Access Across America: Biking 2019

Final Report

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Accessibility is the ease and feasibility 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 report focuses on accessibility to jobs by biking. Bicycle mode share for commute trips in the U.S. is typically very low and has remained stable at 0.6% of all commute trips since 2011; however, overall number of bicycle commuters nationwide has increased by 21.6% since 2010.

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). As of the 2016 version of LEHD LODES data, statistics for federal jobs and workers are no longer included in the datasets. Accessibility data included in this report may be less accurate in metropolitan areas with large proportions of federal jobs, such as Washington, D.C.

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: Biking 2019 Methodology, describes the data and methodology used in this evaluation.

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Executive Summary

Accessibility is the ease and feasibility of reaching valuable destinations. Accessibility 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 between cities, and other geographic areas. This report focuses on accessibility to jobs by biking. Jobs are the most significant non-home destination, and job accessibility is an important consideration in the attractiveness and usefulness of a place or area. Bicycle mode share for commute trips in the U.S. is typically very low, and has remained stable at 0.6% of all commute trips since 2011; however, overall number of bicycle commuters nationwide has increased by 21.6% since 2010.

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). As of the 2016 version of LEHD LODES data, statistics for federal jobs and workers are no longer included in the datasets. Accessibility data included in this report may be less accurate in metropolitan areas with large proportions of federal jobs, such as Washington, D.C.

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. 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) are:

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

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

	Low-Stress	**Medium-Stress**
1.	Raleigh	Charlotte
2.	Boston	Raleigh
3.	Portland	Los Angeles
4.	Nashville	Nashville
5.	Dallas	Milwaukee
6.	Seattle	Hartford
7.	Denver	Richmond
8.	San Francisco	Dallas
9.	Los Angeles	Las Vegas
10.	San Jose	Kansas City

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: Biking 2019 Methodology*, describes the data and methodology used in this evaluation.

Contents

1 Introduction

Accessibility is the ease and feasibility of reaching valuable destinations. Accessibility 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 between cities, and other geographic areas. This report focuses on accessibility to jobs by biking. Jobs are the most significant non-home destination, and job accessibility is an important consideration in the attractiveness and usefulness of a place or area. Bicycle mode share for commute trips in the U.S. is typically very low, and has remained stable at 0.6% of all commute trips since 2011; however, overall number of bicycle commuters nationwide has increased by 21.6% since 2010[1].

Accessibility is not a new idea[2]. 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[3], transit[4], and bike[5]. 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[6].

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[7]. 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[8].

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[9] loosely align with these categories:

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

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

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

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

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

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

[5] People for Bikes (2017)

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

[7] 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.

[8] Sorton and Walsh (1994)

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

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[10].

Combining accessibility analysis and LTS evaluation has precedent both within individual cities[11] and across multiple areas[12]. 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[13]; 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 are assumed to remain constant throughout the day, in contrast to the varying travel times produced by transit schedules when calculating transit travel times, and 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: Biking 2019 Methodology*, describes the data and methodology used in the evaluation[14].

[10] Geller (2009); Dill and McNeil (2016); Furth et al. (2016)

[11] See Lowry et al. (2016) and Kent and Karner (2018) for local applications in Seattle and Baltimore, respectively

[12] People for Bikes (2017)

[13] Handy and Clifton (2001)

[14] 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	8,946,175
2	Los Angeles	5,825,012
3	Chicago	4,448,938
4	Dallas	3,366,285
5	Houston	2,894,863
6	Philadelphia	2,862,819
7	Washington	2,683,930
8	Atlanta	2,534,711
9	Miami	2,503,411
10	Boston	2,464,508
11	San Francisco	2,241,034
12	Phoenix	1,958,550
13	Detroit	1,915,549
14	Minneapolis	1,847,804
15	Seattle	1,798,352
16	Riverside	1,749,931
17	San Diego	1,419,381
18	Denver	1,395,732
19	St. Louis	1,344,165
20	Tampa	1,293,226
21	Baltimore	1,277,911
22	Portland	1,140,463
23	Orlando	1,135,710
24	Pittsburgh	1,105,247
25	Cincinnati	1,045,101
26	Kansas City	1,036,878
27	San Antonio	1,019,742
28	Austin	967,584
29	Sacramento	964,523
30	Cleveland	961,969
31	San Jose	947,987
32	Columbus	946,698
33	Las Vegas	941,812
34	Charlotte	930,190
35	Indianapolis	919,836
36	Nashville	843,428
37	Milwaukee	779,865
38	Providence	775,615
39	Virginia Beach	715,637
40	Jacksonville	662,664
41	Louisville	645,505
42	Richmond	640,682
43	Raleigh	615,937
44	Salt Lake City	605,393
45	Hartford	595,341
46	Memphis	589,984
47	Oklahoma City	565,695
48	Buffalo	525,947
49	New Orleans	505,876
50	Birmingham	479,837

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 4 shows the 1-year change in low-stress weighted accessibility values for each metropolitan area, and Table 5 shows the 1-year change in medium-stress weighted accessibility values.

Table 2: Cumulative Number of Jobs Reachable by Number of Minutes, Low Stress, 2019

Area	10 min	20 min	30 min	40 min	50 min	60 min
Atlanta	1,318	3,003	4,336	5,078	5,480	5,714
Austin	2,376	6,176	9,668	11,550	12,371	12,653
Baltimore	2,956	8,581	14,946	21,276	27,011	32,258
Birmingham	750	1,552	1,793	1,881	1,938	1,951
Boston	5,543	15,959	28,580	40,908	51,510	59,868
Buffalo	1,738	4,248	5,893	6,678	7,065	7,164
Charlotte	1,302	2,781	3,311	3,505	3,553	3,567
Chicago	5,100	12,647	19,412	25,831	31,648	37,229
Cincinnati	1,617	4,438	6,581	7,933	8,426	8,614
Cleveland	1,667	4,112	5,271	5,792	6,013	6,064
Columbus	2,098	5,818	9,235	11,467	13,392	14,704
Dallas	1,532	3,086	4,443	5,482	6,224	6,570
Denver	3,768	12,442	22,135	32,500	43,995	55,415
Detroit	1,799	6,150	11,414	16,942	22,575	28,283
Hartford	1,083	1,706	1,894	1,973	2,021	2,050
Houston	1,344	2,188	2,555	2,757	2,869	2,905
Indianapolis	1,667	4,013	5,550	6,644	7,404	7,931
Jacksonville	971	1,790	2,055	2,180	2,246	2,292
Kansas City	1,830	4,845	7,268	9,489	11,757	14,128
Las Vegas	1,613	2,714	2,896	2,953	2,989	3,025
Los Angeles	5,471	13,748	21,520	28,578	34,360	39,256
Louisville	1,648	5,076	8,810	12,299	15,485	18,057
Memphis	783	1,148	1,203	1,235	1,253	1,259
Miami	2,540	4,774	5,634	6,472	7,179	7,590
Milwaukee	2,143	4,376	5,575	6,468	6,825	6,974
Minneapolis	2,924	9,897	19,920	30,942	42,025	51,804
Nashville	1,146	2,500	3,187	3,533	3,652	3,690
New Orleans	2,318	4,775	5,865	6,572	7,159	7,268
New York	29,032	105,230	187,688	263,990	333,142	388,754
Oklahoma City	1,600	4,903	8,667	12,310	15,268	18,000
Orlando	1,148	2,087	2,458	2,659	2,738	2,785
Philadelphia	4,737	14,200	17,691	18,717	19,217	19,538
Phoenix	2,235	6,631	10,384	13,696	17,321	21,189
Pittsburgh	1,825	4,485	6,901	8,345	9,075	9,409
Portland	5,291	17,858	34,345	52,153	66,646	78,439
Providence	1,627	2,894	3,329	3,464	3,502	3,527
Raleigh	1,495	4,277	7,281	10,370	12,588	14,187
Richmond	1,843	4,621	5,780	6,456	7,297	7,761
Riverside	981	1,610	1,794	1,864	1,880	1,894
Sacramento	1,984	4,001	4,948	5,625	6,095	6,357
Salt Lake City	2,781	8,007	14,394	21,637	27,779	31,327
San Antonio	1,355	3,085	3,948	4,852	5,450	5,602
San Diego	2,350	4,393	5,303	5,843	6,253	6,505
San Francisco	10,867	37,434	66,525	93,514	118,256	136,647
San Jose	4,059	10,651	16,565	21,917	25,912	28,373
Seattle	5,318	13,032	18,963	23,619	26,847	28,581
St. Louis	1,427	2,912	3,604	4,037	4,347	4,547
Tampa	1,320	2,240	2,554	2,711	2,798	2,824
Virginia Beach	1,138	1,847	1,996	2,045	2,076	2,094
Washington	4,354	11,226	17,766	23,707	28,482	32,310

Table 3: Cumulative Number of Jobs Reachable by Number of Minutes, Medium Stress, 2019

Area	10 min	20 min	30 min	40 min	50 min	60 min
Atlanta	2,045	8,482	17,682	27,891	39,301	51,379
Austin	3,967	17,606	36,976	58,847	81,026	103,245
Baltimore	4,218	17,249	32,249	47,729	66,375	85,649
Birmingham	1,279	4,489	7,785	10,934	13,745	16,128
Boston	8,685	31,743	66,217	107,894	146,137	176,547
Buffalo	3,485	15,478	33,518	59,640	87,480	115,239
Charlotte	2,069	8,342	18,599	30,128	42,914	58,067
Chicago	10,348	42,367	88,865	147,678	217,708	293,104
Cincinnati	2,698	12,122	26,445	45,646	69,904	98,320
Cleveland	2,658	11,606	24,581	42,163	61,756	81,860
Columbus	3,983	19,158	41,992	73,154	113,447	161,444
Dallas	2,852	11,052	22,133	34,492	47,413	60,529
Denver	6,736	29,864	67,400	120,385	185,887	267,108
Detroit	2,408	11,624	27,400	49,127	77,122	110,968
Hartford	2,515	9,841	16,807	22,077	26,632	30,422
Houston	2,789	9,809	17,866	25,649	33,058	40,438
Indianapolis	2,513	9,354	18,482	28,653	39,730	52,124
Jacksonville	1,789	6,937	13,827	20,455	25,984	30,968
Kansas City	2,555	9,858	20,822	34,484	49,467	65,240
Las Vegas	3,385	17,335	40,695	71,140	107,271	148,140
Los Angeles	9,380	38,661	82,343	135,299	192,965	254,009
Louisville	2,265	9,515	19,870	29,773	39,925	49,488
Memphis	1,422	4,193	6,711	8,525	9,609	9,931
Miami	4,715	18,752	39,007	63,106	90,655	120,477
Milwaukee	4,093	15,296	29,318	46,534	65,112	84,722
Minneapolis	5,660	25,972	57,848	100,454	152,357	210,039
Nashville	1,731	6,486	12,109	17,946	22,956	26,838
New Orleans	4,451	16,903	30,489	40,754	48,553	56,869
New York	39,034	144,275	279,018	437,523	622,844	819,997
Oklahoma City	1,964	7,139	13,519	20,529	26,956	33,505
Orlando	2,322	9,314	19,014	30,547	43,269	56,501
Philadelphia	8,015	30,720	55,995	83,005	113,180	144,184
Phoenix	3,428	16,088	35,750	62,051	95,468	135,197
Pittsburgh	2,830	11,740	24,030	38,183	53,832	69,234
Portland	7,042	29,753	64,206	104,315	146,646	189,292
Providence	2,776	8,430	13,858	18,902	22,835	25,220
Raleigh	1,943	7,626	16,196	27,459	41,221	56,948
Richmond	2,951	10,957	18,727	26,284	33,498	39,817
Riverside	1,930	6,683	11,744	16,471	20,226	23,220
Sacramento	3,565	12,018	22,177	34,167	49,203	66,717
Salt Lake City	4,715	21,312	44,560	71,210	100,865	131,832
San Antonio	2,052	7,843	15,118	23,575	31,898	40,418
San Diego	4,209	13,864	25,840	39,030	52,561	65,074
San Francisco	22,354	77,640	133,547	186,894	227,010	248,841
San Jose	6,704	29,042	61,295	101,533	151,249	205,991
Seattle	10,513	33,905	60,671	95,075	134,073	172,847
St. Louis	2,437	9,262	19,078	28,836	37,590	45,046
Tampa	2,801	13,219	29,328	49,062	69,475	89,235
Virginia Beach	1,932	5,328	7,555	8,738	9,580	10,057
Washington	7,572	29,448	57,526	88,105	121,135	159,515

Table 4: 1-Year Change in Weighted Bicycle Accessibility to Jobs, Low Stress, 2019

Rank	Area	1-Year Change
1	**Raleigh**	+111.03%
2	**Boston**	+65.77%
3	**Portland**	+37.08%
4	**Nashville**	+36.33%
5	**Dallas**	+34.73%
6	**Seattle**	+30.04%
7	**Denver**	+17.63%
8	**San Francisco**	+16.63%
9	**Los Angeles**	+13.91%
10	**San Jose**	+13.55%
11	**Austin**	+13.50%
12	**Charlotte**	+13.16%
13	**Kansas City**	+11.82%
14	**San Diego**	+11.20%
15	**Salt Lake City**	+10.68%
16	**New York**	+10.35%
17	**Cincinnati**	+9.05%
18	**Minneapolis**	+8.45%
19	**Providence**	+8.33%
20	**Phoenix**	+8.27%
21	**Memphis**	+7.92%
22	**Miami**	+7.48%
23	**Columbus**	+7.27%
24	**Pittsburgh**	+7.02%
25	**Orlando**	+6.56%
26	**Atlanta**	+6.34%
27	**Philadelphia**	+6.24%
28	**Tampa**	+6.14%
29	**Las Vegas**	+4.40%
30	**Hartford**	+4.29%
31	**San Antonio**	+3.95%
32	**Jacksonville**	+3.80%
33	**Sacramento**	+3.78%
34	**St. Louis**	+3.76%
35	**Chicago**	+3.14%
36	**Houston**	+2.81%
37	**Louisville**	+1.32%
38	**Birmingham**	+0.91%
39	**Detroit**	+0.53%
40	**Oklahoma City**	+0.16%
41	**Virginia Beach**	+0.04%
42	**Baltimore**	-1.24%
43	**Cleveland**	-1.45%
44	**Indianapolis**	-1.99%
45	**Milwaukee**	-3.04%
46	**Richmond**	-4.72%
47	**New Orleans**	-7.83%
48	**Washington**	-10.60%
49	**Riverside**	-11.44%
50	**Buffalo**	-18.19%

Table 5: 1-Year Change in Weighted Bicycle Accessibility to Jobs, Medium Stress, 2019

Rank	Area	1-Year Change
1	**Charlotte**	+53.82%
2	**Raleigh**	+44.01%
3	**Los Angeles**	+31.85%
4	**Nashville**	+25.00%
5	**Milwaukee**	+24.63%
6	**Hartford**	+20.55%
7	**Richmond**	+19.69%
8	**Dallas**	+19.17%
9	**Las Vegas**	+15.95%
10	**Kansas City**	+12.02%
11	**Virginia Beach**	+11.99%
12	**Riverside**	+11.77%
13	**Birmingham**	+11.52%
14	**Pittsburgh**	+10.53%
15	**Cincinnati**	+9.00%
16	**San Diego**	+8.95%
17	**Seattle**	+8.21%
18	**New York**	+7.56%
19	**Boston**	+7.26%
20	**Memphis**	+5.41%
21	**Atlanta**	+5.40%
22	**Philadelphia**	+5.02%
23	**Houston**	+4.20%
24	**Jacksonville**	+4.20%
25	**Austin**	+3.66%
26	**Phoenix**	+2.74%
27	**Orlando**	+2.73%
28	**Portland**	+2.71%
29	**San Francisco**	+2.38%
30	**San Jose**	+1.83%
31	**Miami**	+1.42%
32	**Denver**	+1.30%
33	**Oklahoma City**	+0.78%
34	**Tampa**	+0.63%
35	**Cleveland**	-0.35%
36	**Louisville**	-0.66%
37	**Detroit**	-0.70%
38	**Baltimore**	-0.86%
39	**Washington**	-0.97%
40	**Salt Lake City**	-1.51%
41	**Buffalo**	-1.57%
42	**Sacramento**	-1.63%
43	**Providence**	-1.77%
44	**St. Louis**	-1.81%
45	**New Orleans**	-2.15%
46	**Chicago**	-2.16%
47	**Columbus**	-3.20%
48	**San Antonio**	-3.39%
49	**Indianapolis**	-4.93%
50	**Minneapolis**	-6.63%

2.1 Metropolitan Area Rankings

The low-stress and medium-stress rankings of biking accessibility across U.S. cities for 2019 are shown in Table 6 and Table 7, respectively. The first column provides a weighted average, where the jobs reachable within each threshold are given a decreasing weight as travel time increases. A job reachable within 10 minutes counts more towards the ranking than a job reachable within 20, and so on. The 10 metro areas whose workers can, on average, reach the most jobs on both low-stress and medium-stress bike networks are listed below. Within the specific time thresholds, the rankings vary.

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

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

	Low-Stress	**Medium-Stress**
1.	Raleigh	Charlotte
2.	Boston	Raleigh
3.	Portland	Los Angeles
4.	Nashville	Nashville
5.	Dallas	Milwaukee
6.	Seattle	Hartford
7.	Denver	Richmond
8.	San Francisco	Dallas
9.	Los Angeles	Las Vegas
10.	San Jose	Kansas City

Additional details about each metropolitan area, including block-level maps of accessibility, are presented in Section 4. The low-stress and medium-stress rankings of 1-year change in biking accessibility are shown in Table 8 and Table 9, respectively. The first column again gives a ranking based on weighted average across travel time thresholds; the following columns give rankings for specific travel time thresholds.

Table 6: Rank of Accessibility by Metropolitan Area, Low Stress, 2019

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

Table 7: Rank of Accessibility by Metropolitan Area, Medium Stress, 2019

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

Table 8: Rank of 1-Year Change in Accessibility by Metropolitan Area, Low Stress, 2019

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

Table 9: Rank of 1-Year Change in Accessibility by Metropolitan Area, Medium Stress, 2019

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

2.2 Bicycle Network Characteristics

The length-wise proportion of bicycle travel network facilities which fall into each of the four LTS categories can be computed and tracked year-to-year. As cities continue to build additional bike lanes and paths, additional destinations become accessible by bike on lower-stress bicycle routes, and tracking the kilometers of facilities in each category allows assessment of the accessibility benefits associated with upgrading bicycle networks.

Table 10 shows the proportion of bicycle travel networks categorized as each LTS level within the included metro areas, for the OpenStreetMap data used in this report.

Table 10: Proportion of Distance of Bicycle Networks By LTS Category, 2019

Area	Lowest Stress	Low Stress	Medium Stress	Highest Stress
Atlanta	74.0%	4.5%	8.1%	13.3%
Austin	64.0%	7.4%	12.4%	16.2%
Baltimore	65.9%	6.2%	11.8%	16.1%
Birmingham	74.5%	5.0%	9.7%	10.8%
Boston	73.3%	2.1%	9.4%	15.3%
Buffalo	64.4%	4.8%	15.5%	15.3%
Charlotte	74.1%	2.6%	9.8%	13.5%
Chicago	74.7%	3.4%	8.8%	13.1%
Cincinnati	61.4%	7.3%	15.2%	16.2%
Cleveland	66.9%	5.1%	14.4%	13.6%
Columbus	59.2%	12.7%	15.2%	13.0%
Dallas	66.9%	2.0%	9.8%	21.4%
Denver	71.0%	7.4%	10.5%	11.0%
Detroit	77.6%	4.5%	9.3%	8.5%
Hartford	73.8%	2.0%	10.4%	13.9%
Houston	67.9%	2.1%	10.6%	19.4%
Indianapolis	61.1%	13.6%	12.3%	13.0%
Jacksonville	70.1%	4.3%	13.2%	12.4%
Kansas City	67.7%	8.8%	10.4%	13.2%
Las Vegas	66.6%	4.4%	11.9%	17.2%
Los Angeles	70.0%	3.6%	10.7%	15.6%
Louisville	71.3%	6.6%	4.8%	17.4%
Memphis	66.8%	4.8%	13.3%	15.2%
Miami	70.0%	2.5%	12.7%	14.7%
Milwaukee	65.6%	3.9%	11.0%	19.5%
Minneapolis	69.2%	2.3%	16.4%	12.0%
Nashville	68.9%	9.8%	7.9%	13.5%
New Orleans	76.8%	2.5%	6.6%	14.1%
New York	75.2%	2.0%	10.0%	12.7%
Oklahoma City	73.4%	10.2%	6.1%	10.3%
Orlando	65.1%	4.9%	11.8%	18.2%
Philadelphia	69.4%	2.8%	12.6%	15.2%
Phoenix	69.8%	7.4%	9.4%	13.4%
Pittsburgh	62.4%	13.5%	10.7%	13.3%
Portland	58.8%	14.1%	17.0%	10.2%
Providence	74.4%	3.0%	8.7%	13.9%
Raleigh	73.4%	3.7%	8.5%	14.4%
Richmond	58.0%	3.4%	23.6%	15.0%
Riverside	65.9%	5.1%	11.8%	17.1%
Sacramento	66.2%	11.1%	13.0%	9.8%
Salt Lake City	65.4%	10.3%	10.4%	13.9%
San Antonio	69.8%	7.3%	6.1%	16.7%
San Diego	70.4%	4.1%	11.1%	14.4%
San Francisco	68.5%	7.1%	12.5%	11.9%
San Jose	61.3%	8.5%	16.4%	13.8%
Seattle	68.0%	8.2%	13.0%	10.9%
St. Louis	74.4%	6.3%	9.1%	10.2%
Tampa	73.7%	2.2%	12.8%	11.3%
Virginia Beach	68.5%	2.1%	15.5%	13.9%
Washington	69.7%	4.1%	11.5%	14.8%

3 Discussion

This report is a companion to the work in reports *Access Across America: Transit 2019* and *Access Across America: Auto 2019*, and implements Level of Traffic Stress analysis on a national scale to provide more accurate bicycle accessibility metrics and allow for inter-metropolitan comparisons. Accessibility data are calculated for every Census block in the U.S.; data are aggregated and summarized within CBSAs for this report.

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

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

Accessibility is a function of both transportation 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-minded 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.

As of the 2016 version of LEHD LODES data, statistics for federal jobs and workers are no longer included in the datasets. Accessibility data included in this report may be less accurate in metropolitan areas with large proportions of federal jobs, such as Washington, D.C. However, the 2016 and 2017 versions of LEHD LODES data are consistent in the exclusion of federal jobs and workers, allowing for comparisons between two years of data.

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 and nowhere else, 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 urban 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. This ratio is mapped in Section 4 for the metropolitan areas included in the study, with areas with a lower ratio of low-stress access to "open streets" access colored more intensely. 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, Philadelphia places 9th by low-stress access, but only 12th by medium-stress access, while San Jose places 12th by low-stress access, and 9th by medium-stress access. Residents in Philadelphia who are only willing to bike on low-stress facilities in general experience higher accessibility to jobs than those in San Jose; however, residents in San Jose who are willing to bike on all bicycle facilities experience higher access to jobs than those in Philadelphia.

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.

Density is not determined solely by accessibility, however: land use policies can restrict density where it would otherwise be high, or encourage density where it might otherwise be low. Perhaps the most famous examples of such policies are Oregon's urban growth boundary laws, which encourage density by restricting the amount of land available for urban development, the Height of Buildings

Act of 1910 which restricts density in the District of Columbia by limiting building heights, and 1990 Massachusetts state legislation effectively limiting building heights in Boston by prohibiting the casting of shadows onto the Boston Common park. Between these most visible examples lie a range of density-focused urban policies, typically embedded in zoning codes, which both help encourage and constrain each city's biking accessibility performance. In general, areas with higher residential and employment density, with many low-stress bicycle routes between them, can achieve greater biking accessibility. Further, mixed-use development promotes less spatial separation between residential and employment centers, and provides even more biking accessibility to a wide variety of destinations.

At lower travel time thresholds, the job accessibility by bike experienced by a typical worker is influenced more by local employment density. At higher travel time thresholds, the job accessibility by bike experienced by a typical worker is influenced more by the presence of bicycle routes. This effect is exemplified in Table 7; looking beyond New York, San Francisco, and Chicago—which are sufficiently dense to rank highly in access across all travel time thresholds—the 6th and 7th rows show the importance of bike networks in less-dense cities. At lower travel time thresholds of 10 and 20 minutes, denser cities including Boston and Philadelphia rank higher. However, with travel time budgets of 30, 40, etc. minutes, job centers further away may become reachable—but only if a bicycle route exists to allow travel to that location. Portland and Minneapolis–St. Paul appear in ranks 6 and 7, beginning at 30 minutes of travel time, demonstrating that bike routes can provide high accessibility even in areas of lower density.

3.3 Comparisons to 2018 Data

Both the 2017 and 2016 versions of LEHD data do not include federal employment statistics, allowing for consistent comparisons between accessibility datasets using both sources. We compare both low-stress and medium-stress accessibility between the data for *Access Across America: Bike 2019* and *Access Across America: Bike 2018*, as well as comparing the bicycle network compositions in terms of kilometers of facility length by LTS category. Some significant changes were observed in certain cities for one or both of low- and medium-stress access: low-stress bicycle access to jobs in Raleigh increased by a very large 111%, while medium-stress bicycle access to jobs in Charlotte jumped by 54%; low-stress access to jobs in Buffalo dropped by 18%, and medium-stress access to jobs in Minneapolis dropped by 7%.

There are two main explanatory factors for significant changes in bicycle access: changes to the bike network composition in terms of LTS, and job growth and migration. Once built, roads are only very infrequently torn up and removed, so any negative changes in kilometers of road network facilities are likely due to upgrades (or downgrades) of LTS classification through the construction (or removal) or bicycle facilities. Portland's network changes show a 17.4% increase in kilometers of low-stress bicycle facilities, and 5.3% and 1.3% decreases in kilometers of medium stress and high stress roadways, respectively, suggesting a significant expansion of the city's low-stress bicycle network; this correlates with a very large increase in low-stress bicycle access. Portland also experienced a 1.9% increase in employment.

The city of Cambridge, MA, has placed increased emphasis on the installation of protected bikeways in recent years; while streets in a small, compact city are not great in length, low-stress connections for bicycle access are still critical. The Boston metropolitan region showed modest increases in kilometers of LTS 1 (+1.7%) and LTS 2 (+11.1%) roadways, with a very large 66% increase in low-

stress access to jobs, a lot of which was due to increased bicycle accessibility in Cambridge. Raleigh, NC showed a marked increase in low-stress bike access of 111%, with kilometers of LTS 1 and LTS 2 roadway changing by +3.8% and +39.0%, respectively; bicycle access to jobs was relatively low in Raleigh in 2018, magnifying the effect of both the installation of bicycle facilities and refinement of OpenStreetMap data. Charlotte, NC tells a similar story — modest bicycle accessibility, combined with significant increases in kilometers of low- and medium-stress bike routes (+12.6% and +4.8%, respectively), yielded quite significant positive changes in low- and medium-stress bicycle access to jobs (+13.2% and +53.8%, respectively).

Minneapolis, MN shows the likely results of OpenStreetMap data refinement over time. The Minneapolis–St. Paul metropolitan region showed +2.9% and +13.9% changes in kilometers of LTS 1 and LTS 2 roadways, respectively, while showing a -8.4% change in kilometers of LTS 3 roadways, and a +16.6% increase in kilometers of LTS 4 roadways. New arterial roadways are seldom built in a city with an already completed street network, and LTS 3 roadways are transformed into LTS 4 roadways only in the cases of removal of bicycle facilities, relaxation of speed limits, or the (rare) adding of lanes. Low-stress bicycle access to jobs increased by 8.5%, while medium-stress access to jobs decreased by 6.6%, indicating that some roadways previously labeled as LTS 3 according to OSM data from 2018 became LTS 4 roadways, according to OSM data from 2019.

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. If, for instance, a group of community members in a city undertakes an effort to edit OpenStreetMap to include the city's bike network, which largely had not been tracked previously, then the data will reflect a large 1-year jump in kilometers of bicycle facilities, as well as potentially large changes in bicycle access. 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.

3.4 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 Portland and Minneapolis–St. Paul, 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 extensive networks of urban arterials with a lack of bike infrastructure, such as Las Vegas, Dallas, and Los Angeles, 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 Minneapolis–St. Paul metropolitan area is ranked 14th largest by total employment in Table 1, but ranks 10th by both access to jobs on low-stress and medium-stress bicycle networks. Conversely, Houston ranks 5th by total employment, but 42nd and 38th by access to jobs on low-stress and medium-stress bike networks, respectively.

The ratios comparing low-stress and medium-stress accessibility to "open streets" accessibility allow comparisons of bicycle network performance between cities of different sizes. The metropolitan areas which perform the best when comparing medium-stress access to the maximum possible bike access—San Francisco, Portland, New York, Minneapolis, and Denver—all have bicycle networks which, on average, allow their residents to access over 70% of the job opportunities which can be accessed by biking on the "open streets" network. This performance metric assesses how well a metropolitan area's bicycle network allows people to reach the available valuable opportunities.

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. Not all bike facilities in North American cities are low-stress, but 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 first 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. The second map shows the ratio of low-stress accessibility to "open streets" accessibility; areas of more intense, deeper color have lower access to jobs, on low-stress bicycle networks, as a percentage of the maximum access possible (LTS 4), and lighter-colored areas have higher low-stress access to jobs. Areas colored in light grey on the second map reflect census blocks where "open streets" bicycle accessibility is 0.

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 second 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.

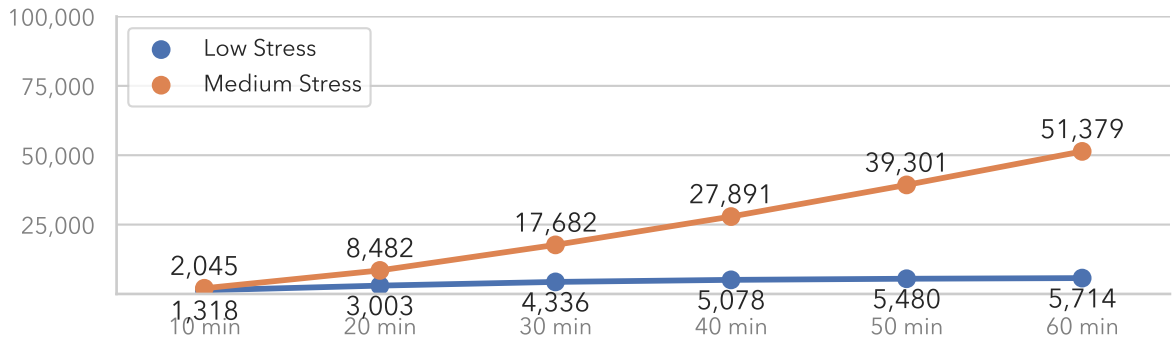
Atlanta

Atlanta-Sandy Springs-Marietta, GA

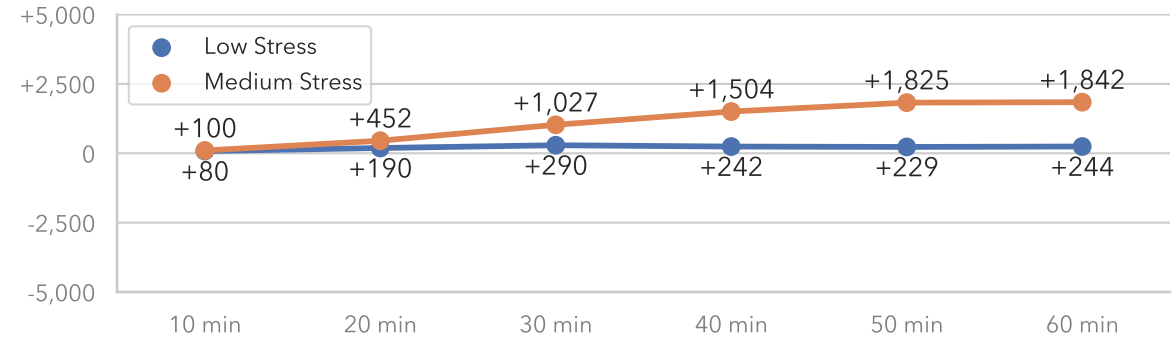
Rank by Weighted Low-Stress Bike Accessibility	**35**
Rank by Weighted Medium-Stress Bike Accessibility	**39**
Rank by Change in Low-Stress Bike Accessibility	**26**
Rank by Change in Medium-Stress Bike Accessibility	**21**
Rank by Total Employment	**8**
Total Jobs	**2,637,483**
Average Job Density (per km^2)	**122**
Total Workers	**2,534,711**
Average Worker Density (per km^2)	**117**

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

Biking Job Accessibility by Travel Time Threshold



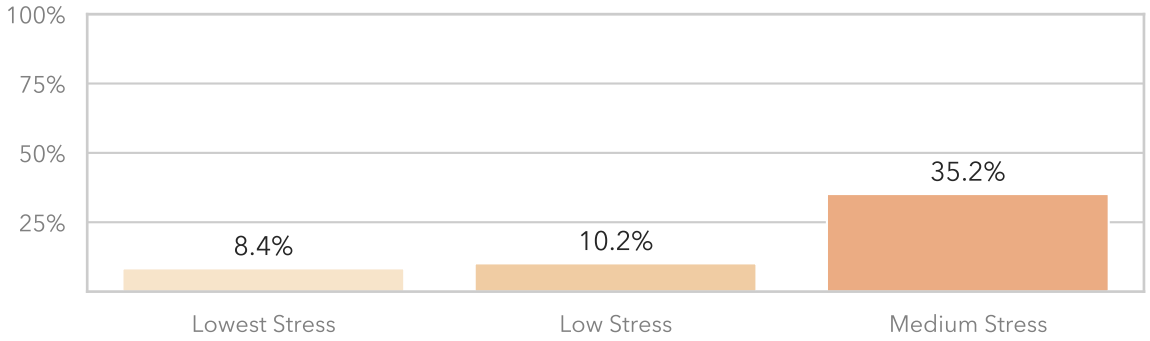
1-Year Change in Biking Job Accessibility by Travel Time Threshold



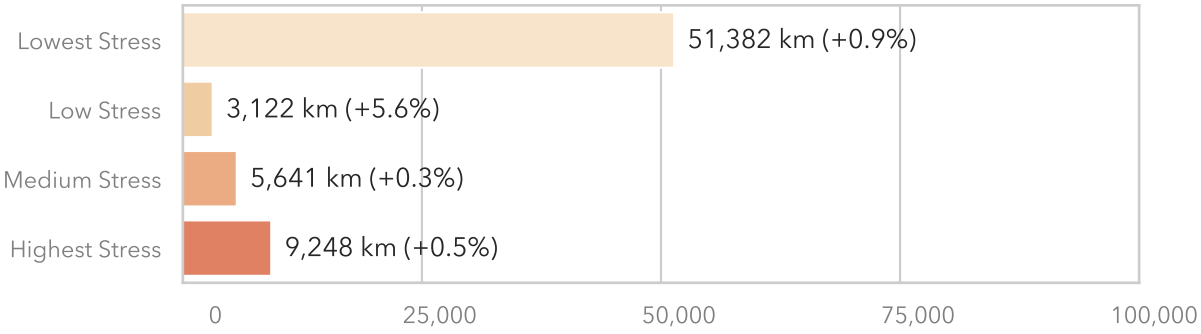
Atlanta

Atlanta-Sandy Springs-Marietta, GA

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

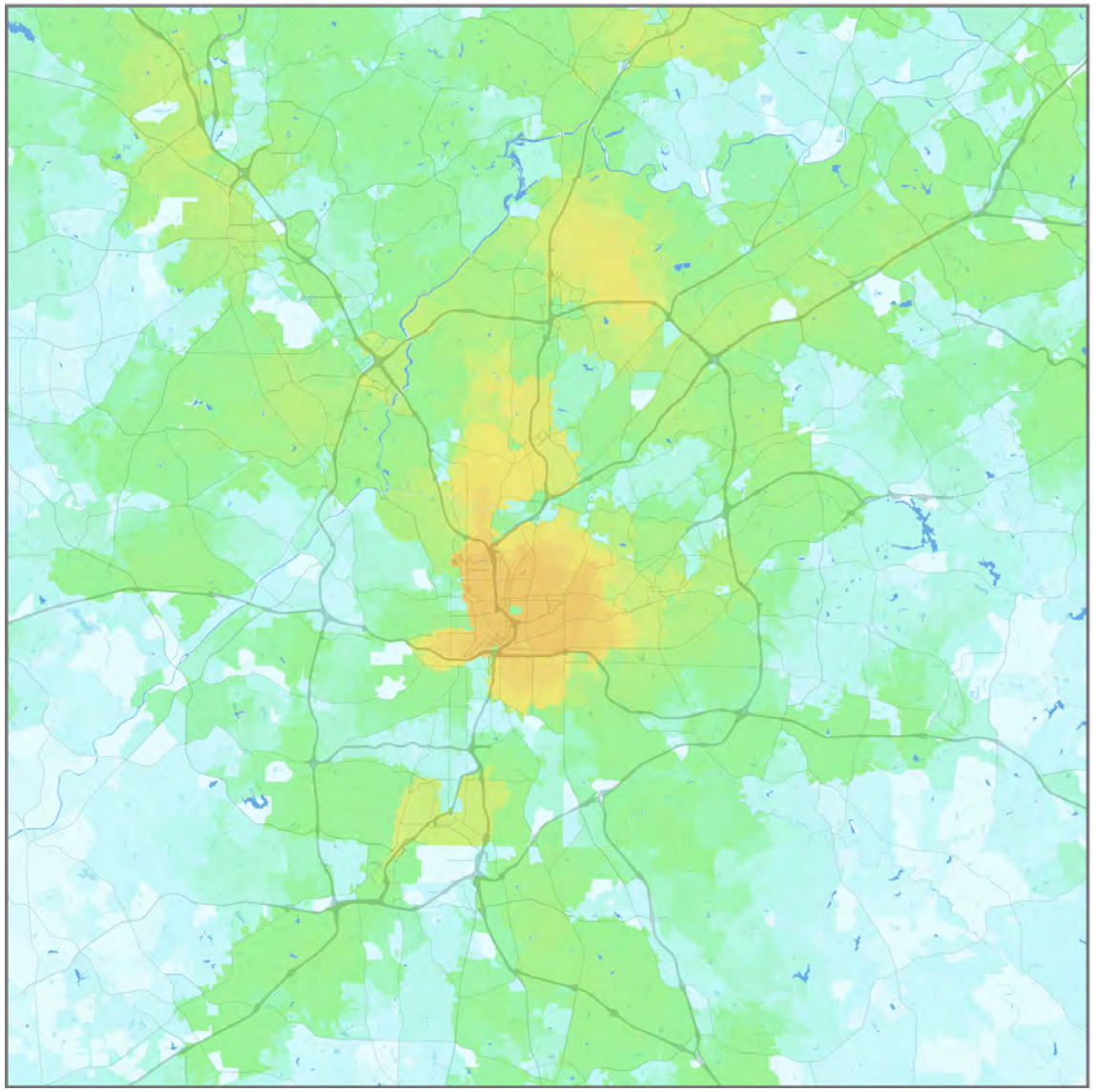


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Atlanta

Atlanta-Sandy Springs-Marietta, 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

Atlanta

Atlanta-Sandy Springs-Marietta, GA

Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

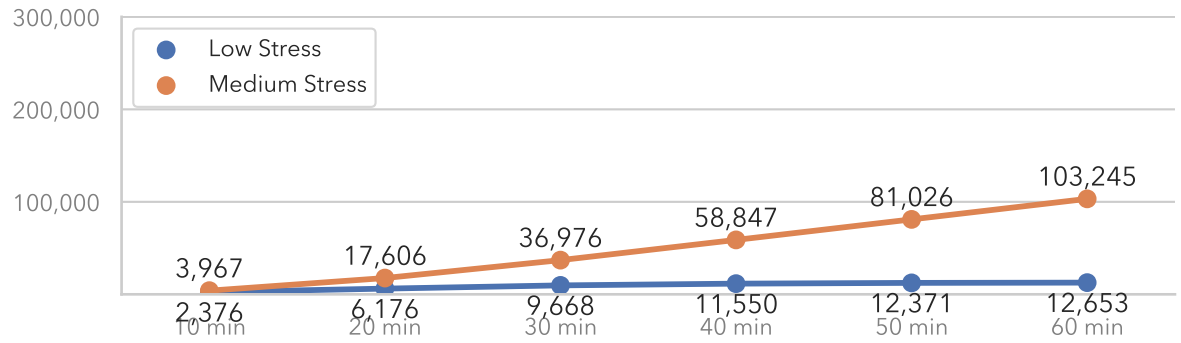
Austin

Austin-Round Rock-San Marcos, TX

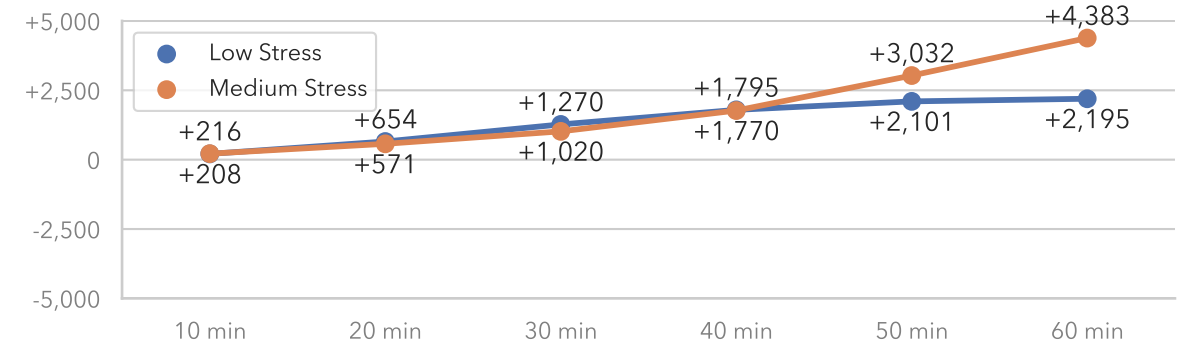
Rank by Weighted Low-Stress Bike Accessibility	**17**
Rank by Weighted Medium-Stress Bike Accessibility	**18**
Rank by Change in Low-Stress Bike Accessibility	**11**
Rank by Change in Medium-Stress Bike Accessibility	**25**
Rank by Total Employment	**28**
Total Jobs	**1,004,341**
Average Job Density (per km^2)	**92**
Total Workers	**967,584**
Average Worker Density (per km^2)	**89**

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

Biking Job Accessibility by Travel Time Threshold



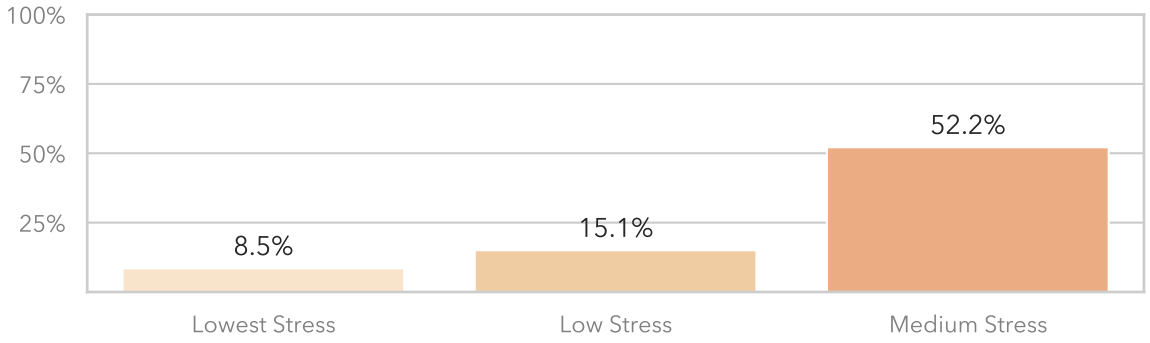
1-Year Change in Biking Job Accessibility by Travel Time Threshold



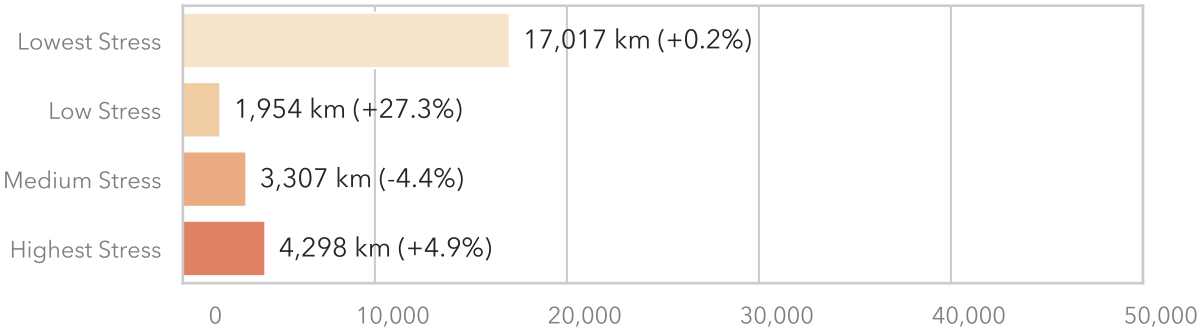
Austin

Austin-Round Rock-San Marcos, TX

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

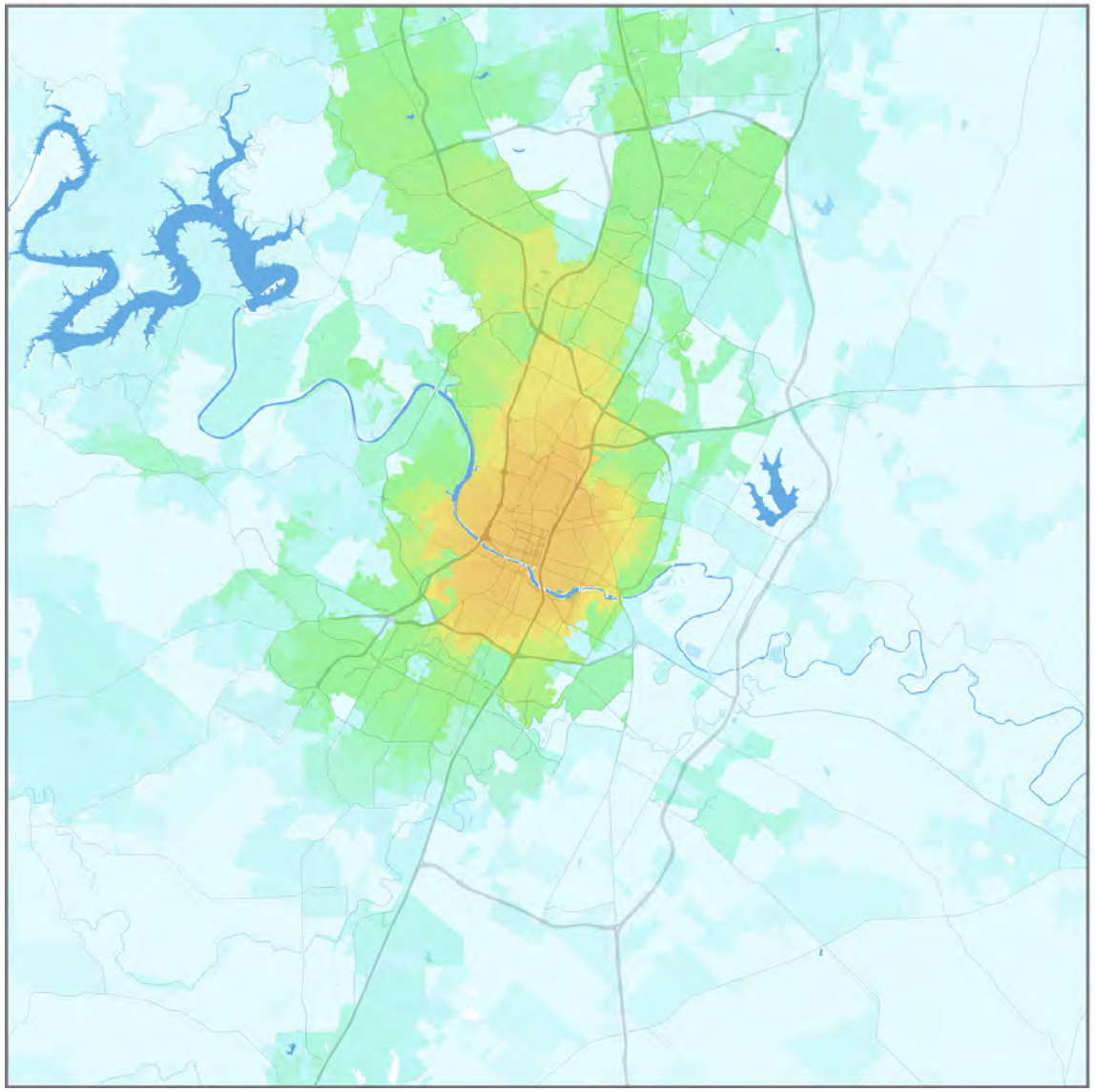


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



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

Austin

Austin-Round Rock-San Marcos, TX

Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

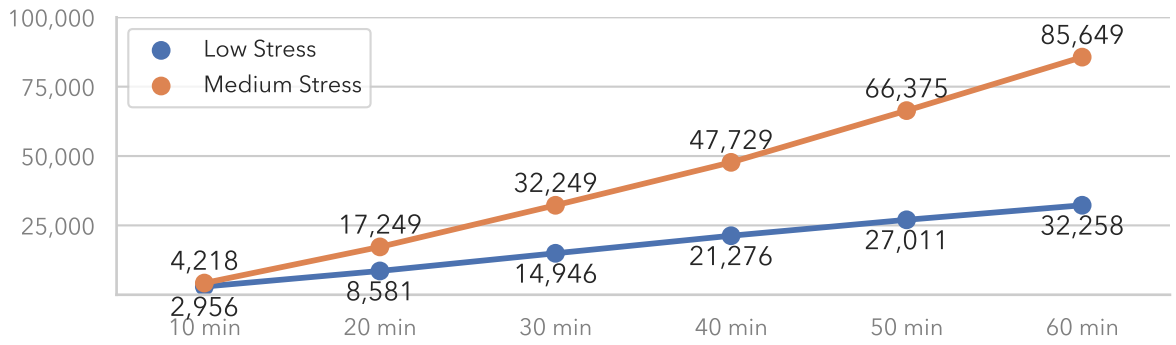
Baltimore

Baltimore-Towson, MD

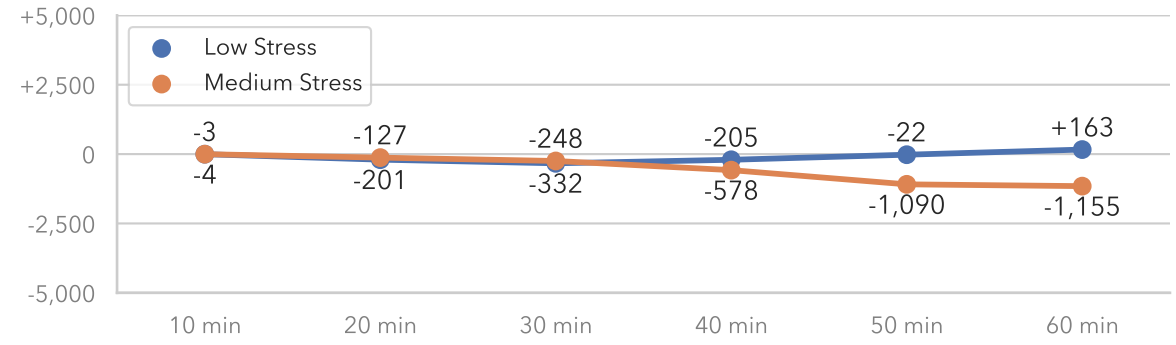
Rank by Weighted Low-Stress Bike Accessibility	**13**
Rank by Weighted Medium-Stress Bike Accessibility	**20**
Rank by Change in Low-Stress Bike Accessibility	**42**
Rank by Change in Medium-Stress Bike Accessibility	**38**
Rank by Total Employment	**21**
Total Jobs	**1,316,328**
Average Job Density (per km^2)	**195**
Total Workers	**1,277,911**
Average Worker Density (per km^2)	**190**

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

Biking Job Accessibility by Travel Time Threshold



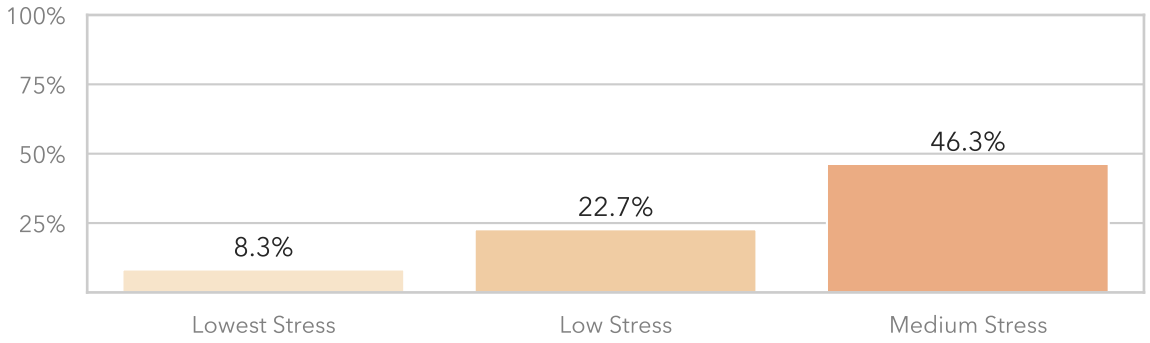
1-Year Change in Biking Job Accessibility by Travel Time Threshold



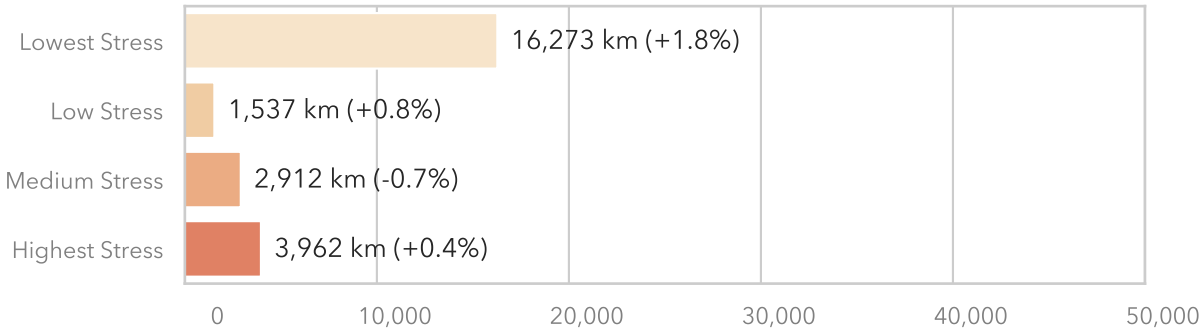
Baltimore

Baltimore-Towson, MD

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

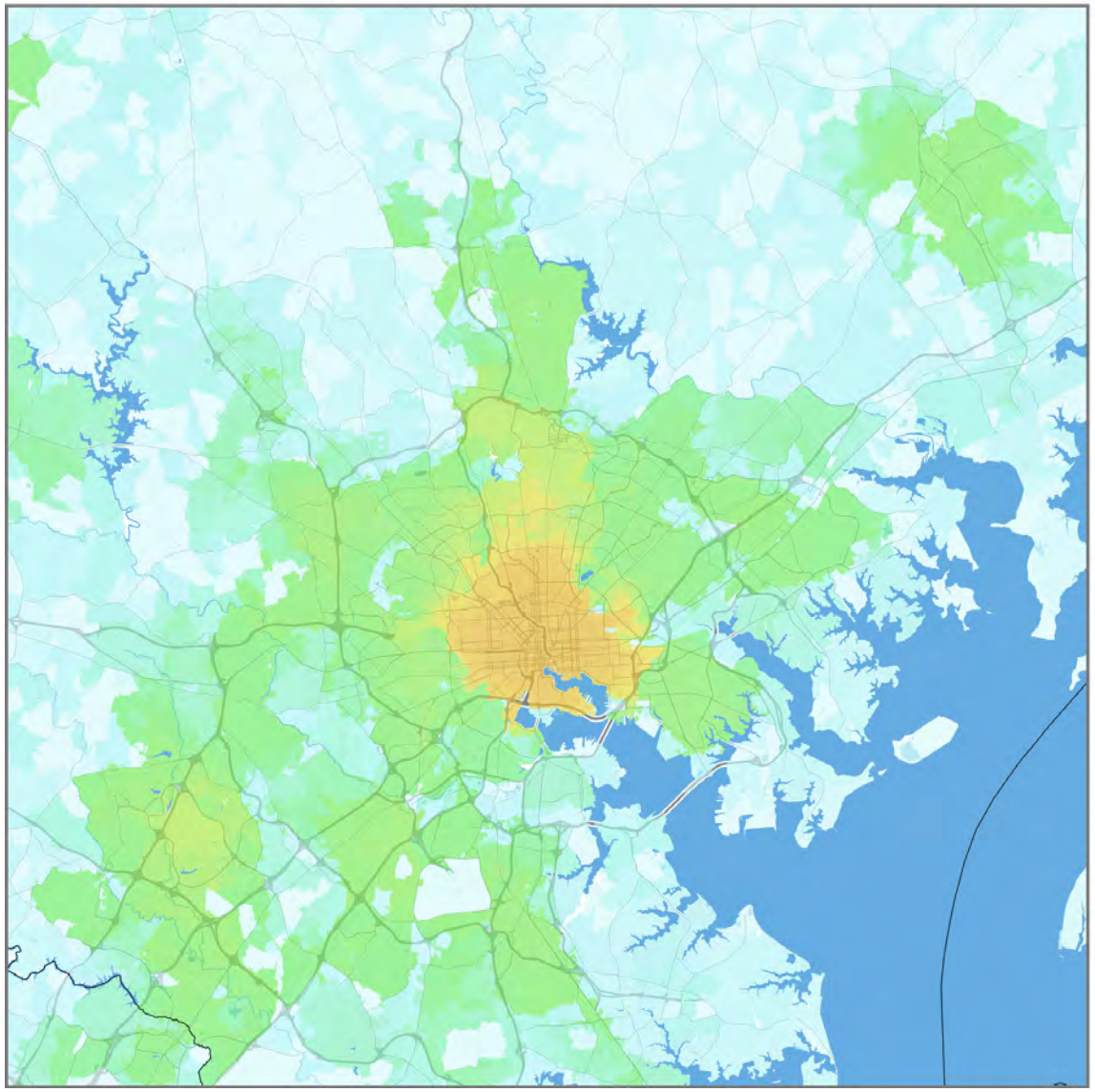


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Baltimore

Baltimore-Towson, MD



Jobs within 30 minutes
(Biking, medium stress)

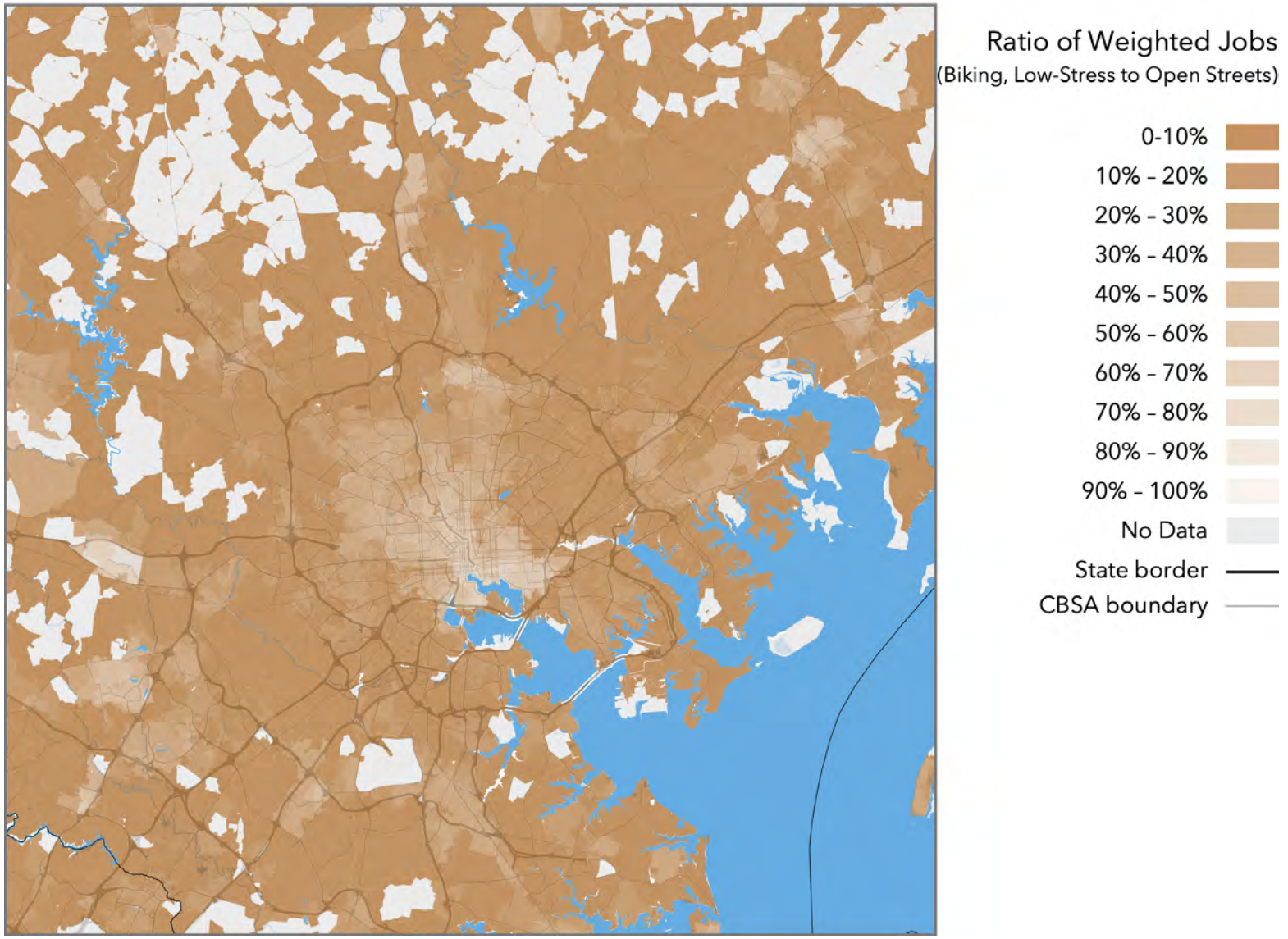
- 0 – 1,000
- 1,000 – 2,500
- 2,500 – 5,000
- 5,000 – 7,500
- 7,500 – 10,000
- 10,000 – 25,000
- 25,000 – 50,000
- 50,000 – 75,000
- 75,000 – 100,000
- 100,000 – 250,000
- 250,000 – 500,000
- 500,000 – 750,000
- 750,000 – 1,000,000
- 1,000,000 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000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

State border

CBSA boundary

Baltimore

Baltimore-Towson, MD



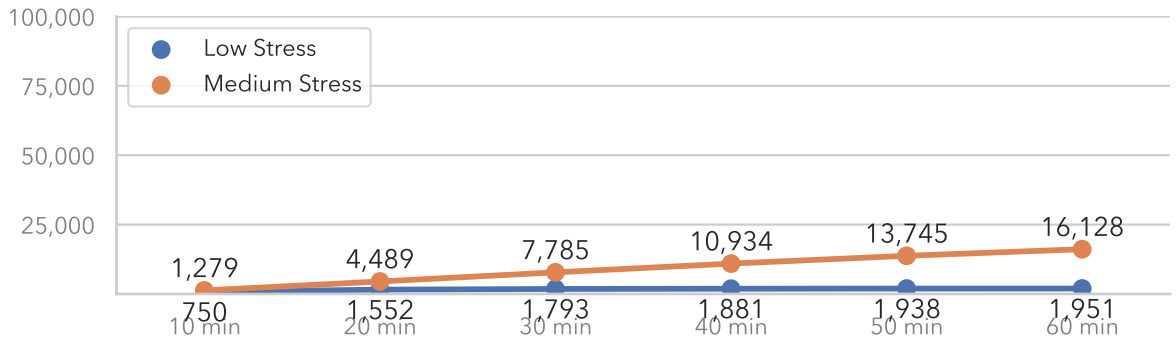
Birmingham

Birmingham-Hoover, AL

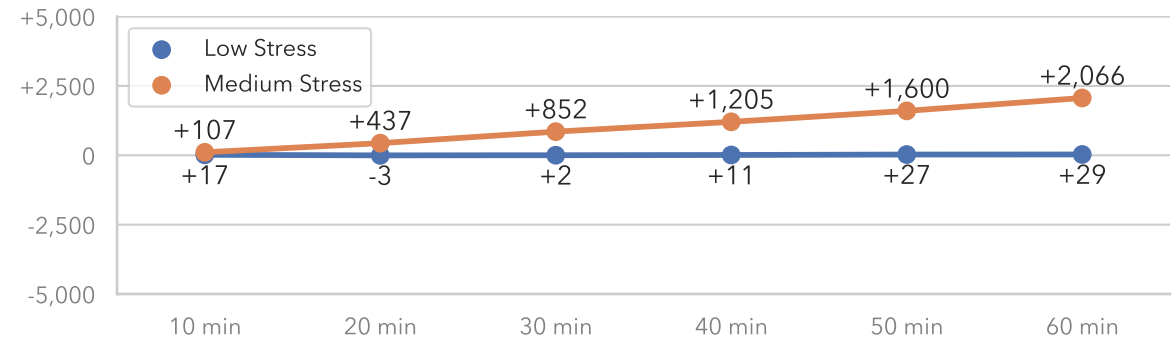
Rank by Weighted Low-Stress Bike Accessibility	**49**
Rank by Weighted Medium-Stress Bike Accessibility	**49**
Rank by Change in Low-Stress Bike Accessibility	**38**
Rank by Change in Medium-Stress Bike Accessibility	**13**
Rank by Total Employment	**50**
Total Jobs	**510,537**
Average Job Density (per km^2)	**37**
Total Workers	**479,837**
Average Worker Density (per km^2)	**35**

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

Biking Job Accessibility by Travel Time Threshold



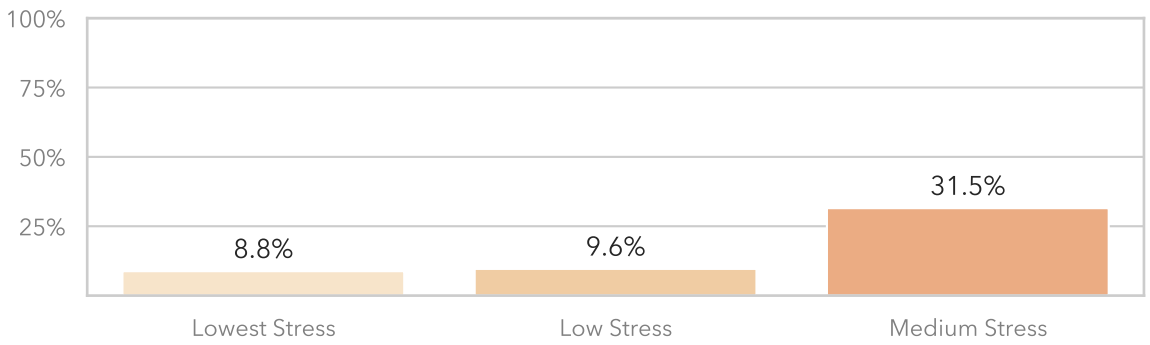
1-Year Change in Biking Job Accessibility by Travel Time Threshold



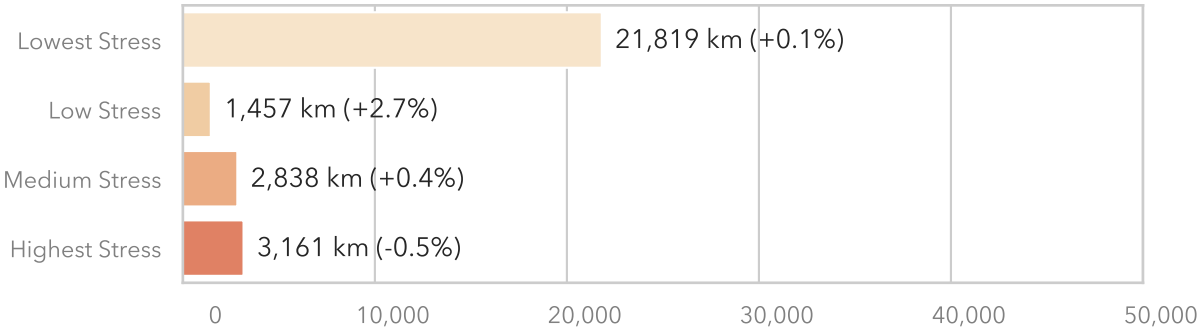
Birmingham

Birmingham-Hoover, AL

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

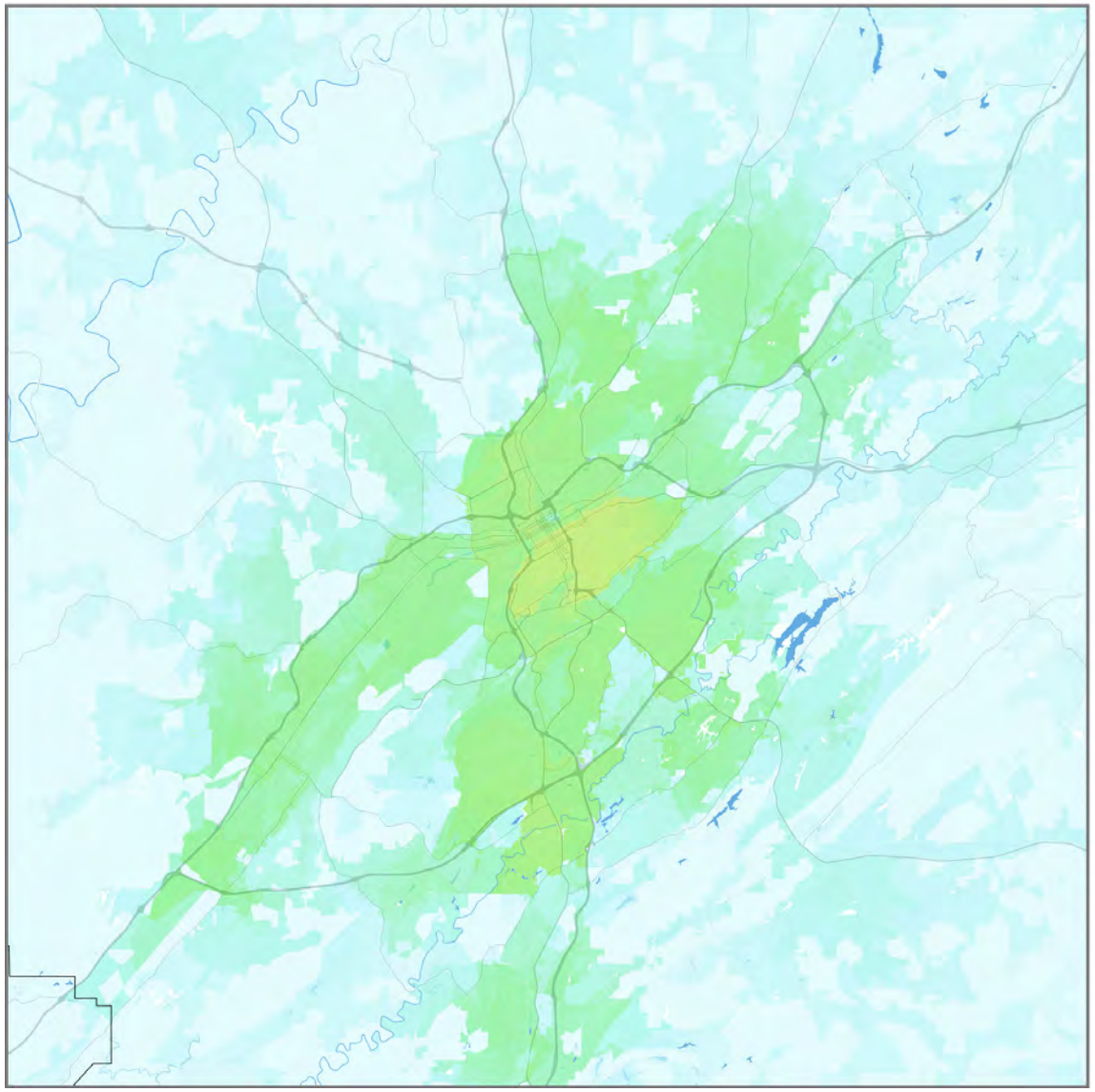


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



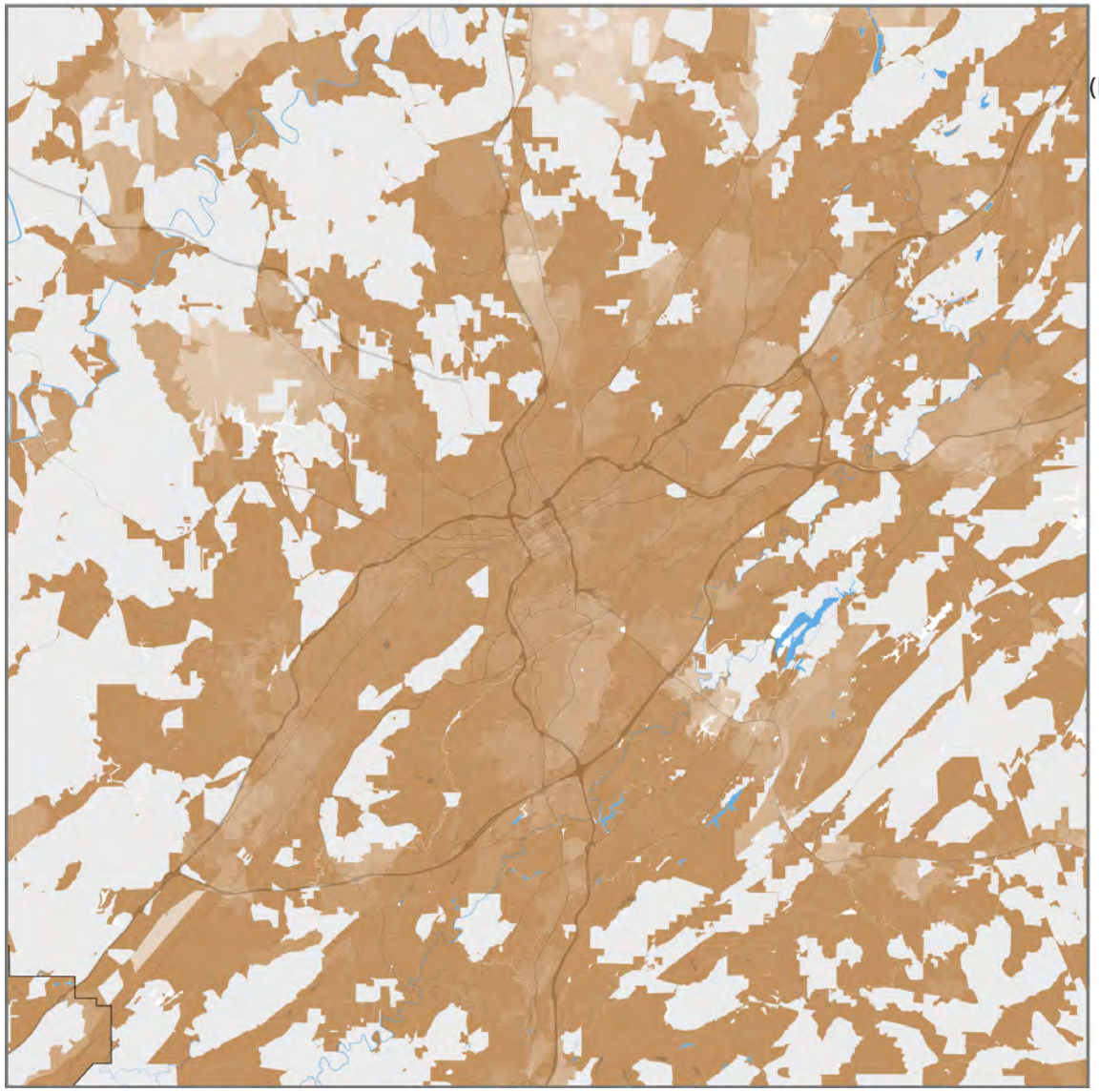
Birmingham

Birmingham-Hoover, AL



Birmingham

Birmingham-Hoover, AL



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

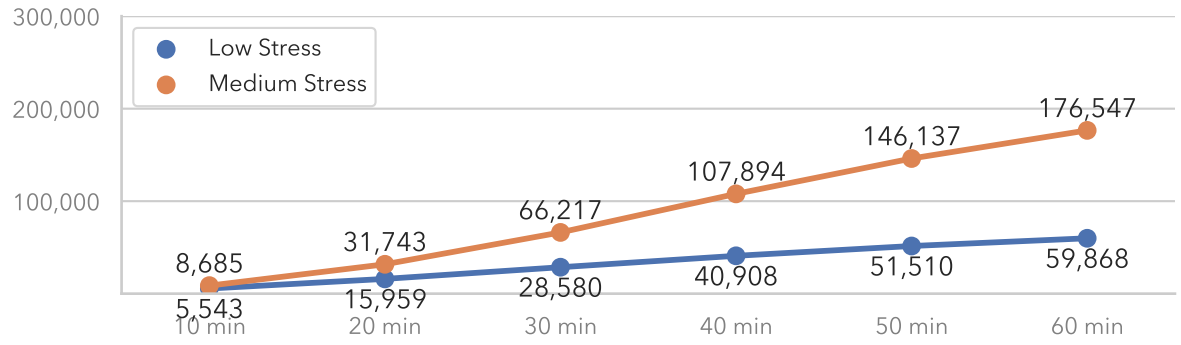
Boston

Boston-Cambridge-Quincy, MA-NH

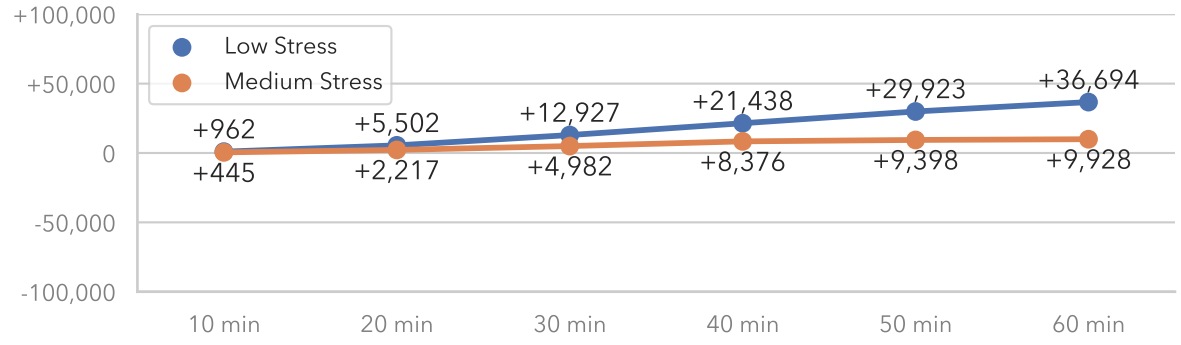
Rank by Weighted Low-Stress Bike Accessibility	**4**
Rank by Weighted Medium-Stress Bike Accessibility	**6**
Rank by Change in Low-Stress Bike Accessibility	**2**
Rank by Change in Medium-Stress Bike Accessibility	**19**
Rank by Total Employment	**10**
Total Jobs	**2,682,278**
Average Job Density (per km^2)	**297**
Total Workers	**2,464,508**
Average Worker Density (per km^2)	**273**

