-Stress Bike Accessibility	**34**
Rank by Weighted Medium-Stress Bike Accessibility	**34**
Rank by Change in Low-Stress Bike Accessibility	**16**
Rank by Change in Medium-Stress Bike Accessibility	**10**
Rank by Total Employment	**46**
Total Jobs	**566,419**
Average Job Density (per mi^2)	**174**
Total Workers	**512,952**
Average Worker Density (per mi^2)	**158**

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

Biking Job Accessibility by Travel Time Threshold



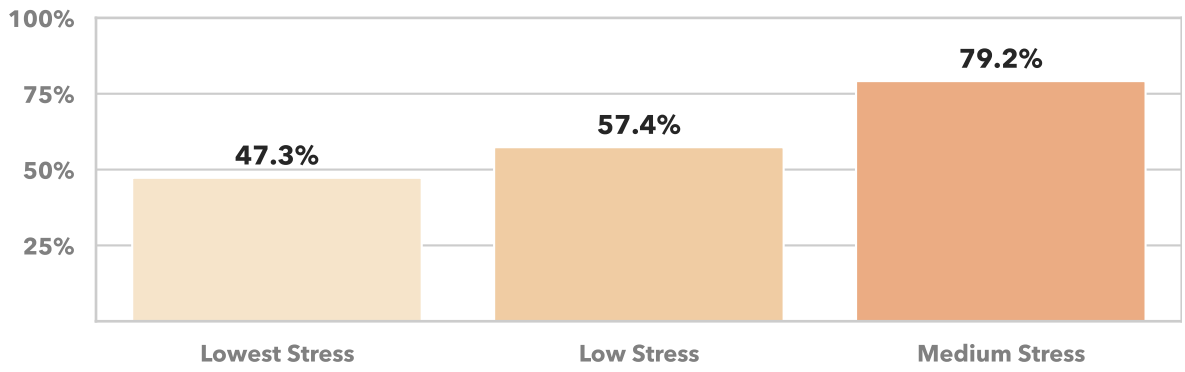
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Grand Rapids

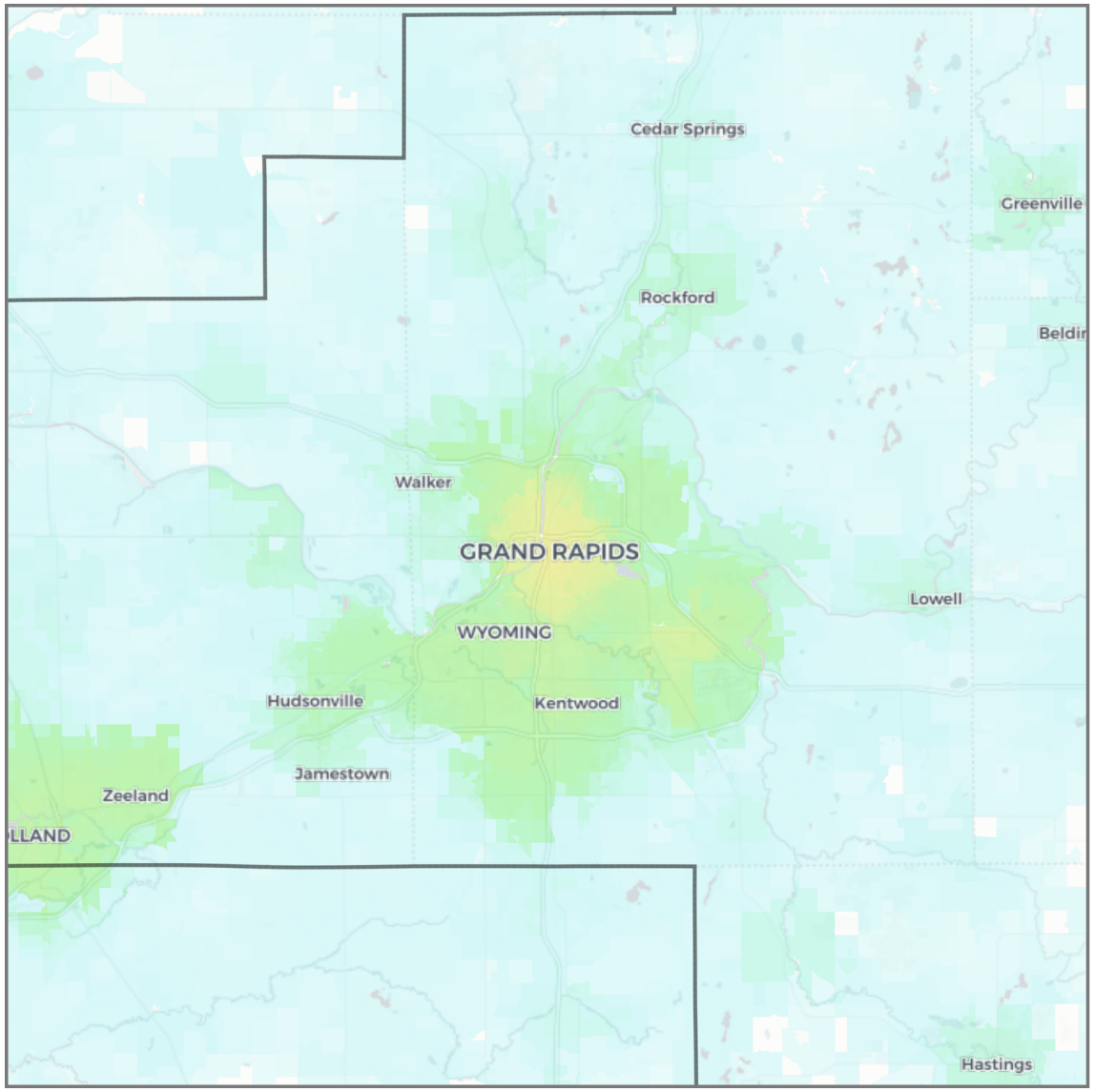
Grand Rapids-Wyoming-Kentwood, MI

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Grand Rapids

Grand Rapids-Wyoming-Kentwood, MI



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

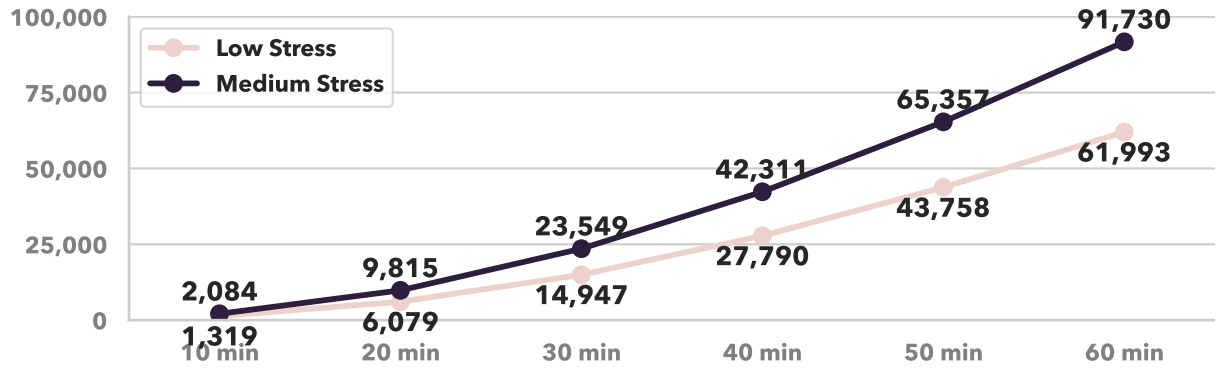
Houston

Houston-Pasadena-The Woodlands, TX

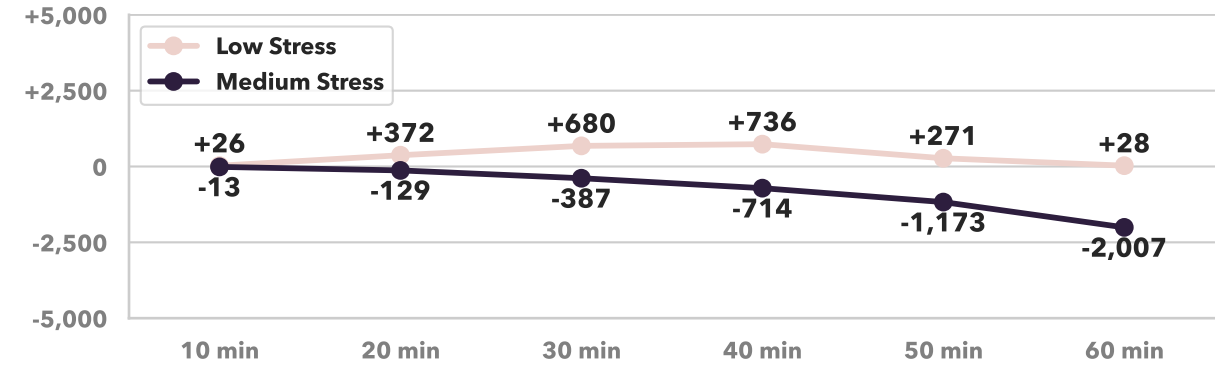
Rank by Weighted Low-Stress Bike Accessibility	**28**
Rank by Weighted Medium-Stress Bike Accessibility	**24**
Rank by Change in Low-Stress Bike Accessibility	**10**
Rank by Change in Medium-Stress Bike Accessibility	**29**
Rank by Total Employment	**5**
Total Jobs	**3,008,687**
Average Job Density (per mi^2)	**340**
Total Workers	**2,936,537**
Average Worker Density (per mi^2)	**332**

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

Biking Job Accessibility by Travel Time Threshold



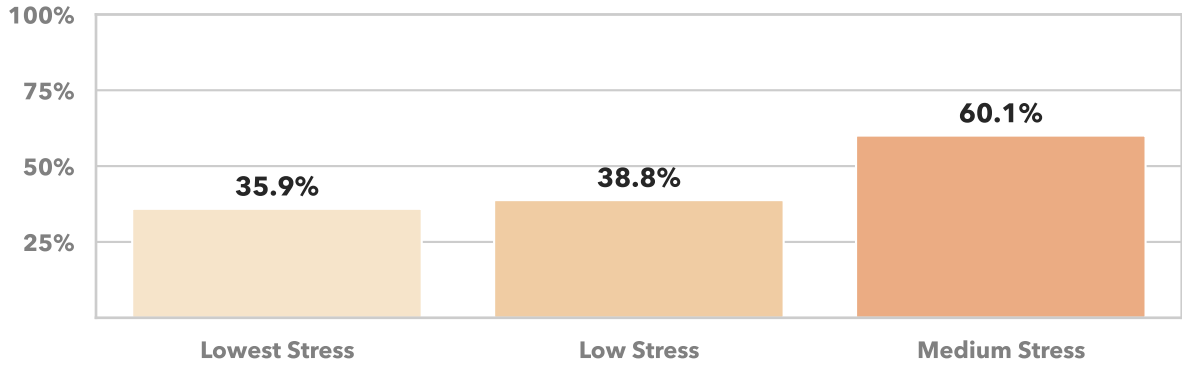
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Houston

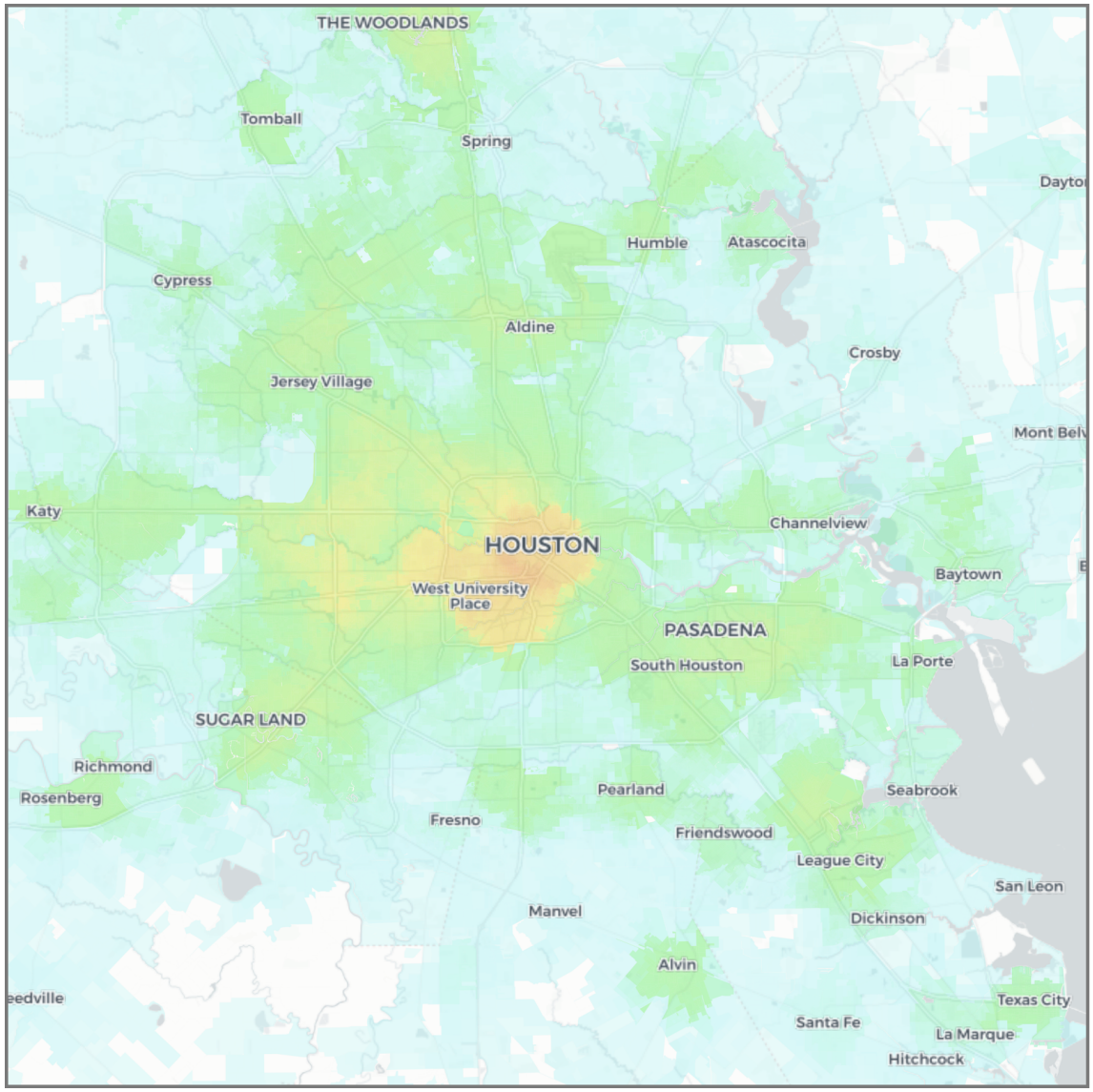
Houston-Pasadena-The Woodlands, TX

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Houston

Houston-Pasadena-The Woodlands, TX



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

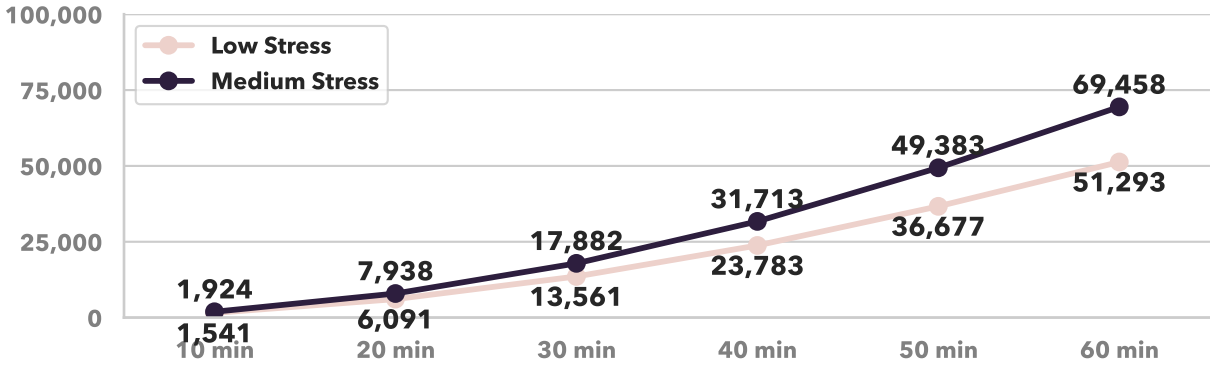
Indianapolis

Indianapolis-Carmel-Greenwood, IN

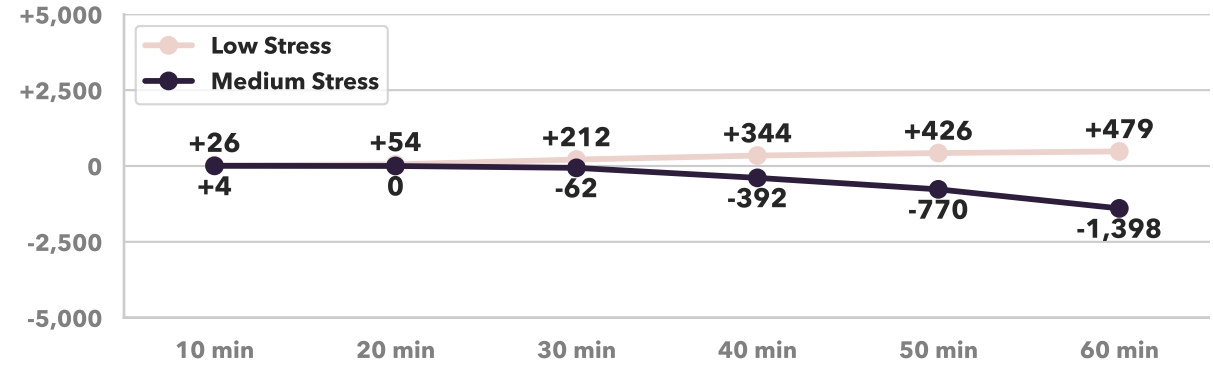
Rank by Weighted Low-Stress Bike Accessibility	**30**
Rank by Weighted Medium-Stress Bike Accessibility	**32**
Rank by Change in Low-Stress Bike Accessibility	**20**
Rank by Change in Medium-Stress Bike Accessibility	**24**
Rank by Total Employment	**32**
Total Jobs	**1,061,080**
Average Job Density (per mi^2)	**259**
Total Workers	**982,039**
Average Worker Density (per mi^2)	**240**

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

Biking Job Accessibility by Travel Time Threshold



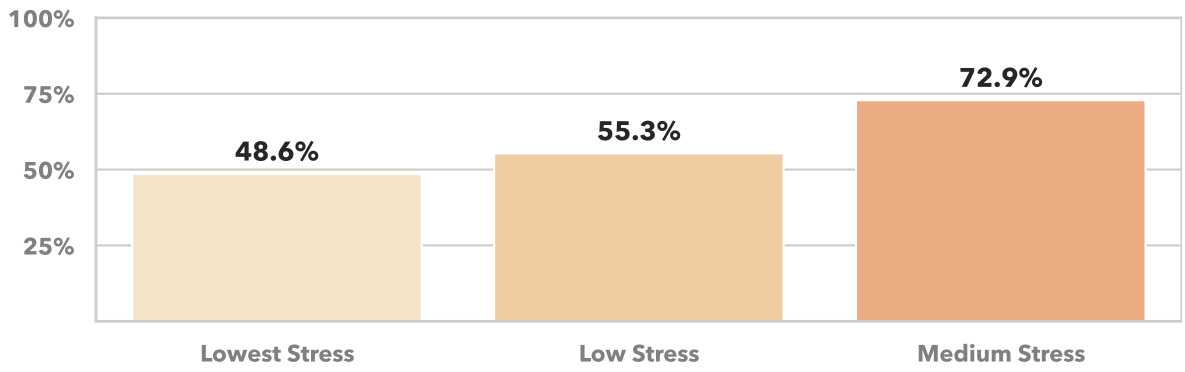
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Indianapolis

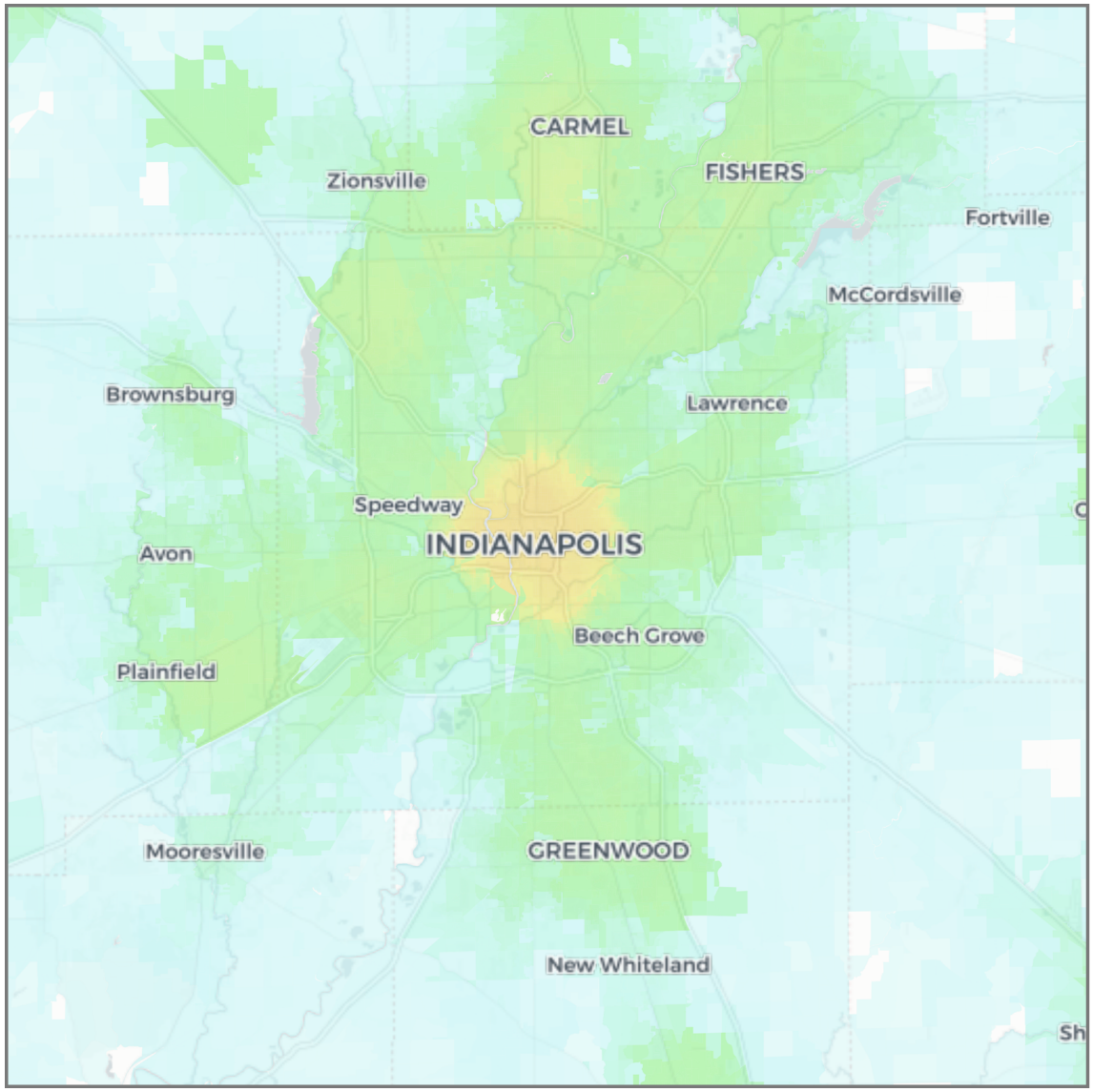
Indianapolis-Carmel-Greenwood, IN

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Indianapolis

Indianapolis-Carmel-Greenwood, IN



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

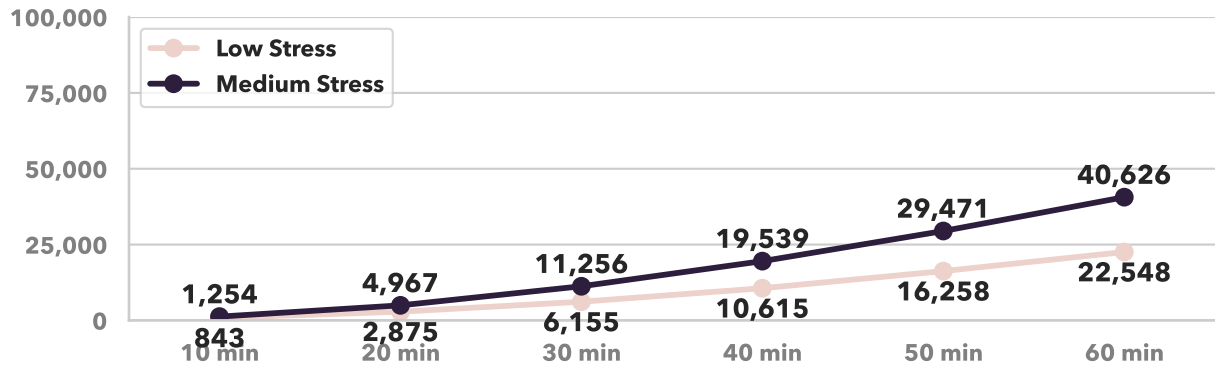
Jacksonville

Jacksonville, FL

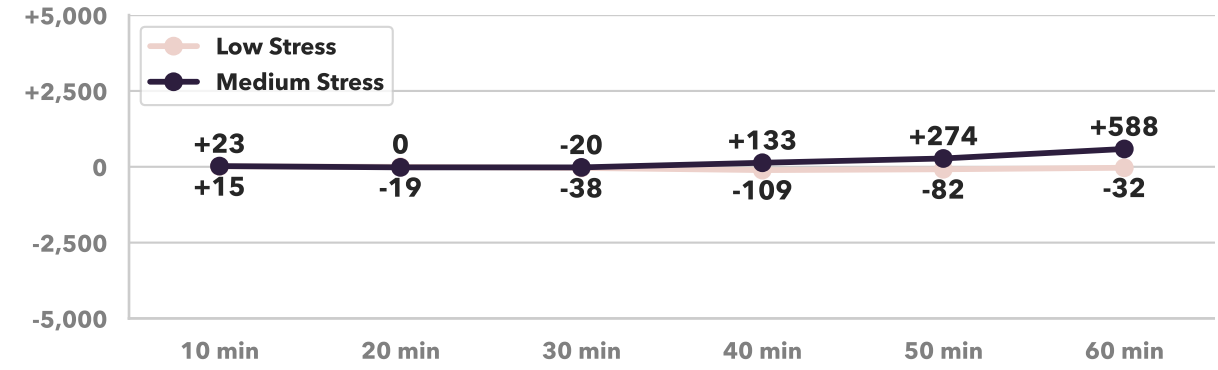
Rank by Weighted Low-Stress Bike Accessibility	**50**
Rank by Weighted Medium-Stress Bike Accessibility	**49**
Rank by Change in Low-Stress Bike Accessibility	**24**
Rank by Change in Medium-Stress Bike Accessibility	**20**
Rank by Total Employment	**39**
Total Jobs	**719,924**
Average Job Density (per mi^2)	**224**
Total Workers	**697,696**
Average Worker Density (per mi^2)	**217**

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

Biking Job Accessibility by Travel Time Threshold



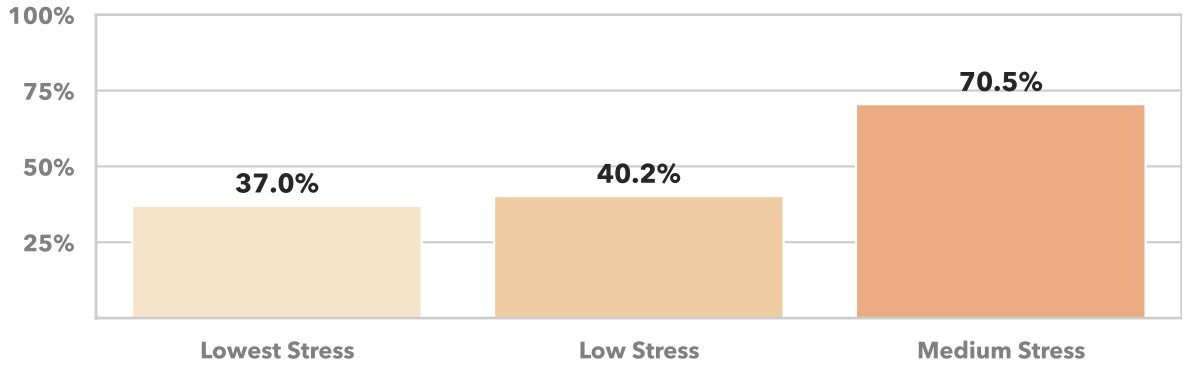
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Jacksonville

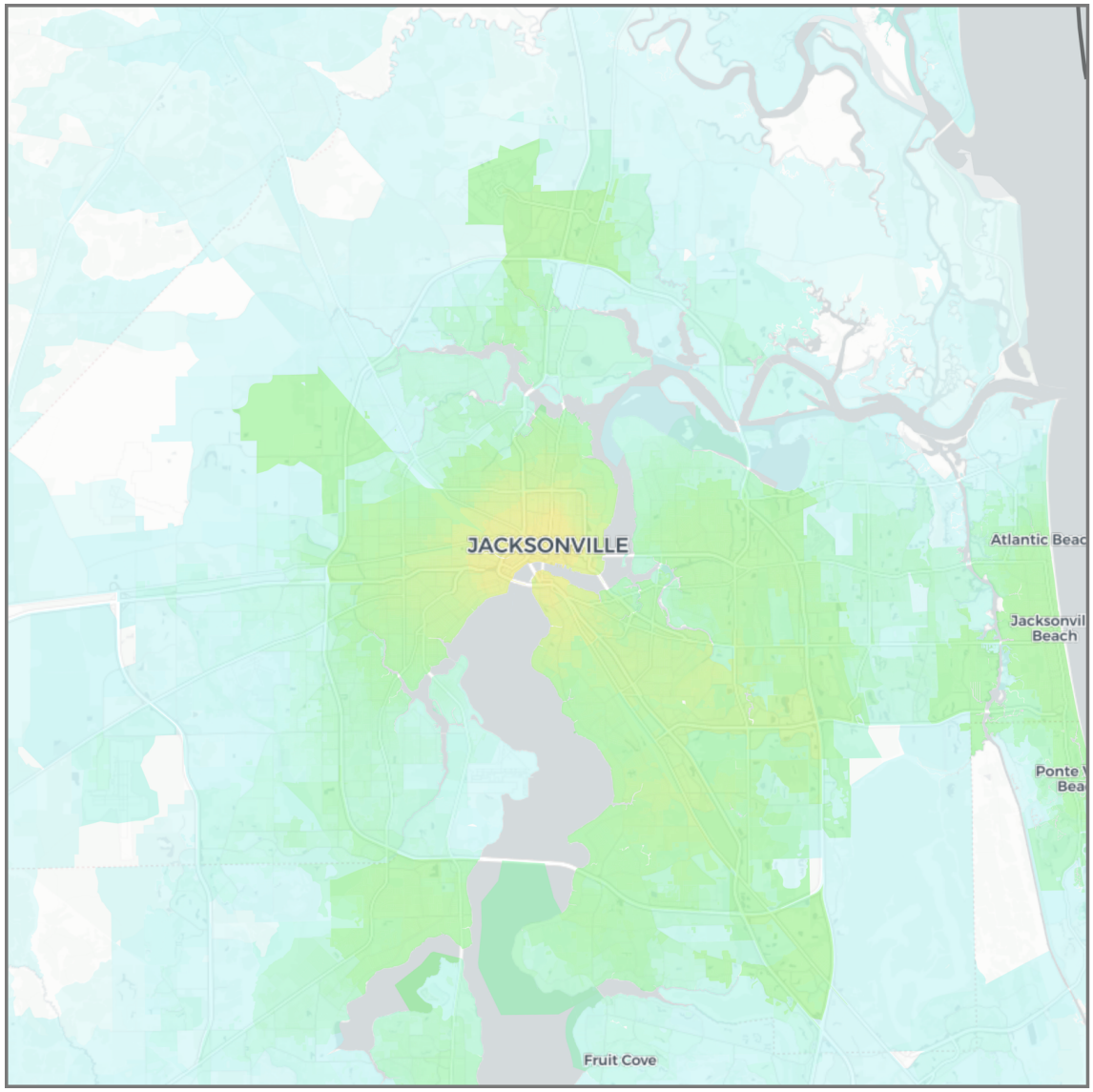
Jacksonville, FL

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Jacksonville

Jacksonville, FL



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

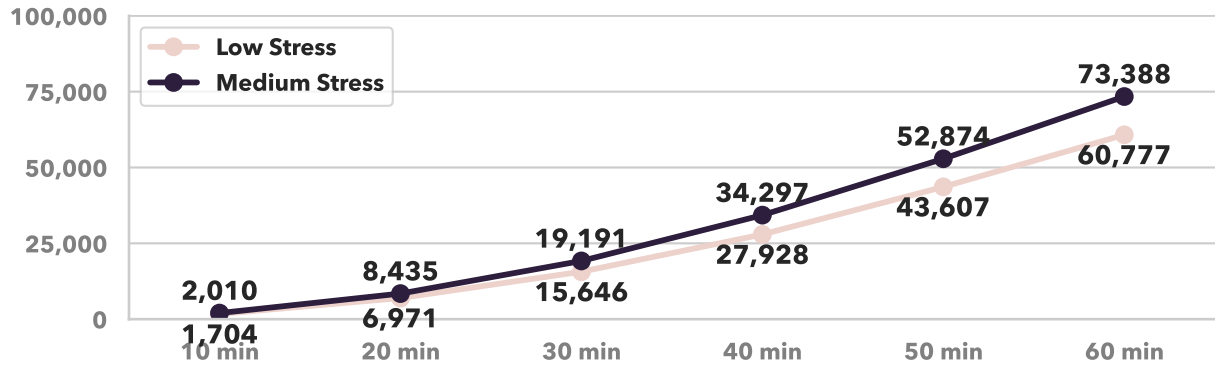
Kansas City

Kansas City, MO-KS

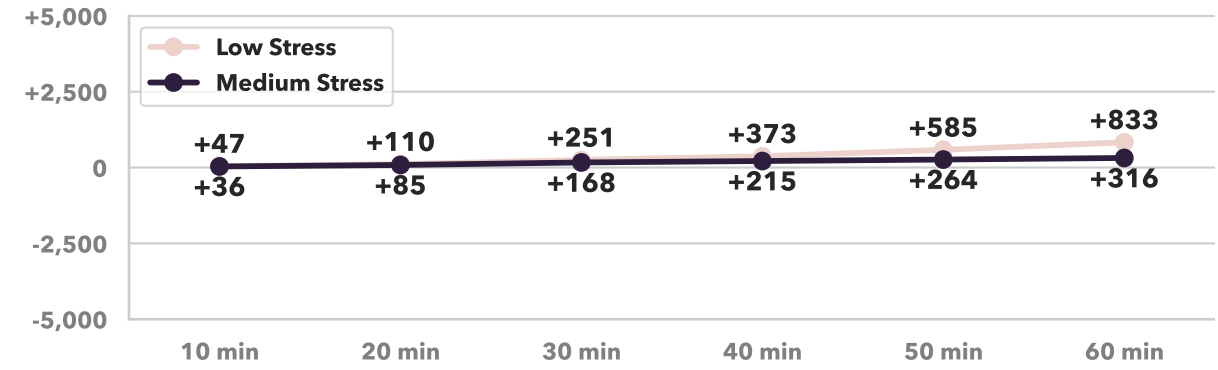
Rank by Weighted Low-Stress Bike Accessibility	**25**
Rank by Weighted Medium-Stress Bike Accessibility	**29**
Rank by Change in Low-Stress Bike Accessibility	**15**
Rank by Change in Medium-Stress Bike Accessibility	**18**
Rank by Total Employment	**29**
Total Jobs	**1,054,415**
Average Job Density (per mi^2)	**145**
Total Workers	**1,028,537**
Average Worker Density (per mi^2)	**141**

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

Biking Job Accessibility by Travel Time Threshold



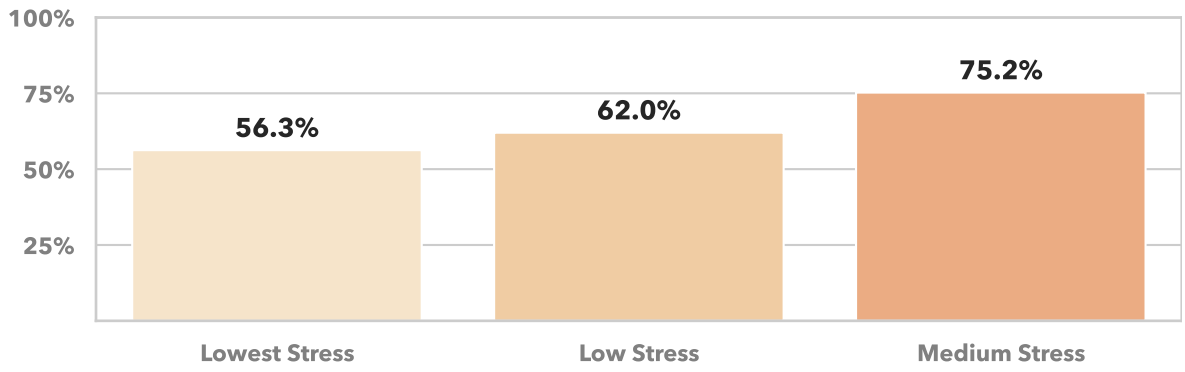
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Kansas City