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

Biking Job Accessibility by Travel Time Threshold



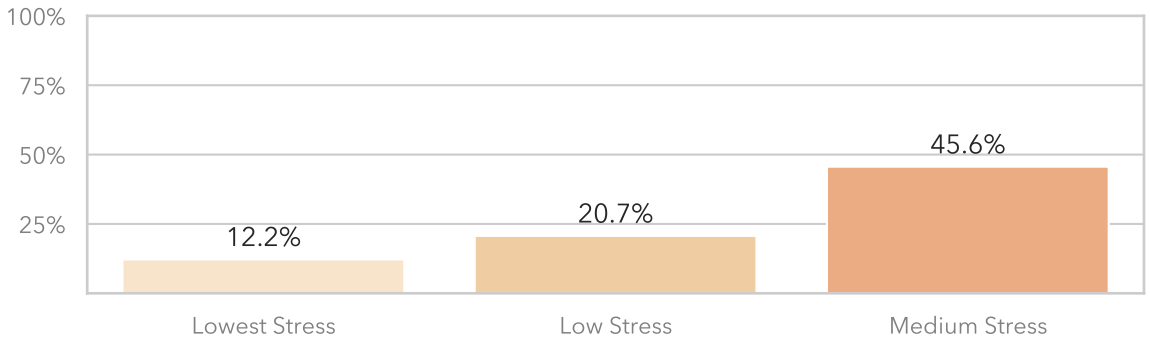
1-Year Change in Biking Job Accessibility by Travel Time Threshold



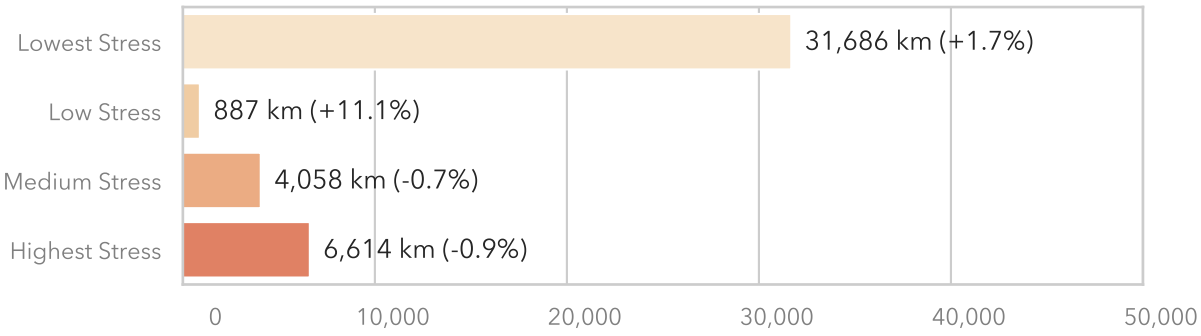
Boston

Boston-Cambridge-Quincy, MA-NH

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

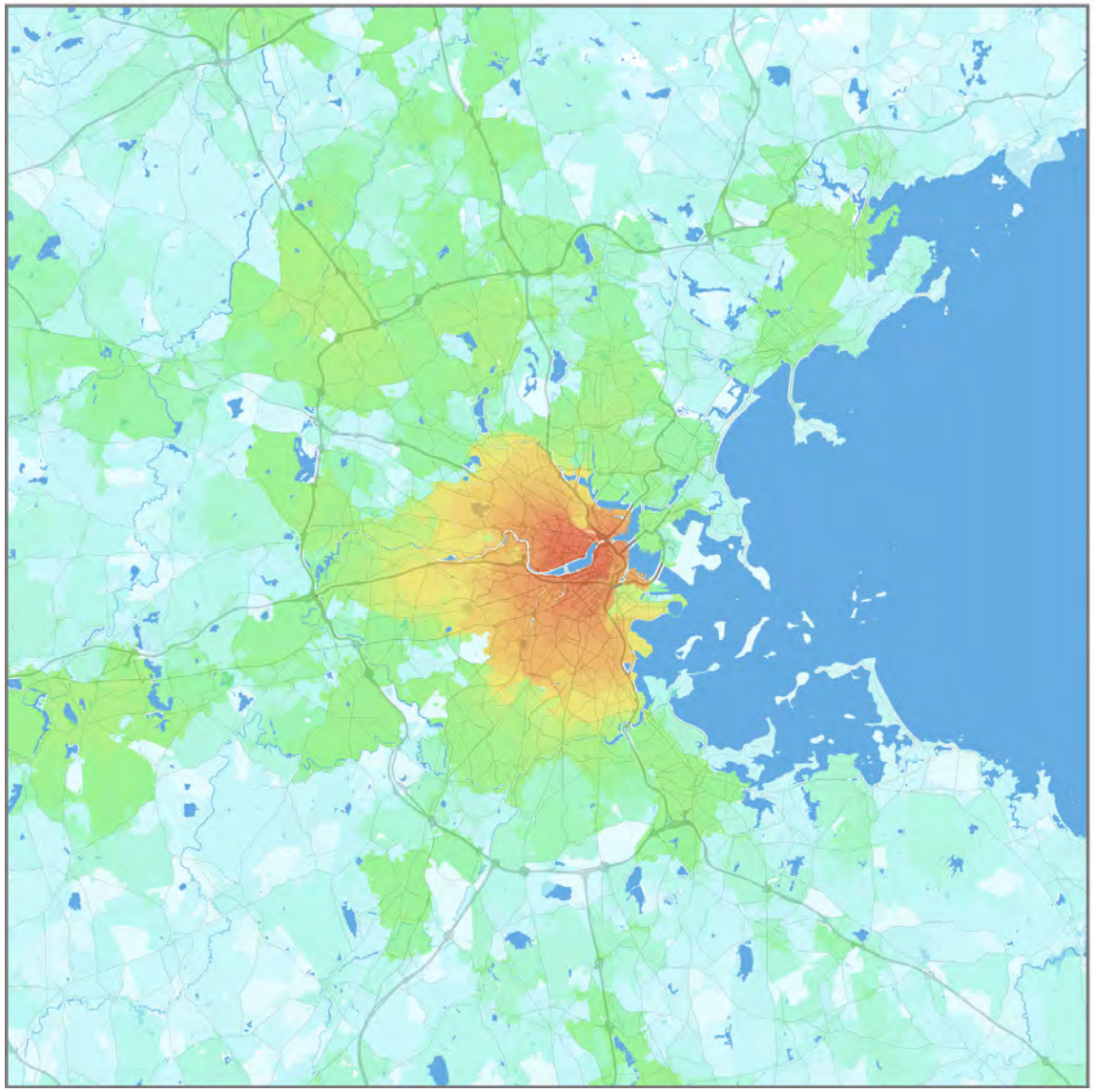


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Boston

Boston-Cambridge-Quincy, MA-NH



Boston

Boston-Cambridge-Quincy, MA-NH

Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

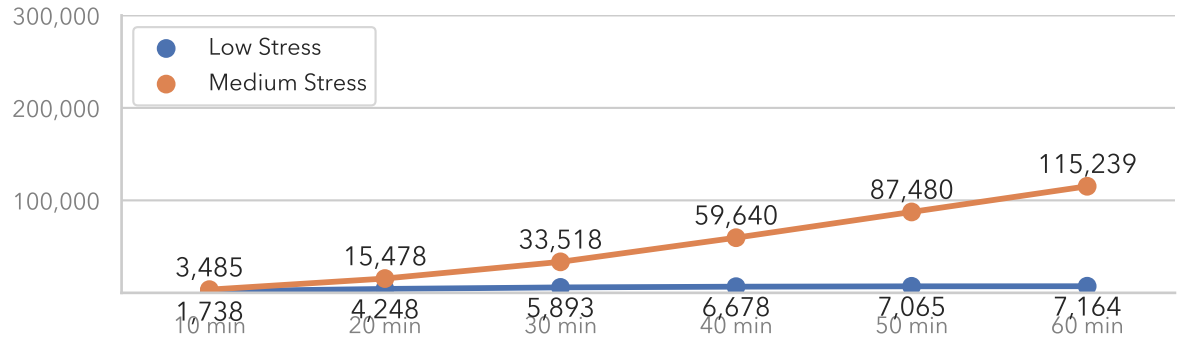
Buffalo

Buffalo-Niagara Falls, NY

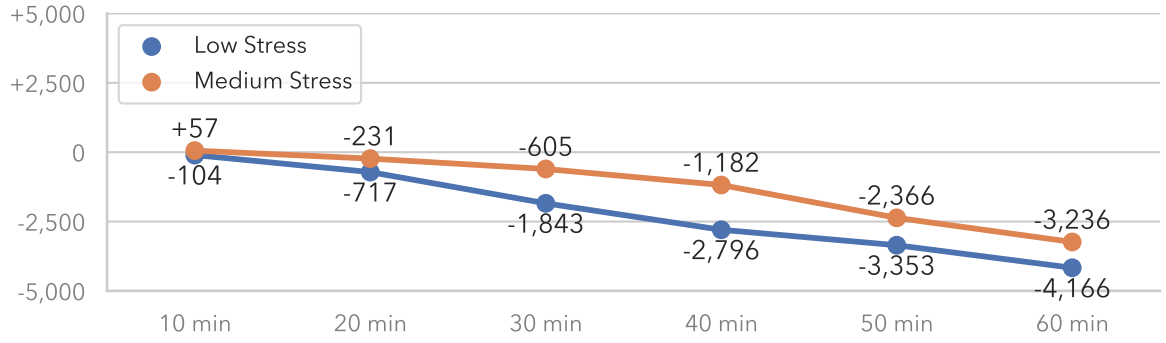
Rank by Weighted Low-Stress Bike Accessibility	**30**
Rank by Weighted Medium-Stress Bike Accessibility	**19**
Rank by Change in Low-Stress Bike Accessibility	**50**
Rank by Change in Medium-Stress Bike Accessibility	**41**
Rank by Total Employment	**48**
Total Jobs	**546,694**
Average Job Density (per km^2)	**135**
Total Workers	**525,947**
Average Worker Density (per km^2)	**130**

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

Biking Job Accessibility by Travel Time Threshold



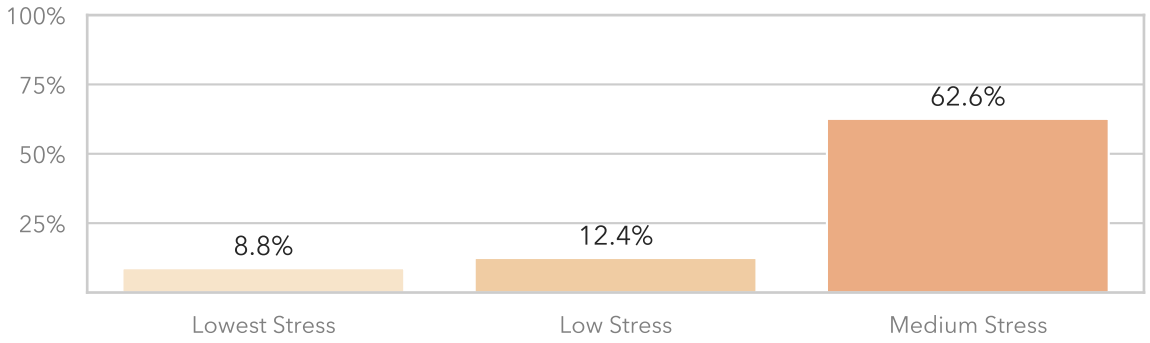
1-Year Change in Biking Job Accessibility by Travel Time Threshold



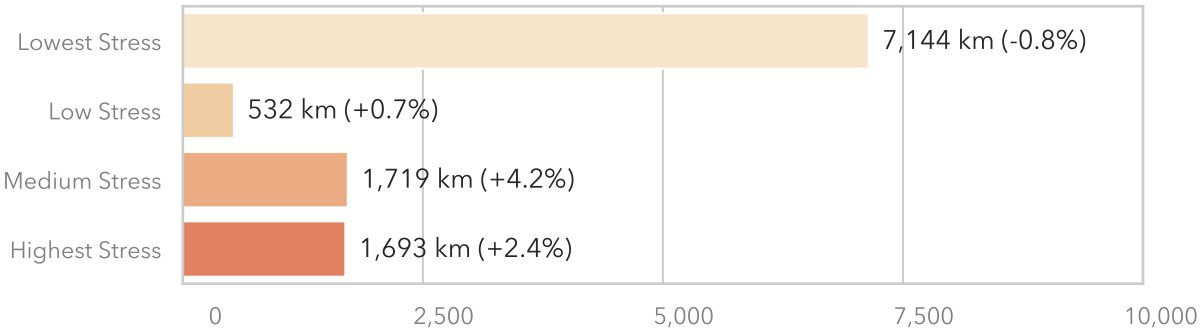
Buffalo

Buffalo-Niagara Falls, NY

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

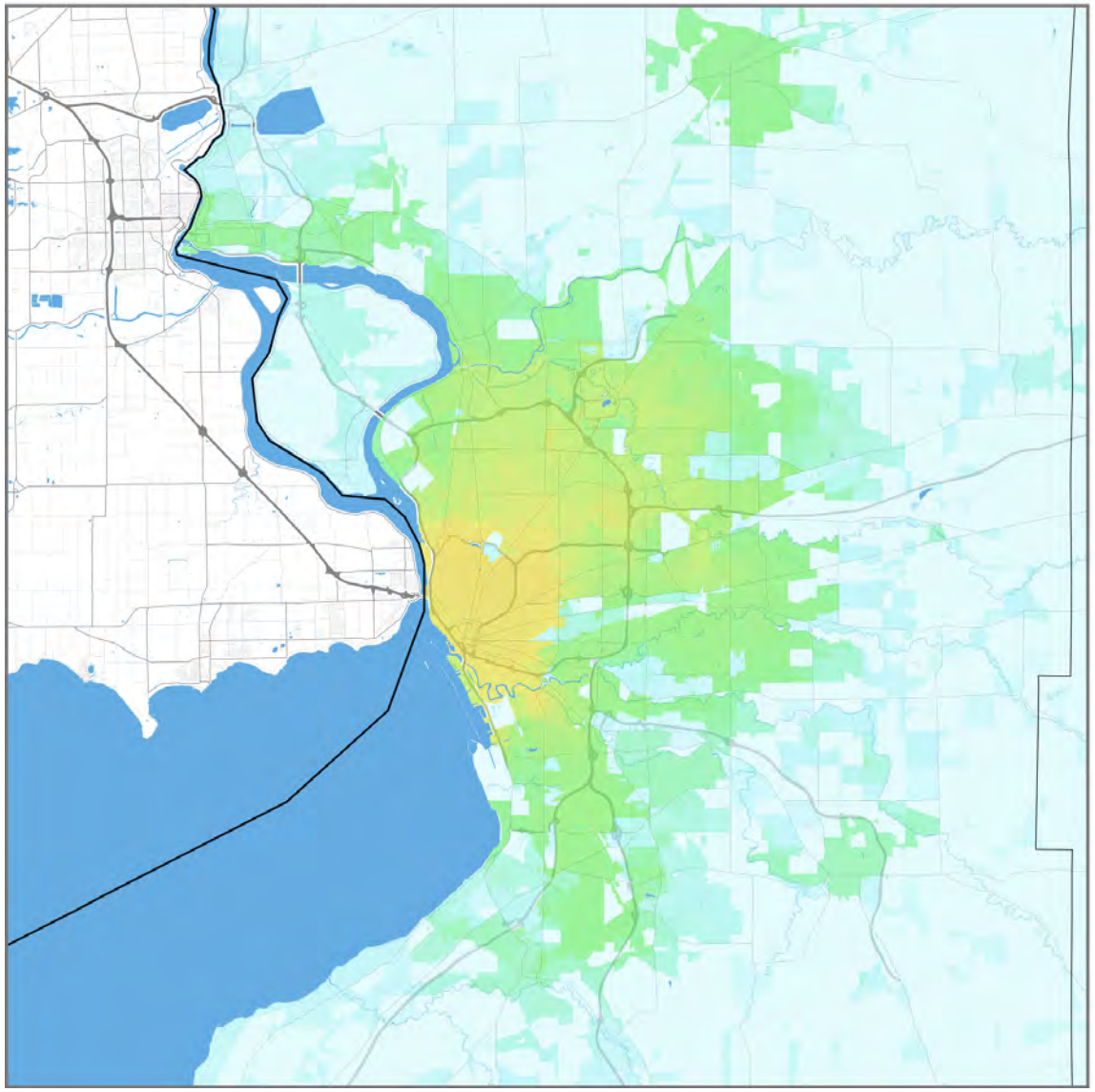


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



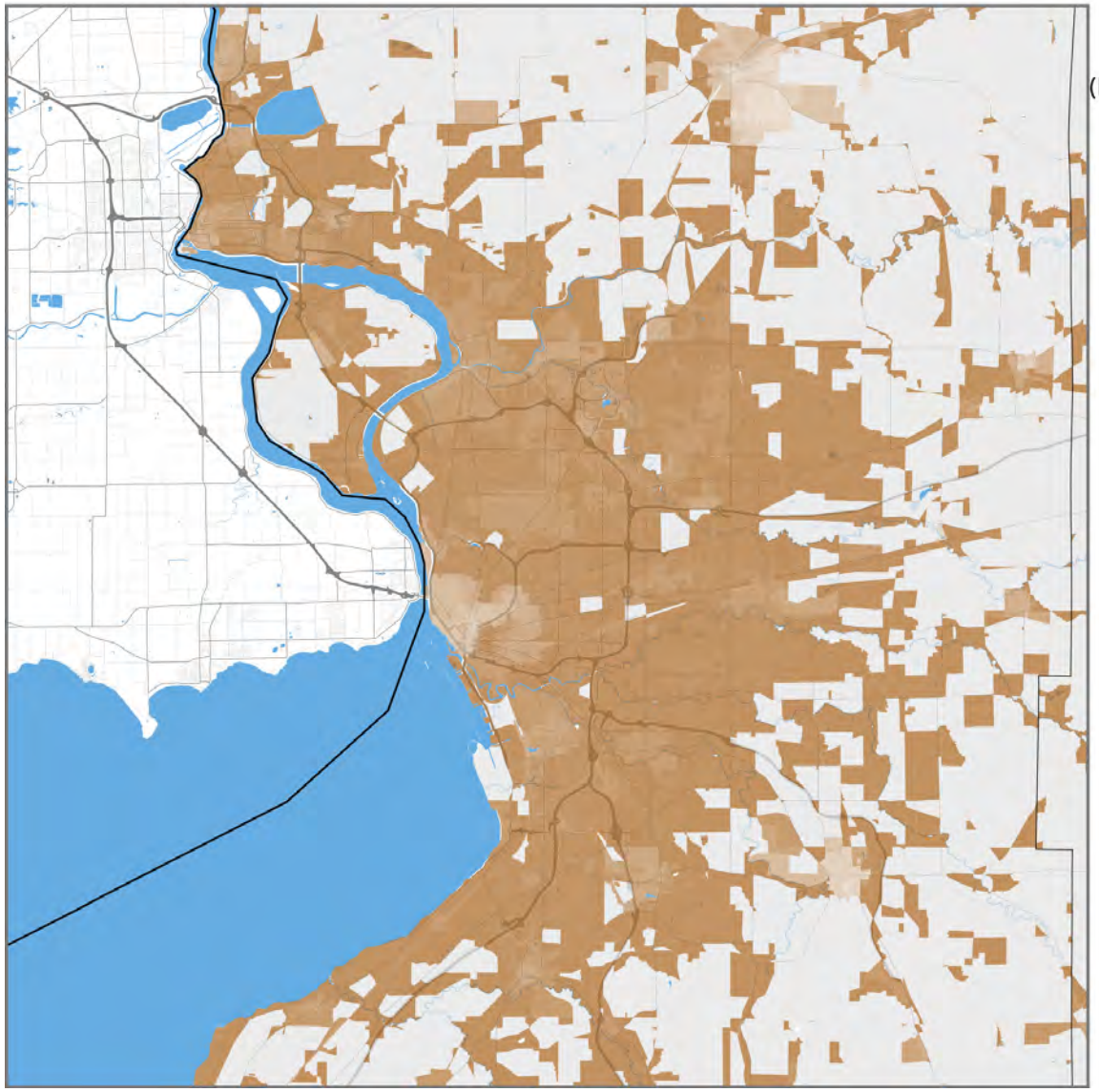
Buffalo

Buffalo-Niagara Falls, NY



Buffalo

Buffalo-Niagara Falls, NY



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

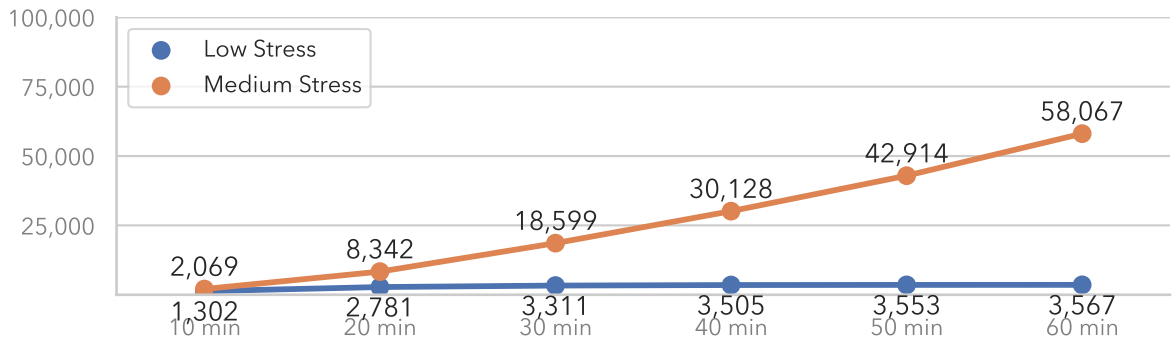
Charlotte

Charlotte-Gastonia-Rock Hill, NC-SC

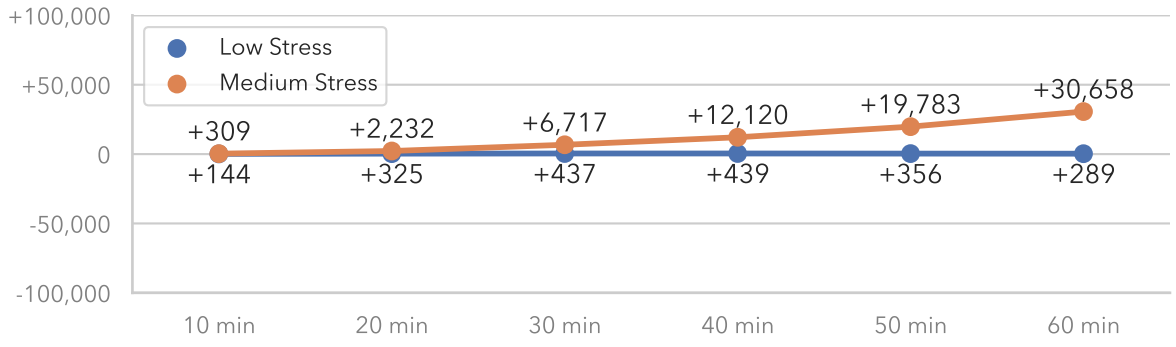
Rank by Weighted Low-Stress Bike Accessibility	**40**
Rank by Weighted Medium-Stress Bike Accessibility	**37**
Rank by Change in Low-Stress Bike Accessibility	**12**
Rank by Change in Medium-Stress Bike Accessibility	**1**
Rank by Total Employment	**34**
Total Jobs	**1,037,014**
Average Job Density (per km^2)	**130**
Total Workers	**930,190**
Average Worker Density (per km^2)	**116**

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

Biking Job Accessibility by Travel Time Threshold



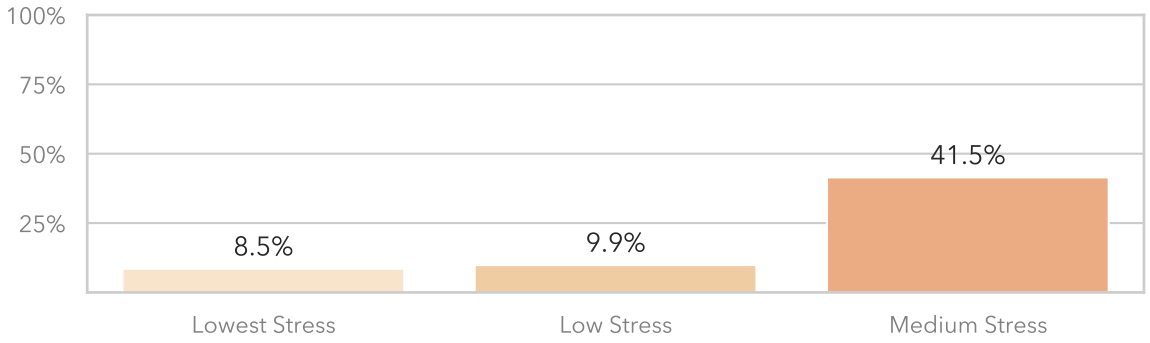
1-Year Change in Biking Job Accessibility by Travel Time Threshold



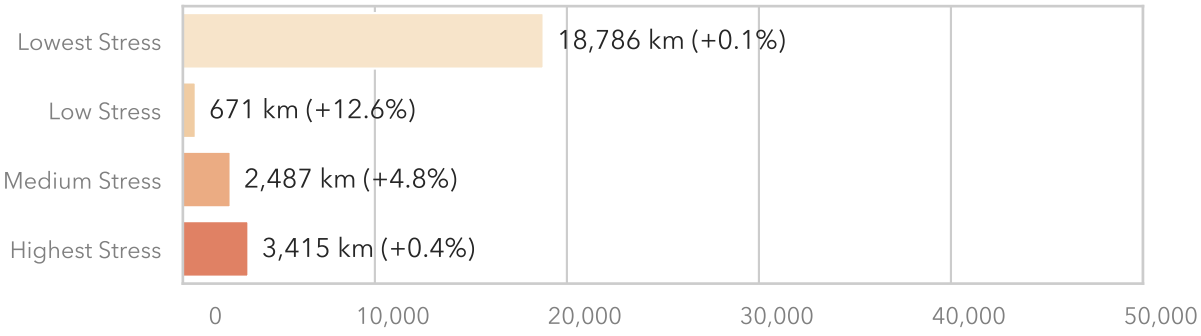
Charlotte

Charlotte-Gastonia-Rock Hill, NC-SC

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

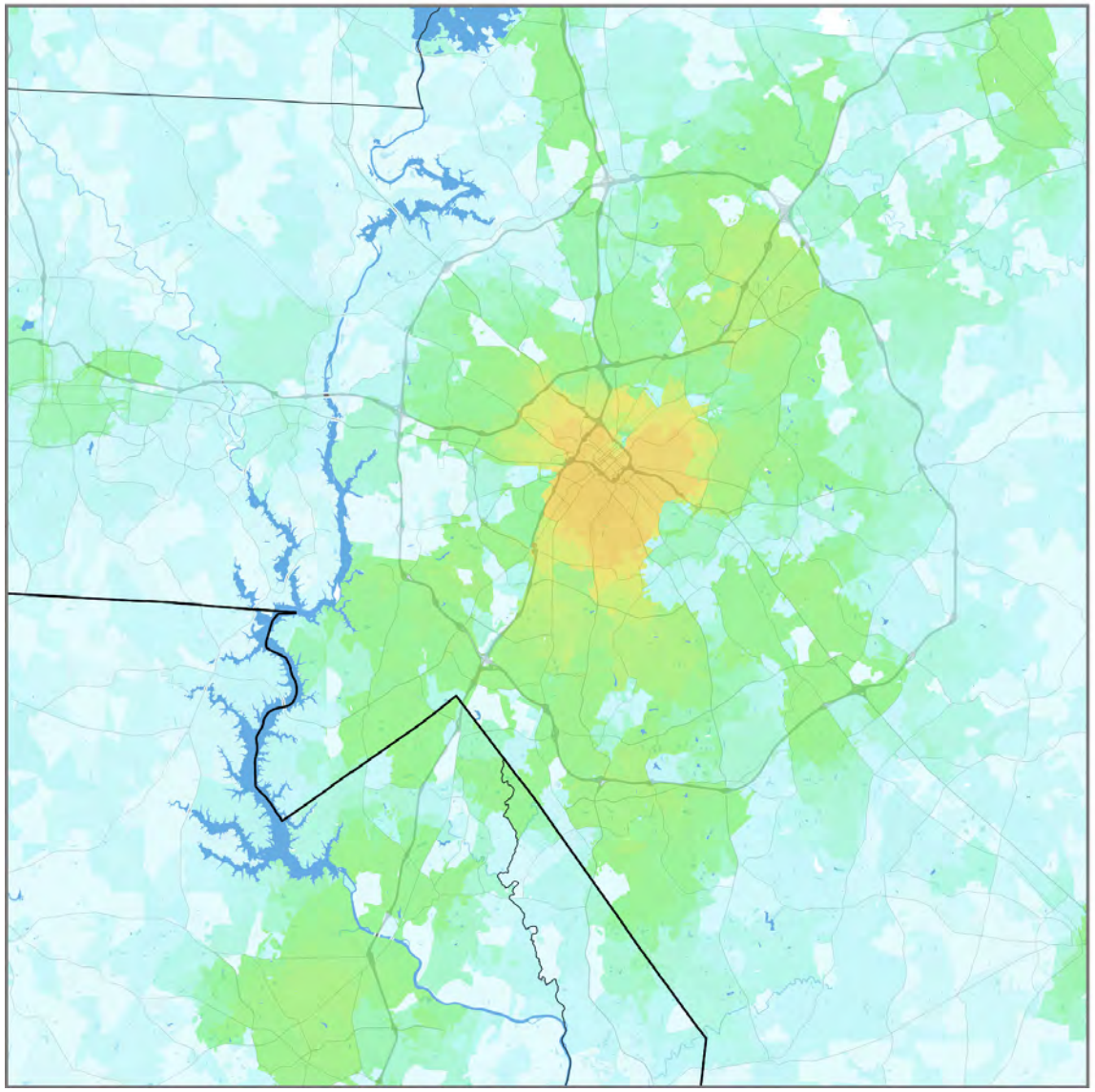


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Charlotte

Charlotte-Gastonia-Rock Hill, 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

Charlotte

Charlotte-Gastonia-Rock Hill, NC-SC

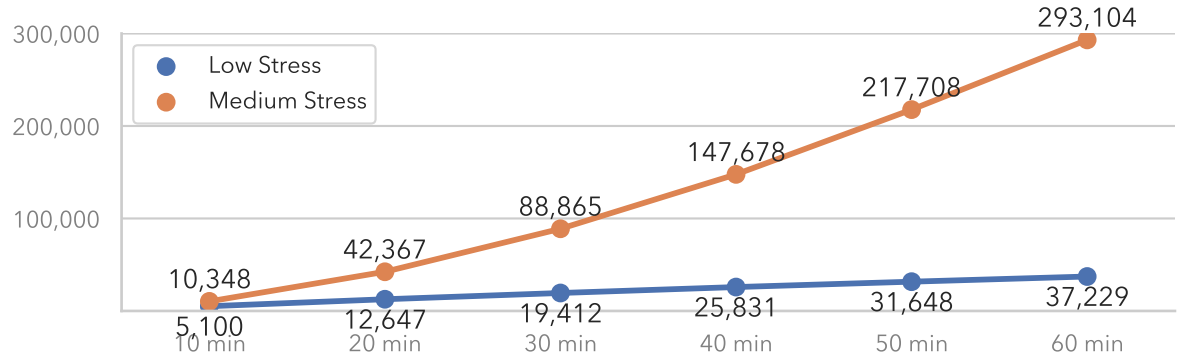
Chicago

Chicago-Joliet-Naperville, IL-IN-WI

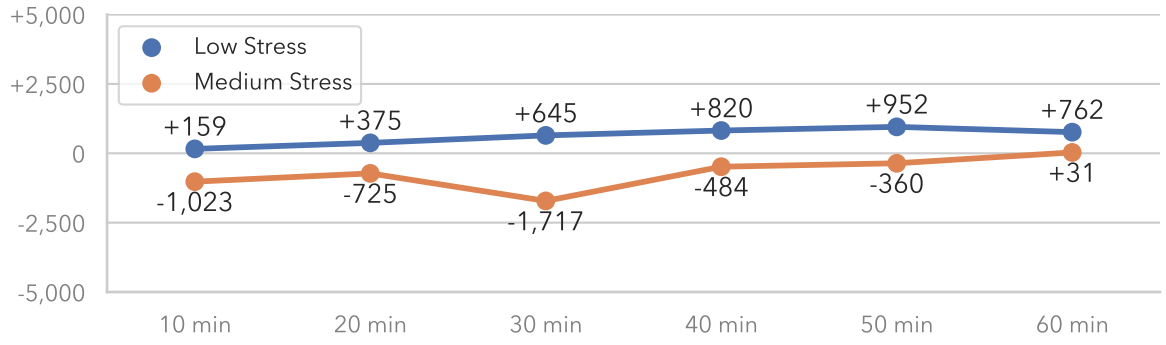
Rank by Weighted Low-Stress Bike Accessibility	**7**
Rank by Weighted Medium-Stress Bike Accessibility	**3**
Rank by Change in Low-Stress Bike Accessibility	**35**
Rank by Change in Medium-Stress Bike Accessibility	**46**
Rank by Total Employment	**3**
Total Jobs	**4,559,884**
Average Job Density (per km^2)	**245**
Total Workers	**4,448,938**
Average Worker Density (per km^2)	**239**

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

Biking Job Accessibility by Travel Time Threshold



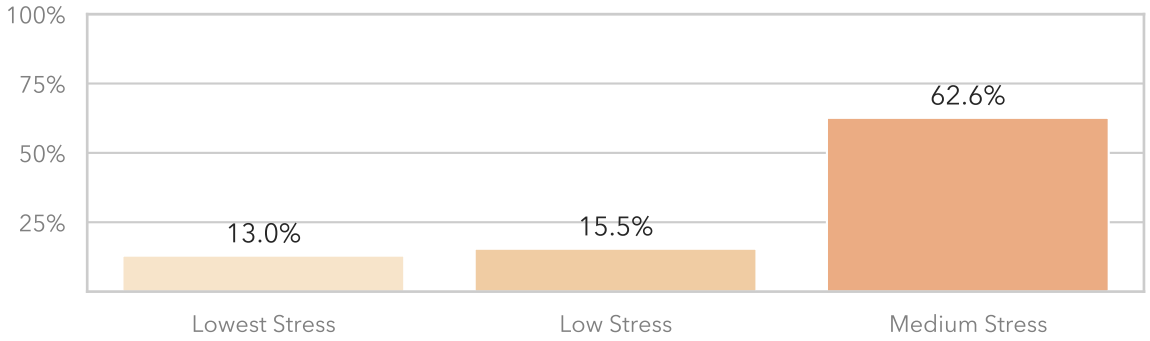
1-Year Change in Biking Job Accessibility by Travel Time Threshold



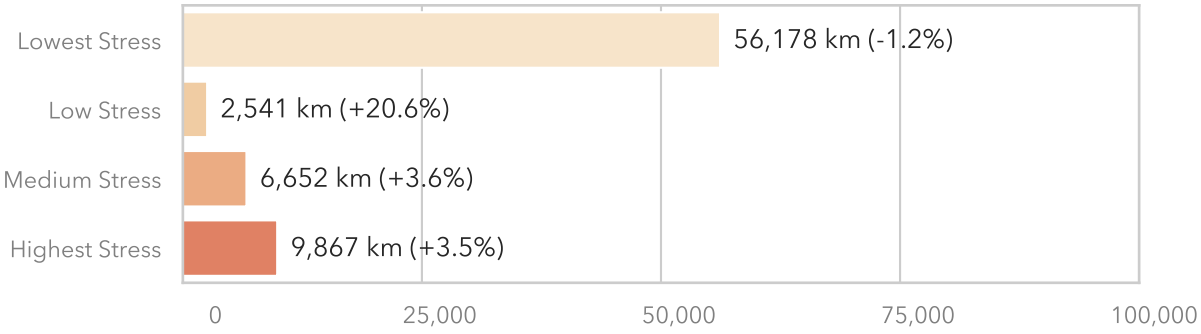
Chicago

Chicago-Joliet-Naperville, IL-IN-WI

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

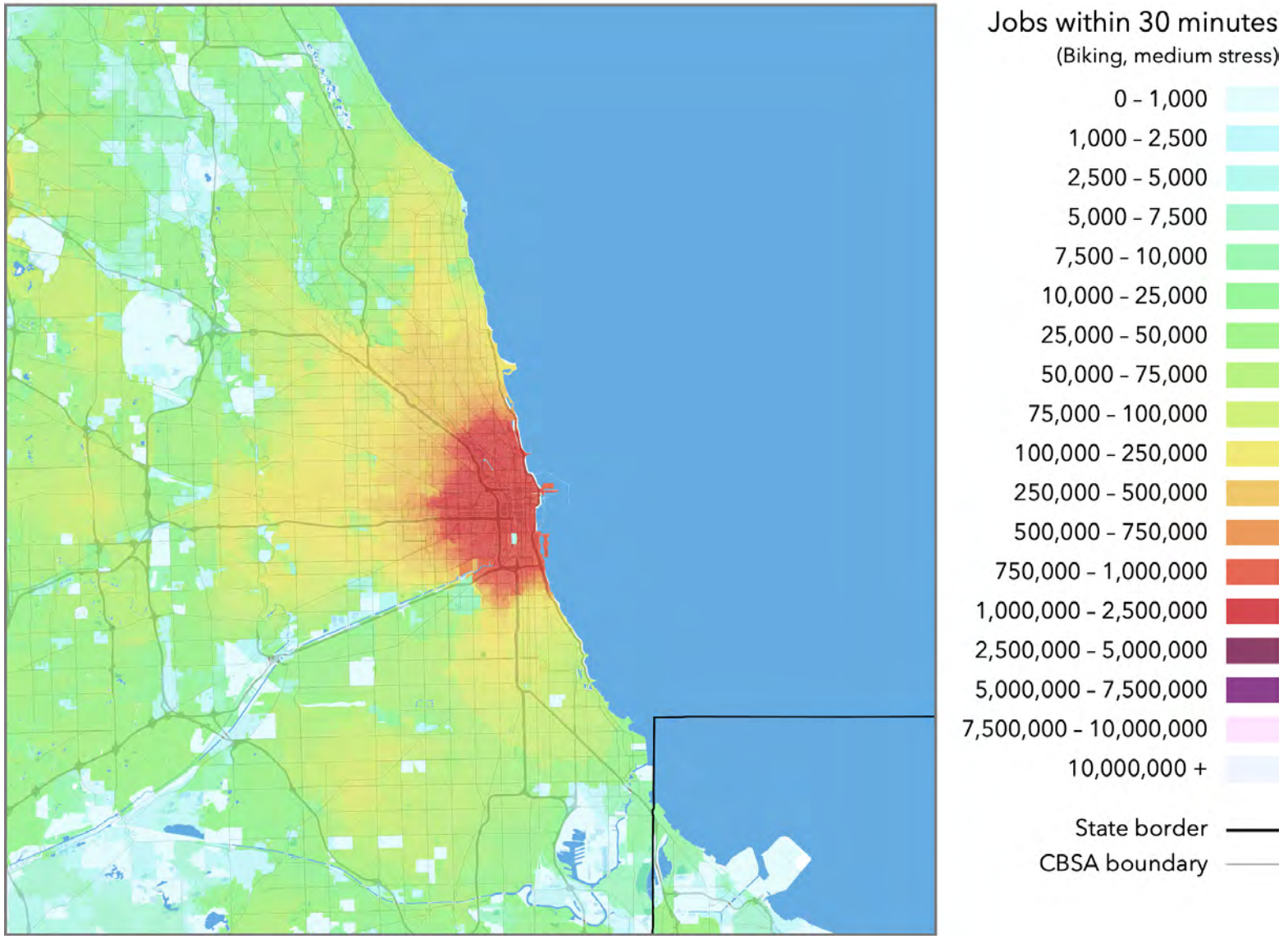


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



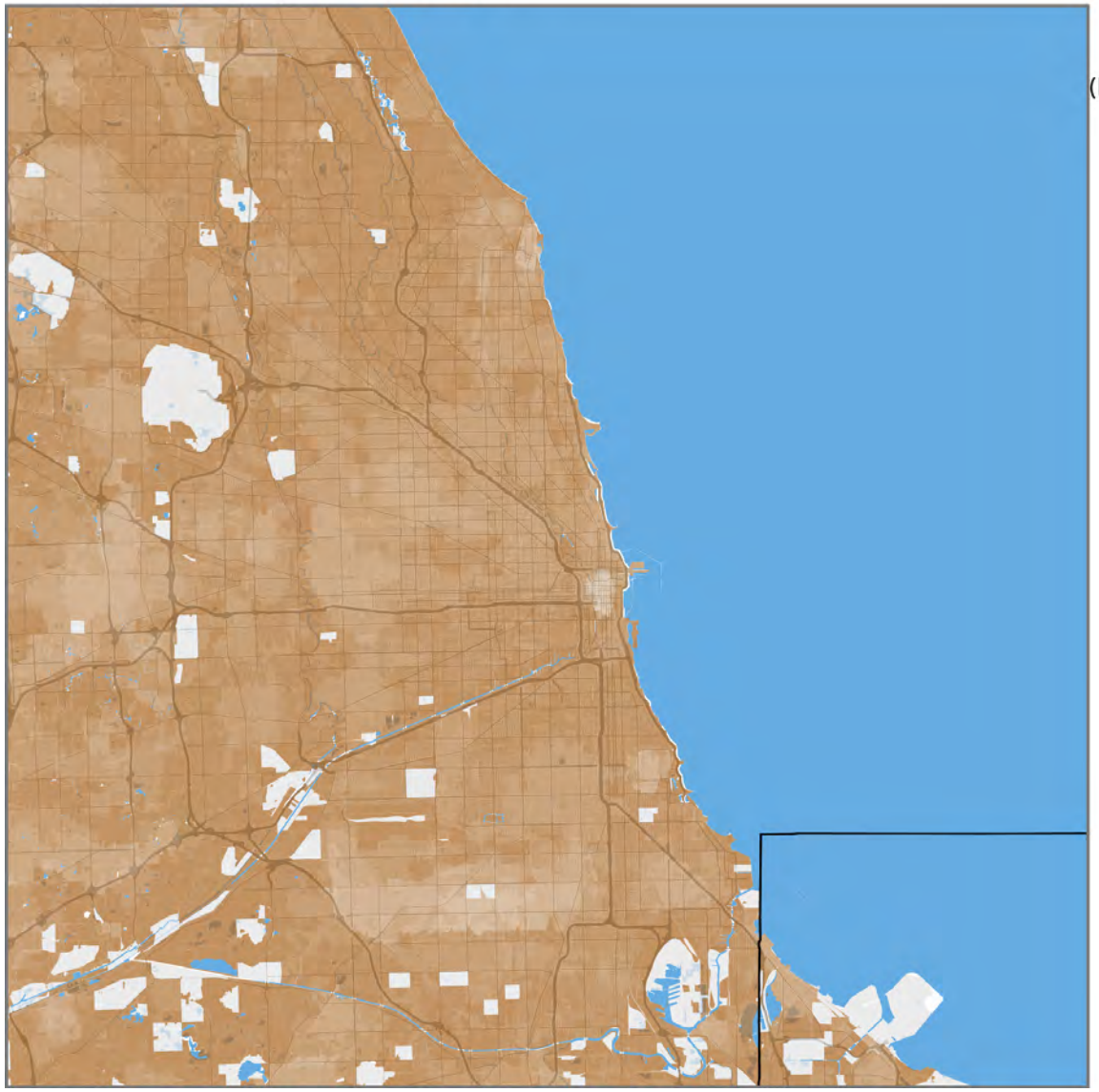
Chicago

Chicago-Joliet-Naperville, IL-IN-WI



Chicago

Chicago-Joliet-Naperville, IL-IN-WI



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

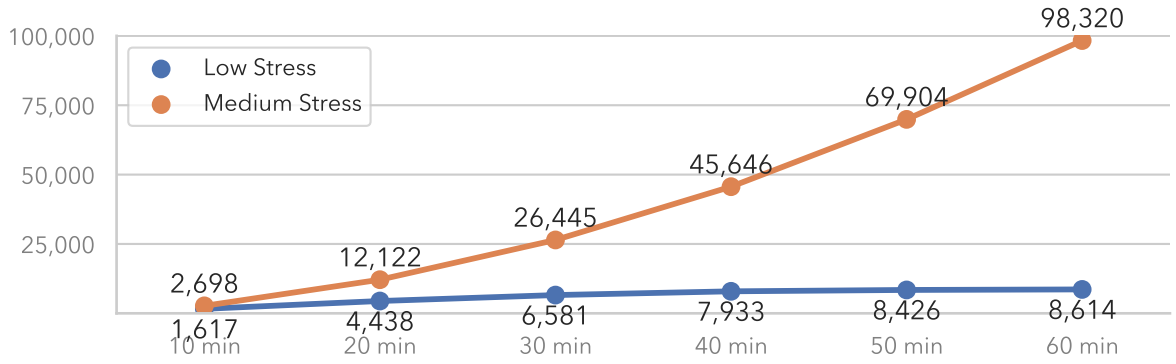
Cincinnati

Cincinnati-Middletown, OH-KY-IN

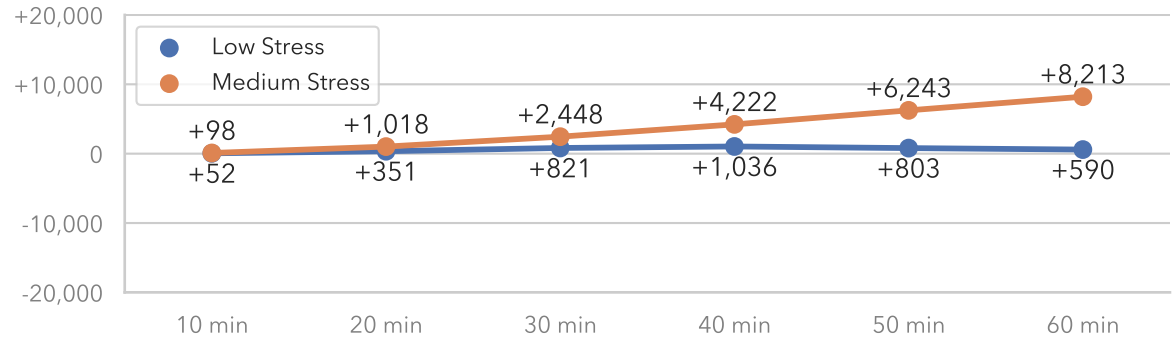
Rank by Weighted Low-Stress Bike Accessibility	**28**
Rank by Weighted Medium-Stress Bike Accessibility	**25**
Rank by Change in Low-Stress Bike Accessibility	**17**
Rank by Change in Medium-Stress Bike Accessibility	**15**
Rank by Total Employment	**25**
Total Jobs	**1,051,395**
Average Job Density (per km^2)	**92**
Total Workers	**1,045,101**
Average Worker Density (per km^2)	**92**

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

Biking Job Accessibility by Travel Time Threshold



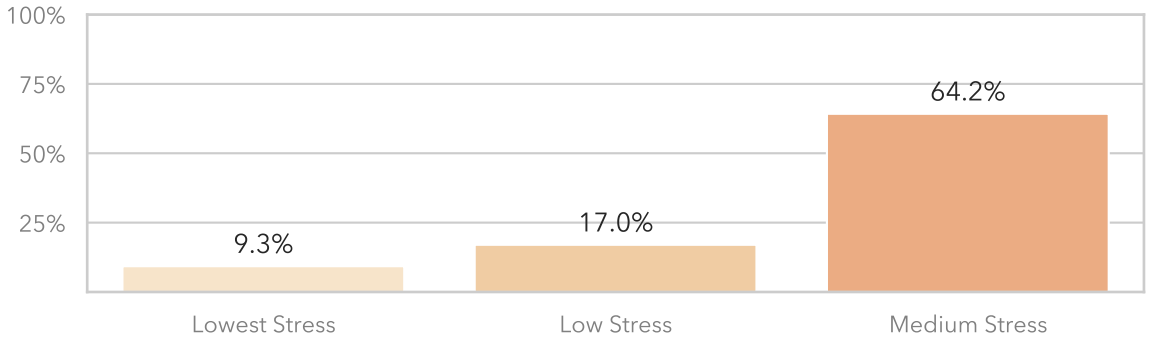
1-Year Change in Biking Job Accessibility by Travel Time Threshold



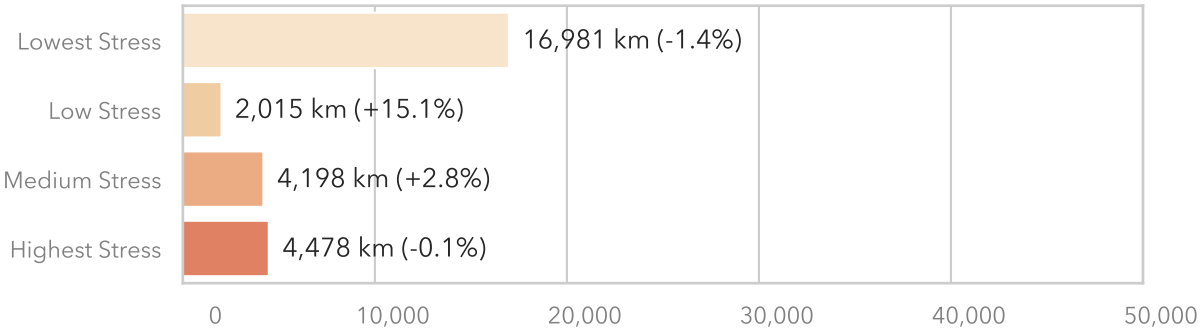
Cincinnati

Cincinnati-Middletown, OH-KY-IN

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

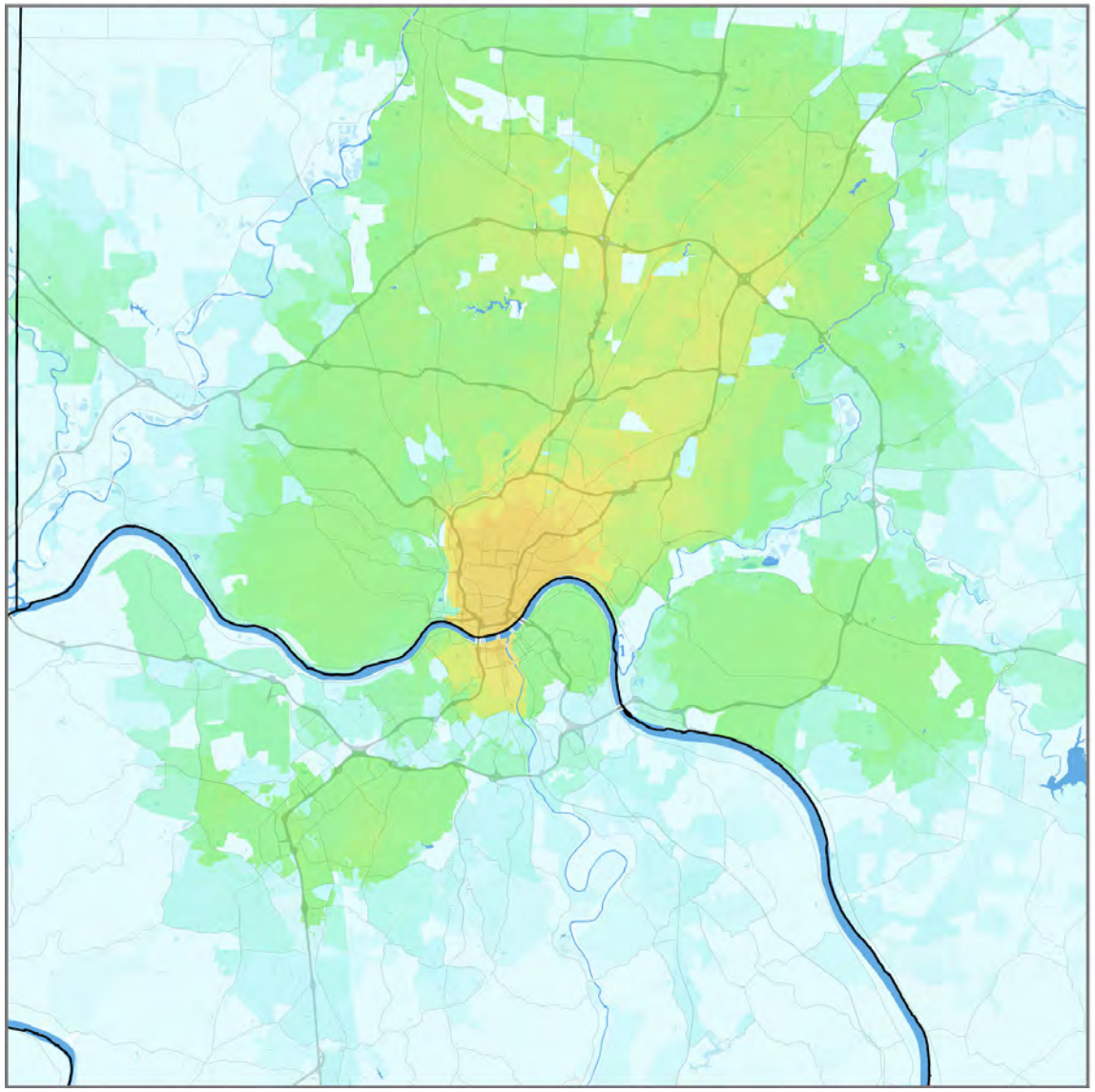


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



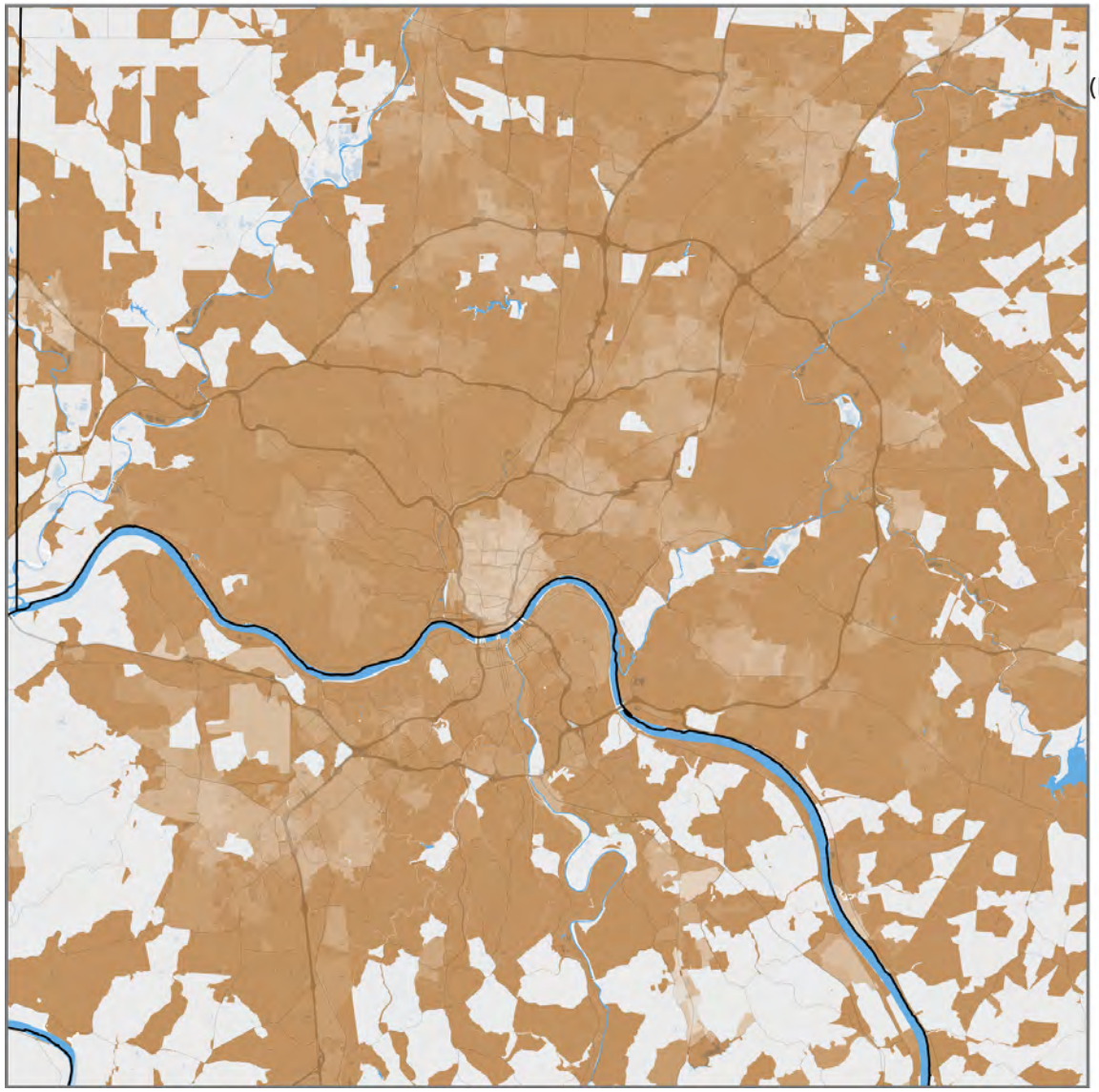
Cincinnati

Cincinnati-Middletown, OH-KY-IN



Cincinnati

Cincinnati-Middletown, OH-KY-IN



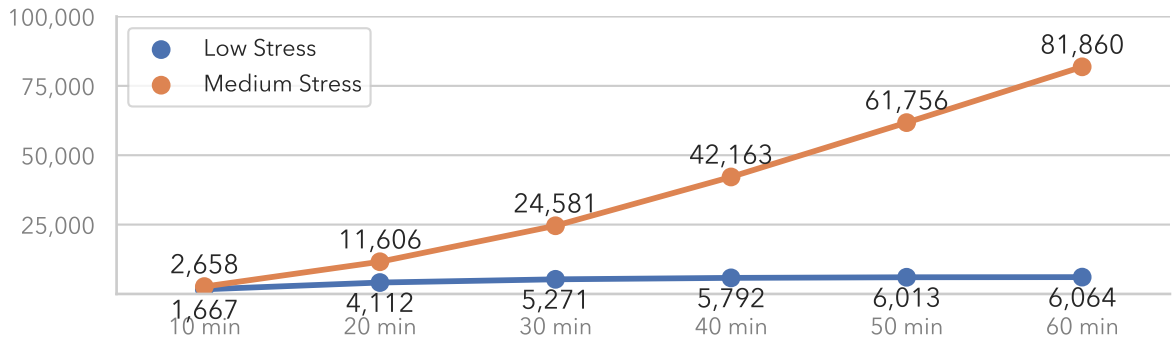
Cleveland

Cleveland-Elyria-Mentor, OH

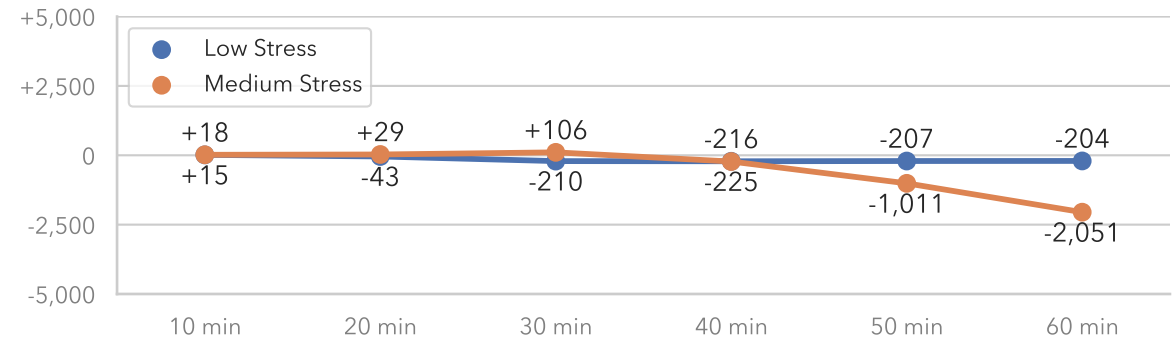
Rank by Weighted Low-Stress Bike Accessibility	**33**
Rank by Weighted Medium-Stress Bike Accessibility	**27**
Rank by Change in Low-Stress Bike Accessibility	**43**
Rank by Change in Medium-Stress Bike Accessibility	**35**
Rank by Total Employment	**30**
Total Jobs	**1,023,177**
Average Job Density (per km^2)	**198**
Total Workers	**961,969**
Average Worker Density (per km^2)	**186**

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

Biking Job Accessibility by Travel Time Threshold



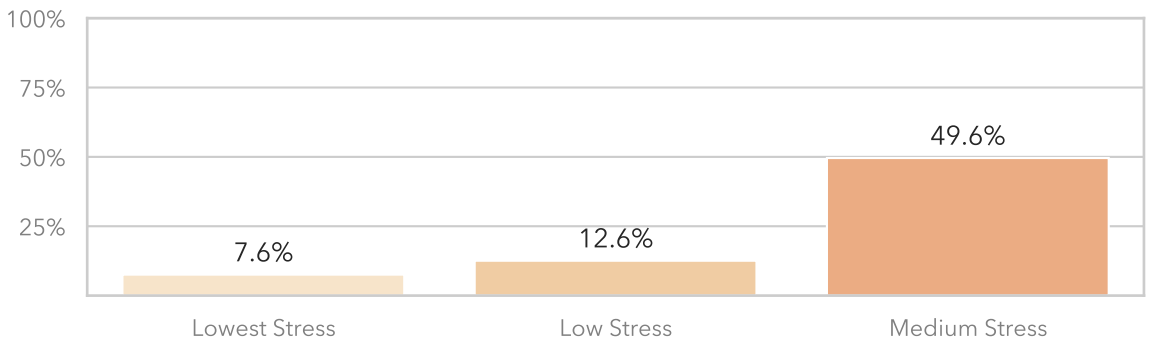
1-Year Change in Biking Job Accessibility by Travel Time Threshold



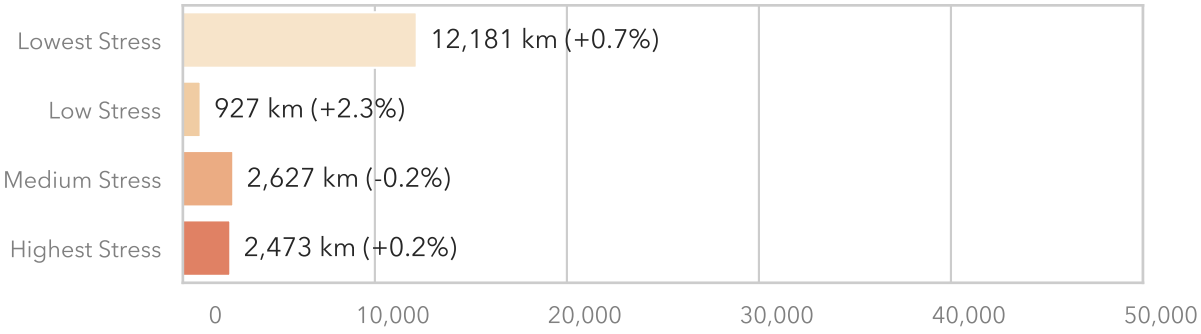
Cleveland

Cleveland-Elyria-Mentor, OH

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

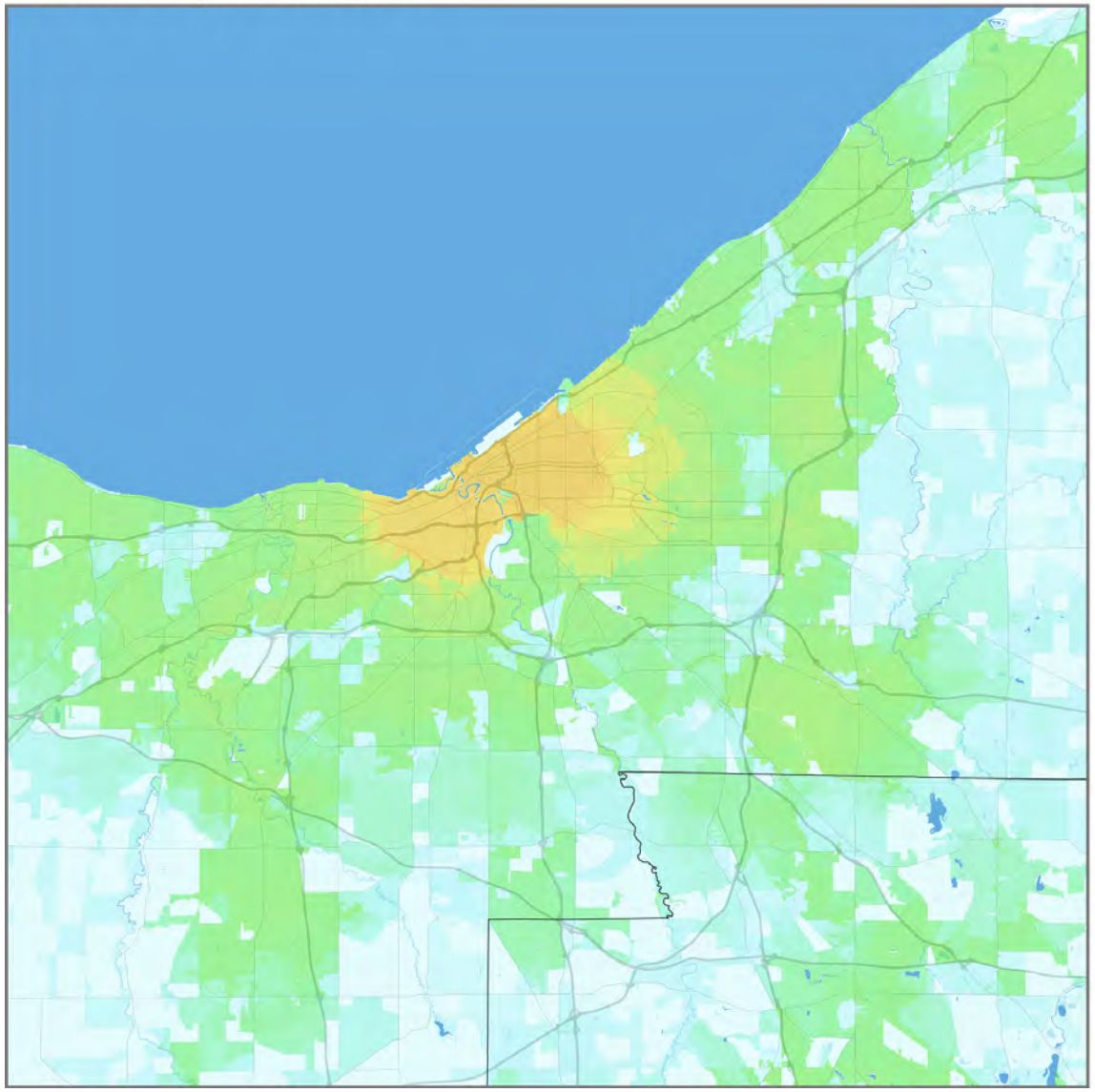


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Cleveland

Cleveland-Elyria-Mentor, OH



Cleveland

Cleveland-Elyria-Mentor, OH

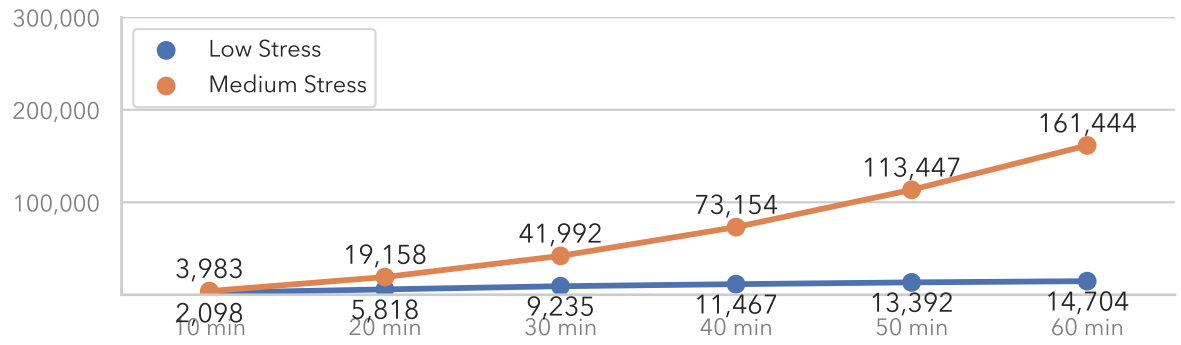
Columbus

Columbus, OH

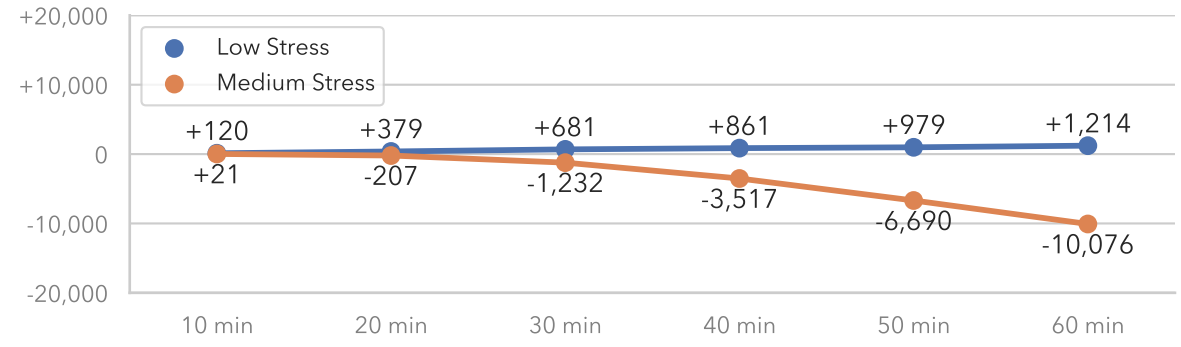
Rank by Weighted Low-Stress Bike Accessibility	**18**
Rank by Weighted Medium-Stress Bike Accessibility	**14**
Rank by Change in Low-Stress Bike Accessibility	**23**
Rank by Change in Medium-Stress Bike Accessibility	**47**
Rank by Total Employment	**32**
Total Jobs	**1,025,982**
Average Job Density (per km^2)	**100**
Total Workers	**946,698**
Average Worker Density (per km^2)	**92**