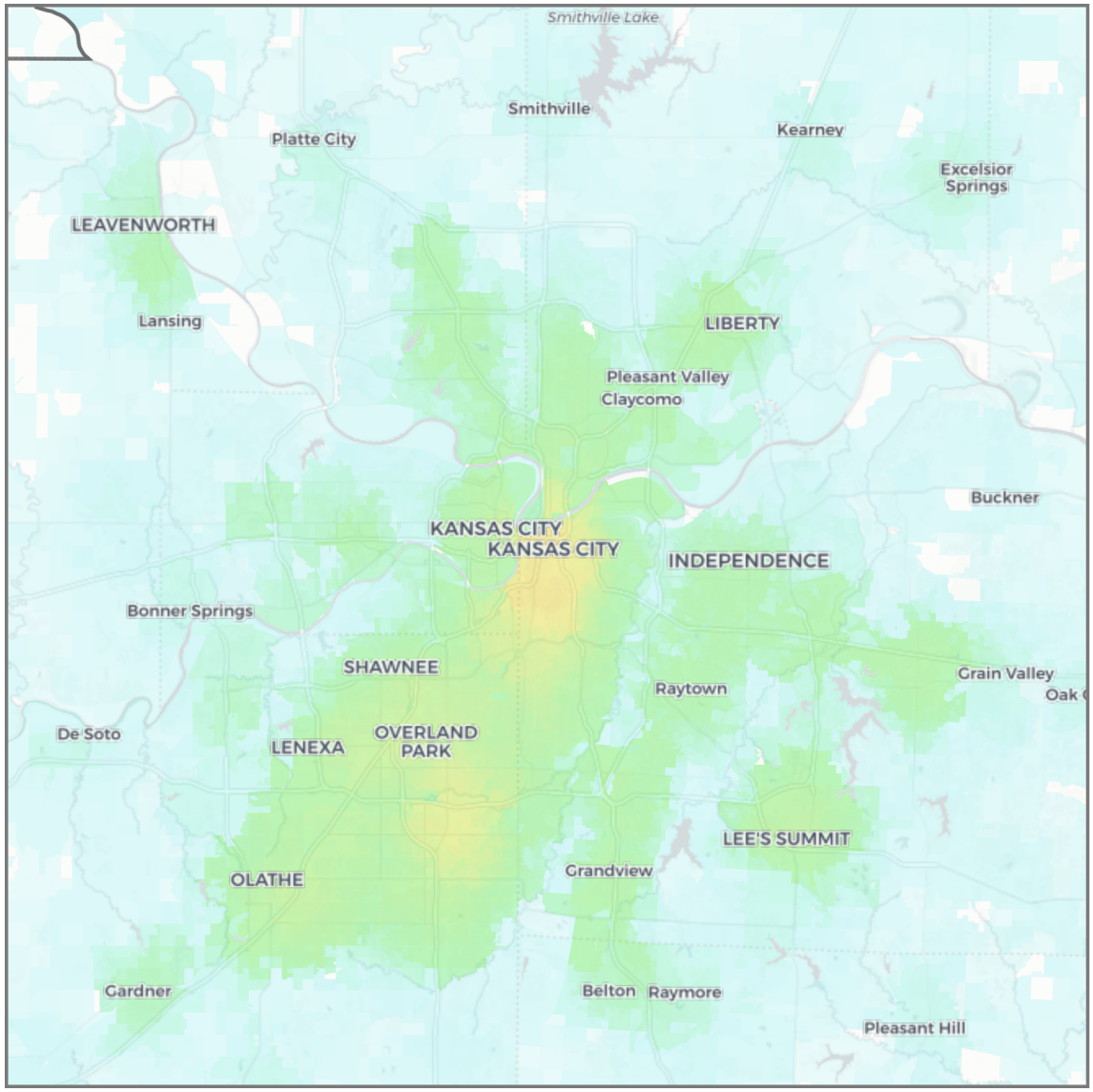
Kansas City, MO-KS

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Kansas City

Kansas City, MO-KS



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

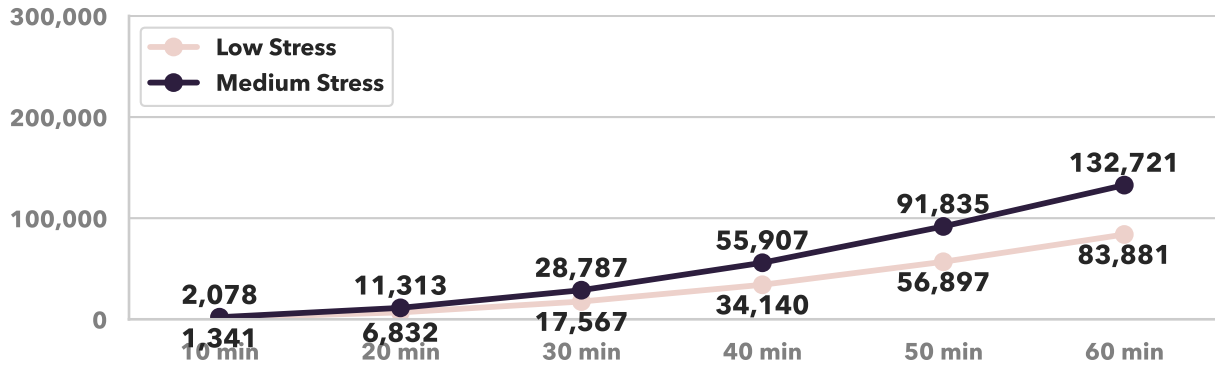
Las Vegas

Las Vegas-Henderson-North Las Vegas, NV

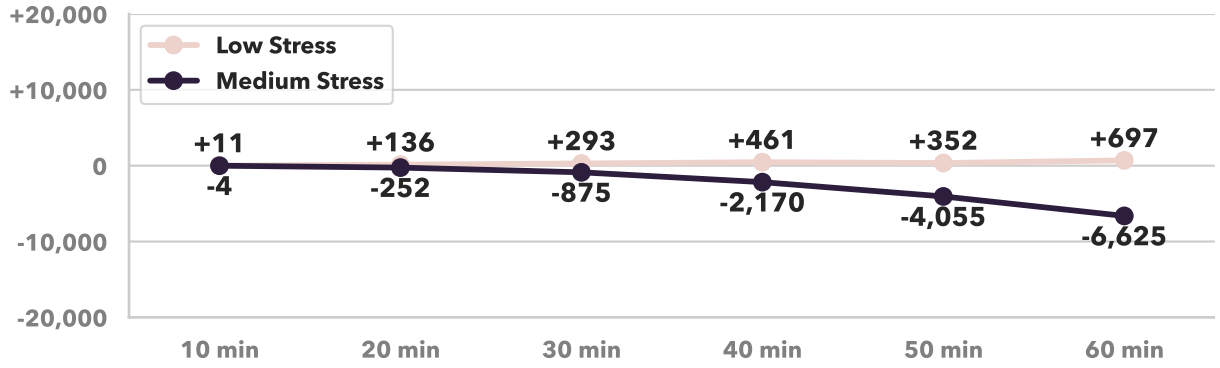
Rank by Weighted Low-Stress Bike Accessibility	**20**
Rank by Weighted Medium-Stress Bike Accessibility	**17**
Rank by Change in Low-Stress Bike Accessibility	**18**
Rank by Change in Medium-Stress Bike Accessibility	**40**
Rank by Total Employment	**34**
Total Jobs	**937,665**
Average Job Density (per mi^2)	**118**
Total Workers	**926,679**
Average Worker Density (per mi^2)	**117**

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

Biking Job Accessibility by Travel Time Threshold



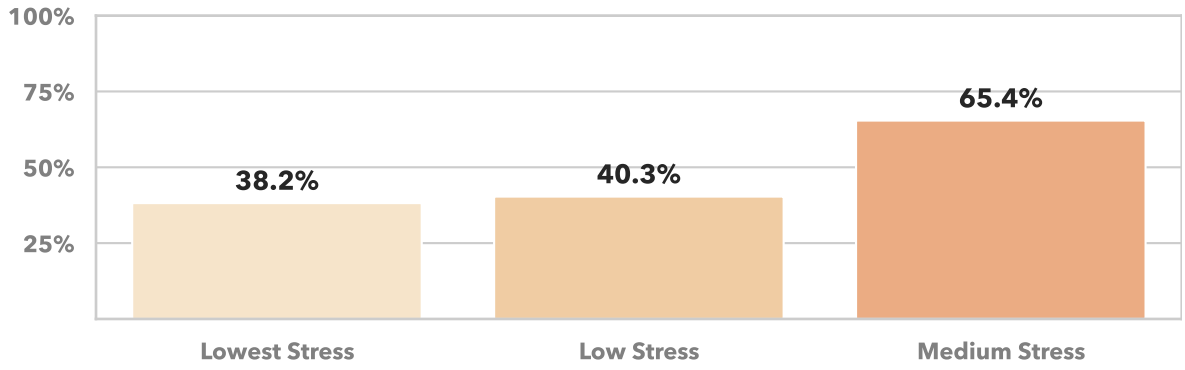
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Las Vegas

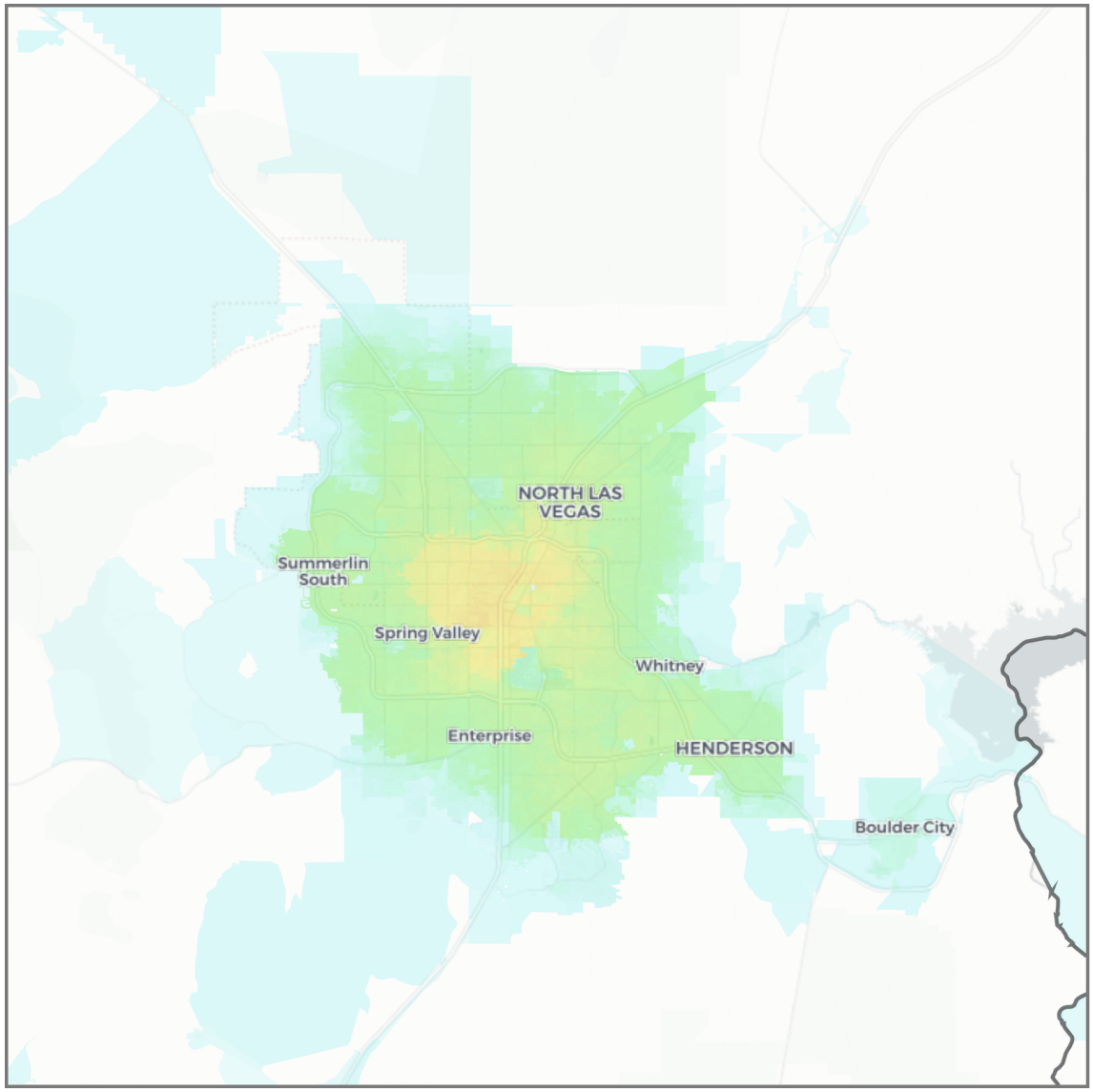
Las Vegas-Henderson-North Las Vegas, NV

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Las Vegas

Las Vegas-Henderson-North Las Vegas, NV



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

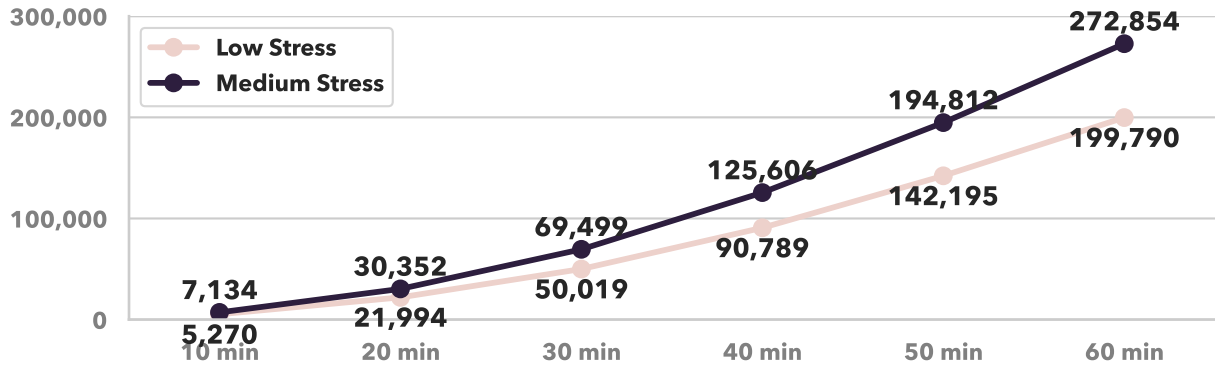
Los Angeles

Los Angeles-Long Beach-Anaheim, CA

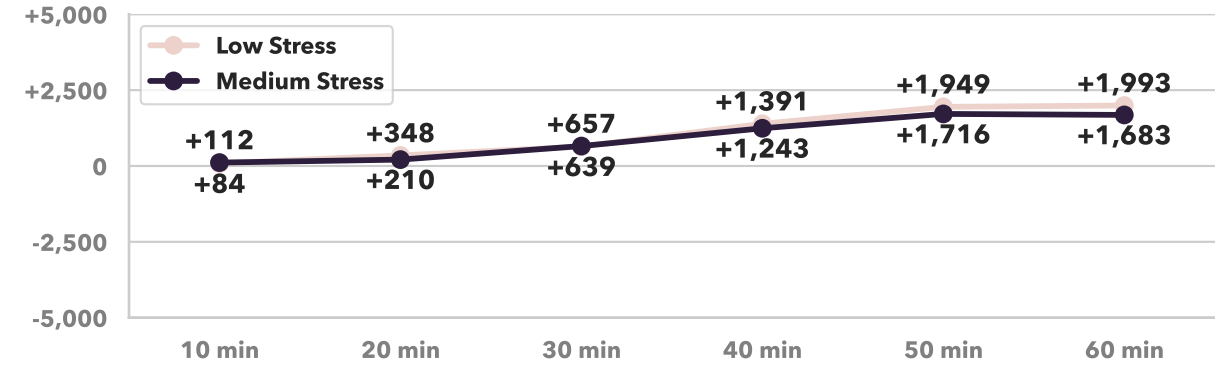
Rank by Weighted Low-Stress Bike Accessibility	**4**
Rank by Weighted Medium-Stress Bike Accessibility	**3**
Rank by Change in Low-Stress Bike Accessibility	**17**
Rank by Change in Medium-Stress Bike Accessibility	**17**
Rank by Total Employment	**2**
Total Jobs	**6,057,433**
Average Job Density (per mi^2)	**1,248**
Total Workers	**5,616,694**
Average Worker Density (per mi^2)	**1,157**

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

Biking Job Accessibility by Travel Time Threshold



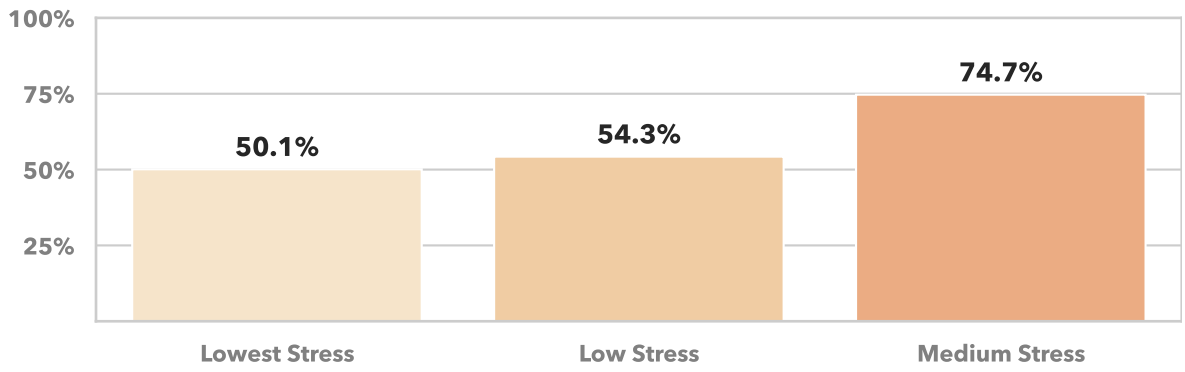
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Los Angeles

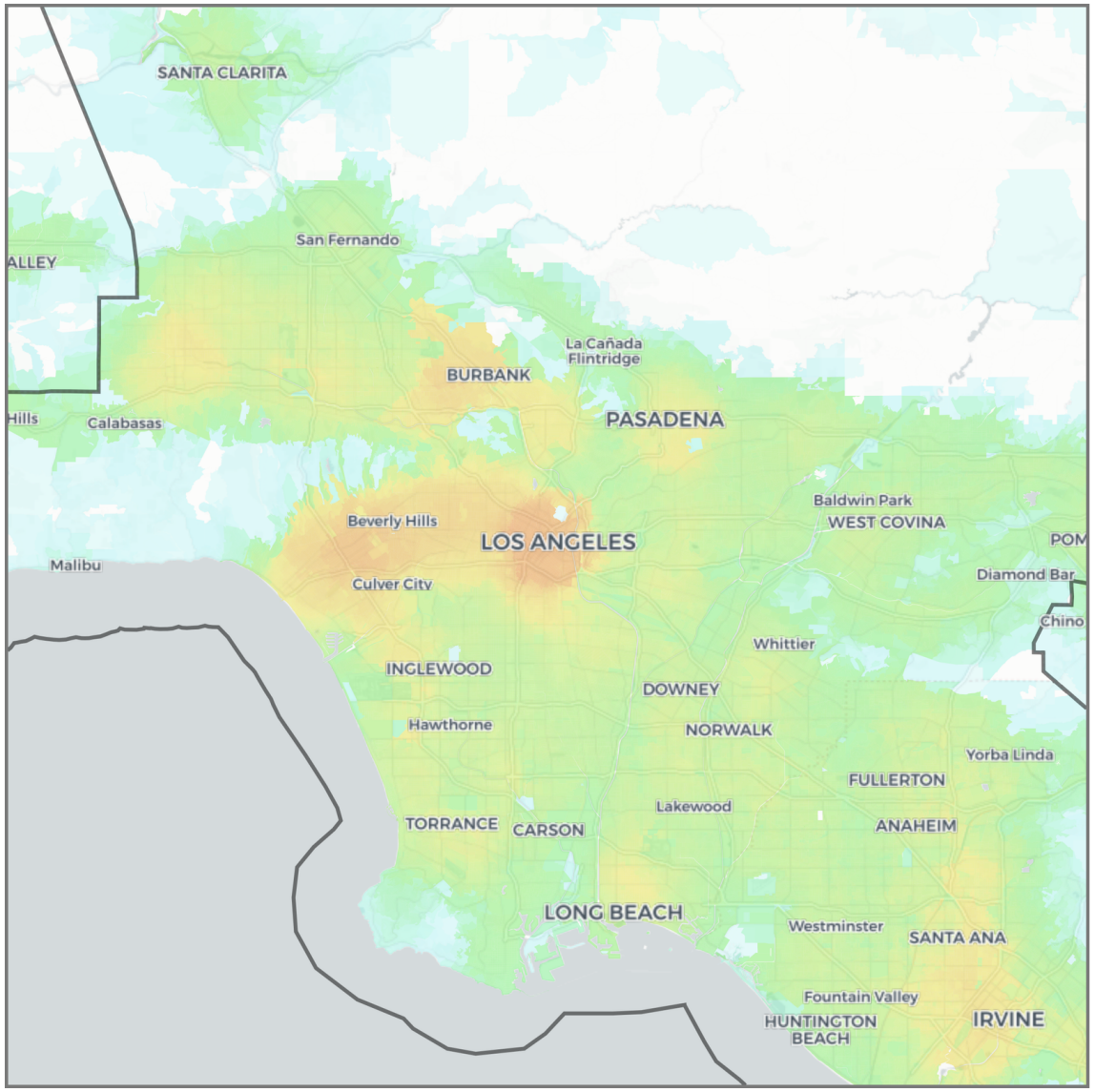
Los Angeles-Long Beach-Anaheim, CA

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Los Angeles

Los Angeles-Long Beach-Anaheim, CA



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

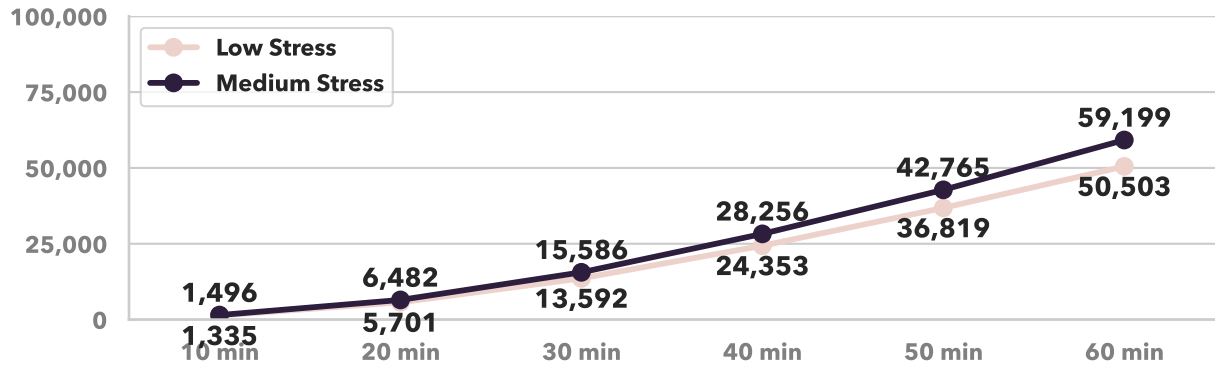
Louisville

Louisville/Jefferson County, KY-IN

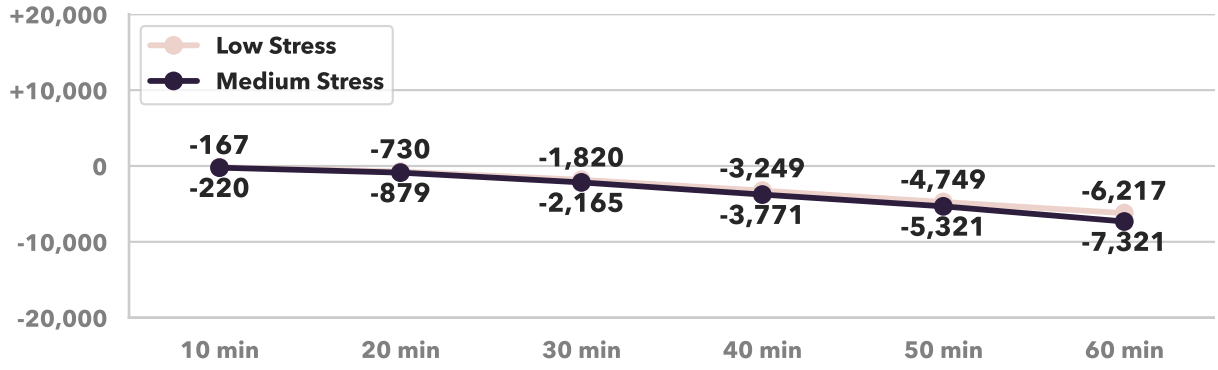
Rank by Weighted Low-Stress Bike Accessibility	**32**
Rank by Weighted Medium-Stress Bike Accessibility	**42**
Rank by Change in Low-Stress Bike Accessibility	**50**
Rank by Change in Medium-Stress Bike Accessibility	**50**
Rank by Total Employment	**43**
Total Jobs	**638,809**
Average Job Density (per mi^2)	**161**
Total Workers	**605,943**
Average Worker Density (per mi^2)	**152**

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

Biking Job Accessibility by Travel Time Threshold



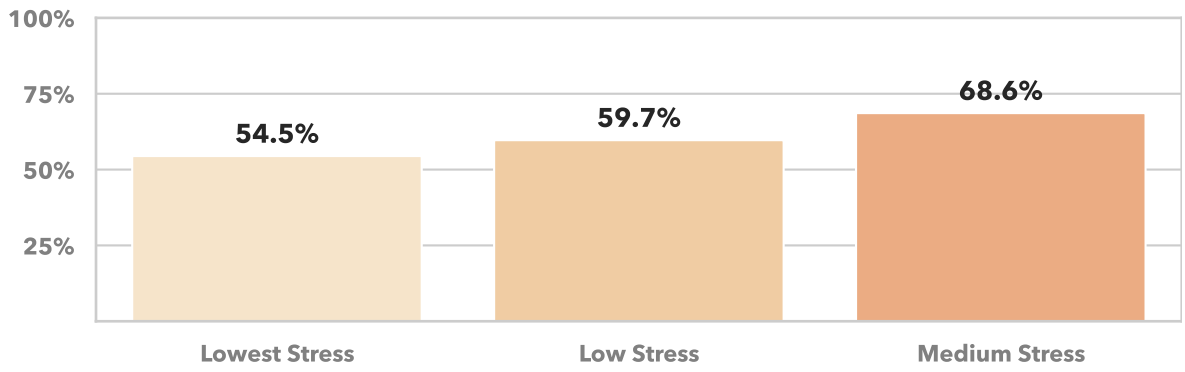
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Louisville

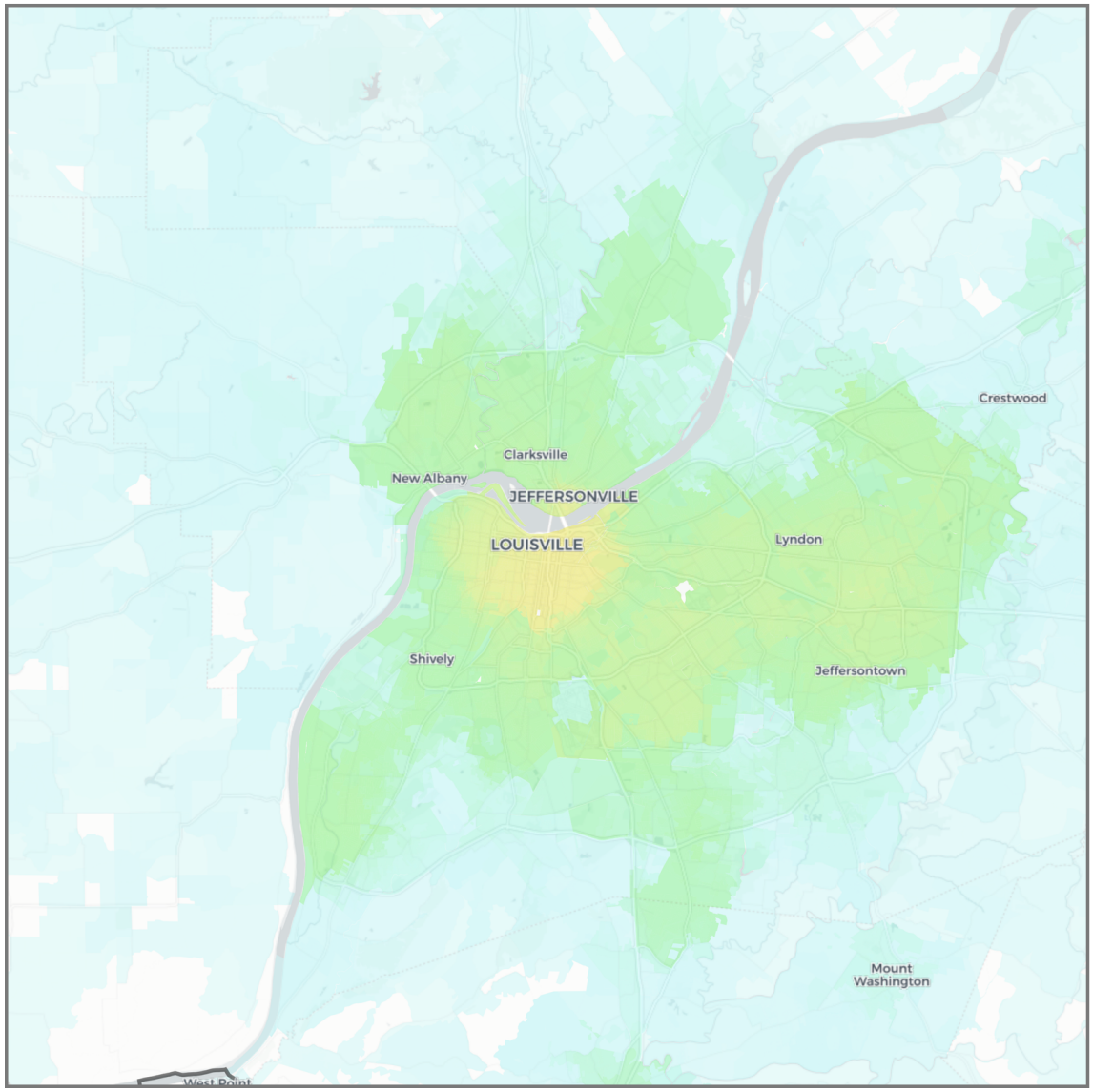
Louisville/Jefferson County, KY-IN

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Louisville

Louisville/Jefferson County, KY-IN



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

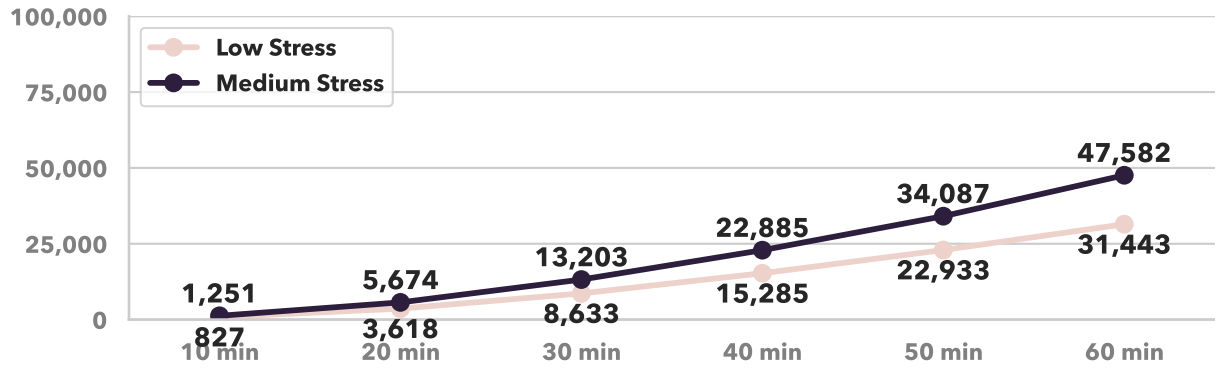
Memphis

Memphis, TN-MS-AR

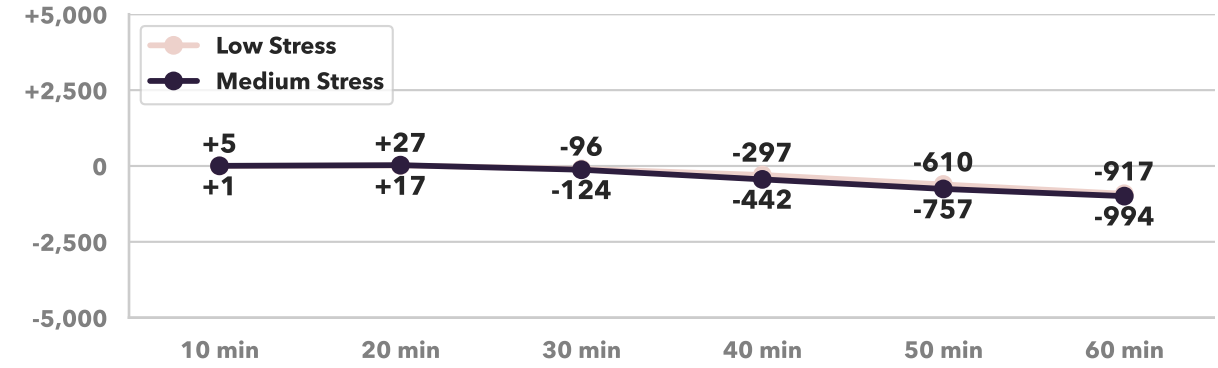
Rank by Weighted Low-Stress Bike Accessibility	**47**
Rank by Weighted Medium-Stress Bike Accessibility	**47**
Rank by Change in Low-Stress Bike Accessibility	**31**
Rank by Change in Medium-Stress Bike Accessibility	**25**
Rank by Total Employment	**49**
Total Jobs	**516,439**
Average Job Density (per mi^2)	**103**
Total Workers	**485,618**
Average Worker Density (per mi^2)	**97**

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

Biking Job Accessibility by Travel Time Threshold



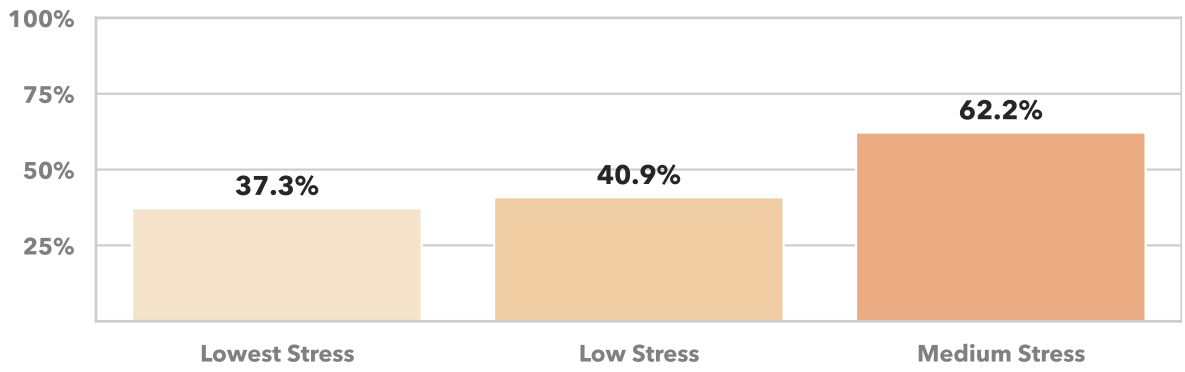
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Memphis

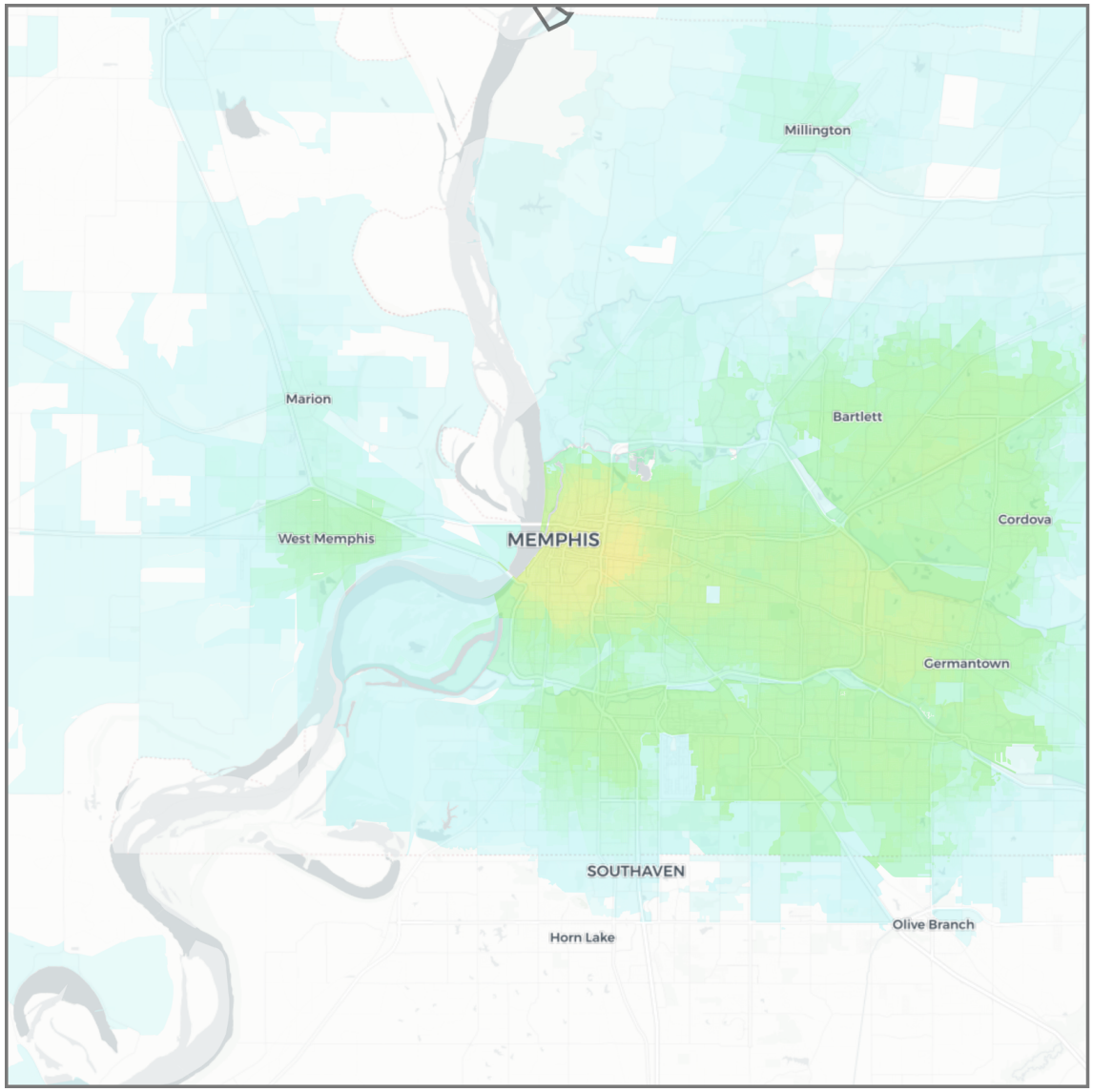
Memphis, TN-MS-AR

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Memphis

Memphis, TN-MS-AR



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

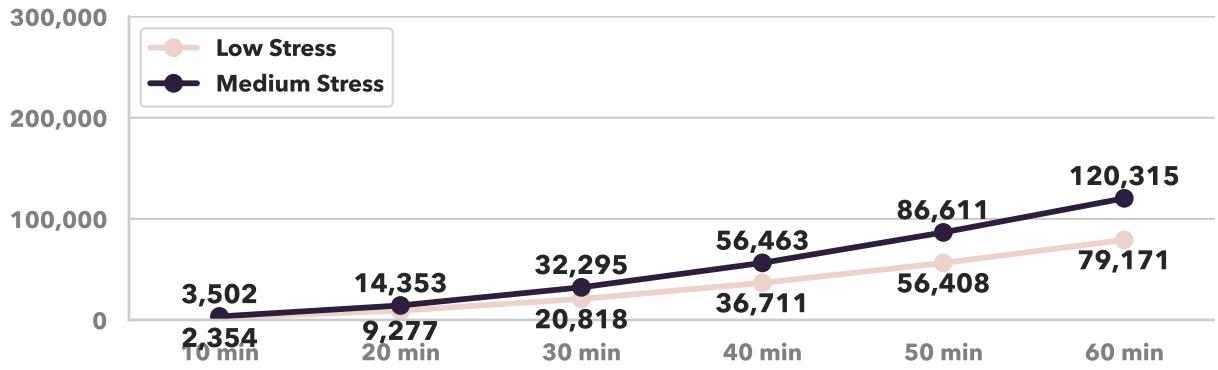
Miami

Miami-Fort Lauderdale-West Palm Beach, FL

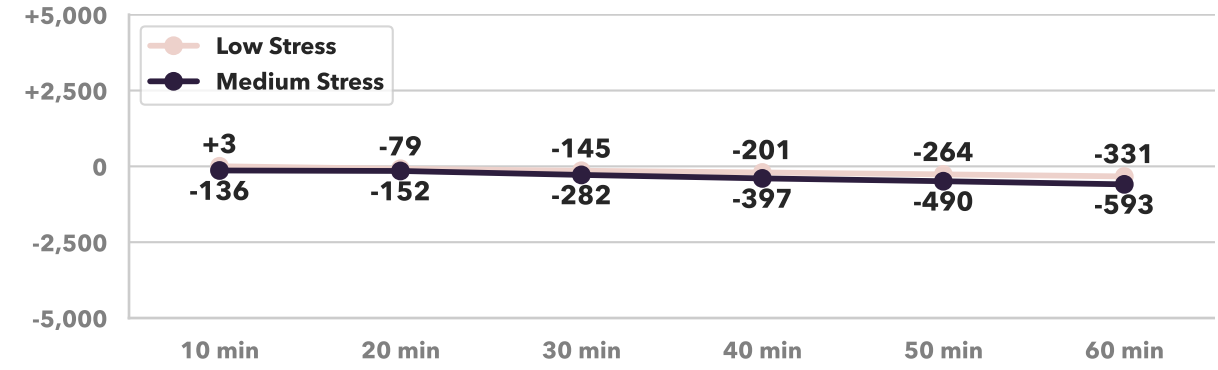
Rank by Weighted Low-Stress Bike Accessibility	**17**
Rank by Weighted Medium-Stress Bike Accessibility	**15**
Rank by Change in Low-Stress Bike Accessibility	**25**
Rank by Change in Medium-Stress Bike Accessibility	**27**
Rank by Total Employment	**9**
Total Jobs	**2,563,681**
Average Job Density (per mi^2)	**505**
Total Workers	**2,478,051**
Average Worker Density (per mi^2)	**489**

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

Biking Job Accessibility by Travel Time Threshold



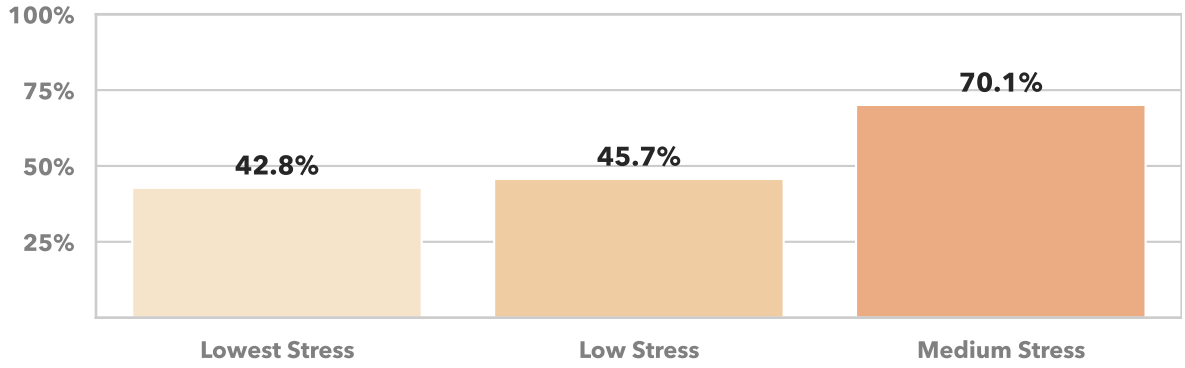
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Miami

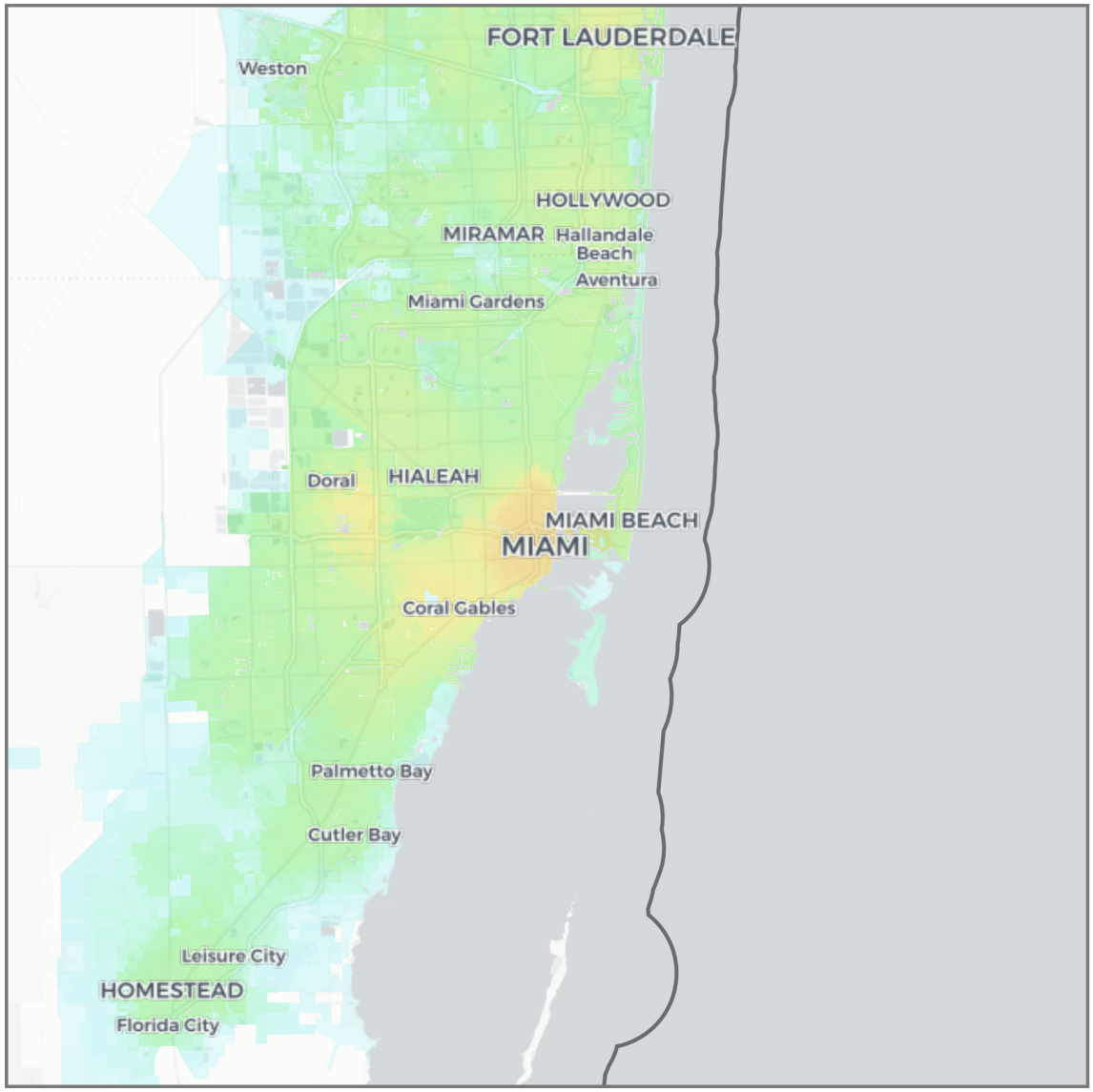
Miami-Fort Lauderdale-West Palm Beach, FL

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Miami

Miami-Fort Lauderdale-West Palm Beach, FL



Jobs within 30 minutes
(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border
CBSA boundary

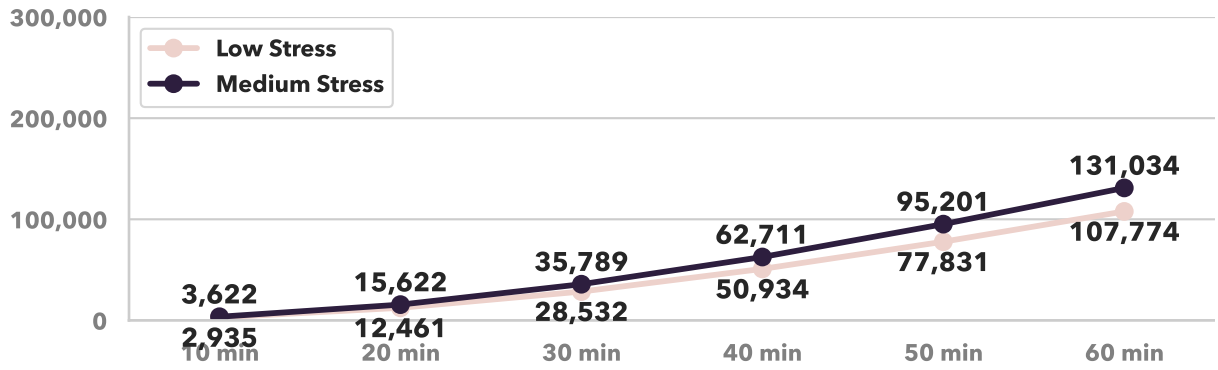
Milwaukee

Milwaukee-Waukesha, WI

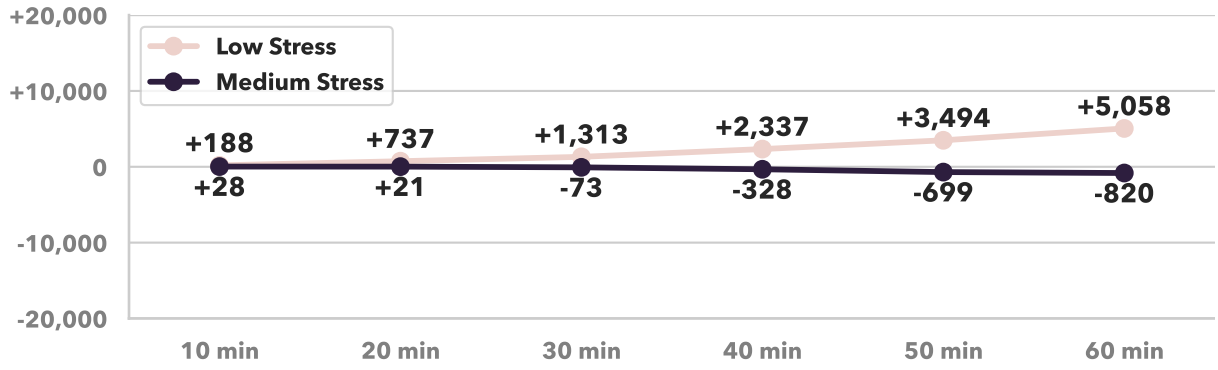
Rank by Weighted Low-Stress Bike Accessibility	**13**
Rank by Weighted Medium-Stress Bike Accessibility	**14**
Rank by Change in Low-Stress Bike Accessibility	**5**
Rank by Change in Medium-Stress Bike Accessibility	**22**
Rank by Total Employment	**38**
Total Jobs	**825,412**
Average Job Density (per mi^2)	**567**
Total Workers	**748,932**
Average Worker Density (per mi^2)	**514**

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

Biking Job Accessibility by Travel Time Threshold



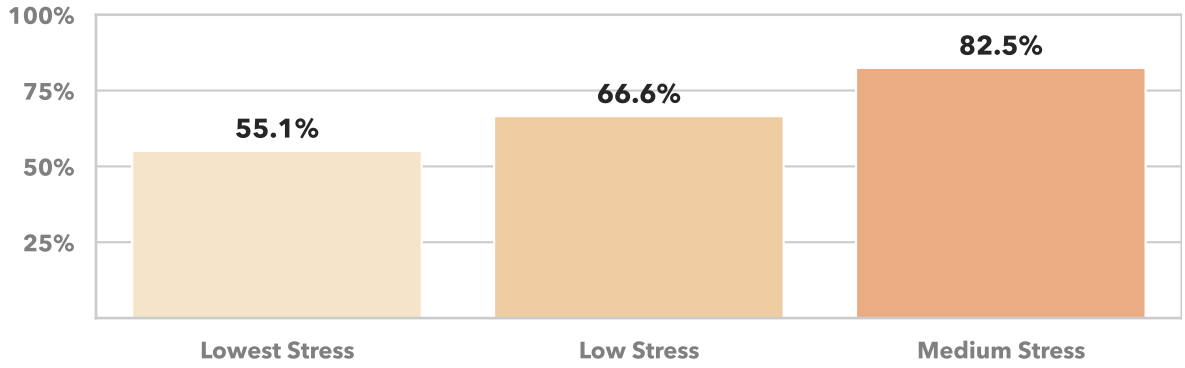
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Milwaukee

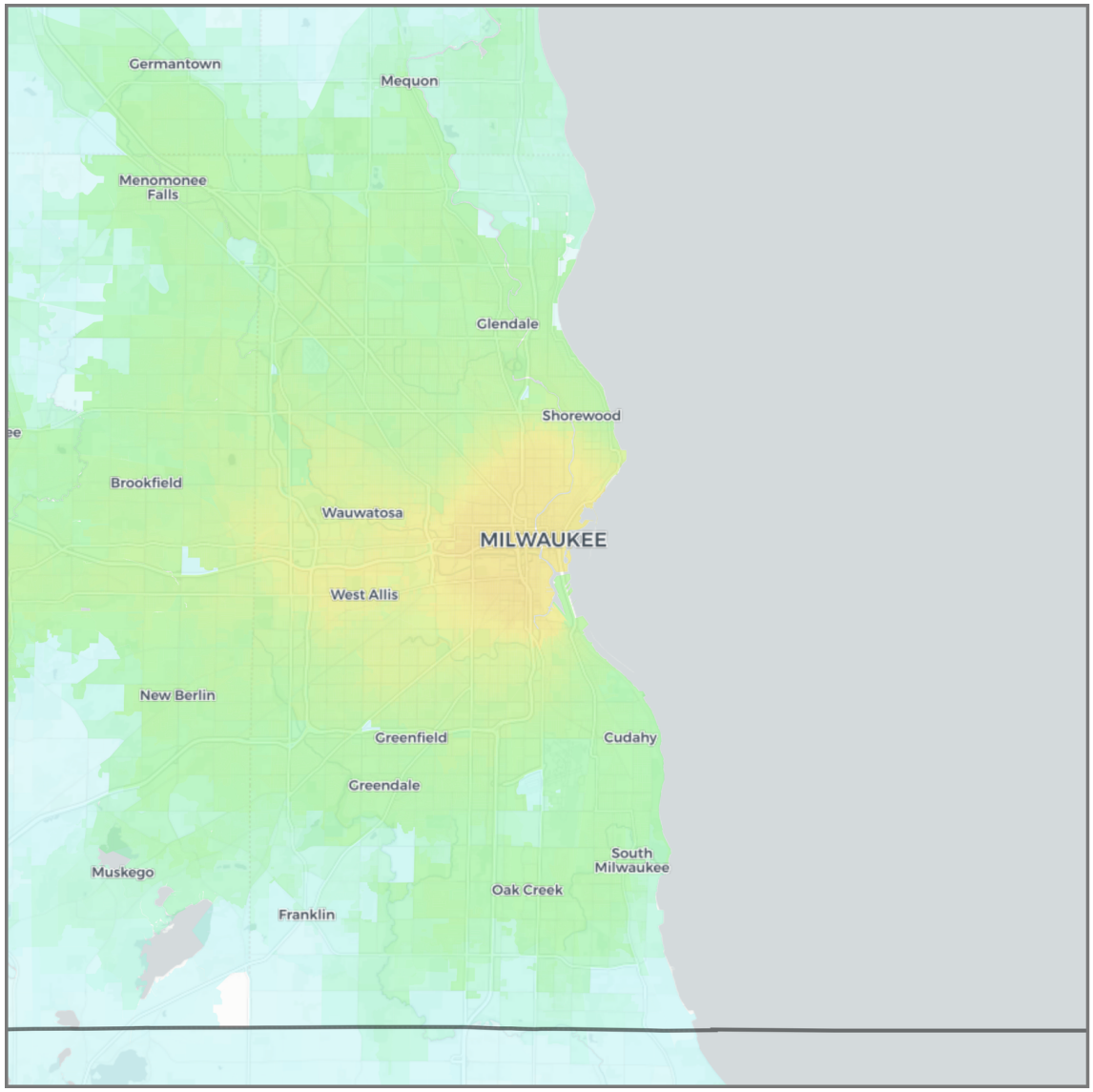
Milwaukee-Waukesha, WI

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Milwaukee

Milwaukee-Waukesha, WI



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

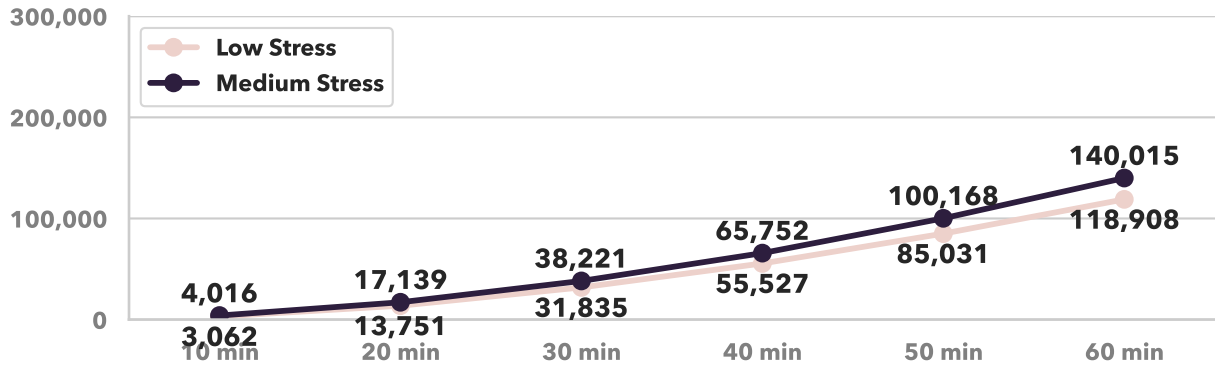
Minneapolis

Minneapolis-St. Paul-Bloomington, MN-WI

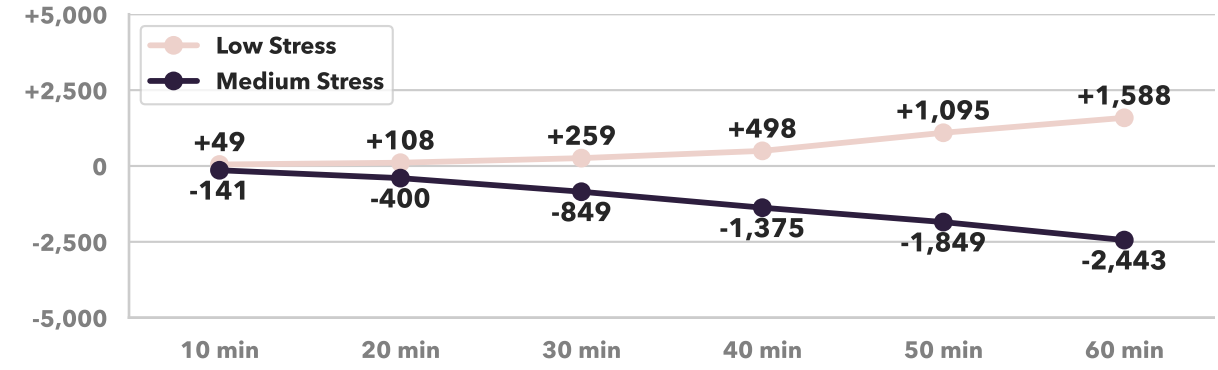
Rank by Weighted Low-Stress Bike Accessibility	**12**
Rank by Weighted Medium-Stress Bike Accessibility	**12**
Rank by Change in Low-Stress Bike Accessibility	**21**
Rank by Change in Medium-Stress Bike Accessibility	**34**
Rank by Total Employment	**16**
Total Jobs	**1,848,968**
Average Job Density (per mi^2)	**262**
Total Workers	**1,795,044**
Average Worker Density (per mi^2)	**254**

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

Biking Job Accessibility by Travel Time Threshold



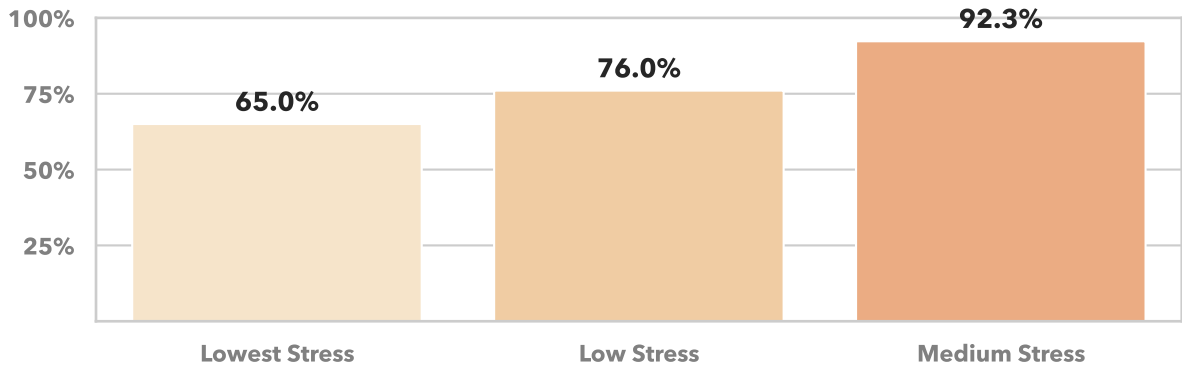
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Minneapolis

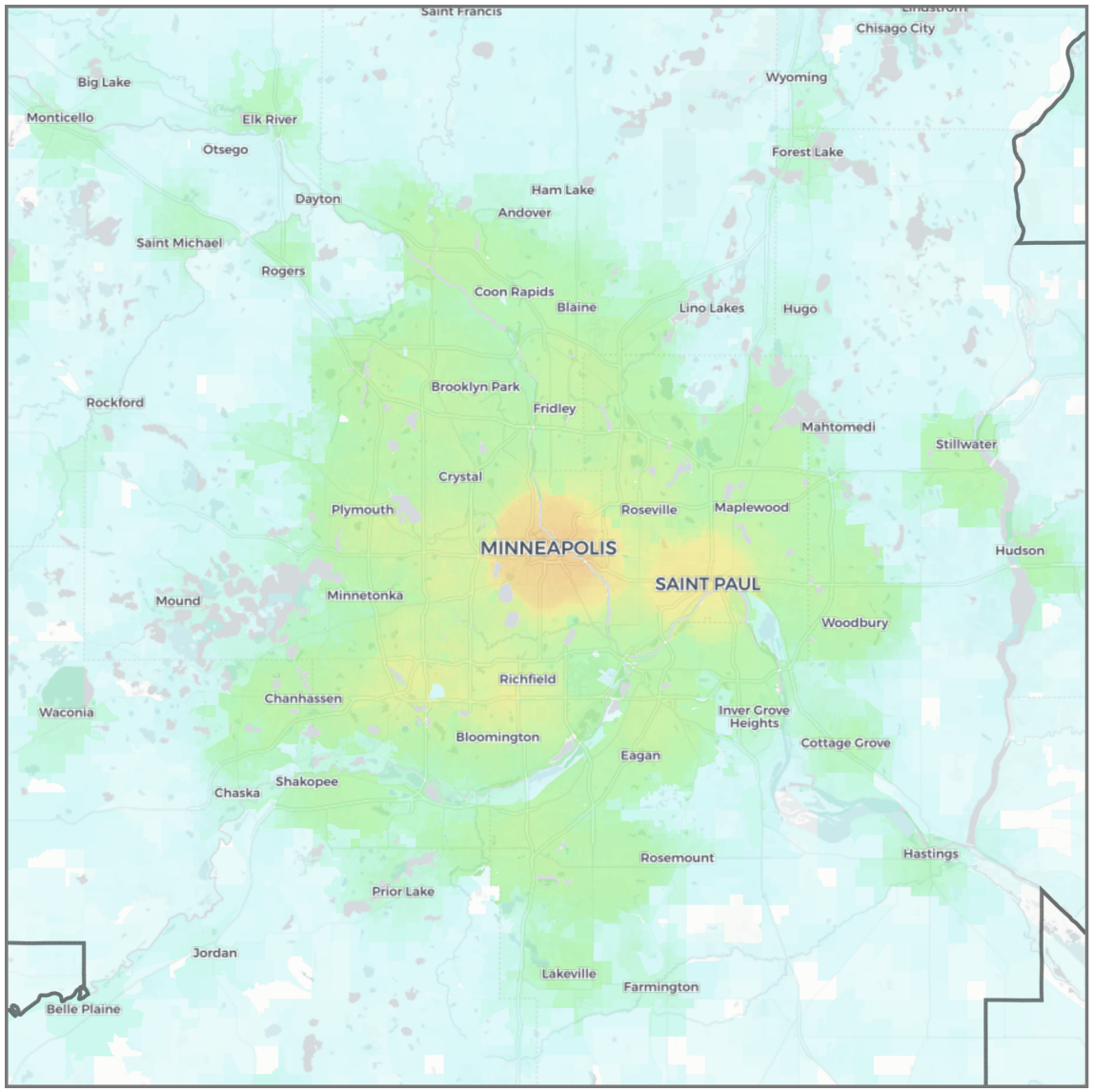
Minneapolis-St. Paul-Bloomington, MN-WI

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Minneapolis

Minneapolis-St. Paul-Bloomington, MN-WI



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

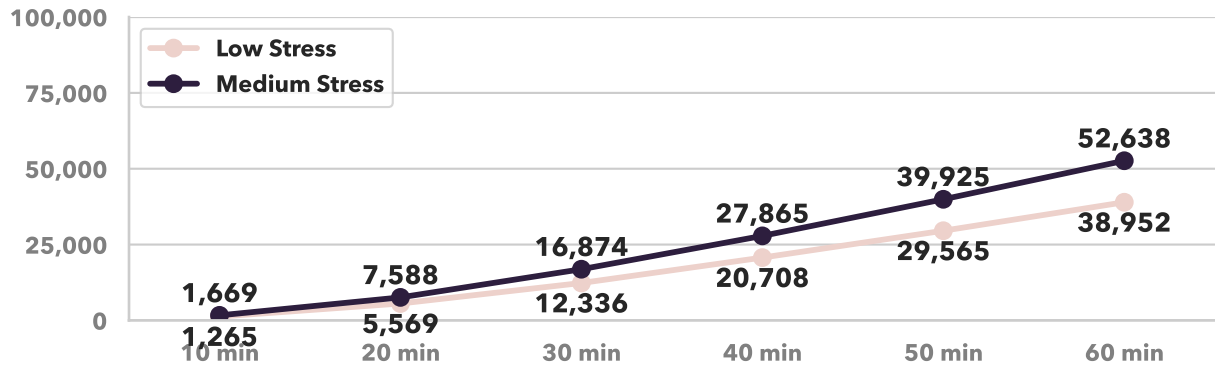
Nashville

Nashville-Davidson–Murfreesboro–Franklin, TN

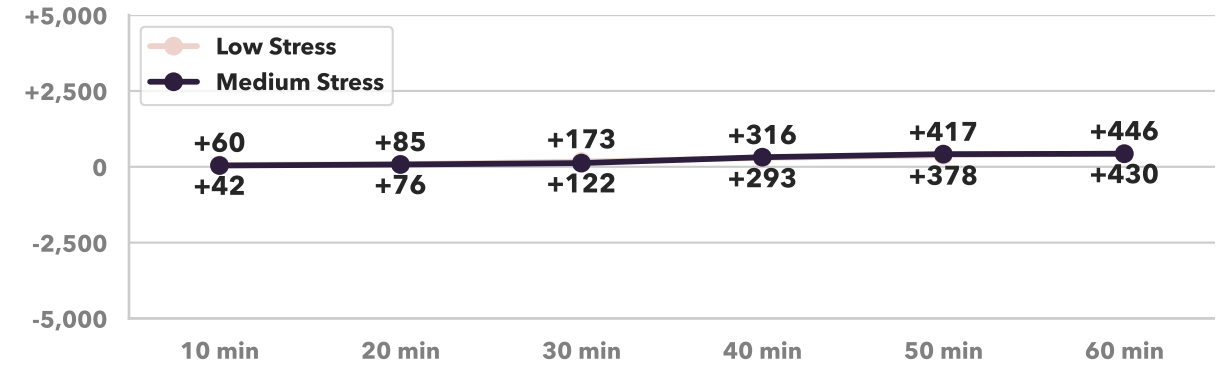
Rank by Weighted Low-Stress Bike Accessibility	**40**
Rank by Weighted Medium-Stress Bike Accessibility	**41**
Rank by Change in Low-Stress Bike Accessibility	**13**
Rank by Change in Medium-Stress Bike Accessibility	**15**
Rank by Total Employment	**36**
Total Jobs	**1,015,467**
Average Job Density (per mi^2)	**161**
Total Workers	**917,148**
Average Worker Density (per mi^2)	**145**

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

Biking Job Accessibility by Travel Time Threshold



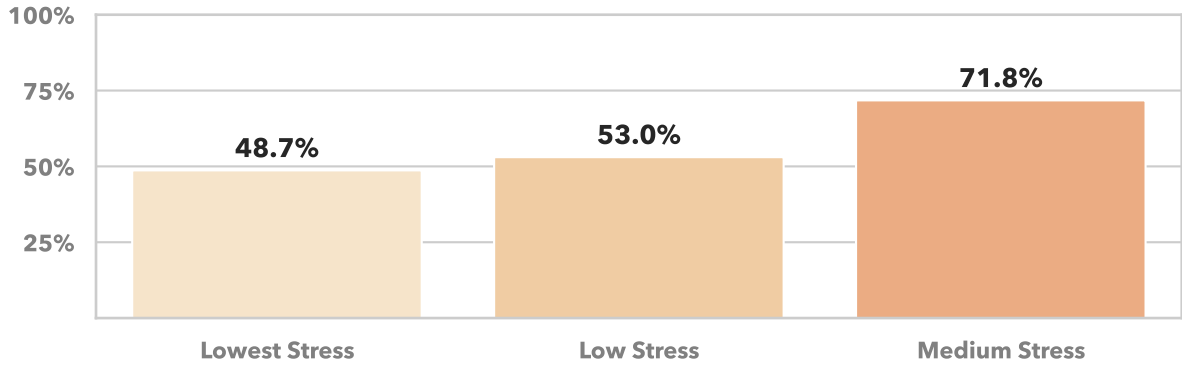
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Nashville

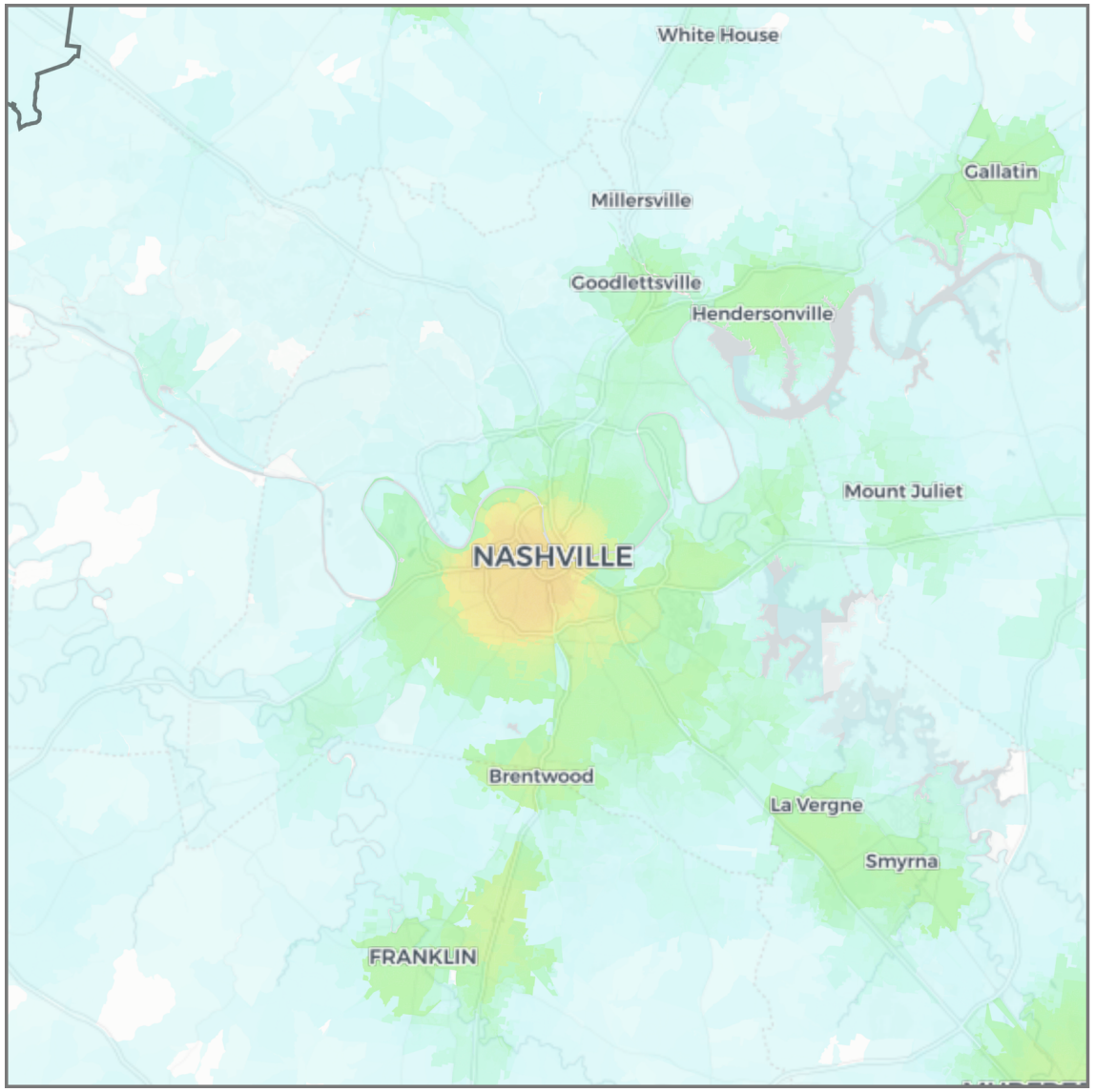
Nashville-Davidson–Murfreesboro–Franklin, TN

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Nashville

Nashville-Davidson--Murfreesboro--Franklin, TN



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

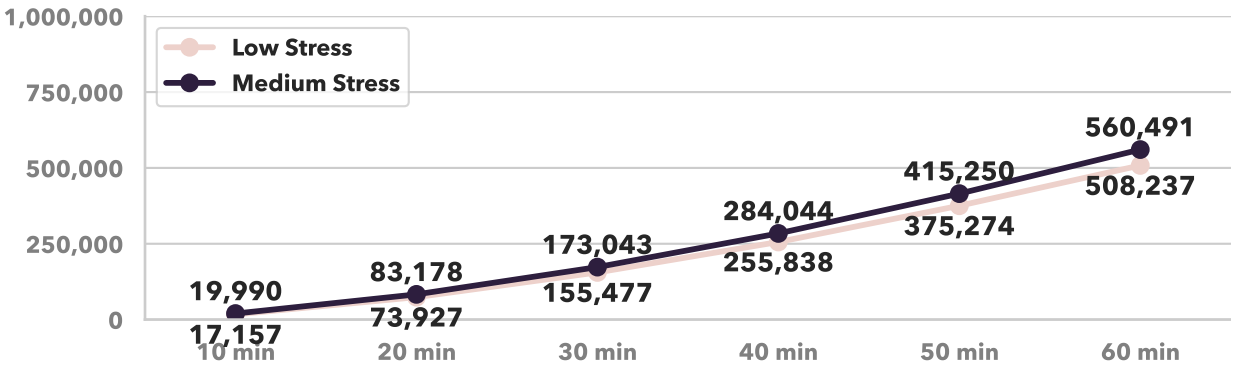
New York

New York-Newark-Jersey City, NY-NJ

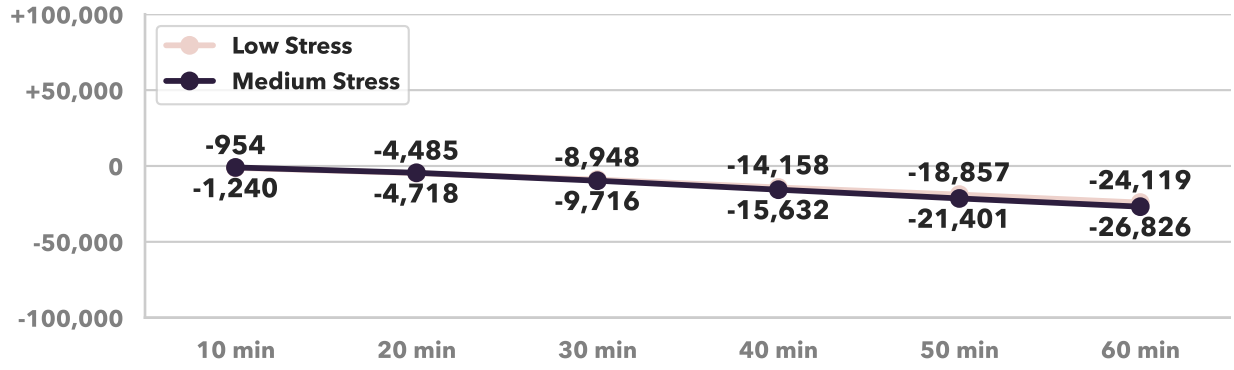
Rank by Weighted Low-Stress Bike Accessibility	**1**
Rank by Weighted Medium-Stress Bike Accessibility	**1**
Rank by Change in Low-Stress Bike Accessibility	**45**
Rank by Change in Medium-Stress Bike Accessibility	**45**
Rank by Total Employment	**1**
Total Jobs	**8,670,817**
Average Job Density (per mi^2)	**1,412**
Total Workers	**8,410,529**
Average Worker Density (per mi^2)	**1,369**