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

Biking Job Accessibility by Travel Time Threshold



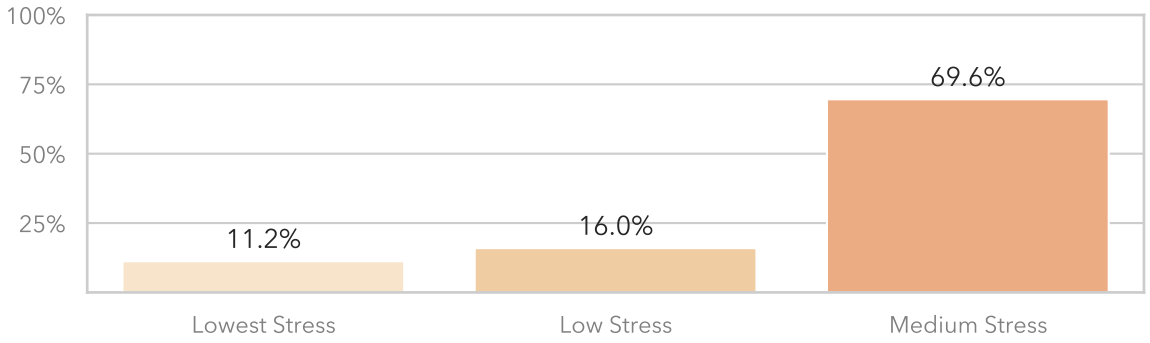
1-Year Change in Biking Job Accessibility by Travel Time Threshold



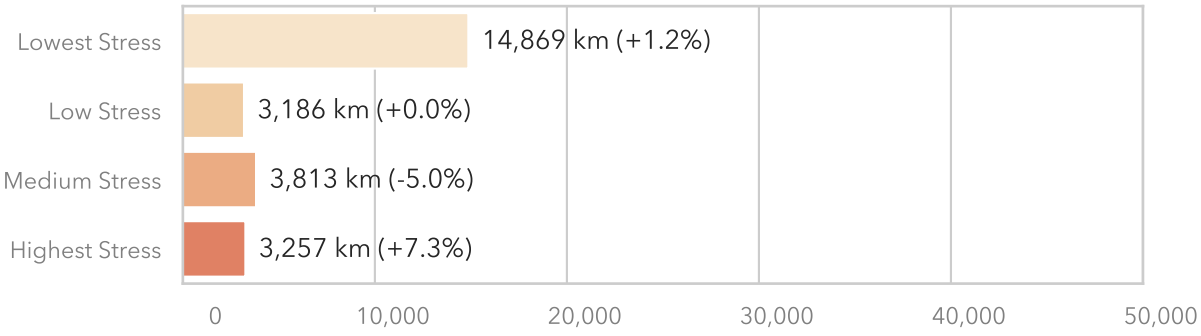
Columbus

Columbus, OH

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

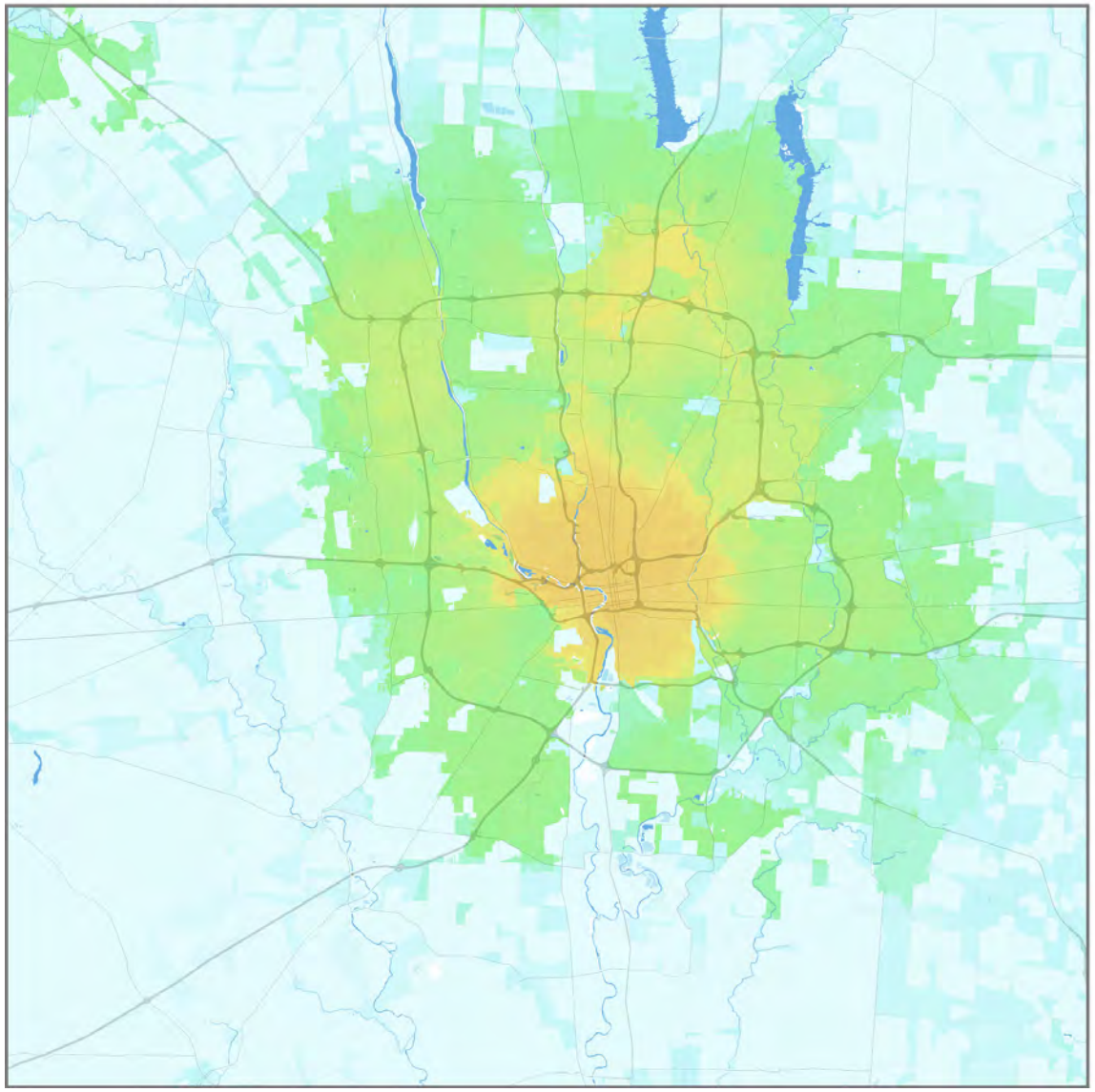


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



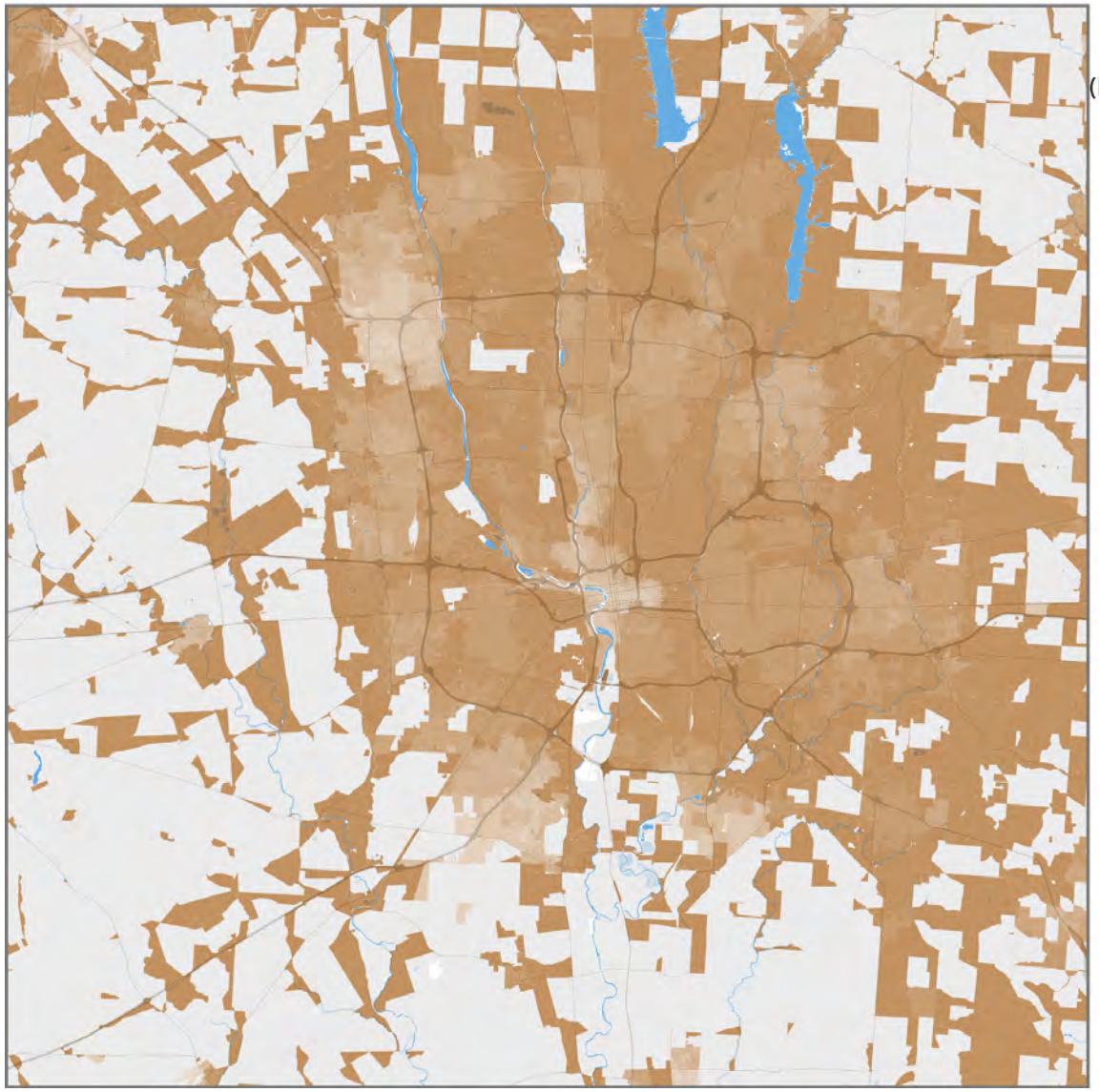
Columbus

Columbus, OH



Columbus

Columbus, OH



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

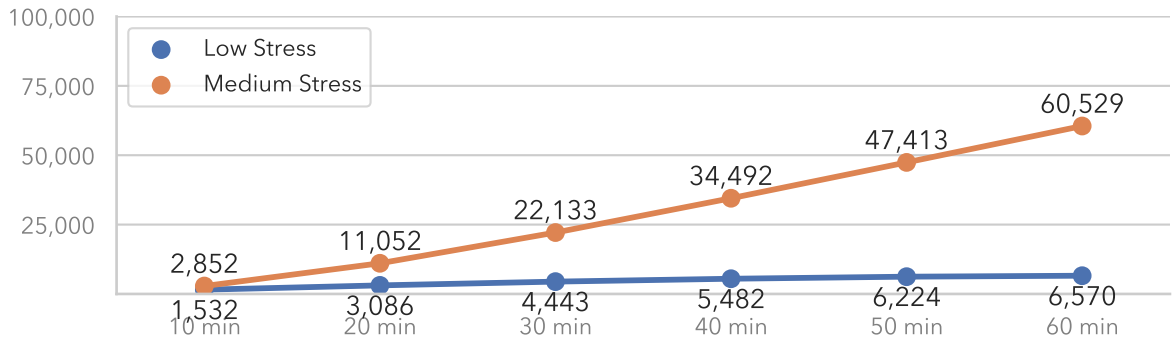
Dallas

Dallas-Fort Worth-Arlington, TX

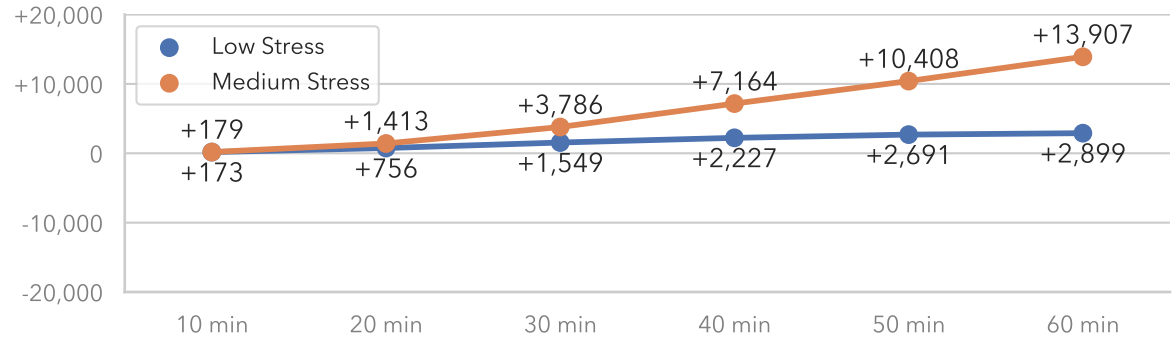
Rank by Weighted Low-Stress Bike Accessibility	**34**
Rank by Weighted Medium-Stress Bike Accessibility	**30**
Rank by Change in Low-Stress Bike Accessibility	**5**
Rank by Change in Medium-Stress Bike Accessibility	**8**
Rank by Total Employment	**4**
Total Jobs	**3,546,551**
Average Job Density (per km^2)	**153**
Total Workers	**3,366,285**
Average Worker Density (per km^2)	**146**

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

Biking Job Accessibility by Travel Time Threshold



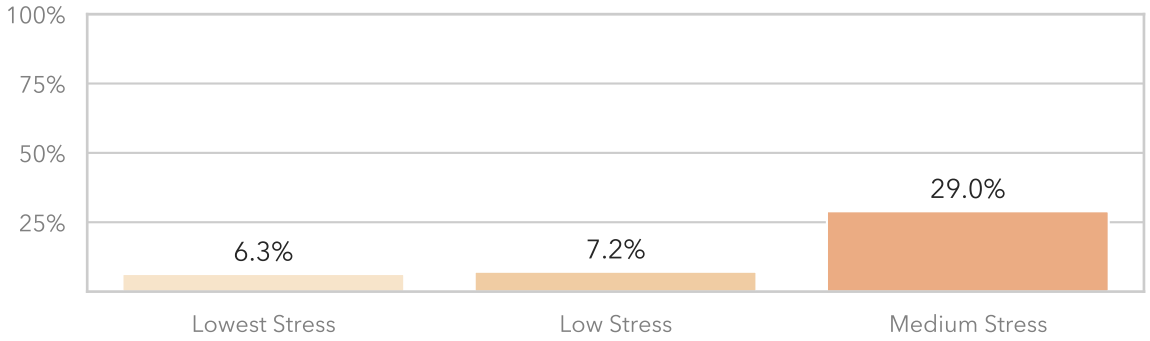
1-Year Change in Biking Job Accessibility by Travel Time Threshold



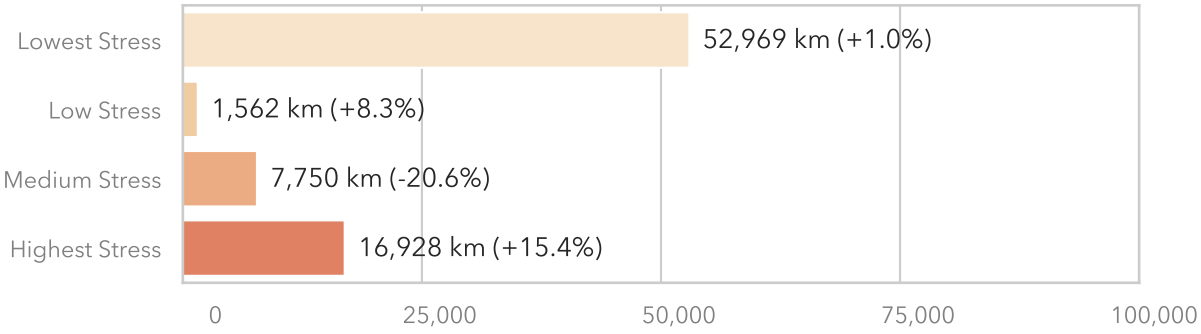
Dallas

Dallas-Fort Worth-Arlington, TX

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

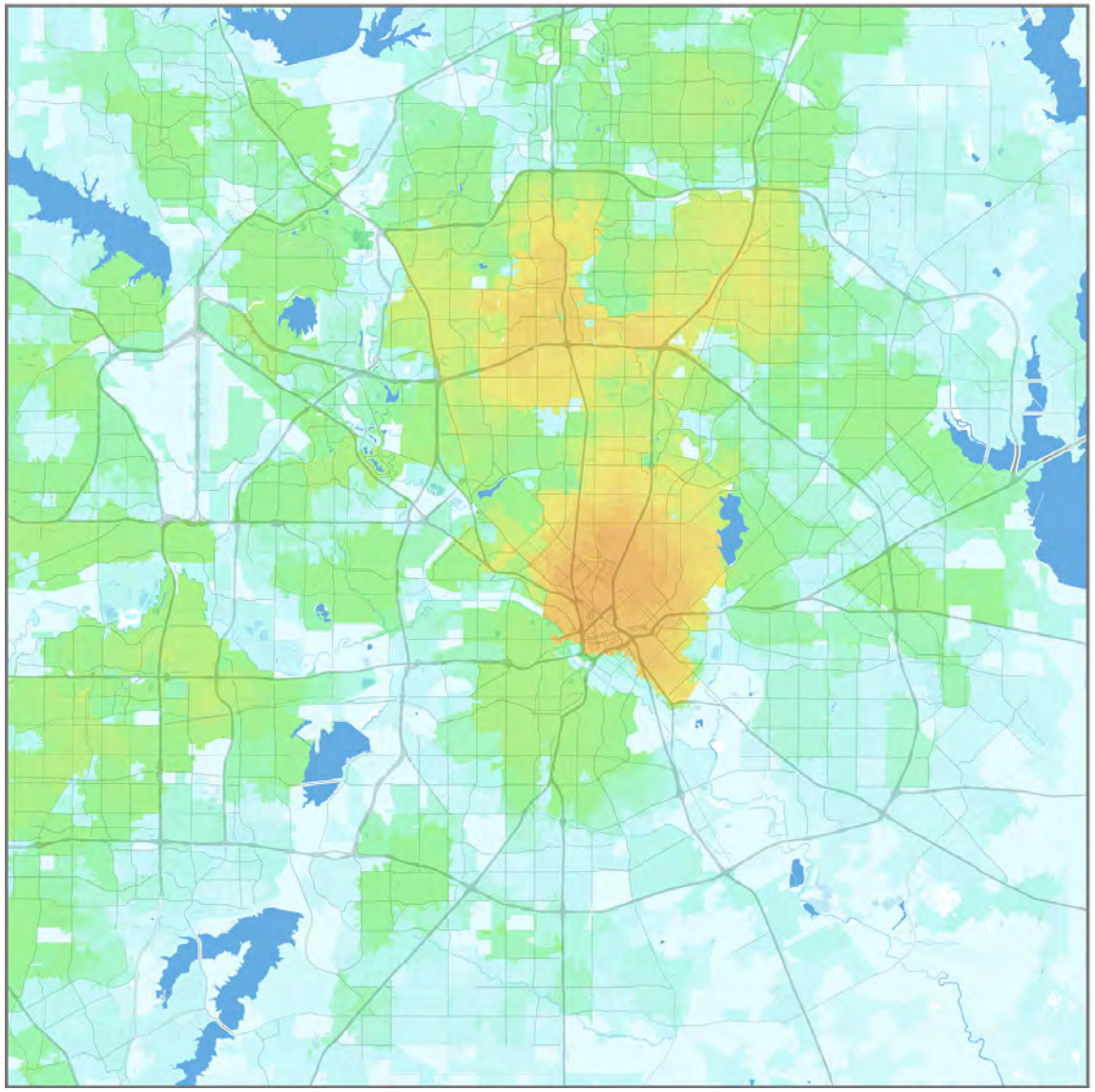


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Dallas

Dallas-Fort Worth-Arlington, TX



Dallas

Dallas-Fort Worth-Arlington, TX

Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

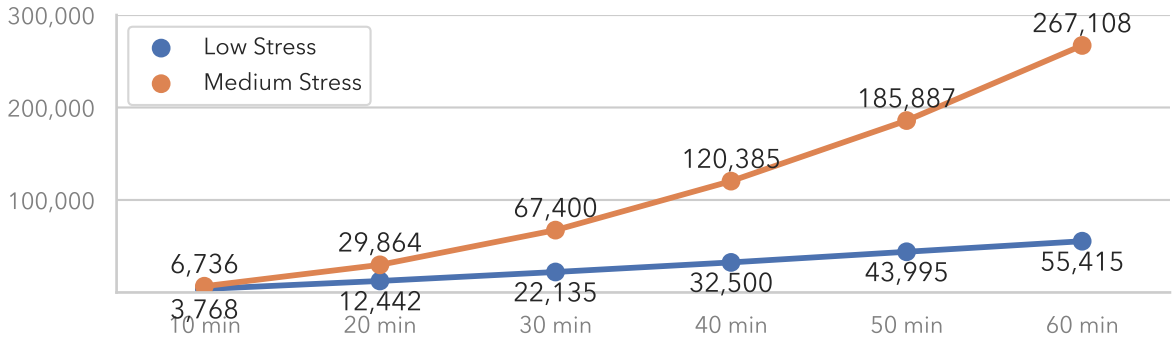
Denver

Denver-Aurora-Broomfield, CO

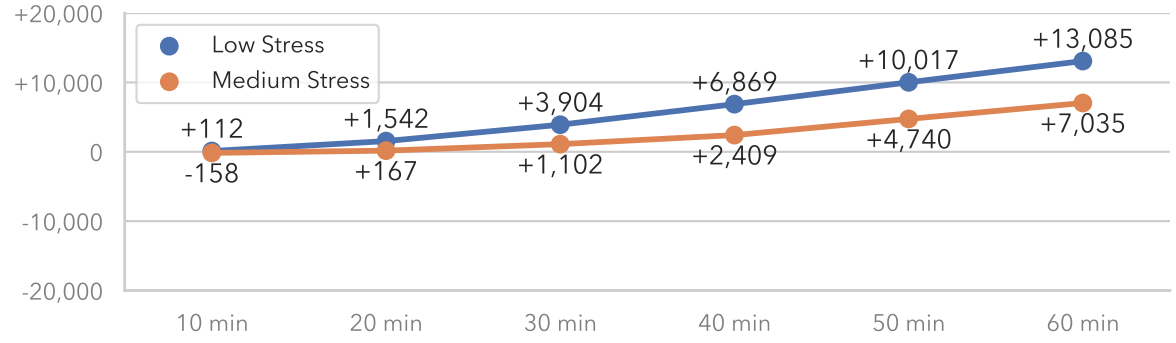
Rank by Weighted Low-Stress Bike Accessibility	**6**
Rank by Weighted Medium-Stress Bike Accessibility	**5**
Rank by Change in Low-Stress Bike Accessibility	**7**
Rank by Change in Medium-Stress Bike Accessibility	**32**
Rank by Total Employment	**18**
Total Jobs	**1,450,715**
Average Job Density (per km^2)	**67**
Total Workers	**1,395,732**
Average Worker Density (per km^2)	**65**

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

Biking Job Accessibility by Travel Time Threshold



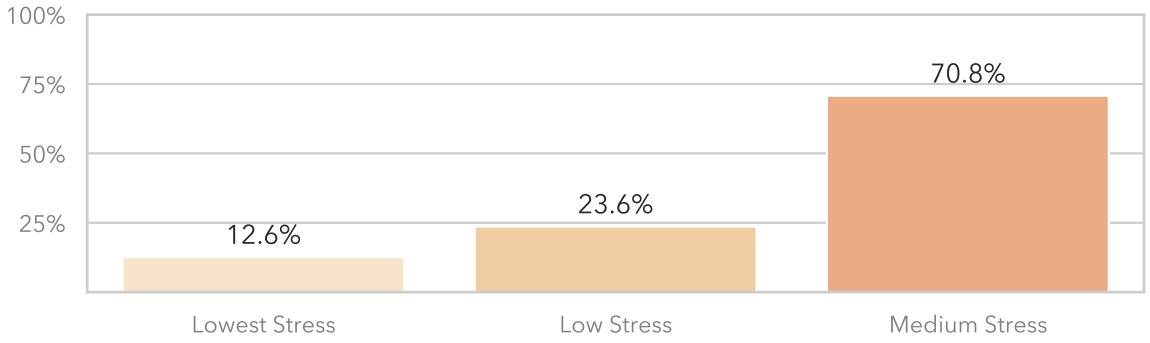
1-Year Change in Biking Job Accessibility by Travel Time Threshold



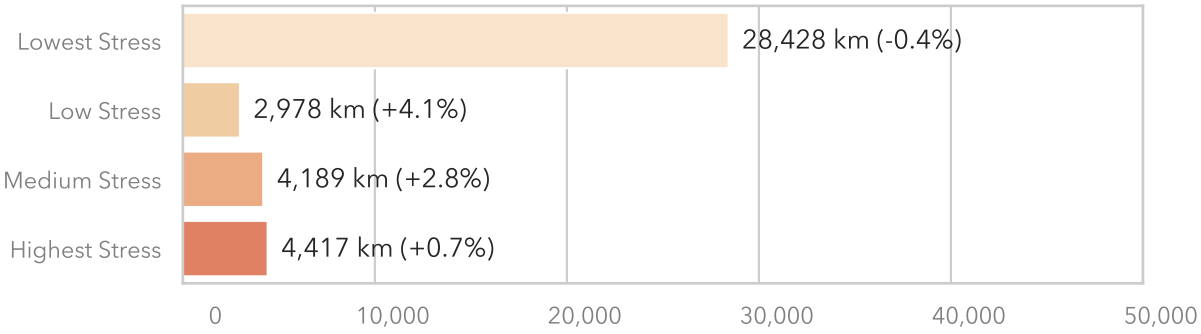
Denver

Denver-Aurora-Broomfield, CO

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

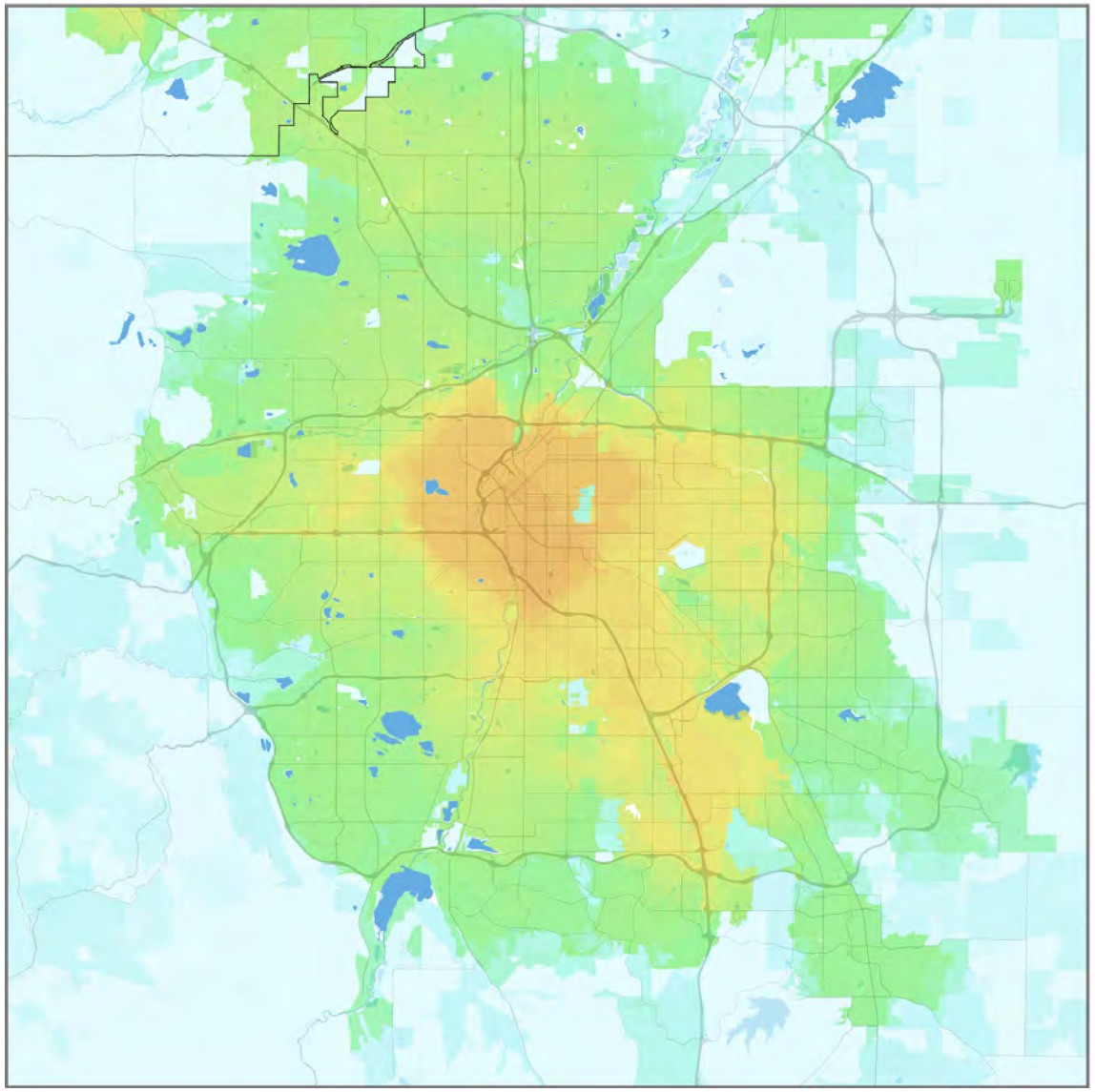


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Denver

Denver-Aurora-Broomfield, CO



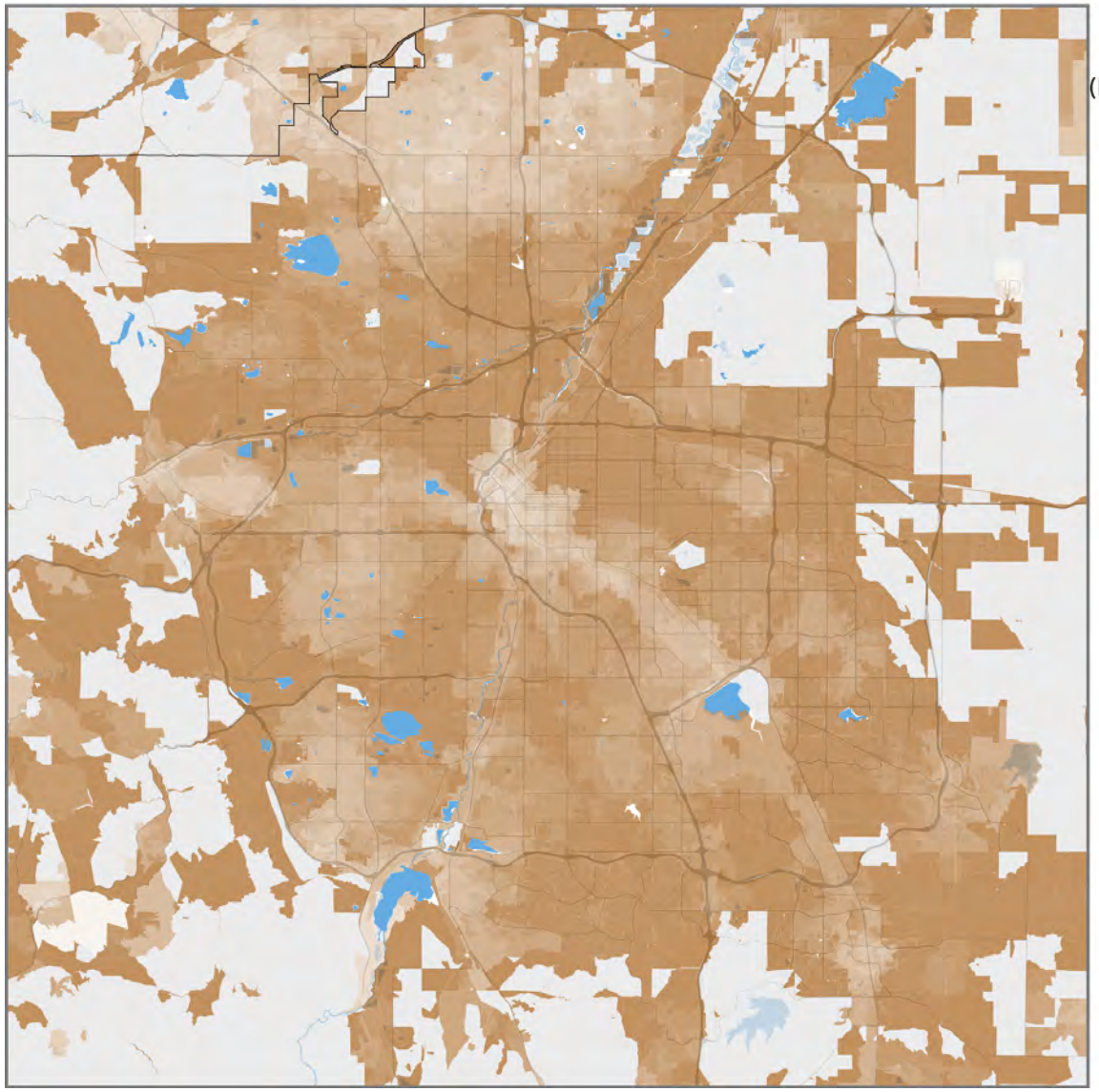
Jobs within 30 minutes
(Biking, medium stress)

- 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

Denver

Denver-Aurora-Broomfield, CO



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

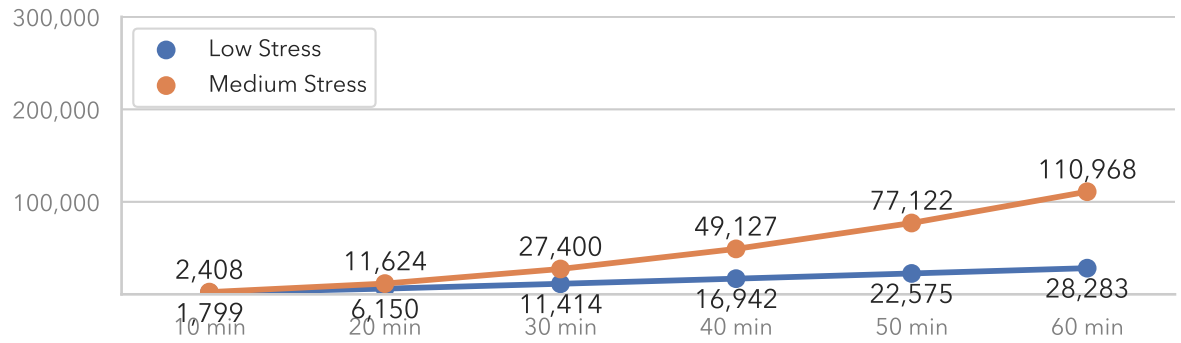
Detroit

Detroit-Warren-Livonia, MI

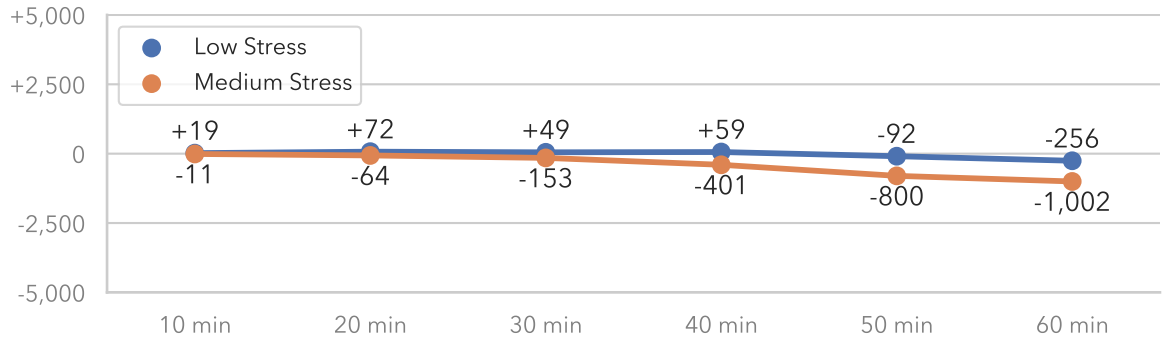
Rank by Weighted Low-Stress Bike Accessibility	**15**
Rank by Weighted Medium-Stress Bike Accessibility	**24**
Rank by Change in Low-Stress Bike Accessibility	**39**
Rank by Change in Medium-Stress Bike Accessibility	**37**
Rank by Total Employment	**13**
Total Jobs	**1,934,459**
Average Job Density (per km^2)	**192**
Total Workers	**1,915,549**
Average Worker Density (per km^2)	**190**

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

Biking Job Accessibility by Travel Time Threshold



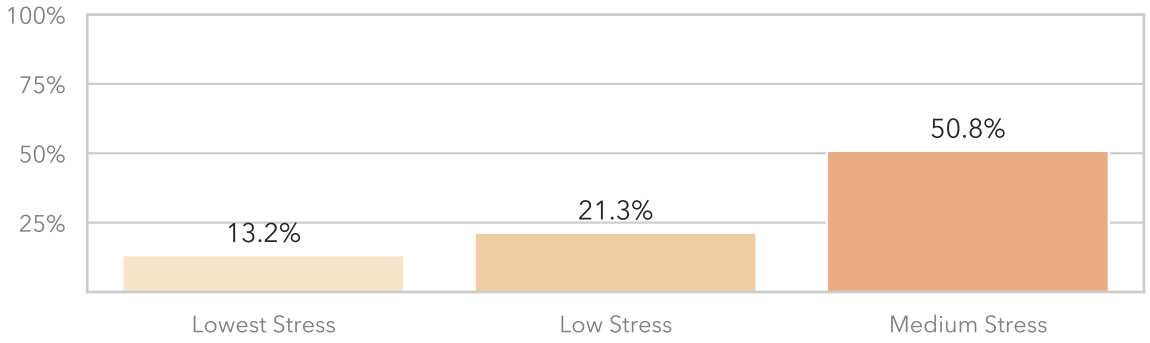
1-Year Change in Biking Job Accessibility by Travel Time Threshold



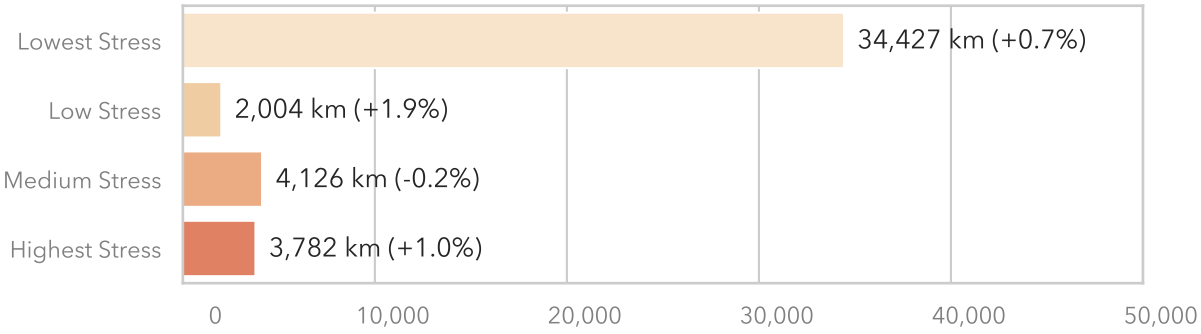
Detroit

Detroit-Warren-Livonia, MI

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

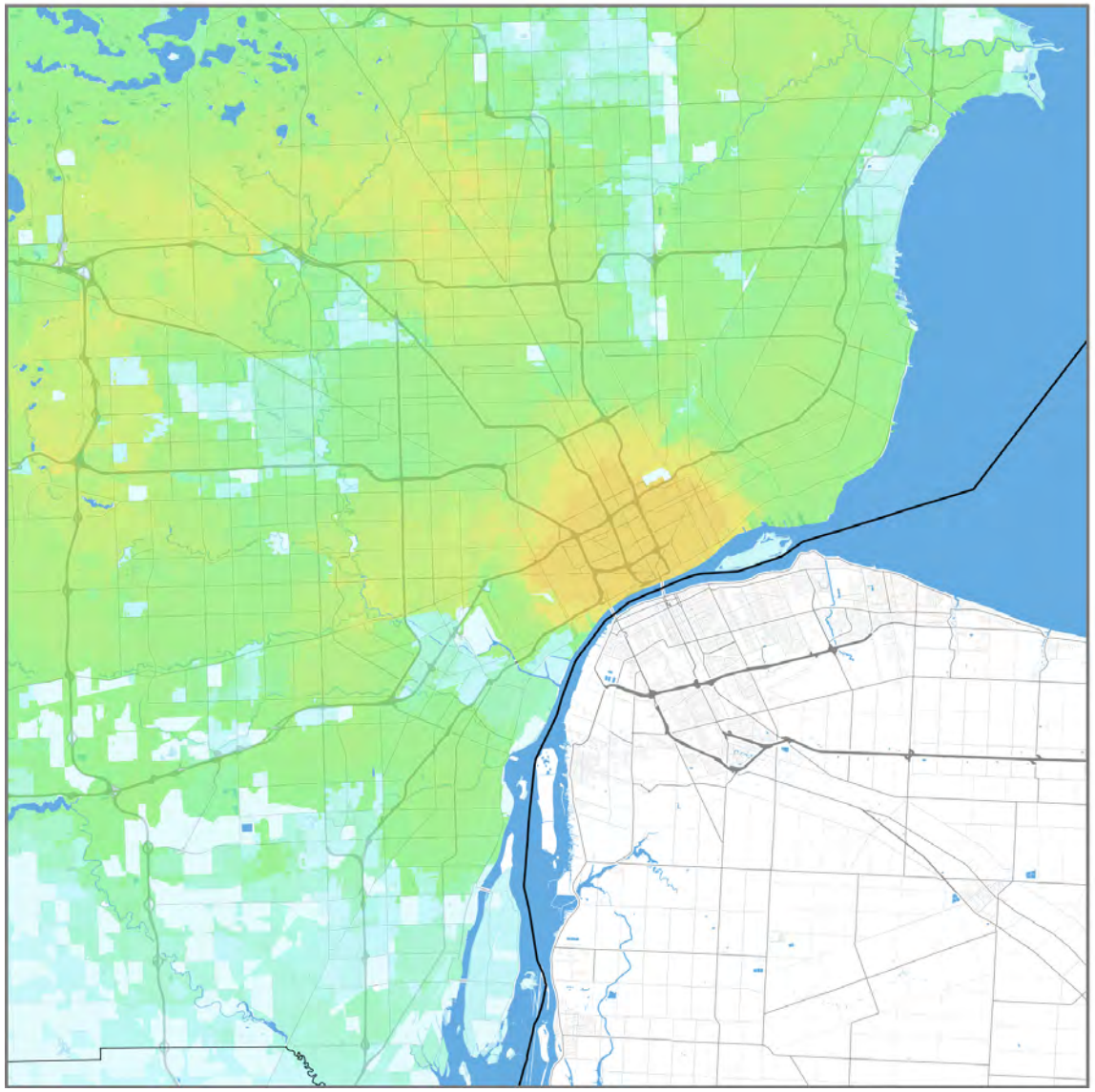


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



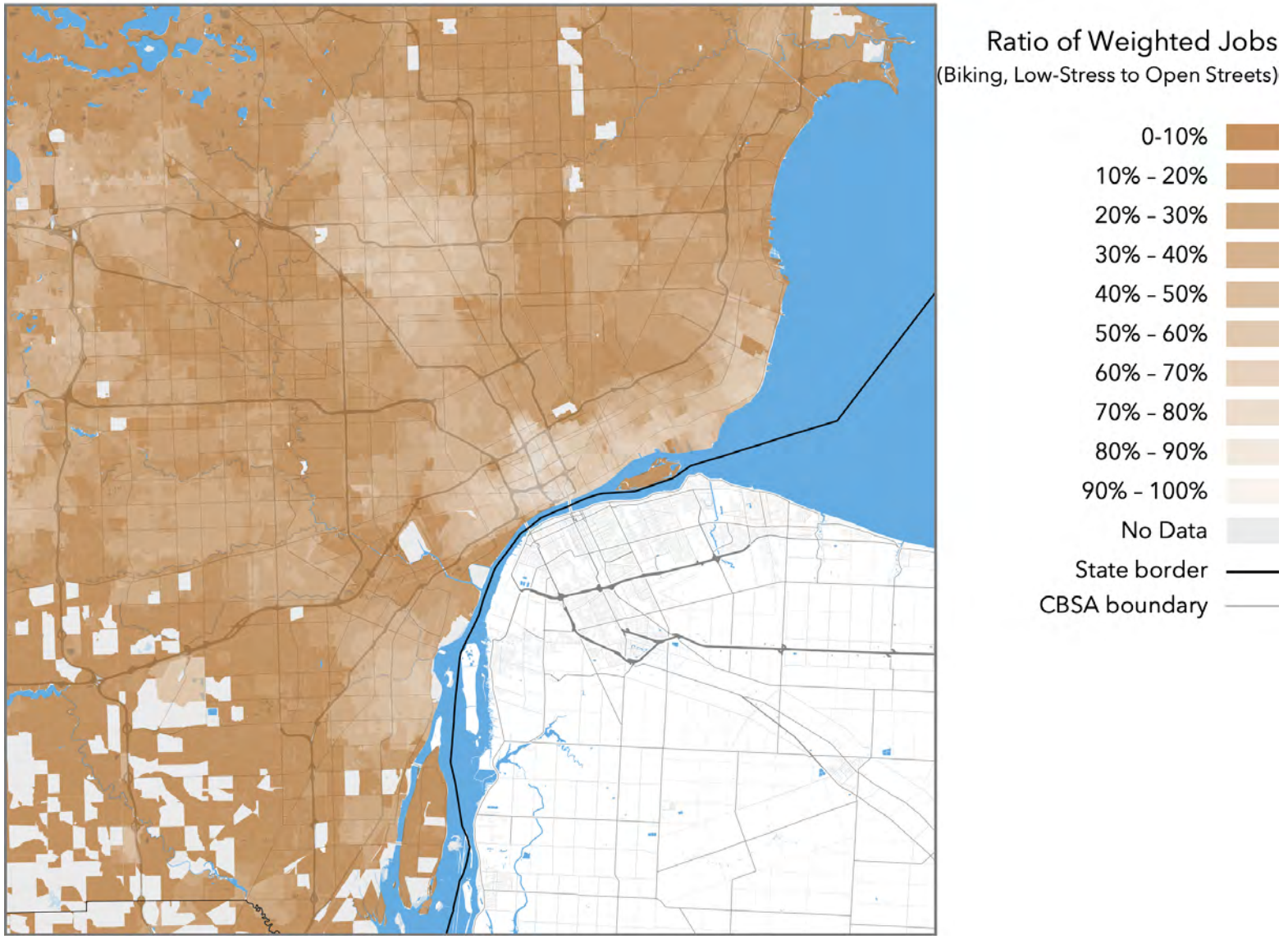
Detroit

Detroit-Warren-Livonia, MI



Detroit

Detroit-Warren-Livonia, MI



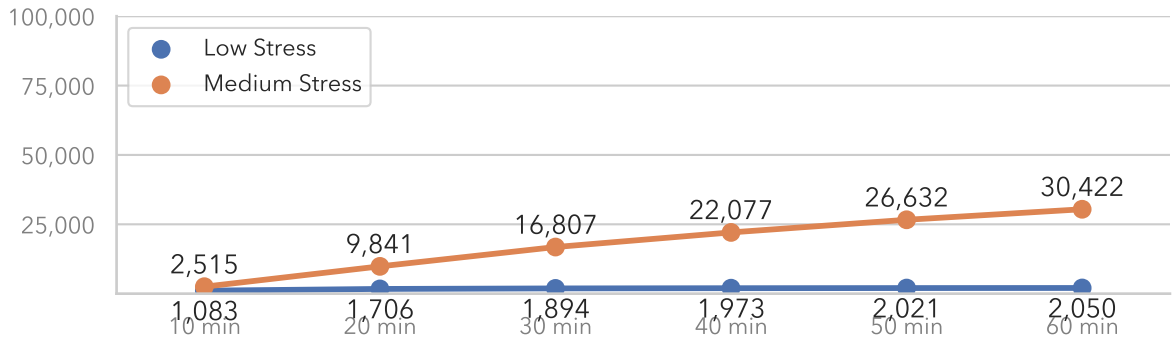
Hartford

Hartford-West Hartford-East Hartford, CT

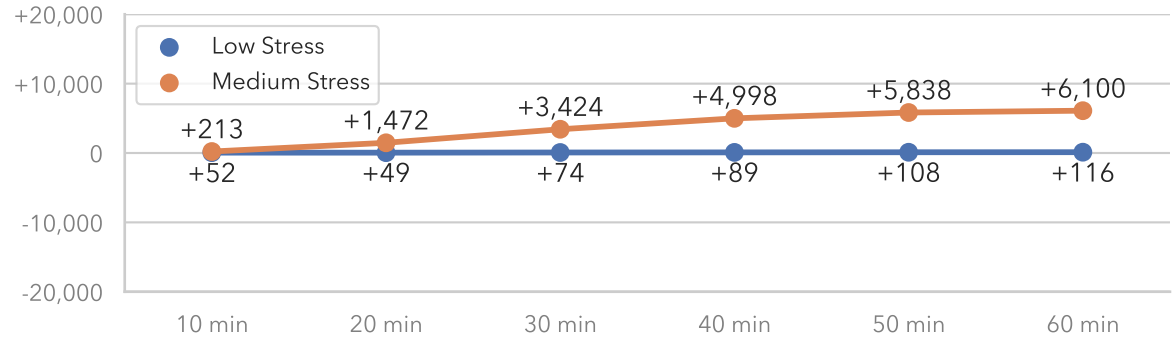
Rank by Weighted Low-Stress Bike Accessibility	**46**
Rank by Weighted Medium-Stress Bike Accessibility	**41**
Rank by Change in Low-Stress Bike Accessibility	**30**
Rank by Change in Medium-Stress Bike Accessibility	**6**
Rank by Total Employment	**45**
Total Jobs	**637,565**
Average Job Density (per km^2)	**163**
Total Workers	**595,341**
Average Worker Density (per km^2)	**152**

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

Biking Job Accessibility by Travel Time Threshold



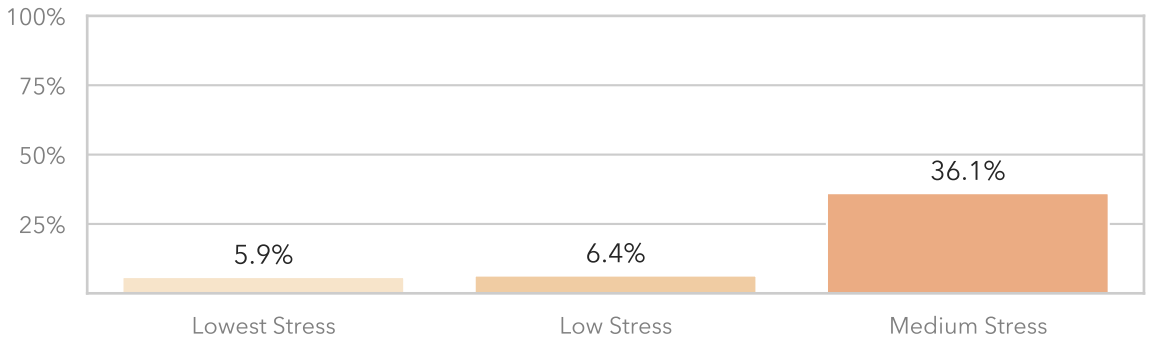
1-Year Change in Biking Job Accessibility by Travel Time Threshold



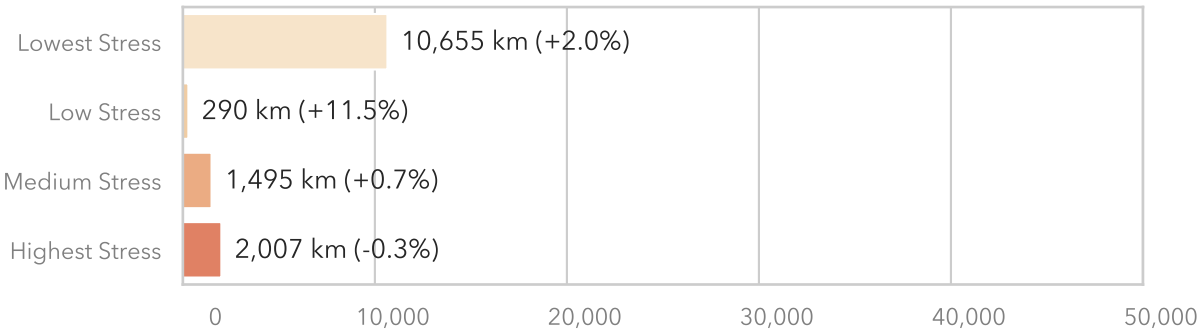
Hartford

Hartford-West Hartford-East Hartford, CT

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

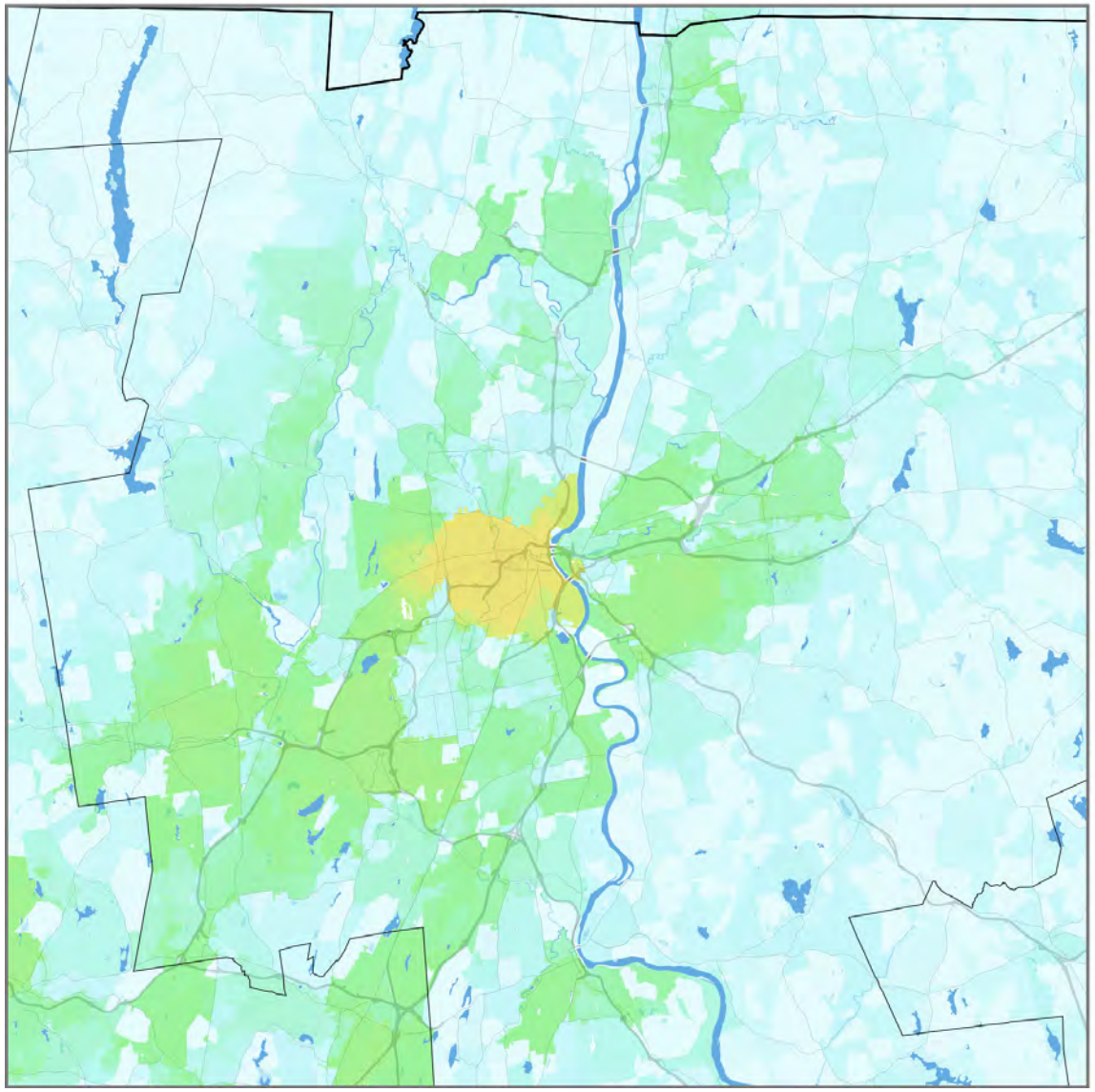


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



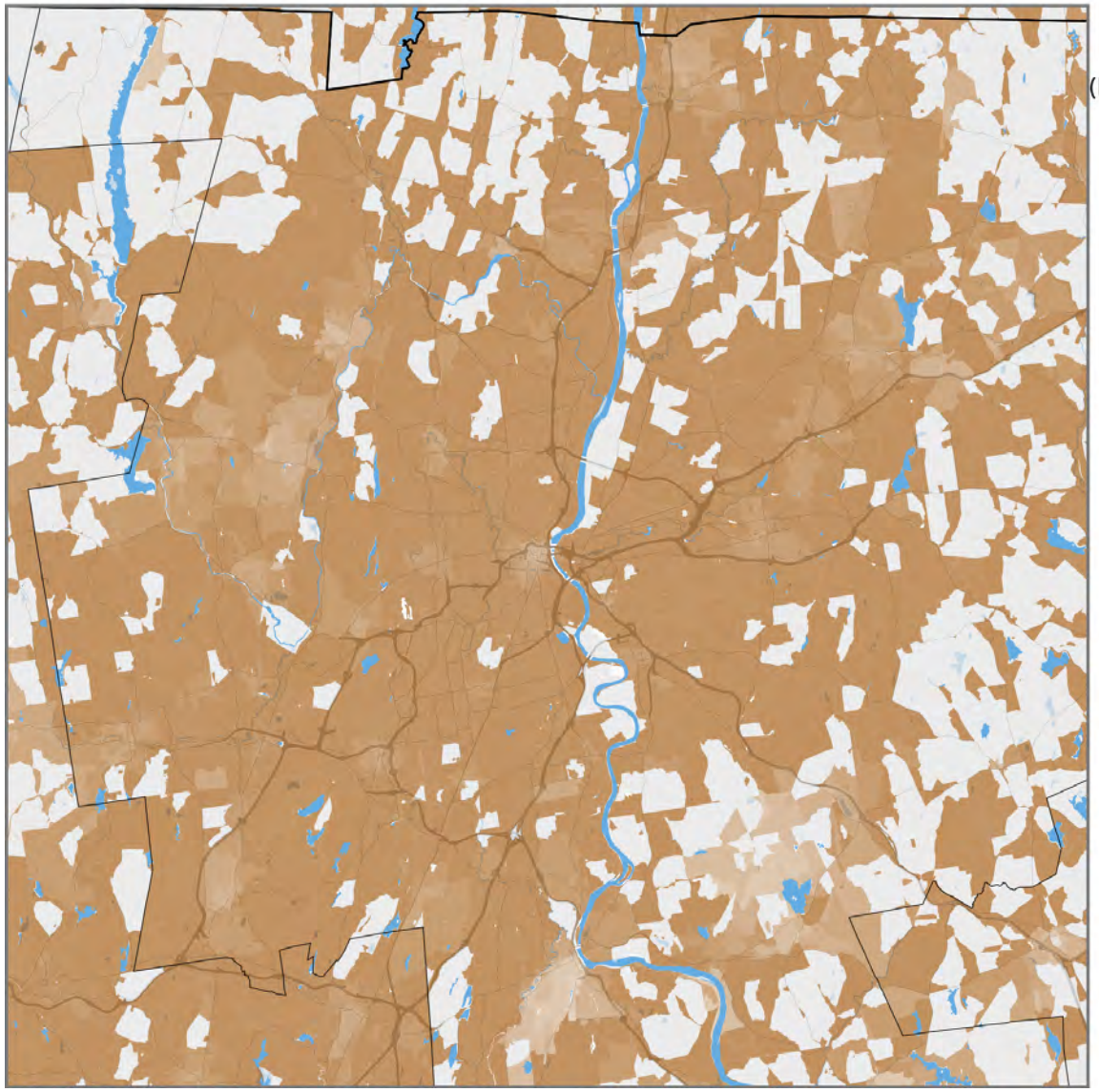
Hartford

Hartford-West Hartford-East Hartford, CT



Hartford

Hartford-West Hartford-East Hartford, CT



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

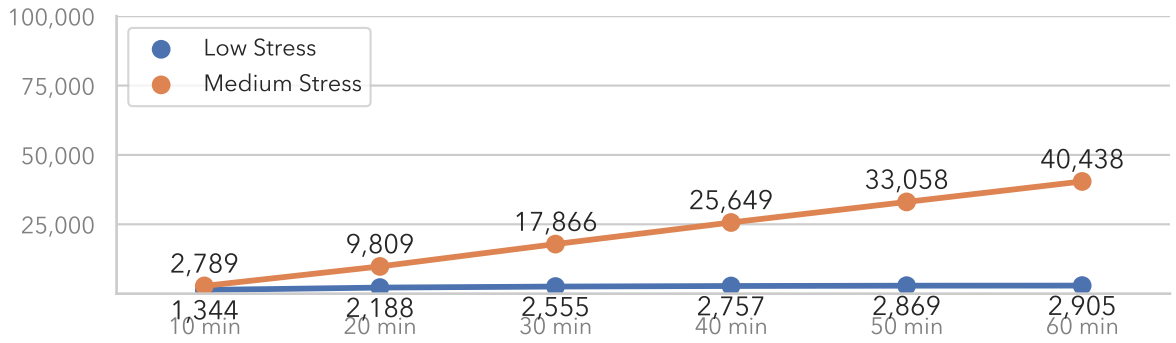
Houston

Houston-Sugar Land-Baytown, TX

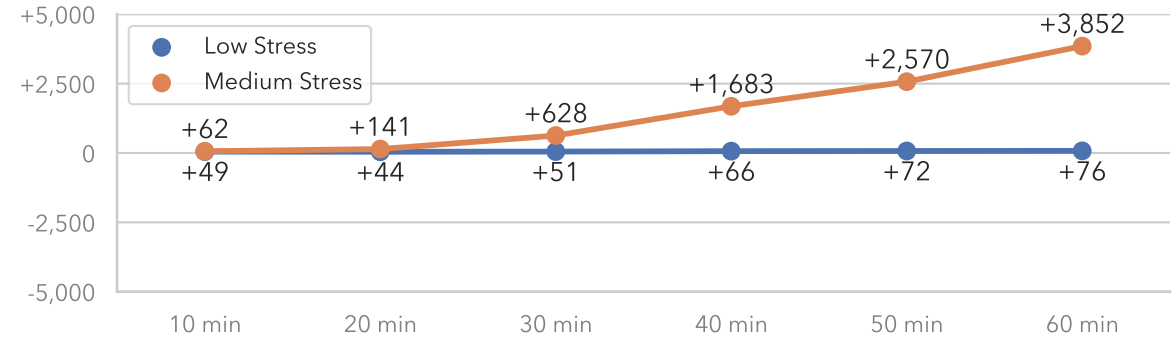
Rank by Weighted Low-Stress Bike Accessibility	**42**
Rank by Weighted Medium-Stress Bike Accessibility	**38**
Rank by Change in Low-Stress Bike Accessibility	**36**
Rank by Change in Medium-Stress Bike Accessibility	**23**
Rank by Total Employment	**5**
Total Jobs	**2,977,082**
Average Job Density (per km^2)	**130**
Total Workers	**2,894,863**
Average Worker Density (per km^2)	**127**

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

Biking Job Accessibility by Travel Time Threshold



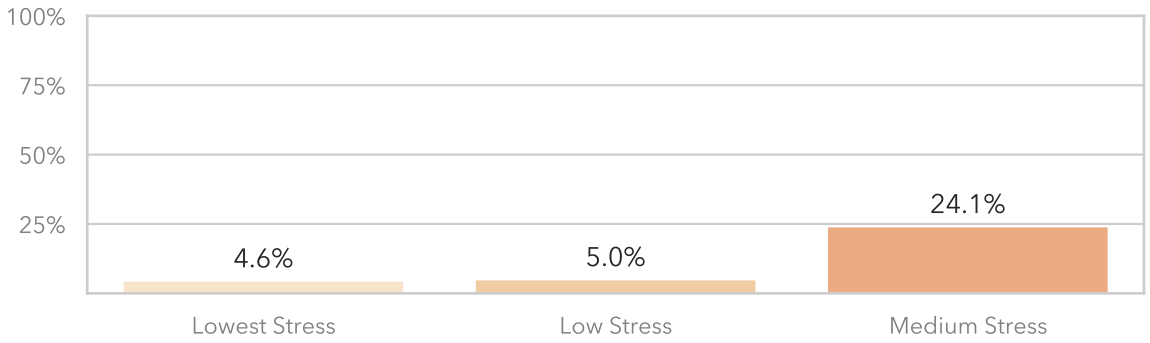
1-Year Change in Biking Job Accessibility by Travel Time Threshold



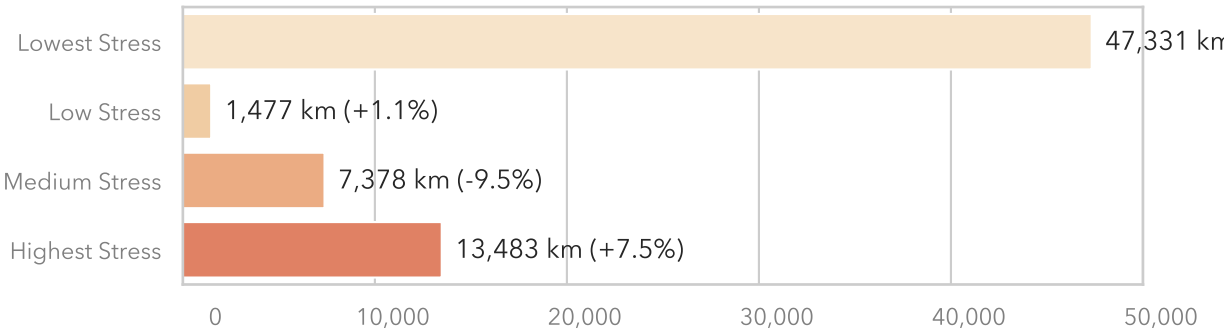
Houston

Houston-Sugar Land-Baytown, TX

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

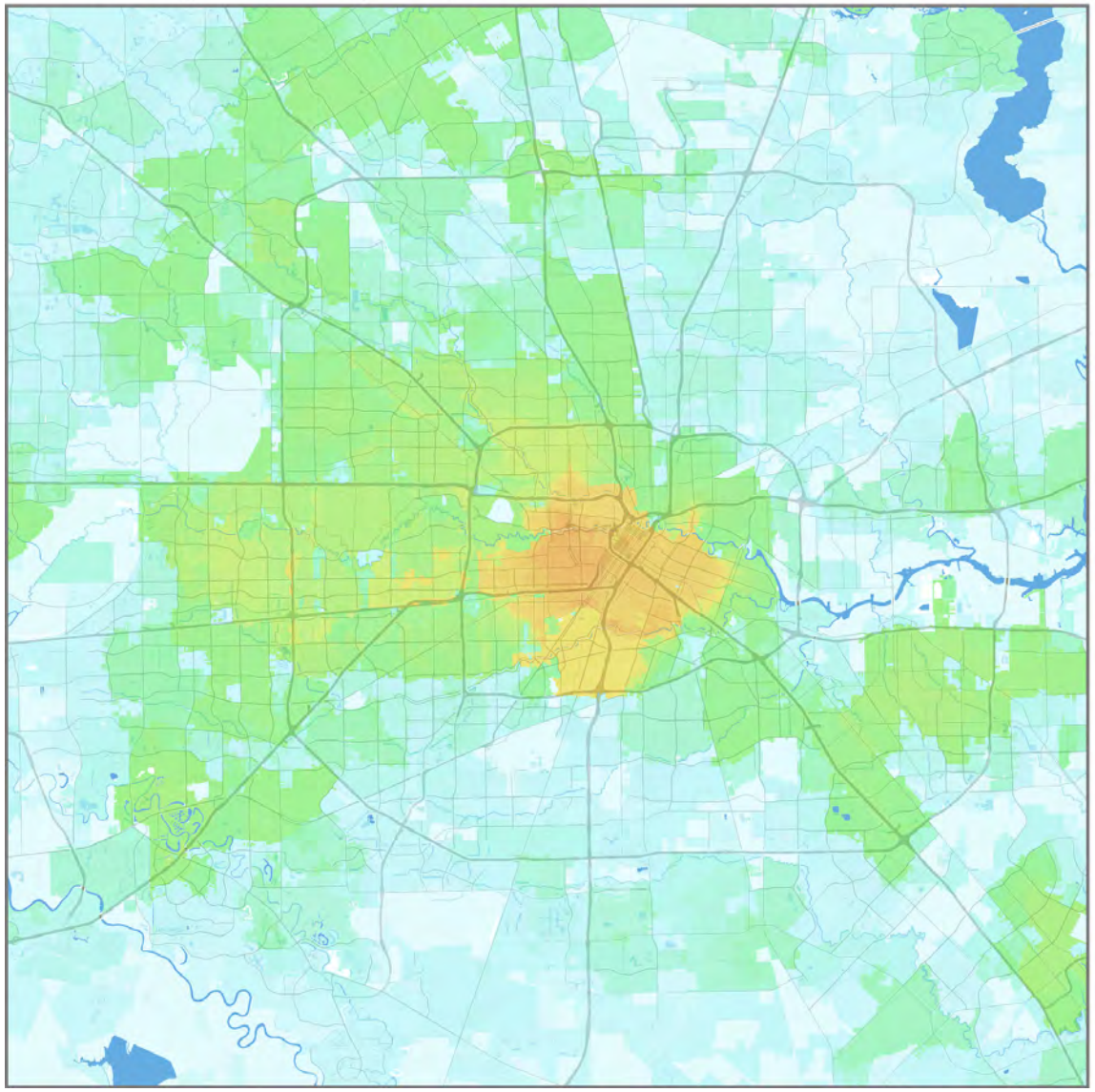


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



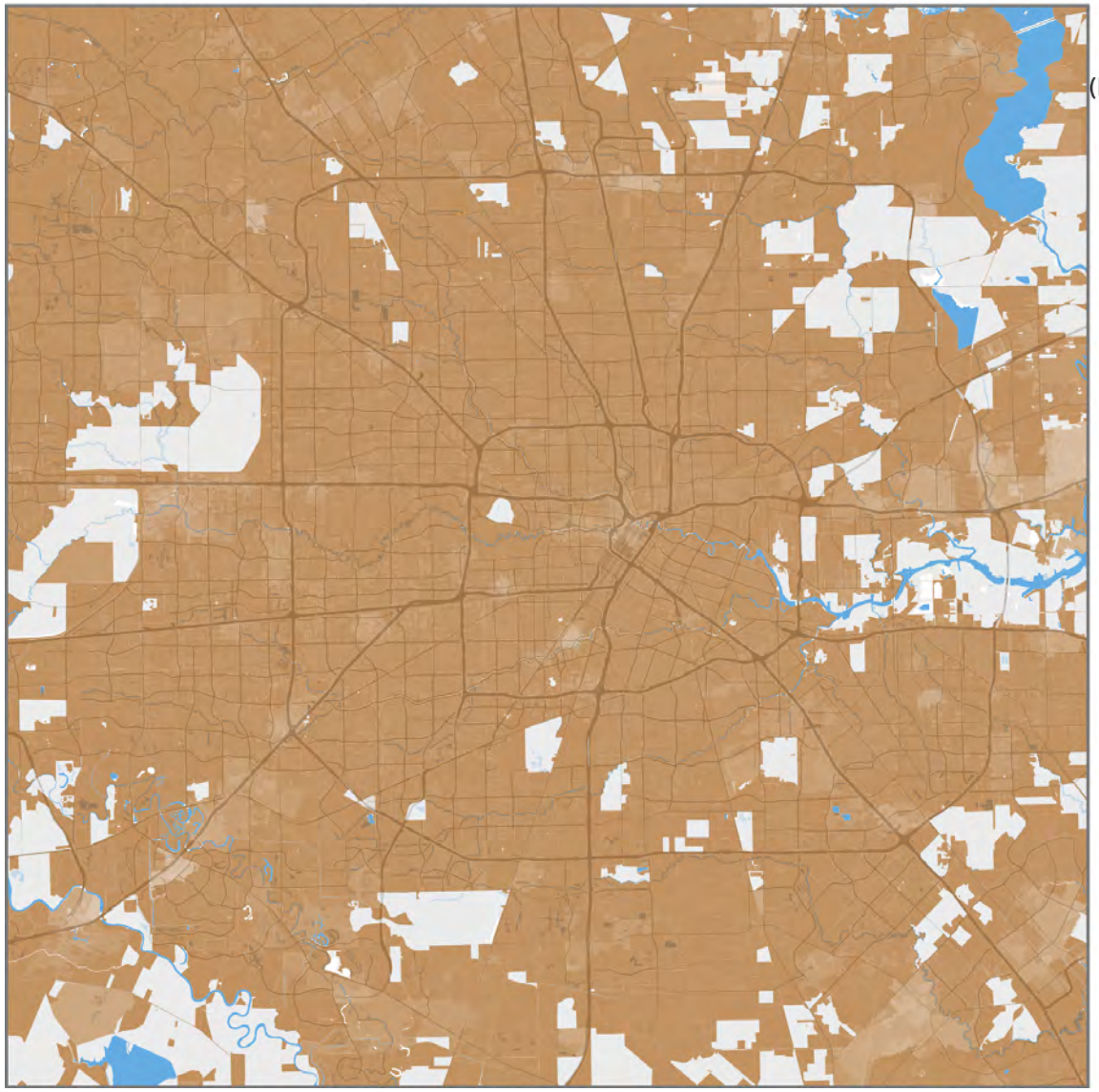
Houston

Houston-Sugar Land-Baytown, TX



Houston

Houston-Sugar Land-Baytown, TX



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

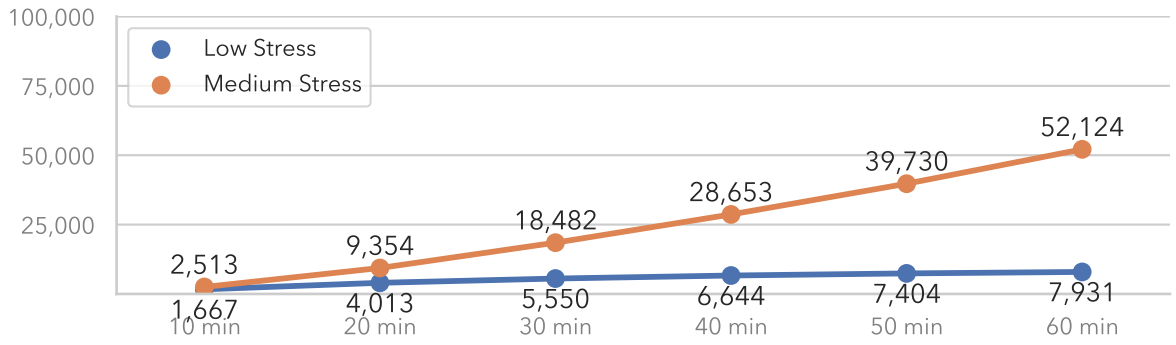
Indianapolis

Indianapolis-Carmel, IN

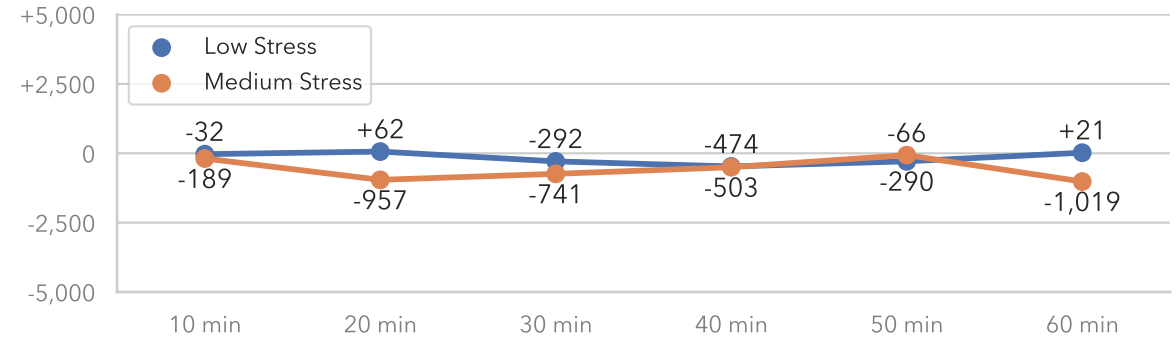
Rank by Weighted Low-Stress Bike Accessibility	**31**
Rank by Weighted Medium-Stress Bike Accessibility	**35**
Rank by Change in Low-Stress Bike Accessibility	**44**
Rank by Change in Medium-Stress Bike Accessibility	**49**
Rank by Total Employment	**35**
Total Jobs	**1,012,511**
Average Job Density (per km^2)	**101**
Total Workers	**919,836**
Average Worker Density (per km^2)	**92**