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

Biking Job Accessibility by Travel Time Threshold



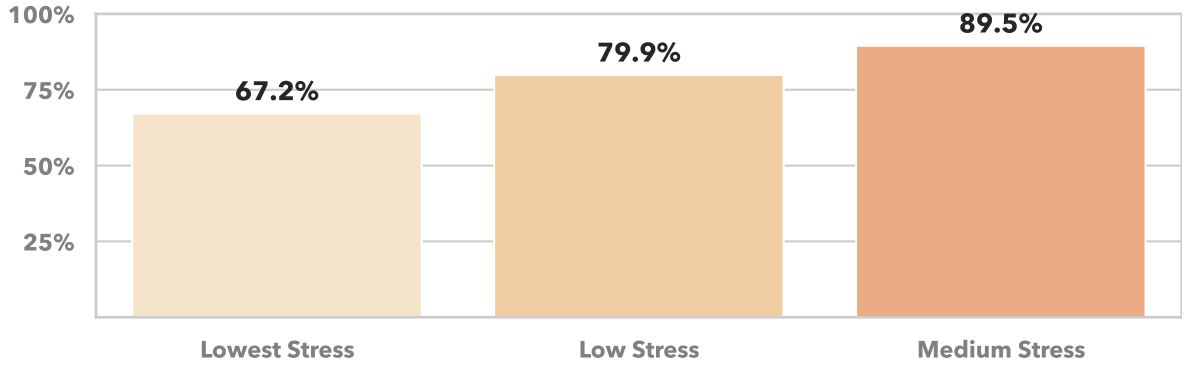
1-Year Change in Biking Job Accessibility by Travel Time Threshold



New York

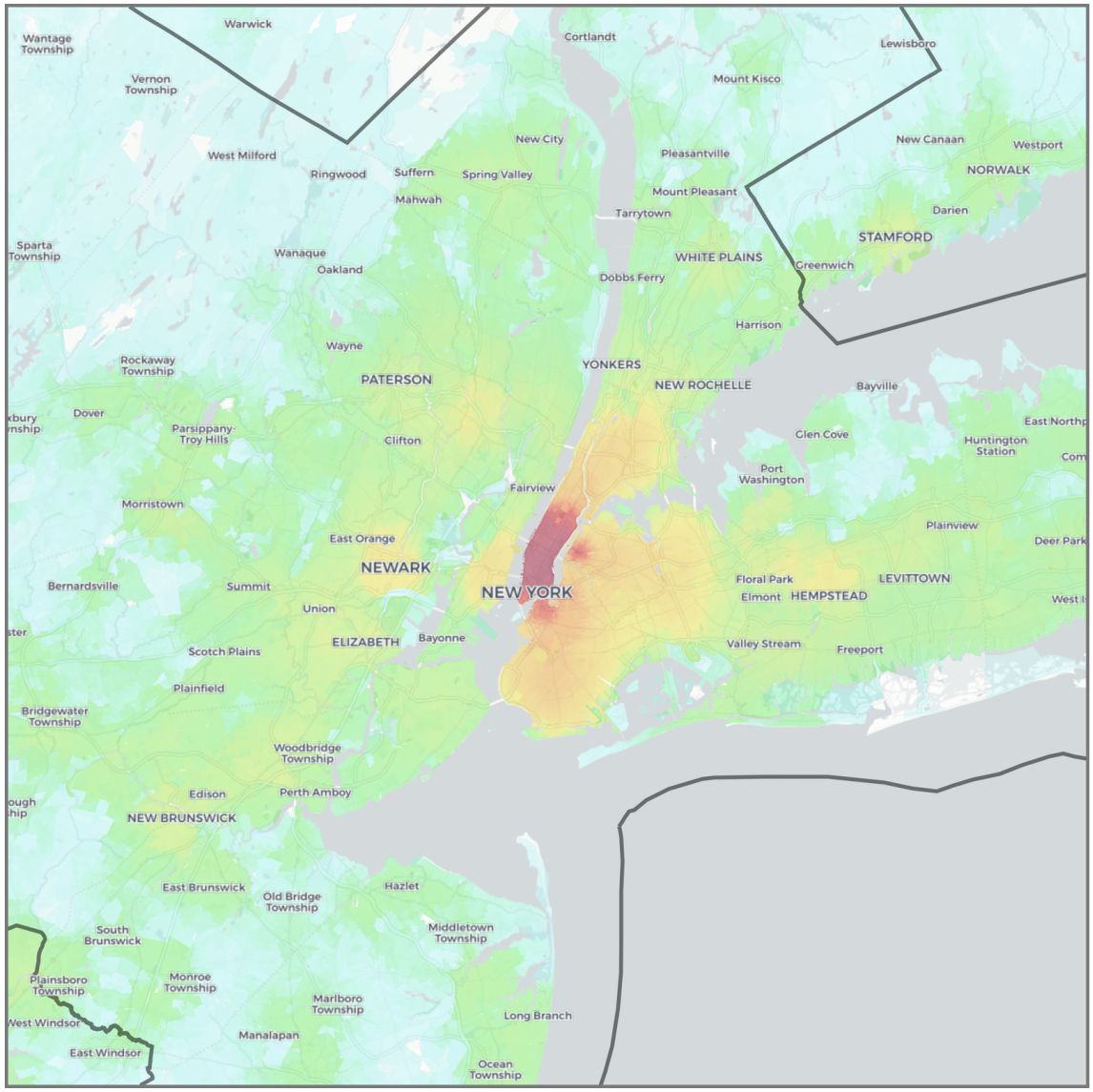
New York-Newark-Jersey City, NY-NJ

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



New York

New York-Newark-Jersey City, NY-NJ



Jobs within 30 minutes
(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border
CBSA boundary

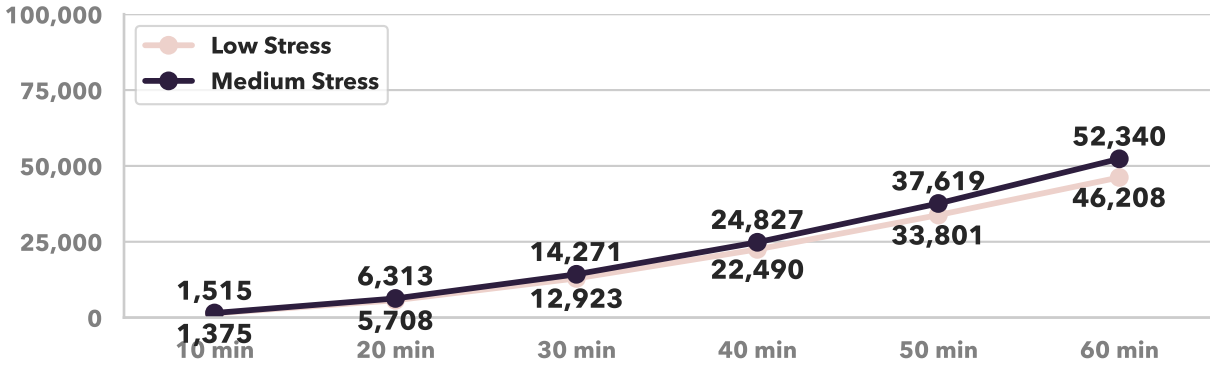
Oklahoma City

Oklahoma City, OK

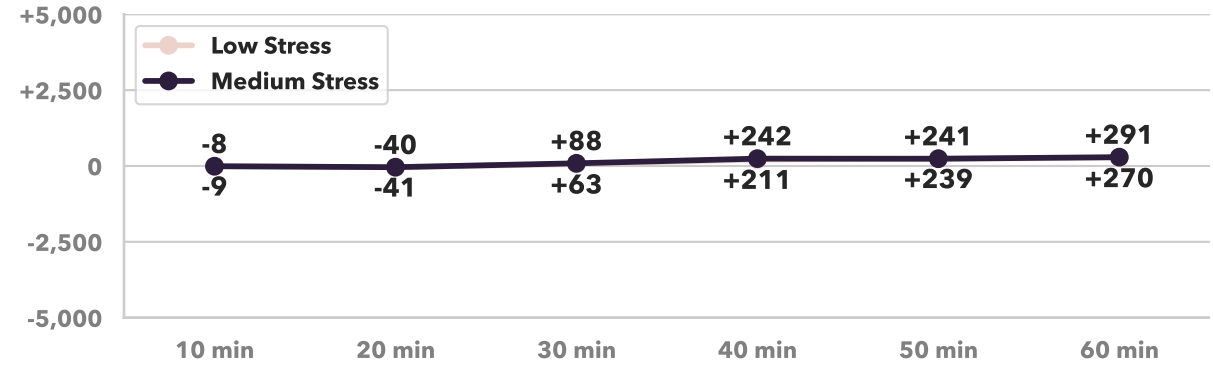
Rank by Weighted Low-Stress Bike Accessibility	**37**
Rank by Weighted Medium-Stress Bike Accessibility	**46**
Rank by Change in Low-Stress Bike Accessibility	**23**
Rank by Change in Medium-Stress Bike Accessibility	**21**
Rank by Total Employment	**45**
Total Jobs	**604,631**
Average Job Density (per mi^2)	**109**
Total Workers	**568,968**
Average Worker Density (per mi^2)	**103**

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

Biking Job Accessibility by Travel Time Threshold



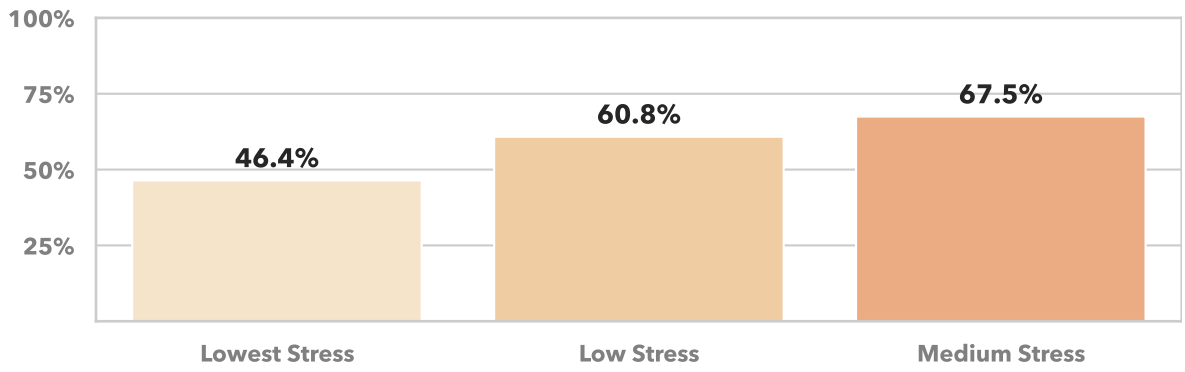
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Oklahoma City

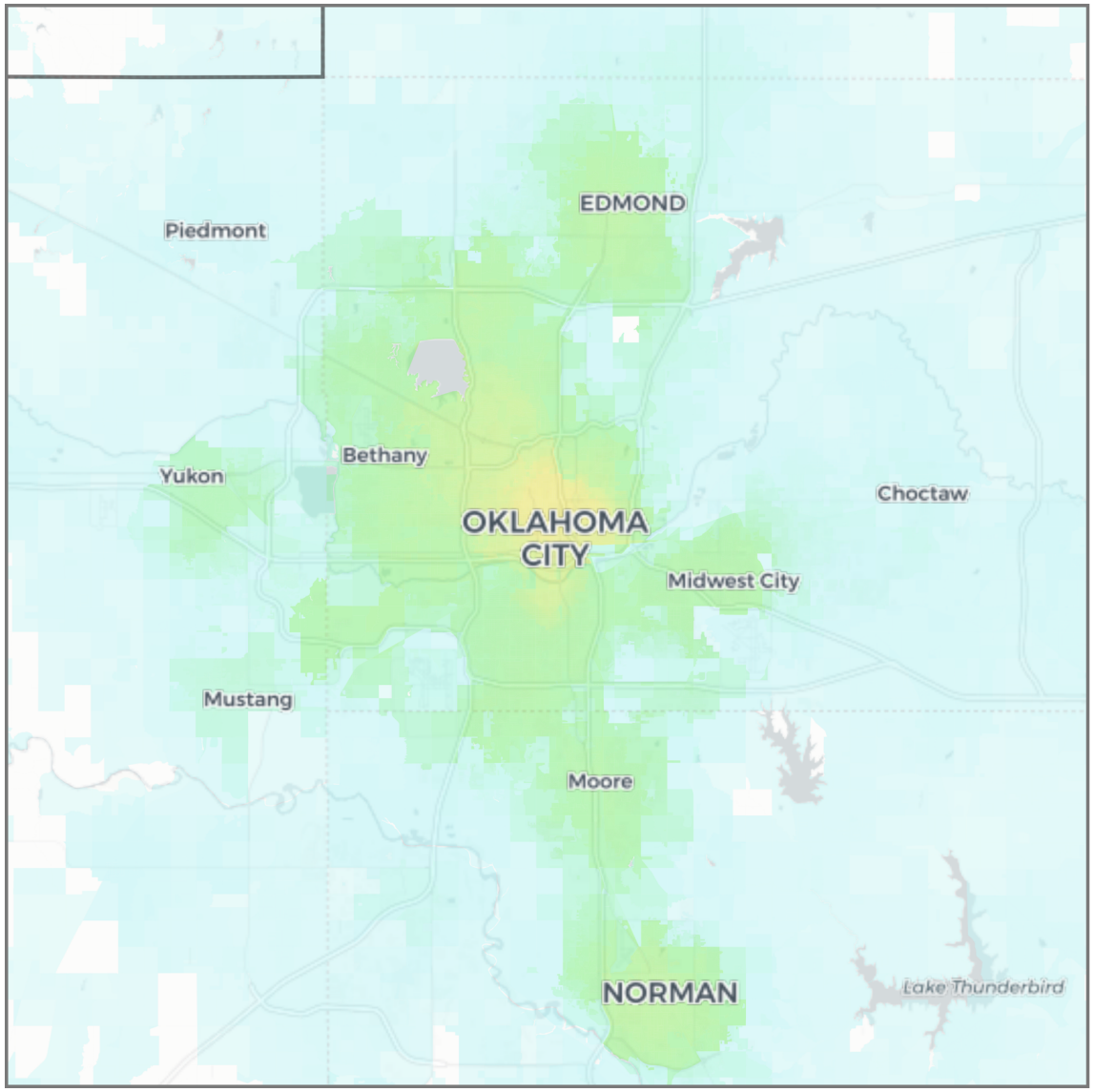
Oklahoma City, OK

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Oklahoma City

Oklahoma City, OK



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

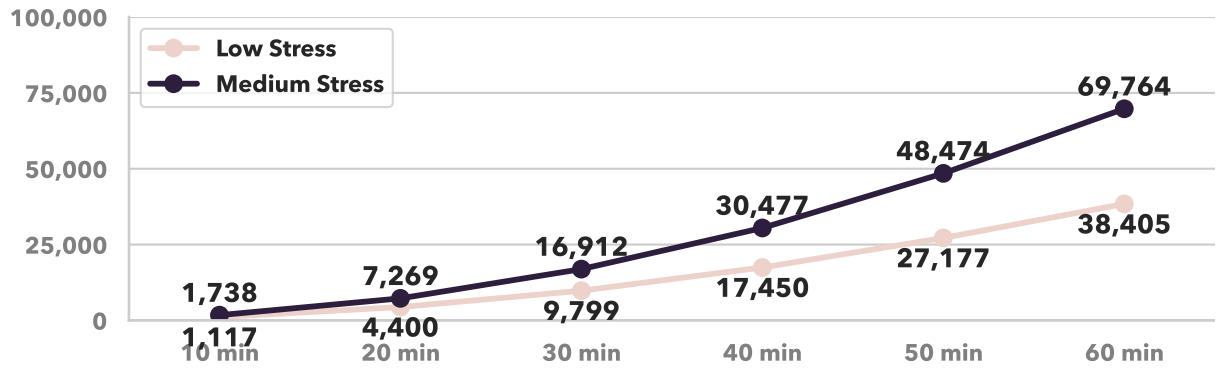
Orlando

Orlando-Kissimmee-Sanford, FL

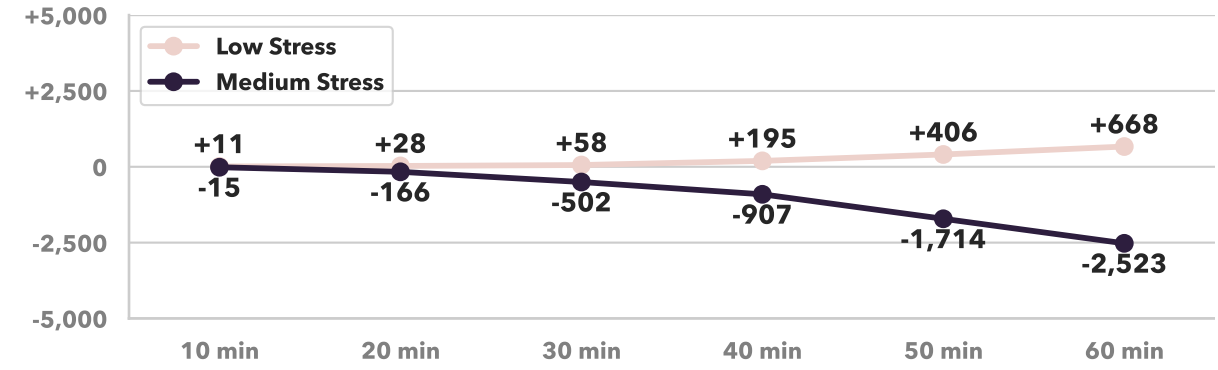
Rank by Weighted Low-Stress Bike Accessibility	**45**
Rank by Weighted Medium-Stress Bike Accessibility	**39**
Rank by Change in Low-Stress Bike Accessibility	**22**
Rank by Change in Medium-Stress Bike Accessibility	**36**
Rank by Total Employment	**23**
Total Jobs	**1,265,505**
Average Job Density (per mi^2)	**362**
Total Workers	**1,147,768**
Average Worker Density (per mi^2)	**328**

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

Biking Job Accessibility by Travel Time Threshold



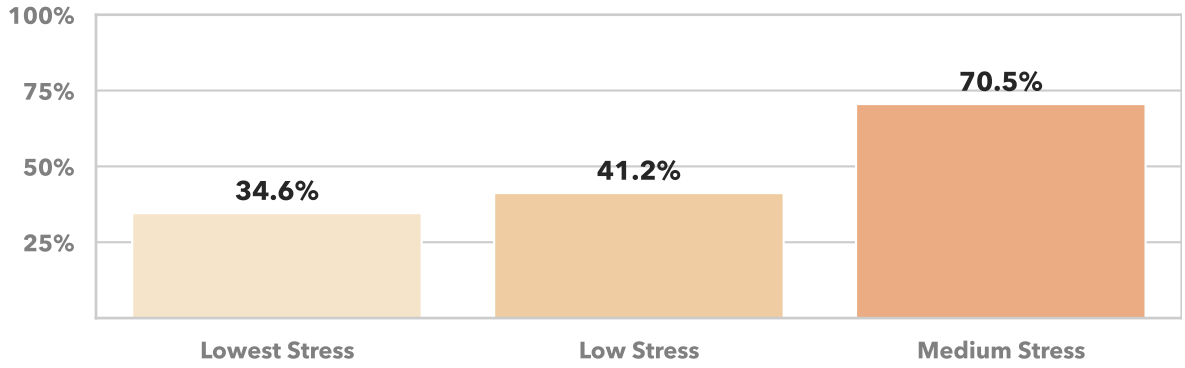
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Orlando

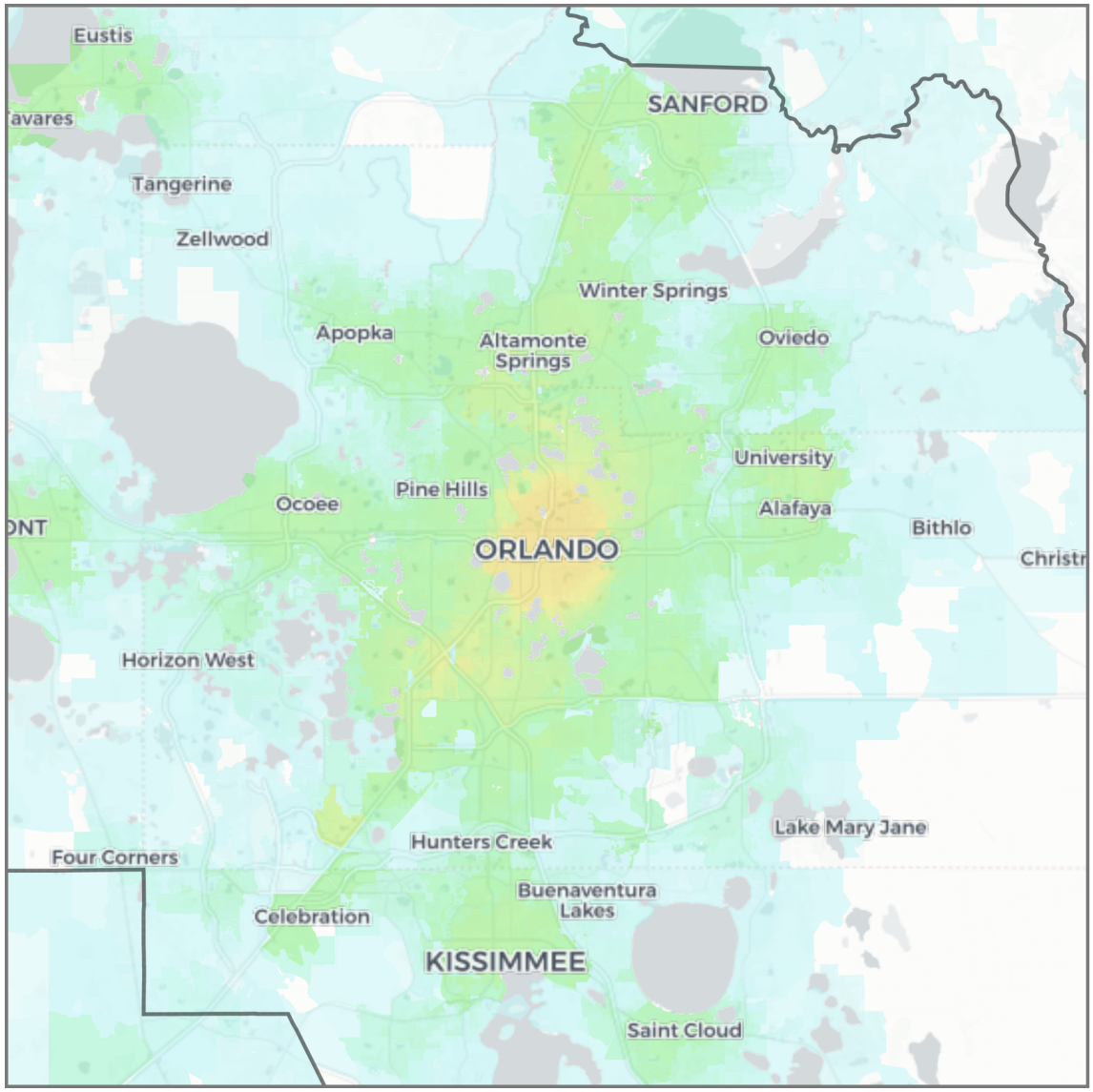
Orlando-Kissimmee-Sanford, FL

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Orlando

Orlando-Kissimmee-Sanford, FL



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

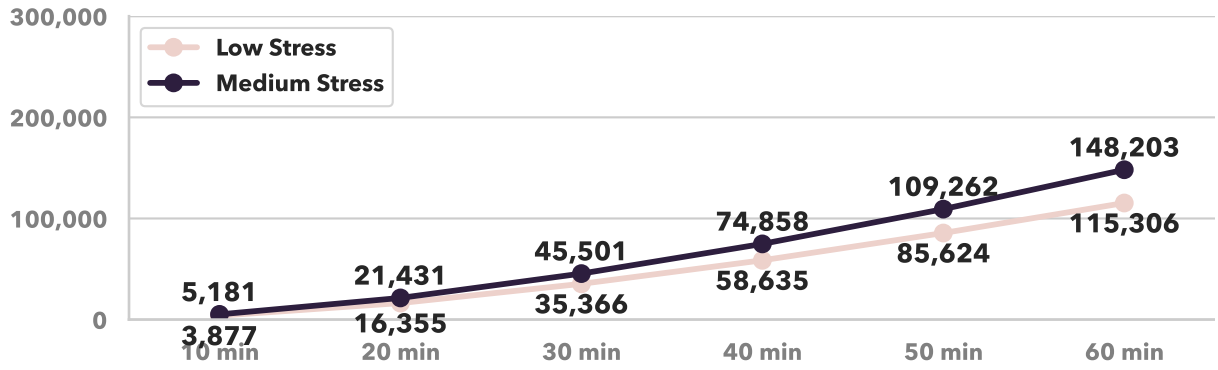
Philadelphia

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

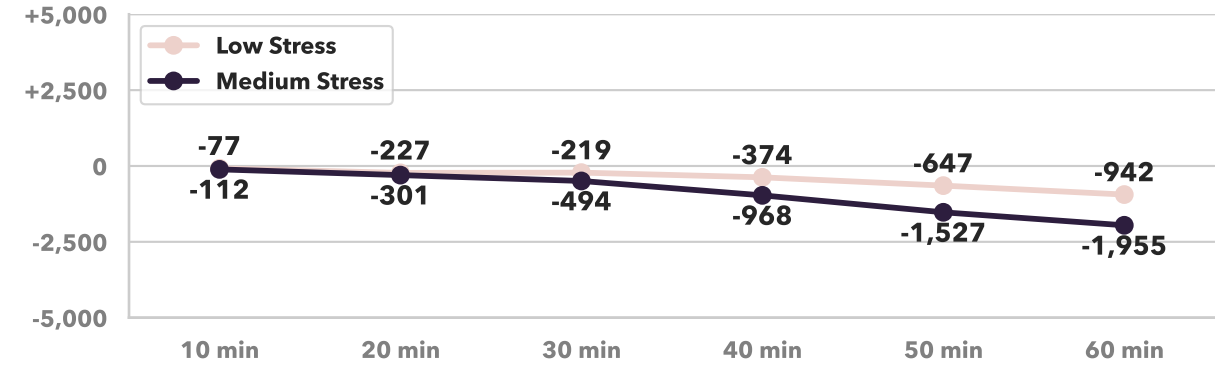
Rank by Weighted Low-Stress Bike Accessibility	**9**
Rank by Weighted Medium-Stress Bike Accessibility	**10**
Rank by Change in Low-Stress Bike Accessibility	**30**
Rank by Change in Medium-Stress Bike Accessibility	**28**
Rank by Total Employment	**6**
Total Jobs	**2,762,787**
Average Job Density (per mi^2)	**600**
Total Workers	**2,781,193**
Average Worker Density (per mi^2)	**604**

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

Biking Job Accessibility by Travel Time Threshold



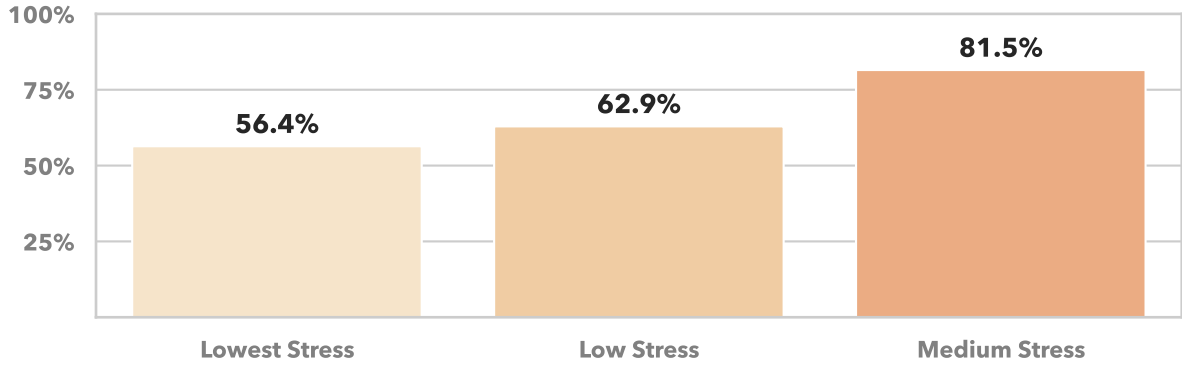
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Philadelphia

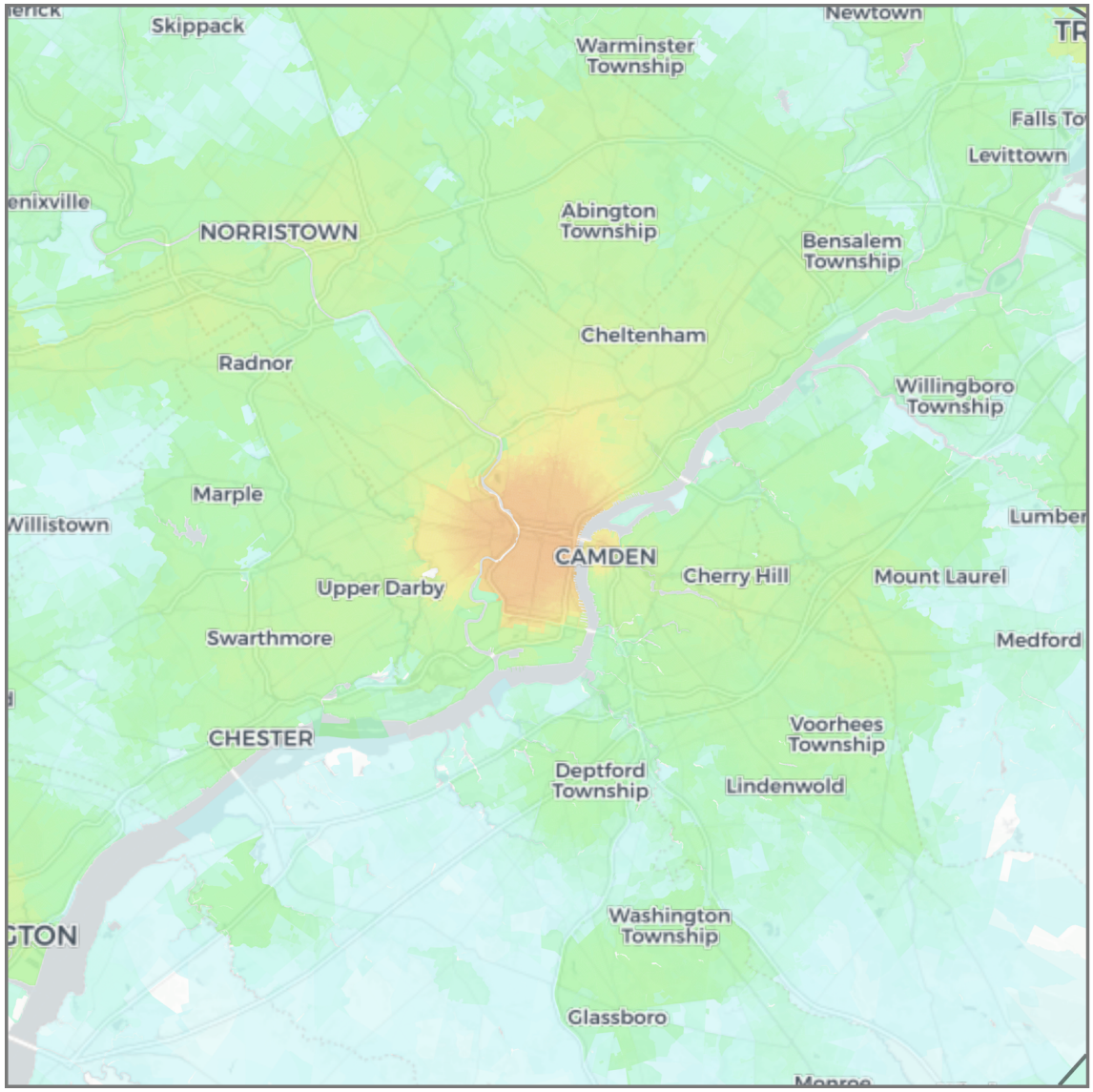
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Philadelphia

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



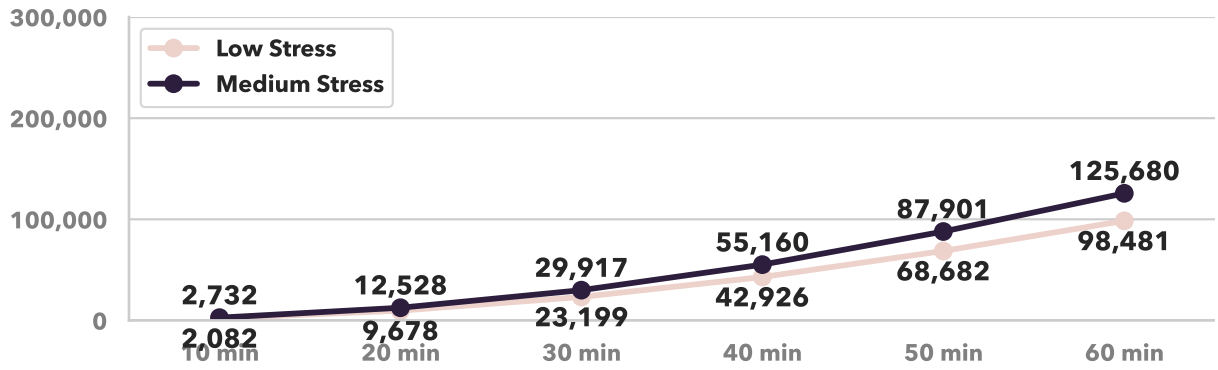
Phoenix

Phoenix-Mesa-Chandler, AZ

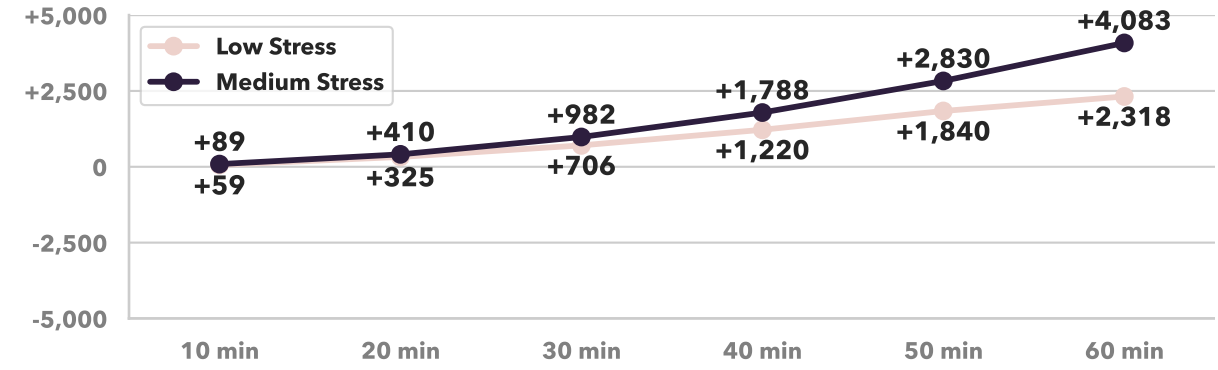
Rank by Weighted Low-Stress Bike Accessibility	**15**
Rank by Weighted Medium-Stress Bike Accessibility	**16**
Rank by Change in Low-Stress Bike Accessibility	**11**
Rank by Change in Medium-Stress Bike Accessibility	**5**
Rank by Total Employment	**11**
Total Jobs	**2,175,726**
Average Job Density (per mi^2)	**149**
Total Workers	**2,115,071**
Average Worker Density (per mi^2)	**145**

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

Biking Job Accessibility by Travel Time Threshold



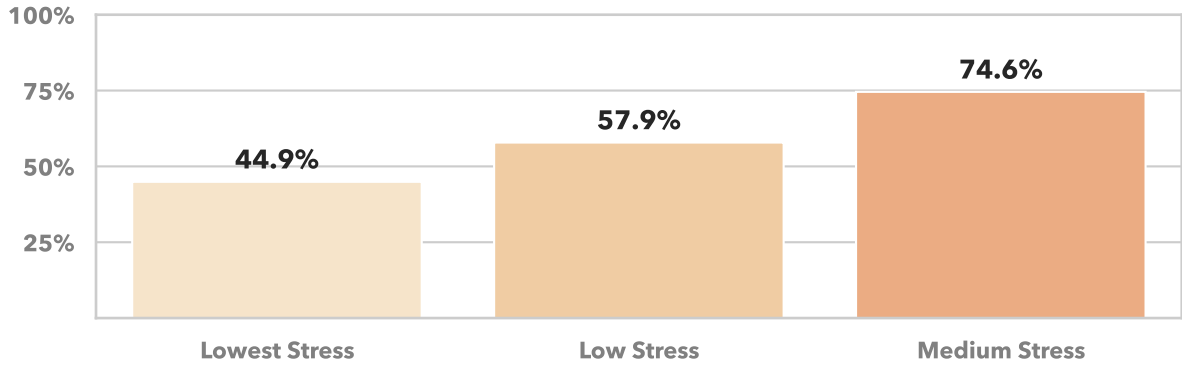
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Phoenix

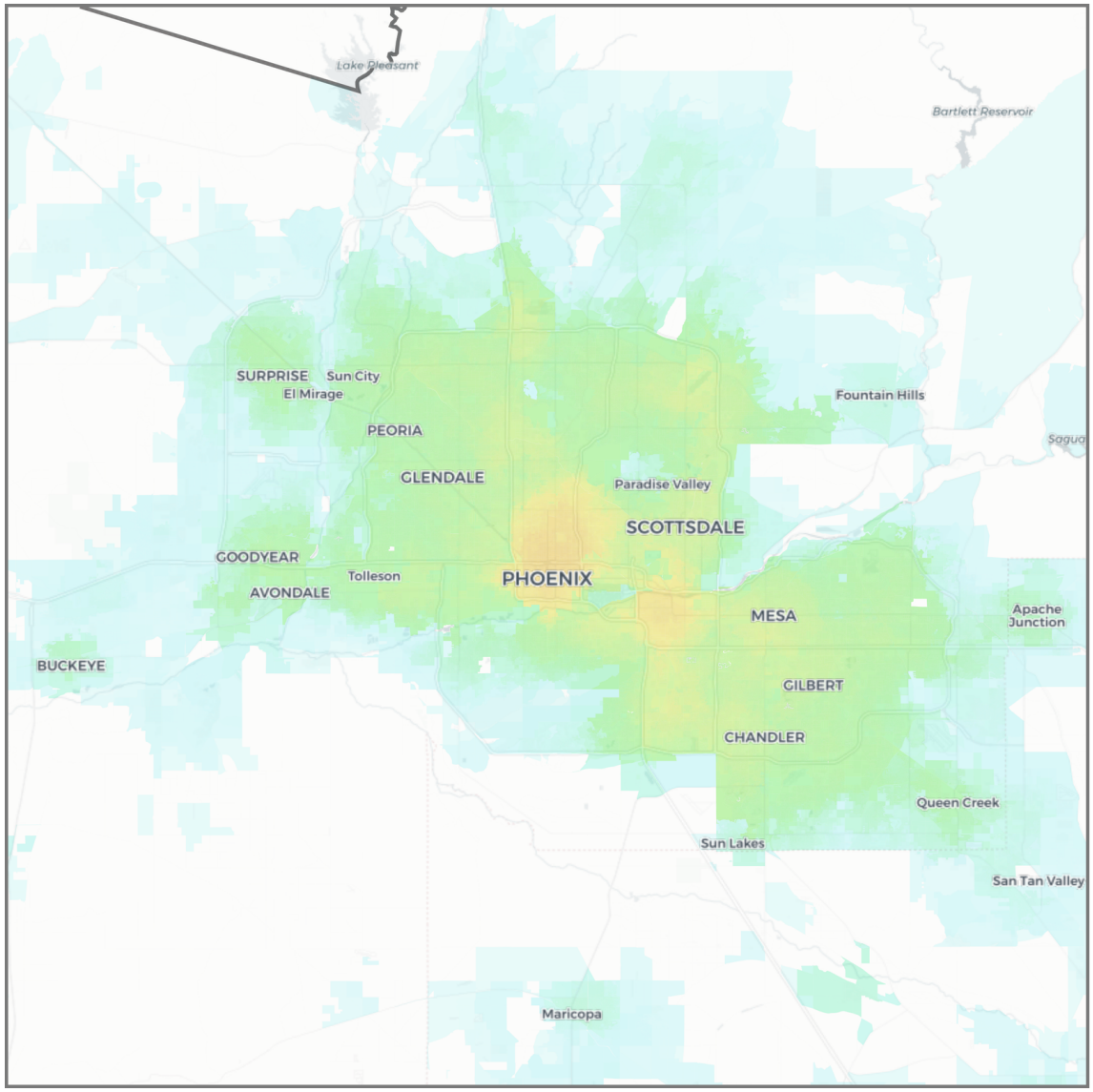
Phoenix-Mesa-Chandler, AZ

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Phoenix

Phoenix-Mesa-Chandler, AZ



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

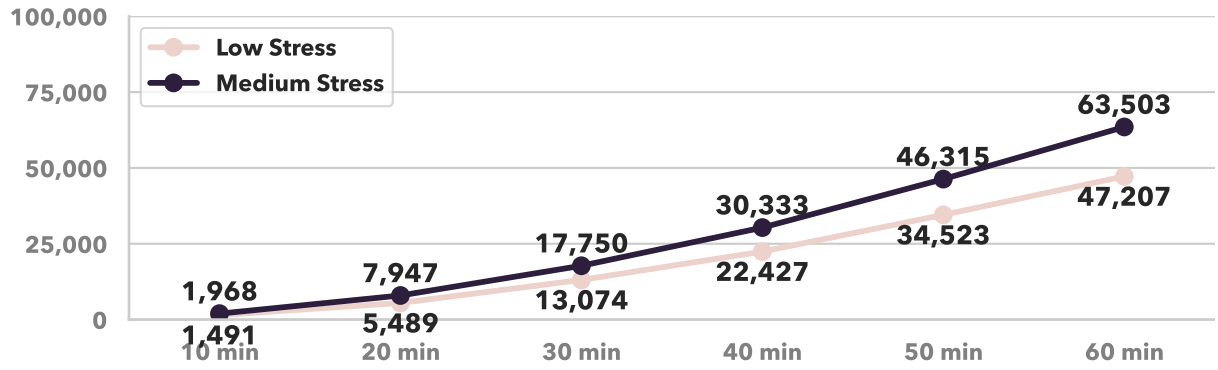
Pittsburgh

Pittsburgh, PA

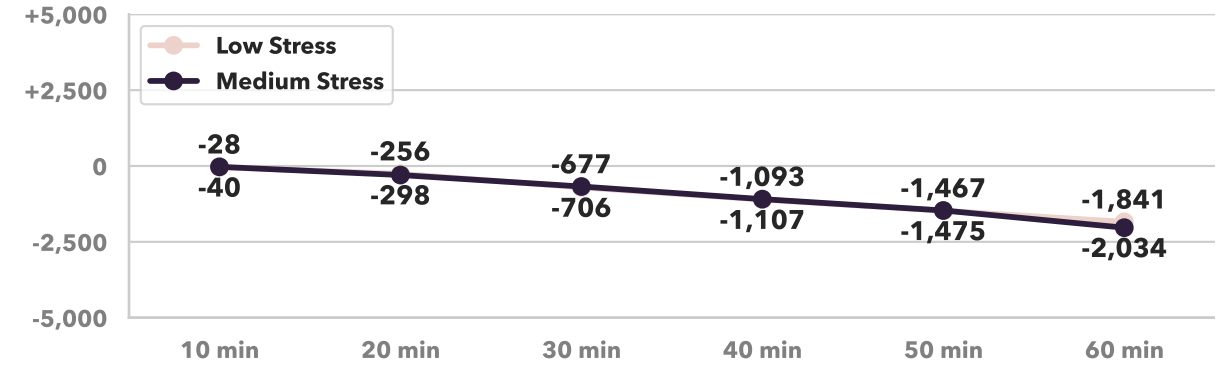
Rank by Weighted Low-Stress Bike Accessibility	**36**
Rank by Weighted Medium-Stress Bike Accessibility	**35**
Rank by Change in Low-Stress Bike Accessibility	**43**
Rank by Change in Medium-Stress Bike Accessibility	**39**
Rank by Total Employment	**25**
Total Jobs	**1,112,026**
Average Job Density (per mi^2)	**197**
Total Workers	**1,088,549**
Average Worker Density (per mi^2)	**192**

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

Biking Job Accessibility by Travel Time Threshold



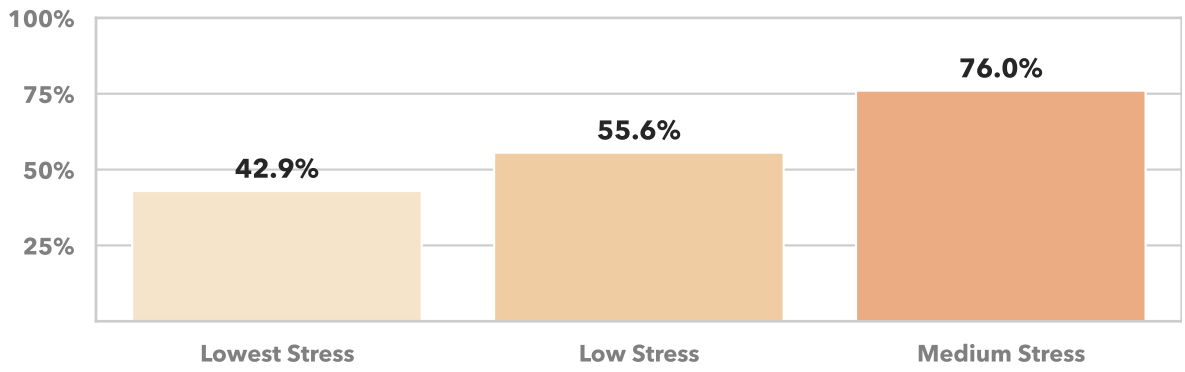
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Pittsburgh

Pittsburgh, PA

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Pittsburgh

Pittsburgh, PA

Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

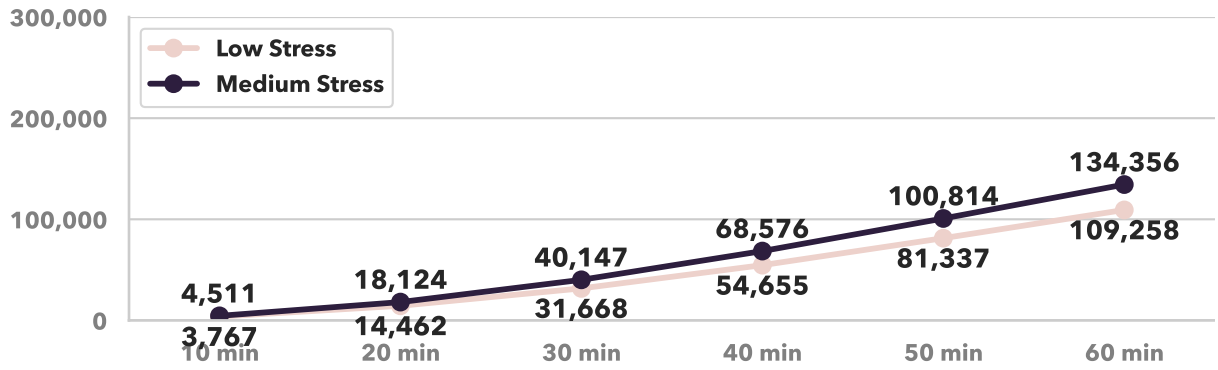
Portland

Portland-Vancouver-Hillsboro, OR-WA

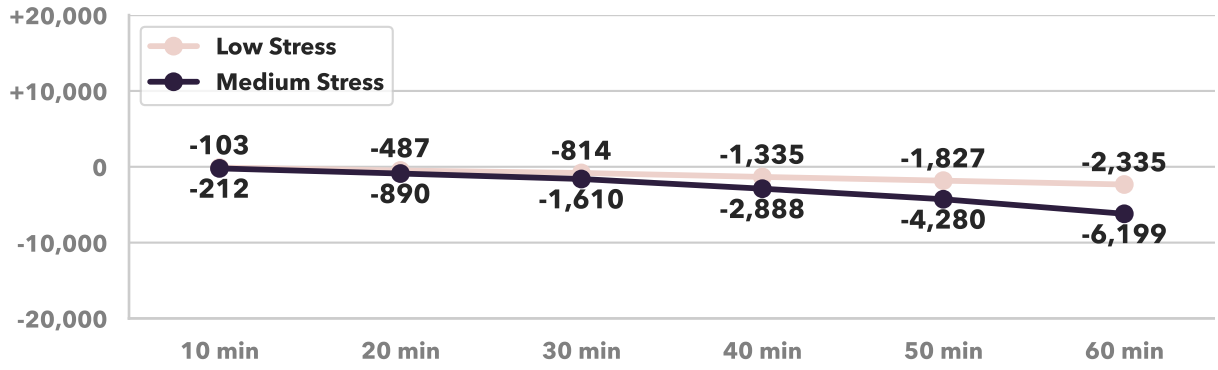
Rank by Weighted Low-Stress Bike Accessibility	**11**
Rank by Weighted Medium-Stress Bike Accessibility	**11**
Rank by Change in Low-Stress Bike Accessibility	**36**
Rank by Change in Medium-Stress Bike Accessibility	**43**
Rank by Total Employment	**24**
Total Jobs	**1,167,104**
Average Job Density (per mi^2)	**174**
Total Workers	**1,134,976**
Average Worker Density (per mi^2)	**169**

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

Biking Job Accessibility by Travel Time Threshold



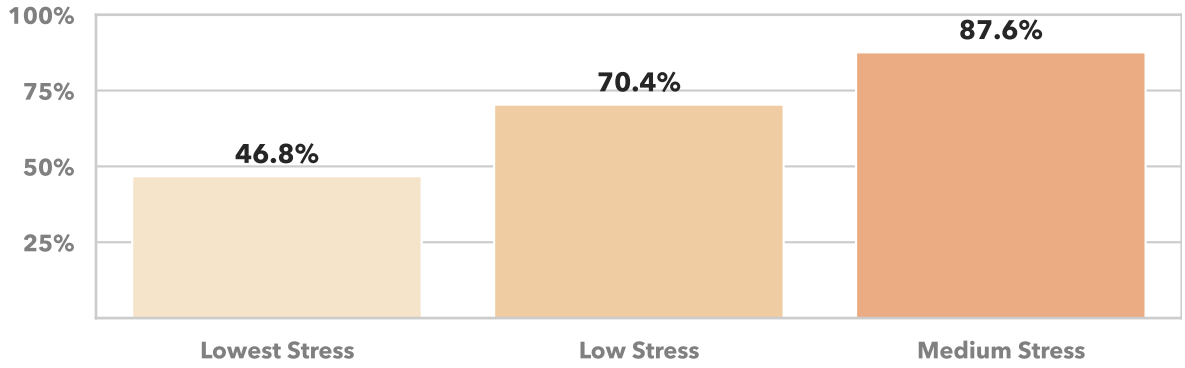
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Portland

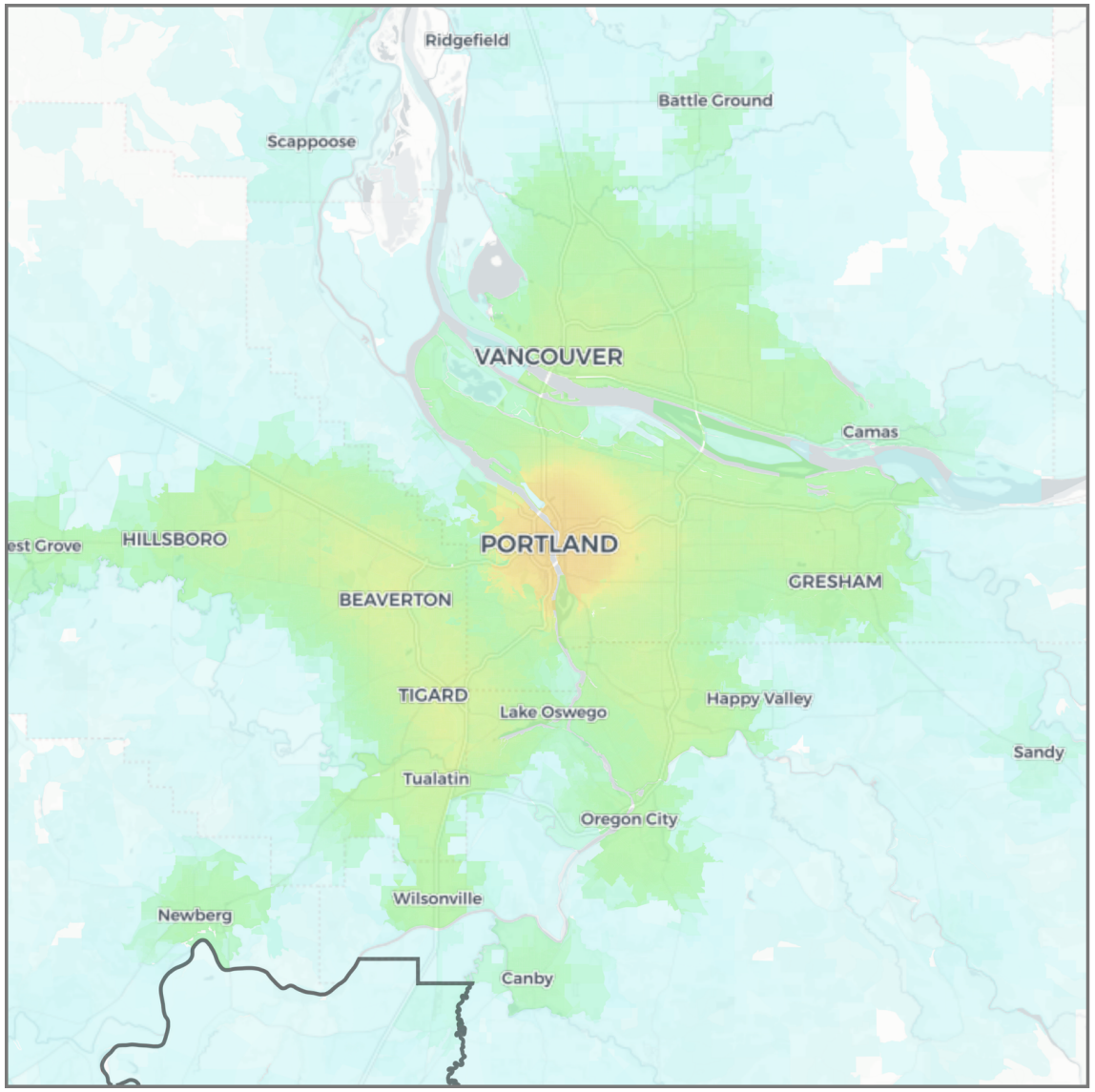
Portland-Vancouver-Hillsboro, OR-WA

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Portland

Portland-Vancouver-Hillsboro, OR-WA



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

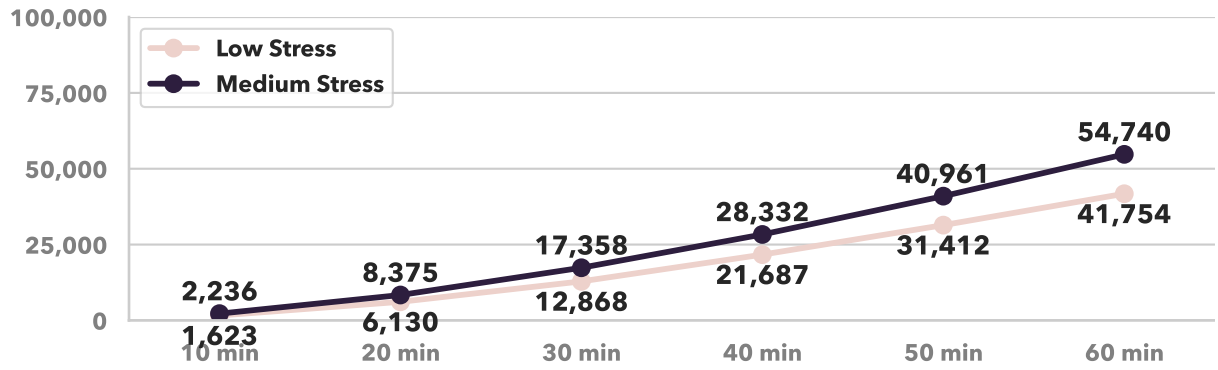
Providence

Providence-Warwick, RI-MA

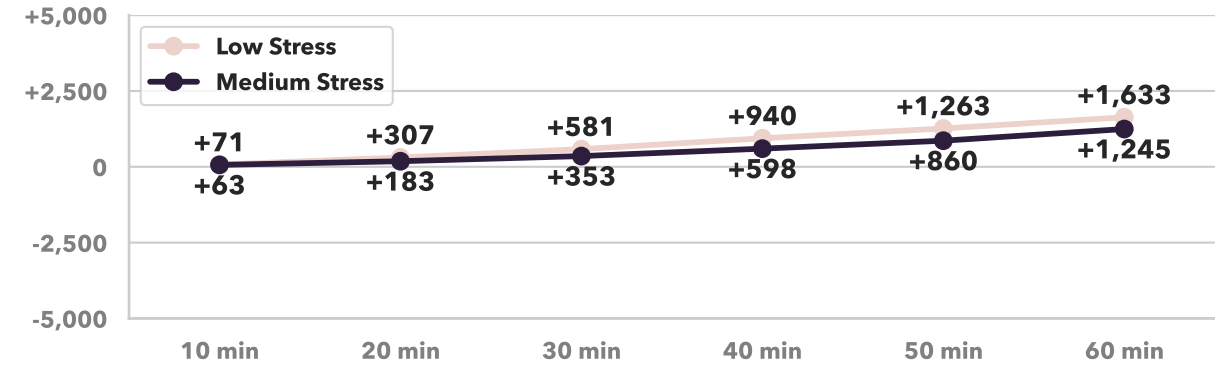
Rank by Weighted Low-Stress Bike Accessibility	**35**
Rank by Weighted Medium-Stress Bike Accessibility	**38**
Rank by Change in Low-Stress Bike Accessibility	**6**
Rank by Change in Medium-Stress Bike Accessibility	**9**
Rank by Total Employment	**37**
Total Jobs	**663,815**
Average Job Density (per mi^2)	**418**
Total Workers	**751,082**
Average Worker Density (per mi^2)	**473**

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

Biking Job Accessibility by Travel Time Threshold



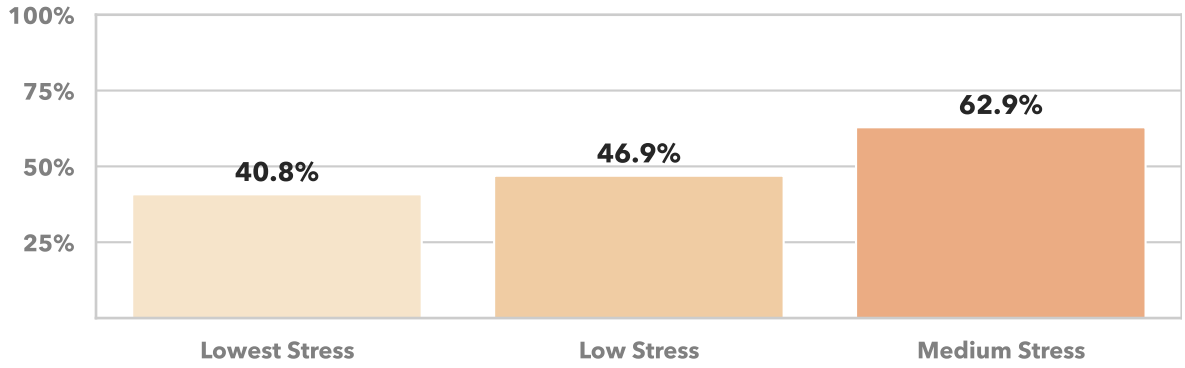
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Providence

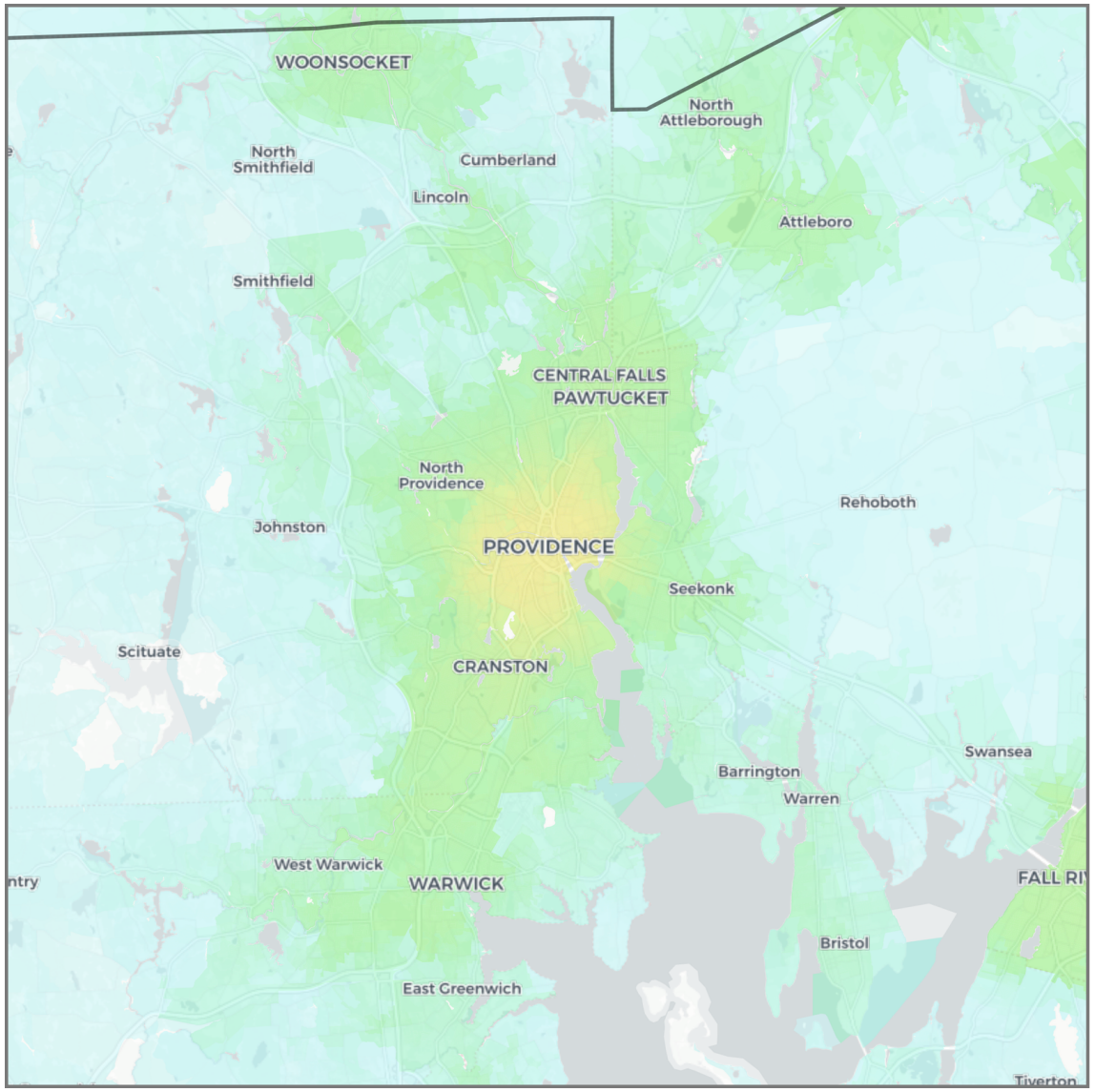
Providence-Warwick, RI-MA

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Providence

Providence-Warwick, RI-MA



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

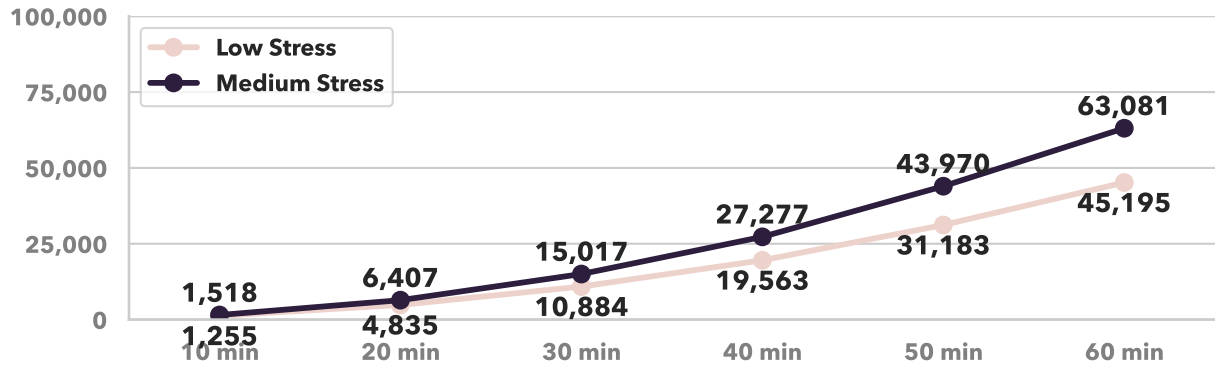
Raleigh

Raleigh-Cary, NC

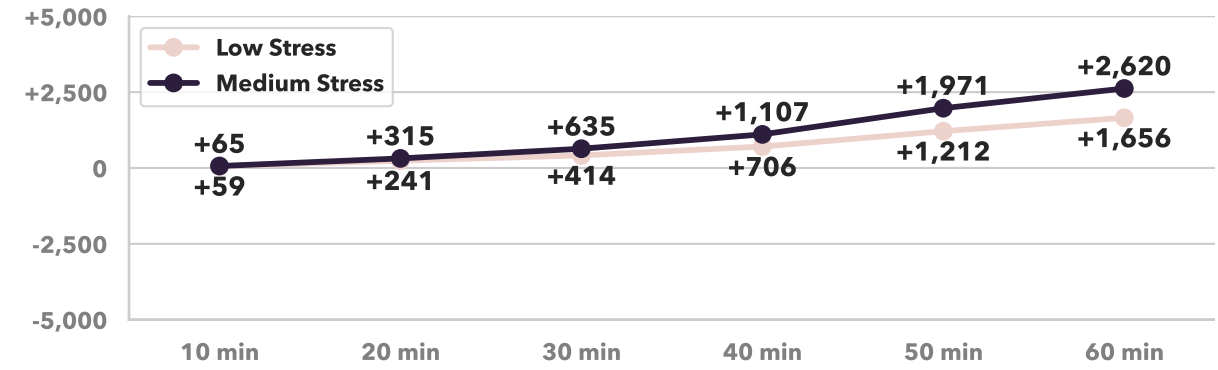
Rank by Weighted Low-Stress Bike Accessibility	**42**
Rank by Weighted Medium-Stress Bike Accessibility	**44**
Rank by Change in Low-Stress Bike Accessibility	**7**
Rank by Change in Medium-Stress Bike Accessibility	**4**
Rank by Total Employment	**41**
Total Jobs	**721,202**
Average Job Density (per mi^2)	**340**
Total Workers	**658,762**
Average Worker Density (per mi^2)	**311**

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

Biking Job Accessibility by Travel Time Threshold



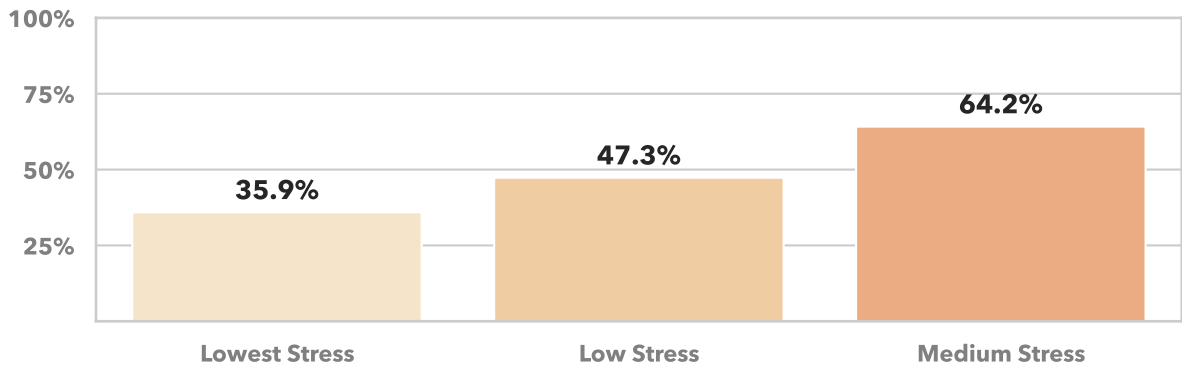
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Raleigh

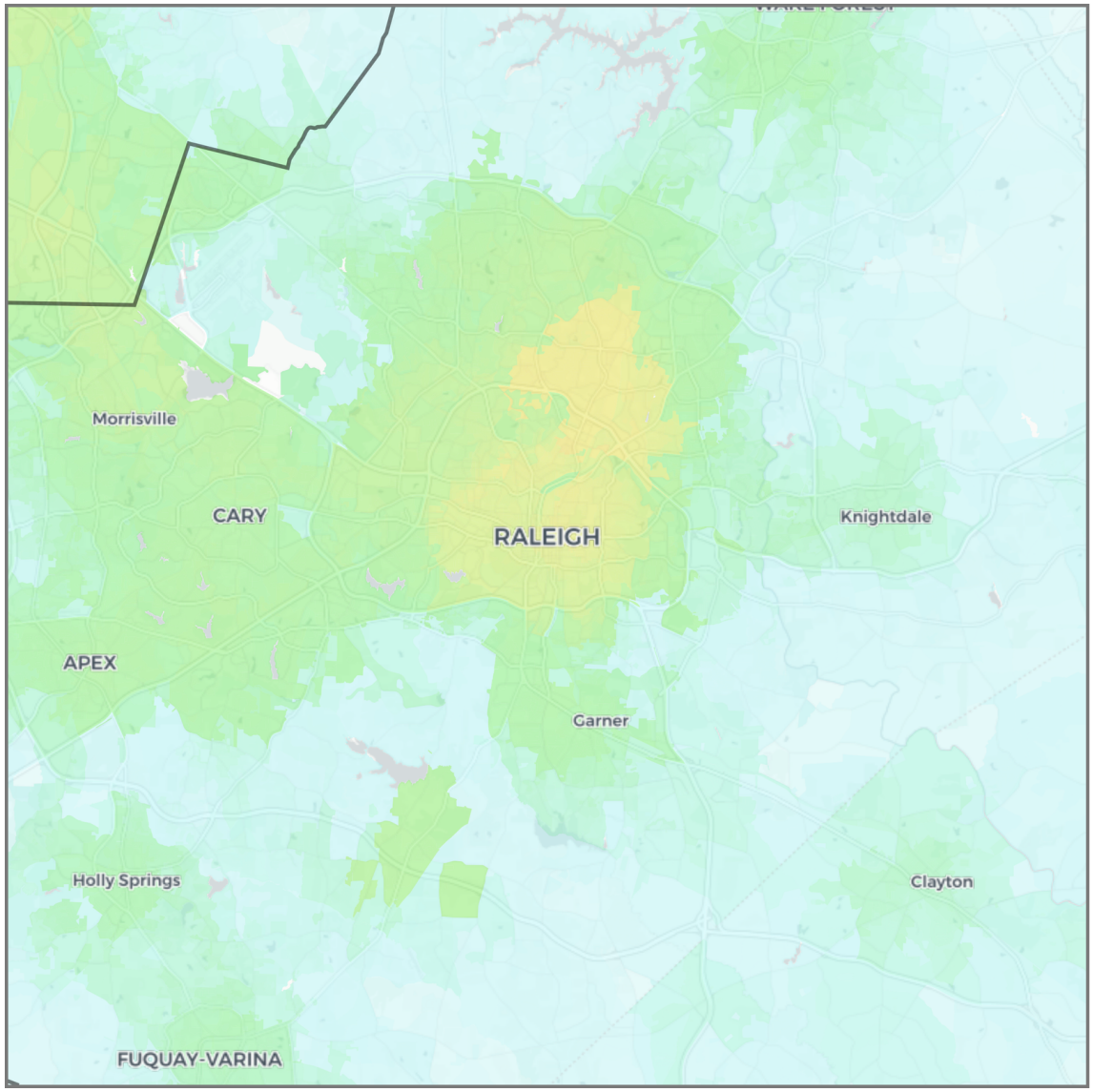
Raleigh-Cary, NC

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Raleigh

Raleigh-Cary, NC



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

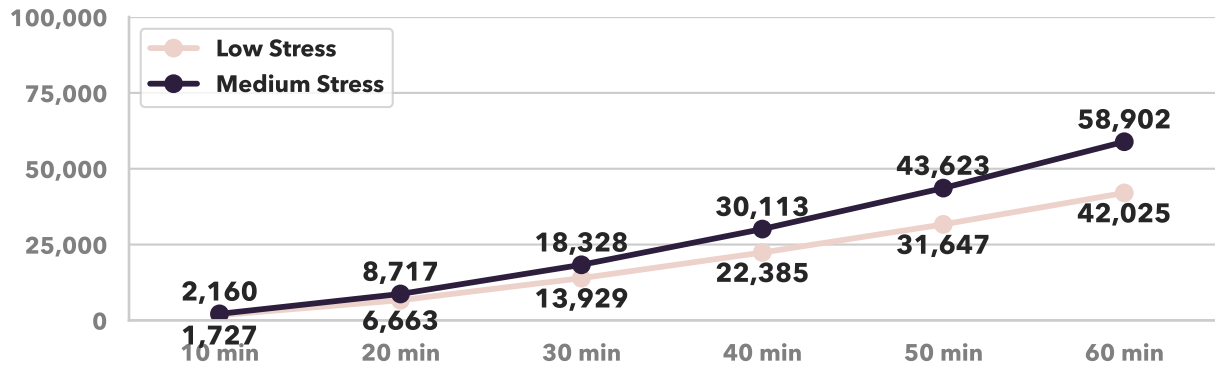
Richmond

Richmond, VA

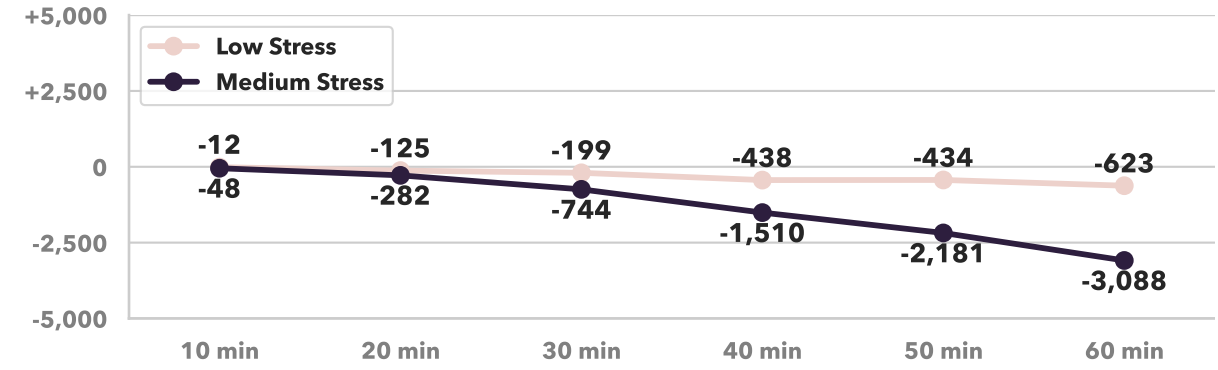
Rank by Weighted Low-Stress Bike Accessibility	**31**
Rank by Weighted Medium-Stress Bike Accessibility	**33**
Rank by Change in Low-Stress Bike Accessibility	**34**
Rank by Change in Medium-Stress Bike Accessibility	**42**
Rank by Total Employment	**44**
Total Jobs	**639,597**
Average Job Density (per mi^2)	**146**
Total Workers	**597,817**
Average Worker Density (per mi^2)	**136**

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

Biking Job Accessibility by Travel Time Threshold



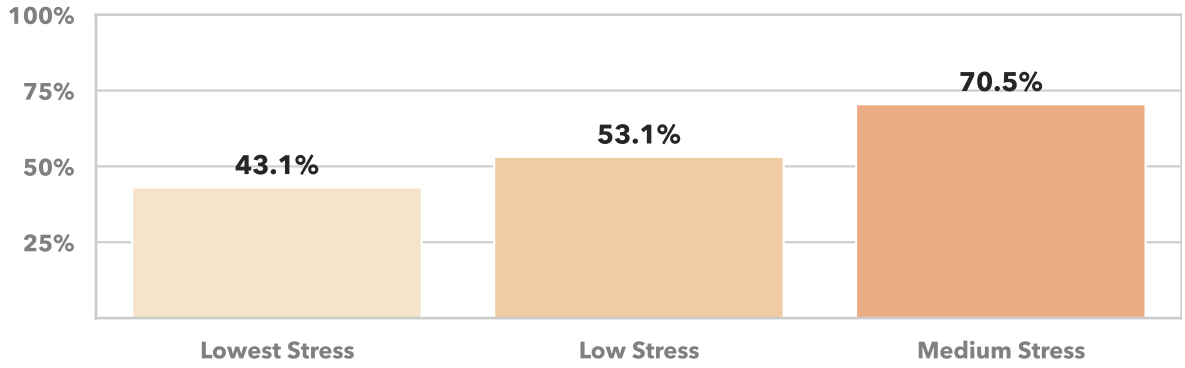
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Richmond