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

Biking Job Accessibility by Travel Time Threshold



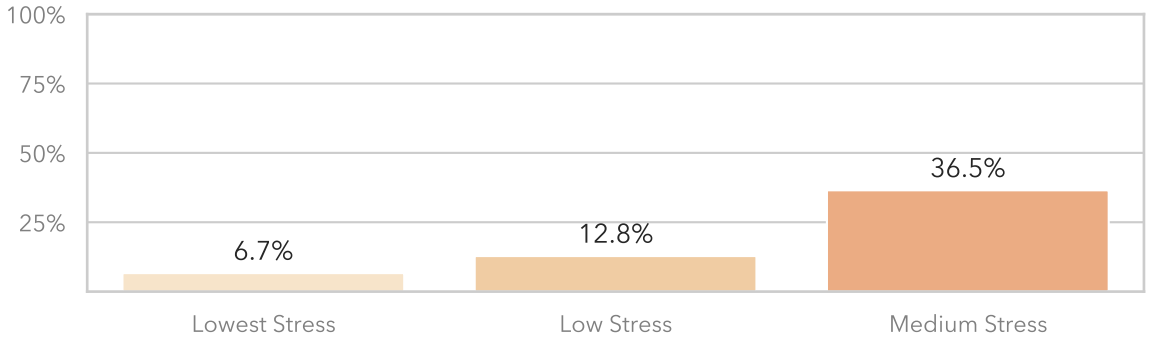
1-Year Change in Biking Job Accessibility by Travel Time Threshold



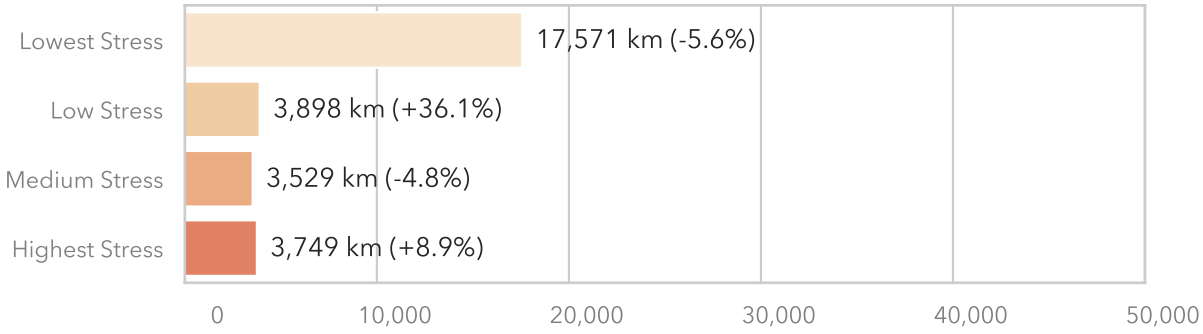
Indianapolis

Indianapolis-Carmel, IN

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

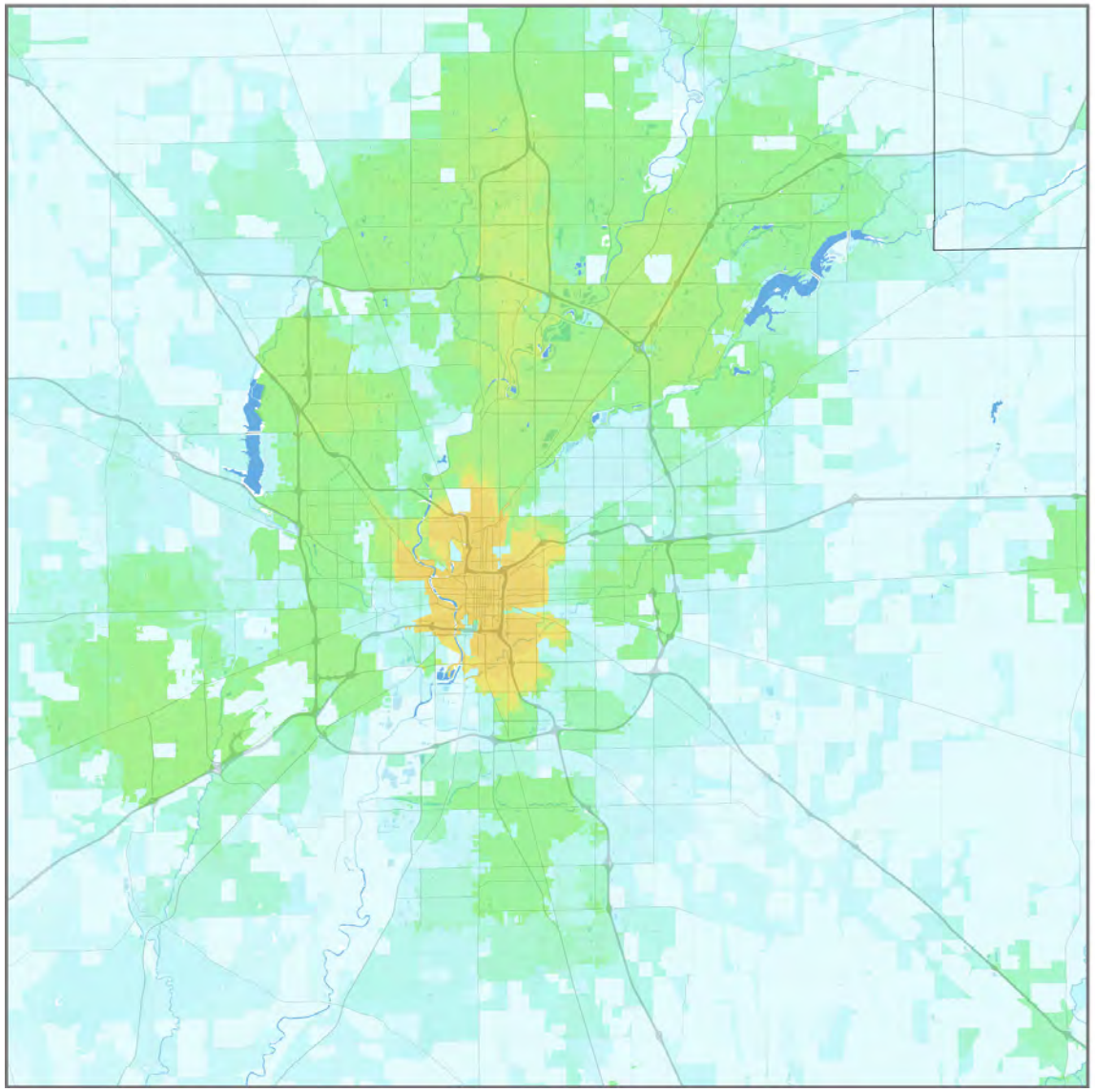


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Indianapolis

Indianapolis-Carmel, IN



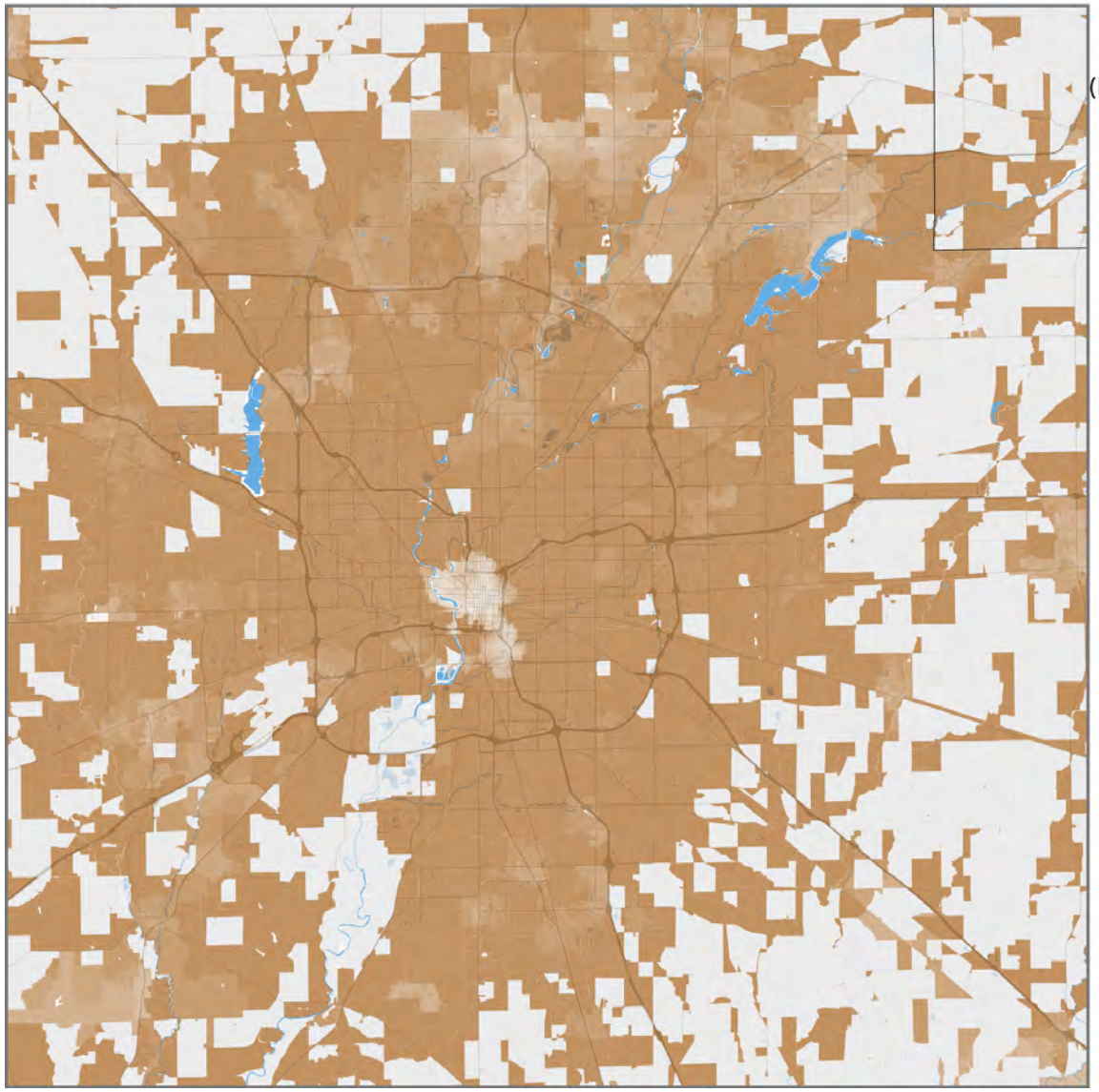
Jobs within 30 minutes
(Biking, medium stress)

- 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

Indianapolis

Indianapolis-Carmel, IN



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

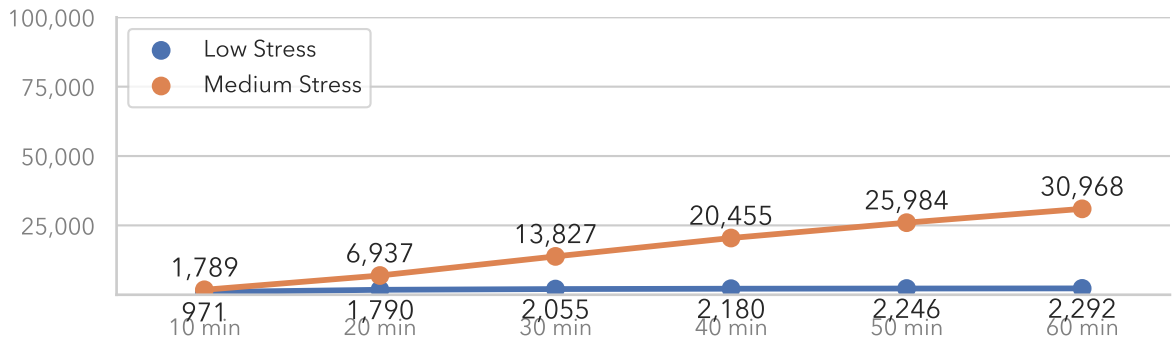
Jacksonville

Jacksonville, FL

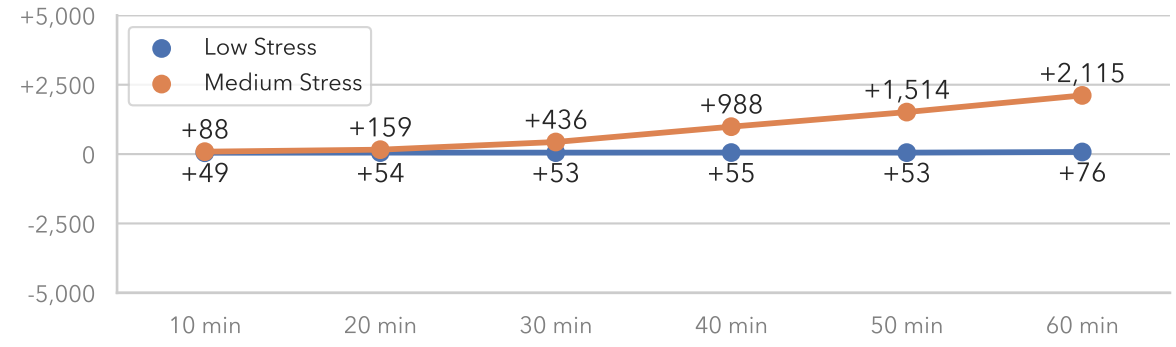
Rank by Weighted Low-Stress Bike Accessibility	**47**
Rank by Weighted Medium-Stress Bike Accessibility	**45**
Rank by Change in Low-Stress Bike Accessibility	**32**
Rank by Change in Medium-Stress Bike Accessibility	**24**
Rank by Total Employment	**40**
Total Jobs	**694,925**
Average Job Density (per km^2)	**84**
Total Workers	**662,664**
Average Worker Density (per km^2)	**80**

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

Biking Job Accessibility by Travel Time Threshold



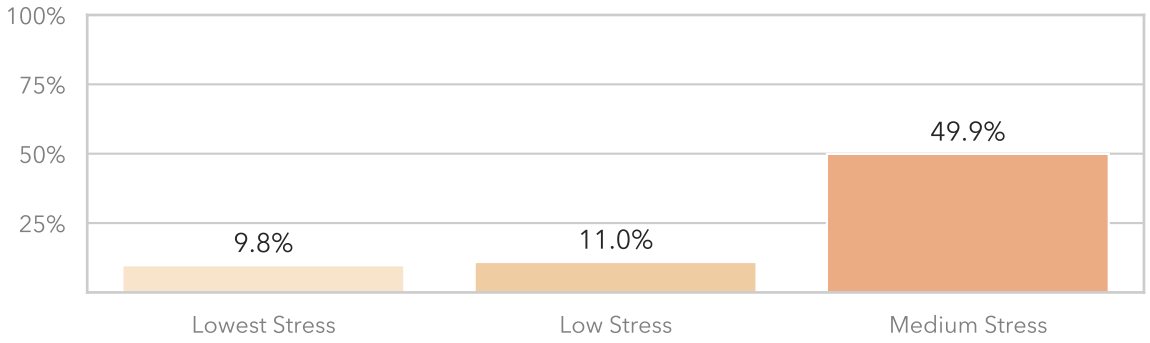
1-Year Change in Biking Job Accessibility by Travel Time Threshold



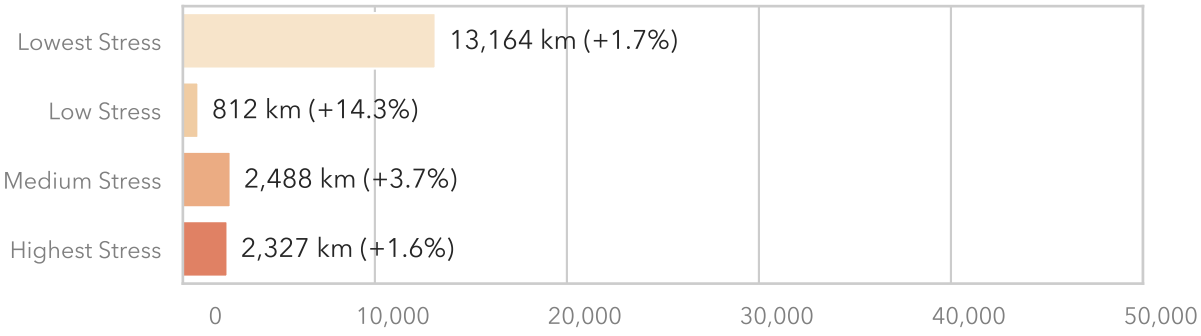
Jacksonville

Jacksonville, FL

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

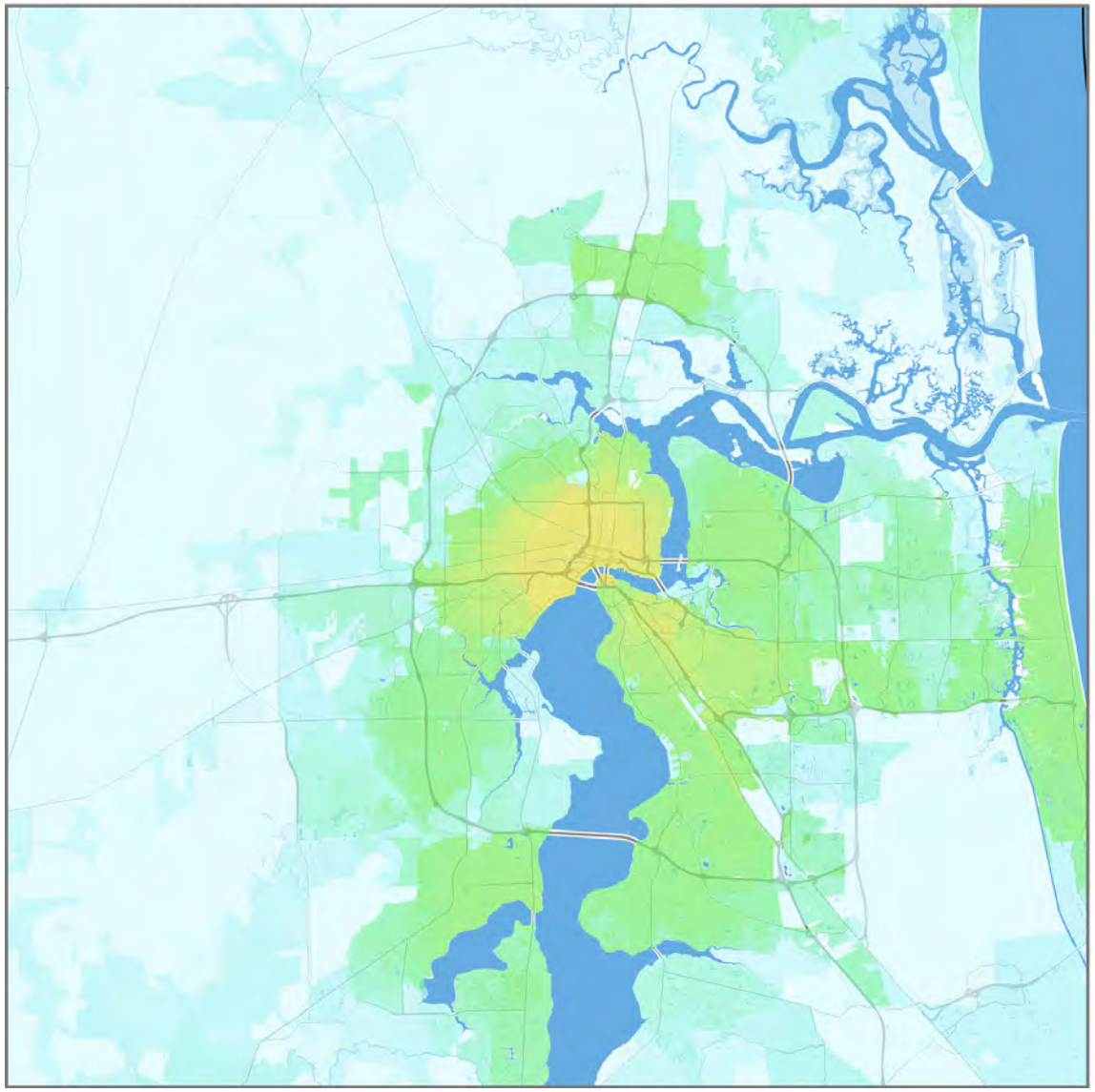


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



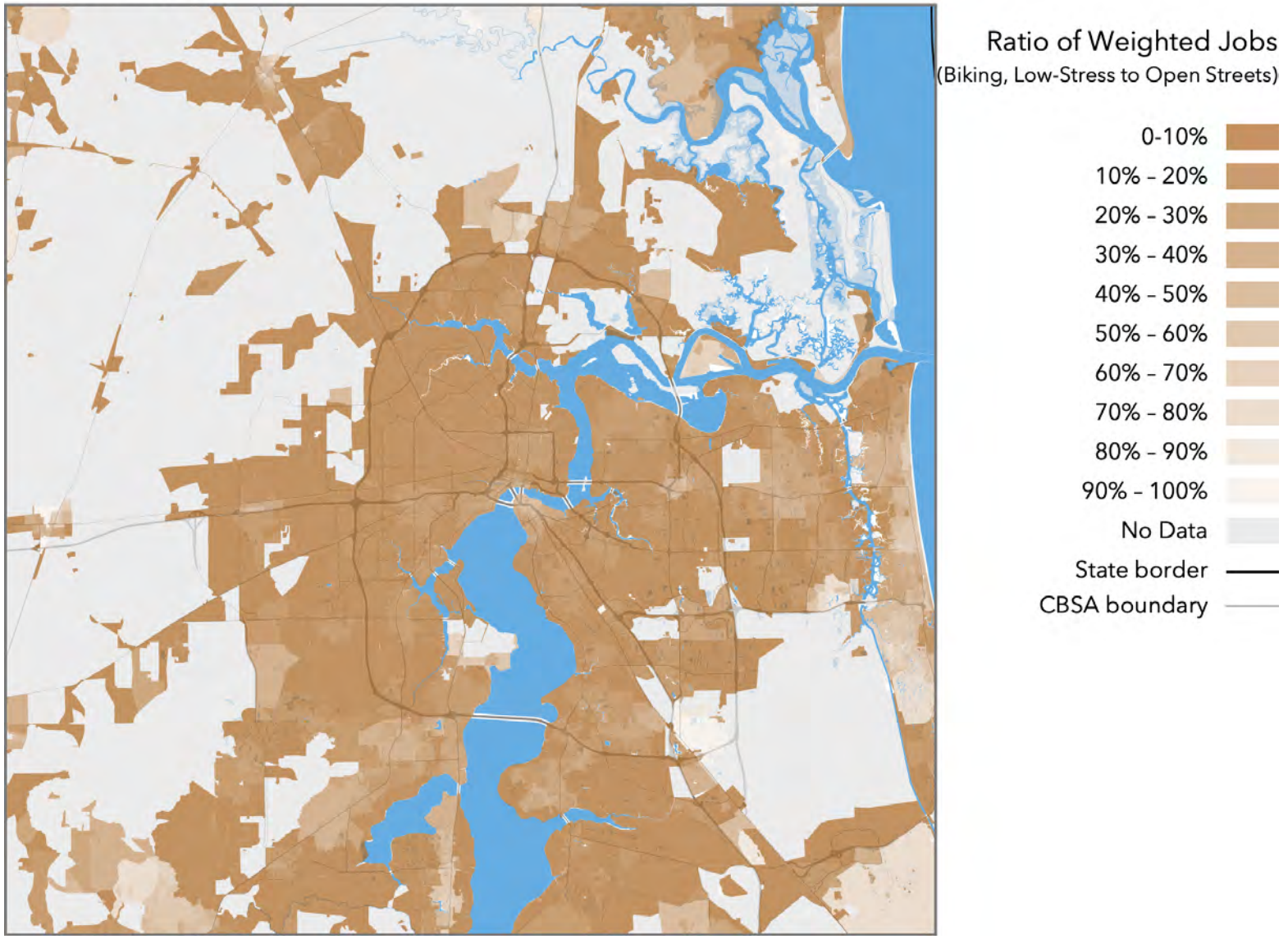
Jacksonville

Jacksonville, FL



Jacksonville

Jacksonville, FL



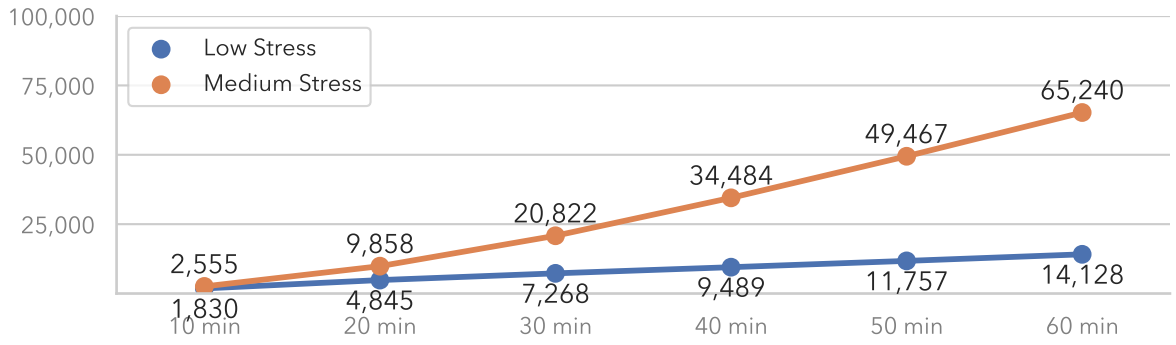
Kansas City

Kansas City, MO-KS

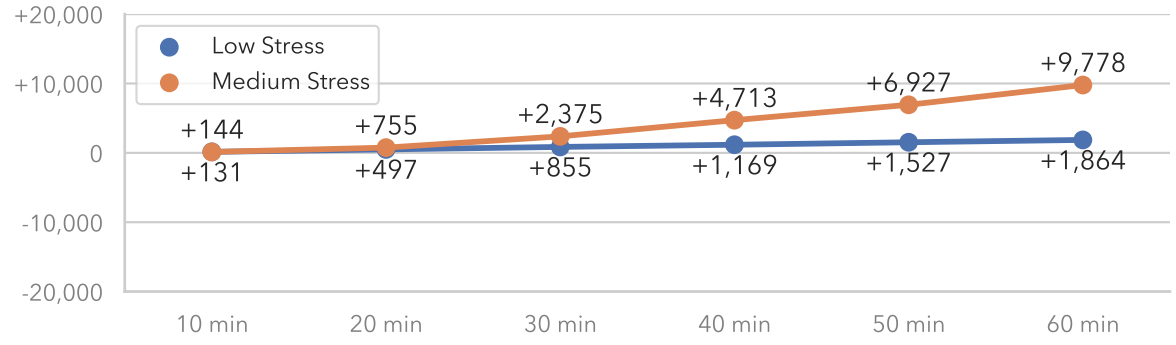
Rank by Weighted Low-Stress Bike Accessibility	**21**
Rank by Weighted Medium-Stress Bike Accessibility	**31**
Rank by Change in Low-Stress Bike Accessibility	**13**
Rank by Change in Medium-Stress Bike Accessibility	**10**
Rank by Total Employment	**26**
Total Jobs	**1,059,744**
Average Job Density (per km^2)	**52**
Total Workers	**1,036,878**
Average Worker Density (per km^2)	**51**

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

Biking Job Accessibility by Travel Time Threshold



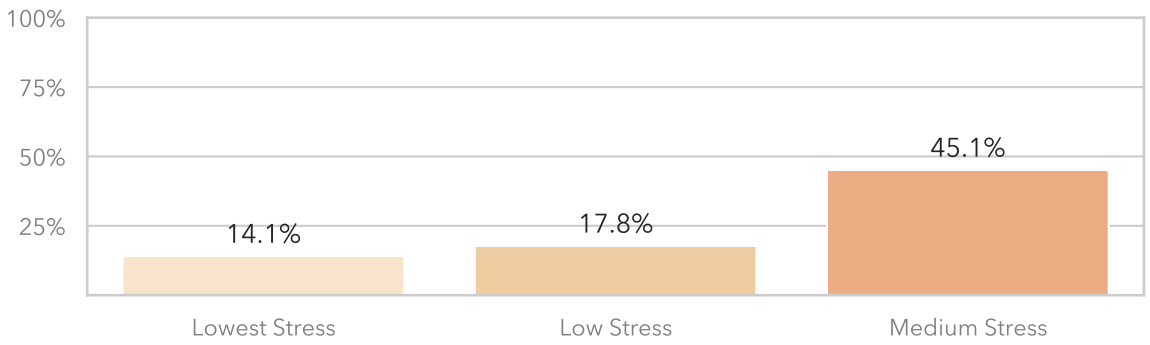
1-Year Change in Biking Job Accessibility by Travel Time Threshold



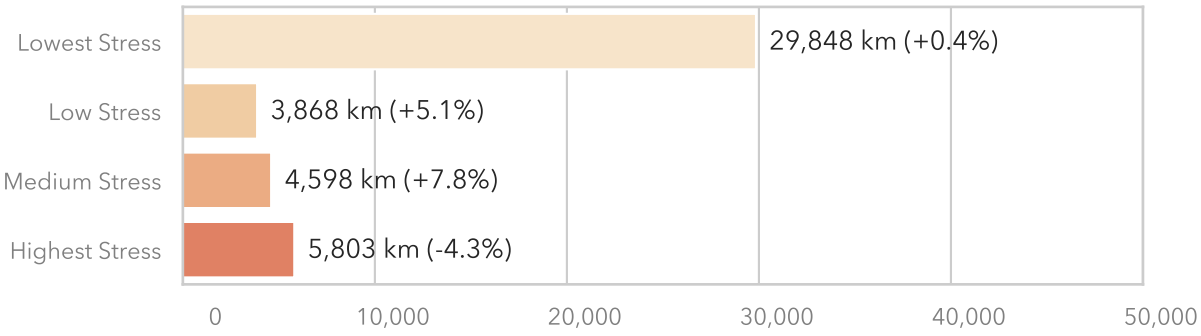
Kansas City

Kansas City, MO-KS

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

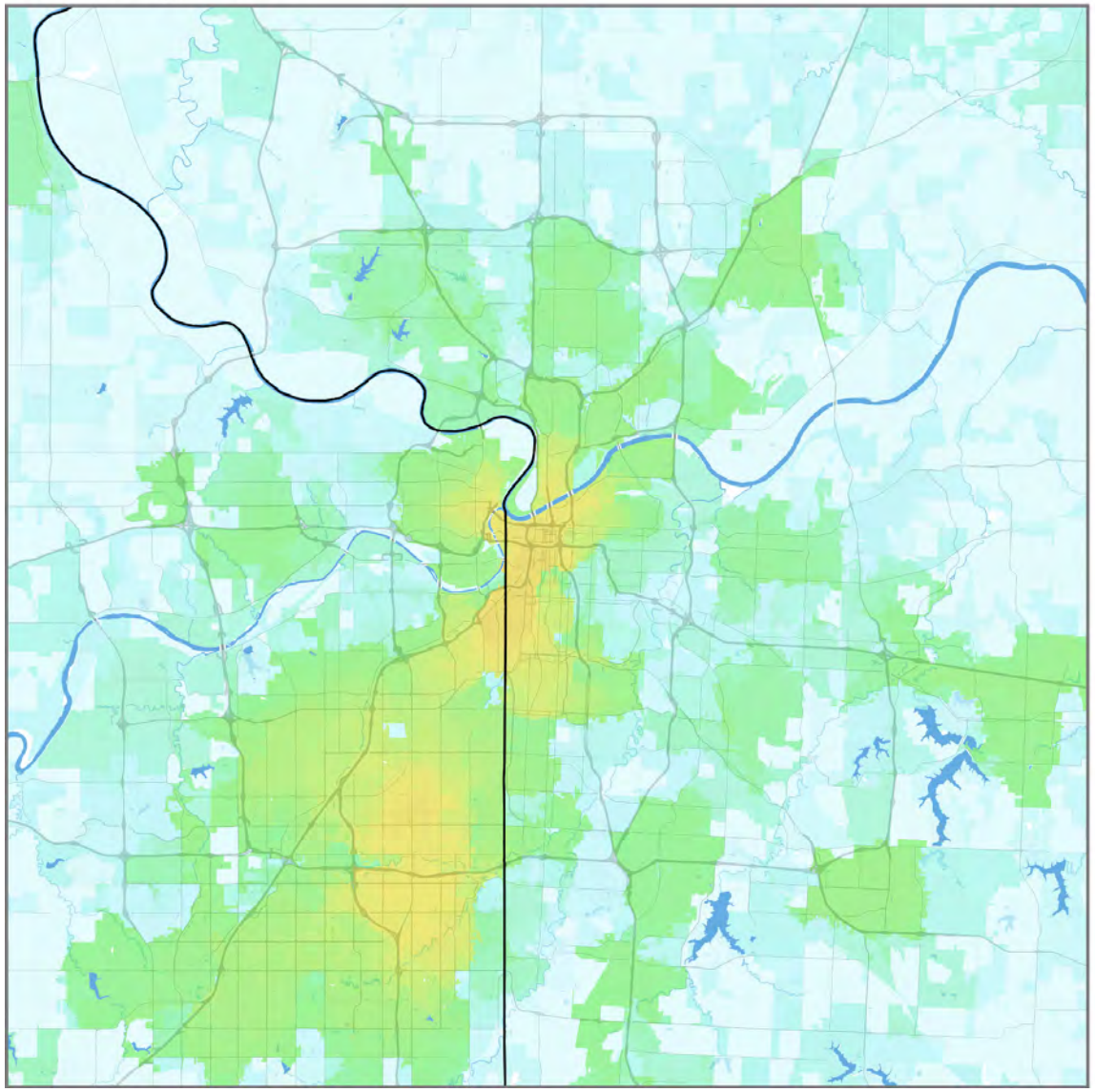


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Kansas City

Kansas City, MO-KS



Jobs within 30 minutes
(Biking, medium stress)

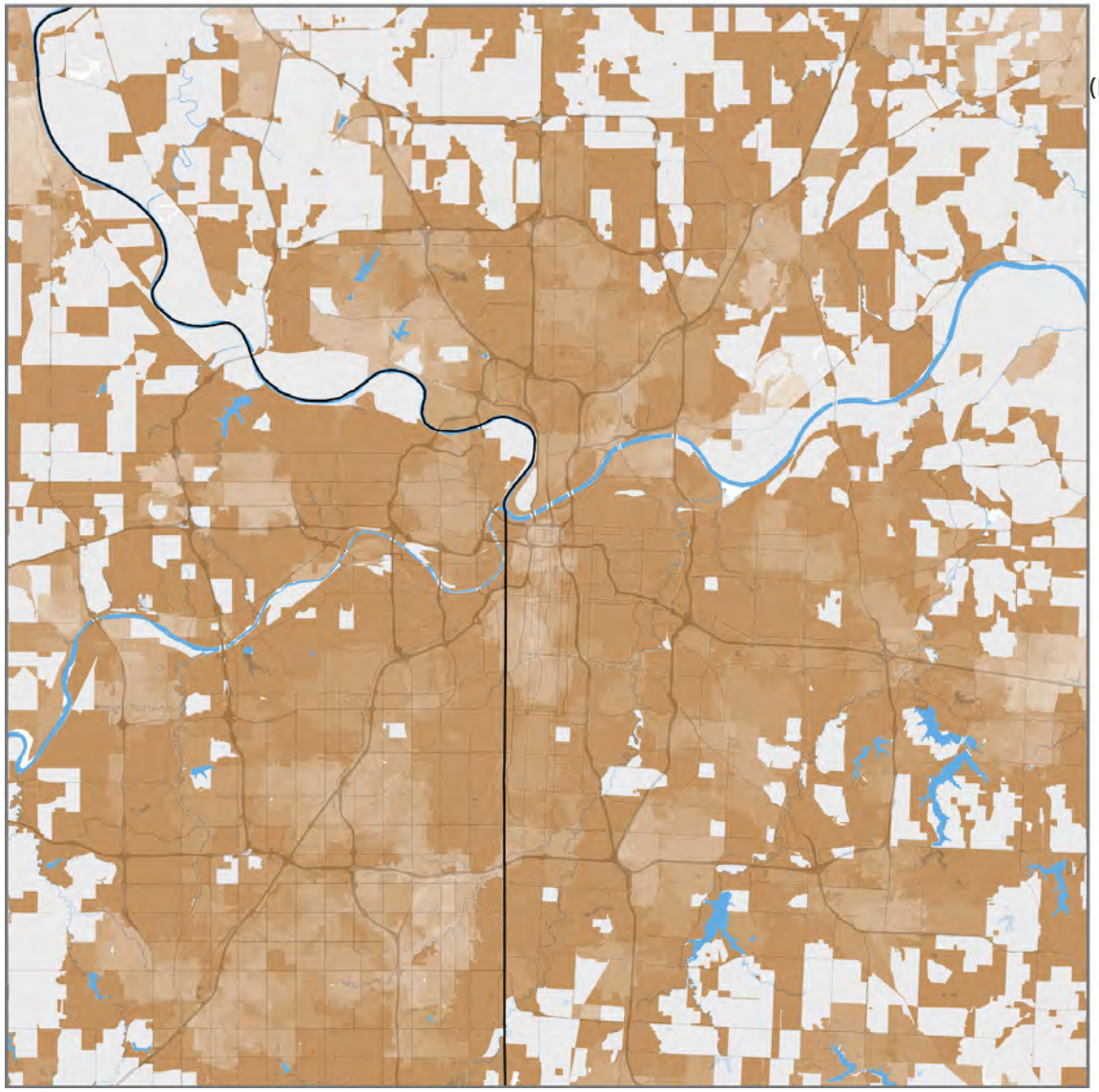
- 0 – 1,000
- 1,000 – 2,500
- 2,500 – 5,000
- 5,000 – 7,500
- 7,500 – 10,000
- 10,000 – 25,000
- 25,000 – 50,000
- 50,000 – 75,000
- 75,000 – 100,000
- 100,000 – 250,000
- 250,000 – 500,000
- 500,000 – 750,000
- 750,000 – 1,000,000
- 1,000,000 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000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

State border

CBSA boundary

Kansas City

Kansas City, MO-KS



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

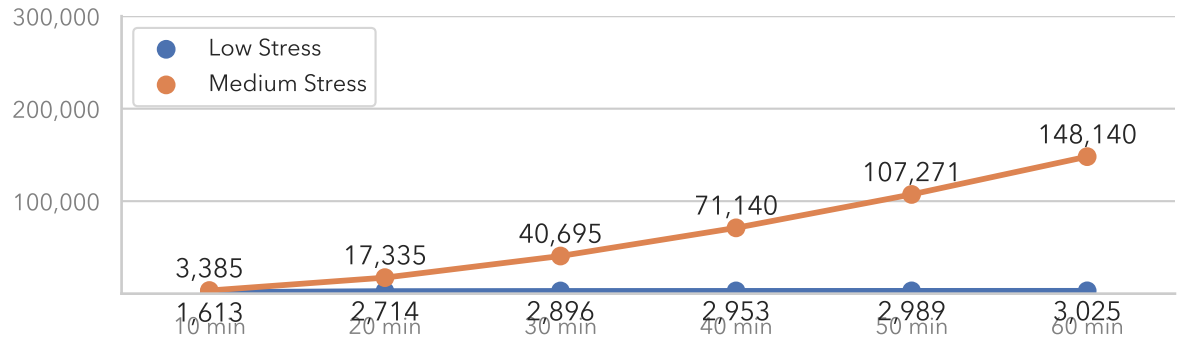
Las Vegas

Las Vegas-Paradise, NV

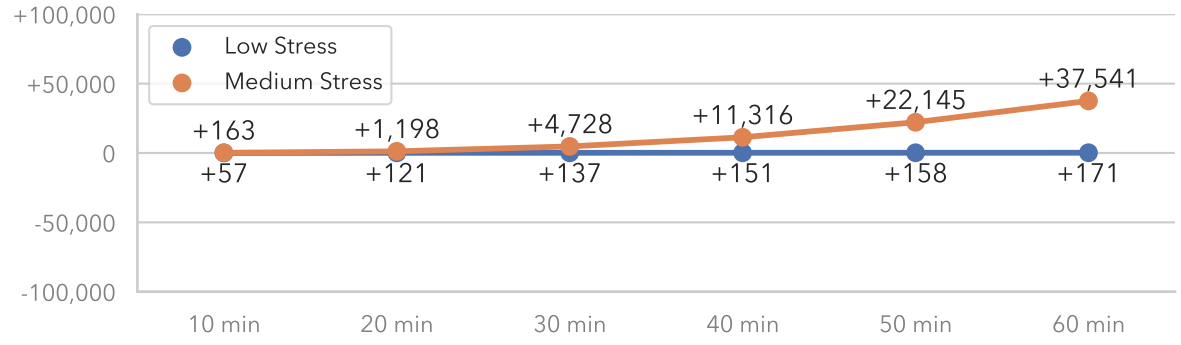
Rank by Weighted Low-Stress Bike Accessibility	**39**
Rank by Weighted Medium-Stress Bike Accessibility	**15**
Rank by Change in Low-Stress Bike Accessibility	**29**
Rank by Change in Medium-Stress Bike Accessibility	**9**
Rank by Total Employment	**33**
Total Jobs	**956,530**
Average Job Density (per km^2)	**47**
Total Workers	**941,812**
Average Worker Density (per km^2)	**46**

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

Biking Job Accessibility by Travel Time Threshold



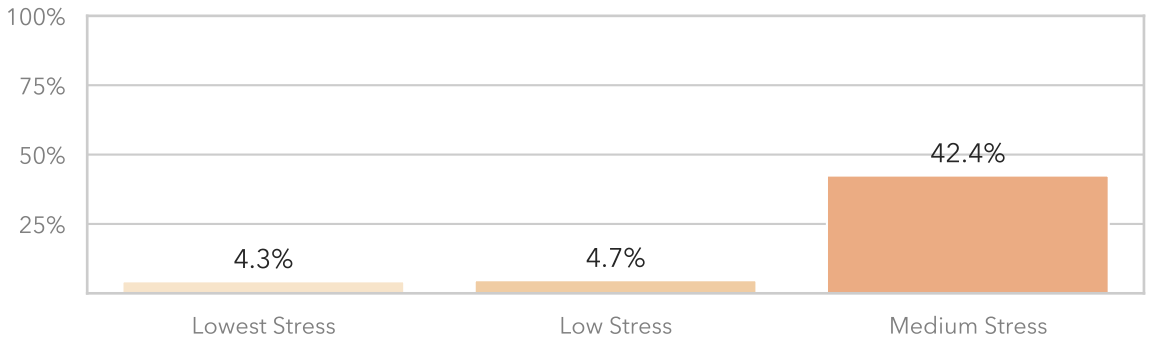
1-Year Change in Biking Job Accessibility by Travel Time Threshold



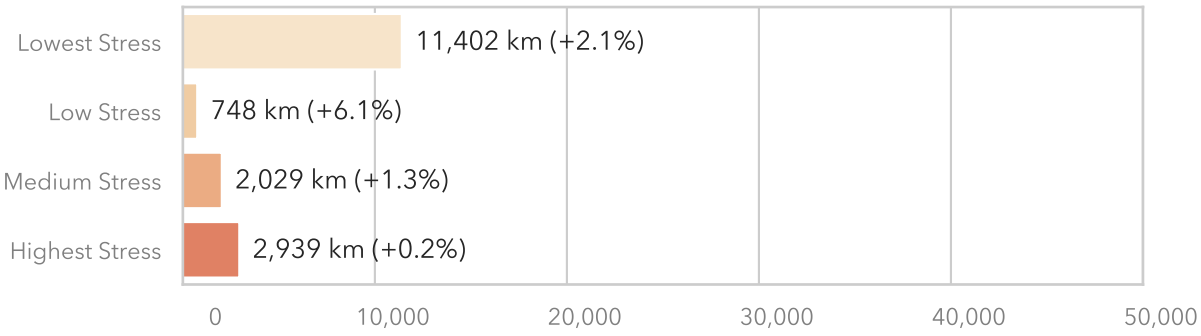
Las Vegas

Las Vegas-Paradise, NV

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

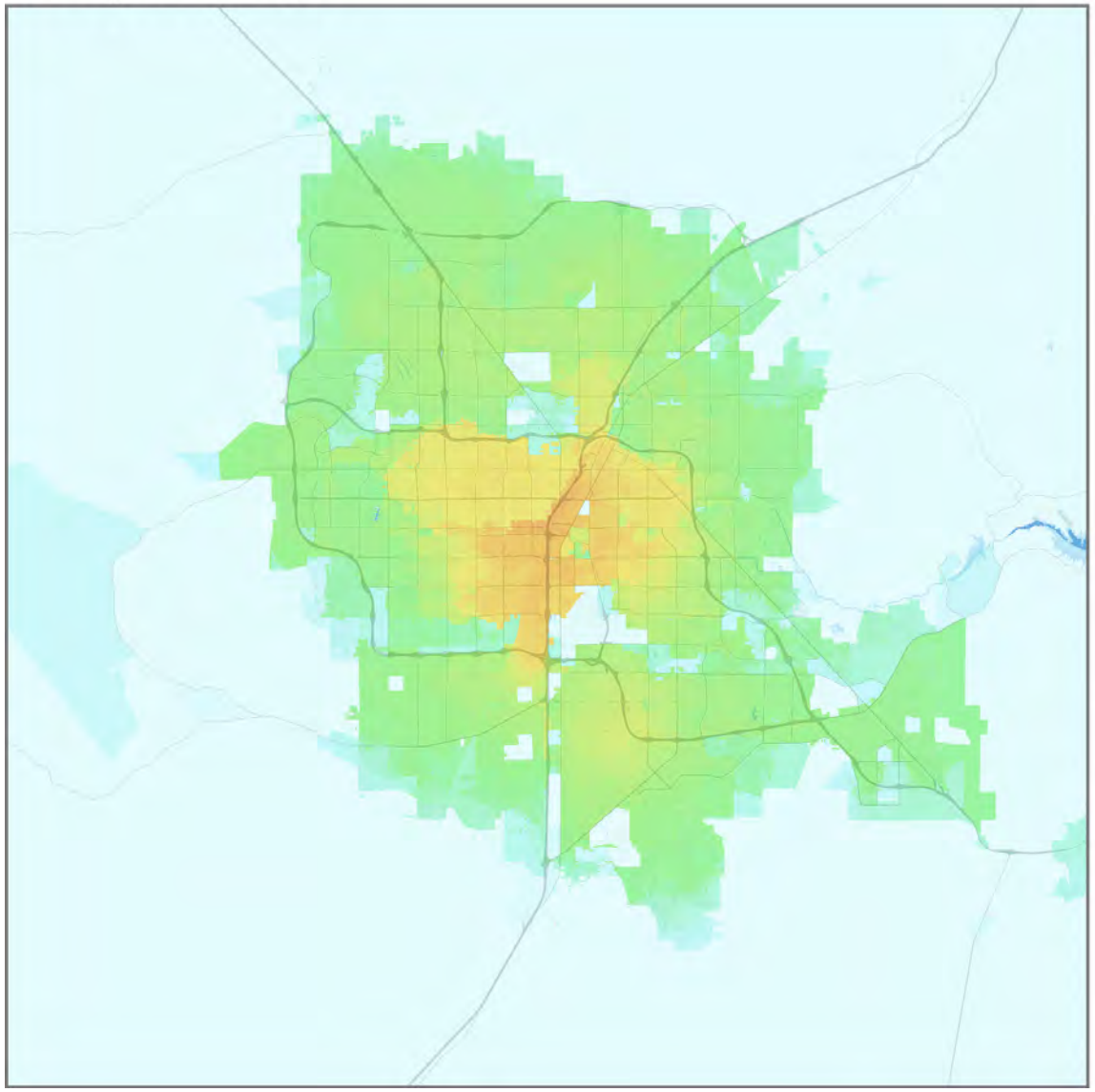


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



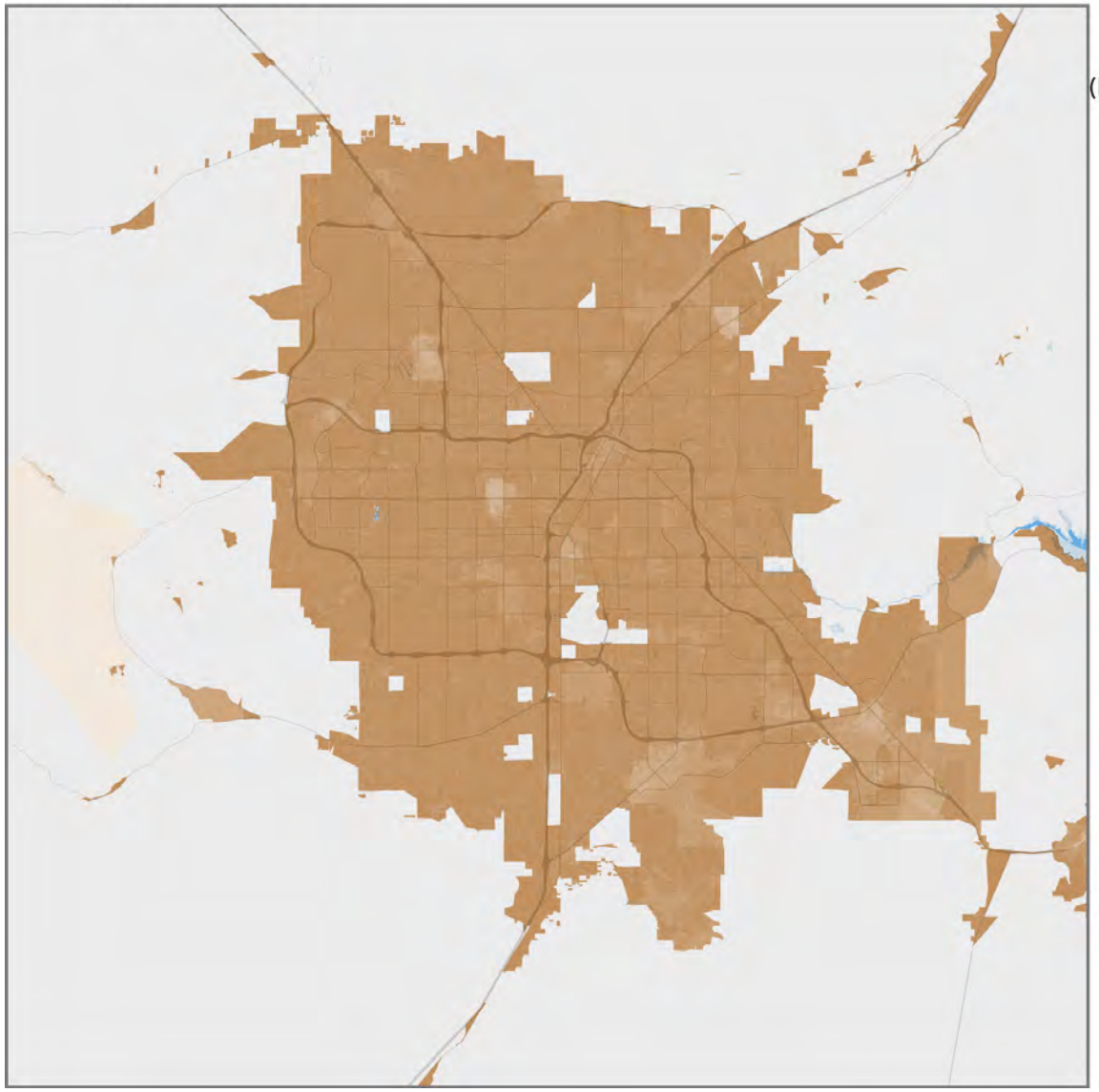
Las Vegas

Las Vegas-Paradise, NV



Las Vegas

Las Vegas-Paradise, NV



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

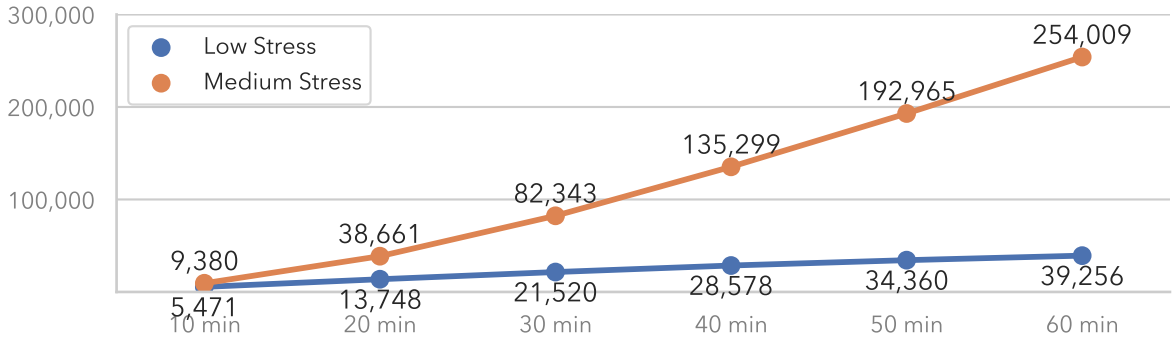
Los Angeles

Los Angeles-Long Beach-Santa Ana, CA

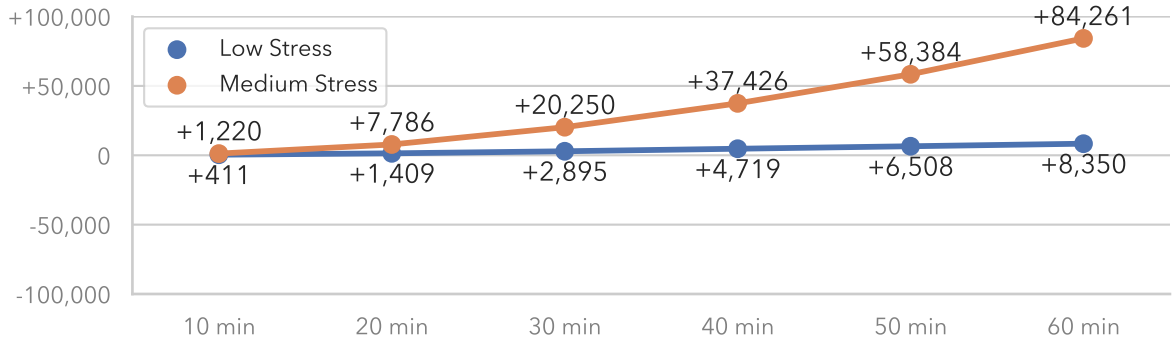
Rank by Weighted Low-Stress Bike Accessibility	**5**
Rank by Weighted Medium-Stress Bike Accessibility	**4**
Rank by Change in Low-Stress Bike Accessibility	**9**
Rank by Change in Medium-Stress Bike Accessibility	**3**
Rank by Total Employment	**2**
Total Jobs	**6,249,699**
Average Job Density (per km^2)	**498**
Total Workers	**5,825,012**
Average Worker Density (per km^2)	**464**

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

Biking Job Accessibility by Travel Time Threshold



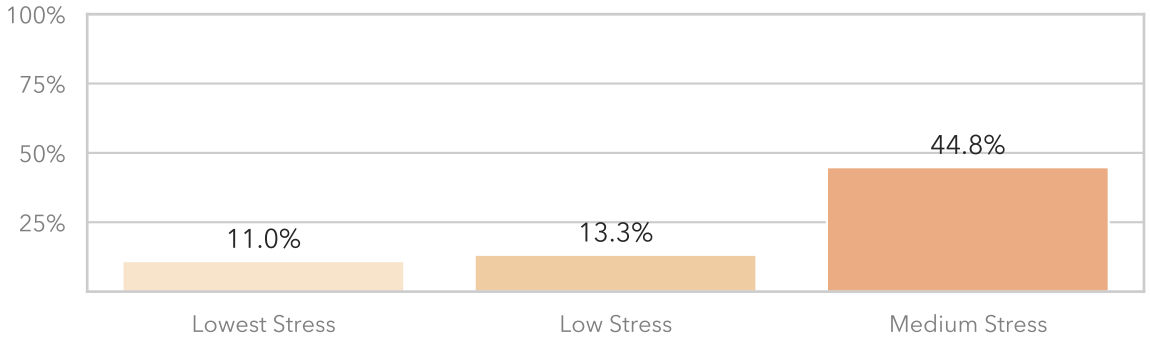
1-Year Change in Biking Job Accessibility by Travel Time Threshold



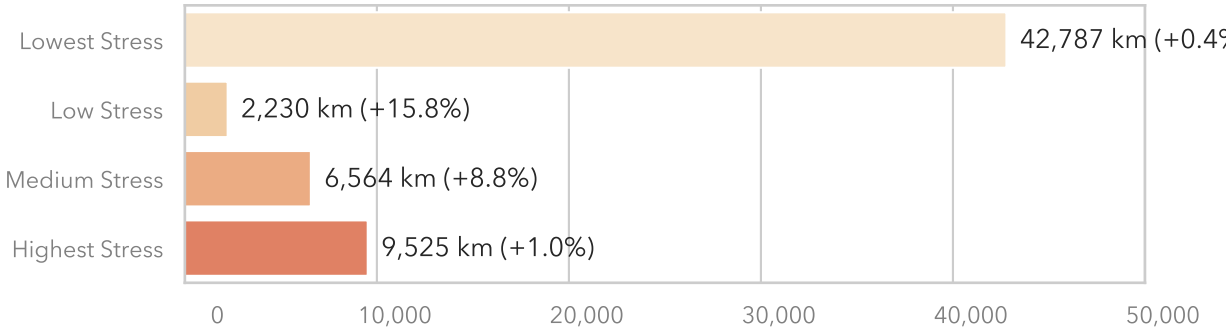
Los Angeles

Los Angeles-Long Beach-Santa Ana, CA

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

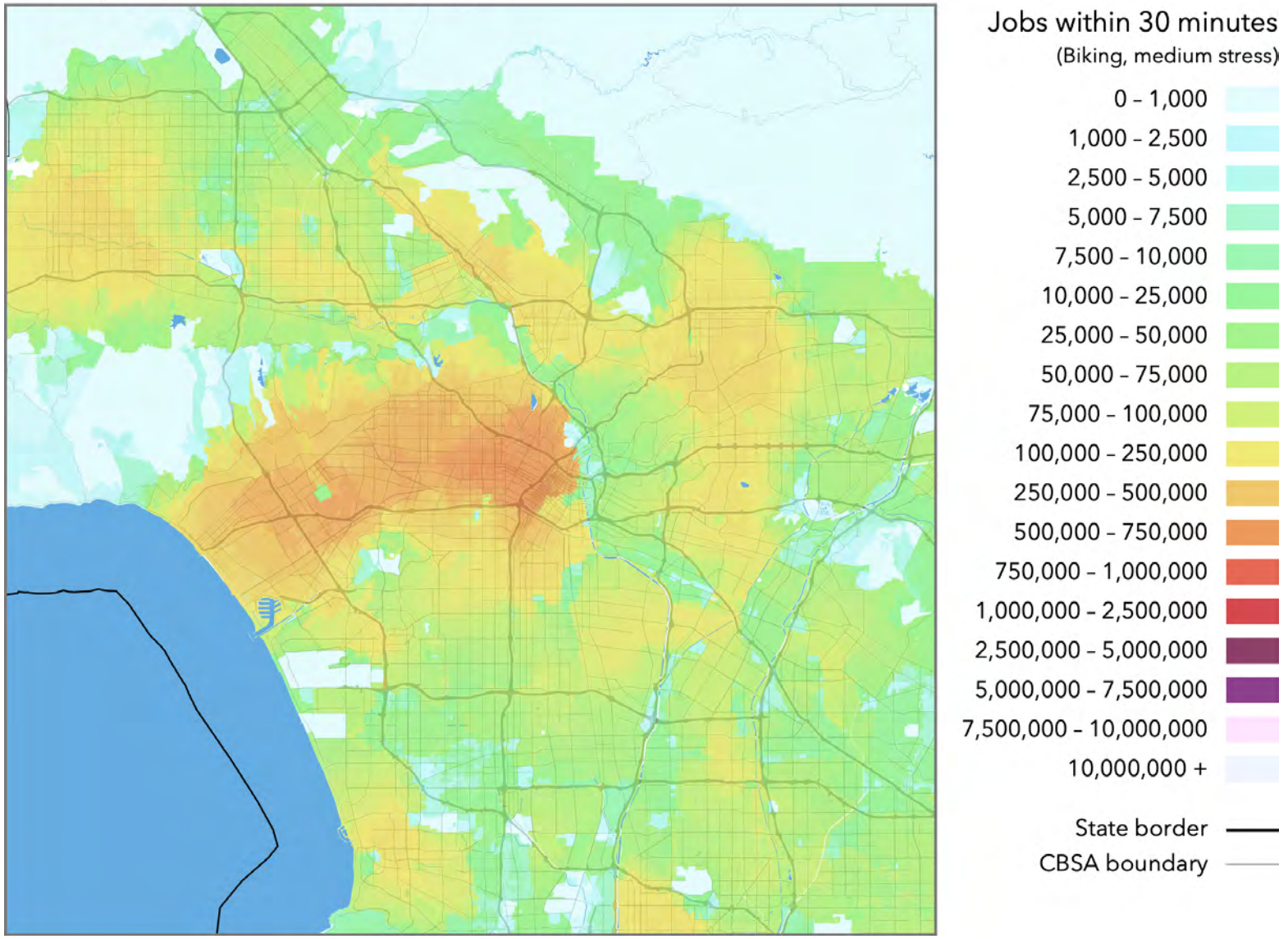


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



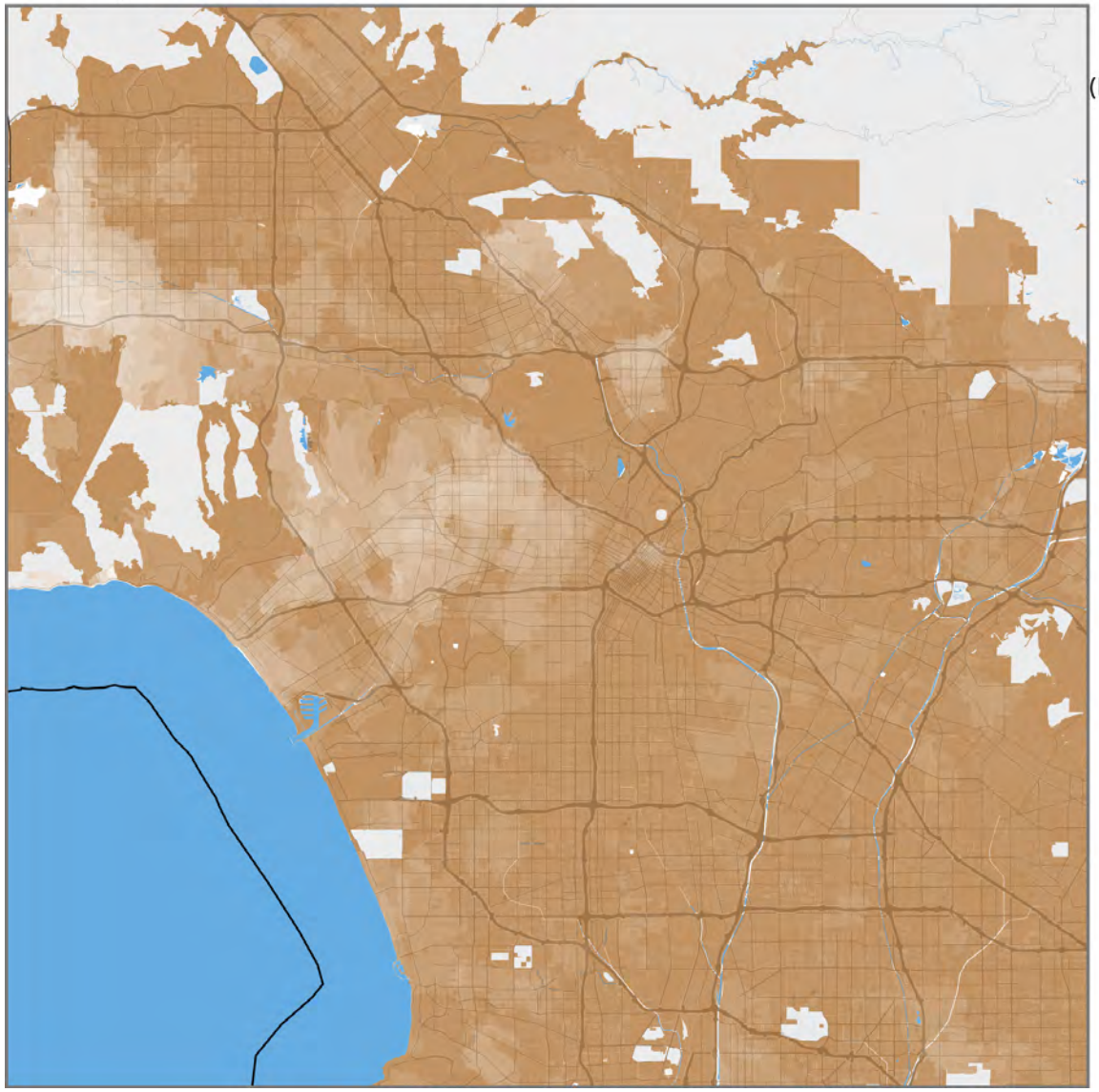
Los Angeles

Los Angeles-Long Beach-Santa Ana, CA



Los Angeles

Los Angeles-Long Beach-Santa Ana, CA



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

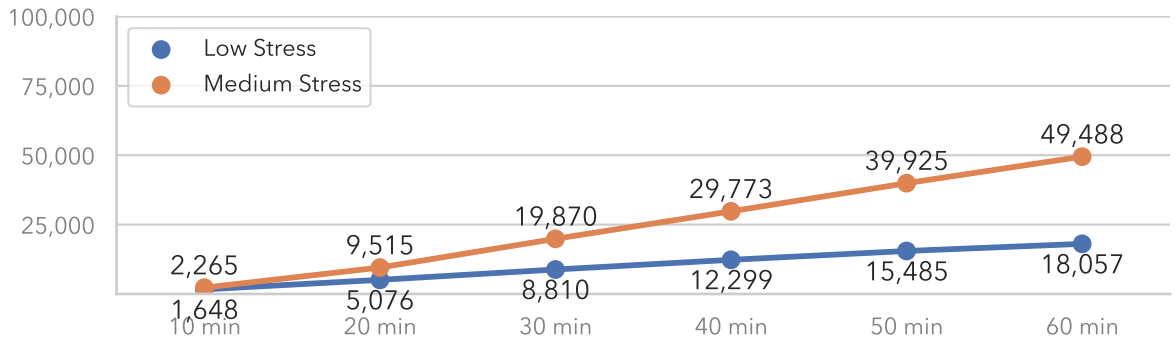
Louisville

Louisville/Jefferson County, KY-IN

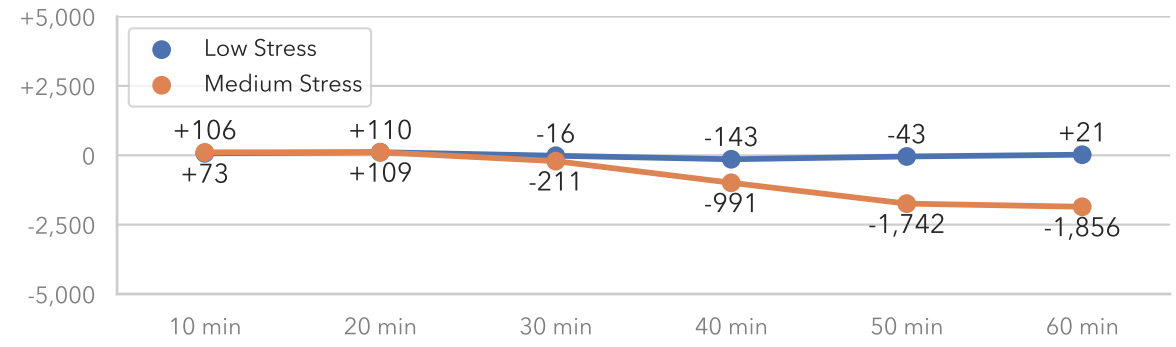
Rank by Weighted Low-Stress Bike Accessibility	**19**
Rank by Weighted Medium-Stress Bike Accessibility	**34**
Rank by Change in Low-Stress Bike Accessibility	**37**
Rank by Change in Medium-Stress Bike Accessibility	**36**
Rank by Total Employment	**41**
Total Jobs	**668,246**
Average Job Density (per km^2)	**63**
Total Workers	**645,505**
Average Worker Density (per km^2)	**61**