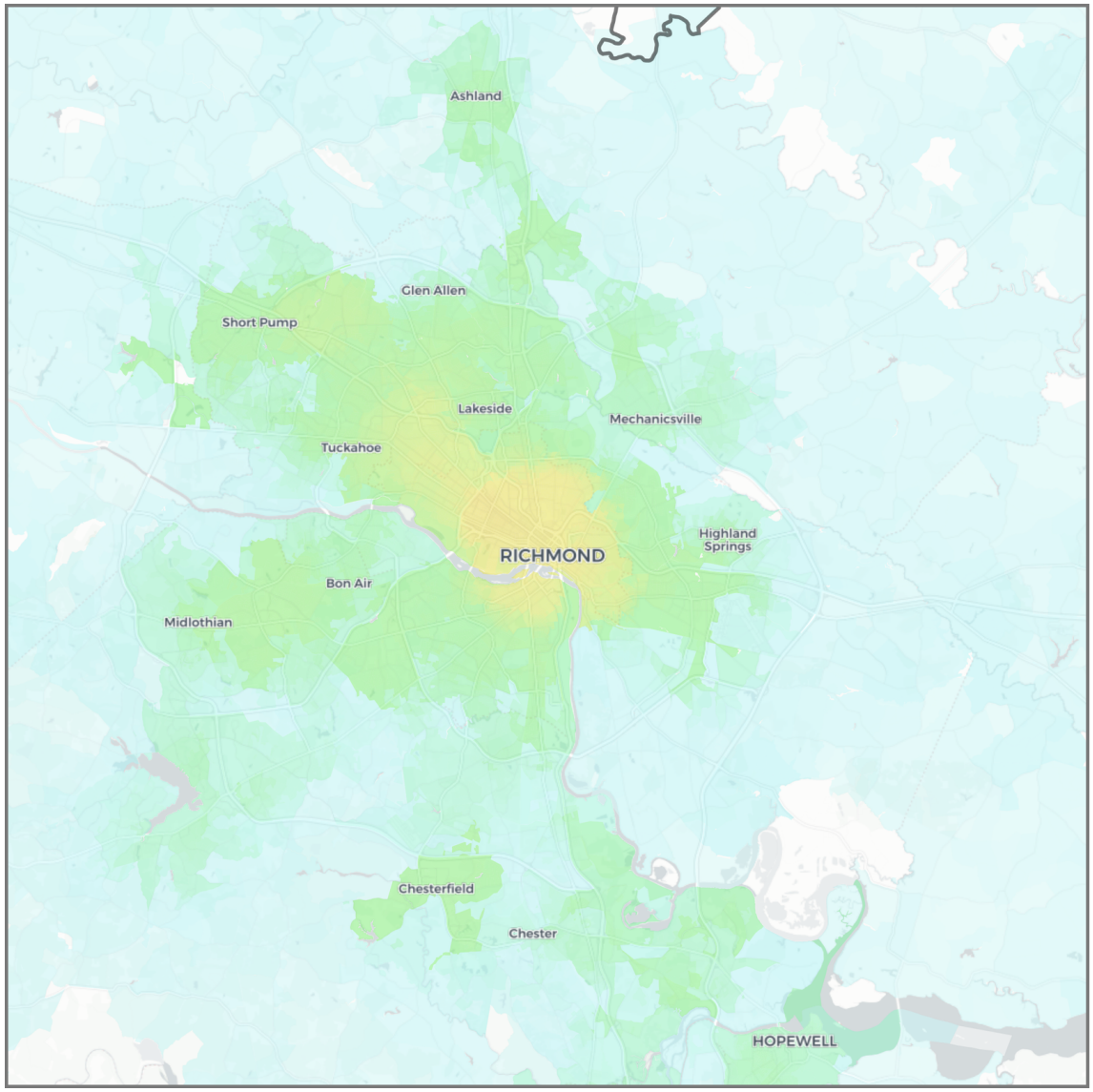
Richmond, VA

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Richmond

Richmond, VA



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

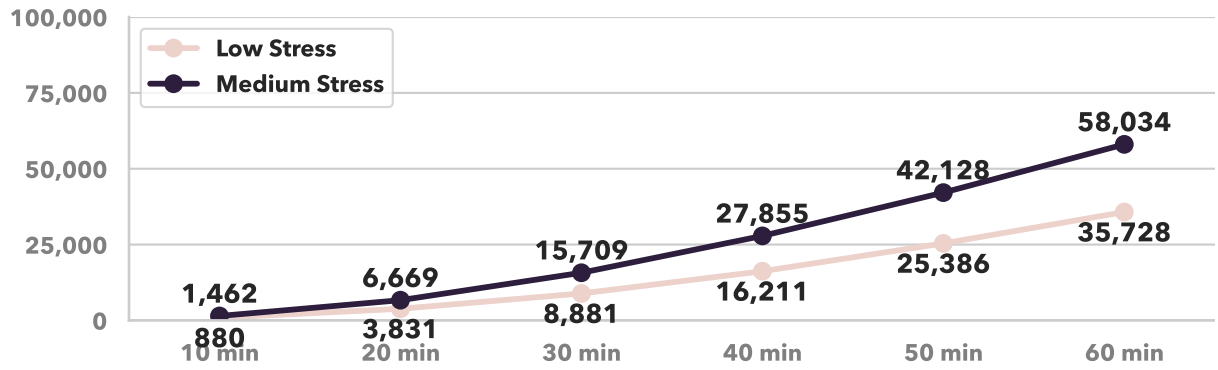
Riverside

Riverside-San Bernardino-Ontario, CA

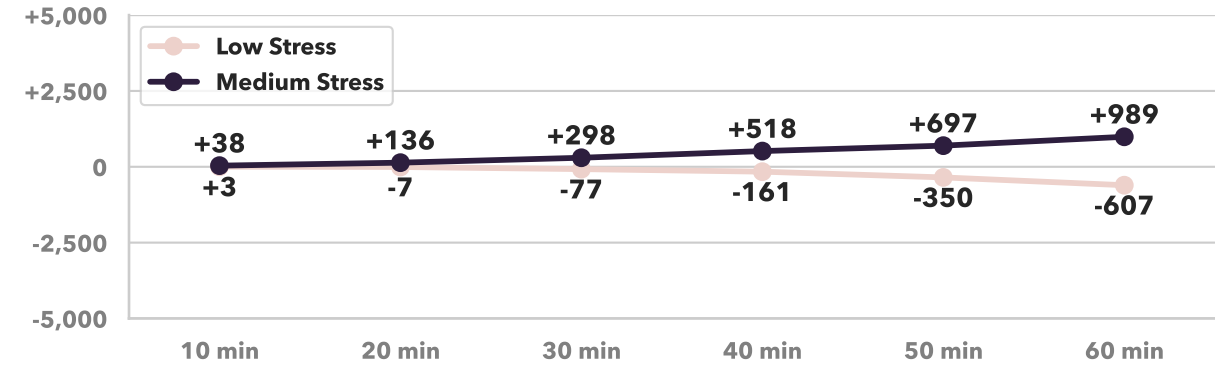
Rank by Weighted Low-Stress Bike Accessibility	**46**
Rank by Weighted Medium-Stress Bike Accessibility	**43**
Rank by Change in Low-Stress Bike Accessibility	**27**
Rank by Change in Medium-Stress Bike Accessibility	**11**
Rank by Total Employment	**13**
Total Jobs	**1,525,320**
Average Job Density (per mi^2)	**55**
Total Workers	**1,831,482**
Average Worker Density (per mi^2)	**67**

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

Biking Job Accessibility by Travel Time Threshold



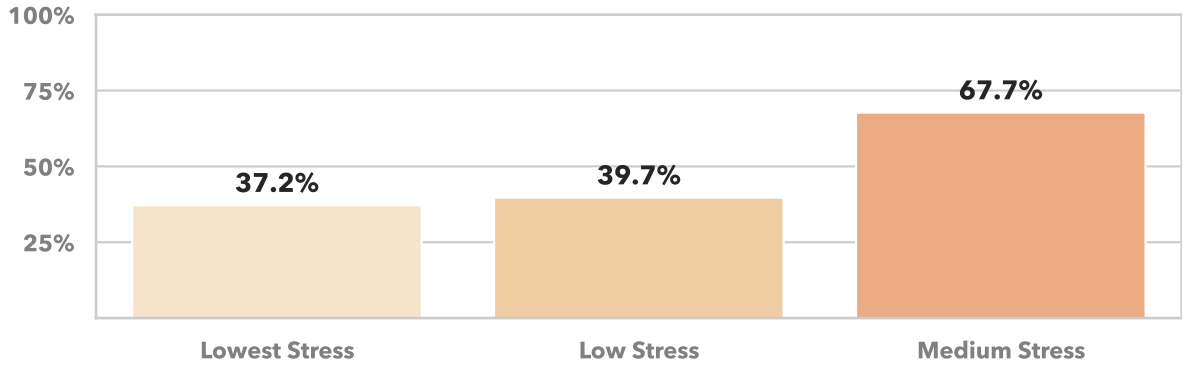
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Riverside

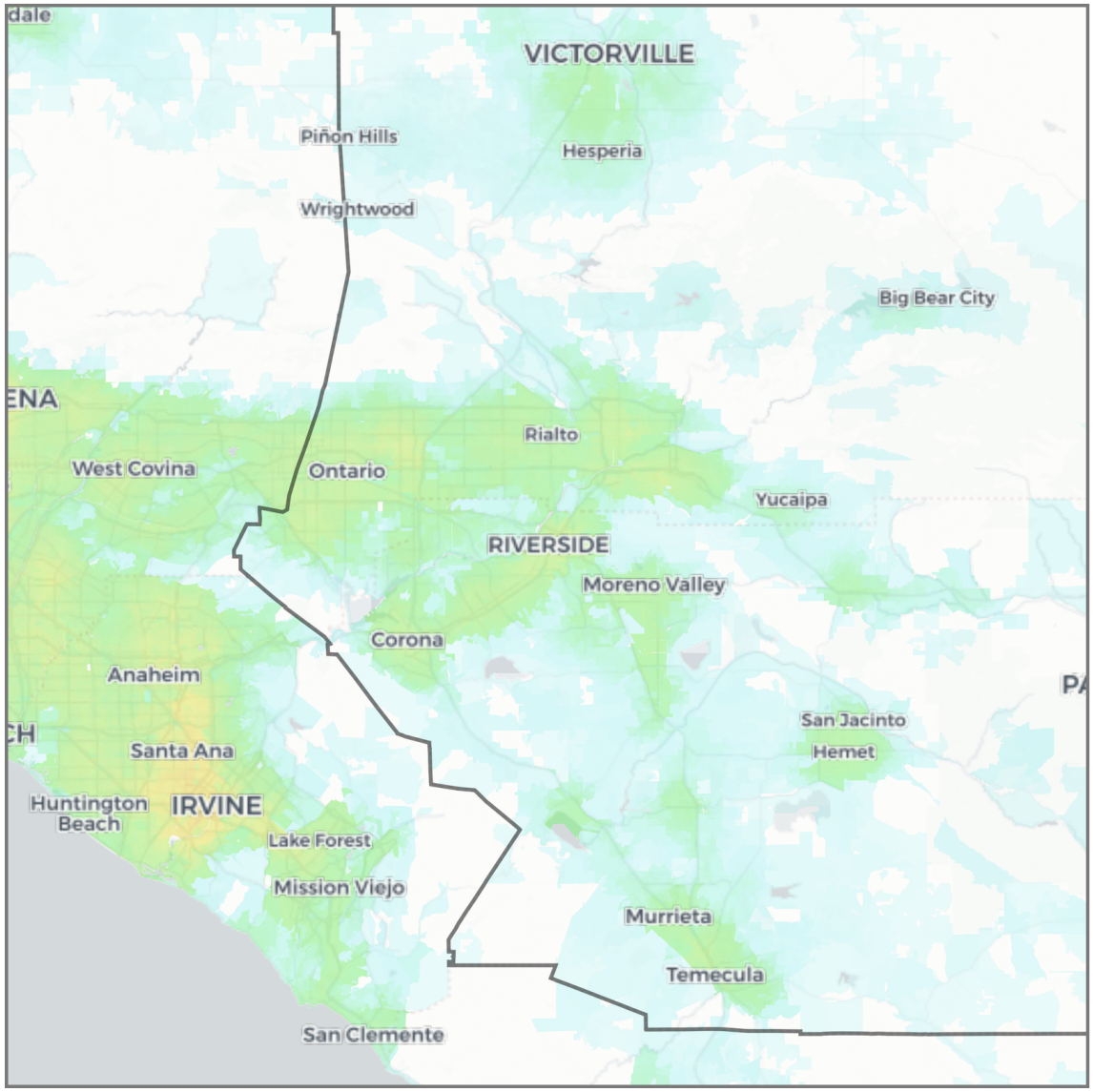
Riverside-San Bernardino-Ontario, CA

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Riverside

Riverside-San Bernardino-Ontario, CA



Jobs within 30 minutes
(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border
CBSA boundary

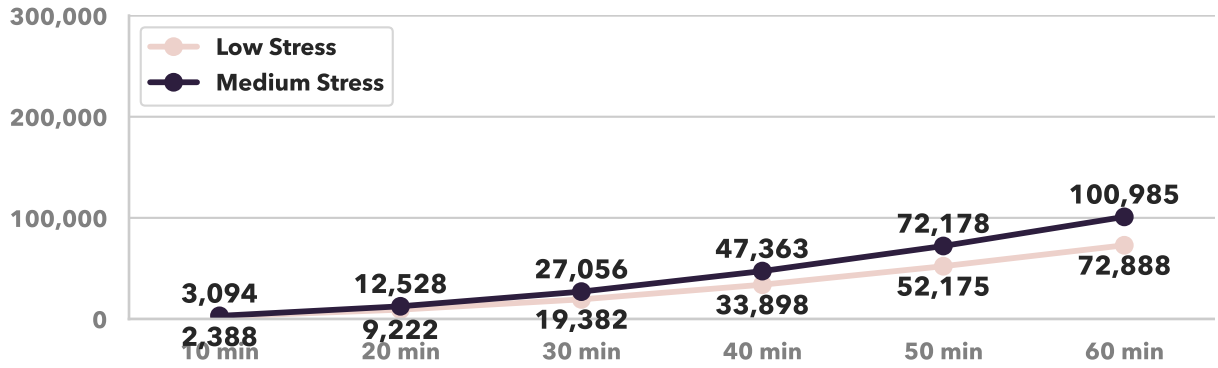
Sacramento

Sacramento-Roseville-Folsom, CA

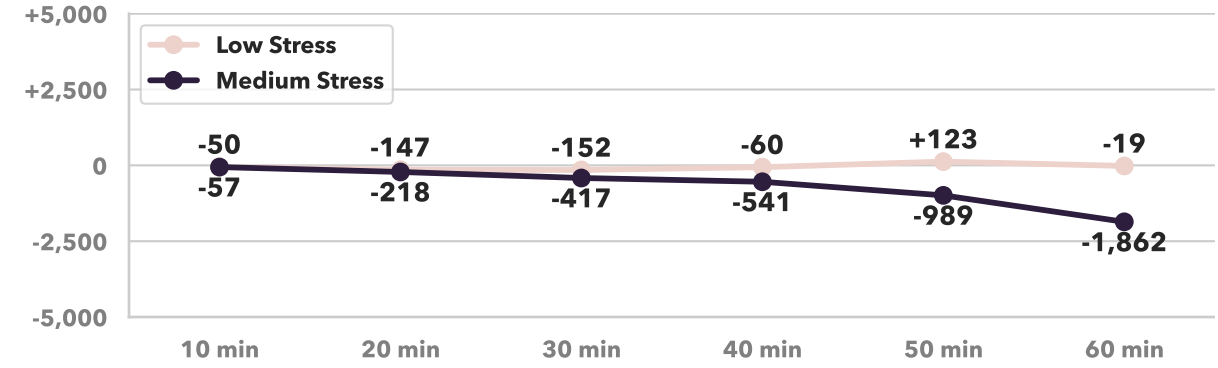
Rank by Weighted Low-Stress Bike Accessibility	**19**
Rank by Weighted Medium-Stress Bike Accessibility	**19**
Rank by Change in Low-Stress Bike Accessibility	**28**
Rank by Change in Medium-Stress Bike Accessibility	**31**
Rank by Total Employment	**30**
Total Jobs	**1,001,651**
Average Job Density (per mi^2)	**196**
Total Workers	**998,088**
Average Worker Density (per mi^2)	**195**

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

Biking Job Accessibility by Travel Time Threshold



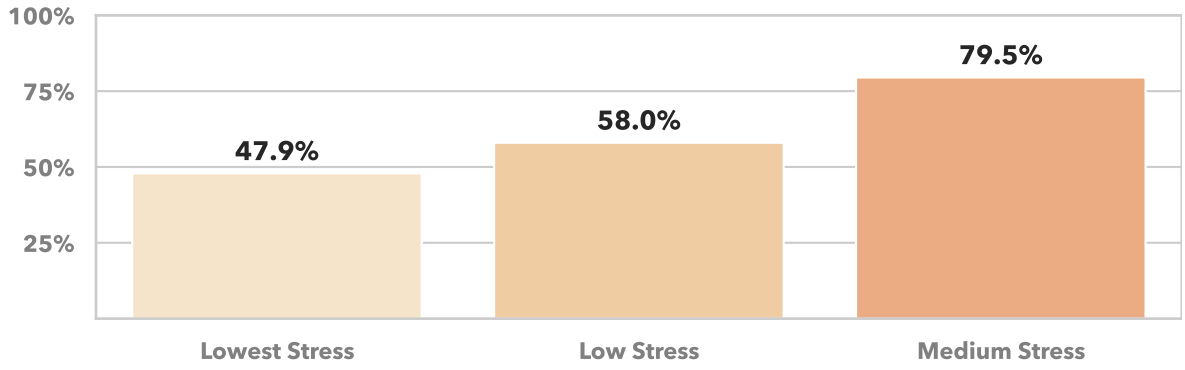
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Sacramento

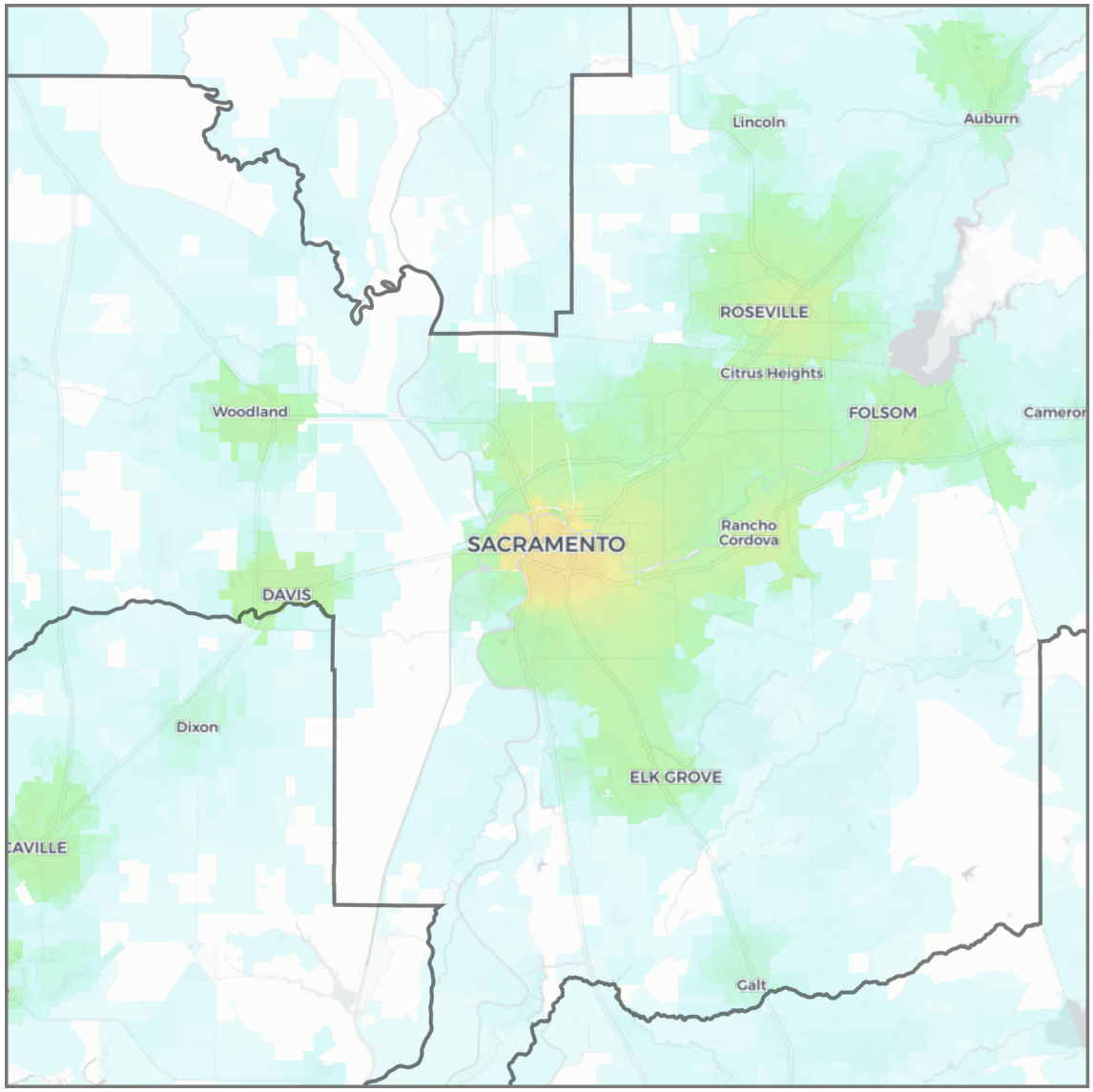
Sacramento-Roseville-Folsom, CA

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Sacramento

Sacramento-Roseville-Folsom, CA



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

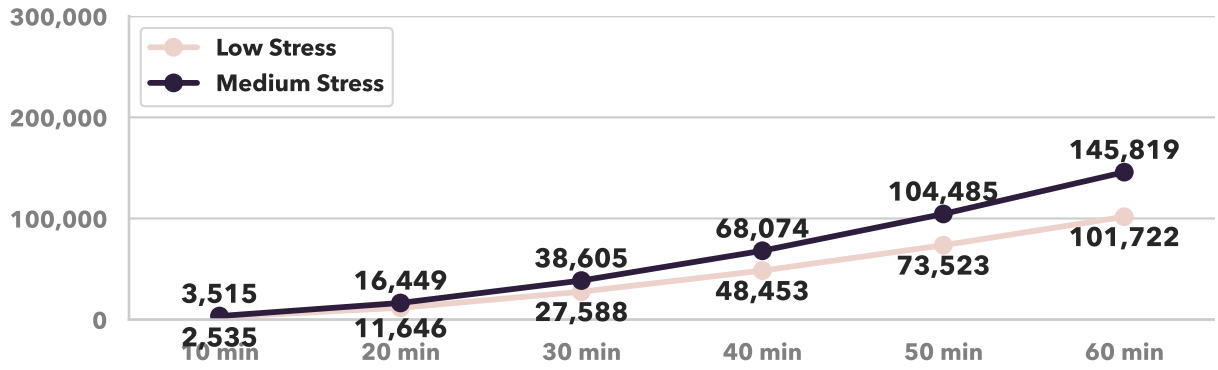
Salt Lake City

Salt Lake City-Murray, UT

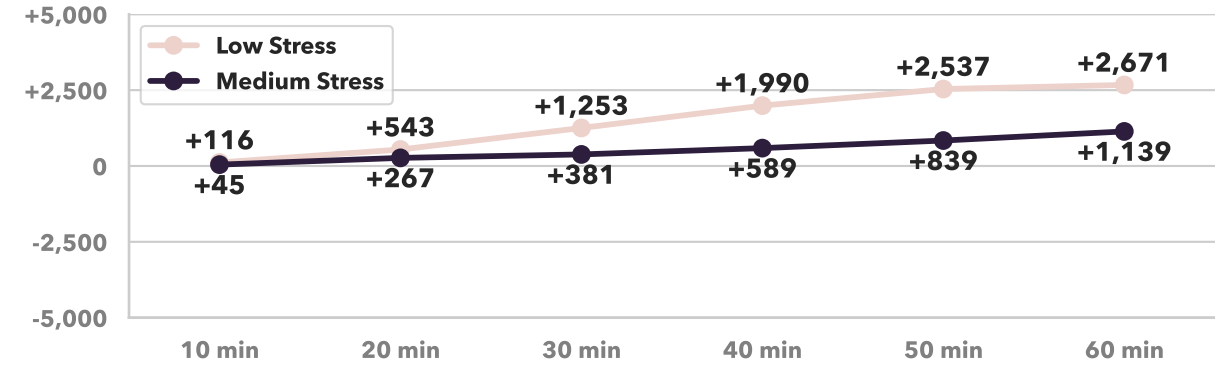
Rank by Weighted Low-Stress Bike Accessibility	**14**
Rank by Weighted Medium-Stress Bike Accessibility	**13**
Rank by Change in Low-Stress Bike Accessibility	**8**
Rank by Change in Medium-Stress Bike Accessibility	**16**
Rank by Total Employment	**42**
Total Jobs	**746,005**
Average Job Density (per mi^2)	**95**
Total Workers	**622,744**
Average Worker Density (per mi^2)	**79**

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

Biking Job Accessibility by Travel Time Threshold



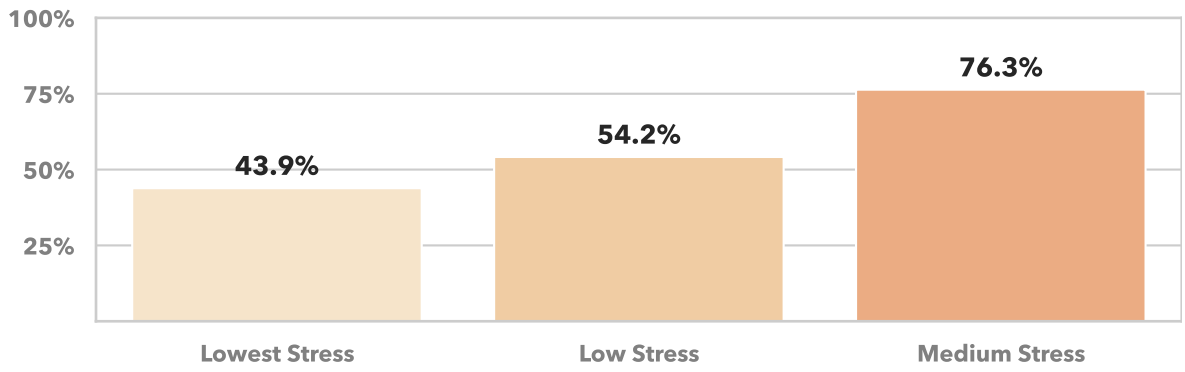
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Salt Lake City

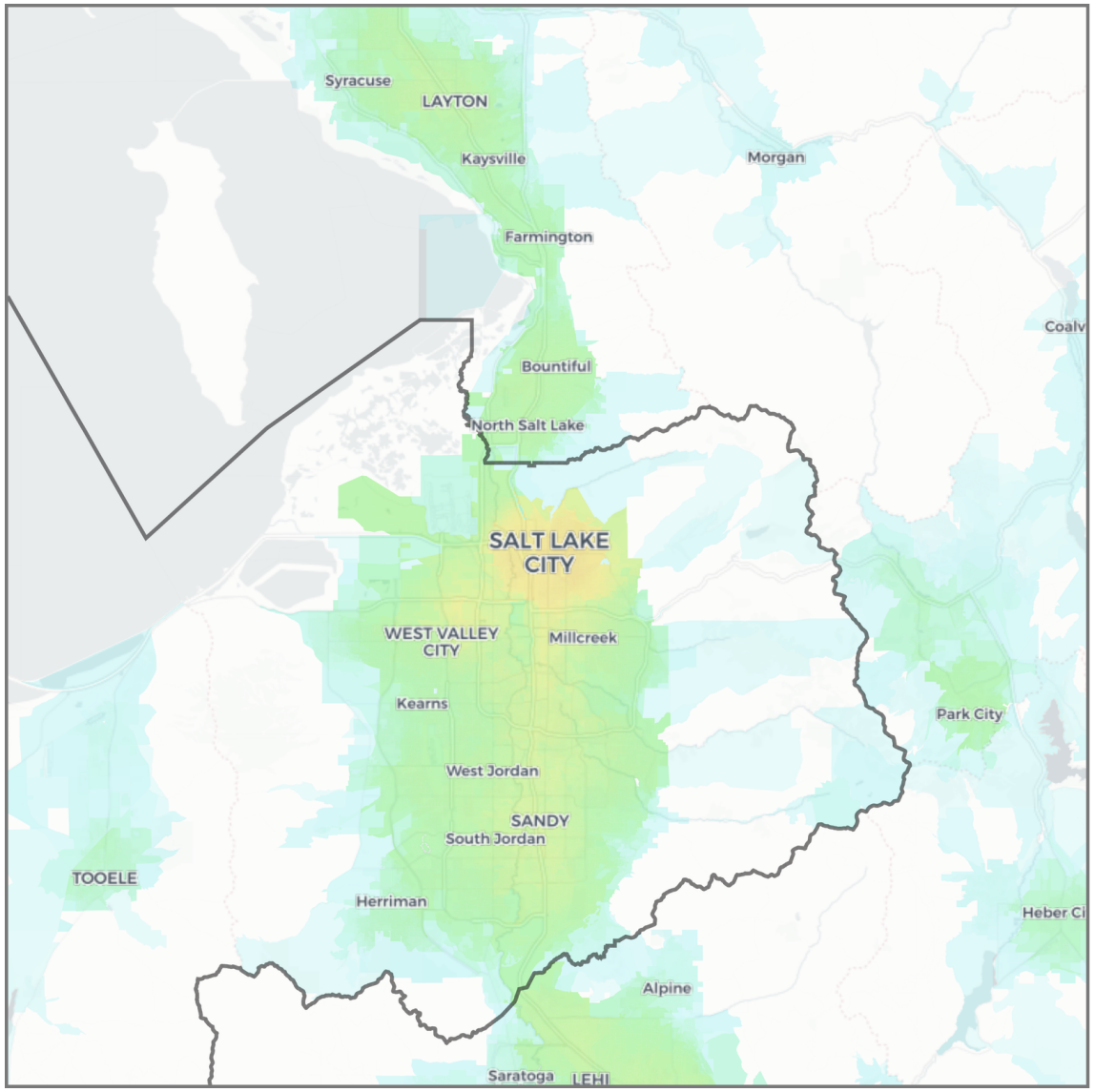
Salt Lake City-Murray, UT

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Salt Lake City

Salt Lake City-Murray, UT



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

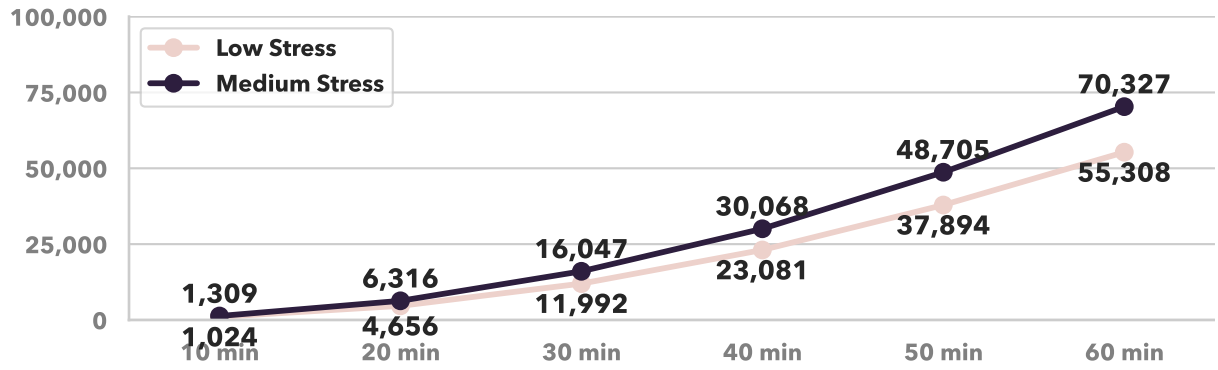
San Antonio

San Antonio-New Braunfels, TX

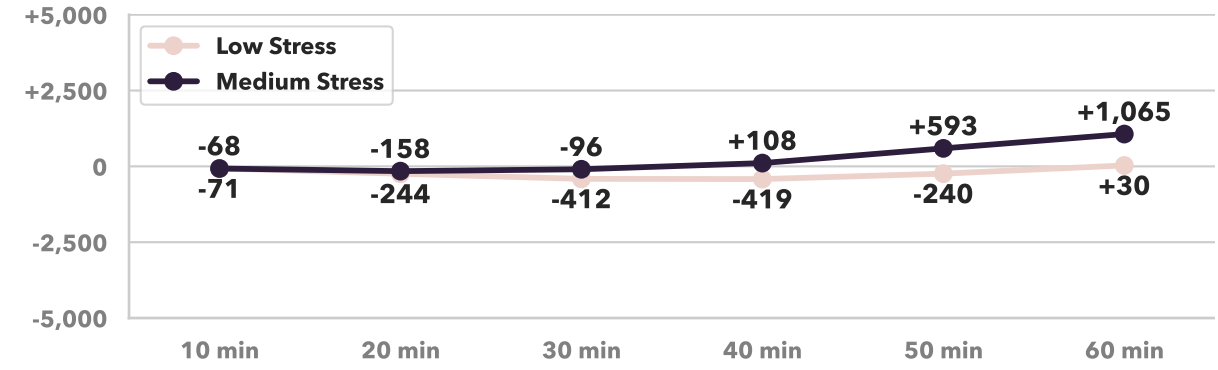
Rank by Weighted Low-Stress Bike Accessibility	**39**
Rank by Weighted Medium-Stress Bike Accessibility	**40**
Rank by Change in Low-Stress Bike Accessibility	**37**
Rank by Change in Medium-Stress Bike Accessibility	**23**
Rank by Total Employment	**27**
Total Jobs	**1,024,690**
Average Job Density (per mi^2)	**140**
Total Workers	**1,054,574**
Average Worker Density (per mi^2)	**144**

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

Biking Job Accessibility by Travel Time Threshold



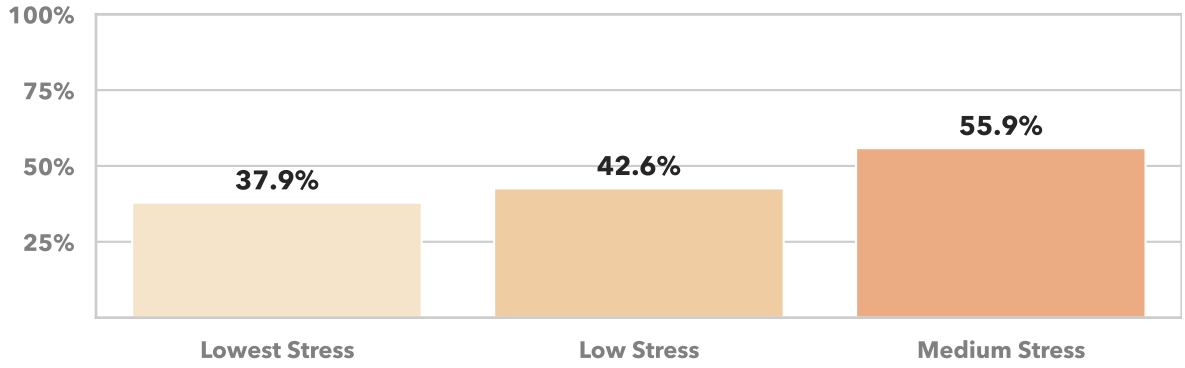
1-Year Change in Biking Job Accessibility by Travel Time Threshold



San Antonio

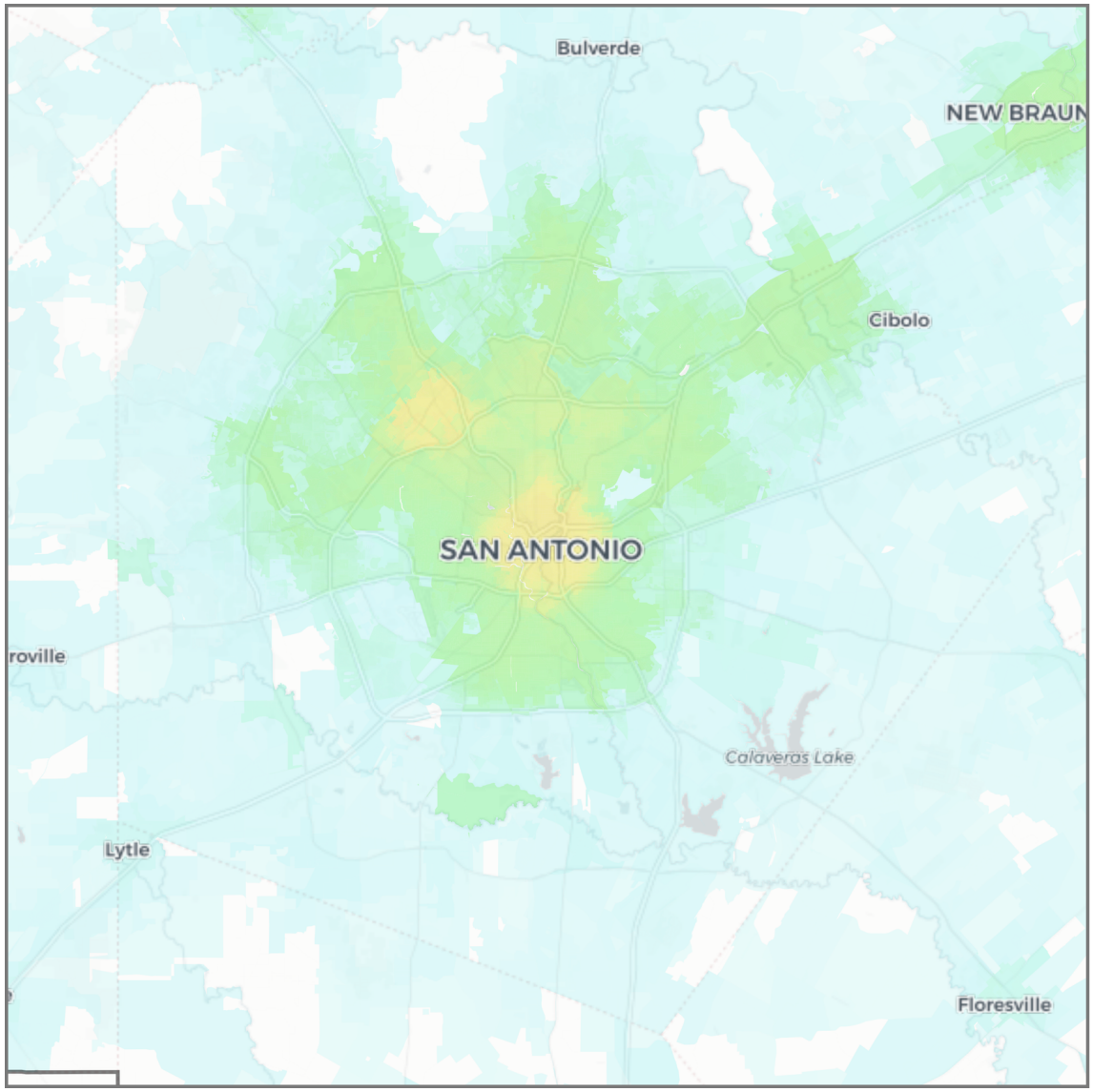
San Antonio-New Braunfels, TX

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



San Antonio

San Antonio-New Braunfels, TX



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

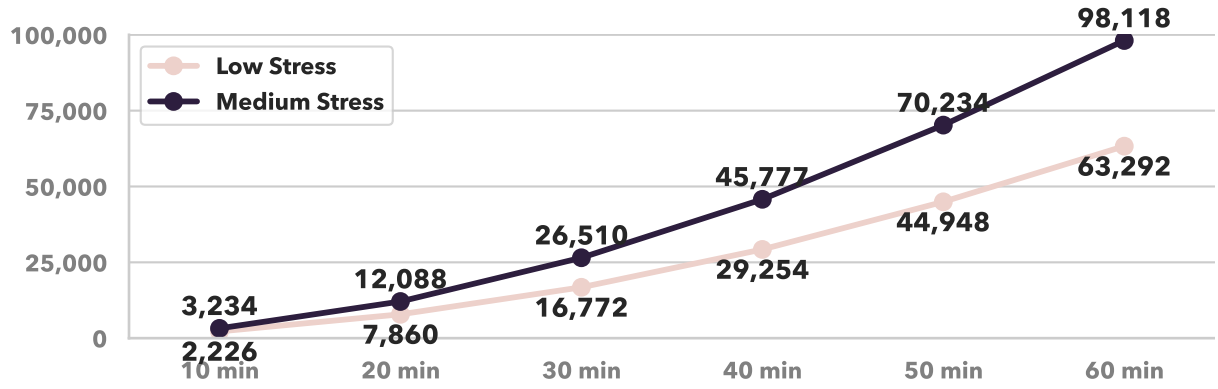
San Diego

San Diego-Chula Vista-Carlsbad, CA

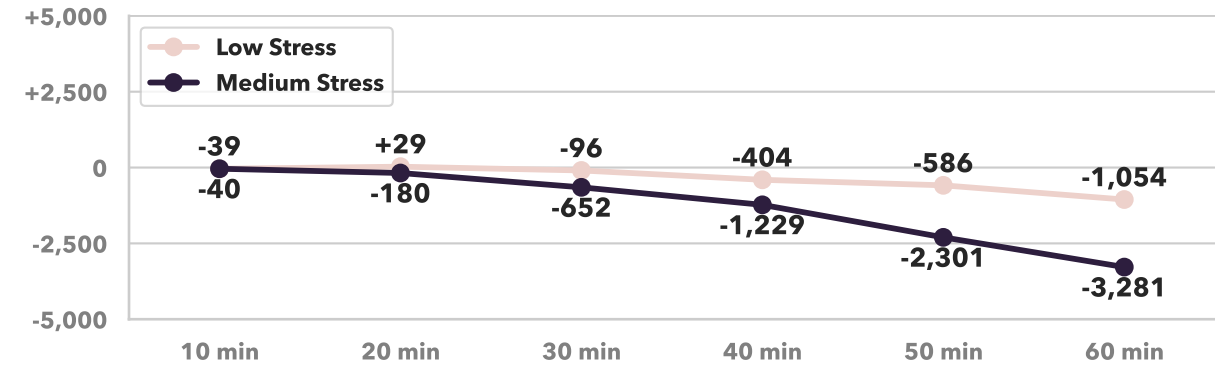
Rank by Weighted Low-Stress Bike Accessibility	**21**
Rank by Weighted Medium-Stress Bike Accessibility	**20**
Rank by Change in Low-Stress Bike Accessibility	**29**
Rank by Change in Medium-Stress Bike Accessibility	**35**
Rank by Total Employment	**18**
Total Jobs	**1,380,806**
Average Job Density (per mi^2)	**327**
Total Workers	**1,395,105**
Average Worker Density (per mi^2)	**331**

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

Biking Job Accessibility by Travel Time Threshold



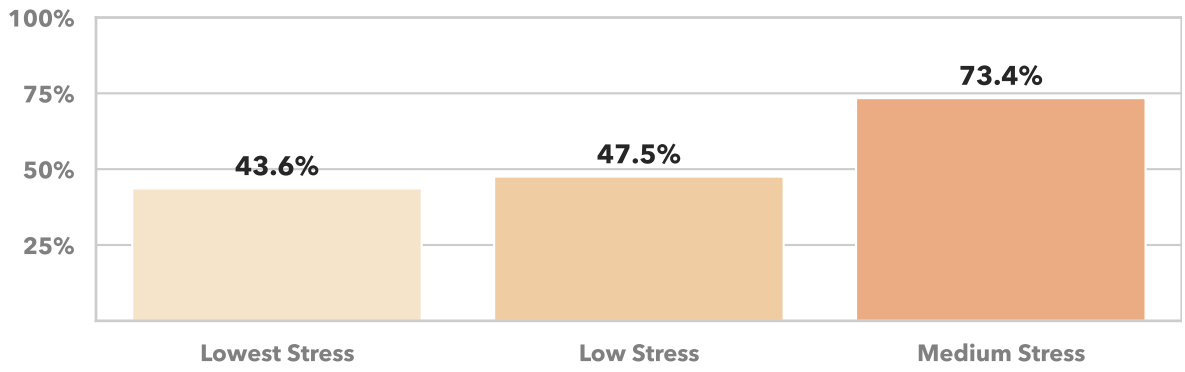
1-Year Change in Biking Job Accessibility by Travel Time Threshold



San Diego

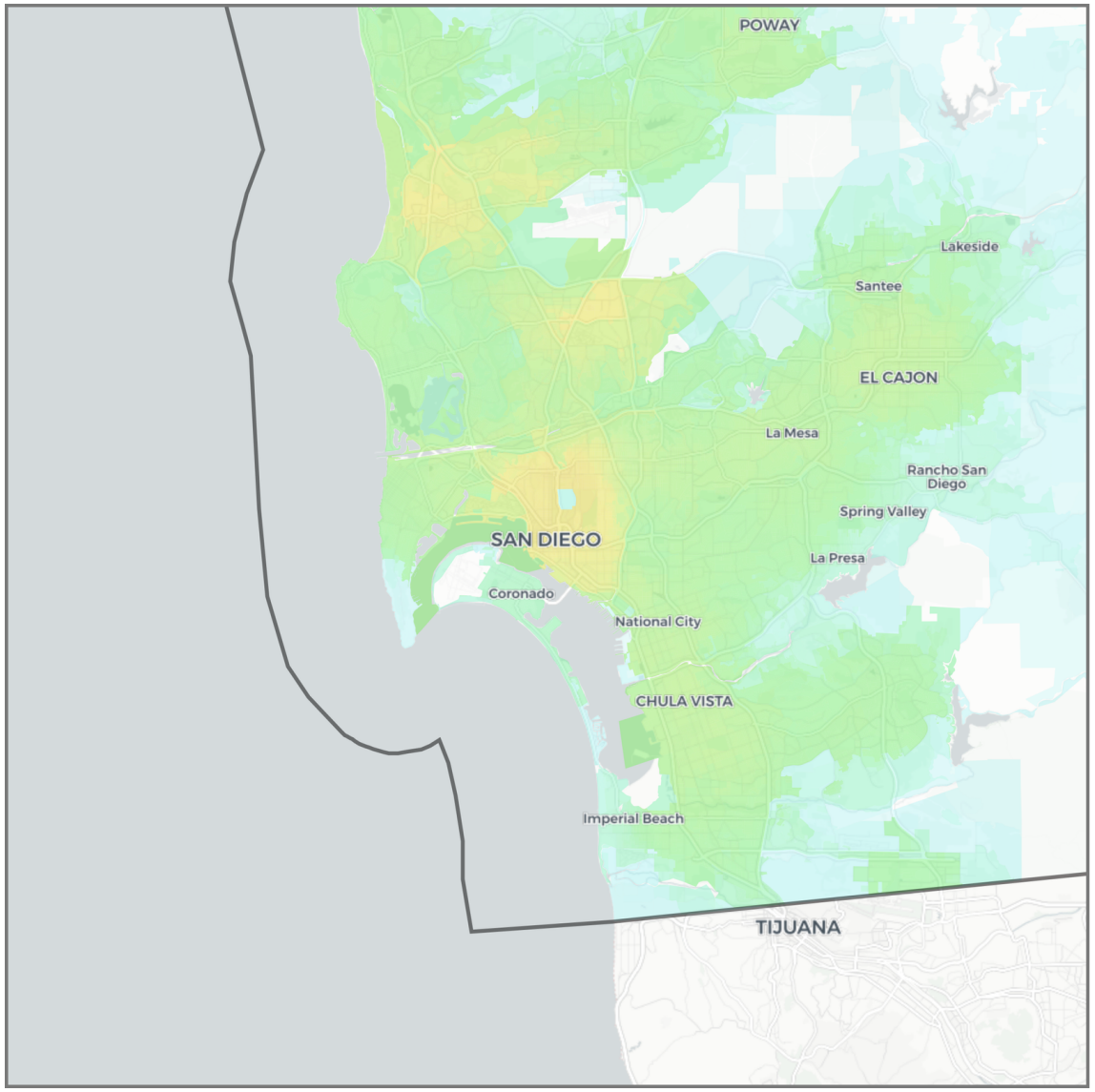
San Diego-Chula Vista-Carlsbad, CA

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



San Diego

San Diego-Chula Vista-Carlsbad, CA



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

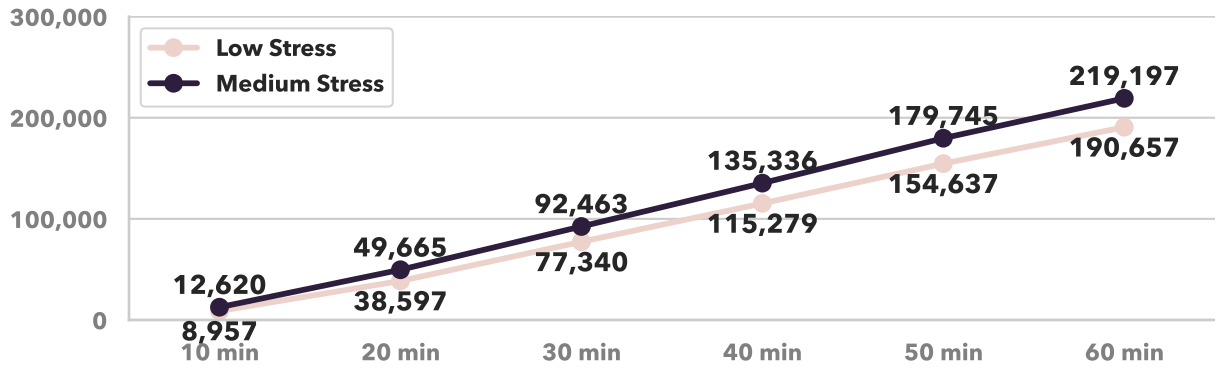
San Francisco

San Francisco-Oakland-Fremont, CA

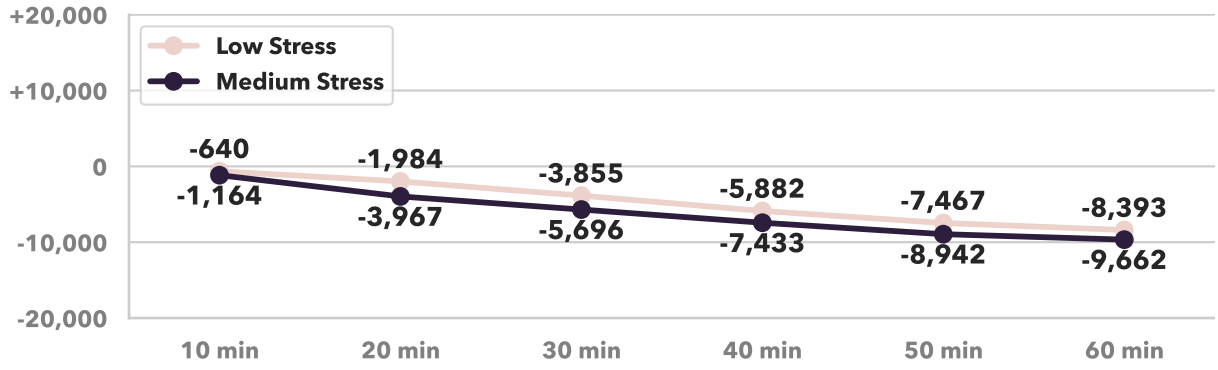
Rank by Weighted Low-Stress Bike Accessibility	**2**
Rank by Weighted Medium-Stress Bike Accessibility	**2**
Rank by Change in Low-Stress Bike Accessibility	**44**
Rank by Change in Medium-Stress Bike Accessibility	**47**
Rank by Total Employment	**12**
Total Jobs	**2,310,616**
Average Job Density (per mi^2)	**935**
Total Workers	**2,104,929**
Average Worker Density (per mi^2)	**852**

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

Biking Job Accessibility by Travel Time Threshold



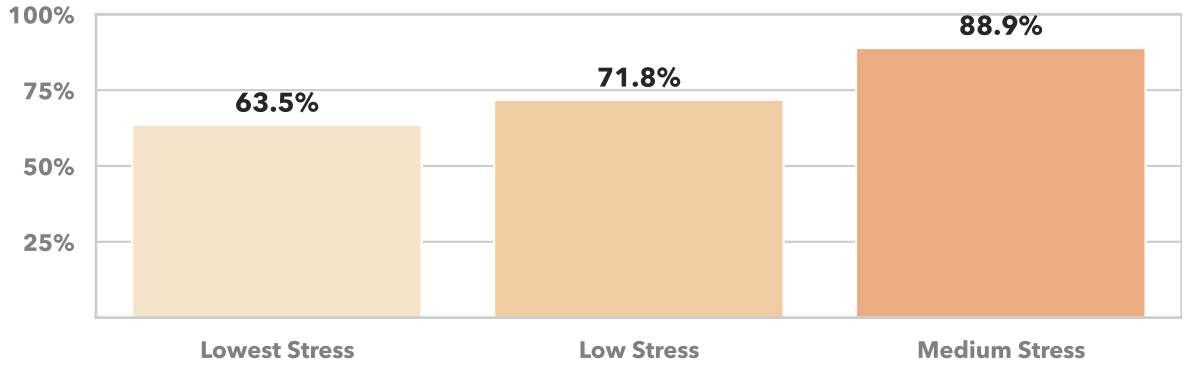
1-Year Change in Biking Job Accessibility by Travel Time Threshold



San Francisco

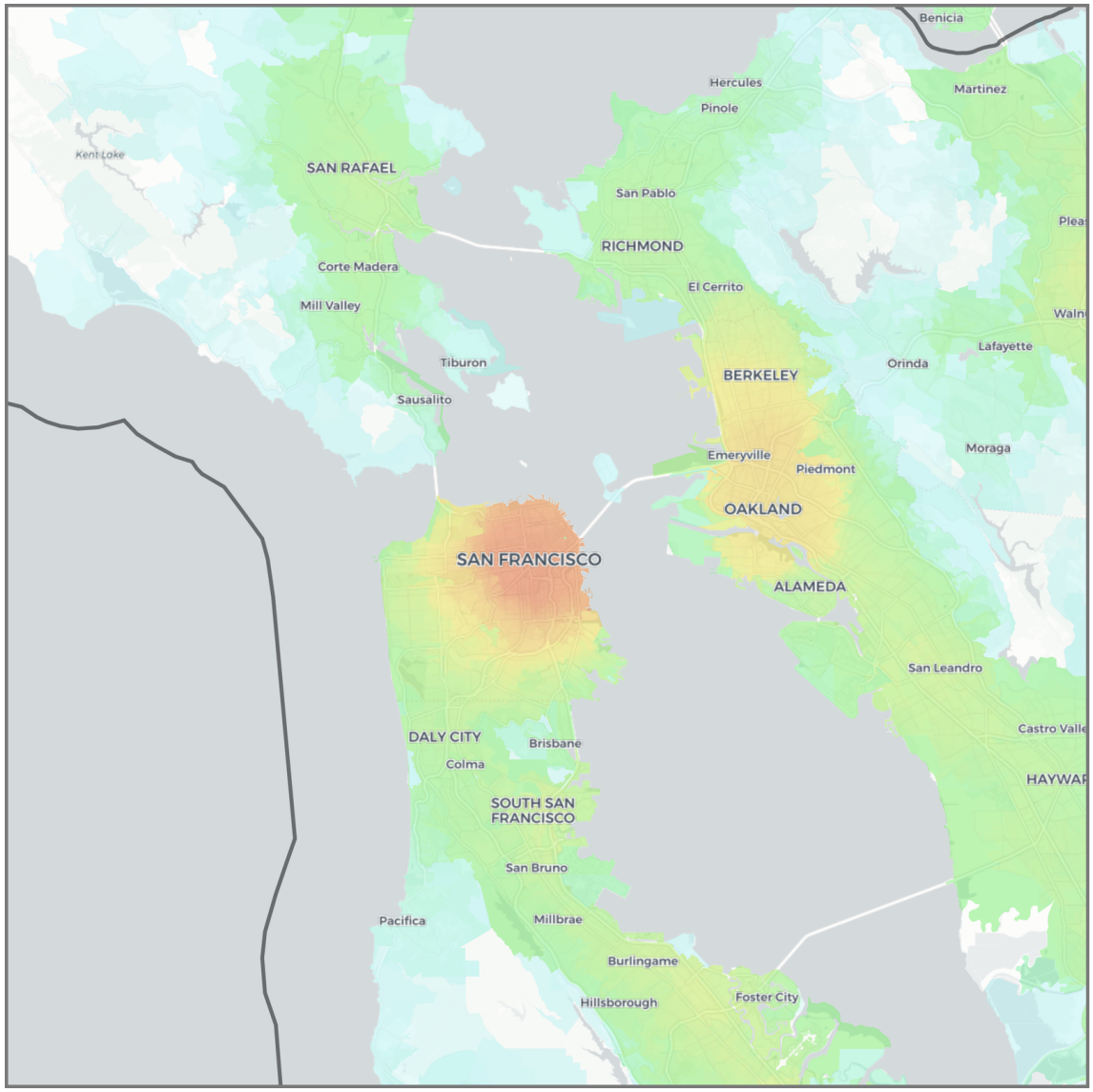
San Francisco-Oakland-Fremont, CA

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



San Francisco

San Francisco-Oakland-Fremont, CA



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

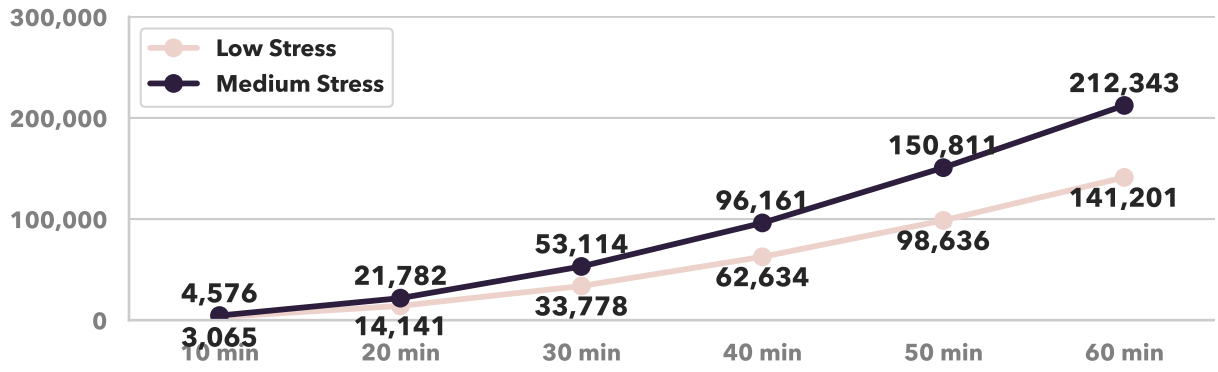
San Jose

San Jose-Sunnyvale-Santa Clara, CA

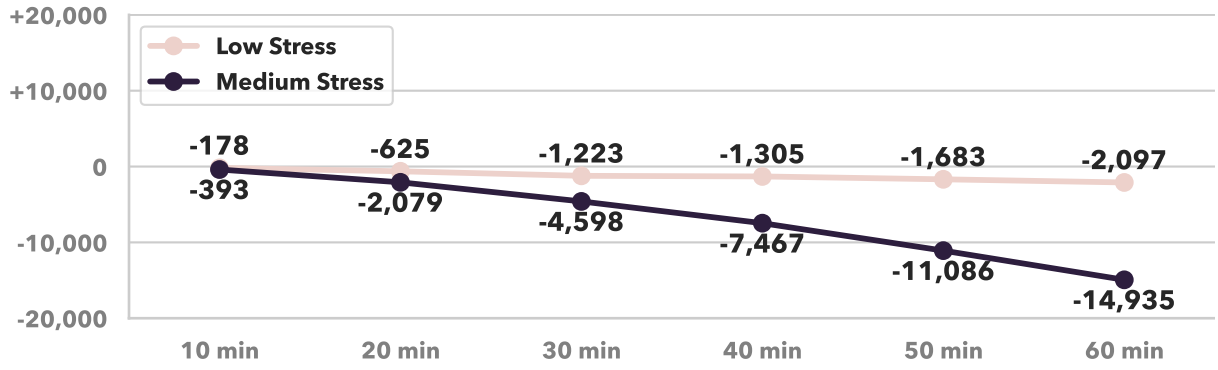
Rank by Weighted Low-Stress Bike Accessibility	**10**
Rank by Weighted Medium-Stress Bike Accessibility	**8**
Rank by Change in Low-Stress Bike Accessibility	**39**
Rank by Change in Medium-Stress Bike Accessibility	**48**
Rank by Total Employment	**35**
Total Jobs	**1,074,973**
Average Job Density (per mi^2)	**401**
Total Workers	**924,305**
Average Worker Density (per mi^2)	**344**

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

Biking Job Accessibility by Travel Time Threshold



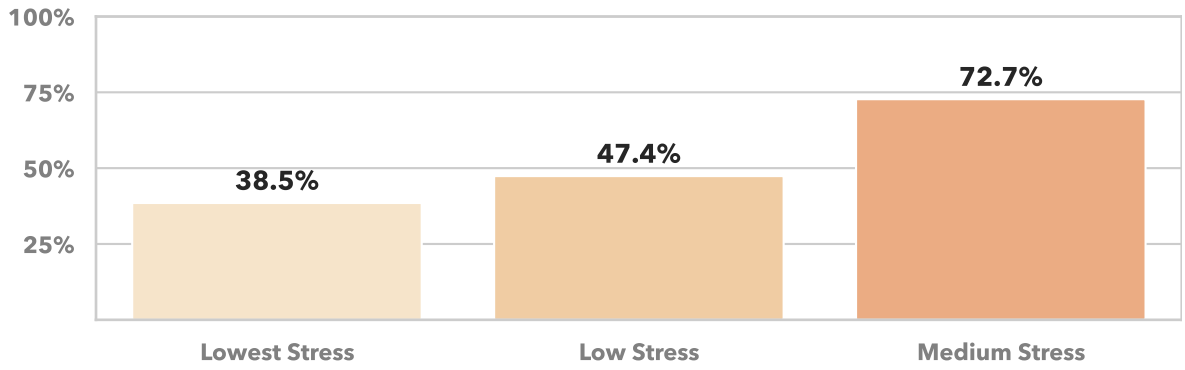
1-Year Change in Biking Job Accessibility by Travel Time Threshold



San Jose

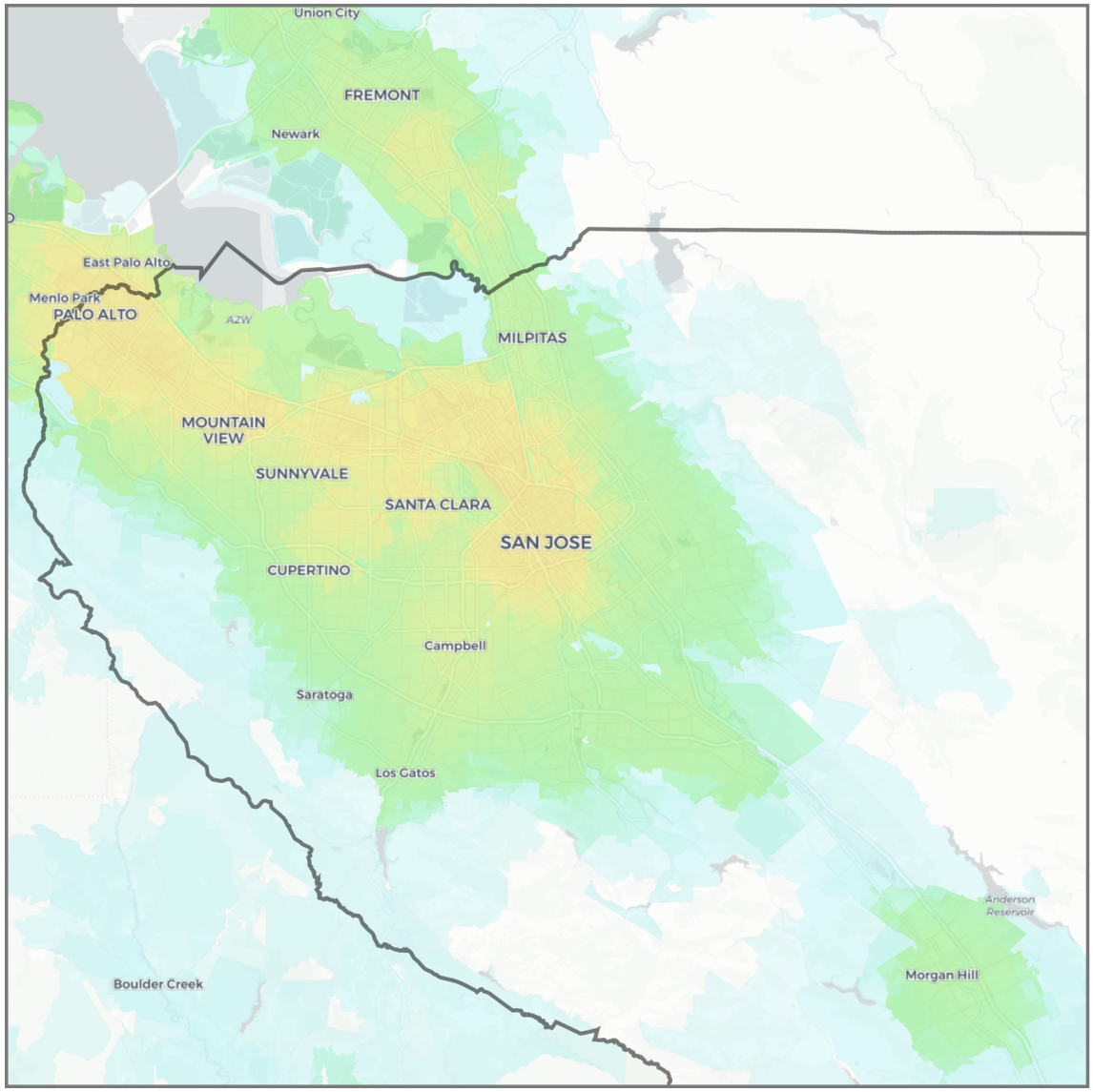
San Jose-Sunnyvale-Santa Clara, CA

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



San Jose

San Jose-Sunnyvale-Santa Clara, CA



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

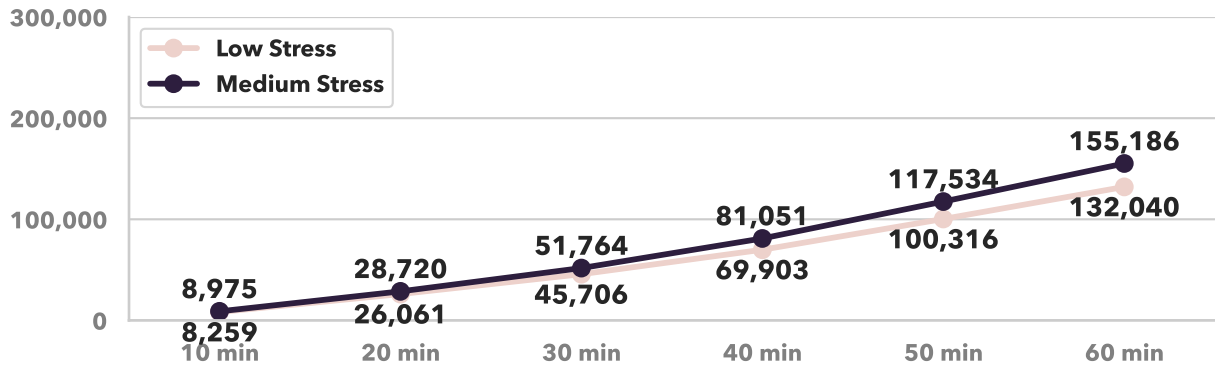
Seattle

Seattle-Tacoma-Bellevue, WA

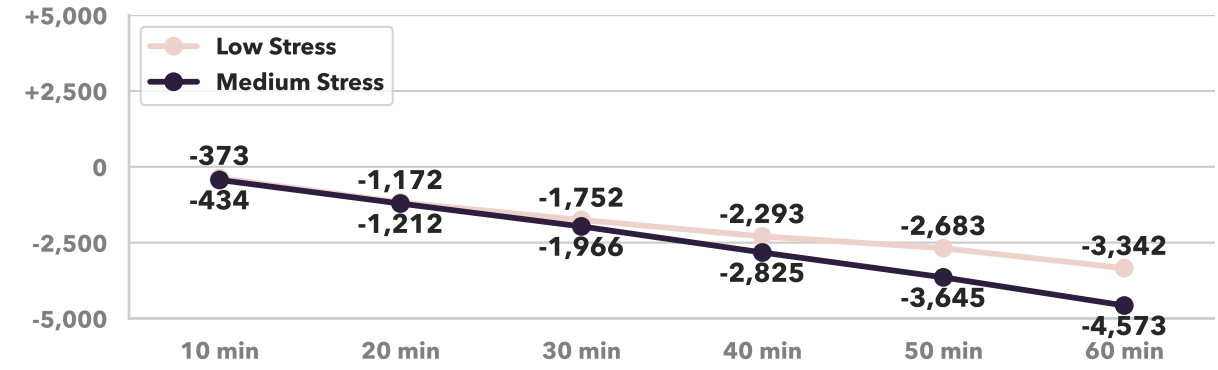
Rank by Weighted Low-Stress Bike Accessibility	**5**
Rank by Weighted Medium-Stress Bike Accessibility	**6**
Rank by Change in Low-Stress Bike Accessibility	**42**
Rank by Change in Medium-Stress Bike Accessibility	**41**
Rank by Total Employment	**15**
Total Jobs	**1,951,600**
Average Job Density (per mi^2)	**332**
Total Workers	**1,799,031**
Average Worker Density (per mi^2)	**306**

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

Biking Job Accessibility by Travel Time Threshold



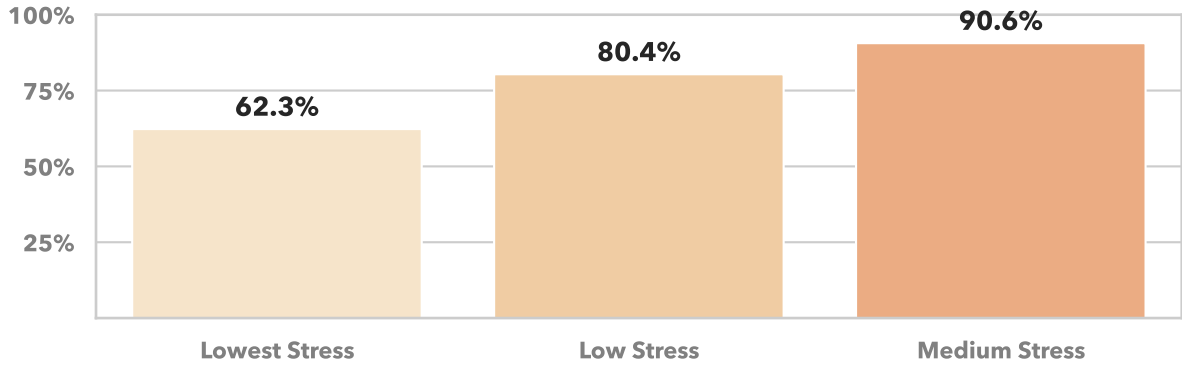
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Seattle

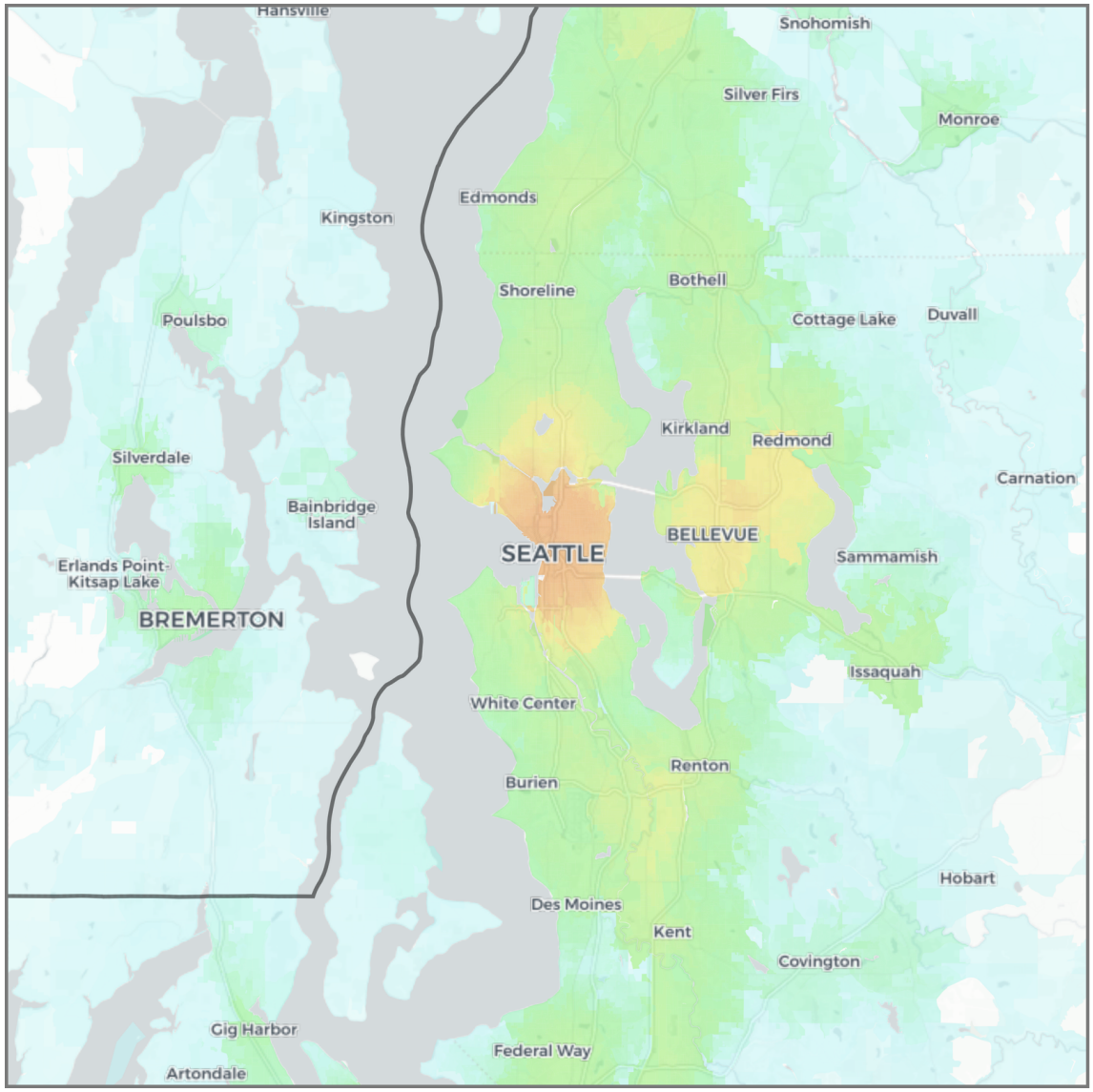
Seattle-Tacoma-Bellevue, WA

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Seattle

Seattle-Tacoma-Bellevue, WA



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

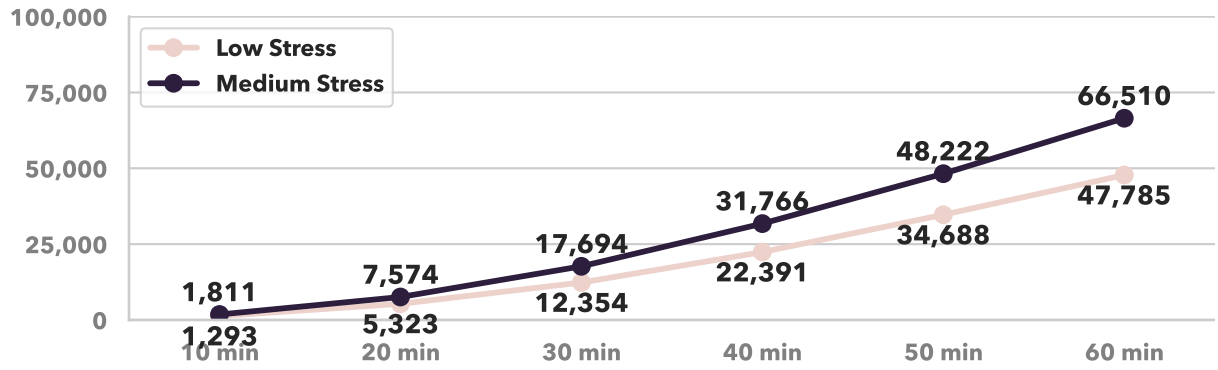
St. Louis

St. Louis, MO-IL

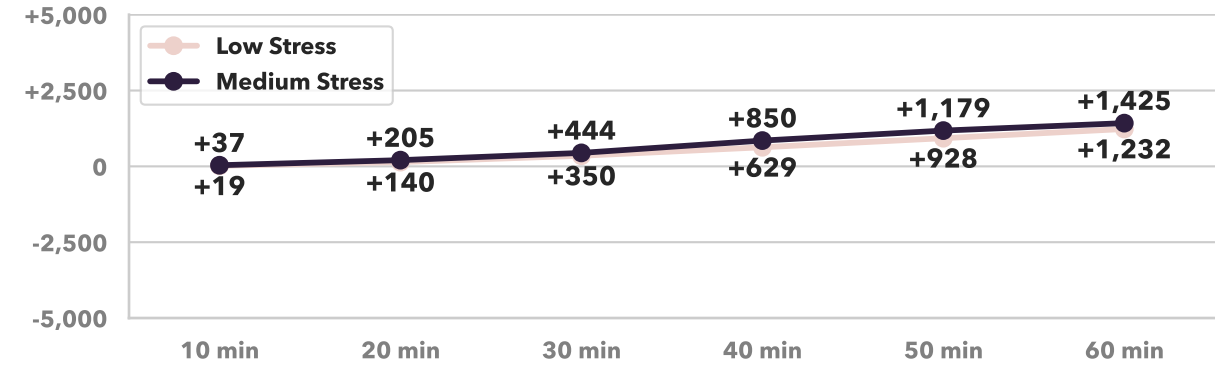
Rank by Weighted Low-Stress Bike Accessibility	**38**
Rank by Weighted Medium-Stress Bike Accessibility	**36**
Rank by Change in Low-Stress Bike Accessibility	**12**
Rank by Change in Medium-Stress Bike Accessibility	**8**
Rank by Total Employment	**20**
Total Jobs	**1,325,557**
Average Job Density (per mi^2)	**168**
Total Workers	**1,296,261**
Average Worker Density (per mi^2)	**164**