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

Biking Job Accessibility by Travel Time Threshold



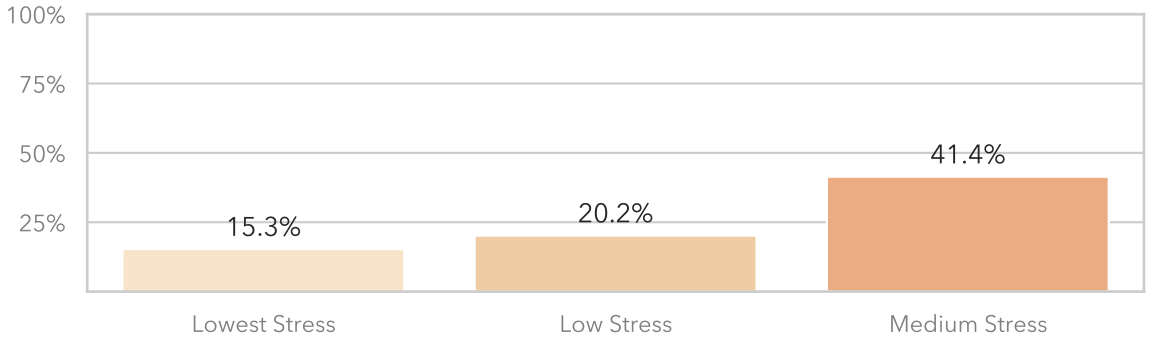
1-Year Change in Biking Job Accessibility by Travel Time Threshold



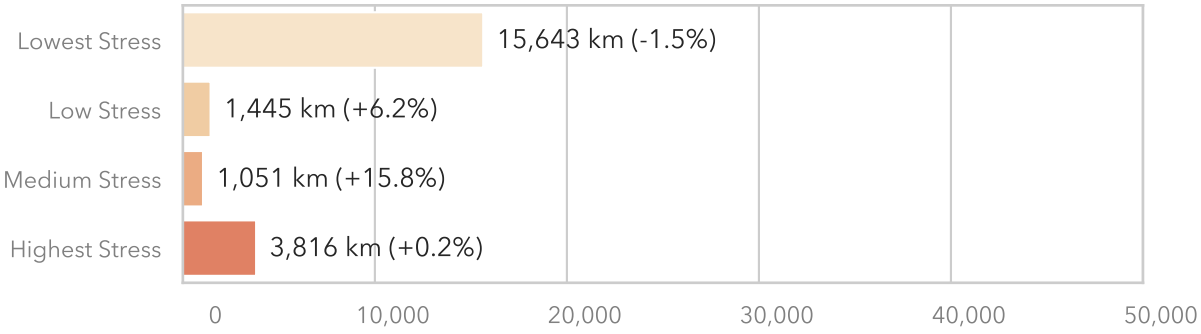
Louisville

Louisville/Jefferson County, KY-IN

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

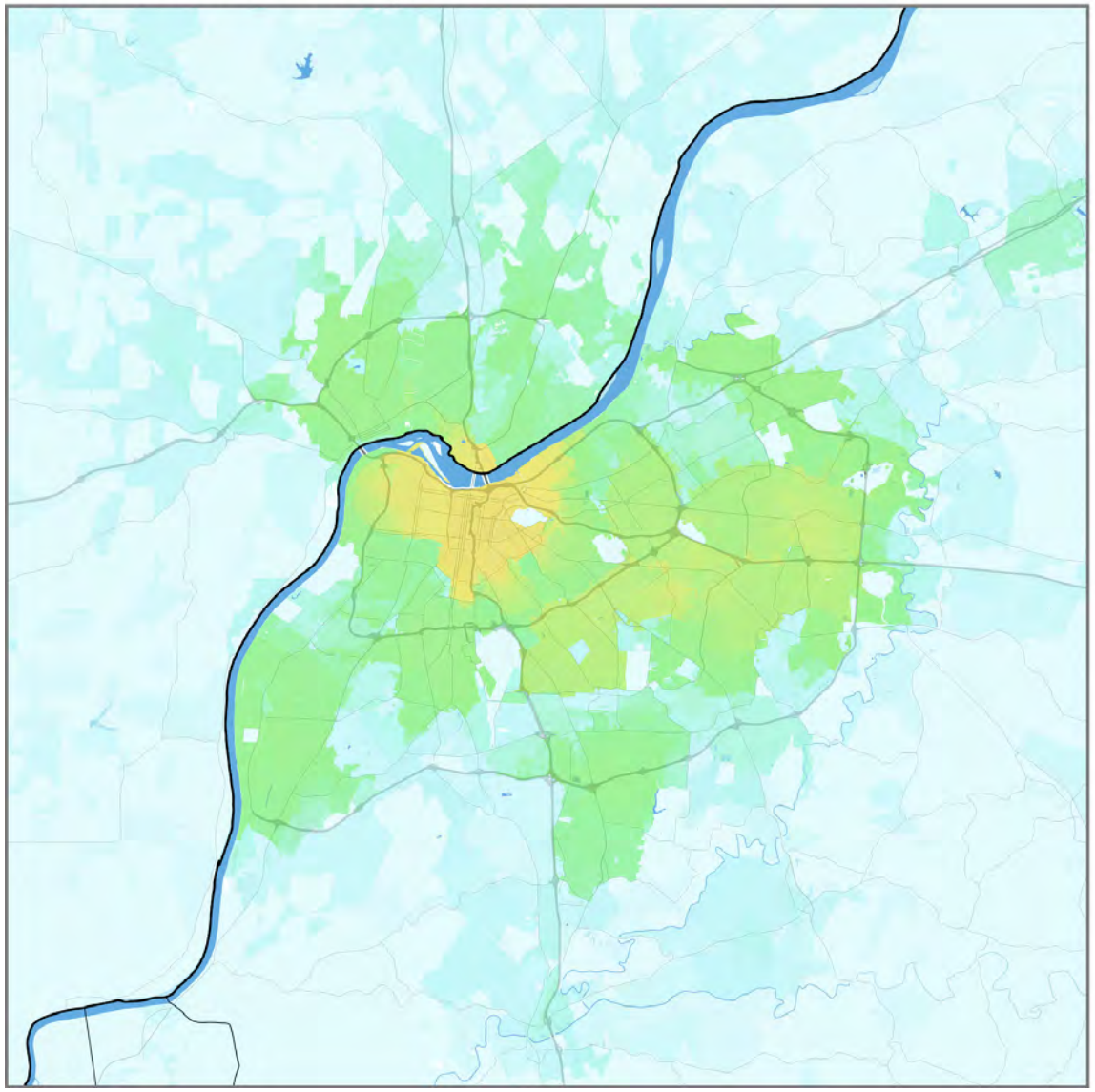


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



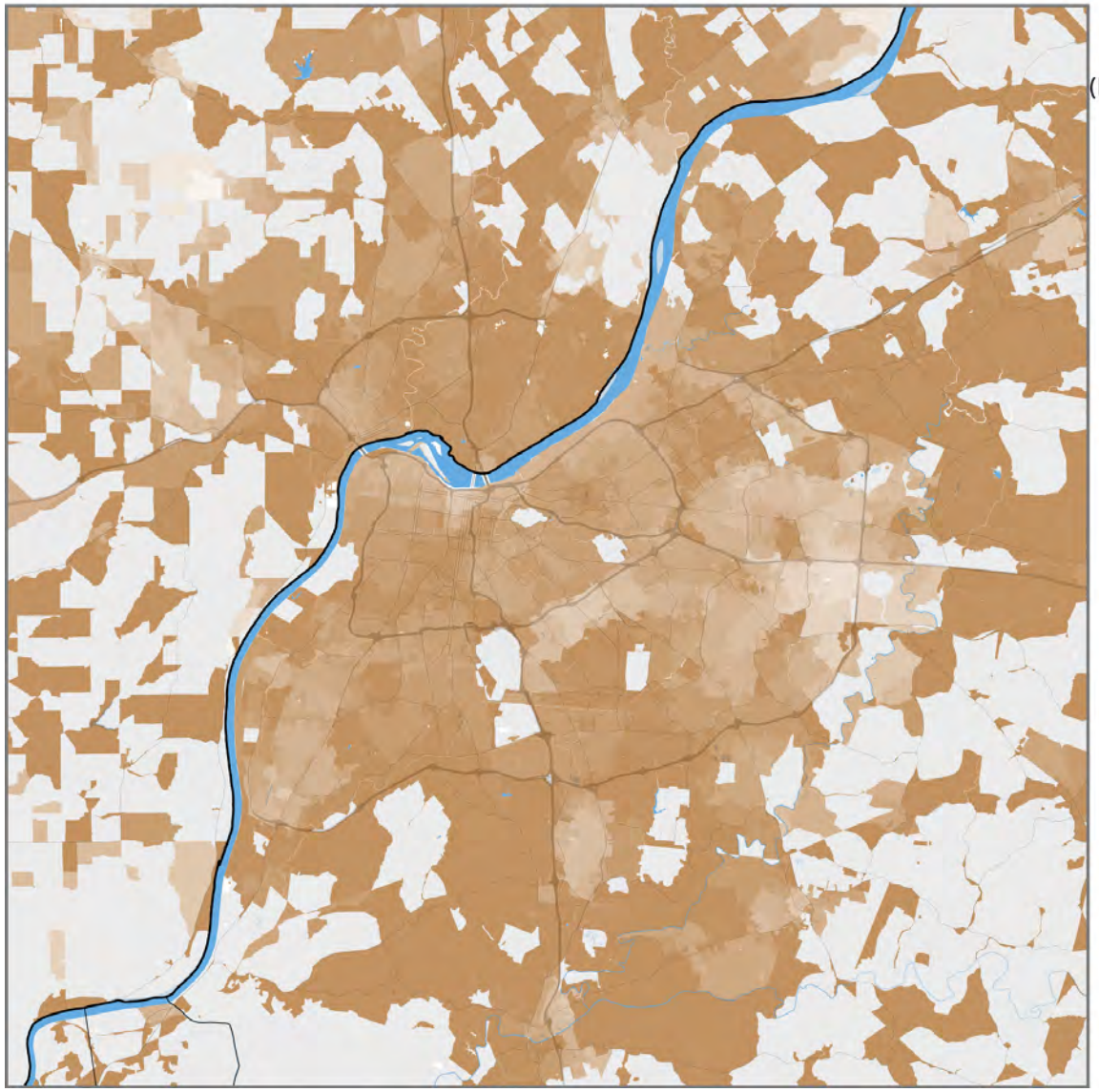
Louisville

Louisville/Jefferson County, KY-IN



Louisville

Louisville/Jefferson County, KY-IN



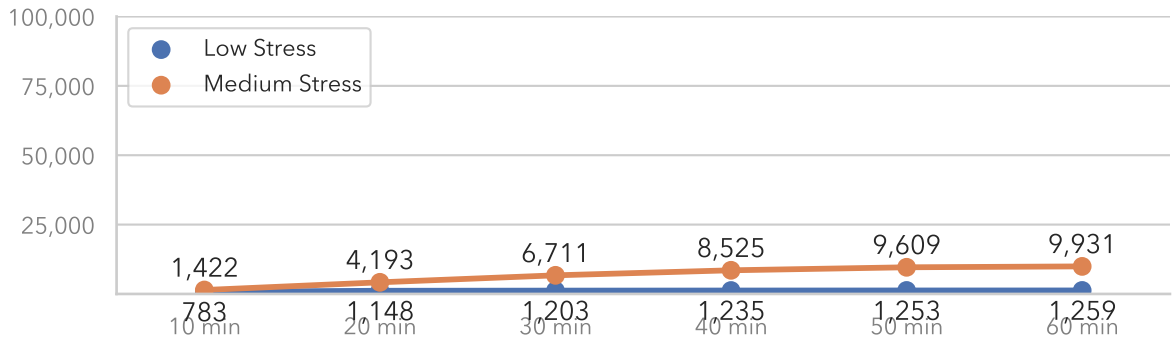
Memphis

Memphis, TN-MS-AR

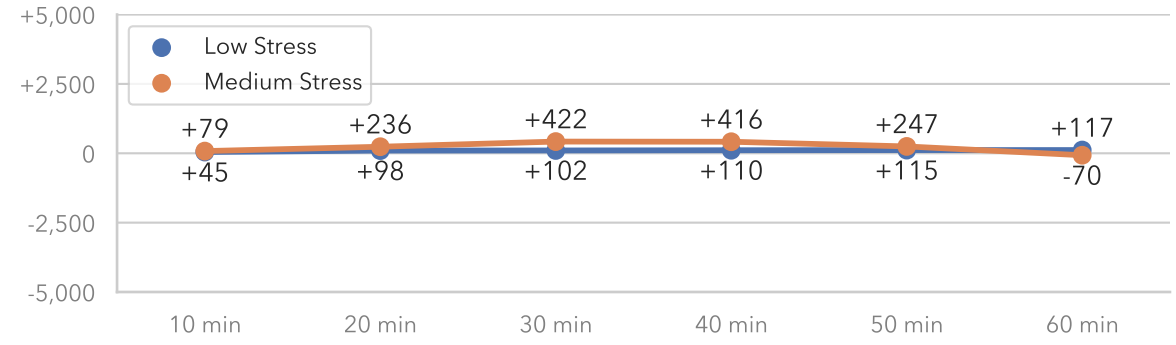
Rank by Weighted Low-Stress Bike Accessibility	**50**
Rank by Weighted Medium-Stress Bike Accessibility	**50**
Rank by Change in Low-Stress Bike Accessibility	**21**
Rank by Change in Medium-Stress Bike Accessibility	**20**
Rank by Total Employment	**46**
Total Jobs	**615,157**
Average Job Density (per km^2)	**52**
Total Workers	**589,984**
Average Worker Density (per km^2)	**50**

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

Biking Job Accessibility by Travel Time Threshold



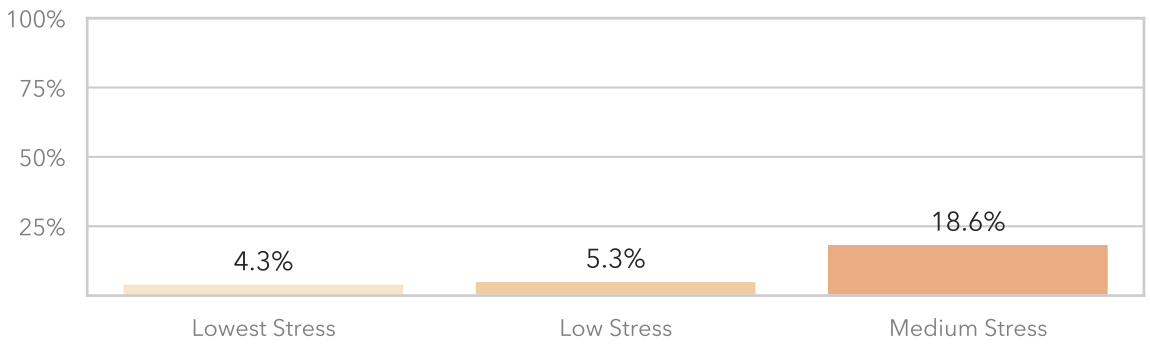
1-Year Change in Biking Job Accessibility by Travel Time Threshold



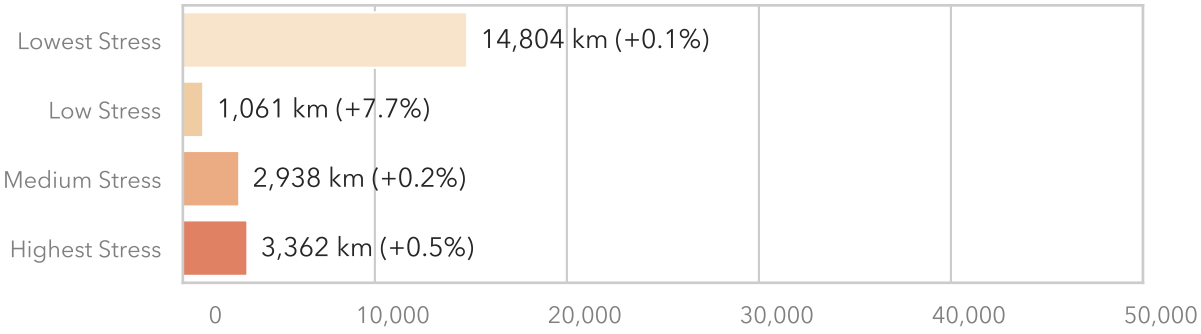
Memphis

Memphis, TN-MS-AR

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

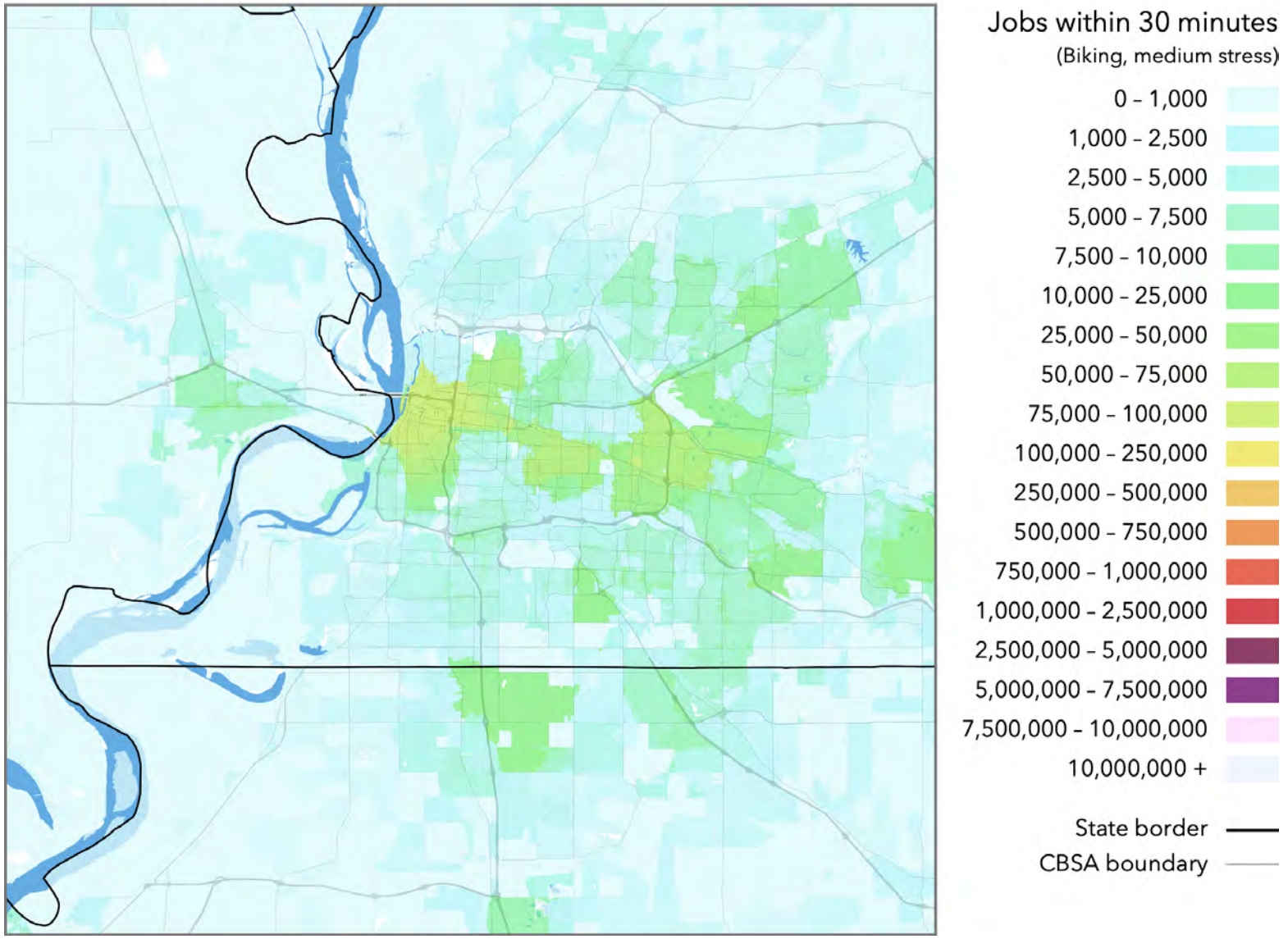


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



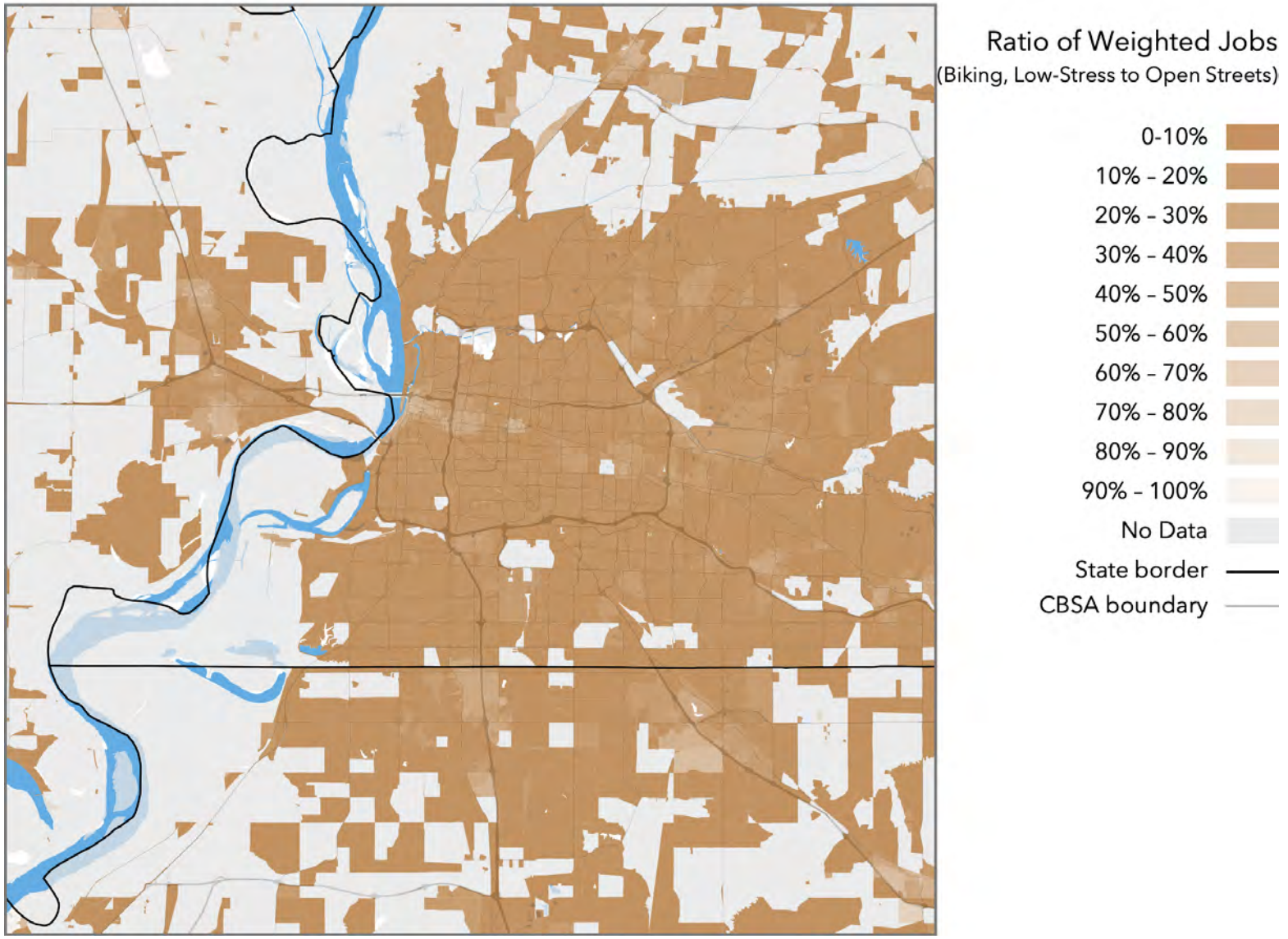
Memphis

Memphis, TN-MS-AR



Memphis

Memphis, TN-MS-AR



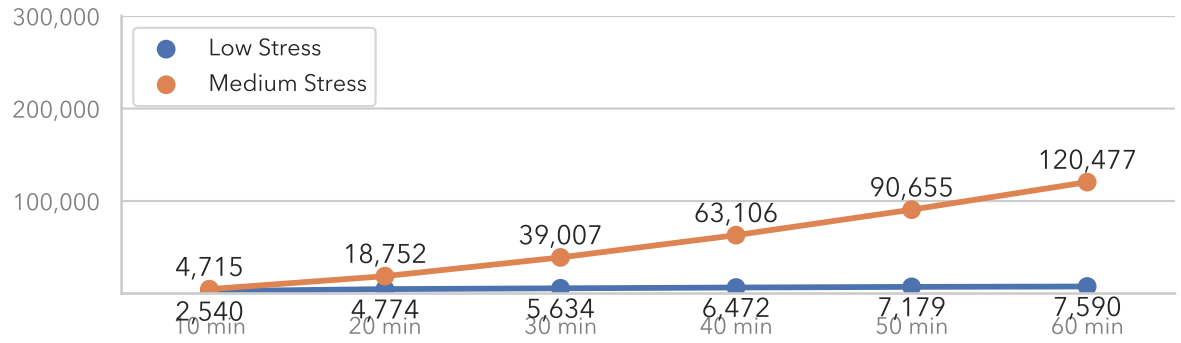
Miami

Miami-Fort Lauderdale-Pompano Beach, FL

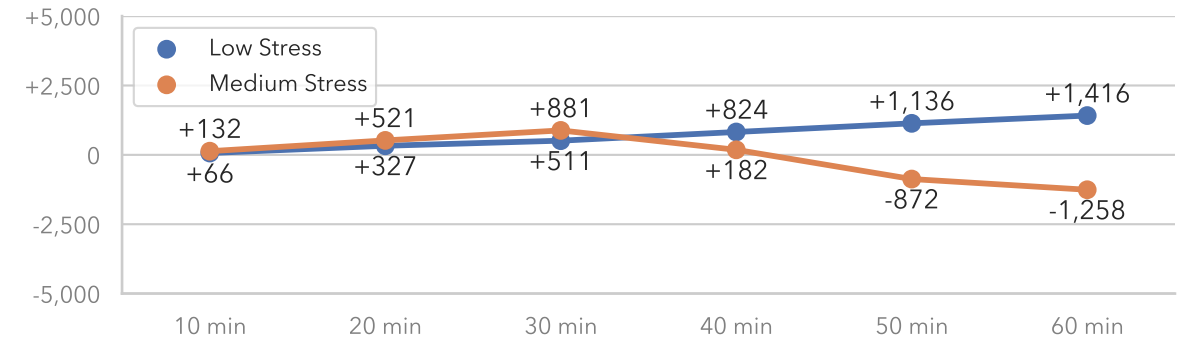
Rank by Weighted Low-Stress Bike Accessibility	**22**
Rank by Weighted Medium-Stress Bike Accessibility	**16**
Rank by Change in Low-Stress Bike Accessibility	**22**
Rank by Change in Medium-Stress Bike Accessibility	**31**
Rank by Total Employment	**9**
Total Jobs	**2,560,082**
Average Job Density (per km^2)	**195**
Total Workers	**2,503,411**
Average Worker Density (per km^2)	**190**

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

Biking Job Accessibility by Travel Time Threshold



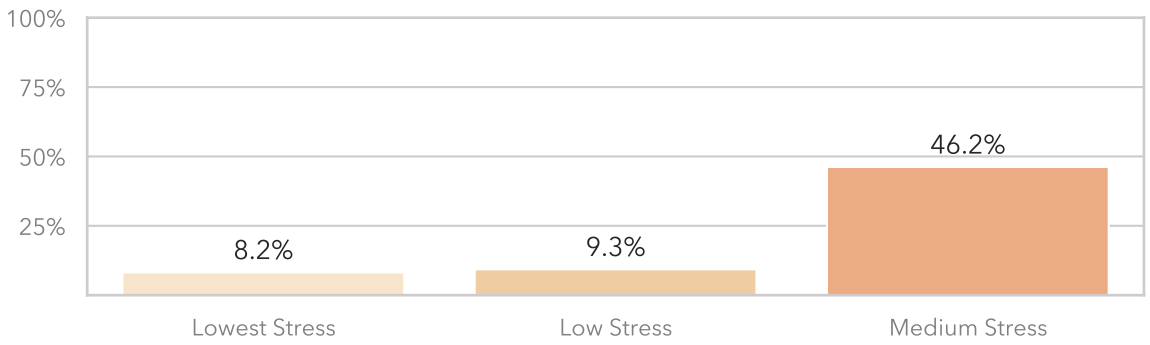
1-Year Change in Biking Job Accessibility by Travel Time Threshold



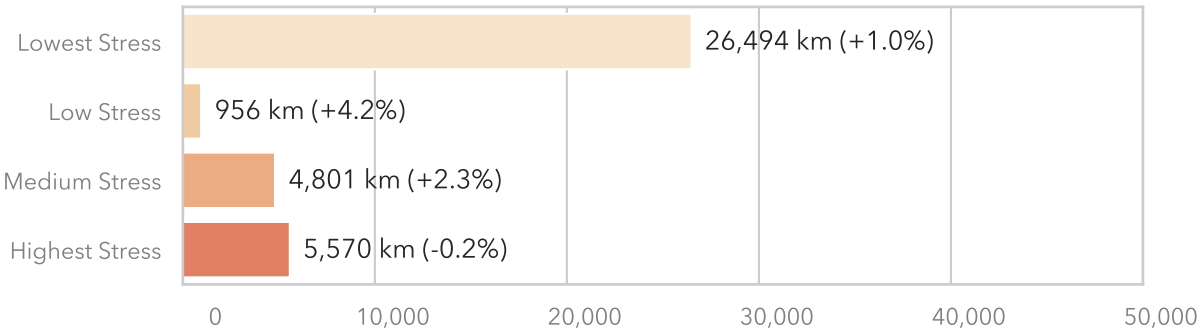
Miami

Miami-Fort Lauderdale-Pompano Beach, FL

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

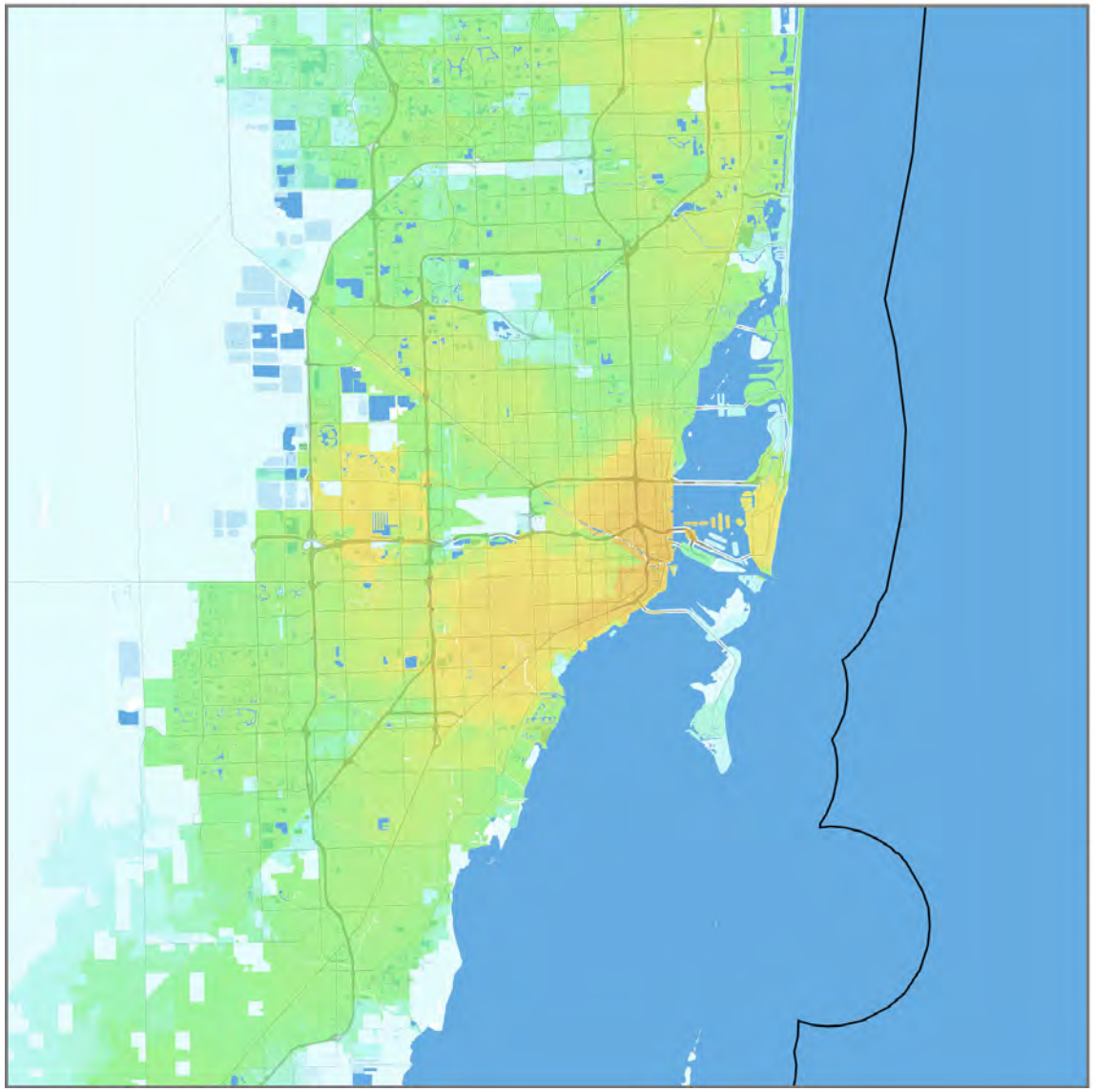


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Miami

Miami-Fort Lauderdale-Pompano Beach, FL



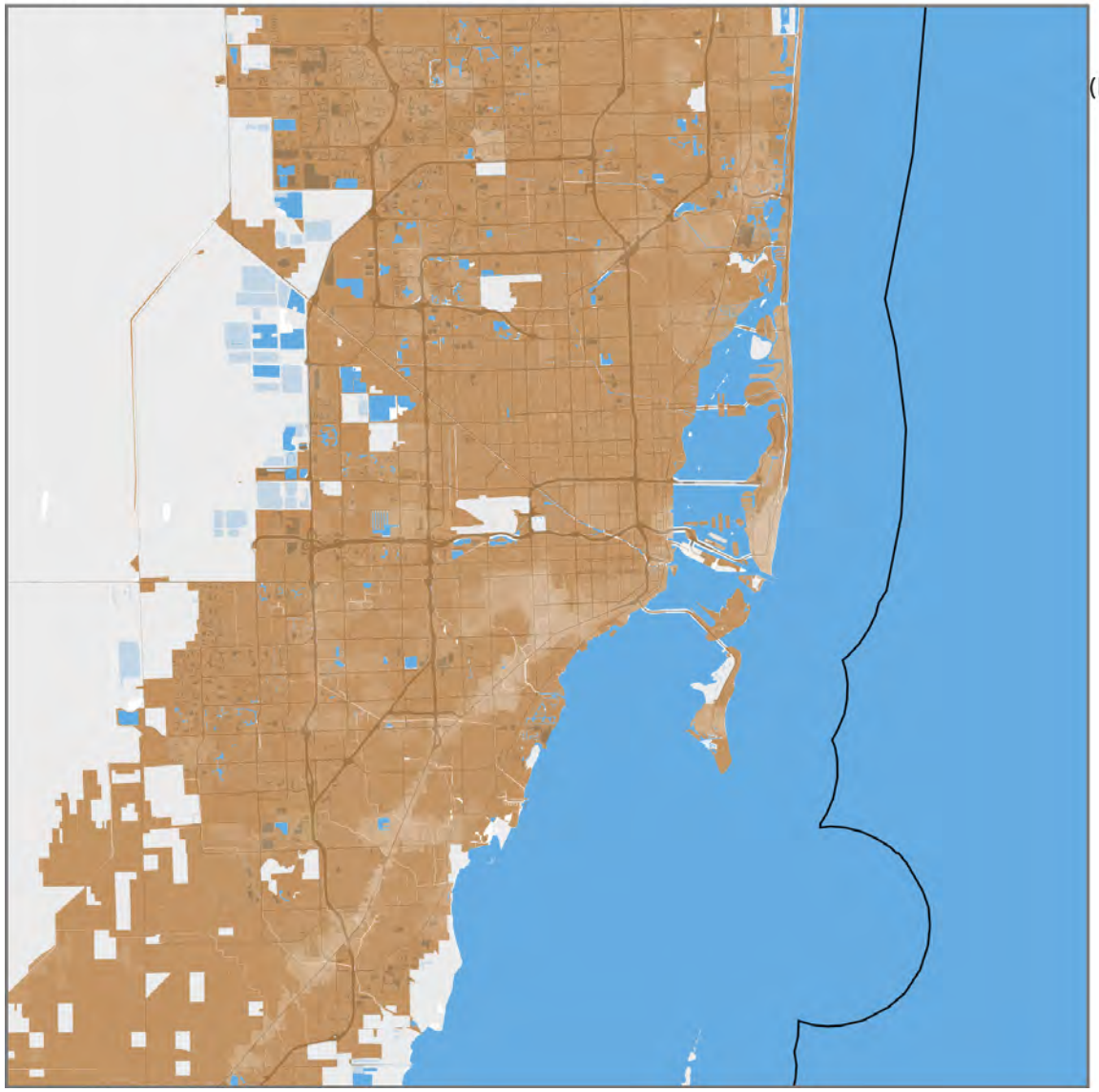
Jobs within 30 minutes
(Biking, medium stress)

- 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

Miami

Miami-Fort Lauderdale-Pompano Beach, FL



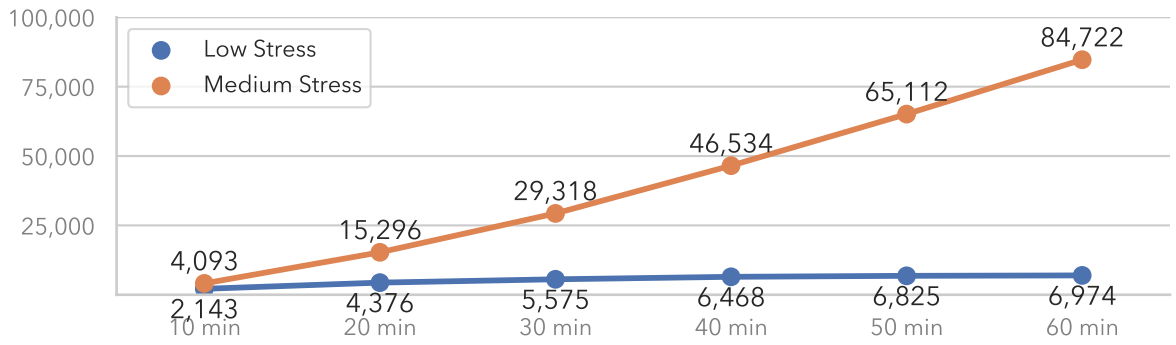
Milwaukee

Milwaukee-Waukesha-West Allis, WI

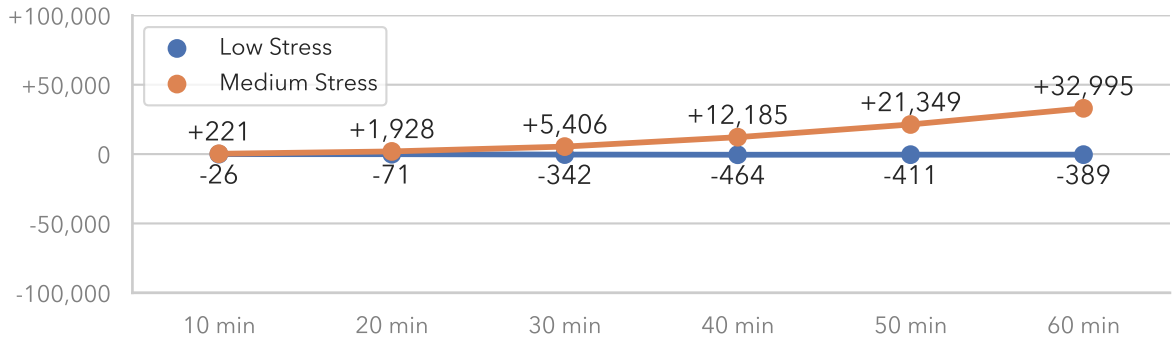
Rank by Weighted Low-Stress Bike Accessibility	**27**
Rank by Weighted Medium-Stress Bike Accessibility	**21**
Rank by Change in Low-Stress Bike Accessibility	**45**
Rank by Change in Medium-Stress Bike Accessibility	**5**
Rank by Total Employment	**37**
Total Jobs	**856,719**
Average Job Density (per km^2)	**227**
Total Workers	**779,865**
Average Worker Density (per km^2)	**207**

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

Biking Job Accessibility by Travel Time Threshold



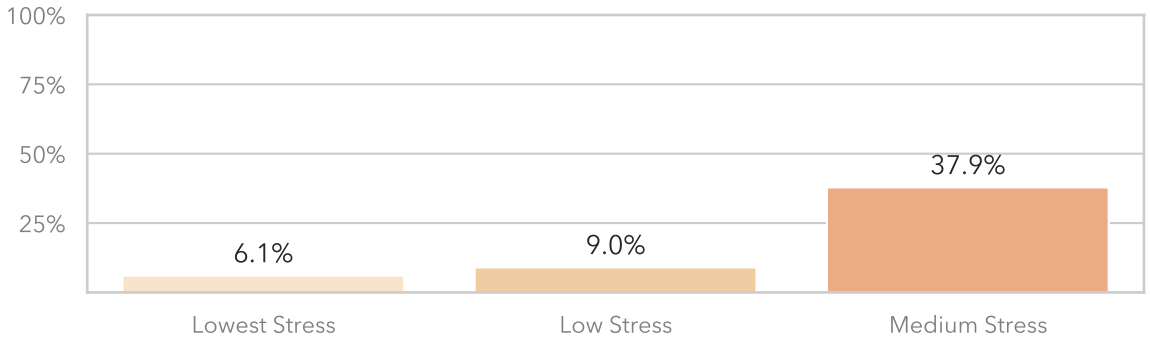
1-Year Change in Biking Job Accessibility by Travel Time Threshold



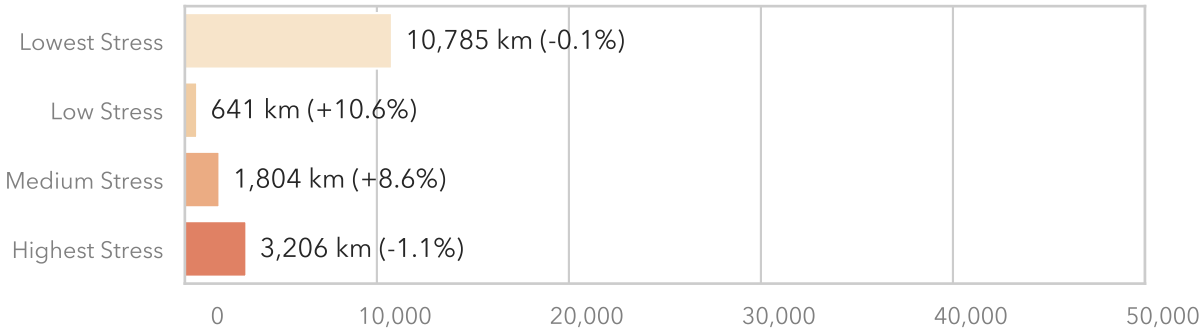
Milwaukee

Milwaukee-Waukesha-West Allis, WI

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

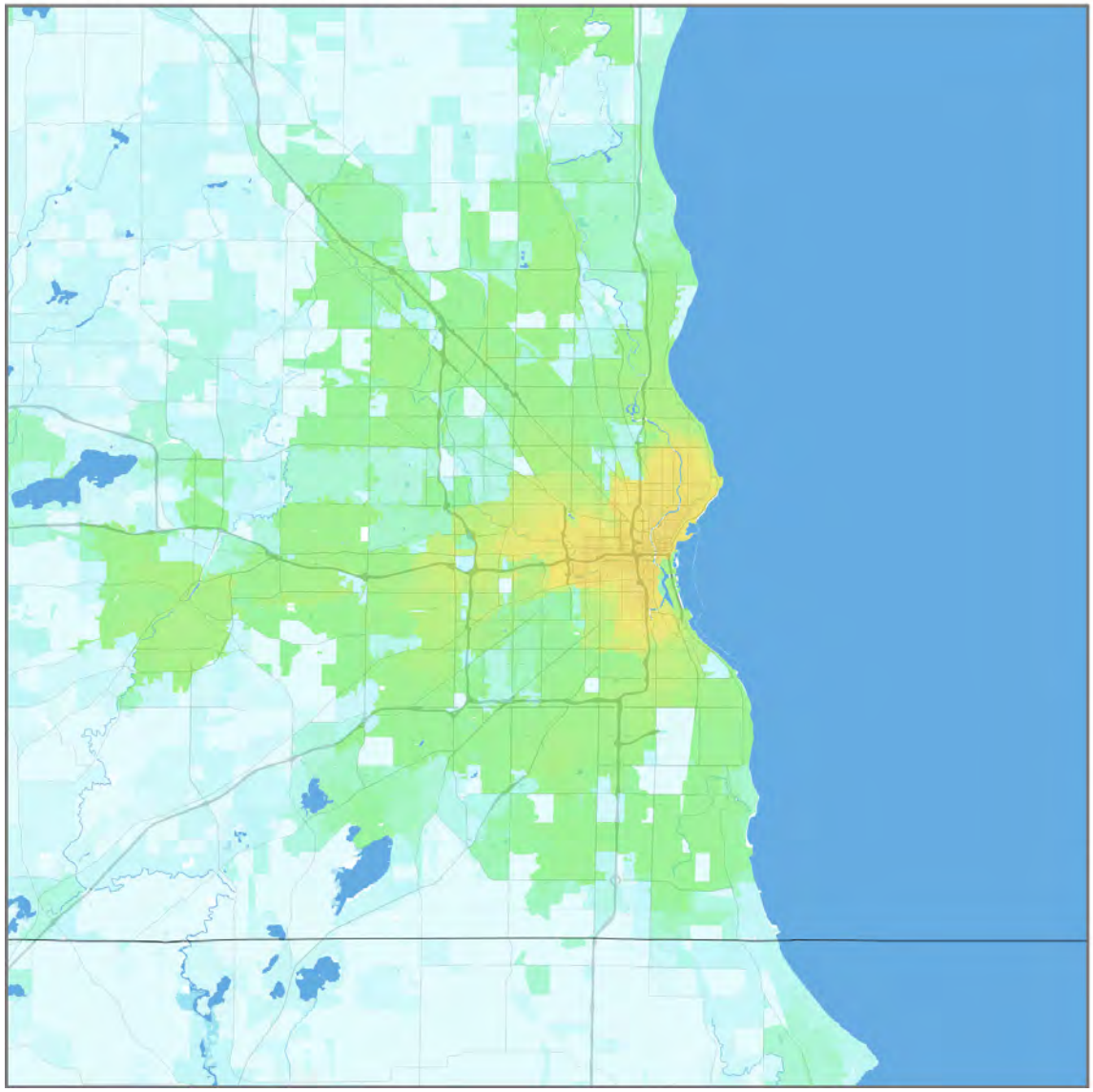


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Milwaukee

Milwaukee-Waukesha-West Allis, WI



Jobs within 30 minutes
(Biking, medium stress)

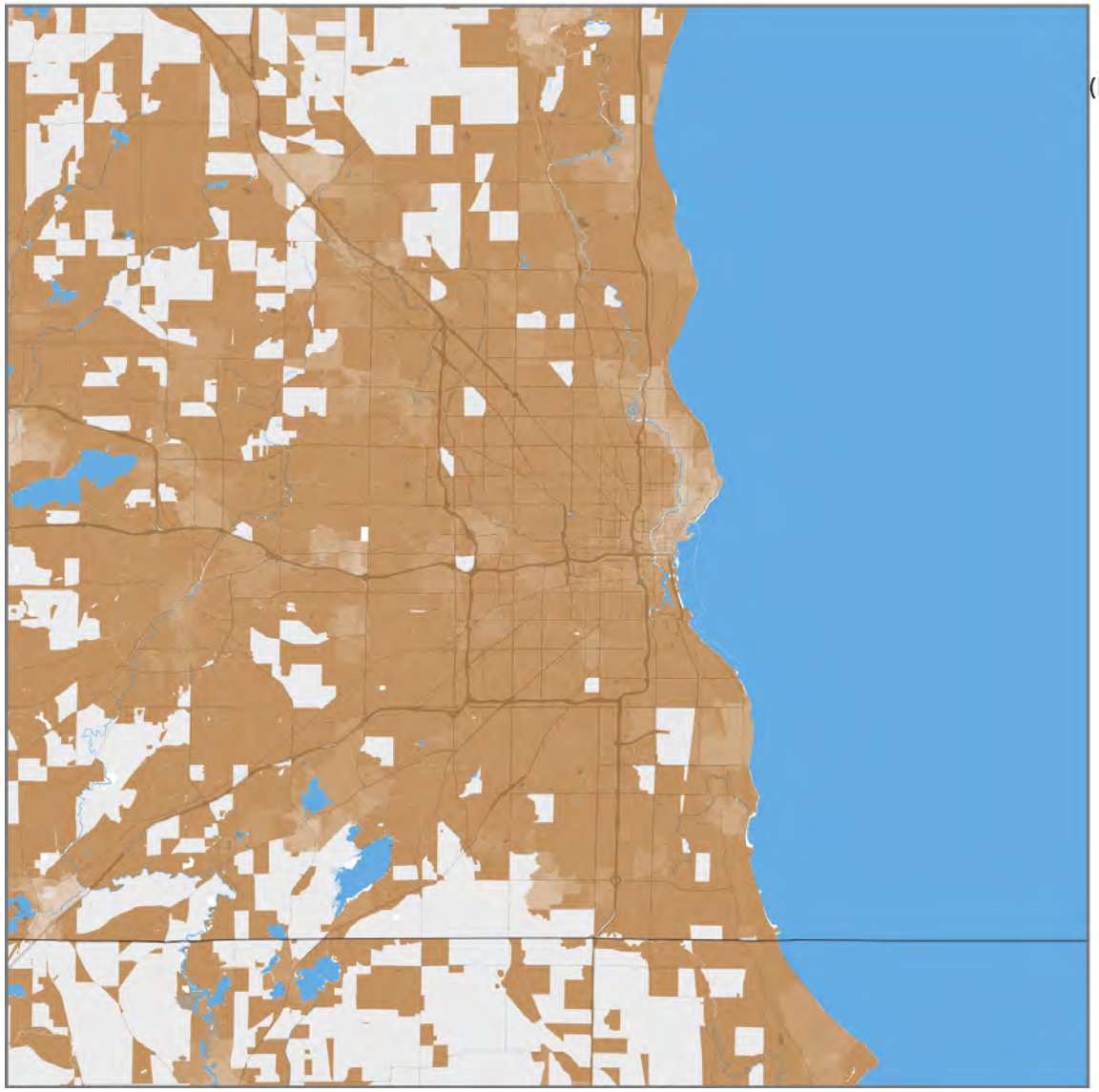
- 0 – 1,000
- 1,000 – 2,500
- 2,500 – 5,000
- 5,000 – 7,500
- 7,500 – 10,000
- 10,000 – 25,000
- 25,000 – 50,000
- 50,000 – 75,000
- 75,000 – 100,000
- 100,000 – 250,000
- 250,000 – 500,000
- 500,000 – 750,000
- 750,000 – 1,000,000
- 1,000,000 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000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

State border

CBSA boundary

Milwaukee

Milwaukee-Waukesha-West Allis, WI



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

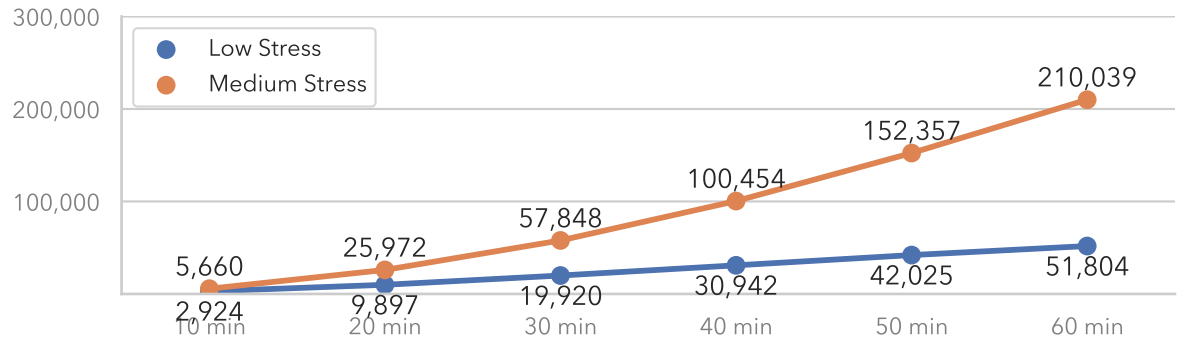
Minneapolis

Minneapolis-St. Paul-Bloomington, MN-WI

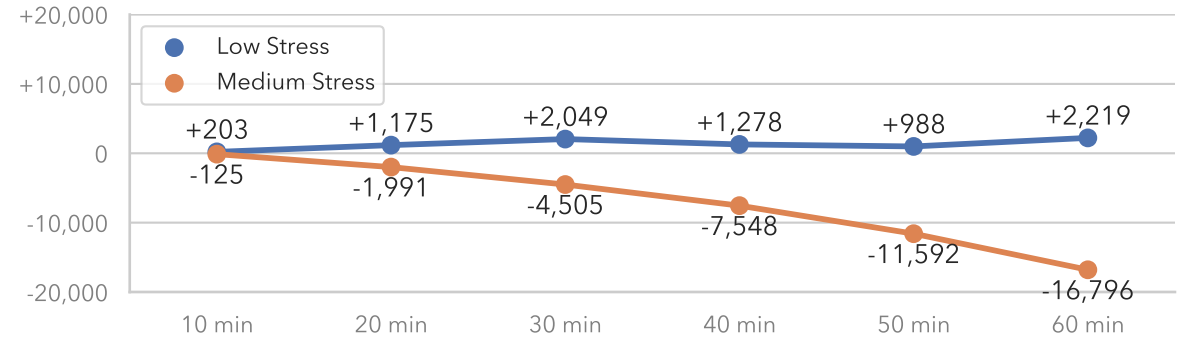
Rank by Weighted Low-Stress Bike Accessibility	**10**
Rank by Weighted Medium-Stress Bike Accessibility	**10**
Rank by Change in Low-Stress Bike Accessibility	**18**
Rank by Change in Medium-Stress Bike Accessibility	**50**
Rank by Total Employment	**14**
Total Jobs	**1,901,603**
Average Job Density (per km^2)	**122**
Total Workers	**1,847,804**
Average Worker Density (per km^2)	**118**

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

Biking Job Accessibility by Travel Time Threshold



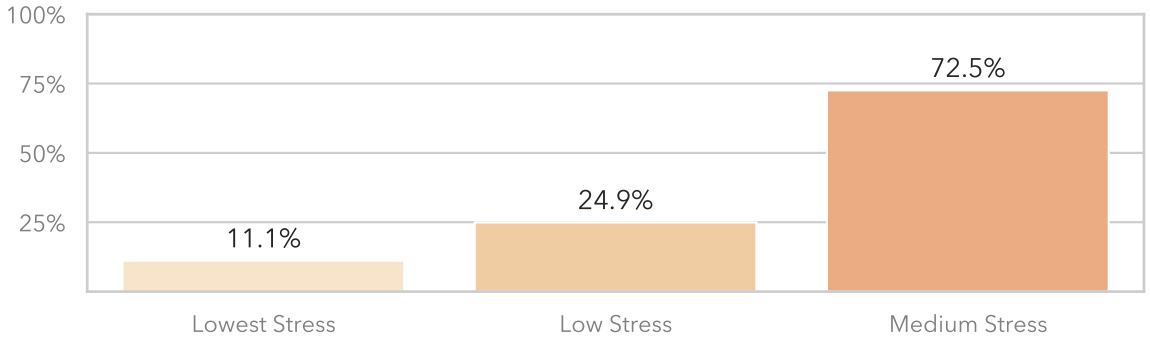
1-Year Change in Biking Job Accessibility by Travel Time Threshold



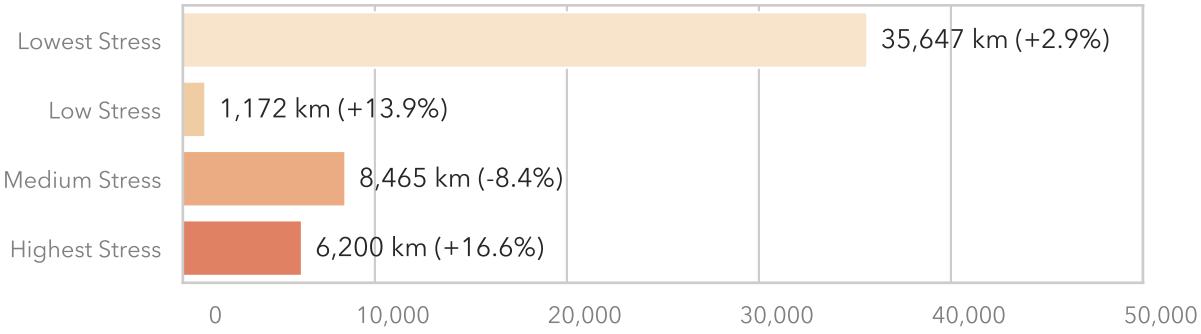
Minneapolis

Minneapolis-St. Paul-Bloomington, MN-WI

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

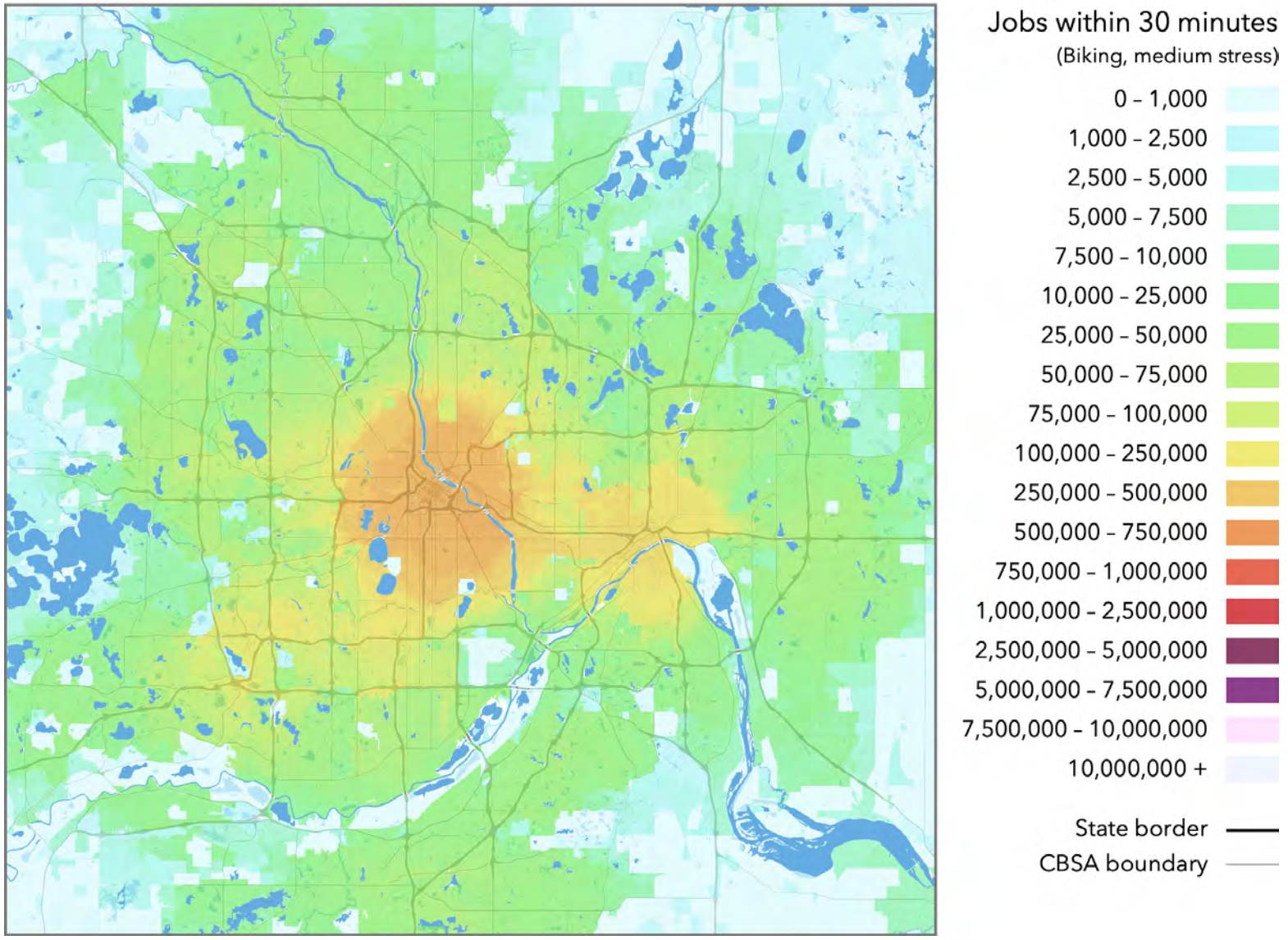


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



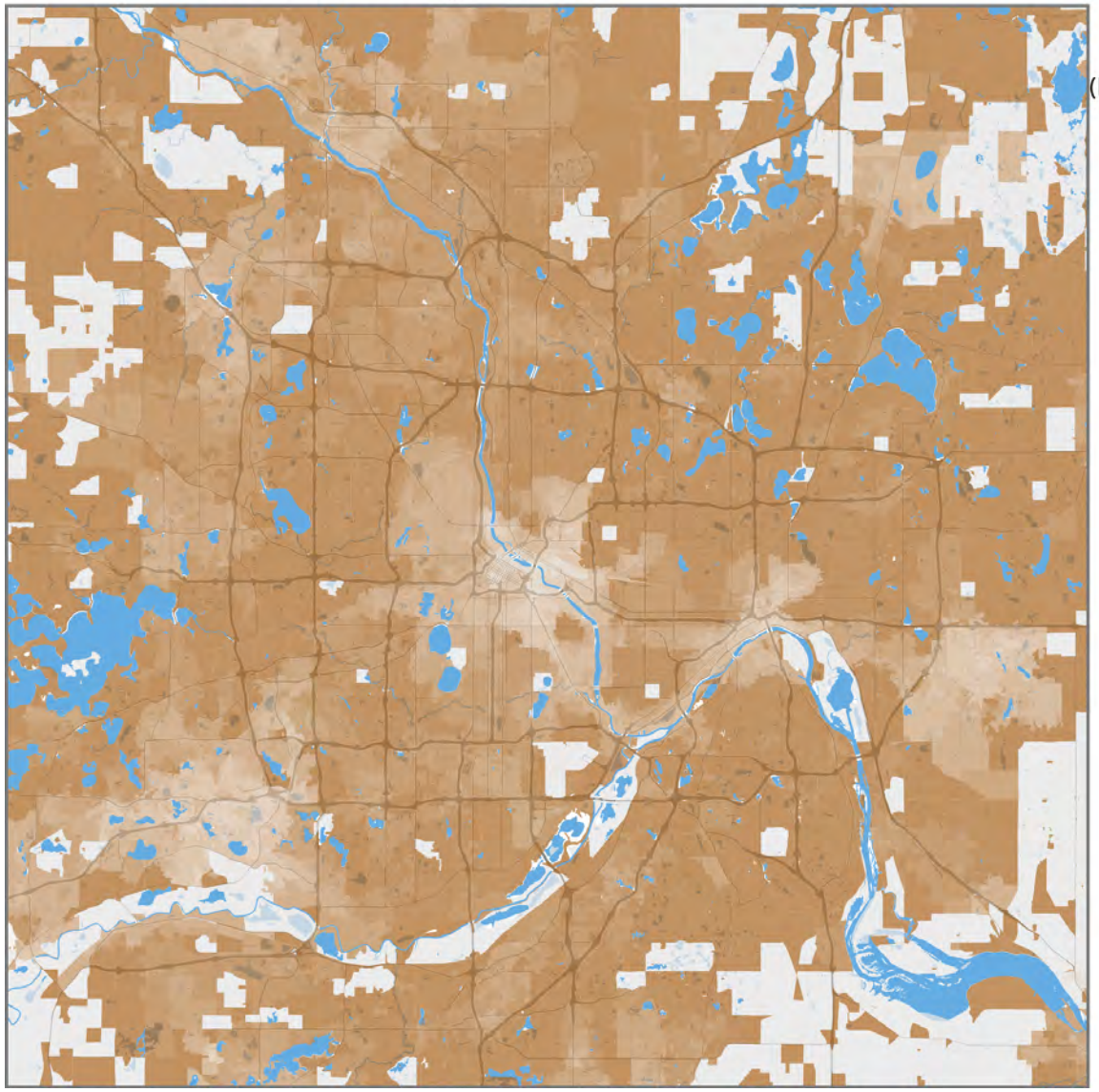
Minneapolis

Minneapolis-St. Paul-Bloomington, MN-WI



Minneapolis

Minneapolis-St. Paul-Bloomington, MN-WI



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

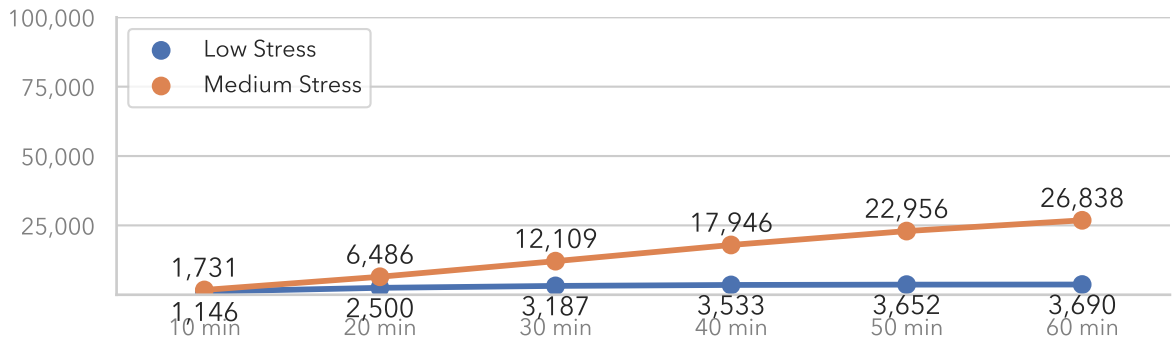
Nashville

Nashville-Davidson–Murfreesboro–Franklin, TN

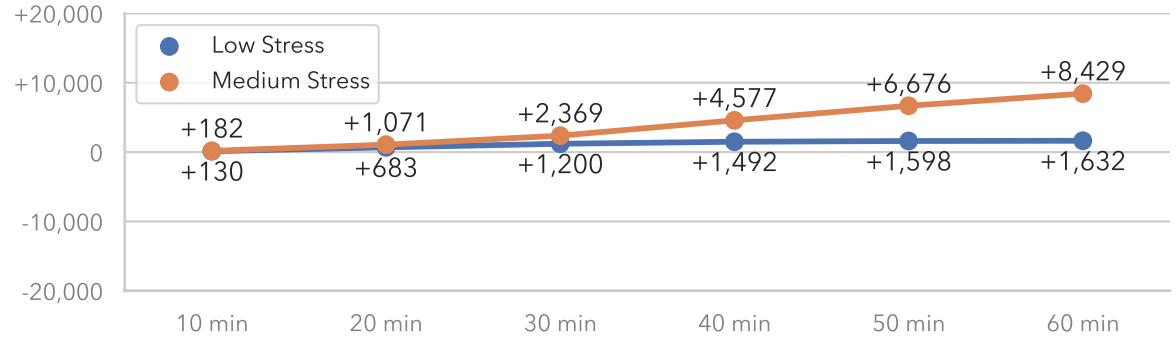
Rank by Weighted Low-Stress Bike Accessibility	**41**
Rank by Weighted Medium-Stress Bike Accessibility	**46**
Rank by Change in Low-Stress Bike Accessibility	**4**
Rank by Change in Medium-Stress Bike Accessibility	**4**
Rank by Total Employment	**36**
Total Jobs	**922,352**
Average Job Density (per km^2)	**63**
Total Workers	**843,428**
Average Worker Density (per km^2)	**57**

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

Biking Job Accessibility by Travel Time Threshold



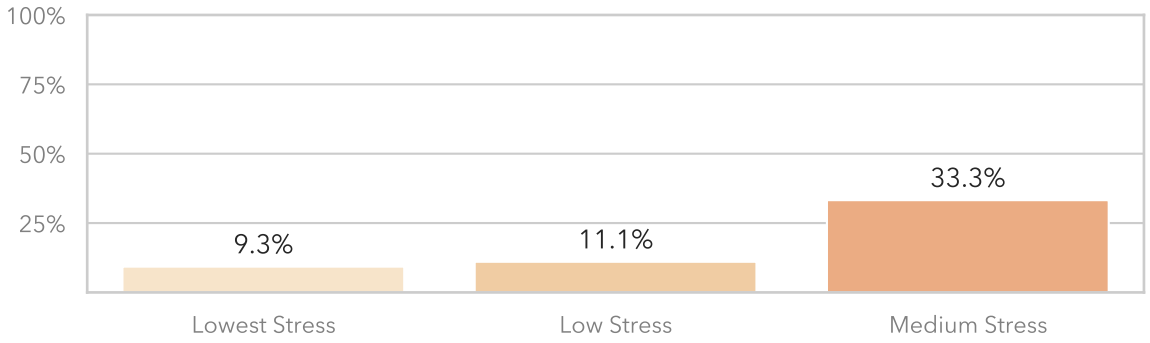
1-Year Change in Biking Job Accessibility by Travel Time Threshold



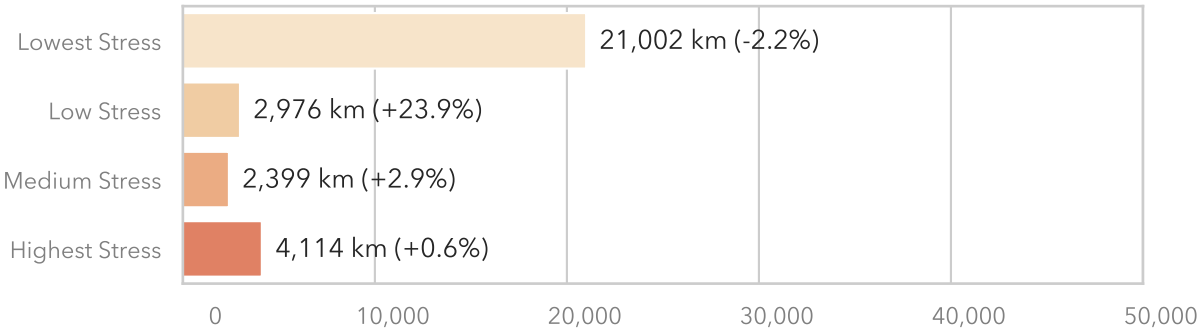
Nashville

Nashville-Davidson–Murfreesboro–Franklin, TN

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

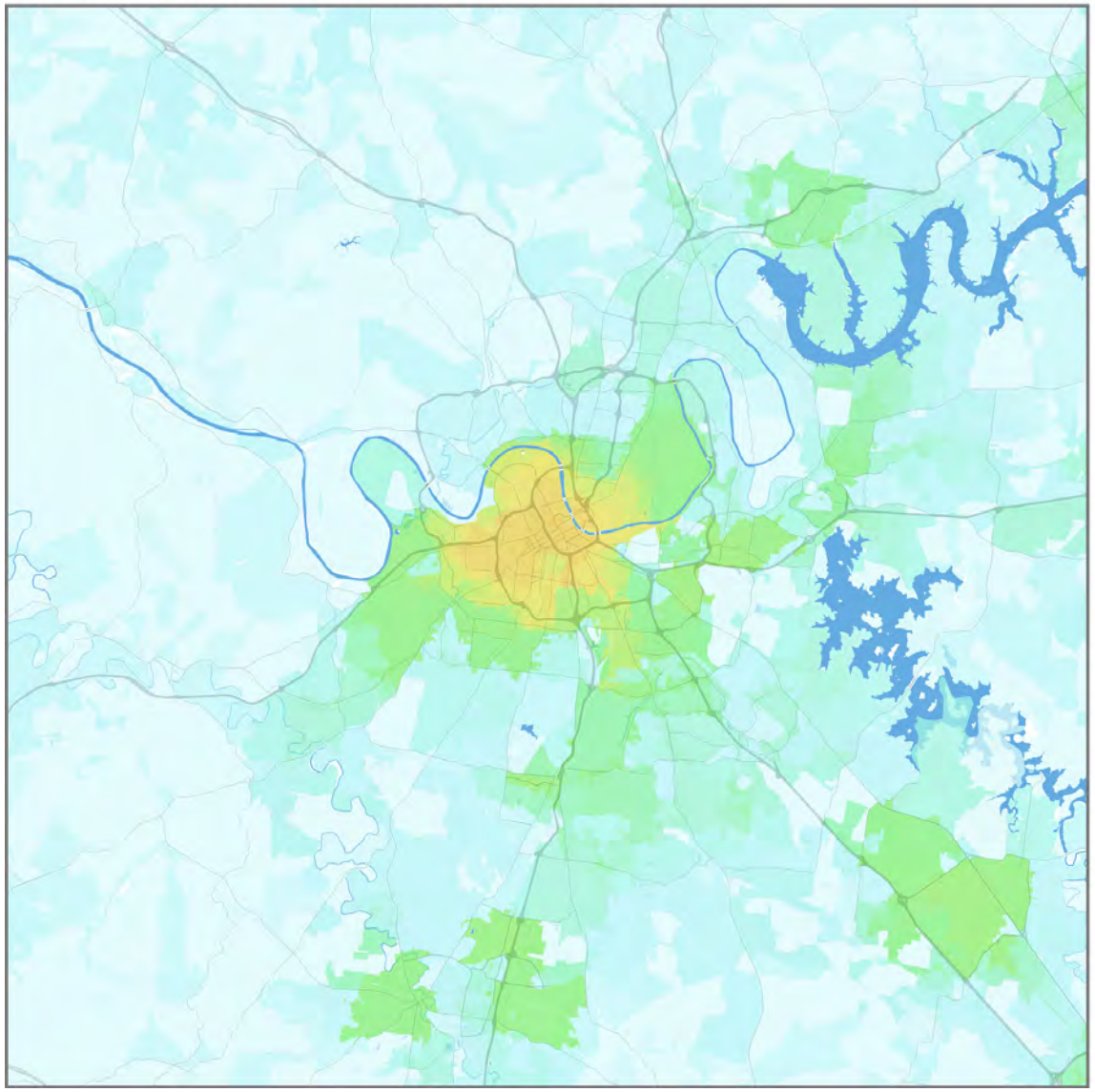


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Nashville

Nashville-Davidson--Murfreesboro--Franklin, TN



Jobs within 30 minutes
(Biking, medium stress)