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

Biking Job Accessibility by Travel Time Threshold



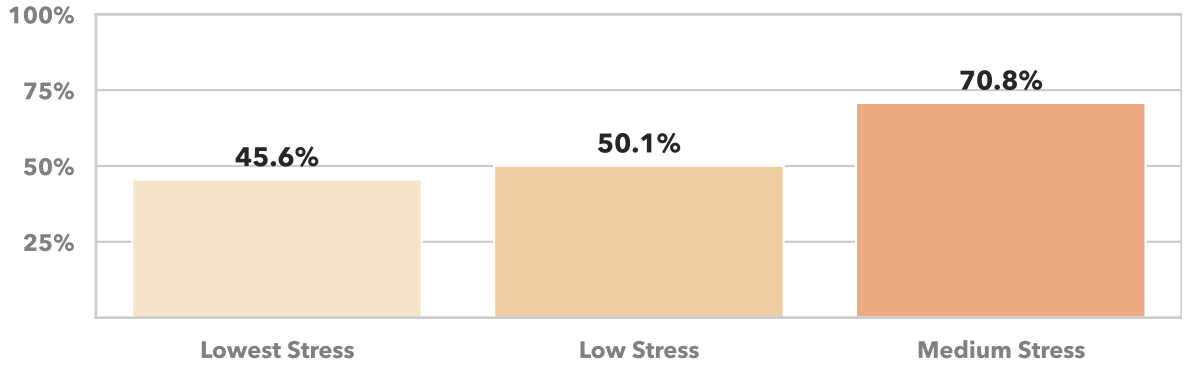
1-Year Change in Biking Job Accessibility by Travel Time Threshold



St. Louis

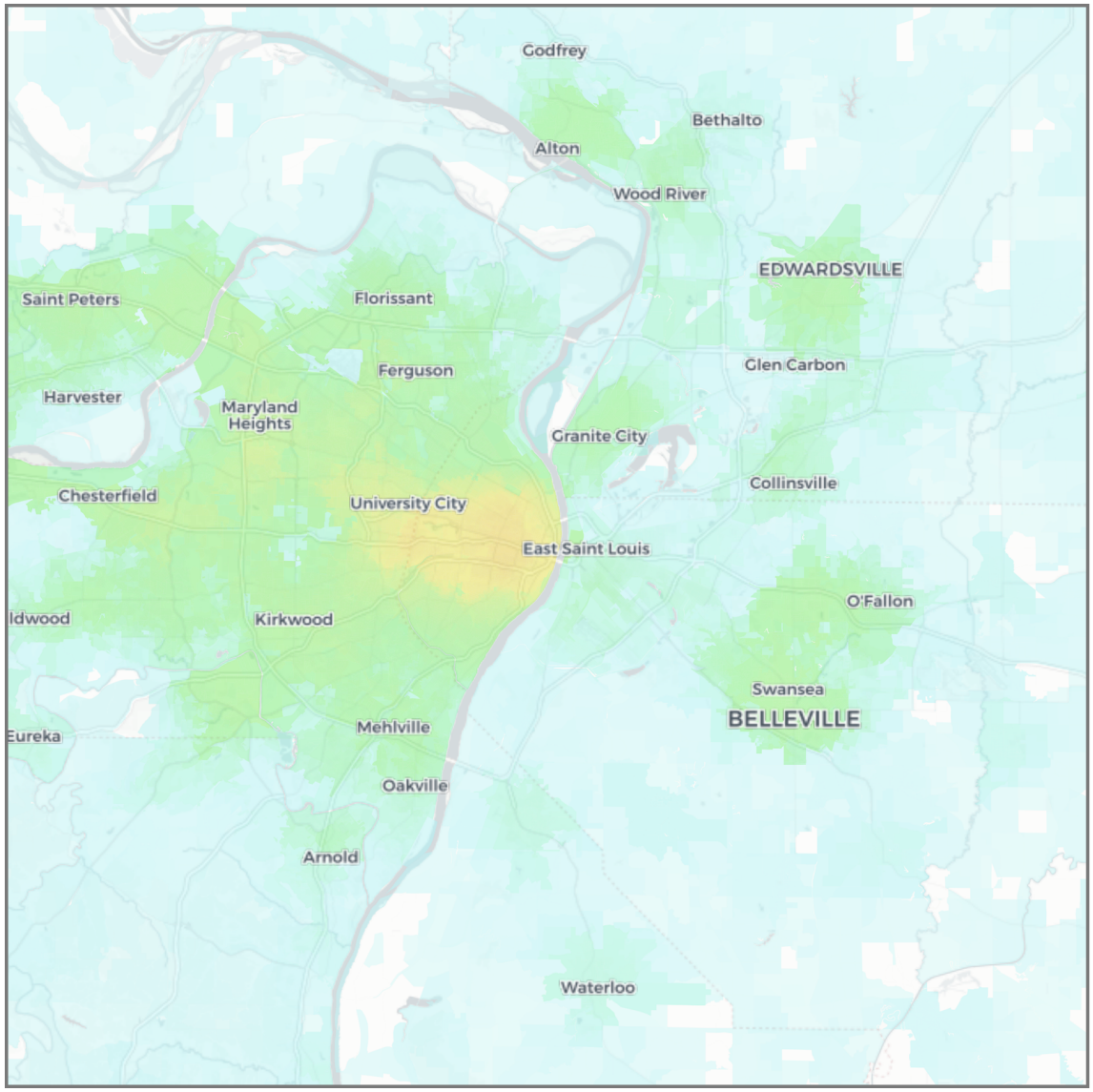
St. Louis, MO-IL

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



St. Louis

St. Louis, MO-IL



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

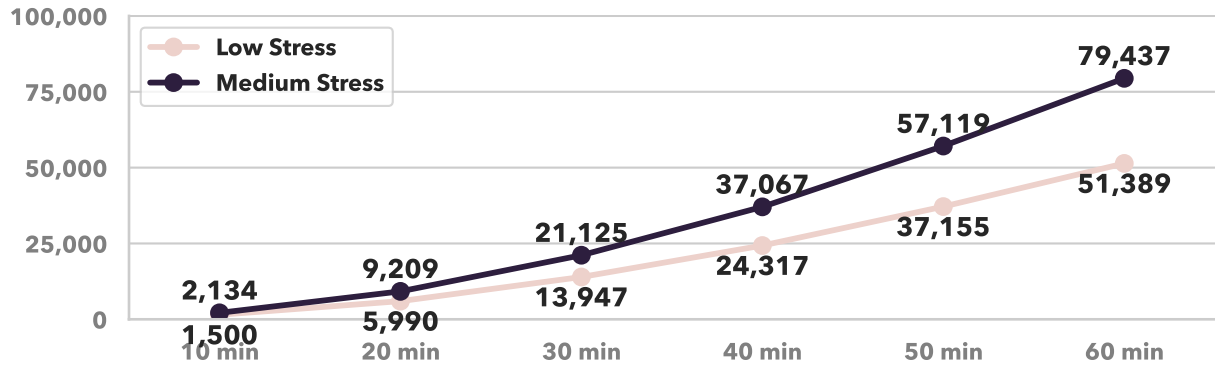
Tampa

Tampa-St. Petersburg-Clearwater, FL

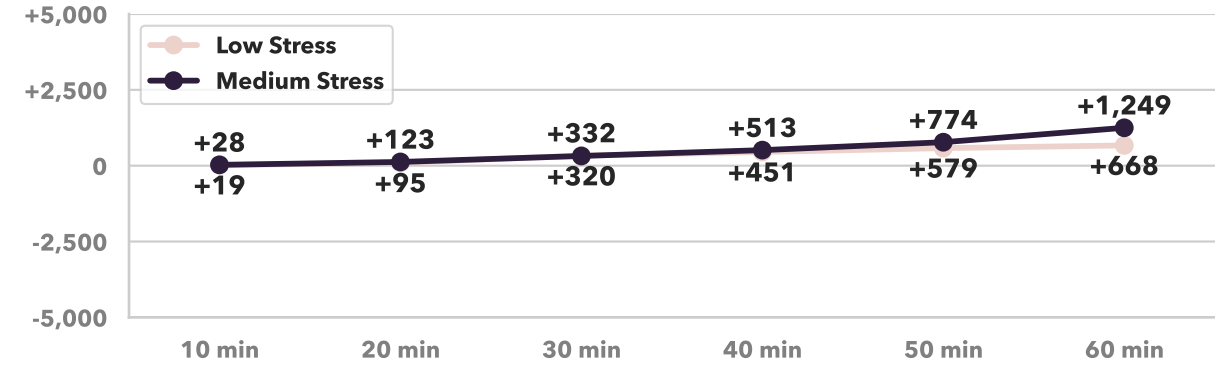
Rank by Weighted Low-Stress Bike Accessibility	**29**
Rank by Weighted Medium-Stress Bike Accessibility	**27**
Rank by Change in Low-Stress Bike Accessibility	**14**
Rank by Change in Medium-Stress Bike Accessibility	**13**
Rank by Total Employment	**19**
Total Jobs	**1,387,656**
Average Job Density (per mi^2)	**551**
Total Workers	**1,356,558**
Average Worker Density (per mi^2)	**539**

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

Biking Job Accessibility by Travel Time Threshold



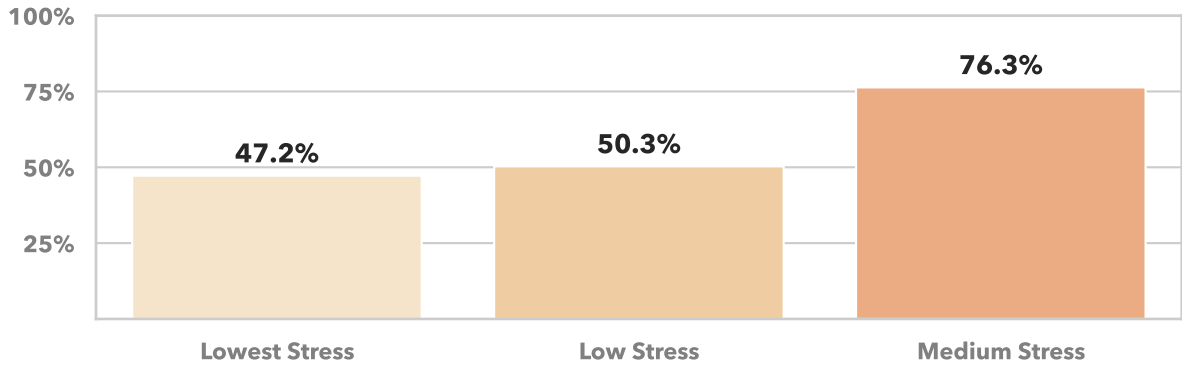
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Tampa

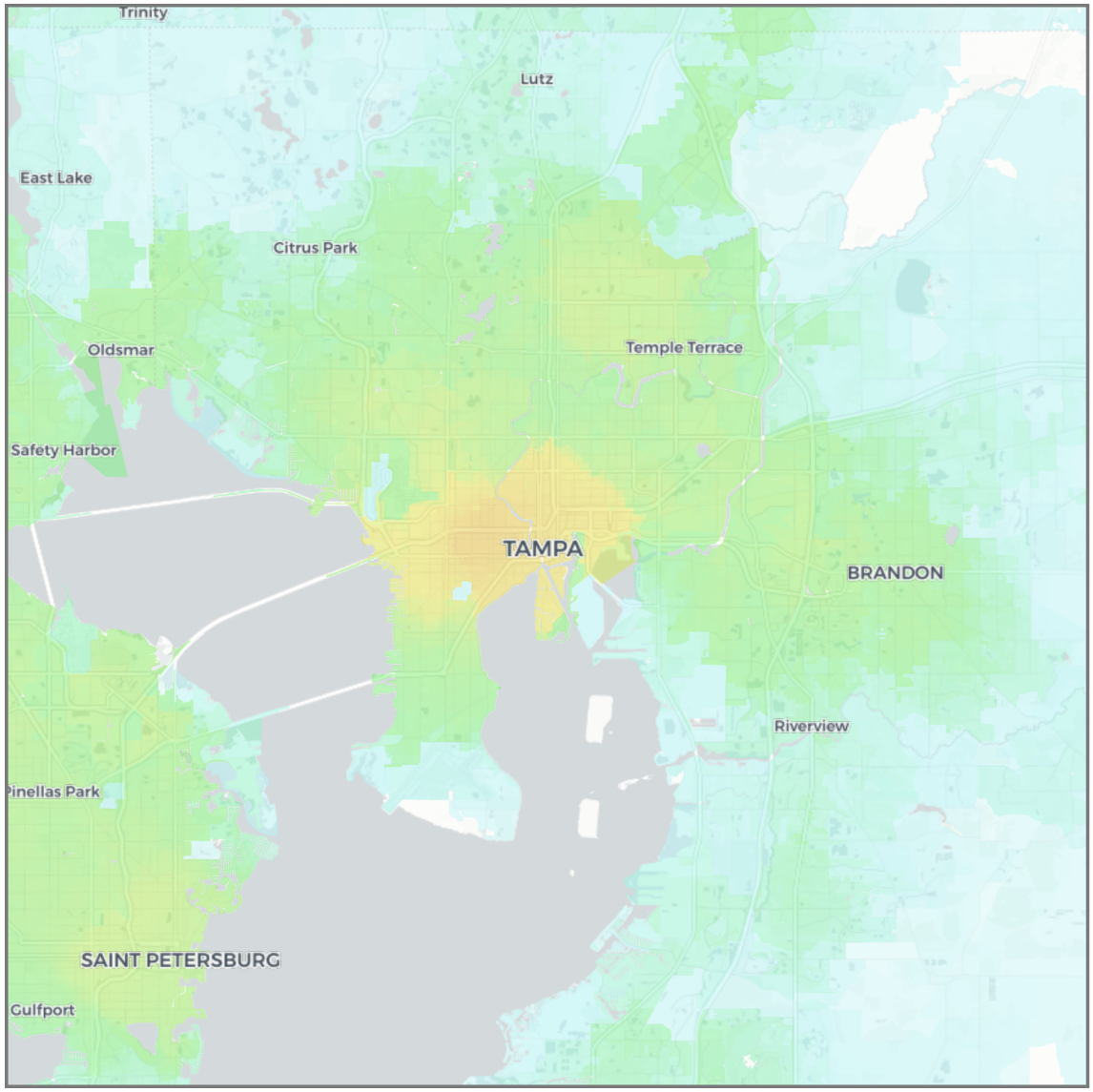
Tampa-St. Petersburg-Clearwater, FL

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Tampa

Tampa-St. Petersburg-Clearwater, FL



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

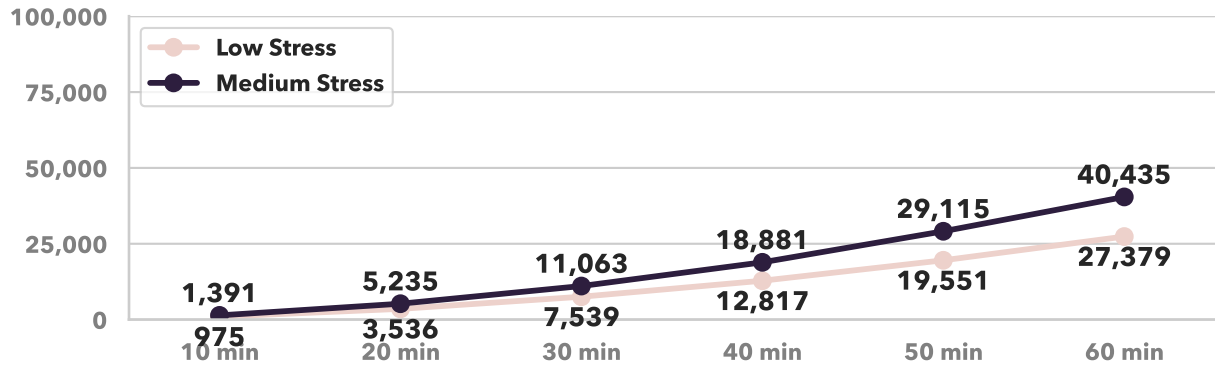
Virginia Beach

Virginia Beach-Chesapeake-Norfolk, VA-NC

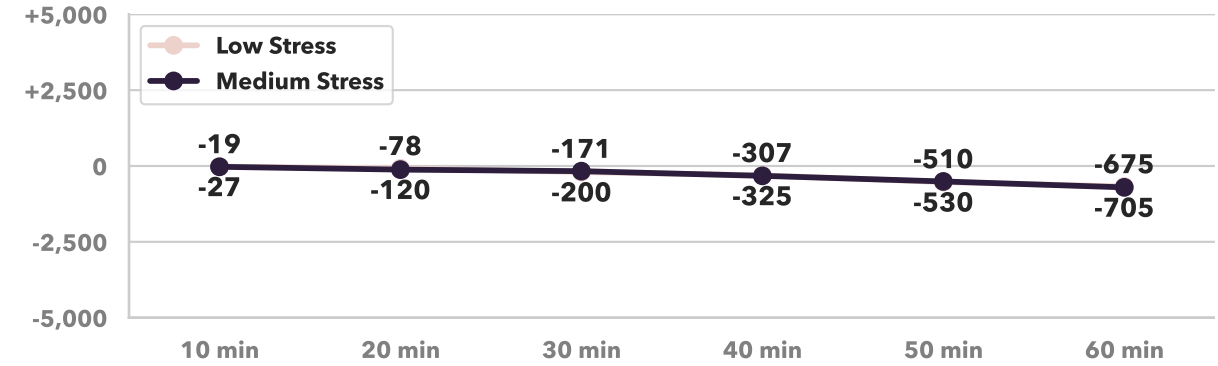
Rank by Weighted Low-Stress Bike Accessibility	**48**
Rank by Weighted Medium-Stress Bike Accessibility	**48**
Rank by Change in Low-Stress Bike Accessibility	**35**
Rank by Change in Medium-Stress Bike Accessibility	**33**
Rank by Total Employment	**40**
Total Jobs	**679,515**
Average Job Density (per mi^2)	**212**
Total Workers	**689,627**
Average Worker Density (per mi^2)	**215**

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

Biking Job Accessibility by Travel Time Threshold



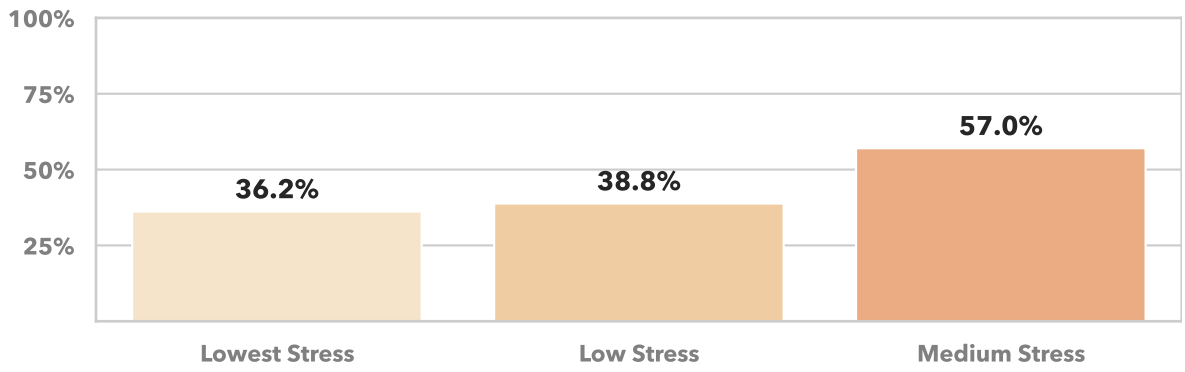
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Virginia Beach

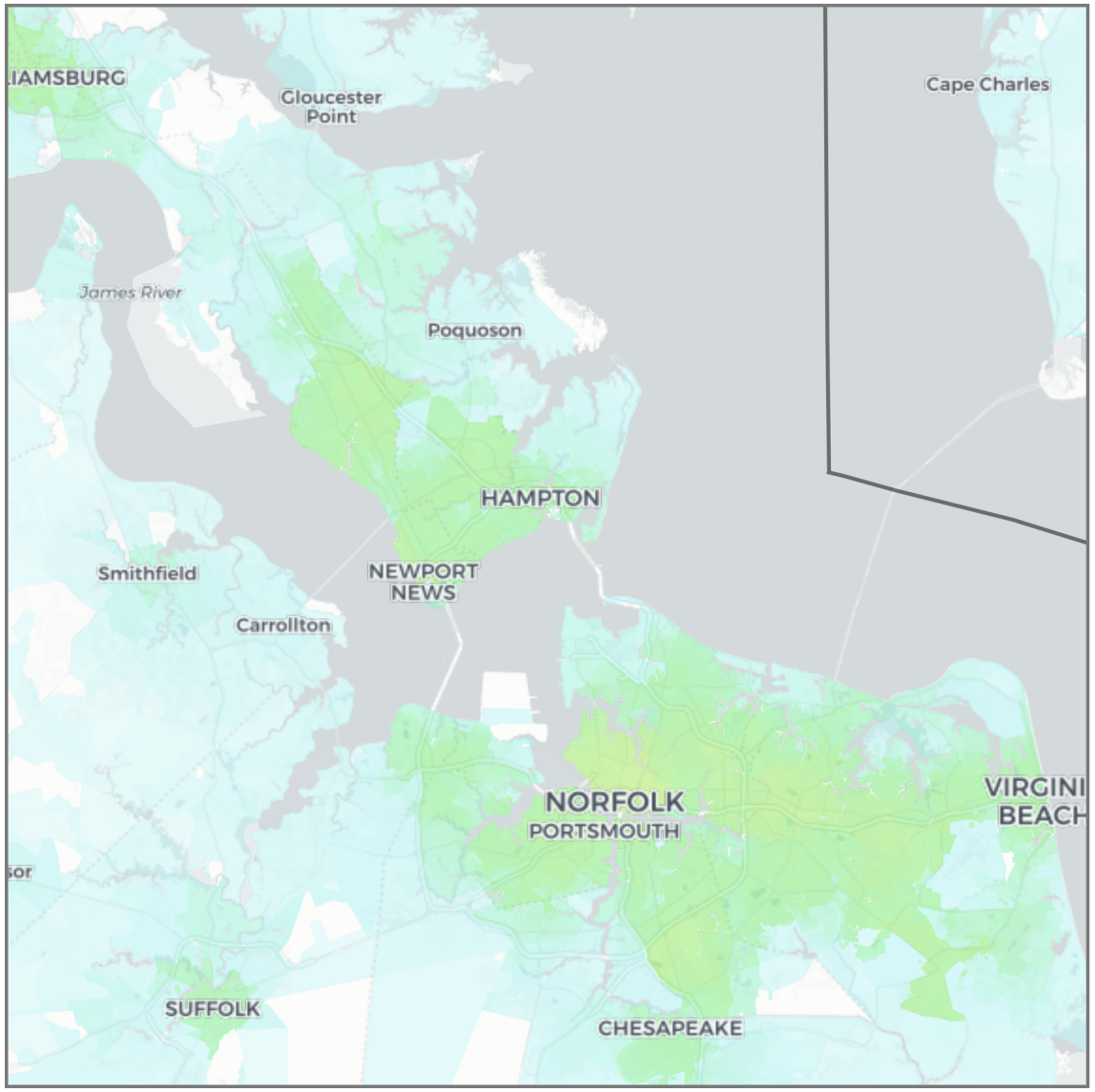
Virginia Beach-Chesapeake-Norfolk, VA-NC

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Virginia Beach

Virginia Beach-Chesapeake-Norfolk, VA-NC



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

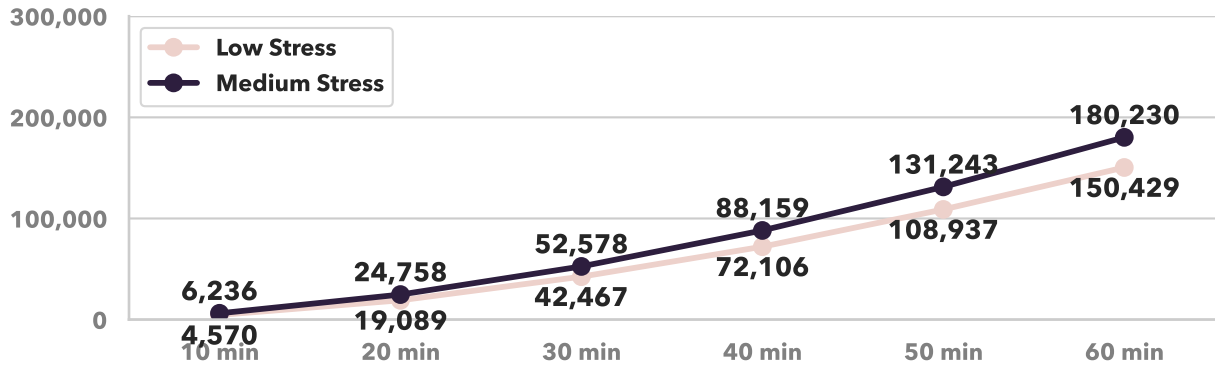
Washington

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

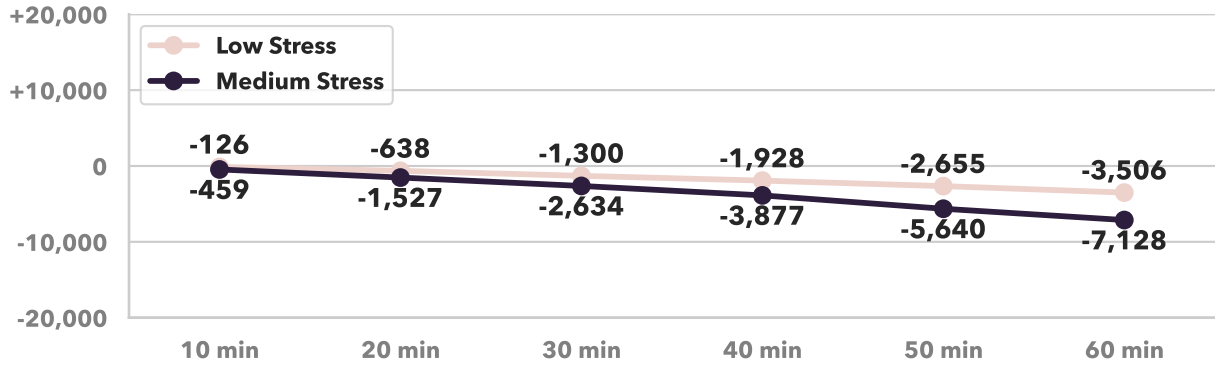
Rank by Weighted Low-Stress Bike Accessibility	**7**
Rank by Weighted Medium-Stress Bike Accessibility	**7**
Rank by Change in Low-Stress Bike Accessibility	**38**
Rank by Change in Medium-Stress Bike Accessibility	**44**
Rank by Total Employment	**7**
Total Jobs	**2,899,223**
Average Job Density (per mi^2)	**480**
Total Workers	**2,716,380**
Average Worker Density (per mi^2)	**450**

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

Biking Job Accessibility by Travel Time Threshold



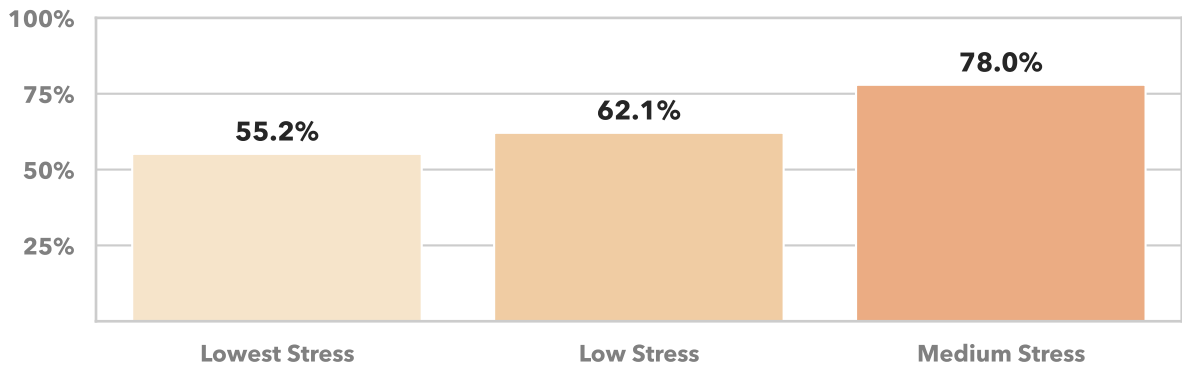
1-Year Change in Biking Job Accessibility by Travel Time Threshold



Washington

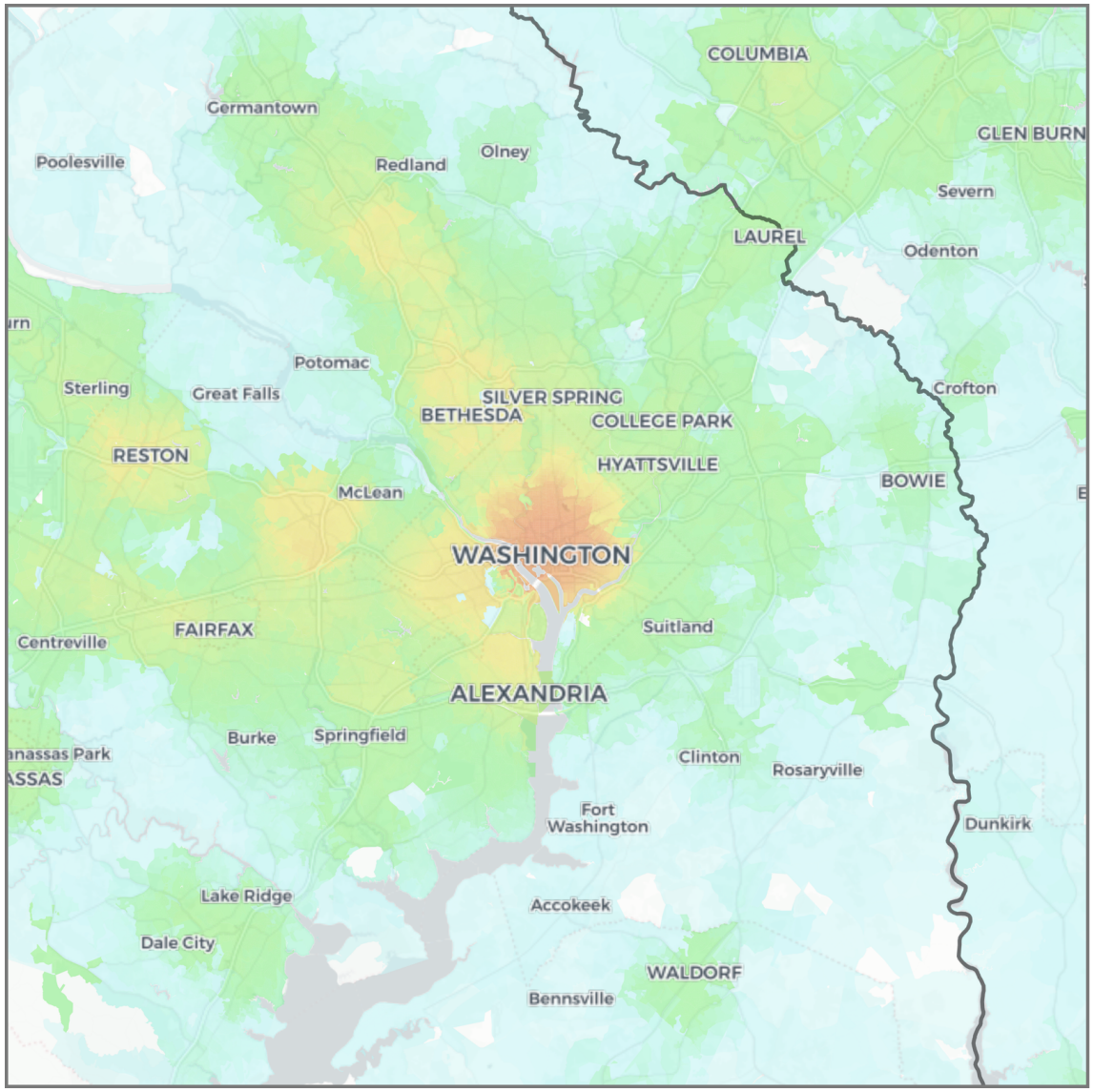
Washington-Arlington-Alexandria, DC-VA-MD-WV

Weighted Job Accessibility Ratio, Bike Networks to Open Streets (LTS 4)



Washington

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



Jobs within 30 minutes

(Biking, medium stress)

- 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 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

References

Cesme, B., Dock, S., Westrom, R., Lee, K., and Barrios, J. A. (2017). Data-Driven Urban Performance Measures: Case Study Application in the District of Columbia. *Transportation Research Record: Journal of the Transportation Research Board*, 2605:45–53.

Dill, J. and McNeil, N. (2016). Revisiting the Four Types of Cyclists. *Transportation Research Record: Journal of the Transportation Research Board*, 2587(2387):90–99.

Figliozzi, M. A. and Blanc, B. P. (2015). Evaluating the Use of Crowdsourcing as a Data Collection Method for Bicycle Performance Measures and Identification of Facility Improvement Needs. Technical report, Oregon Department of Transportation.

Furth, P. G. (2007). On-Road Bicycle Facilities for Children and Other "Easy Riders": Stress Mechanisms and Design Criteria. *Transportation Research*, page 16p.

Furth, P. G., Mekuria, M. C., and Nixon, H. (2016). Network Connectivity for Low-Stress Bicycling. *Transportation Research Record: Journal of the Transportation Research Board*, 2587(2587):41–49.

Geller, R. (2009). Four Types of Cyclists. Technical report, Portland Office of Transportation, Portland, OR.

Geller, R. (2011). Build it and they will come: Portland Oregon's experience with modest investments in bicycle transportation. Technical report, City of Portland, OR, Portland, OR.

Geurs, K. and Van Eck, J. (2001). Accessibility measures: Review and applications. Technical Report 408505 006, National Institute of Public Health and the Environment.

Handy, S. and Clifton, K. (2001). Evaluating Neighborhood Accessibility: Possibilities and Practicalities. *Journal of Transportation and Statistics*, 4(August):67–78.

Handy, S. L. and Niemeier, D. A. (1997). Measuring accessibility: An exploration of issues and alternatives. *Environment and planning A*, 29(7):1175–1194.

Hansen, W. (1959). How accessibility shapes land use. *Journal of the American Institute of Planners*, 25(2):73–76.

Iacono, M., Krizek, K. J., and El-Geneidy, A. (2010). Measuring non-motorized accessibility: issues, alternatives, and execution. *Journal of Transport Geography*, 18(1):133–140.

Kent, M. and Karner, A. (2018). Prioritizing low-stress and equitable bicycle networks using neighborhood-based accessibility measures. *International Journal of Sustainable Transportation*, 8318:1–11.

Krizek, K. J., Iacono, M., El-Geneidy, A. M., Liao, C.-F., and Johns, R. (2009). Application of Accessibility Measures for Non-Auto Travel Modes. page 20.

Levine, J., Grengs, J., Shen, Q., and Shen, Q. (2012). Does accessibility require density or speed? A comparison of fast versus close in getting where you want to go in U.S. metropolitan regions. *Journal of the American Planning Association*, 78(2):157–172.

Levinson, D. M. (2013). Access across America. Technical Report CTS 13-20, University of Minnesota Center for Transportation Studies, https://cts-d8resmod-prd.oit.umn.edu/pdf/cts-13-20.pdf.

Lowry, M. B., Furth, P., and Hadden-Loh, T. (2016). Prioritizing new bicycle facilities to improve low-stress network connectivity. *Transportation Research Part A: Policy and Practice*, 86:124–140.

Mekuria, M. C., Furth, P. G., and Nixon, H. (2012). Loss-Stress Bicycling and Network Connectivity. *Mineta Transportation Institute Report 11-19*, page 68.

Murphy, B. and Owen, A. (2019). Implementing Low-Stress Bicycle Routing in National Accessibility Evaluation. *Transportation Research Record*.

People for Bikes (2017). Bike Network Analysis. https://cityratings.peopleforbikes.org/about/methodology.

Ramsey, K. and Bell, A. (2014). The smart location database: A nationwide data resource characterizing the built environment and destination accessibility at the neighborhood scalement and destination accessibility at the neighborhood scale. *Cityscape: A Journal of Policy Development and Research*, 16(2).

Sorton, A. and Walsh, T. (1994). Bicycle Stress Level As a Tool To Evaluate Urban and Suburban Bicycle Compatibility. *Transportation Research Record*, (1438):p. 17–24.

Tomer, A., Kneebone, E., Puentes, R., and Berube, A. (2011). Missed opportunity: Transit and jobs in metropolitan america. Technical report, Brookings Institution, https://www.brookings.edu/articles/missed-opportunity-transit-and-jobs-in-metropolitan-america/.

U.S. Census Bureau (2017). American Community Survey, 2017 American Community Survey 5-Year Estimates. https://www.census.gov/data/developers/data-sets/acs-5year.2017.html#list-tab-1806015614, Visited on 05/28/2019.