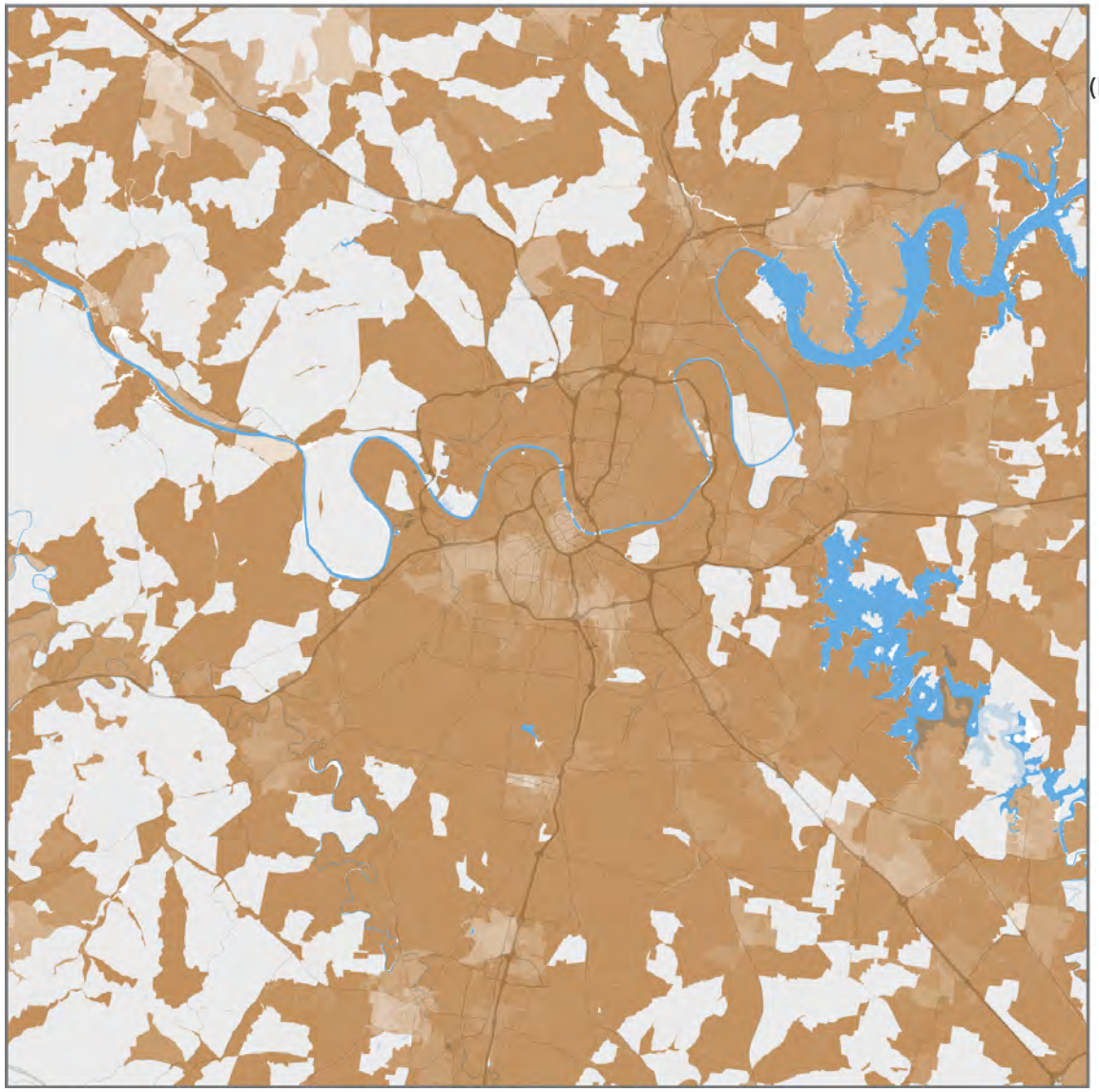
- 0 – 1,000
- 1,000 – 2,500
- 2,500 – 5,000
- 5,000 – 7,500
- 7,500 – 10,000
- 10,000 – 25,000
- 25,000 – 50,000
- 50,000 – 75,000
- 75,000 – 100,000
- 100,000 – 250,000
- 250,000 – 500,000
- 500,000 – 750,000
- 750,000 – 1,000,000
- 1,000,000 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000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

State border

CBSA boundary

Nashville

Nashville-Davidson--Murfreesboro--Franklin, TN



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

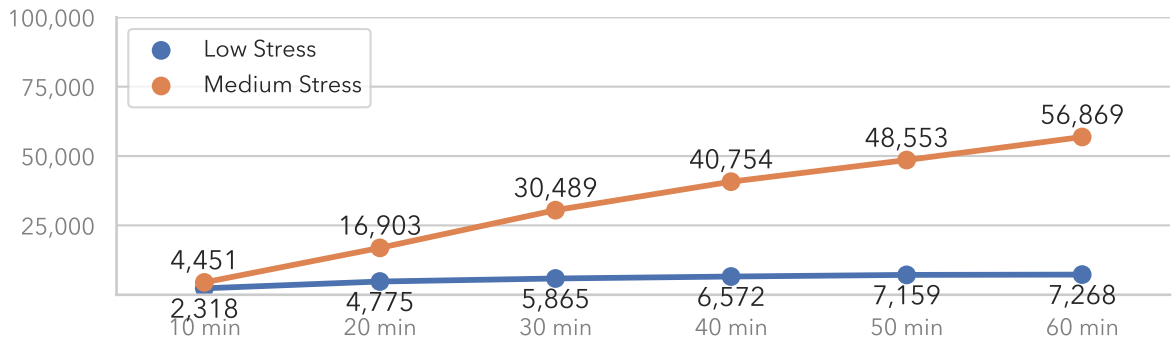
New Orleans

New Orleans-Metairie-Kenner, LA

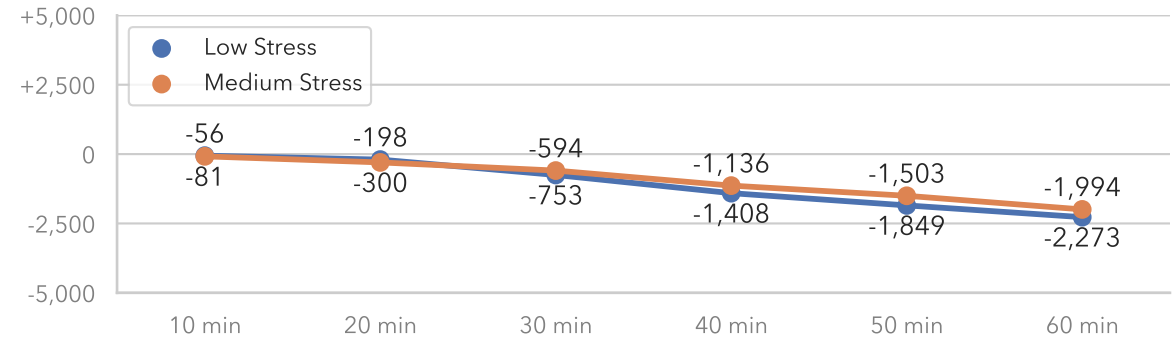
Rank by Weighted Low-Stress Bike Accessibility	**24**
Rank by Weighted Medium-Stress Bike Accessibility	**22**
Rank by Change in Low-Stress Bike Accessibility	**47**
Rank by Change in Medium-Stress Bike Accessibility	**45**
Rank by Total Employment	**49**
Total Jobs	**534,498**
Average Job Density (per km^2)	**70**
Total Workers	**505,876**
Average Worker Density (per km^2)	**66**

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

Biking Job Accessibility by Travel Time Threshold



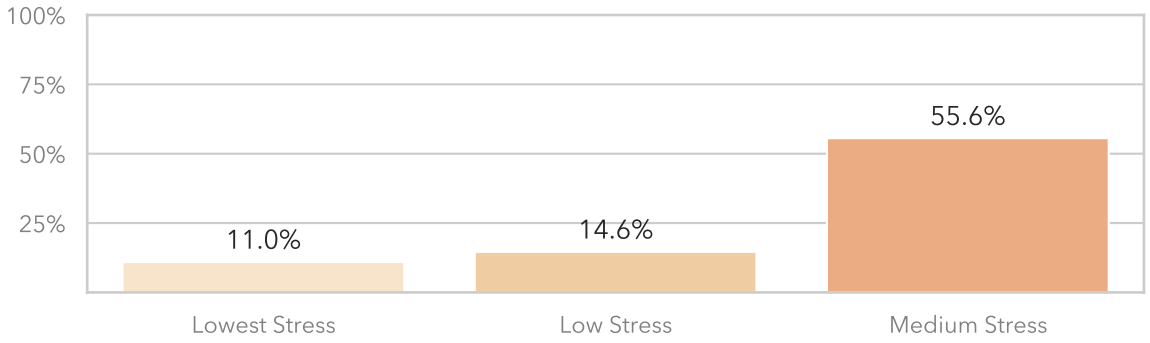
1-Year Change in Biking Job Accessibility by Travel Time Threshold



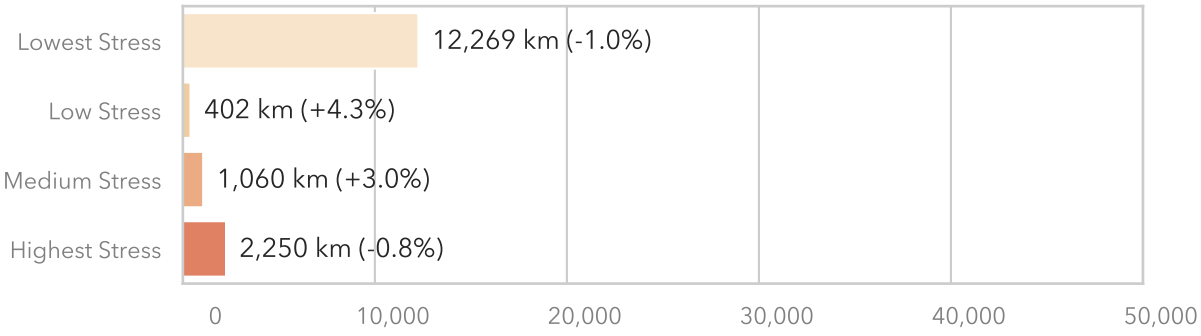
New Orleans

New Orleans-Metairie-Kenner, LA

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

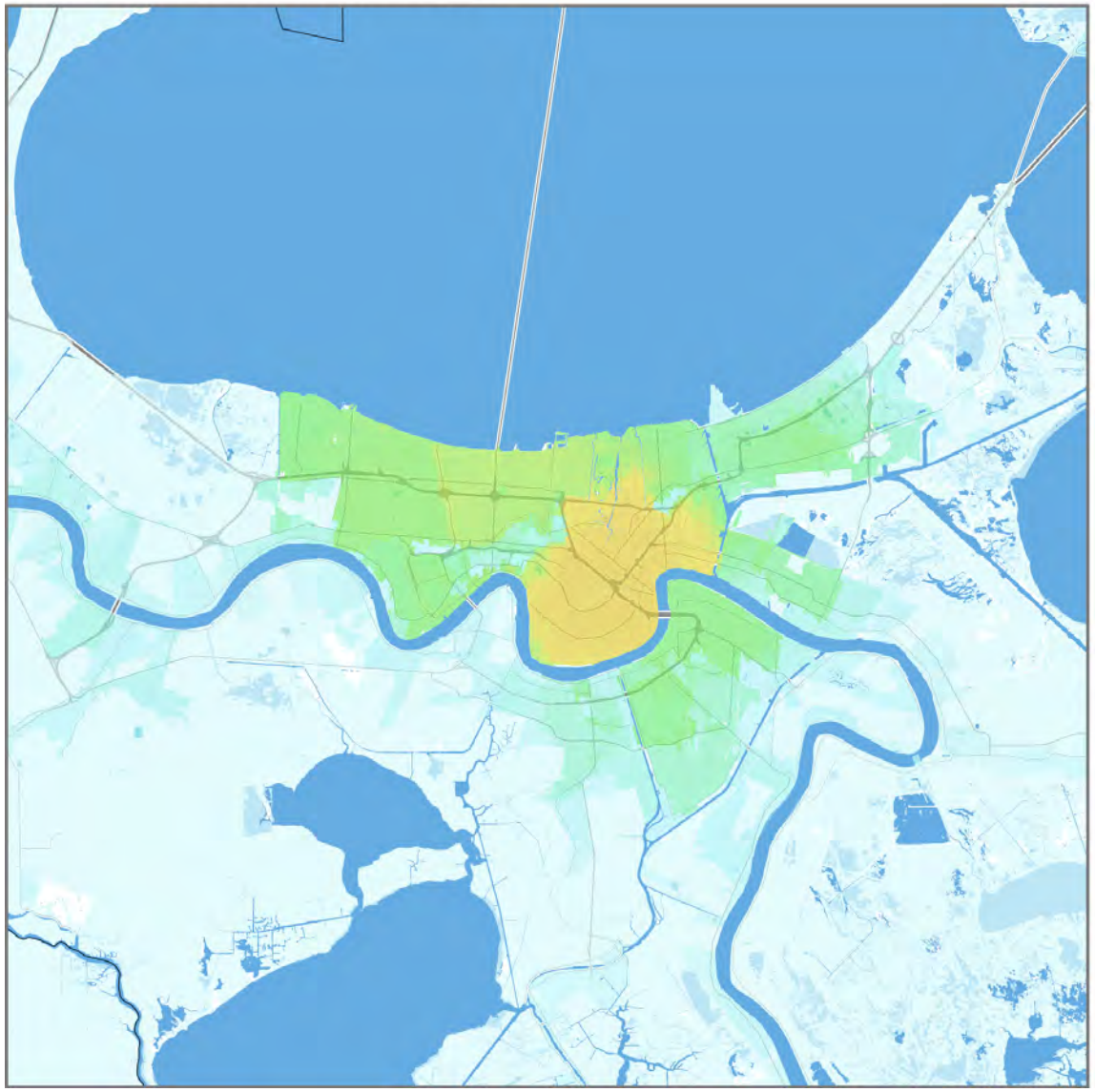


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



New Orleans

New Orleans-Metairie-Kenner, LA



New Orleans

New Orleans-Metairie-Kenner, LA

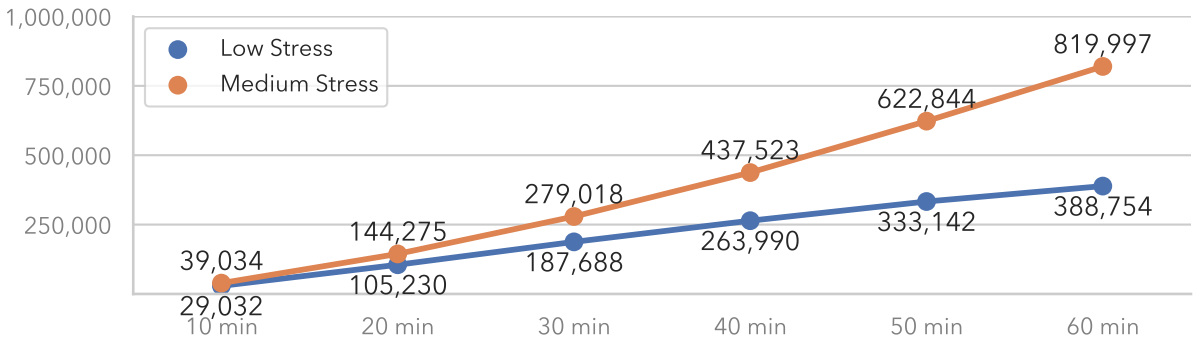
New York

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

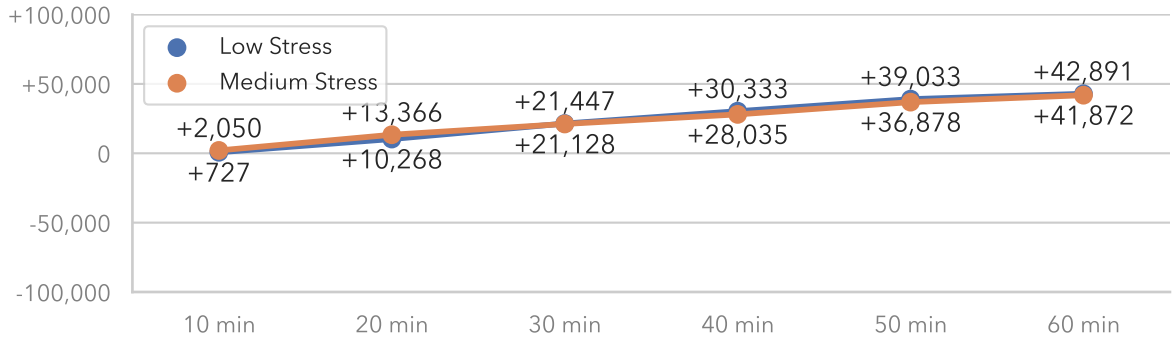
Rank by Weighted Low-Stress Bike Accessibility	**1**
Rank by Weighted Medium-Stress Bike Accessibility	**1**
Rank by Change in Low-Stress Bike Accessibility	**16**
Rank by Change in Medium-Stress Bike Accessibility	**18**
Rank by Total Employment	**1**
Total Jobs	**9,159,786**
Average Job Density (per km^2)	**529**
Total Workers	**8,946,175**
Average Worker Density (per km^2)	**517**

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

Biking Job Accessibility by Travel Time Threshold



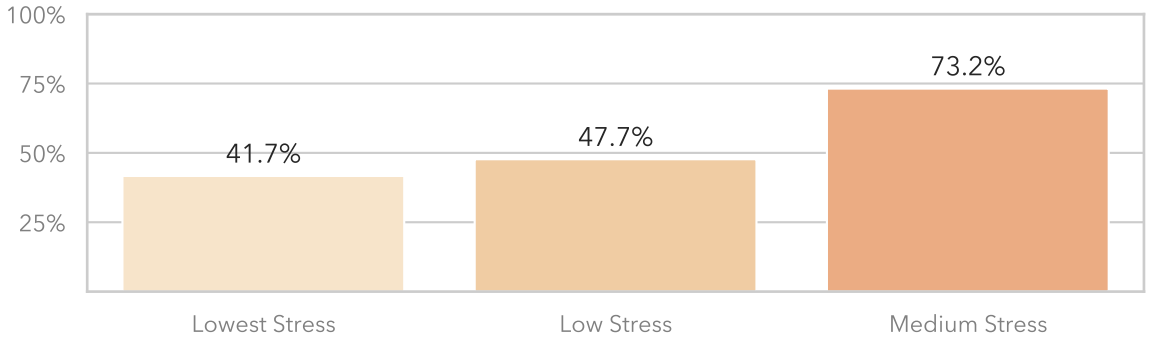
1-Year Change in Biking Job Accessibility by Travel Time Threshold



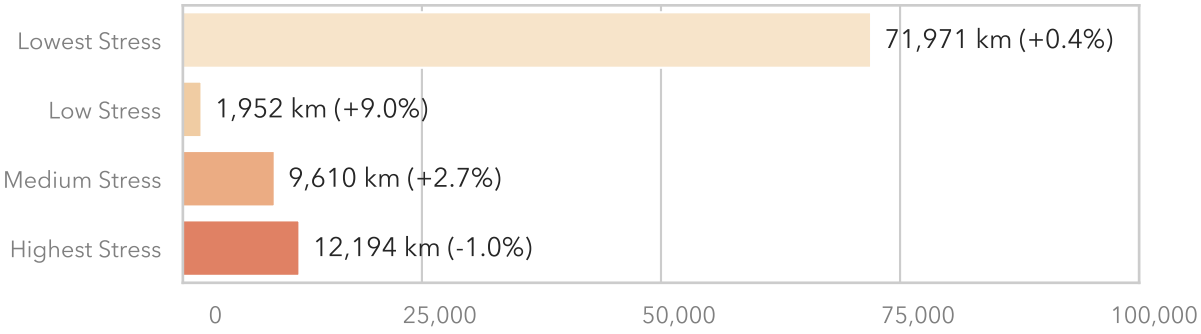
New York

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

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

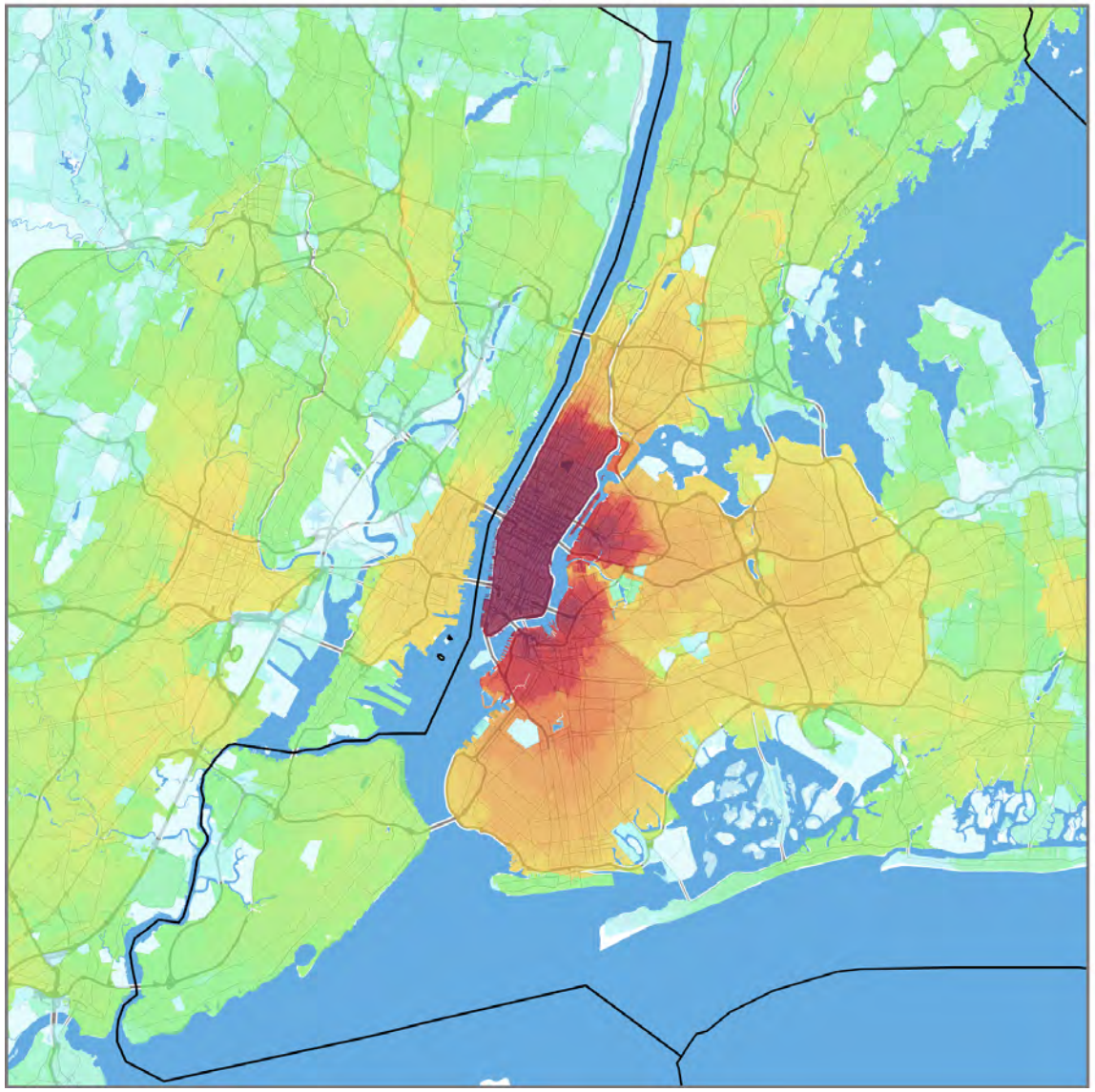


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



New York

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



Jobs within 30 minutes
(Biking, medium stress)

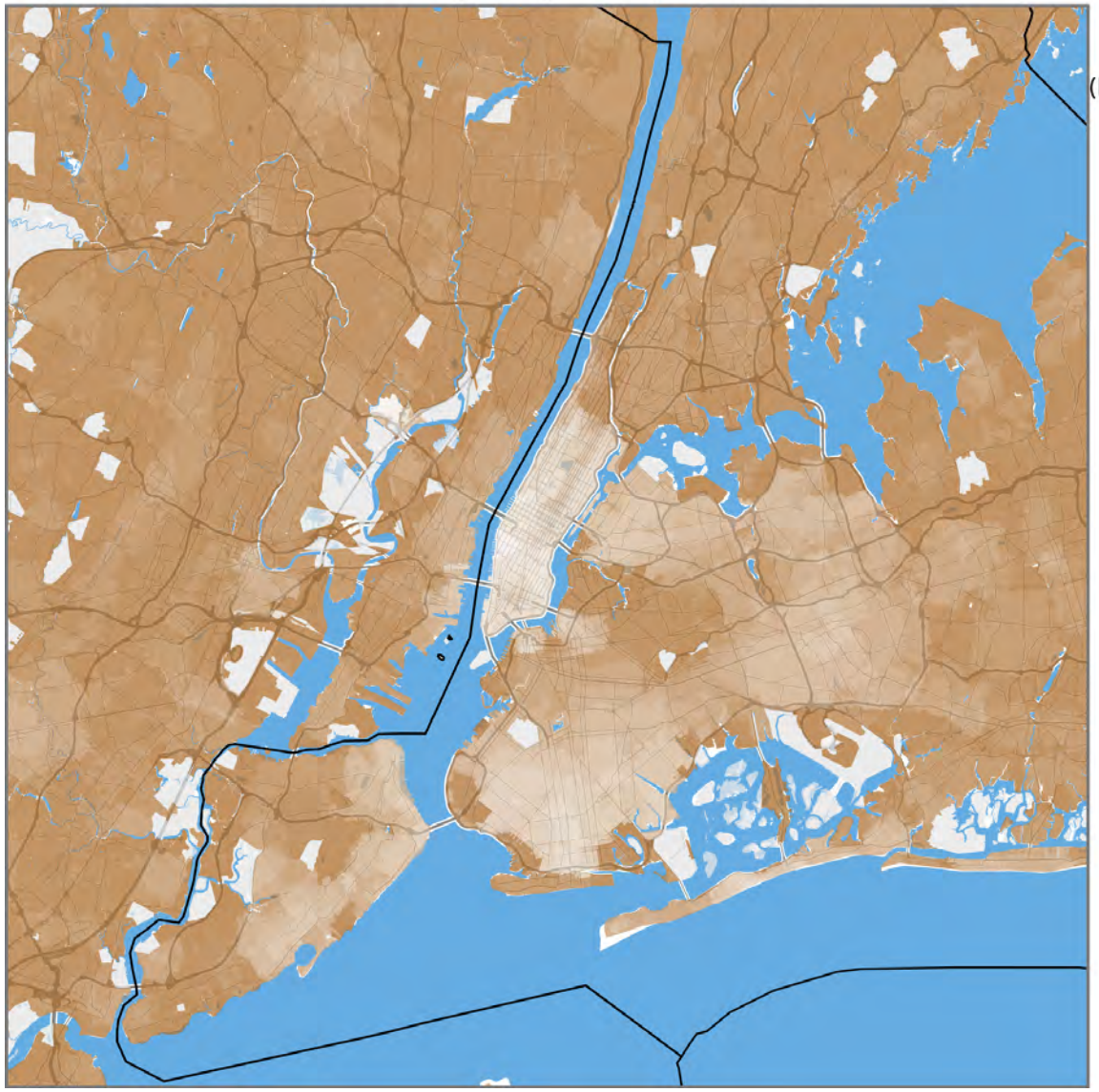
- 0 – 1,000
- 1,000 – 2,500
- 2,500 – 5,000
- 5,000 – 7,500
- 7,500 – 10,000
- 10,000 – 25,000
- 25,000 – 50,000
- 50,000 – 75,000
- 75,000 – 100,000
- 100,000 – 250,000
- 250,000 – 500,000
- 500,000 – 750,000
- 750,000 – 1,000,000
- 1,000,000 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000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

State border

CBSA boundary

New York

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



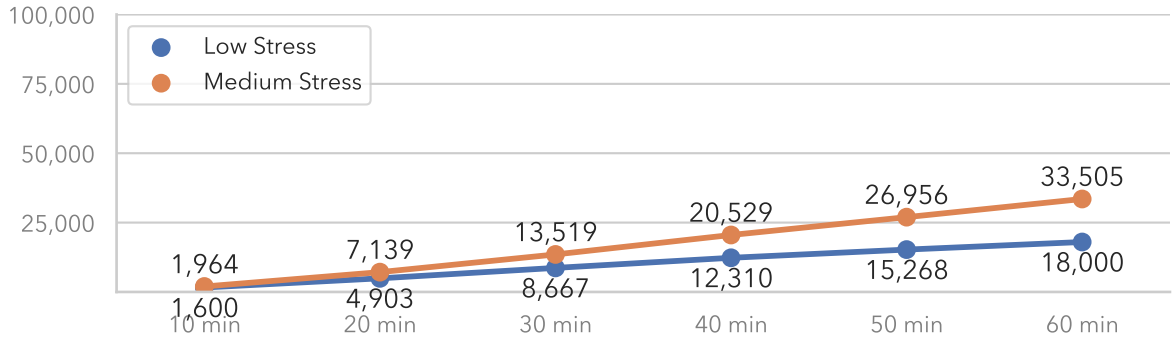
Oklahoma City

Oklahoma City, OK

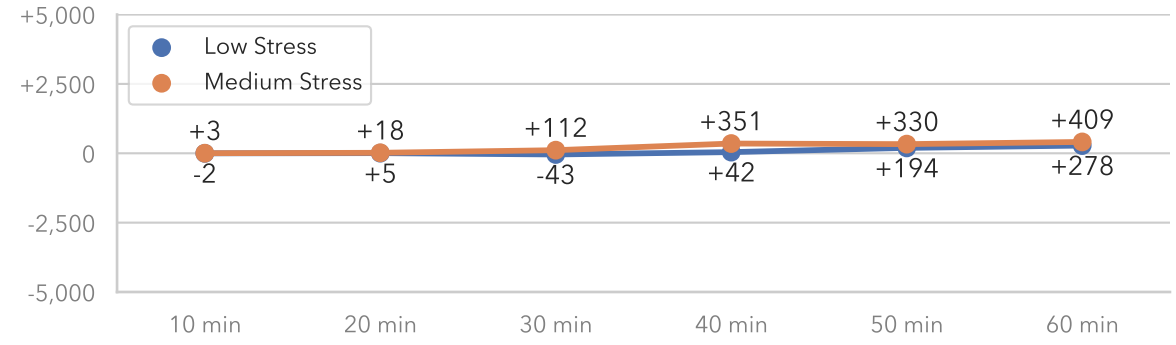
Rank by Weighted Low-Stress Bike Accessibility	**20**
Rank by Weighted Medium-Stress Bike Accessibility	**44**
Rank by Change in Low-Stress Bike Accessibility	**40**
Rank by Change in Medium-Stress Bike Accessibility	**33**
Rank by Total Employment	**47**
Total Jobs	**595,050**
Average Job Density (per km^2)	**42**
Total Workers	**565,695**
Average Worker Density (per km^2)	**40**

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

Biking Job Accessibility by Travel Time Threshold



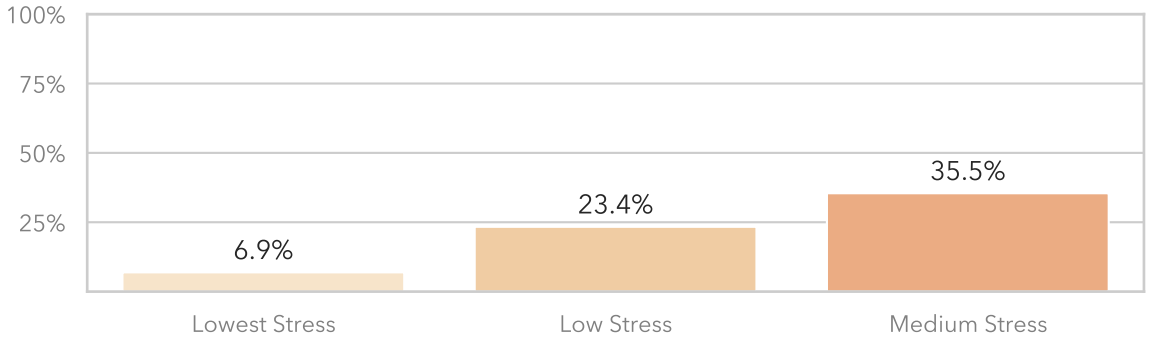
1-Year Change in Biking Job Accessibility by Travel Time Threshold



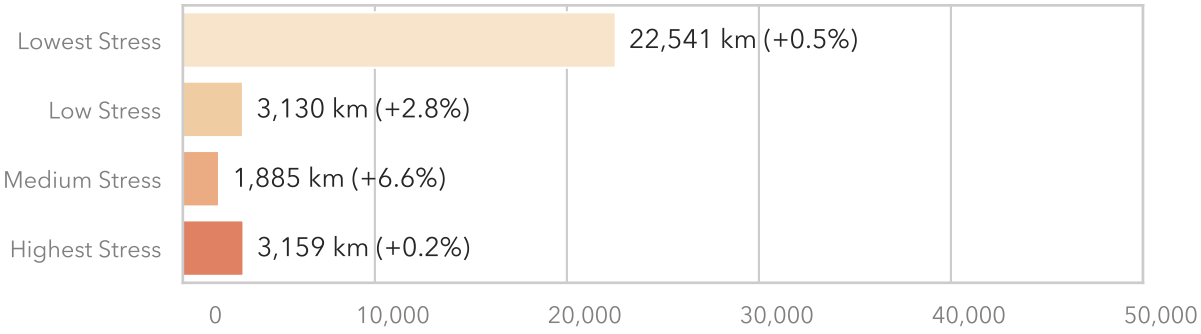
Oklahoma City

Oklahoma City, OK

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

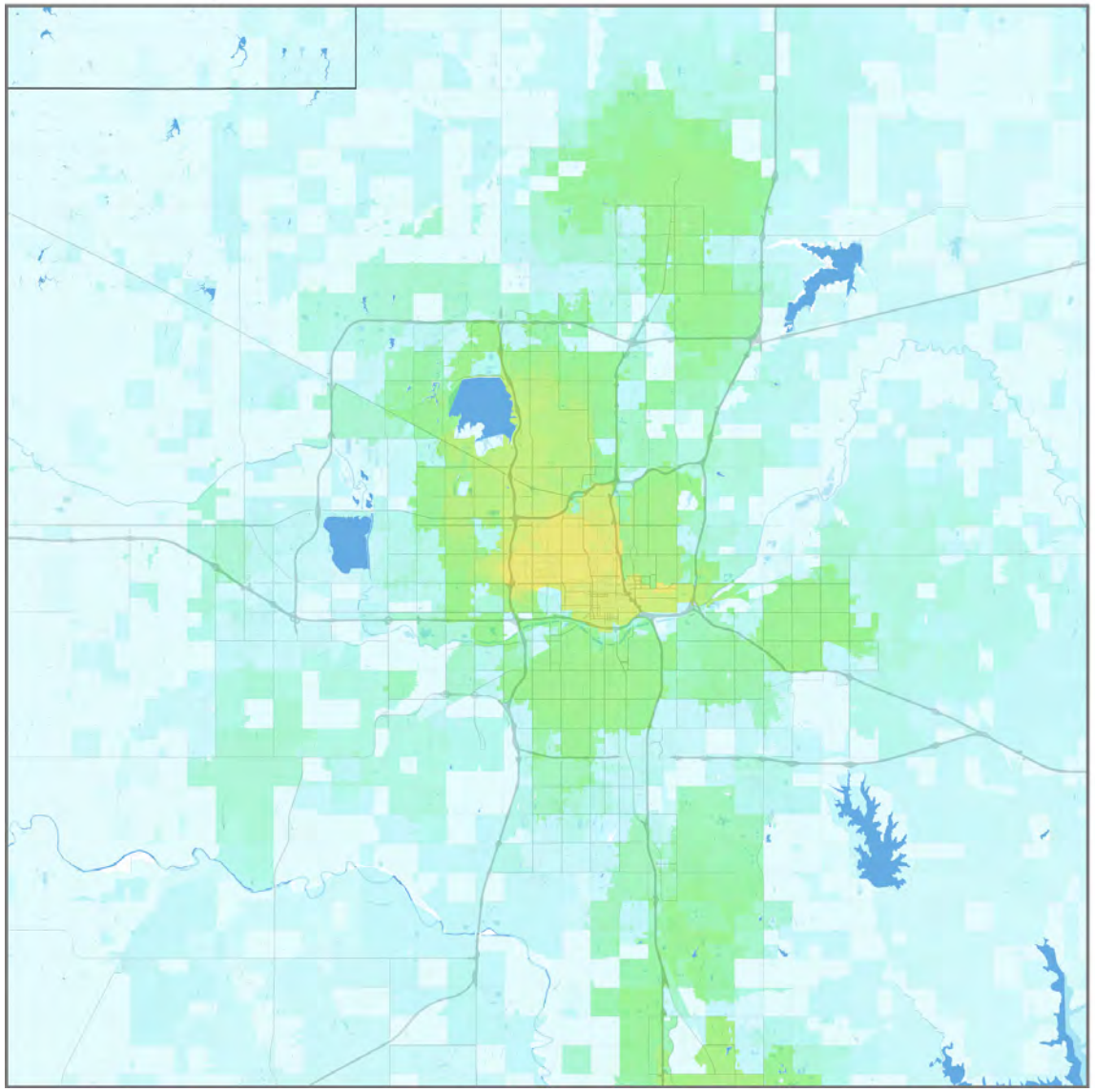


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Oklahoma City

Oklahoma City, OK



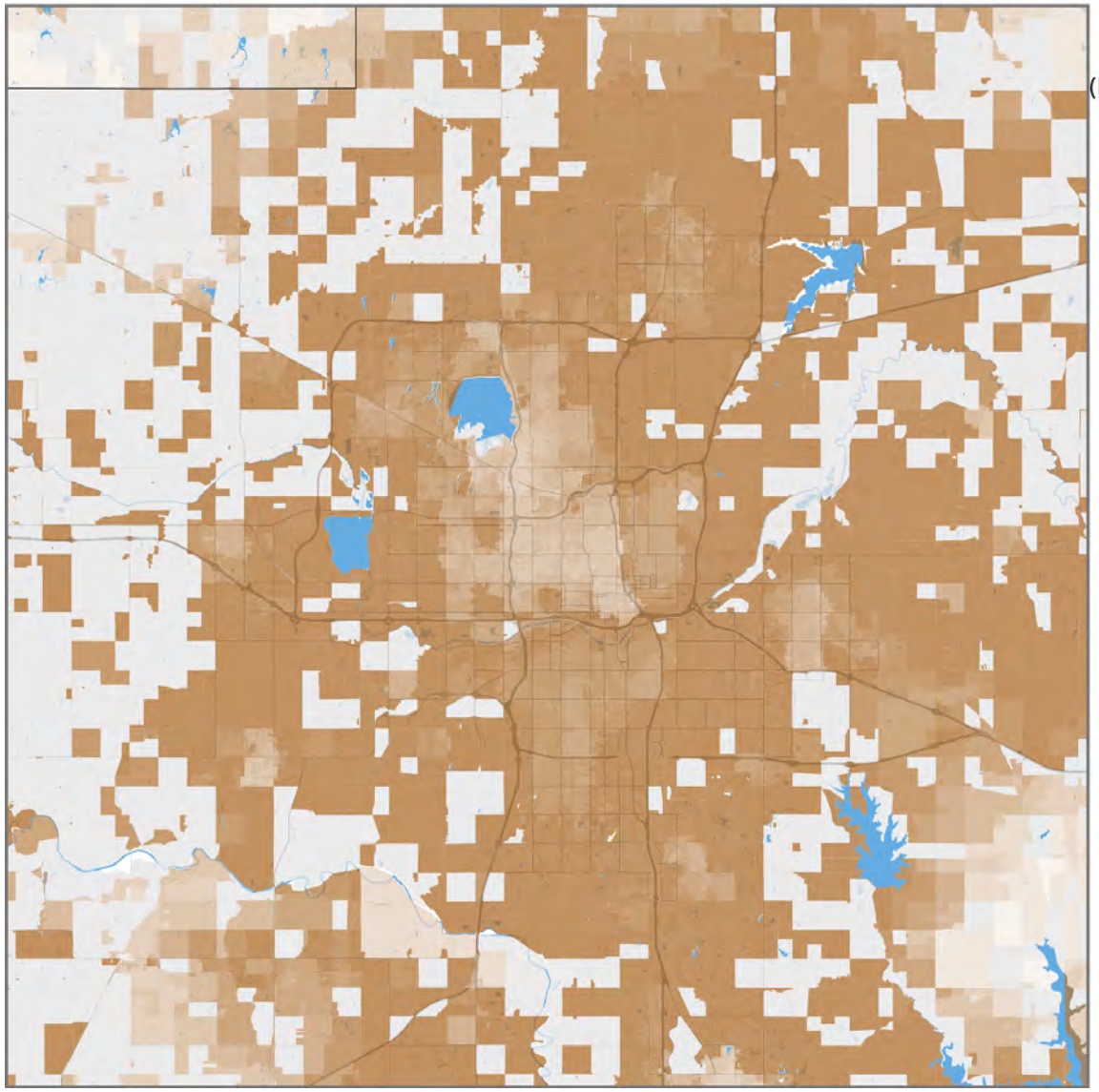
Jobs within 30 minutes
(Biking, medium stress)

- 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

Oklahoma City

Oklahoma City, OK



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

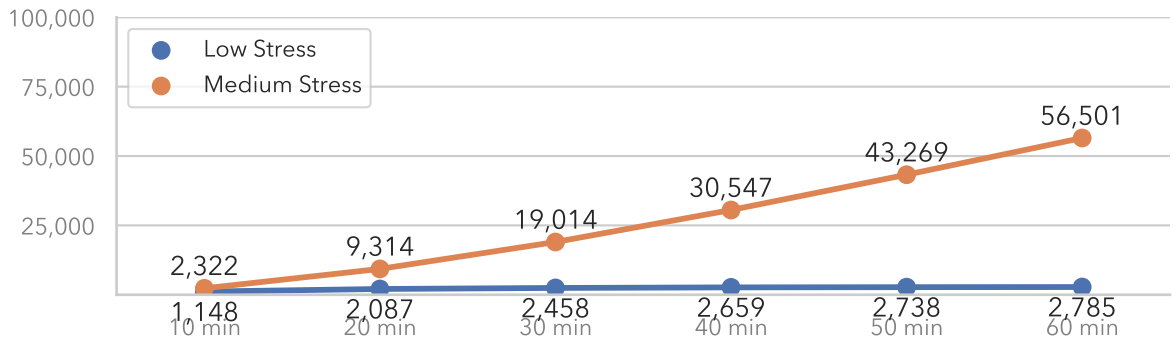
Orlando

Orlando-Kissimmee-Sanford, FL

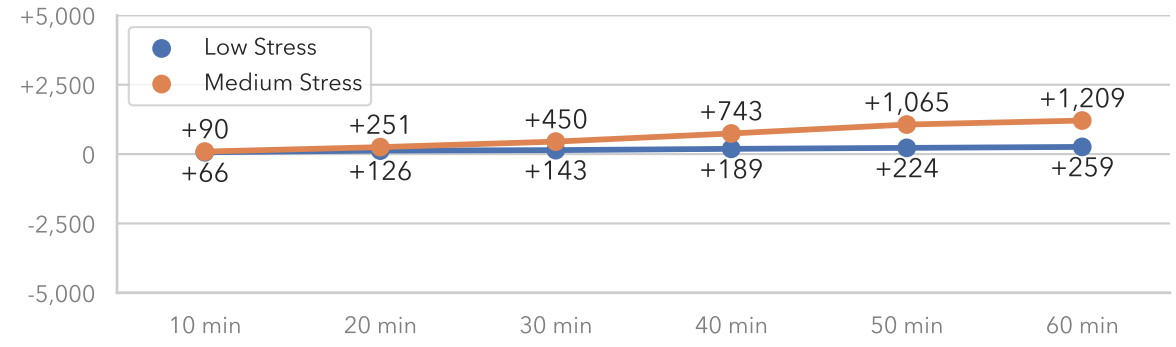
Rank by Weighted Low-Stress Bike Accessibility	**44**
Rank by Weighted Medium-Stress Bike Accessibility	**32**
Rank by Change in Low-Stress Bike Accessibility	**25**
Rank by Change in Medium-Stress Bike Accessibility	**27**
Rank by Total Employment	**23**
Total Jobs	**1,262,313**
Average Job Density (per km^2)	**140**
Total Workers	**1,135,710**
Average Worker Density (per km^2)	**126**

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

Biking Job Accessibility by Travel Time Threshold



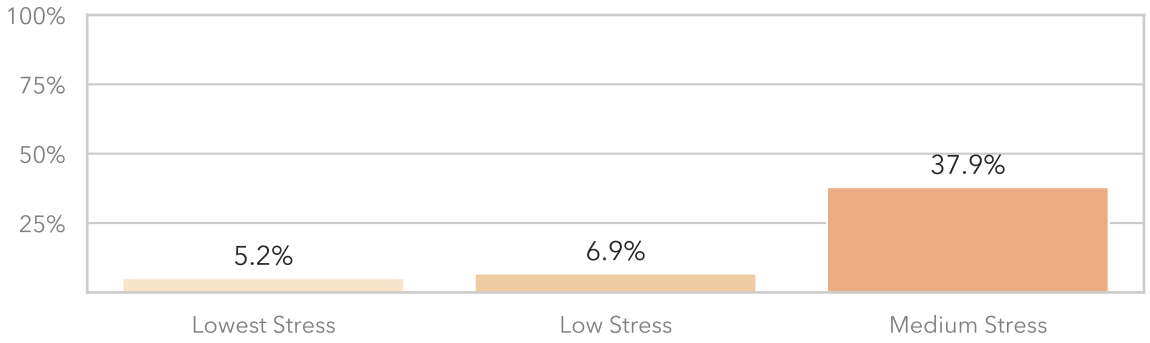
1-Year Change in Biking Job Accessibility by Travel Time Threshold



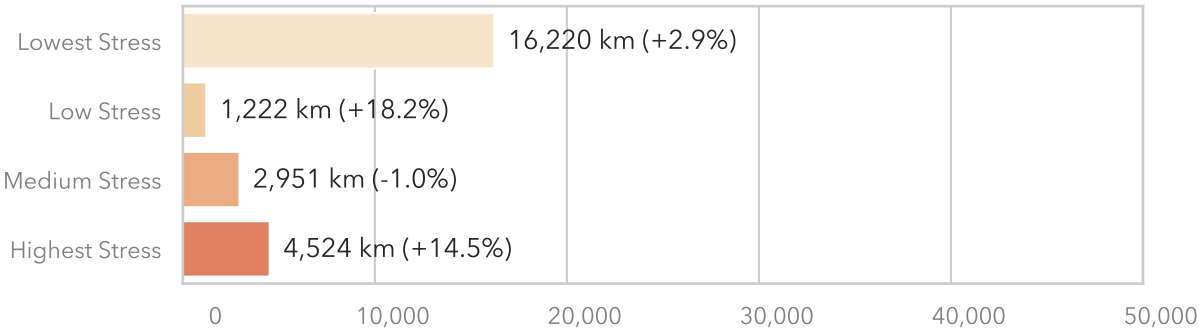
Orlando

Orlando-Kissimmee-Sanford, FL

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

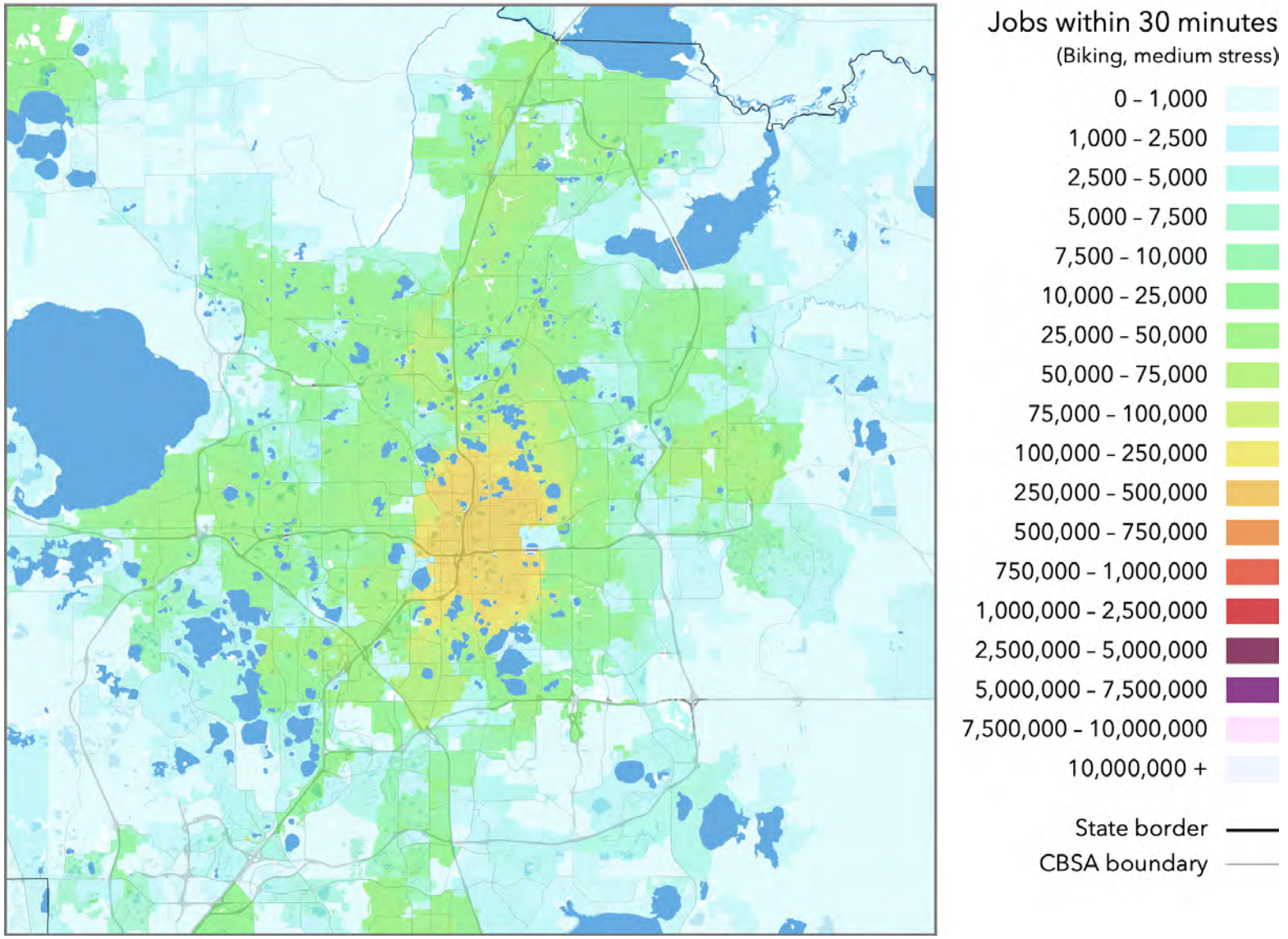


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



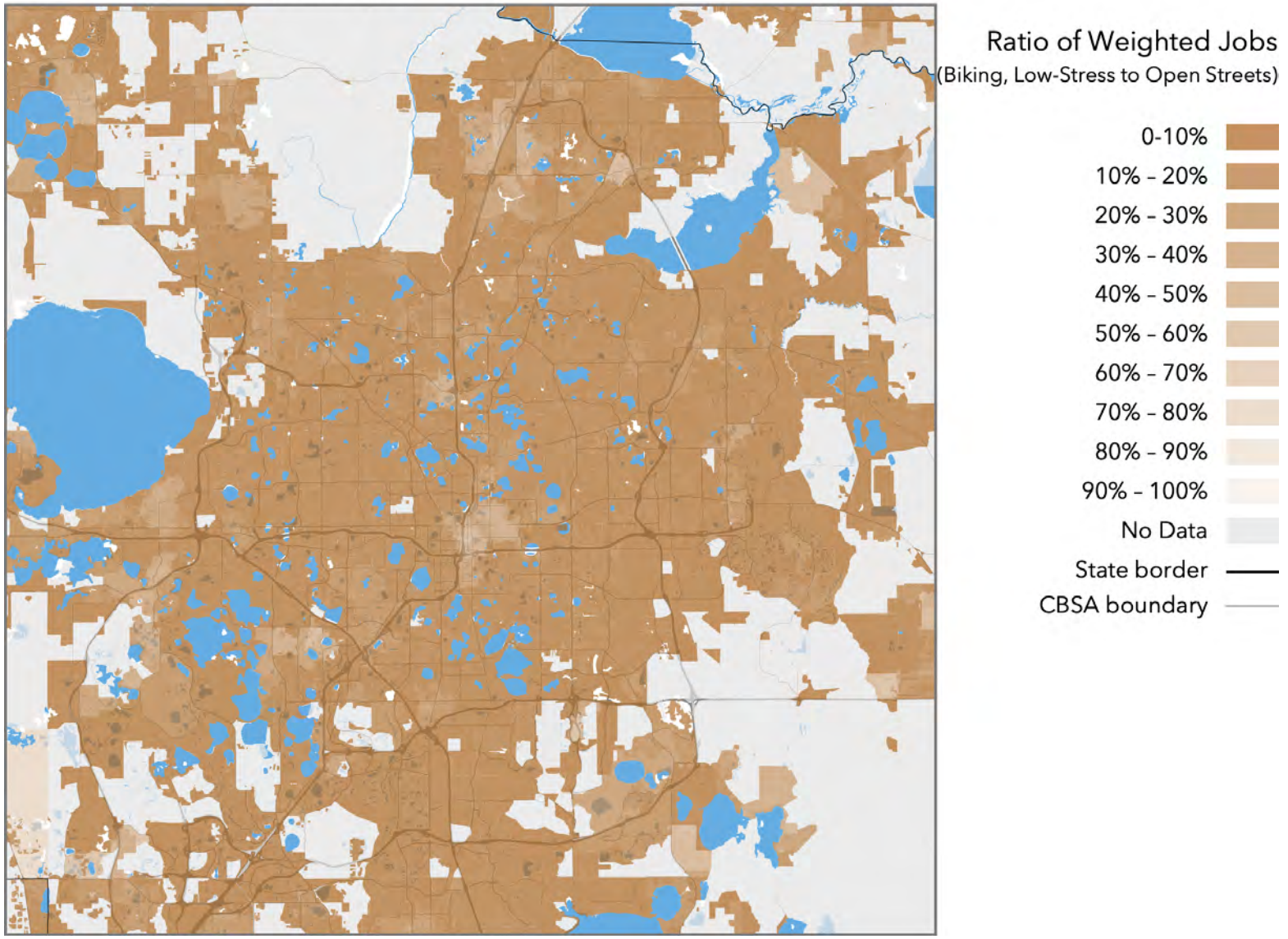
Orlando

Orlando-Kissimmee-Sanford, FL



Orlando

Orlando-Kissimmee-Sanford, FL



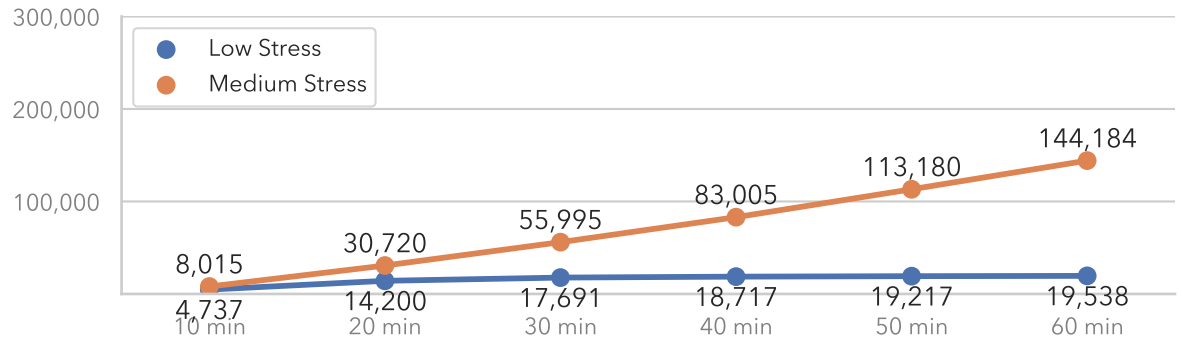
Philadelphia

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

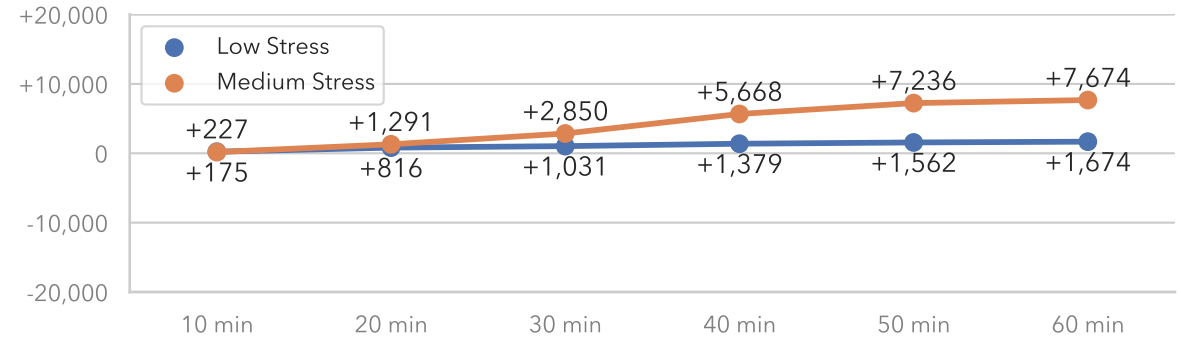
Rank by Weighted Low-Stress Bike Accessibility	**9**
Rank by Weighted Medium-Stress Bike Accessibility	**12**
Rank by Change in Low-Stress Bike Accessibility	**27**
Rank by Change in Medium-Stress Bike Accessibility	**22**
Rank by Total Employment	**6**
Total Jobs	**2,853,154**
Average Job Density (per km^2)	**239**
Total Workers	**2,862,819**
Average Worker Density (per km^2)	**240**

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

Biking Job Accessibility by Travel Time Threshold



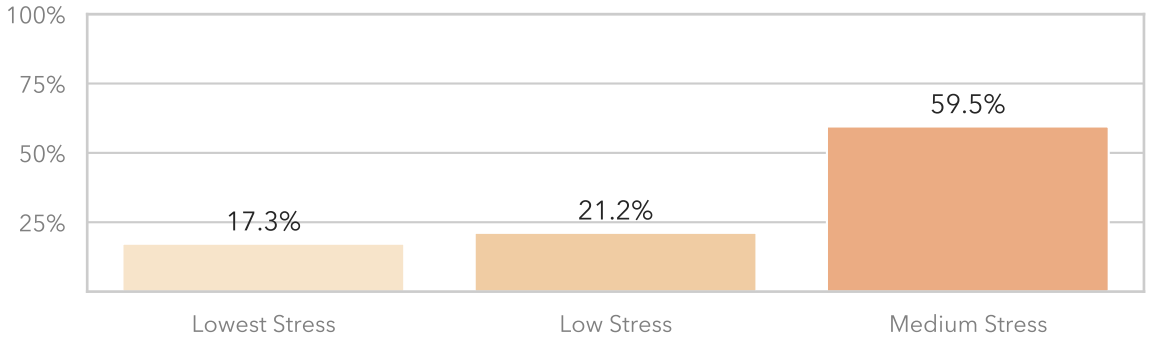
1-Year Change in Biking Job Accessibility by Travel Time Threshold



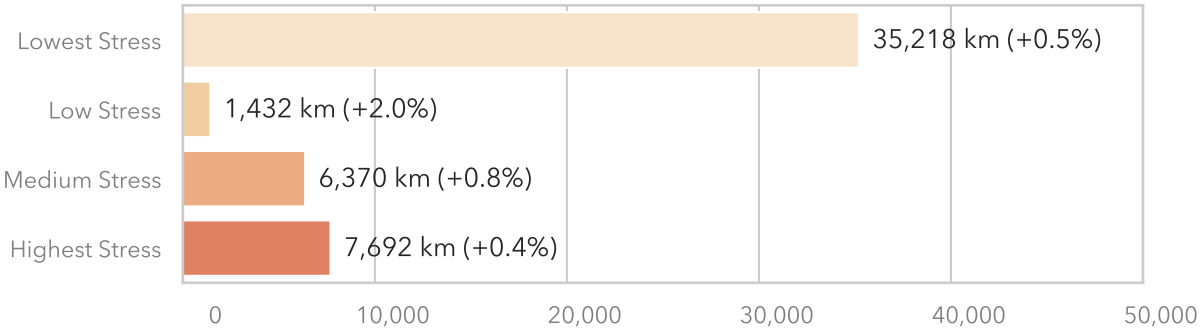
Philadelphia

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

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

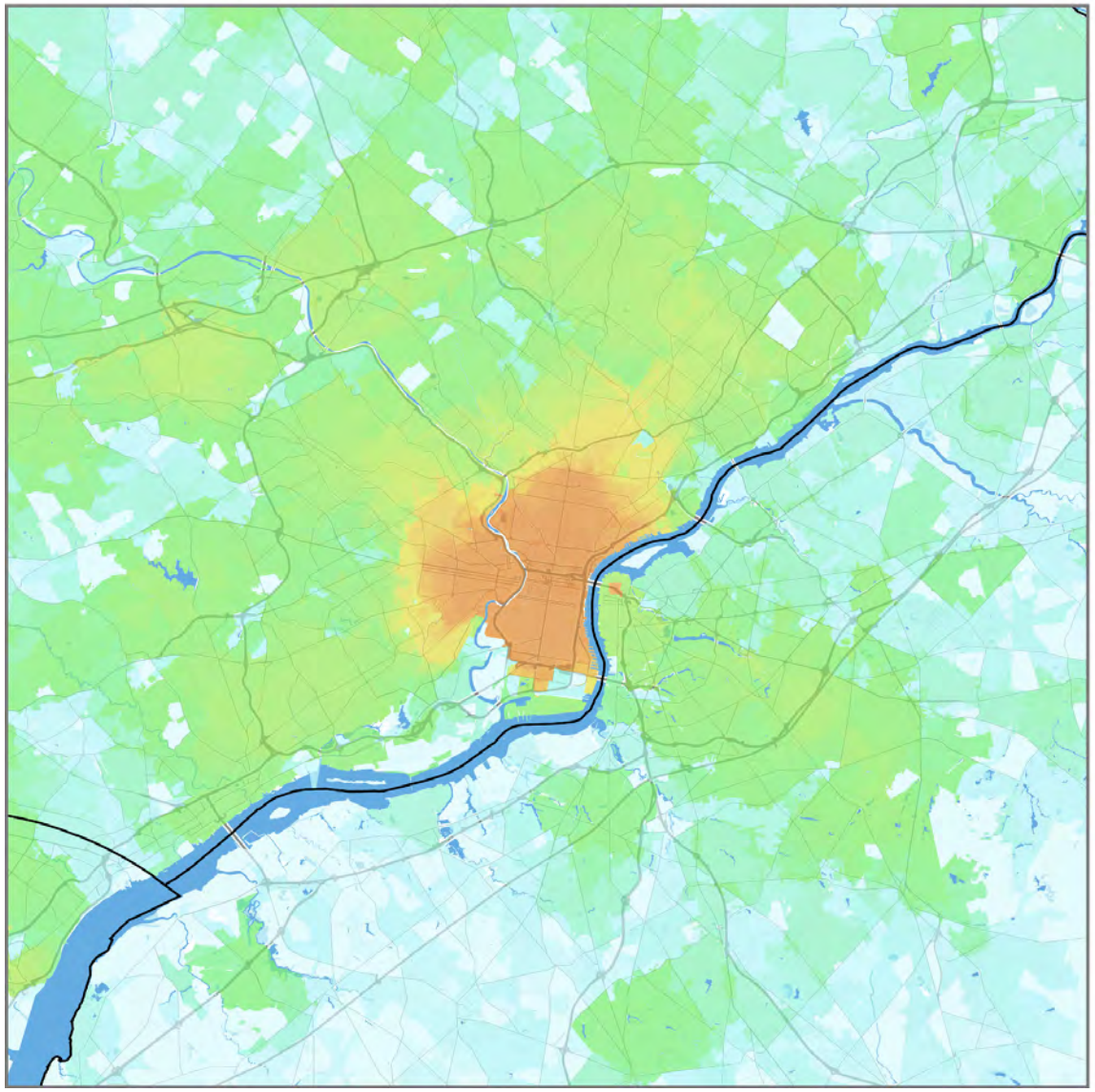


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Philadelphia

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



Philadelphia

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

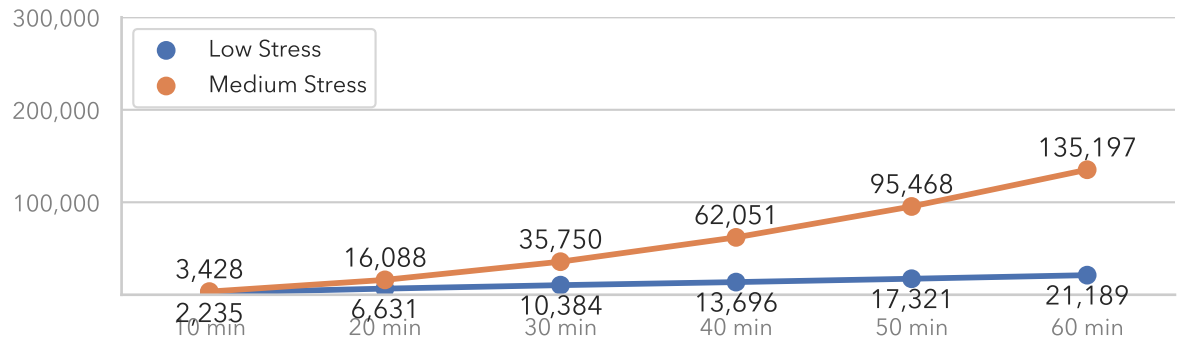
Phoenix

Phoenix-Mesa-Glendale, AZ

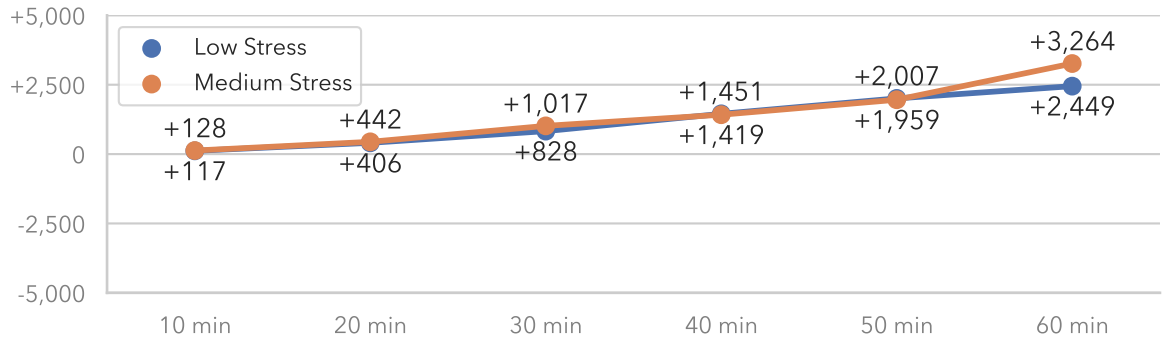
Rank by Weighted Low-Stress Bike Accessibility	**16**
Rank by Weighted Medium-Stress Bike Accessibility	**17**
Rank by Change in Low-Stress Bike Accessibility	**20**
Rank by Change in Medium-Stress Bike Accessibility	**26**
Rank by Total Employment	**12**
Total Jobs	**2,007,240**
Average Job Density (per km^2)	**53**
Total Workers	**1,958,550**
Average Worker Density (per km^2)	**52**

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

Biking Job Accessibility by Travel Time Threshold



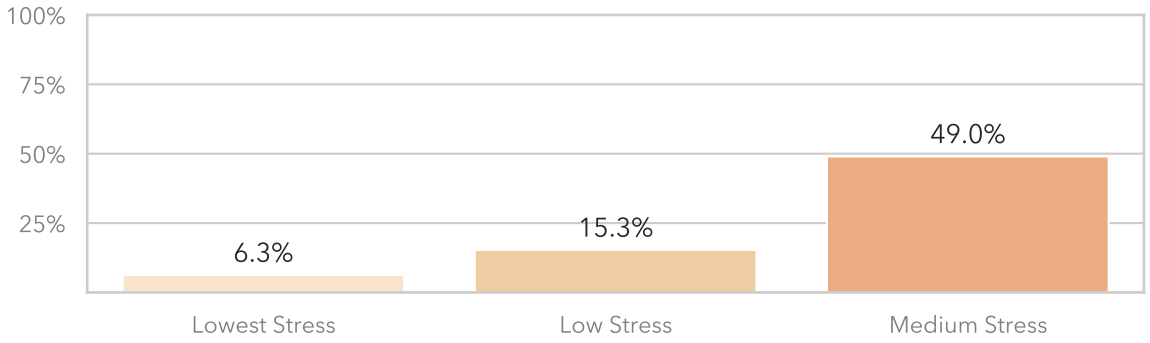
1-Year Change in Biking Job Accessibility by Travel Time Threshold



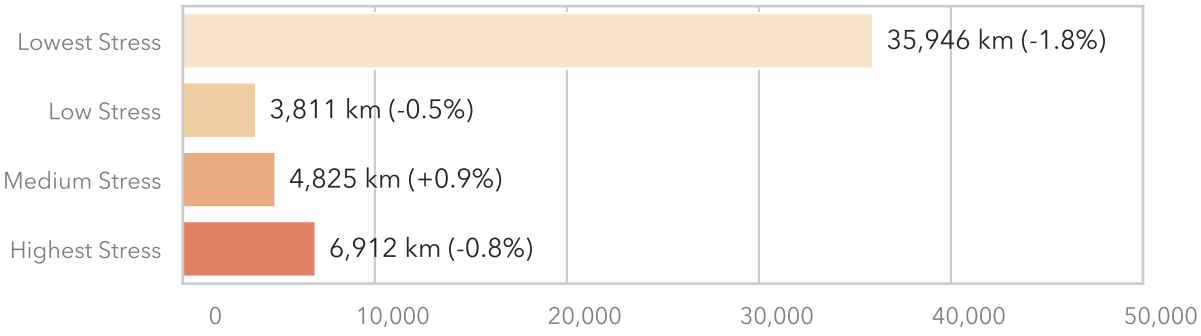
Phoenix

Phoenix-Mesa-Glendale, AZ

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

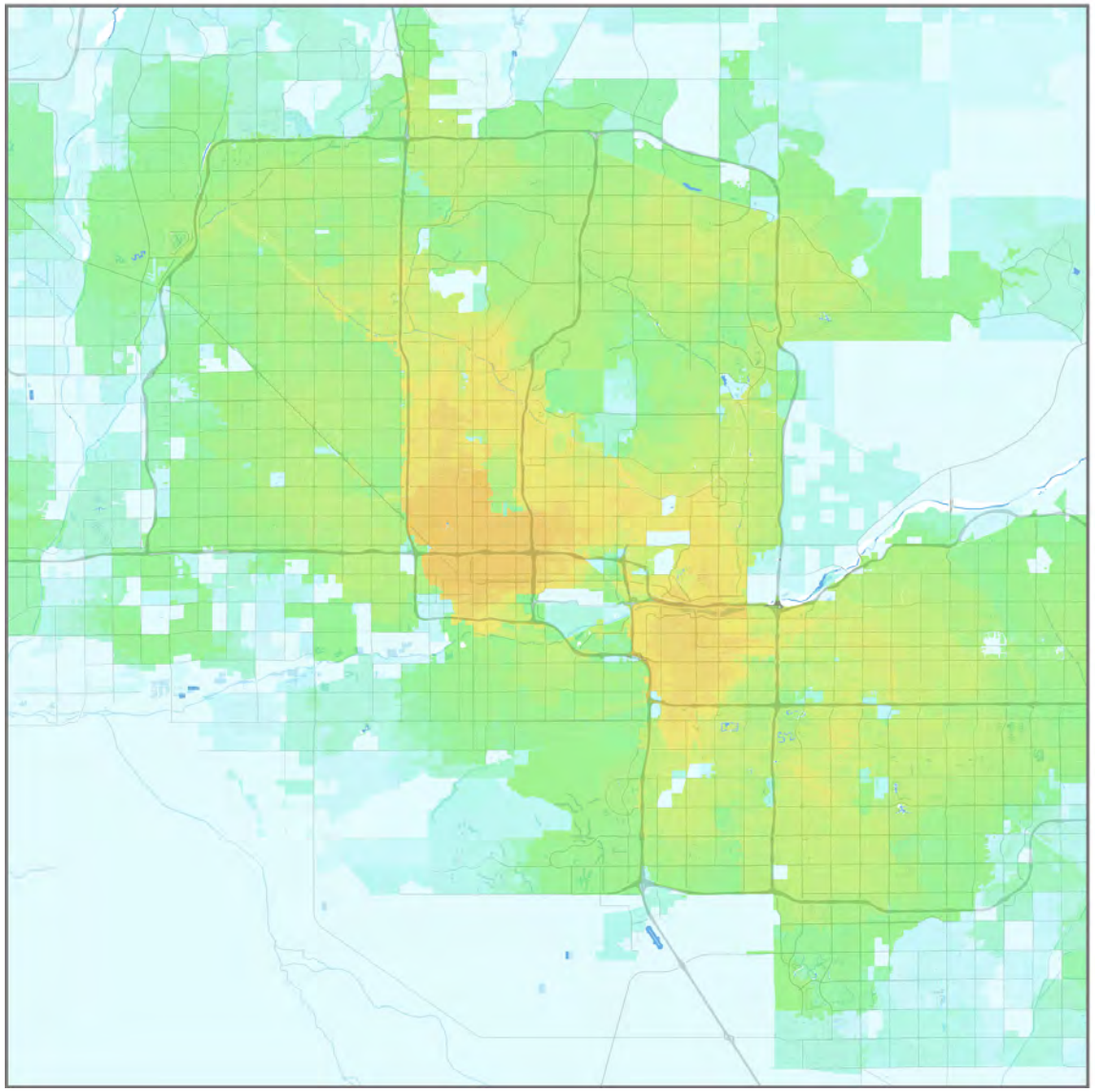


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Phoenix

Phoenix-Mesa-Glendale, AZ



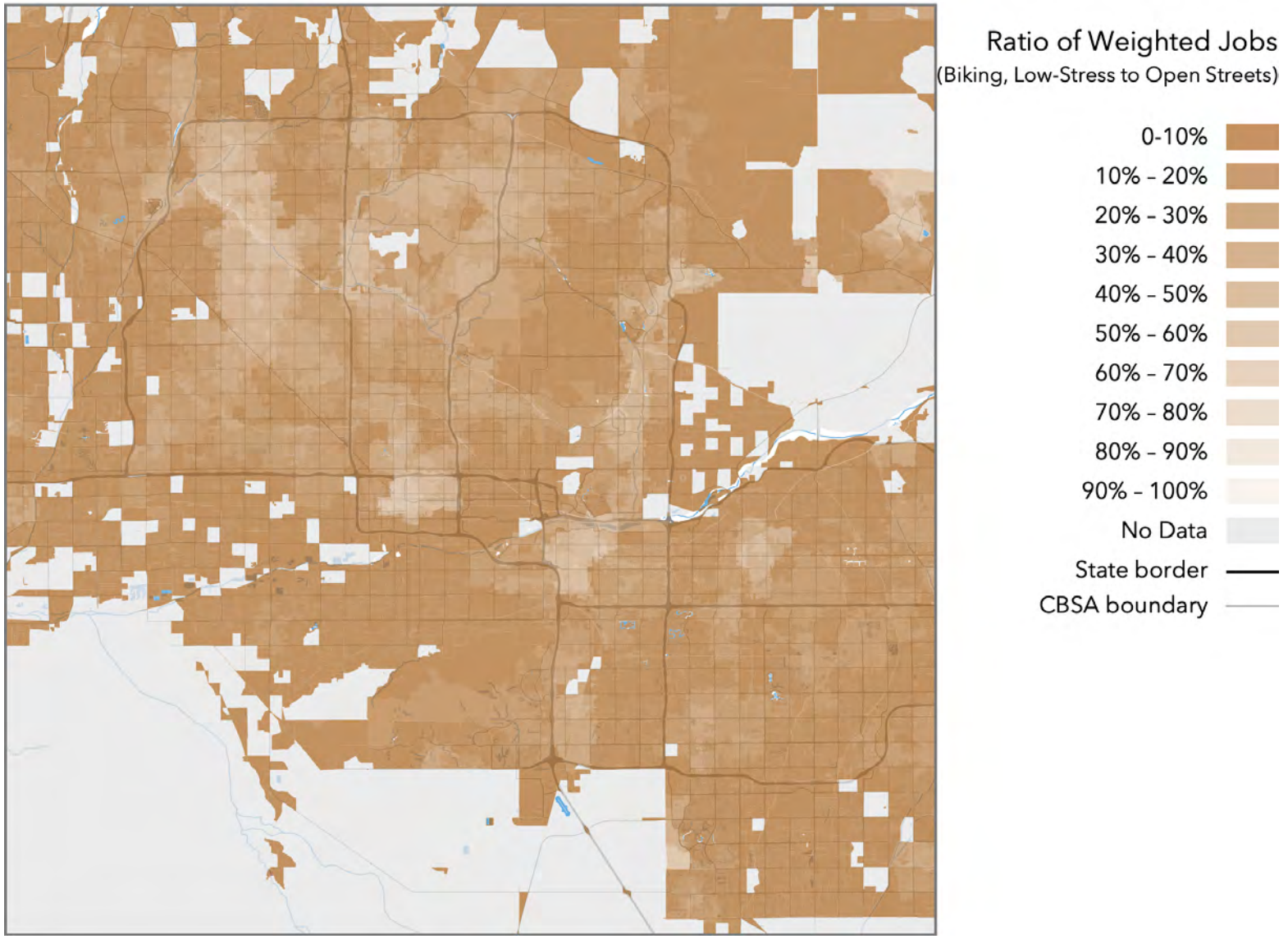
Jobs within 30 minutes
(Biking, medium stress)

- 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

Phoenix

Phoenix-Mesa-Glendale, AZ



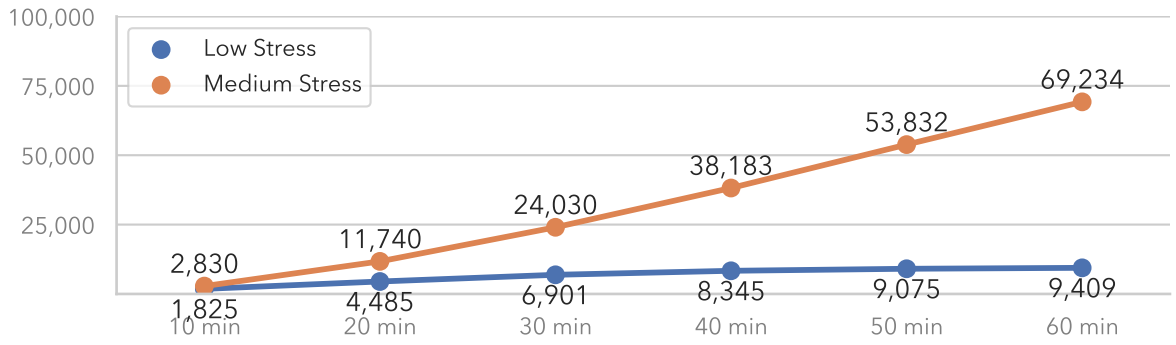
Pittsburgh

Pittsburgh, PA

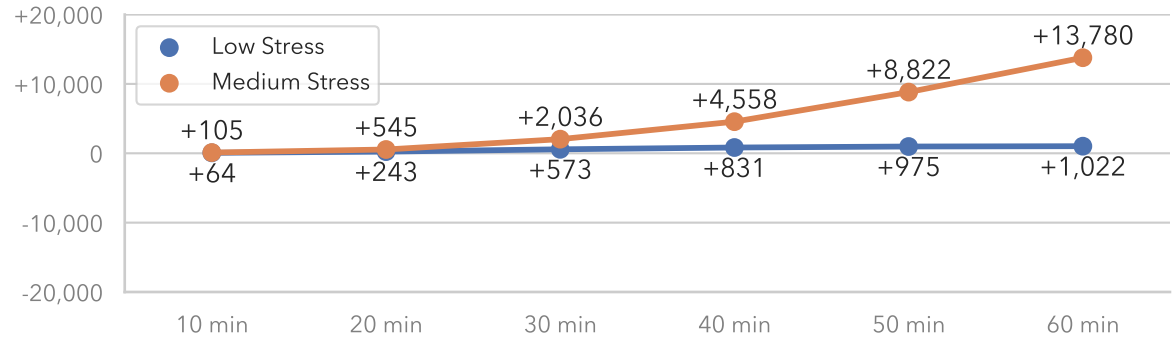
Rank by Weighted Low-Stress Bike Accessibility	**25**
Rank by Weighted Medium-Stress Bike Accessibility	**28**
Rank by Change in Low-Stress Bike Accessibility	**24**
Rank by Change in Medium-Stress Bike Accessibility	**14**
Rank by Total Employment	**24**
Total Jobs	**1,138,726**
Average Job Density (per km^2)	**83**
Total Workers	**1,105,247**
Average Worker Density (per km^2)	**81**

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

Biking Job Accessibility by Travel Time Threshold



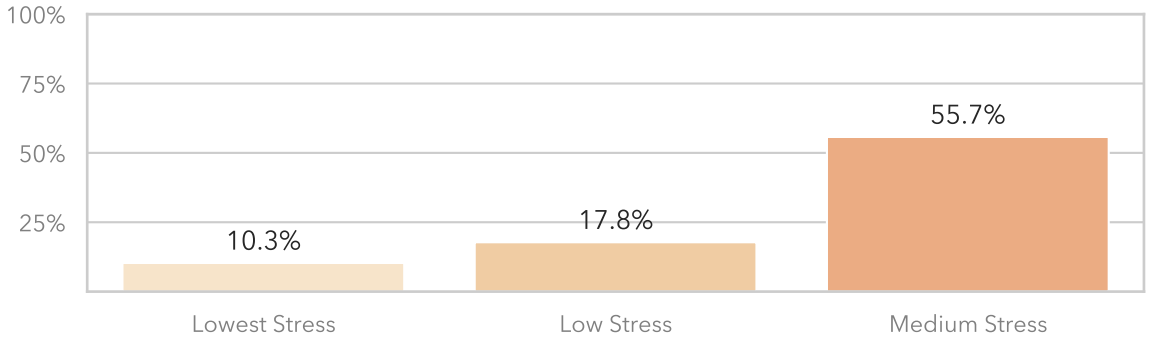
1-Year Change in Biking Job Accessibility by Travel Time Threshold



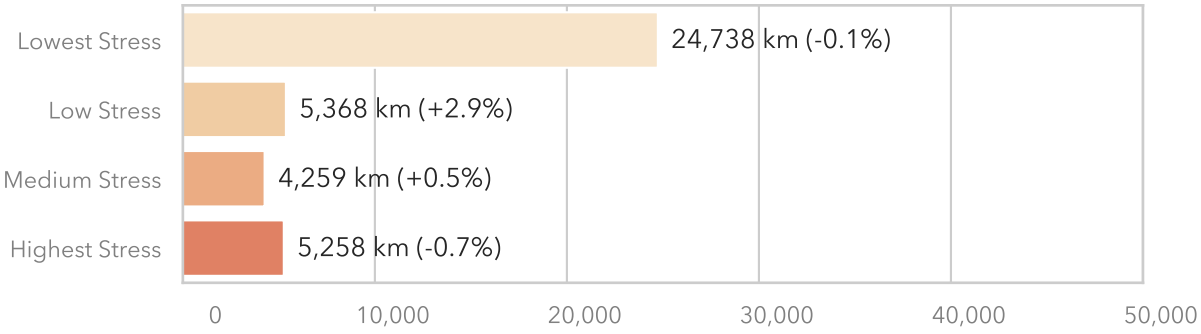
Pittsburgh

Pittsburgh, PA

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

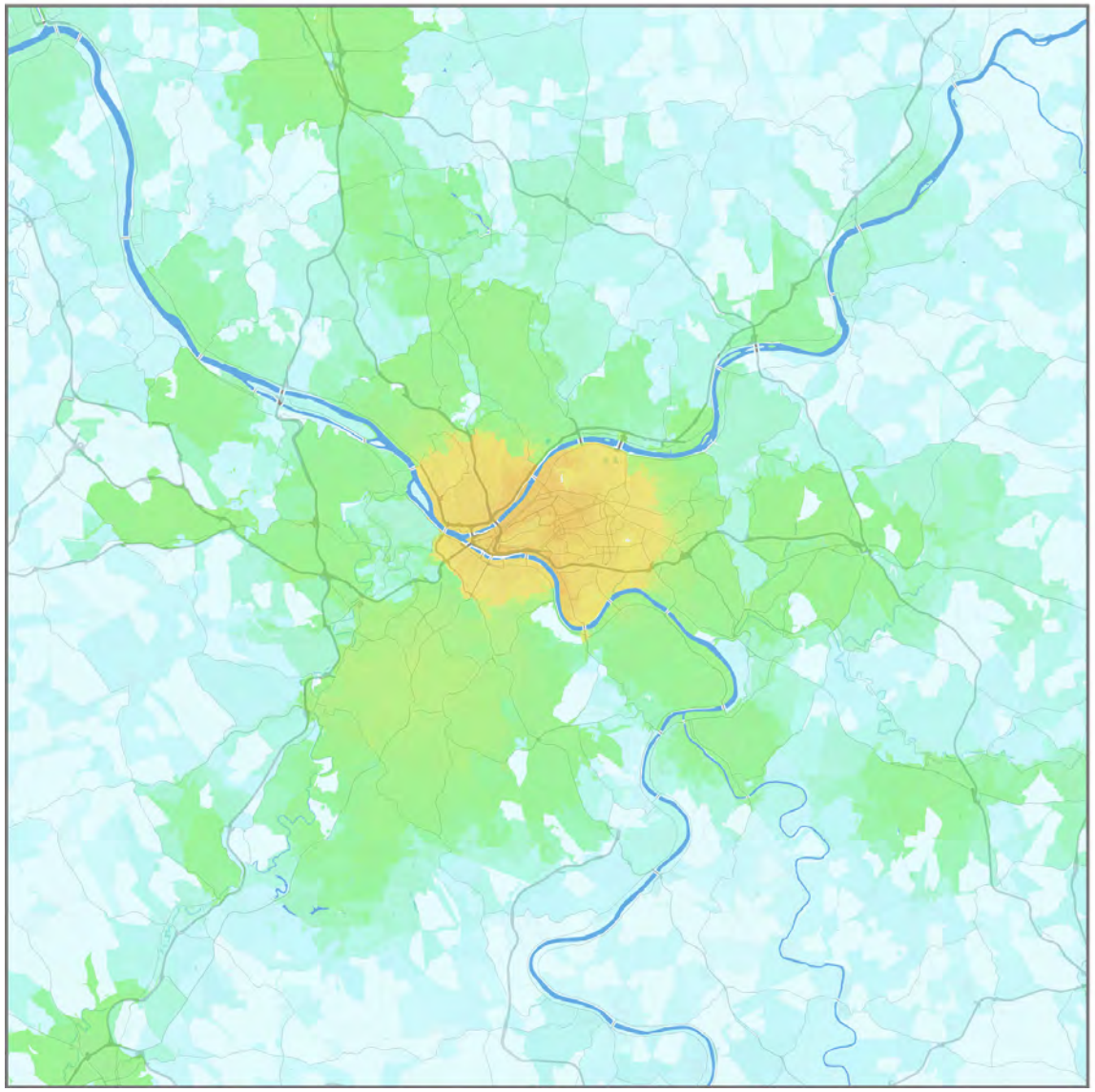


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Pittsburgh

Pittsburgh, PA



Jobs within 30 minutes
(Biking, medium stress)

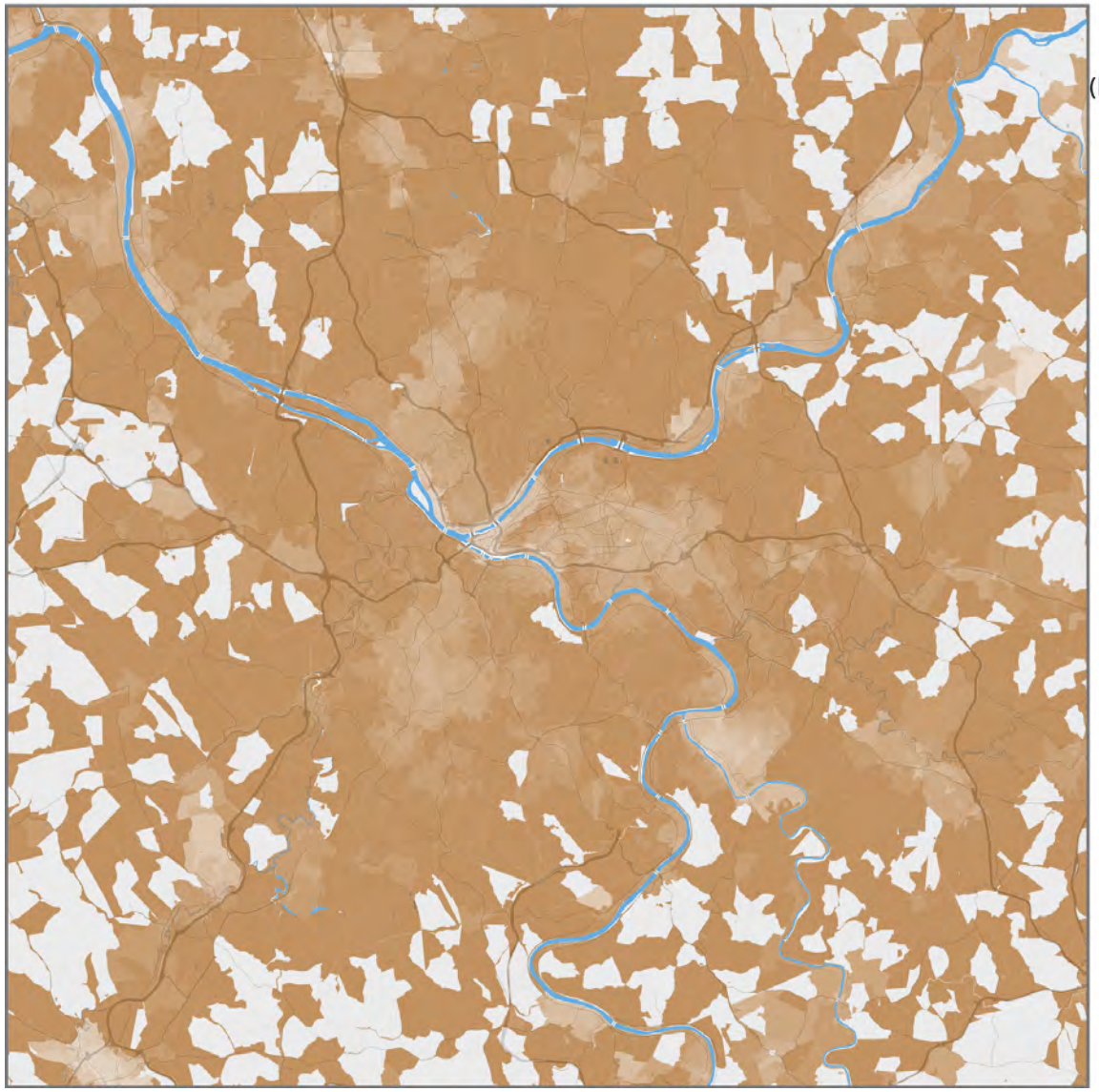
- 0 – 1,000
- 1,000 – 2,500
- 2,500 – 5,000
- 5,000 – 7,500
- 7,500 – 10,000
- 10,000 – 25,000
- 25,000 – 50,000
- 50,000 – 75,000
- 75,000 – 100,000
- 100,000 – 250,000
- 250,000 – 500,000
- 500,000 – 750,000
- 750,000 – 1,000,000
- 1,000,000 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000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

State border

CBSA boundary

Pittsburgh

Pittsburgh, PA



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

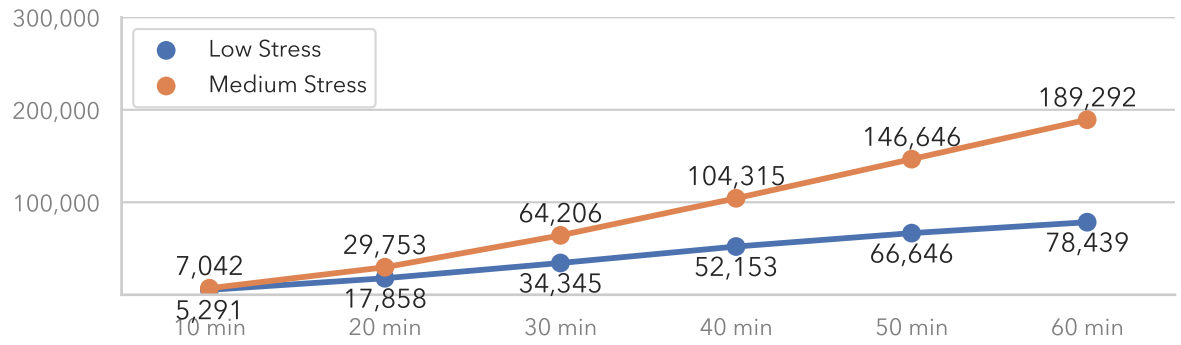
Portland

Portland-Vancouver-Hillsboro, OR-WA

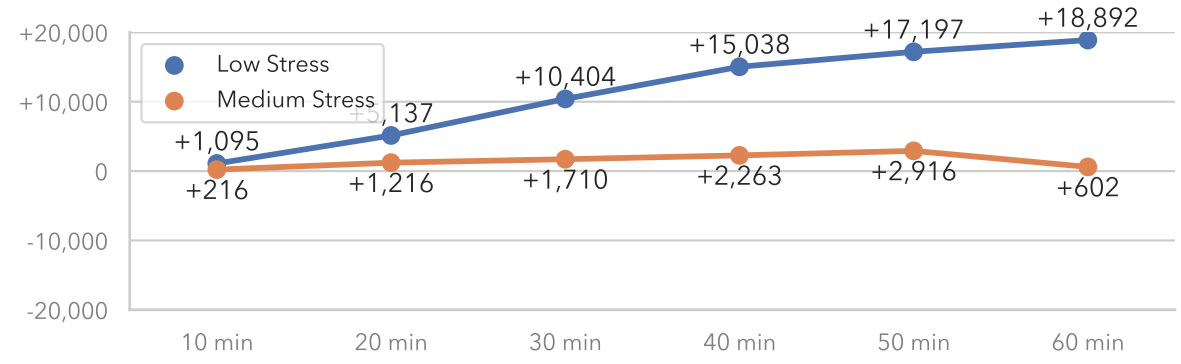
Rank by Weighted Low-Stress Bike Accessibility	**3**
Rank by Weighted Medium-Stress Bike Accessibility	**8**
Rank by Change in Low-Stress Bike Accessibility	**3**
Rank by Change in Medium-Stress Bike Accessibility	**28**
Rank by Total Employment	**22**
Total Jobs	**1,165,042**
Average Job Density (per km^2)	**67**
Total Workers	**1,140,463**
Average Worker Density (per km^2)	**66**

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

Biking Job Accessibility by Travel Time Threshold



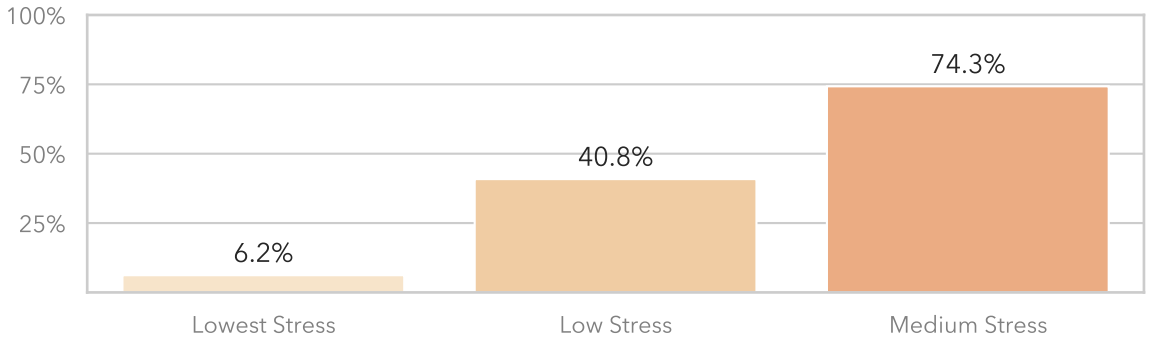
1-Year Change in Biking Job Accessibility by Travel Time Threshold



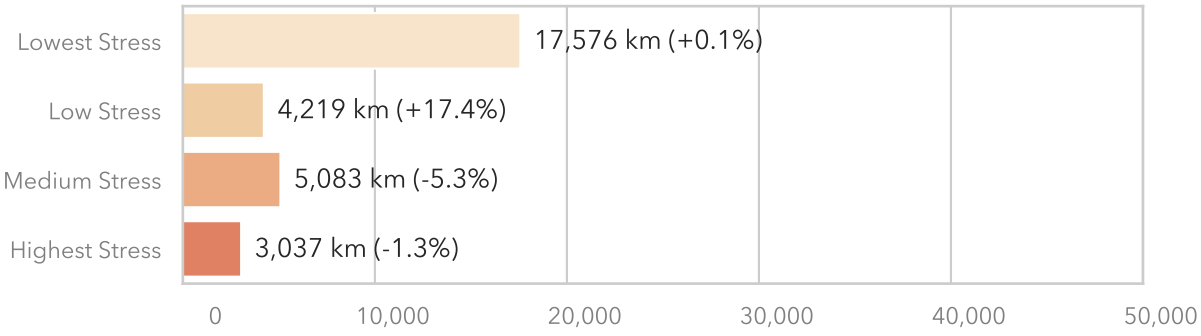
Portland

Portland-Vancouver-Hillsboro, OR-WA

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

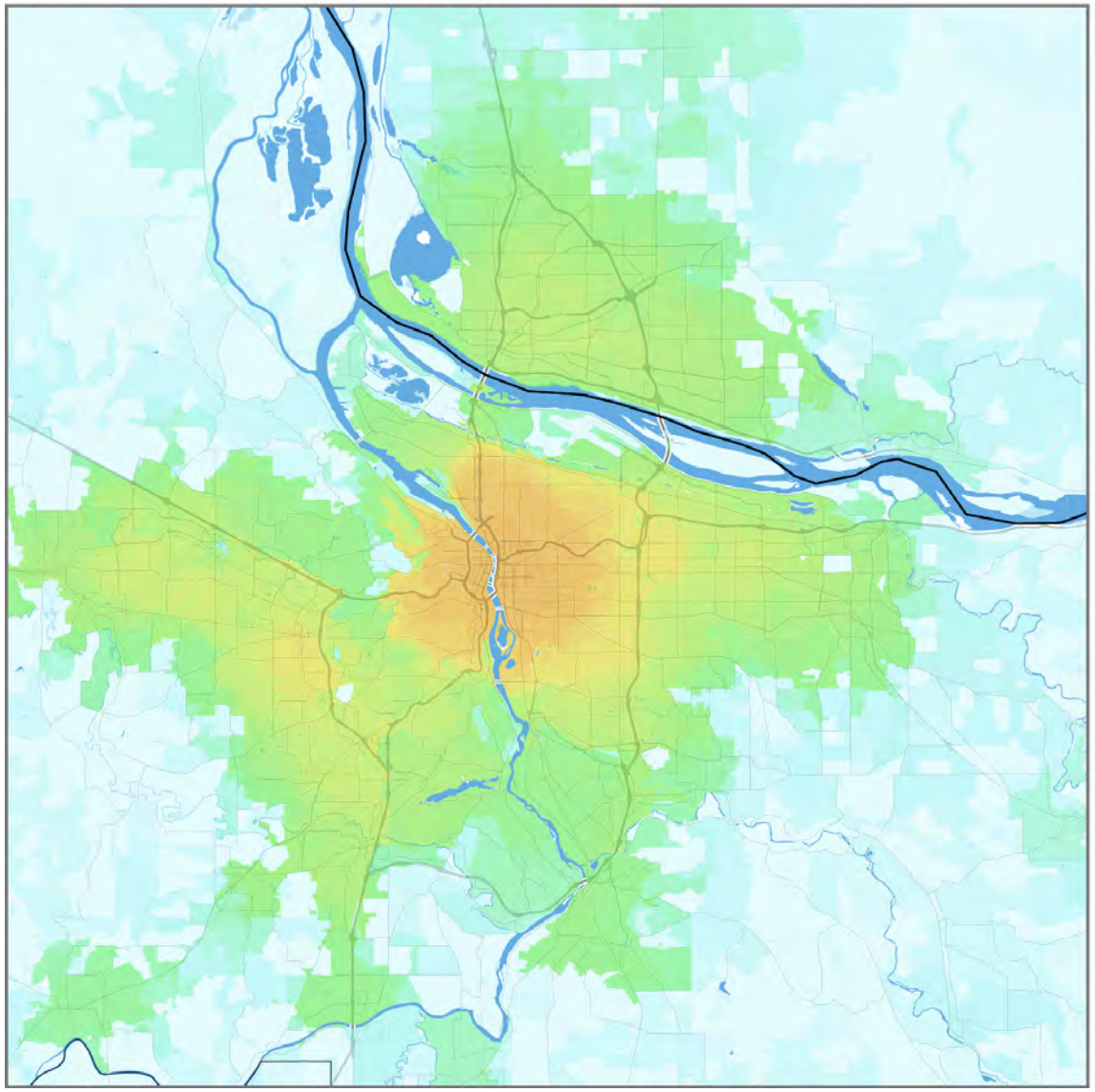


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



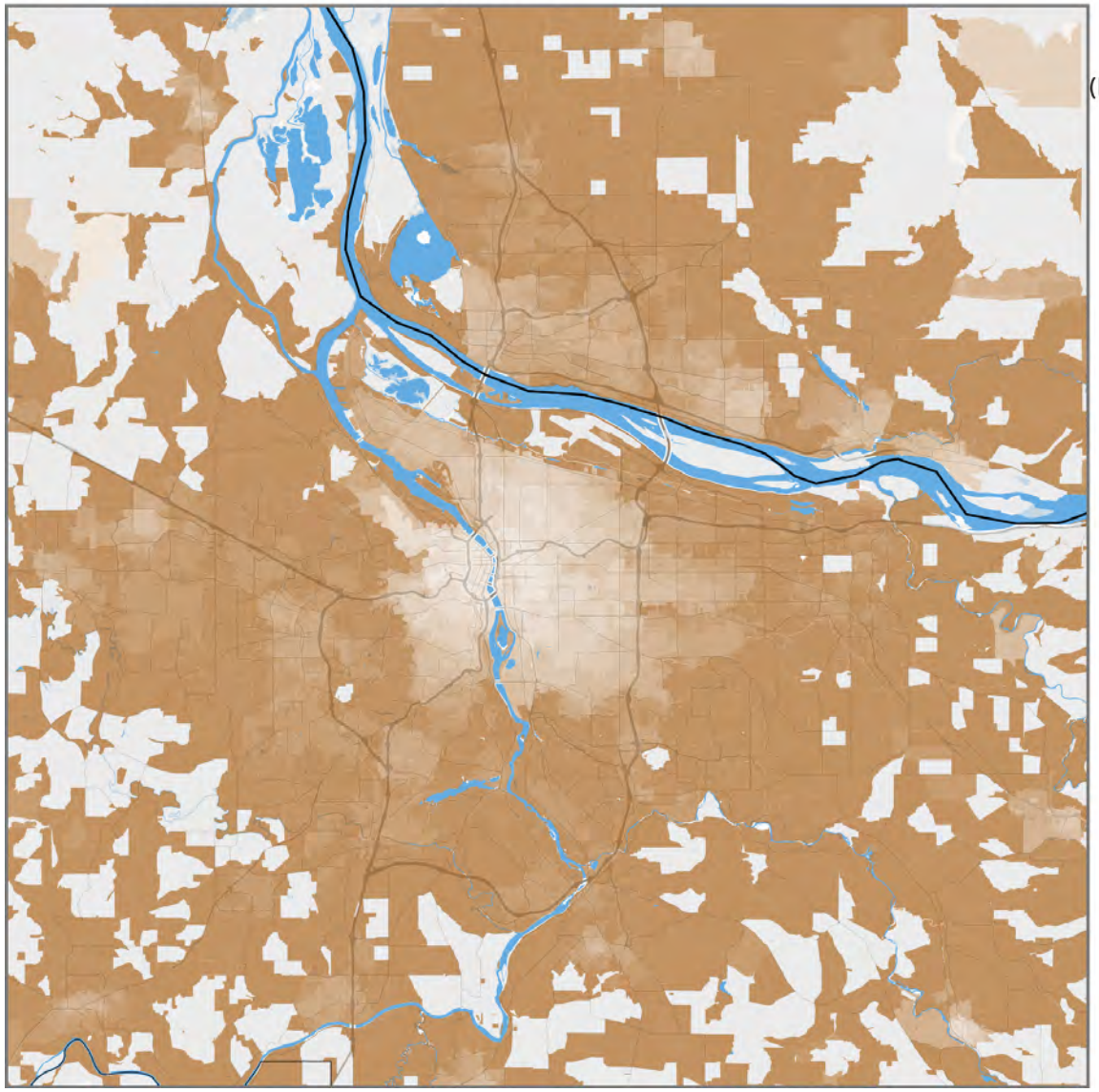
Portland

Portland-Vancouver-Hillsboro, OR-WA



Portland

Portland-Vancouver-Hillsboro, OR-WA



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

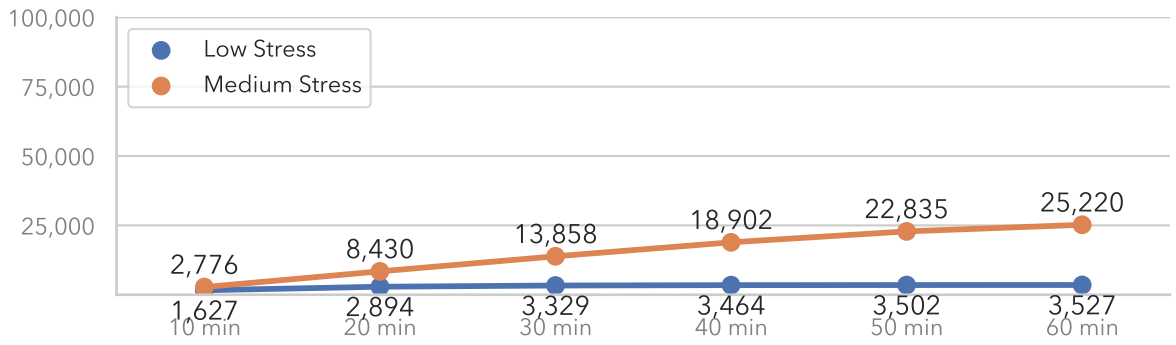
Providence

Providence-New Bedford-Fall River, RI-MA

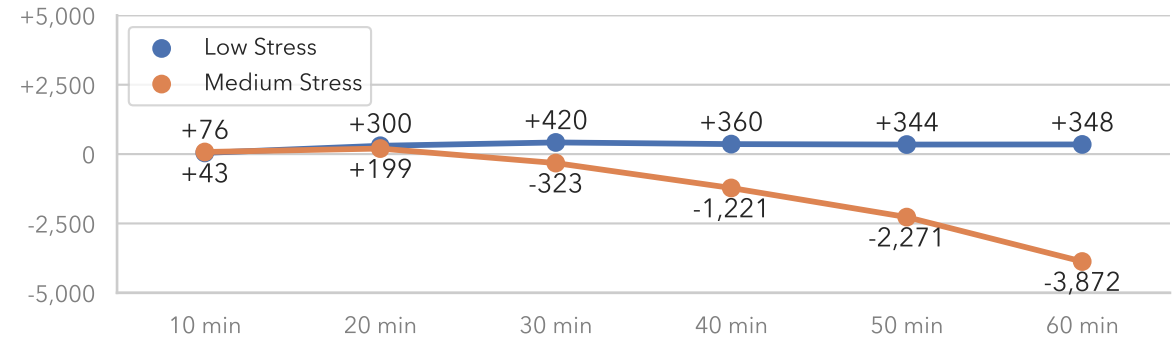
Rank by Weighted Low-Stress Bike Accessibility	**37**
Rank by Weighted Medium-Stress Bike Accessibility	**43**
Rank by Change in Low-Stress Bike Accessibility	**19**
Rank by Change in Medium-Stress Bike Accessibility	**43**
Rank by Total Employment	**38**
Total Jobs	**689,902**
Average Job Density (per km^2)	**168**
Total Workers	**775,615**
Average Worker Density (per km^2)	**189**

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

Biking Job Accessibility by Travel Time Threshold



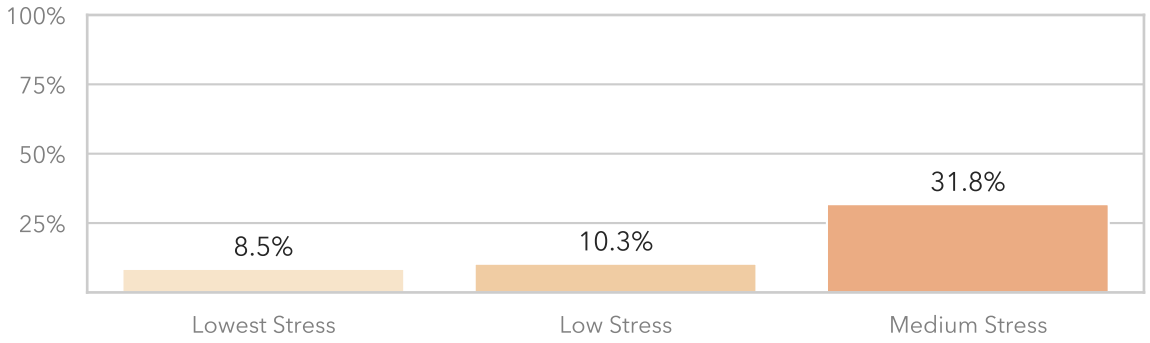
1-Year Change in Biking Job Accessibility by Travel Time Threshold



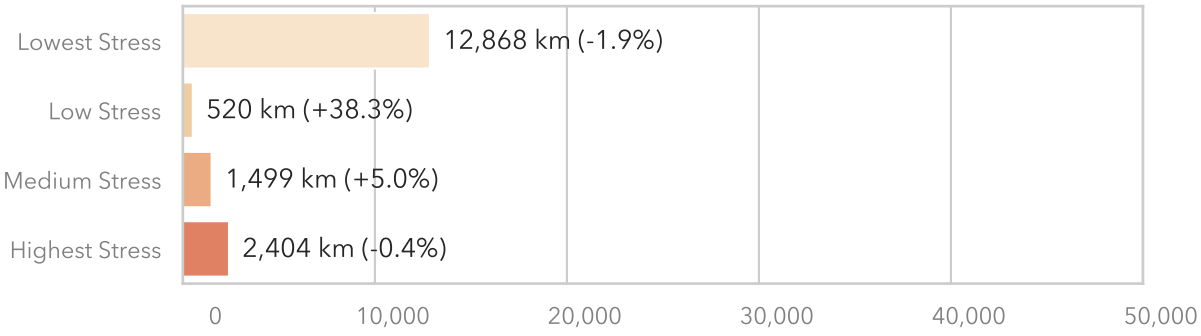
Providence

Providence-New Bedford-Fall River, RI-MA

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

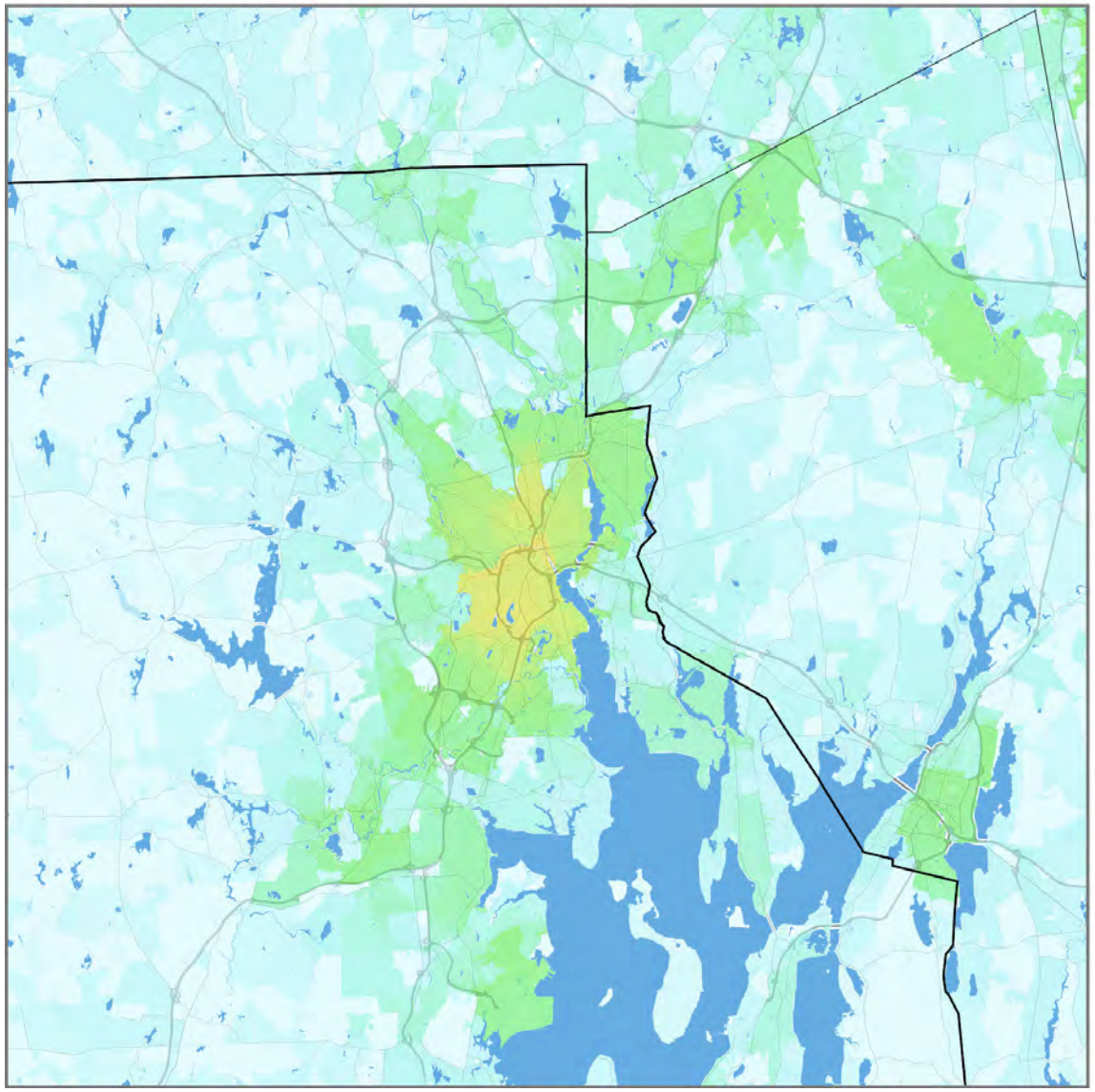


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Providence

Providence-New Bedford-Fall River, RI-MA



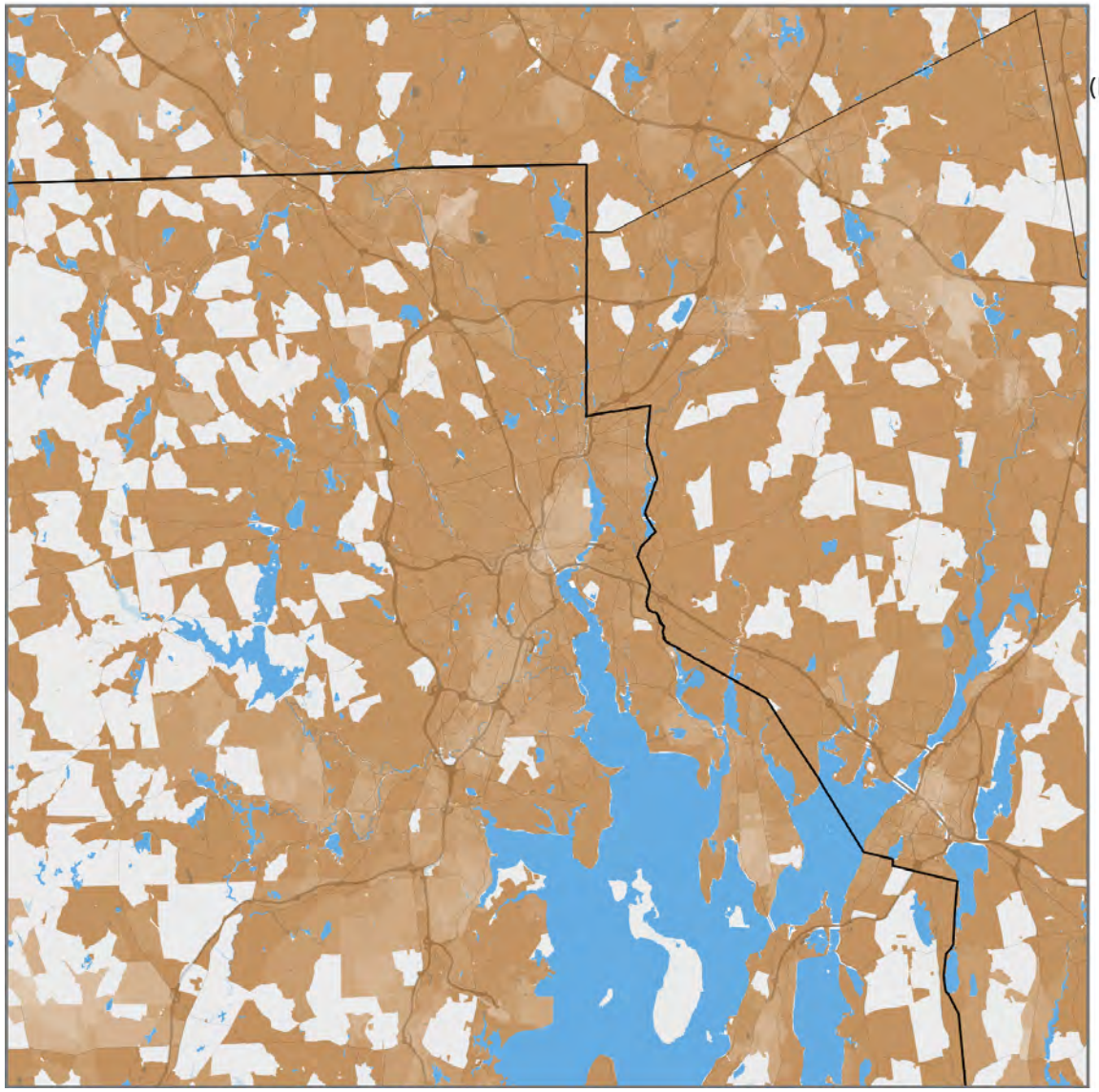
Jobs within 30 minutes
(Biking, medium stress)

- 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

Providence

Providence-New Bedford-Fall River, RI-MA



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

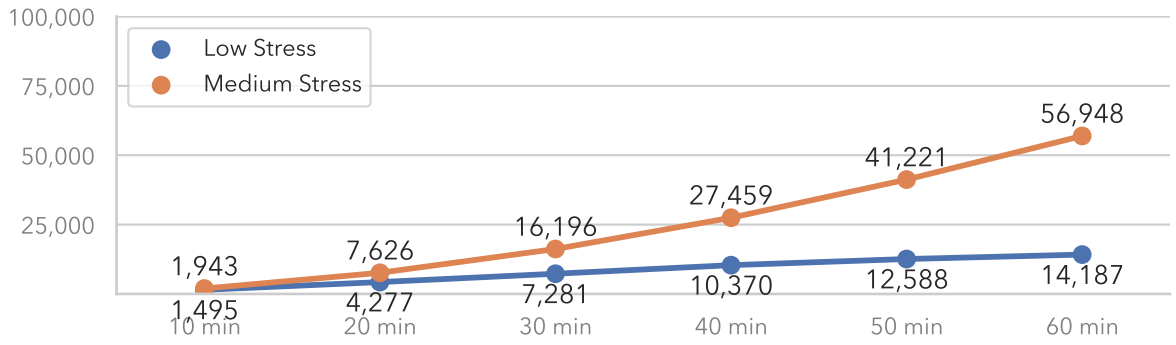
Raleigh

Raleigh-Cary, NC

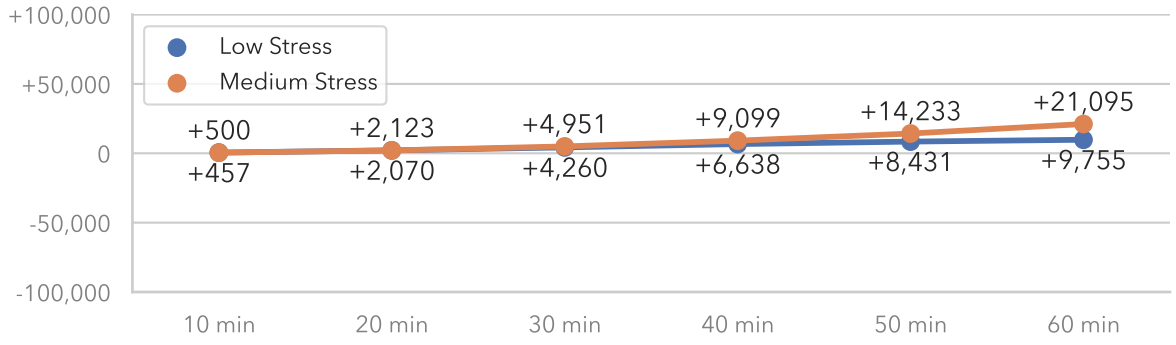
Rank by Weighted Low-Stress Bike Accessibility	**23**
Rank by Weighted Medium-Stress Bike Accessibility	**40**
Rank by Change in Low-Stress Bike Accessibility	**1**
Rank by Change in Medium-Stress Bike Accessibility	**2**
Rank by Total Employment	**43**
Total Jobs	**677,938**
Average Job Density (per km^2)	**124**
Total Workers	**615,937**
Average Worker Density (per km^2)	**112**

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

Biking Job Accessibility by Travel Time Threshold



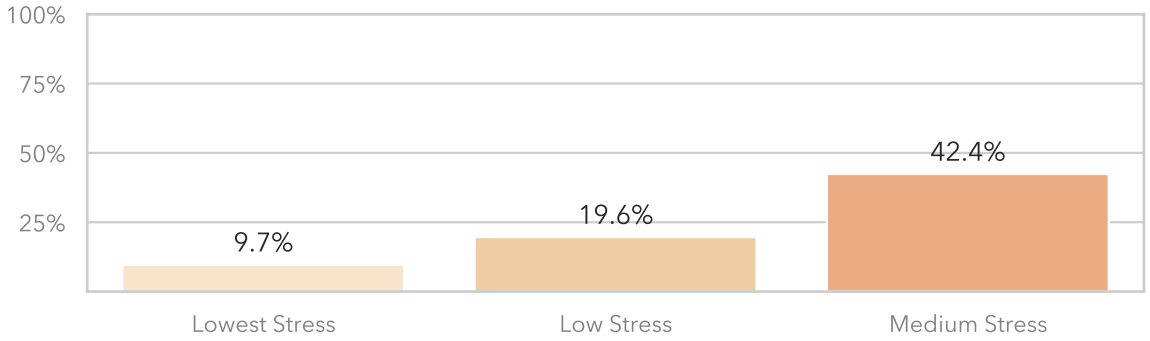
1-Year Change in Biking Job Accessibility by Travel Time Threshold



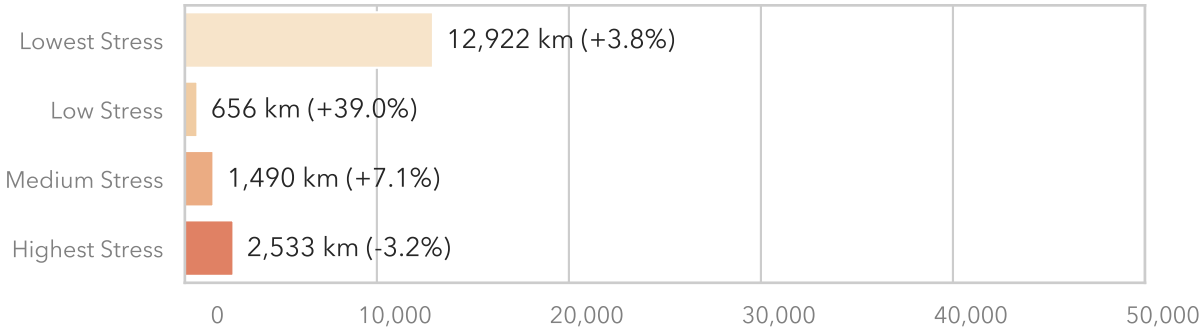
Raleigh

Raleigh-Cary, NC

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

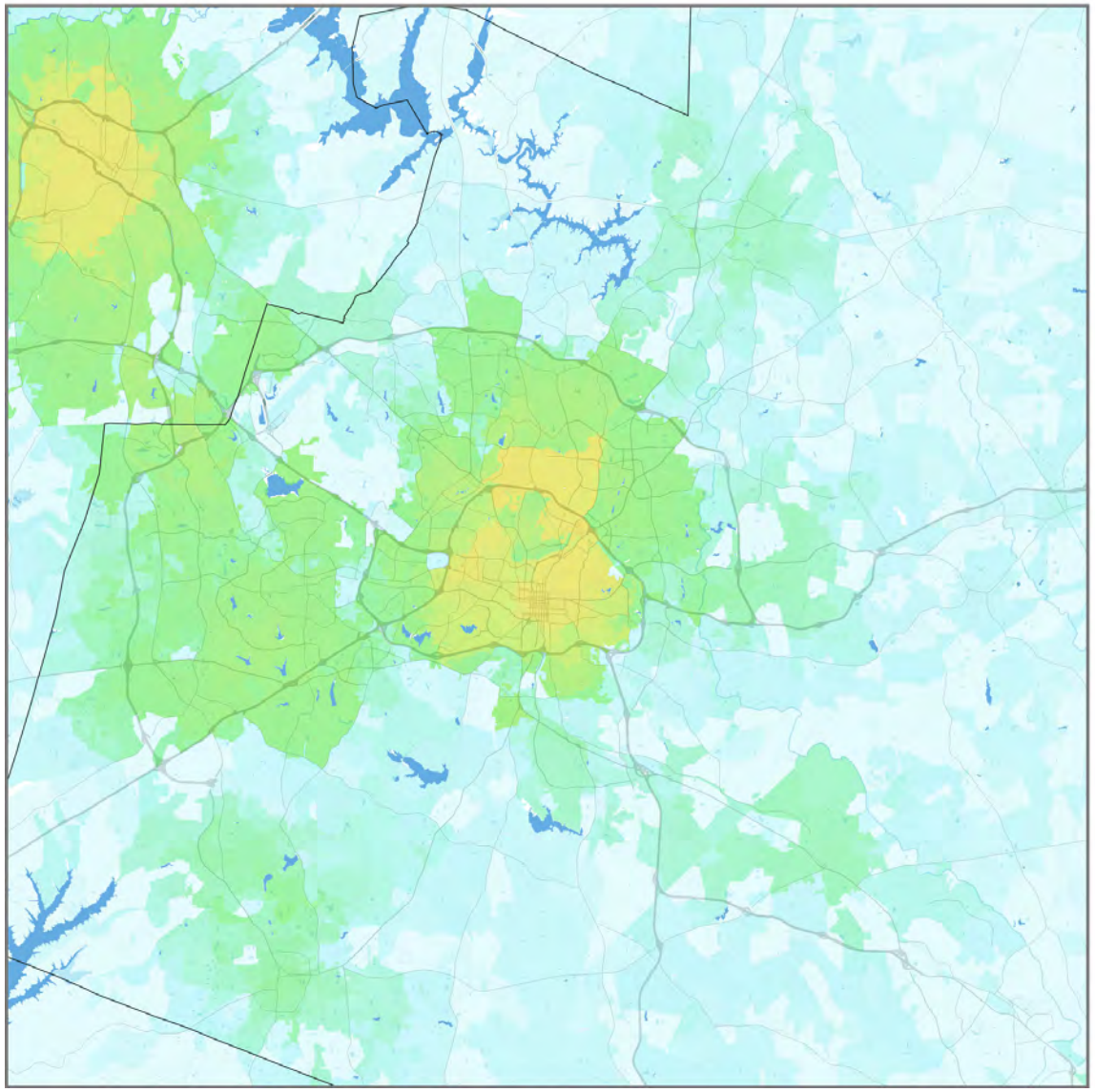


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



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
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- 250,000 – 500,000
- 500,000 – 750,000
- 750,000 – 1,000,000
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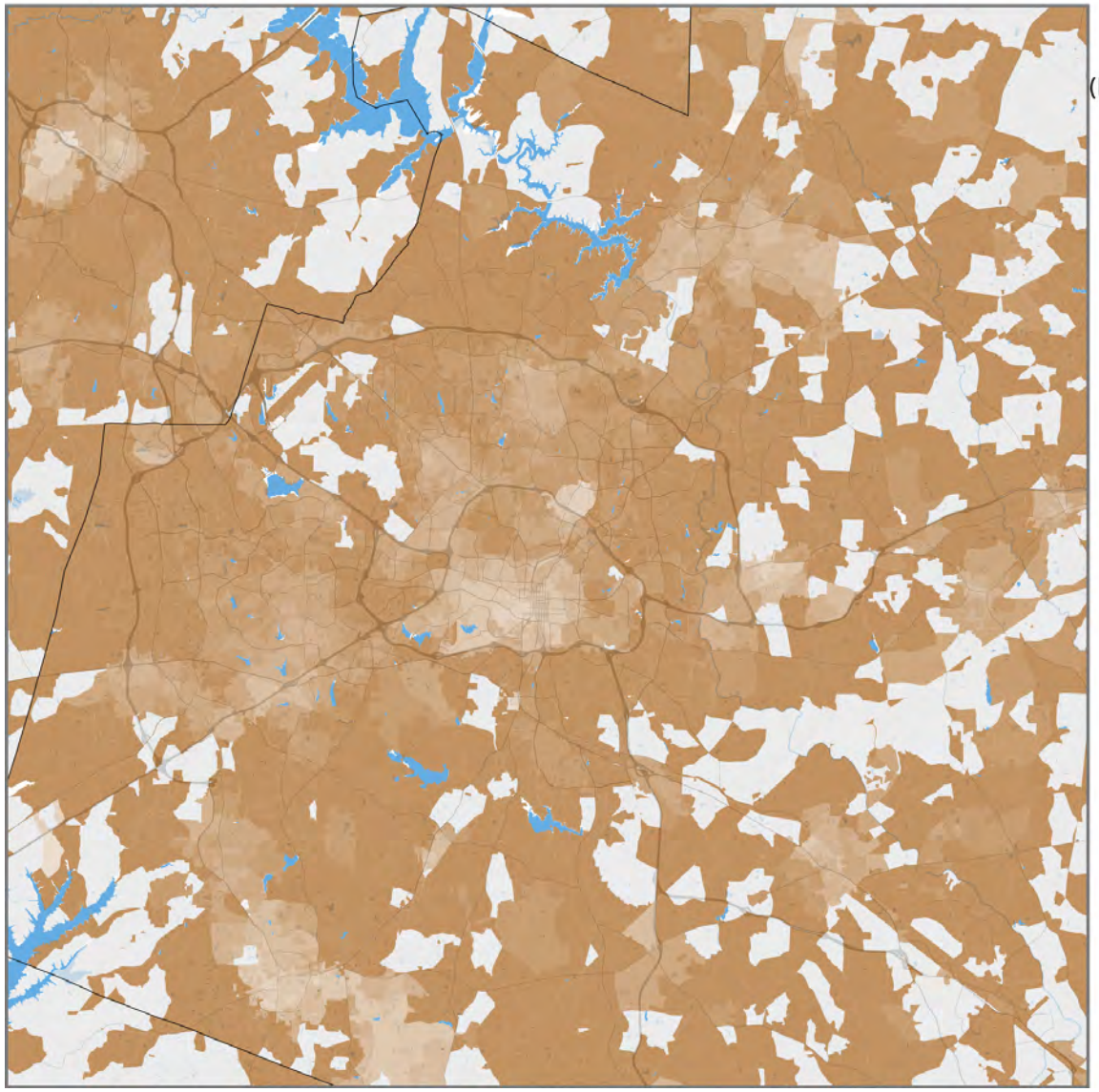
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border

CBSA boundary

Raleigh

Raleigh-Cary, NC



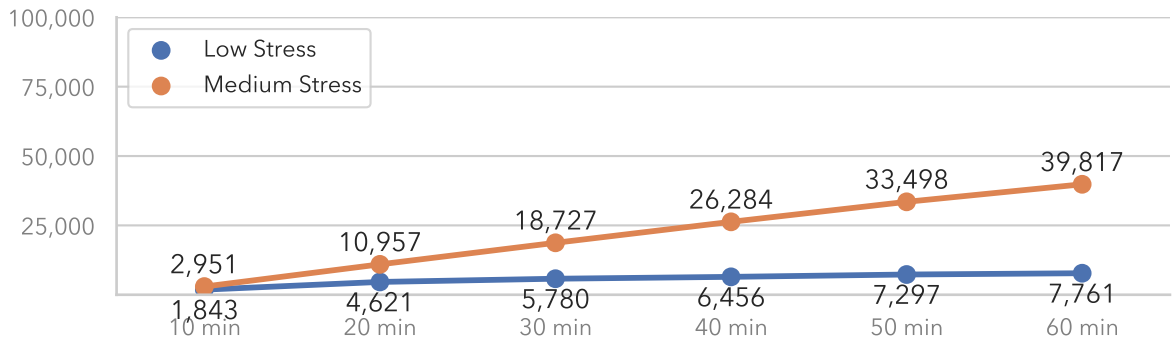
Richmond

Richmond, VA

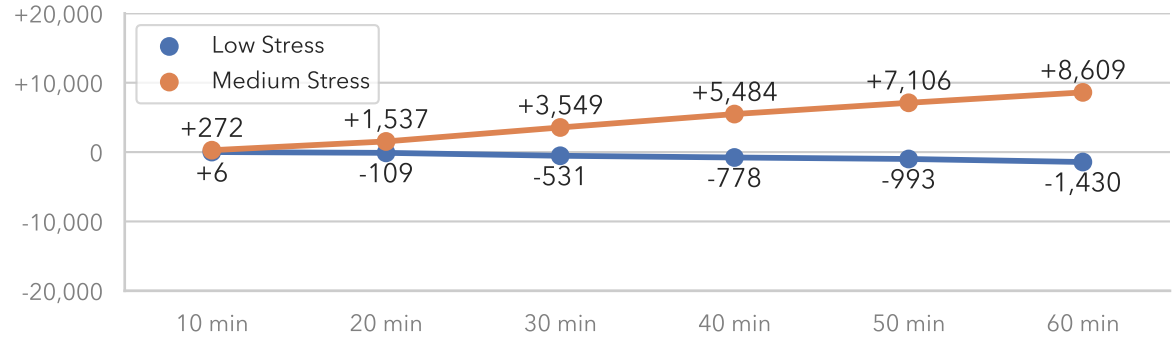
Rank by Weighted Low-Stress Bike Accessibility	**29**
Rank by Weighted Medium-Stress Bike Accessibility	**33**
Rank by Change in Low-Stress Bike Accessibility	**46**
Rank by Change in Medium-Stress Bike Accessibility	**7**
Rank by Total Employment	**42**
Total Jobs	**659,862**
Average Job Density (per km^2)	**45**
Total Workers	**640,682**
Average Worker Density (per km^2)	**44**

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

Biking Job Accessibility by Travel Time Threshold



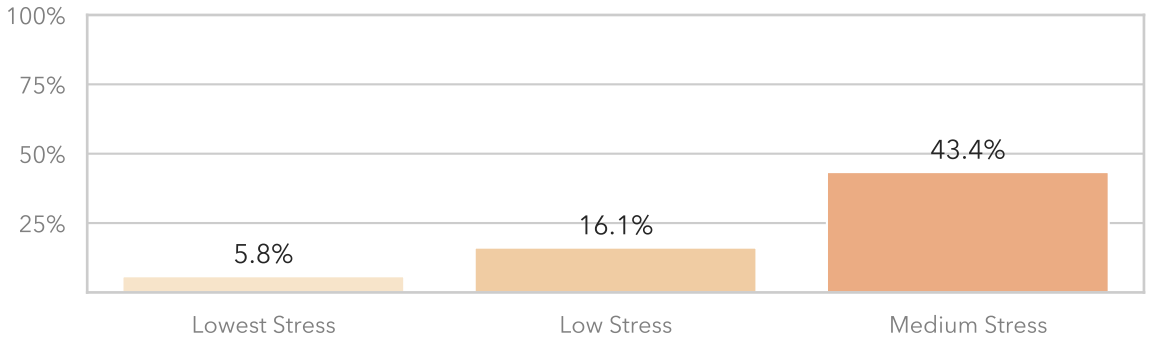
1-Year Change in Biking Job Accessibility by Travel Time Threshold



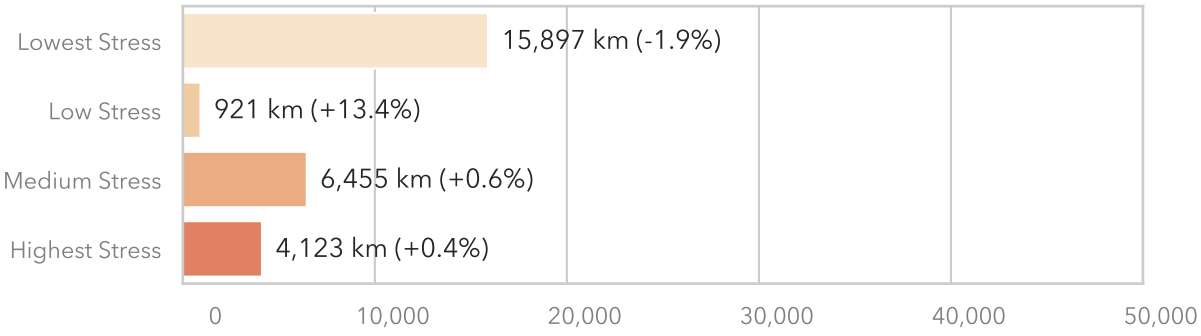
Richmond

Richmond, VA

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

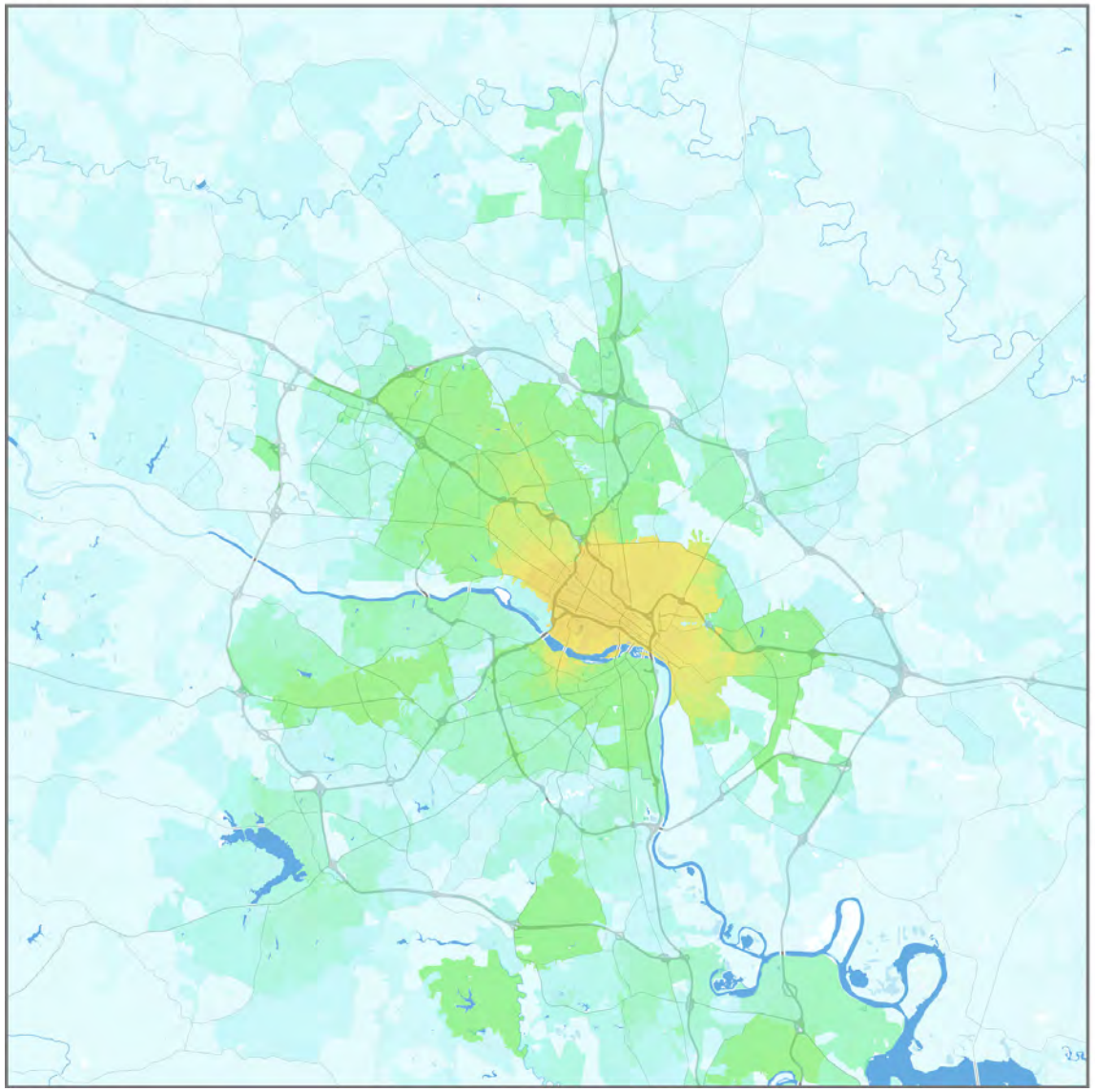


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Richmond

Richmond, VA



Jobs within 30 minutes
(Biking, medium stress)

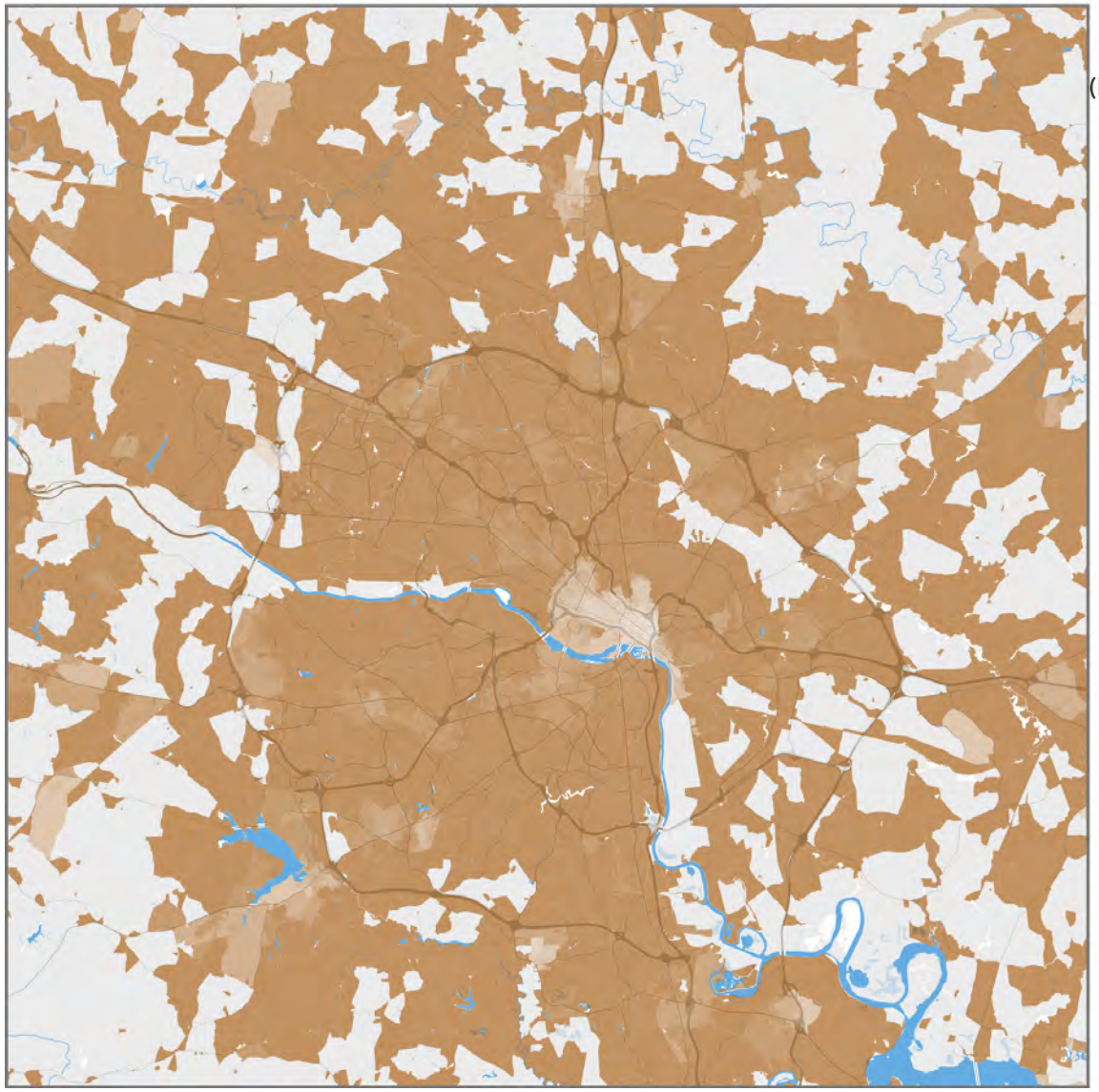
- 0 – 1,000
- 1,000 – 2,500
- 2,500 – 5,000
- 5,000 – 7,500
- 7,500 – 10,000
- 10,000 – 25,000
- 25,000 – 50,000
- 50,000 – 75,000
- 75,000 – 100,000
- 100,000 – 250,000
- 250,000 – 500,000
- 500,000 – 750,000
- 750,000 – 1,000,000
- 1,000,000 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000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

State border

CBSA boundary

Richmond

Richmond, VA



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

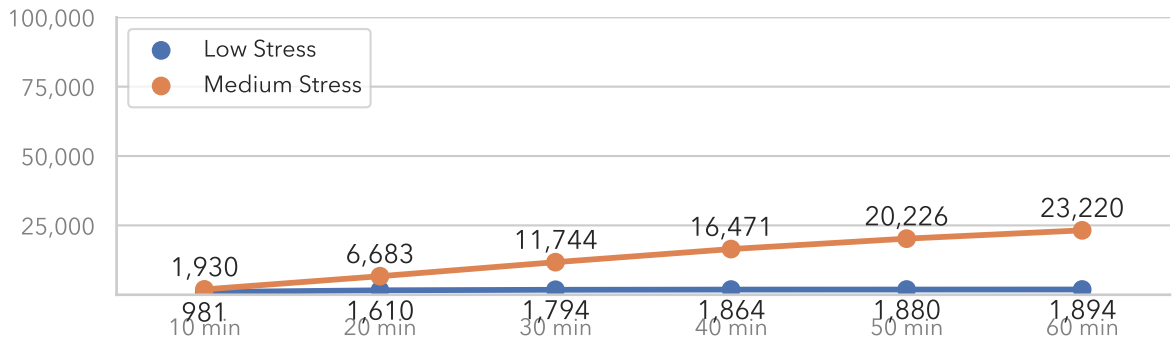
Riverside

Riverside-San Bernardino-Ontario, CA

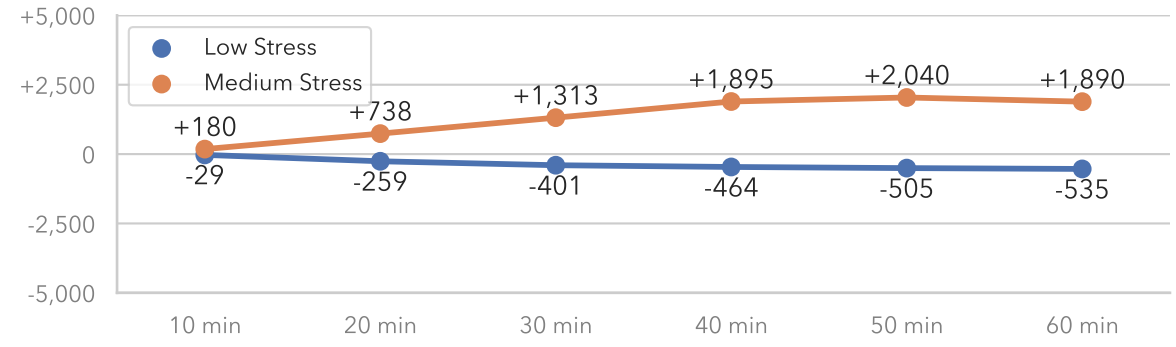
Rank by Weighted Low-Stress Bike Accessibility	**48**
Rank by Weighted Medium-Stress Bike Accessibility	**47**
Rank by Change in Low-Stress Bike Accessibility	**49**
Rank by Change in Medium-Stress Bike Accessibility	**12**
Rank by Total Employment	**16**
Total Jobs	**1,439,654**
Average Job Density (per km^2)	**20**
Total Workers	**1,749,931**
Average Worker Density (per km^2)	**25**

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

Biking Job Accessibility by Travel Time Threshold



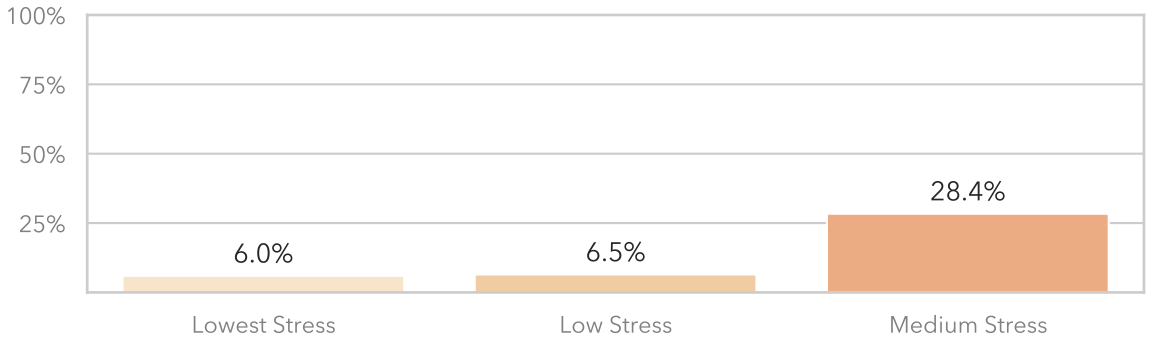
1-Year Change in Biking Job Accessibility by Travel Time Threshold



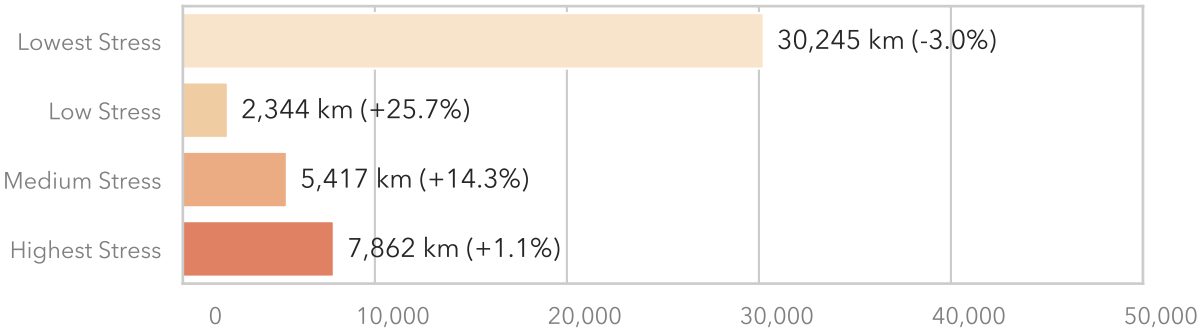
Riverside

Riverside-San Bernardino-Ontario, CA

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

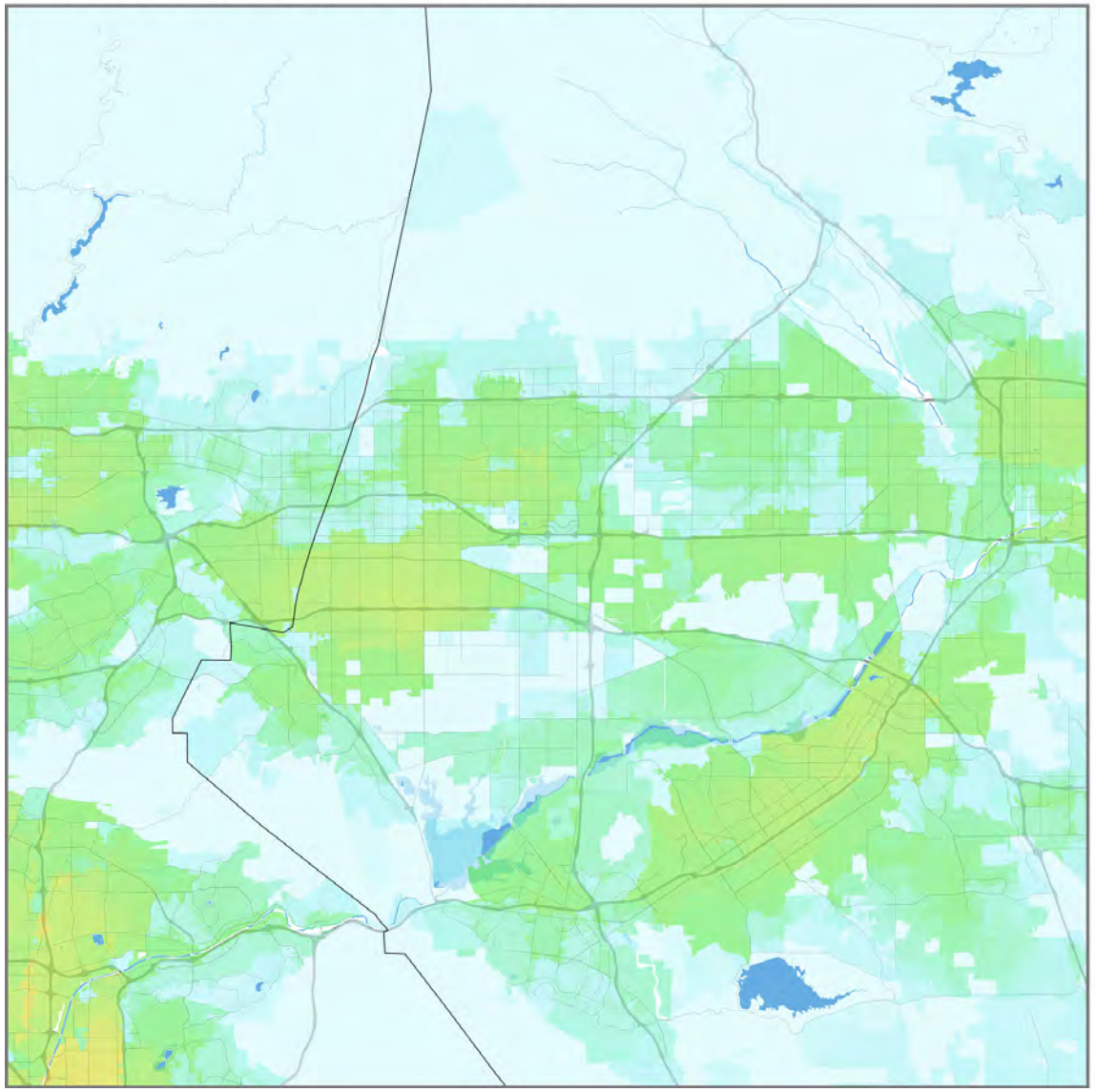


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Riverside

Riverside-San Bernardino-Ontario, CA



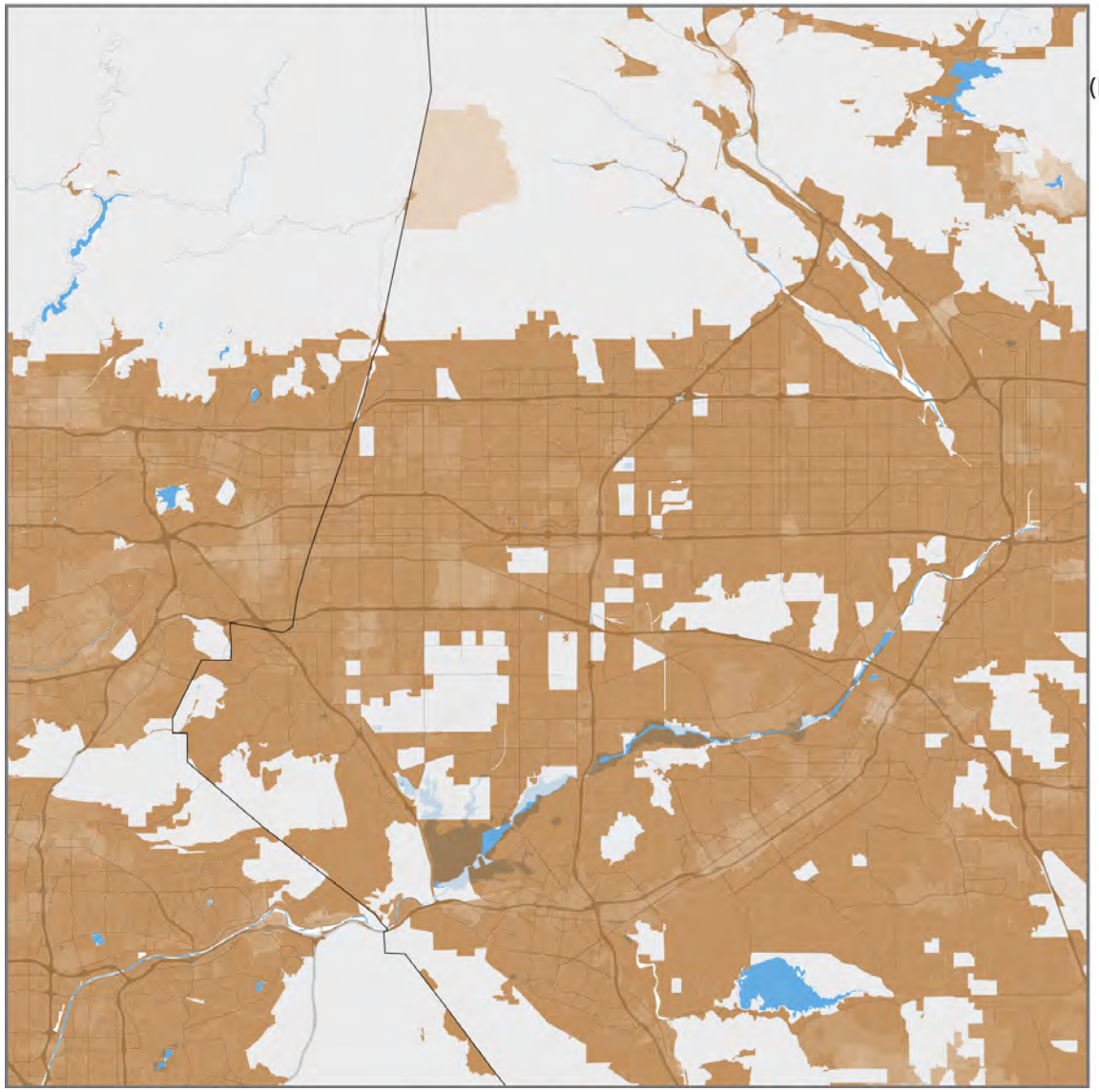
Jobs within 30 minutes
(Biking, medium stress)

- 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

Riverside

Riverside-San Bernardino-Ontario, CA



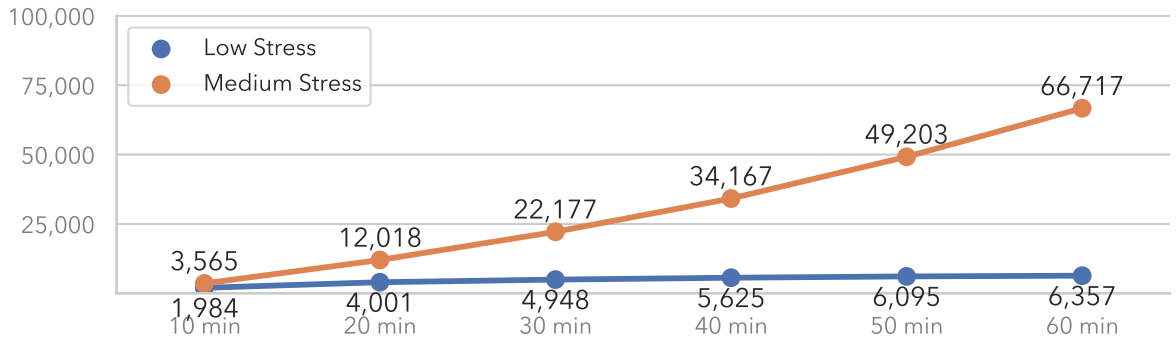
Sacramento

Sacramento–Arden-Arcade–Roseville, CA

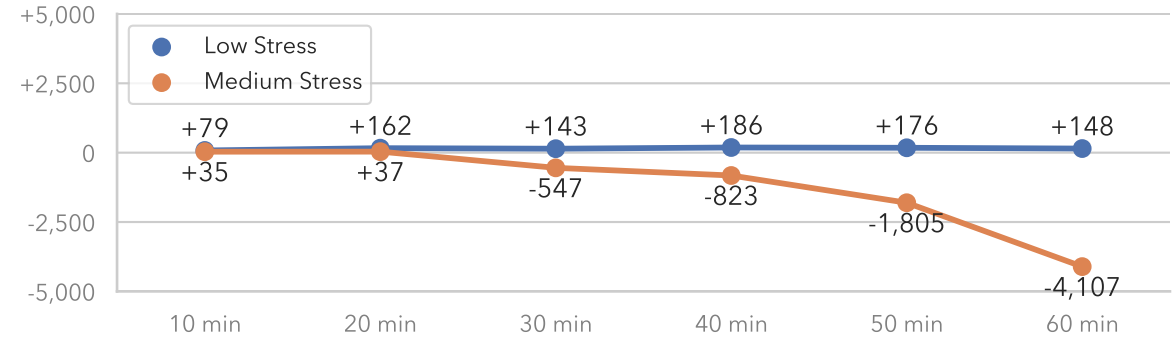
Rank by Weighted Low-Stress Bike Accessibility	**32**
Rank by Weighted Medium-Stress Bike Accessibility	**29**
Rank by Change in Low-Stress Bike Accessibility	**33**
Rank by Change in Medium-Stress Bike Accessibility	**42**
Rank by Total Employment	**29**
Total Jobs	**951,760**
Average Job Density (per km^2)	**72**
Total Workers	**964,523**
Average Worker Density (per km^2)	**73**

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

Biking Job Accessibility by Travel Time Threshold



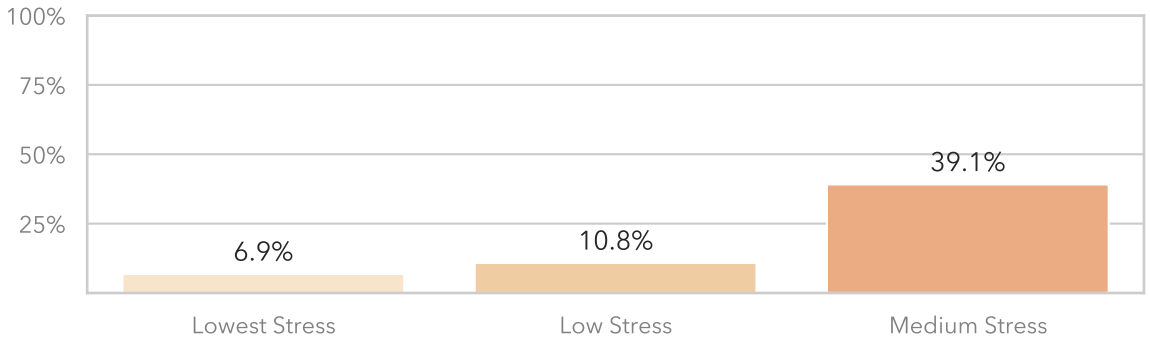
1-Year Change in Biking Job Accessibility by Travel Time Threshold



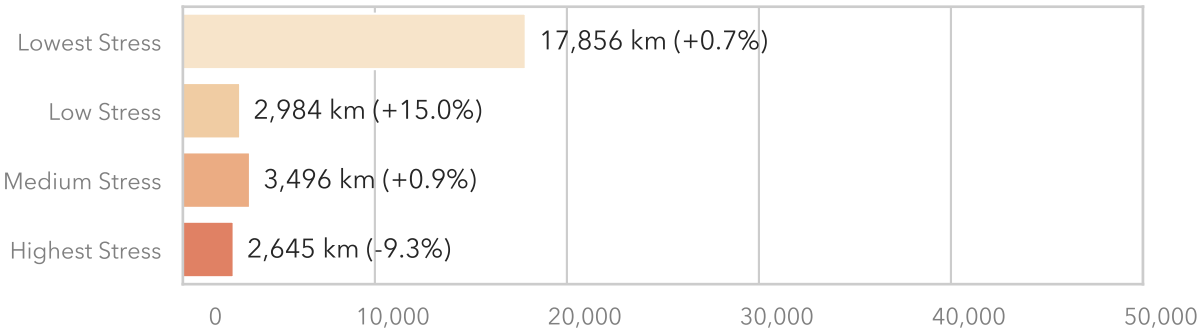
Sacramento

Sacramento–Arden-Arcade–Roseville, CA

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

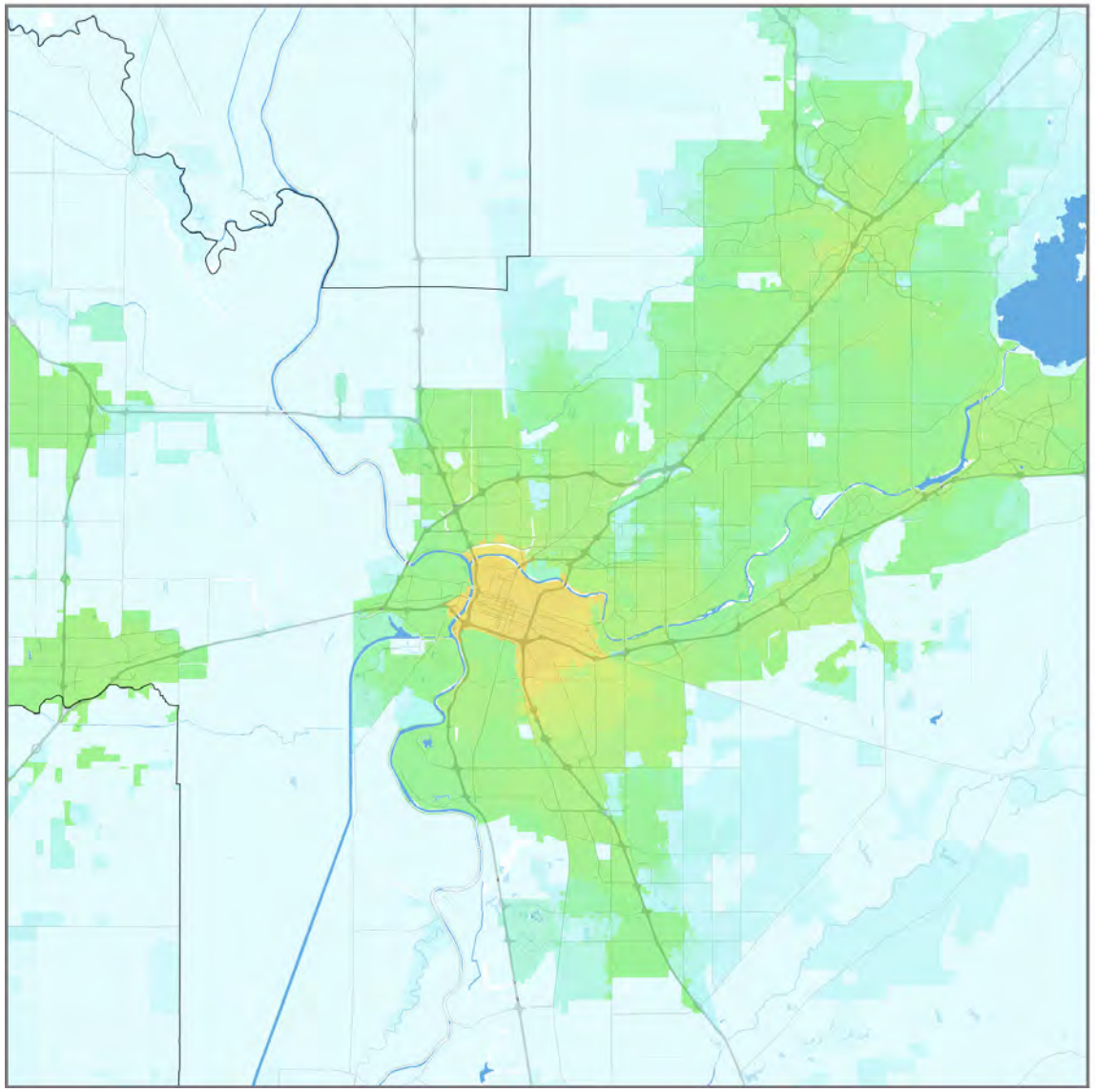


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



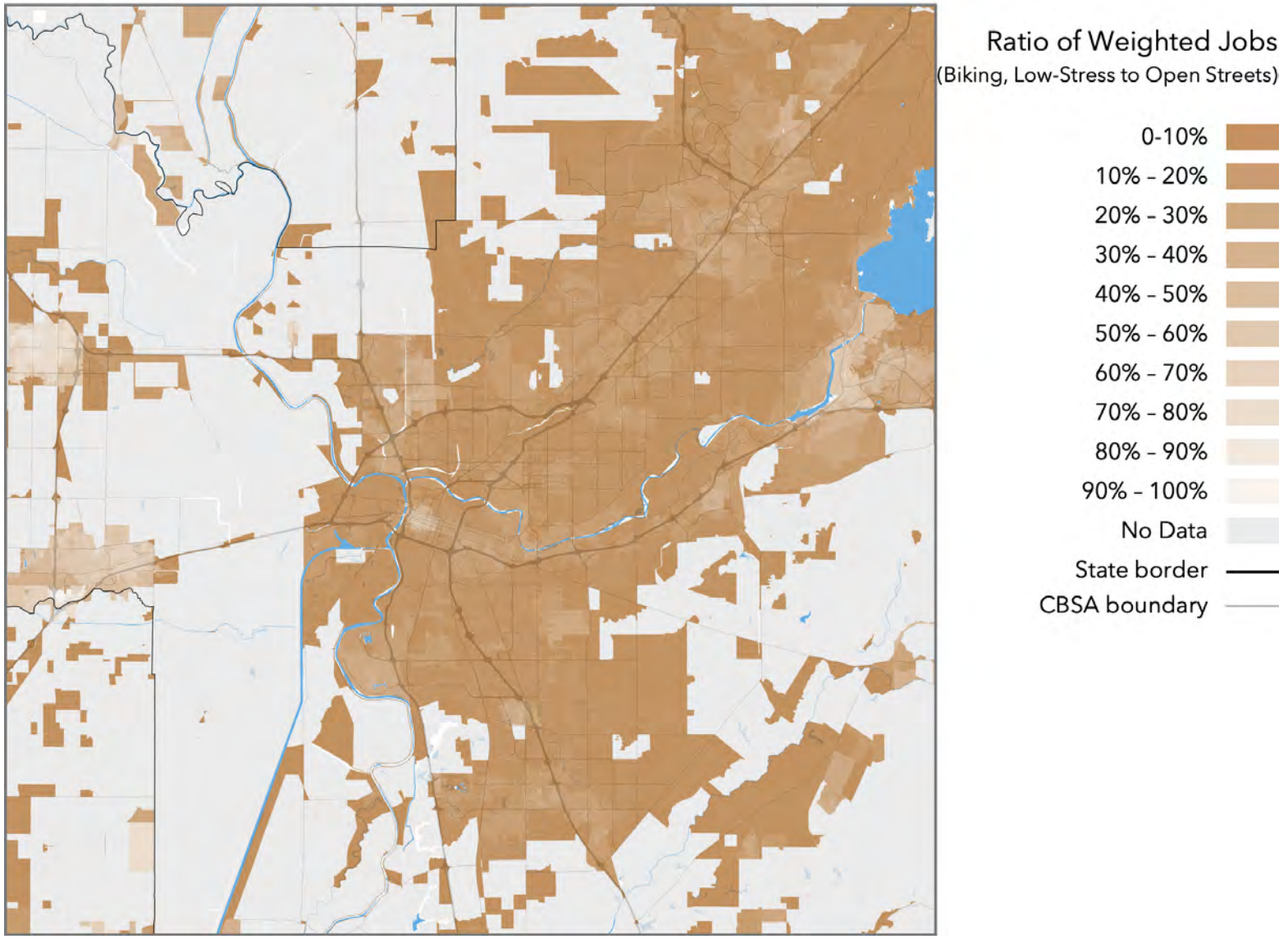
Sacramento

Sacramento--Arden-Arcade--Roseville, CA



Sacramento

Sacramento--Arden-Arcade--Roseville, CA



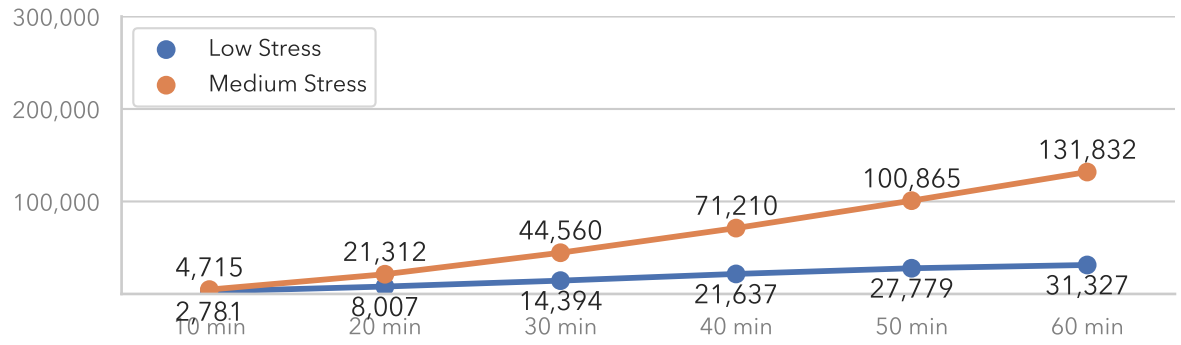
Salt Lake City

Salt Lake City, UT

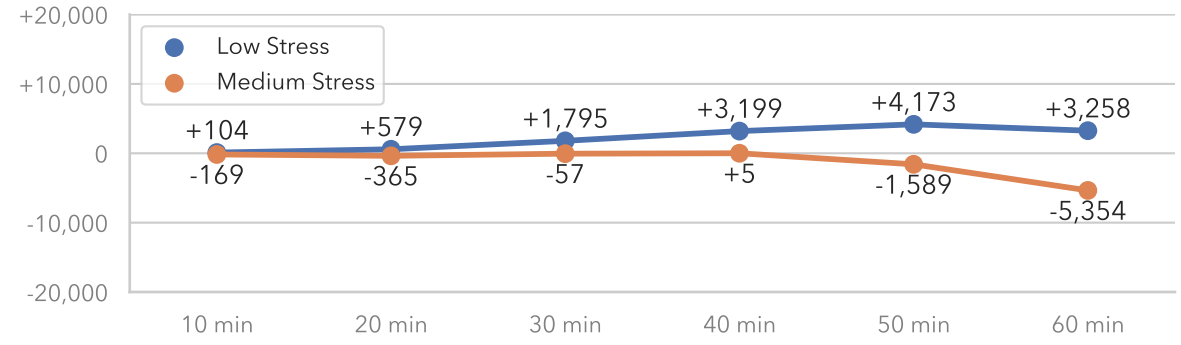
Rank by Weighted Low-Stress Bike Accessibility	**14**
Rank by Weighted Medium-Stress Bike Accessibility	**13**
Rank by Change in Low-Stress Bike Accessibility	**15**
Rank by Change in Medium-Stress Bike Accessibility	**40**
Rank by Total Employment	**44**
Total Jobs	**716,561**
Average Job Density (per km^2)	**29**
Total Workers	**605,393**
Average Worker Density (per km^2)	**24**

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

Biking Job Accessibility by Travel Time Threshold



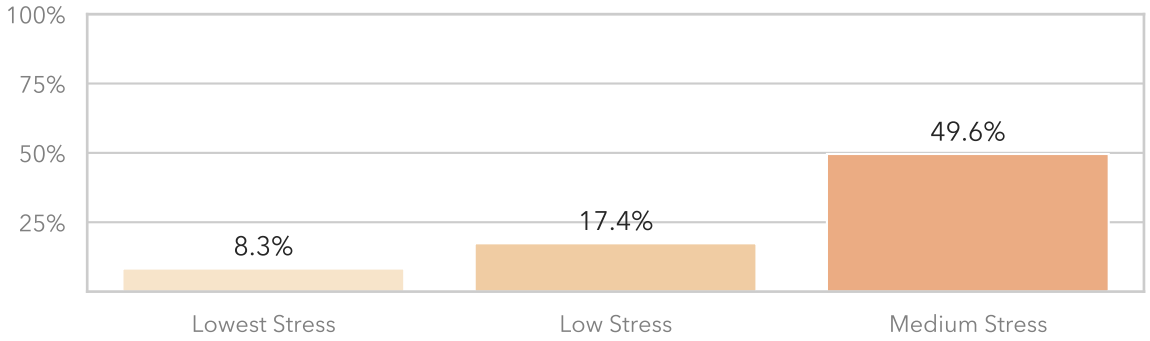
1-Year Change in Biking Job Accessibility by Travel Time Threshold



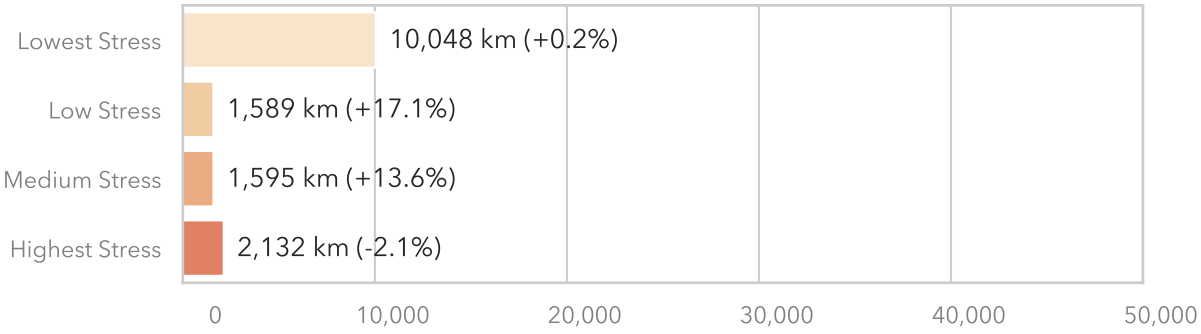
Salt Lake City

Salt Lake City, UT

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

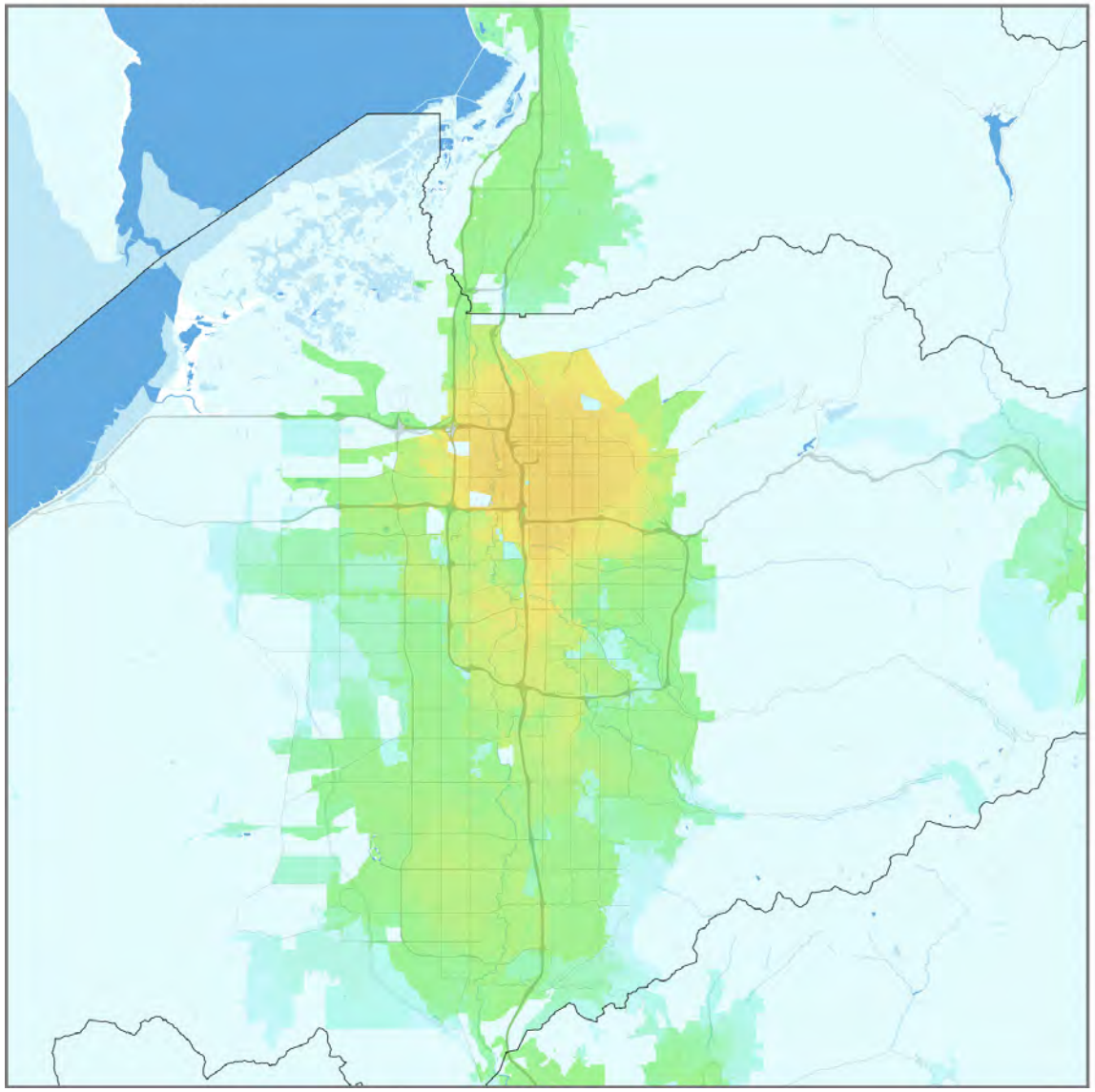


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Salt Lake City

Salt Lake City, UT



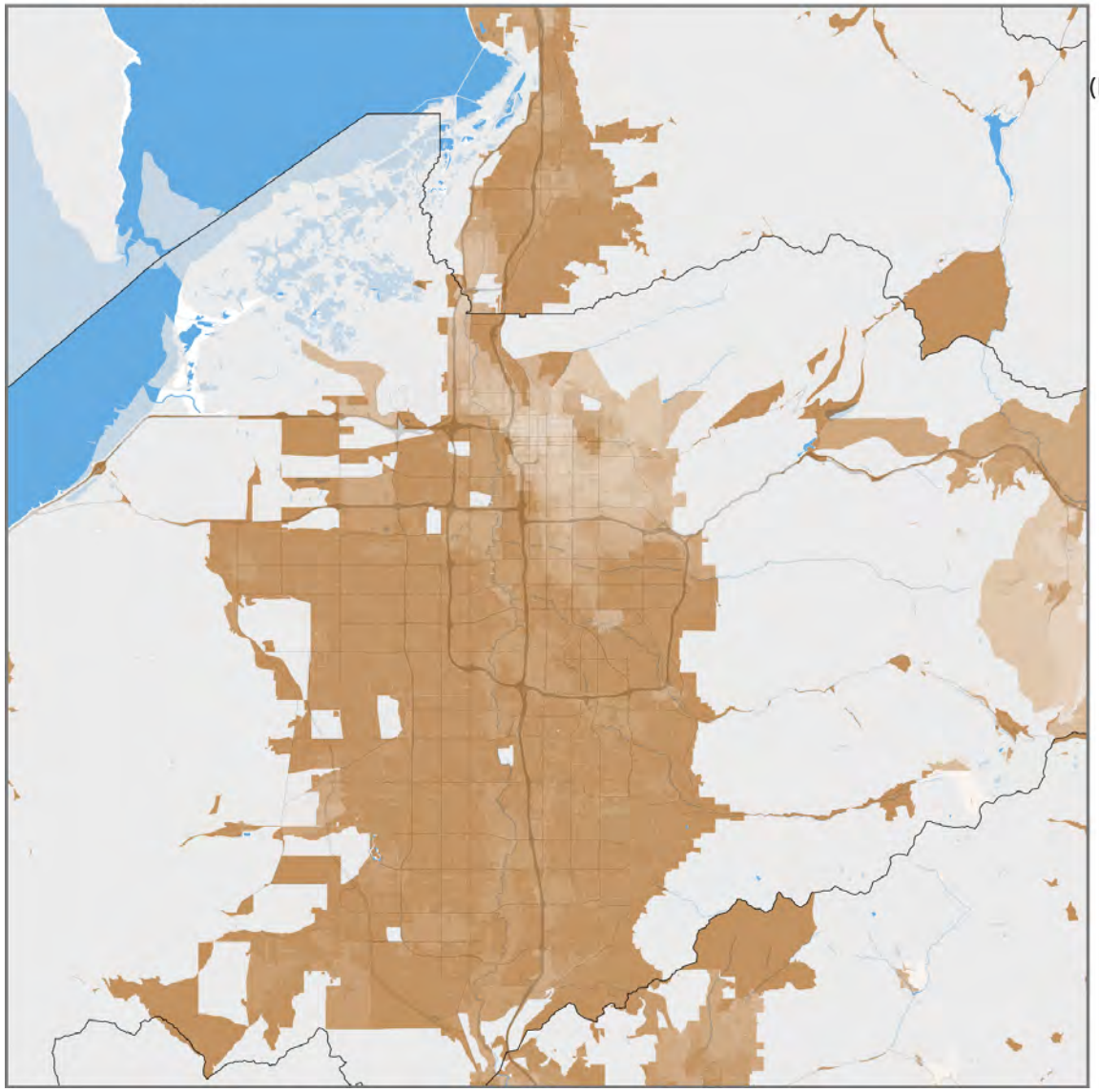
Jobs within 30 minutes
(Biking, medium stress)

- 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

Salt Lake City

Salt Lake City, UT



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

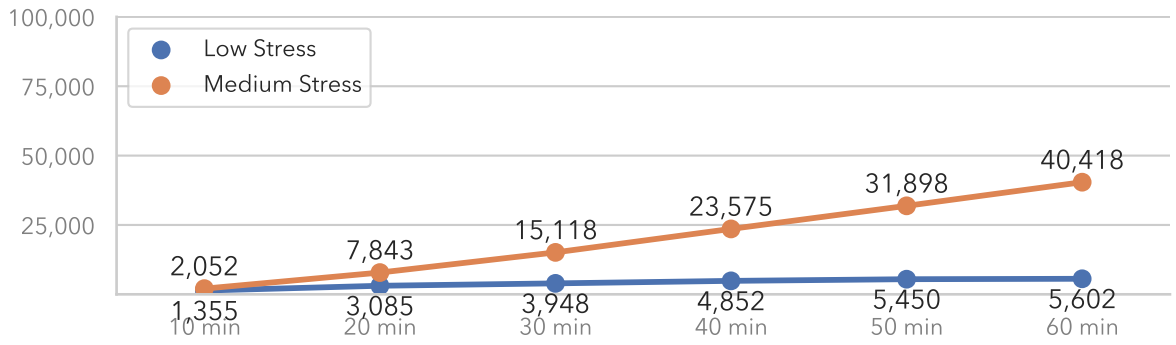
San Antonio

San Antonio-New Braunfels, TX

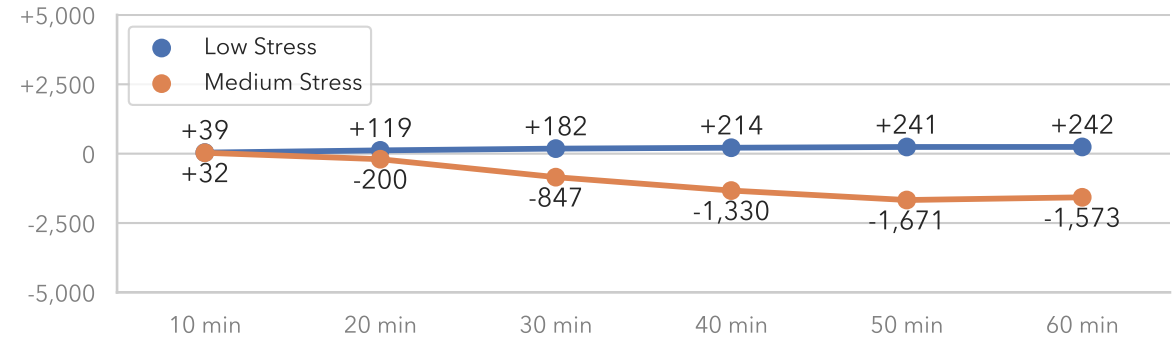
Rank by Weighted Low-Stress Bike Accessibility	**36**
Rank by Weighted Medium-Stress Bike Accessibility	**42**
Rank by Change in Low-Stress Bike Accessibility	**31**
Rank by Change in Medium-Stress Bike Accessibility	**48**
Rank by Total Employment	**27**
Total Jobs	**979,988**
Average Job Density (per km^2)	**52**
Total Workers	**1,019,742**
Average Worker Density (per km^2)	**54**

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

Biking Job Accessibility by Travel Time Threshold



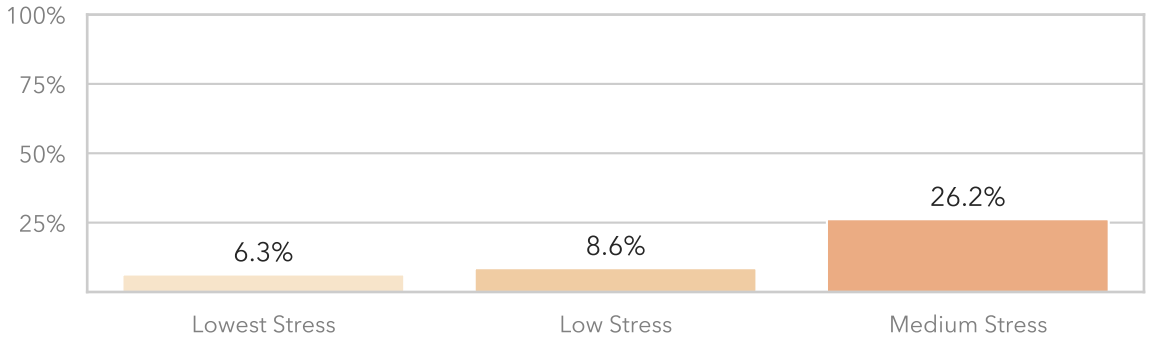
1-Year Change in Biking Job Accessibility by Travel Time Threshold



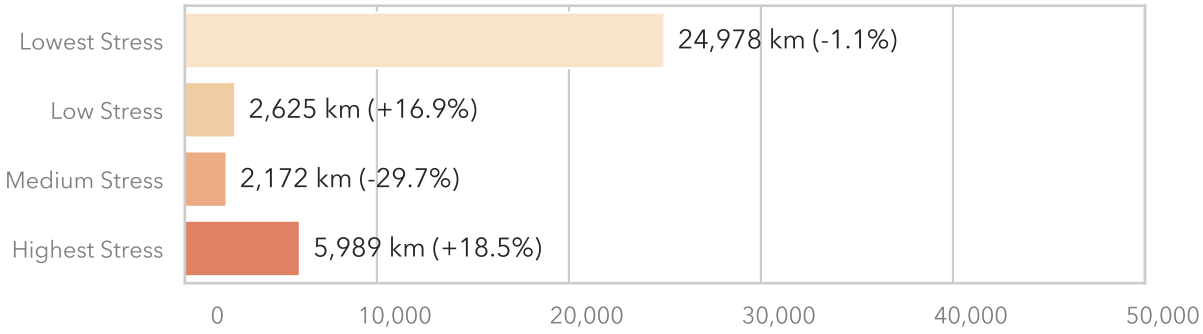
San Antonio

San Antonio-New Braunfels, TX

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

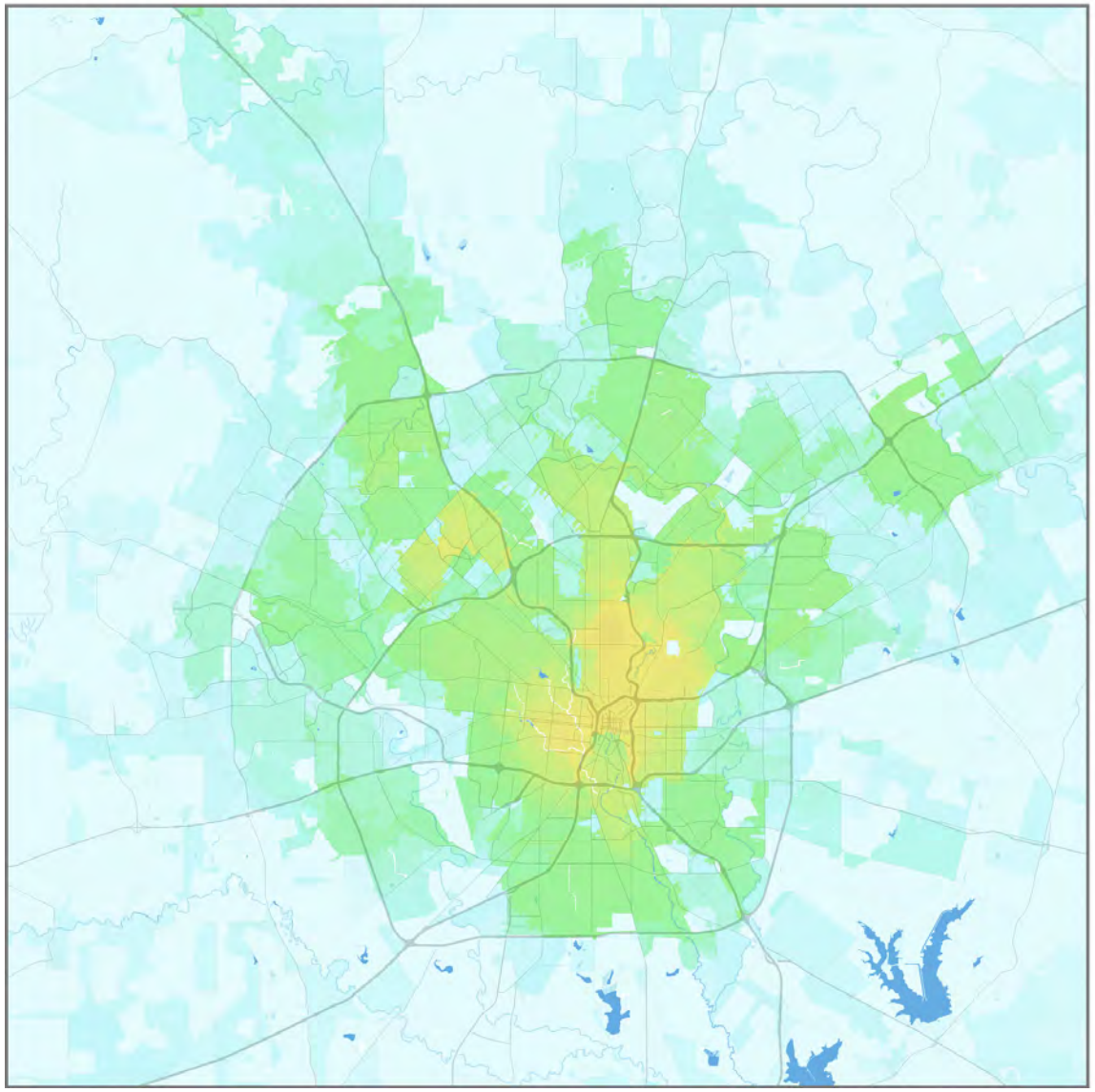


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



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 Antonio

San Antonio-New Braunfels, TX

Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

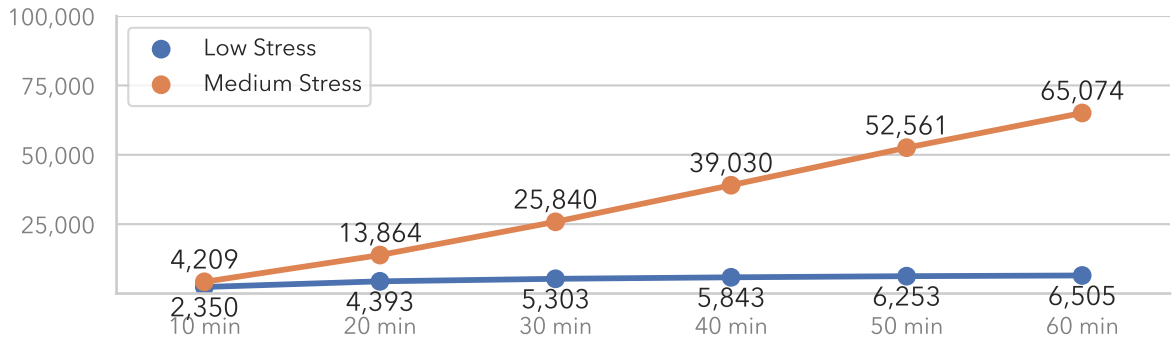
San Diego

San Diego-Carlsbad-San Marcos, CA

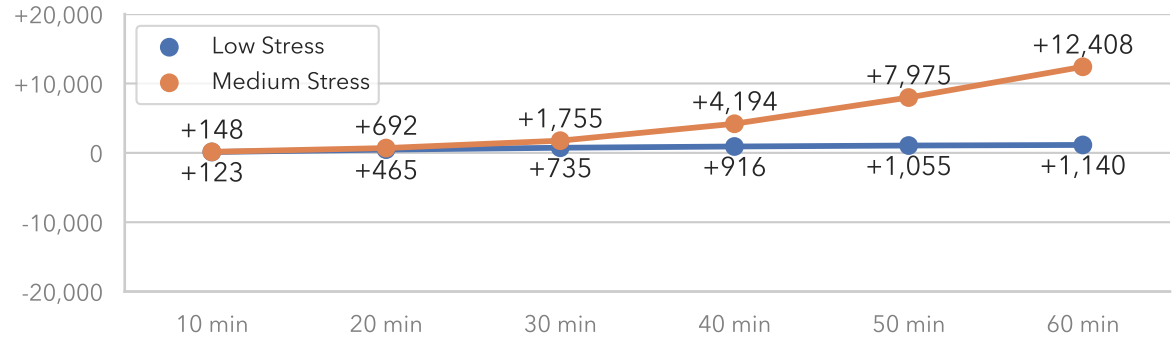
Rank by Weighted Low-Stress Bike Accessibility	**26**
Rank by Weighted Medium-Stress Bike Accessibility	**26**
Rank by Change in Low-Stress Bike Accessibility	**14**
Rank by Change in Medium-Stress Bike Accessibility	**16**
Rank by Total Employment	**17**
Total Jobs	**1,403,191**
Average Job Density (per km^2)	**129**
Total Workers	**1,419,381**
Average Worker Density (per km^2)	**130**

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

Biking Job Accessibility by Travel Time Threshold



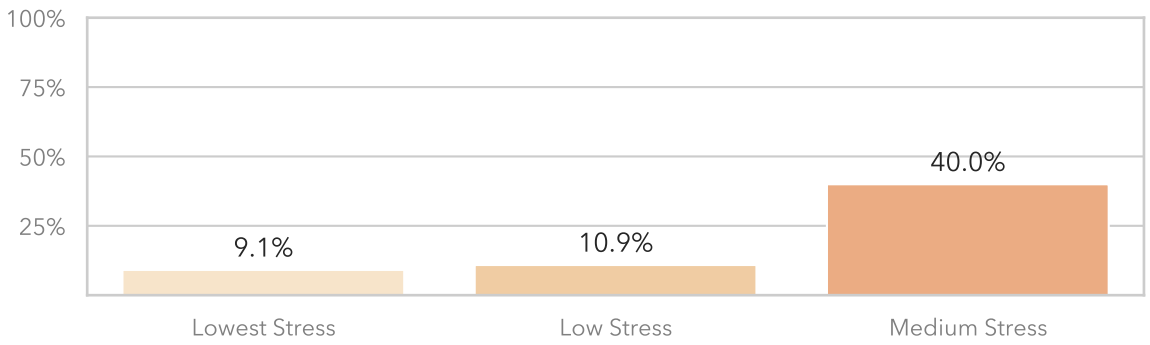
1-Year Change in Biking Job Accessibility by Travel Time Threshold



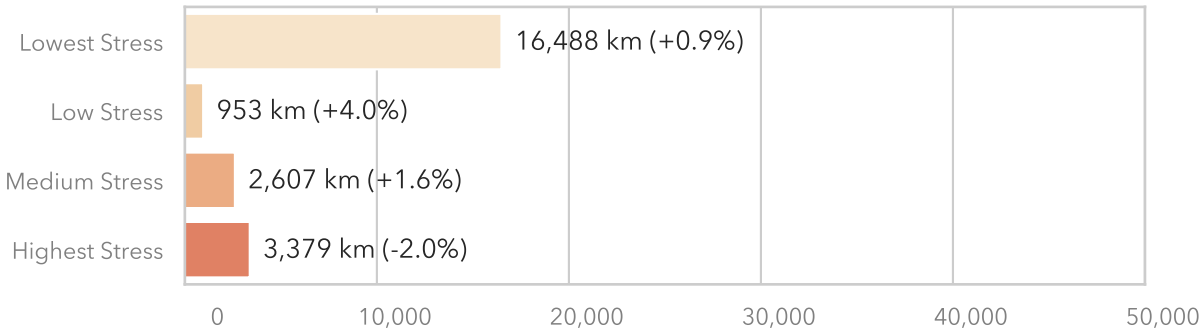
San Diego

San Diego-Carlsbad-San Marcos, CA

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

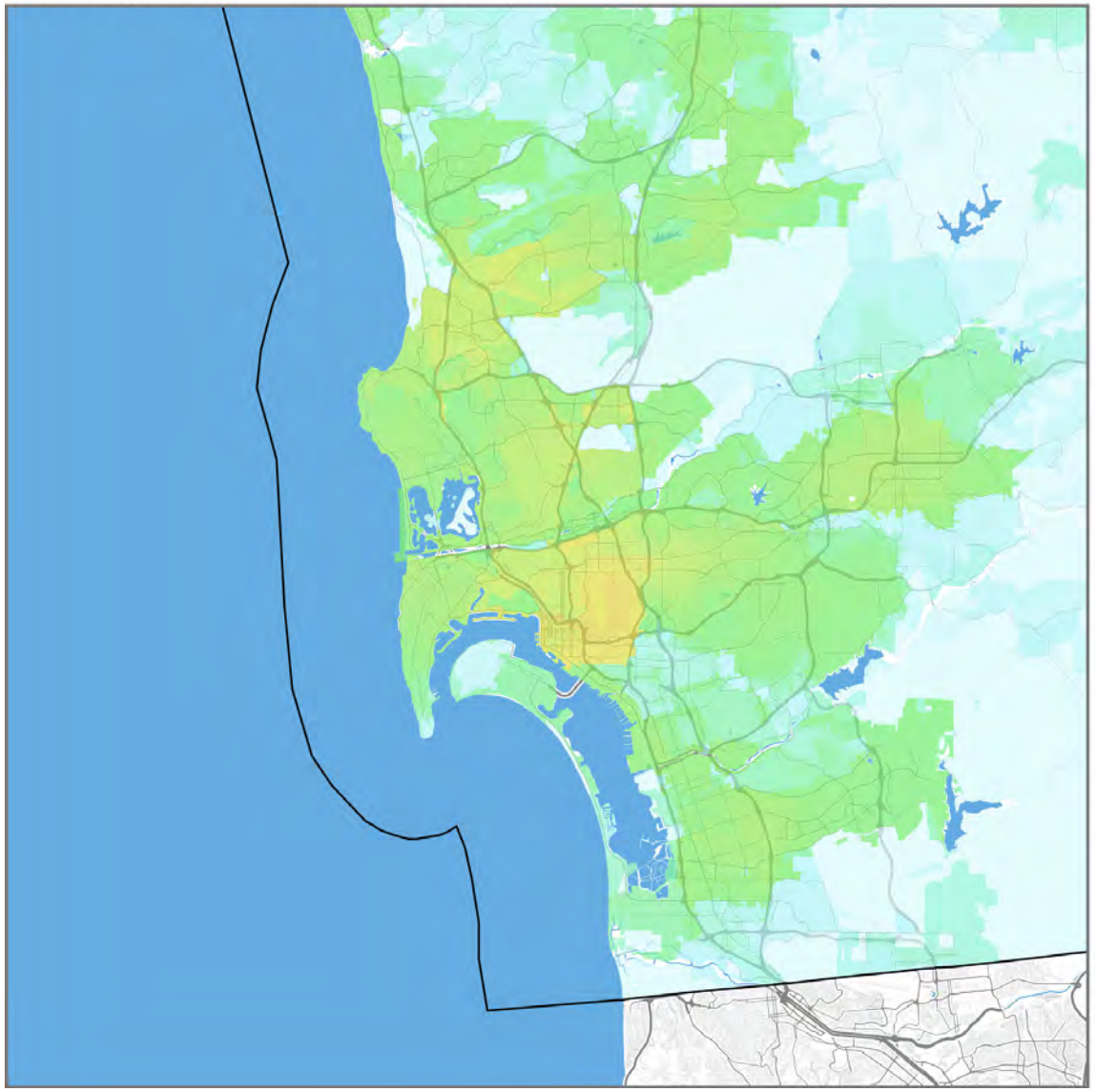


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



San Diego

San Diego-Carlsbad-San Marcos, 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
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- 250,000 – 500,000
- 500,000 – 750,000
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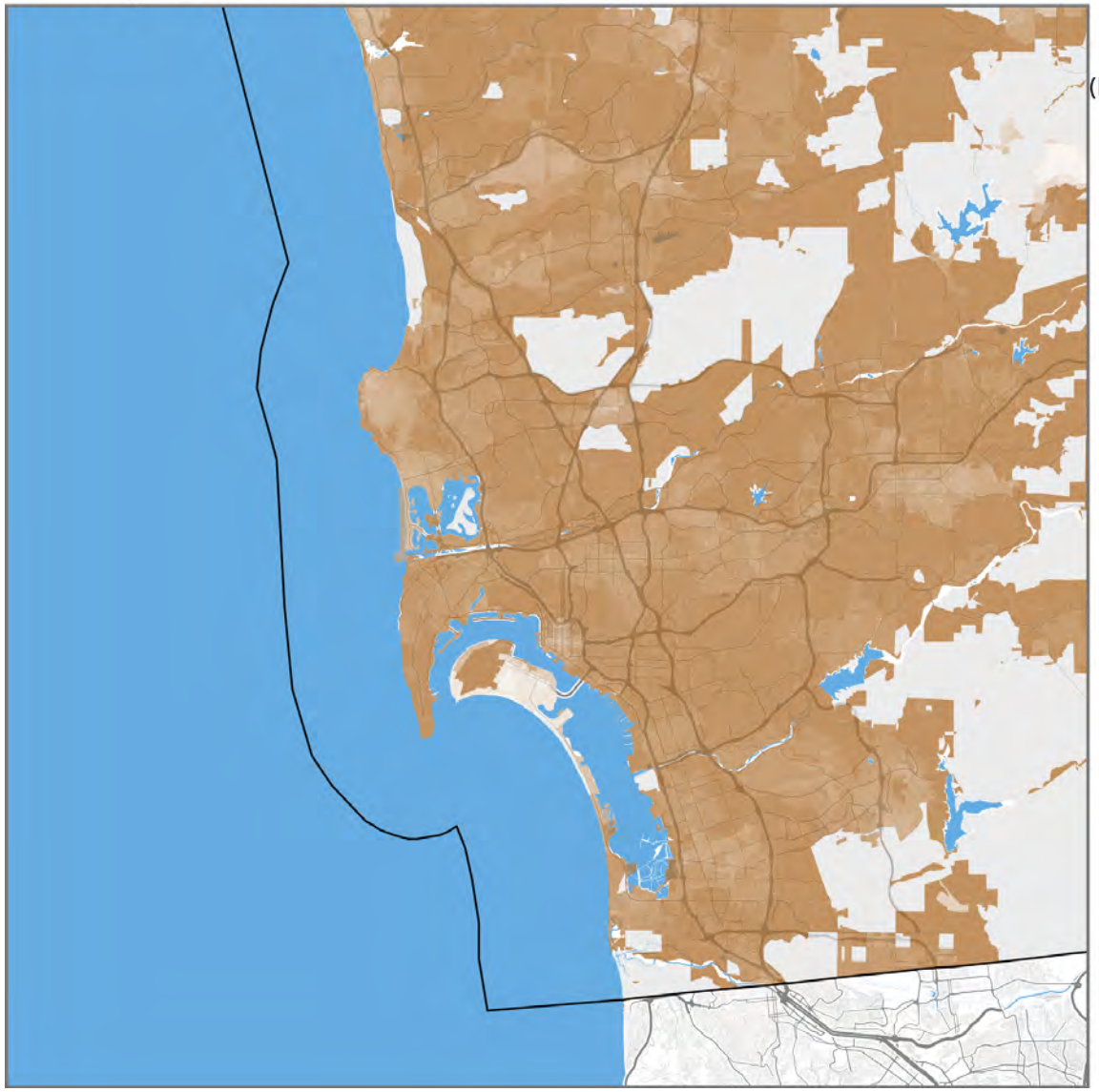
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000
- 7,500,000 – 10,000,000
- 10,000,000 +

State border
CBSA boundary

San Diego

San Diego-Carlsbad-San Marcos, CA



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

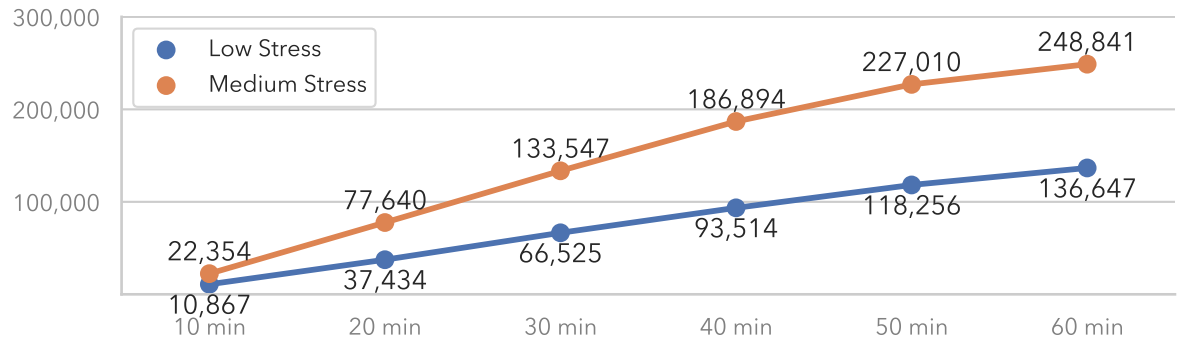
San Francisco

San Francisco-Oakland-Fremont, CA

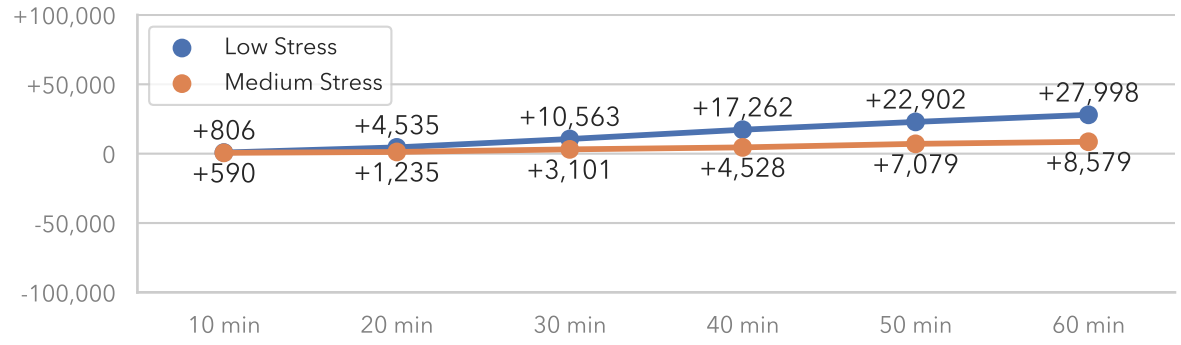
Rank by Weighted Low-Stress Bike Accessibility	**2**
Rank by Weighted Medium-Stress Bike Accessibility	**2**
Rank by Change in Low-Stress Bike Accessibility	**8**
Rank by Change in Medium-Stress Bike Accessibility	**29**
Rank by Total Employment	**11**
Total Jobs	**2,400,290**
Average Job Density (per km^2)	**375**
Total Workers	**2,241,034**
Average Worker Density (per km^2)	**350**

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

Biking Job Accessibility by Travel Time Threshold



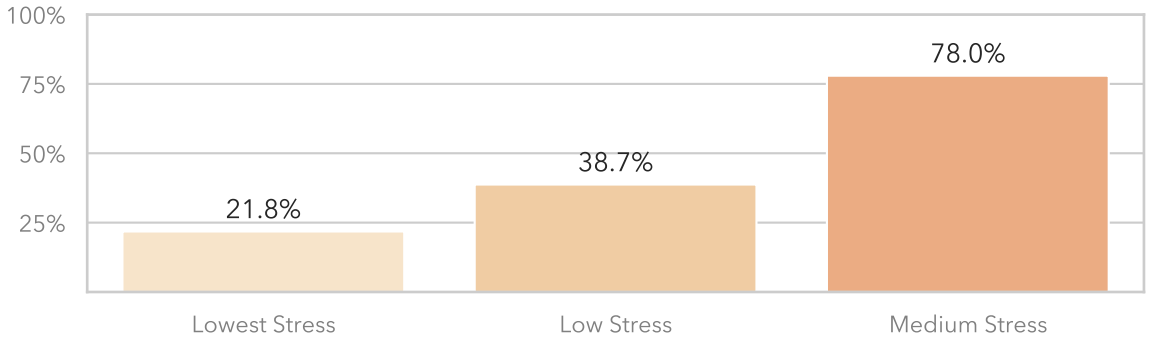
1-Year Change in Biking Job Accessibility by Travel Time Threshold



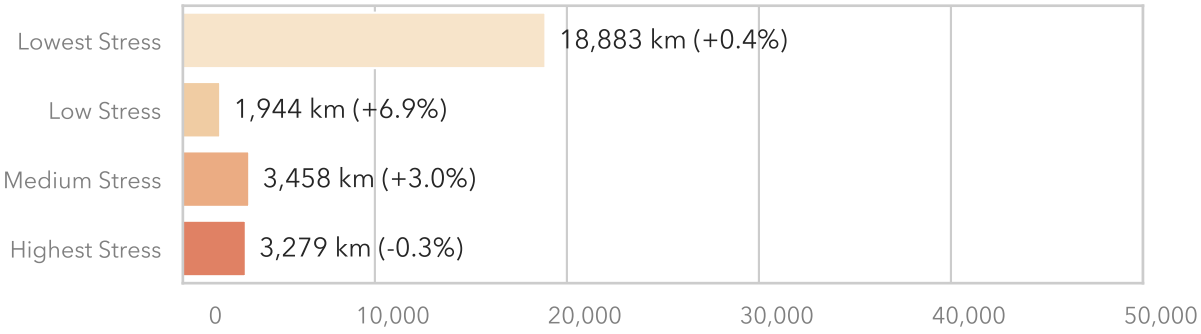
San Francisco

San Francisco-Oakland-Fremont, CA

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

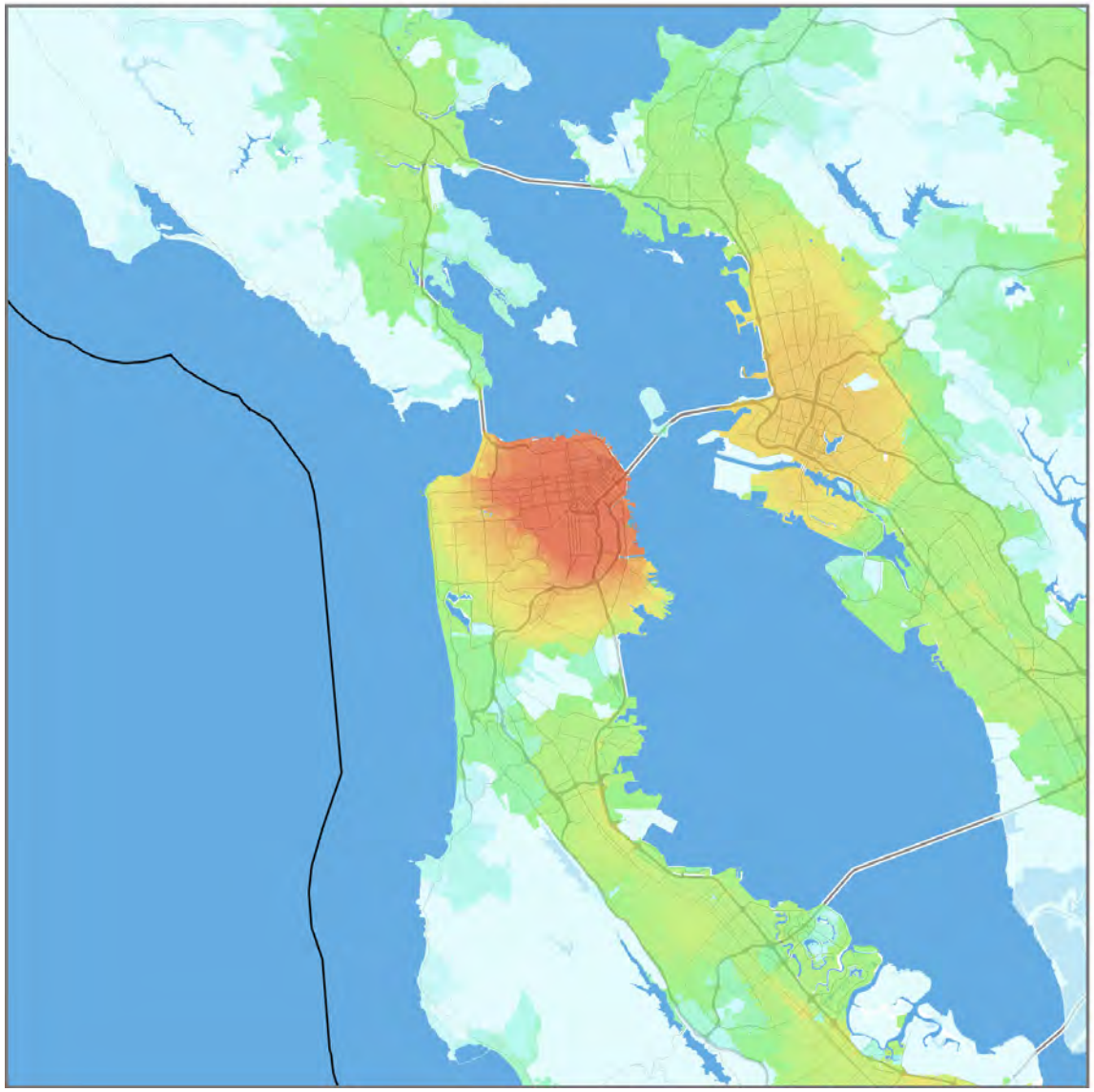


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



San Francisco

San Francisco-Oakland-Fremont, CA



Jobs within 30 minutes
(Biking, medium stress)

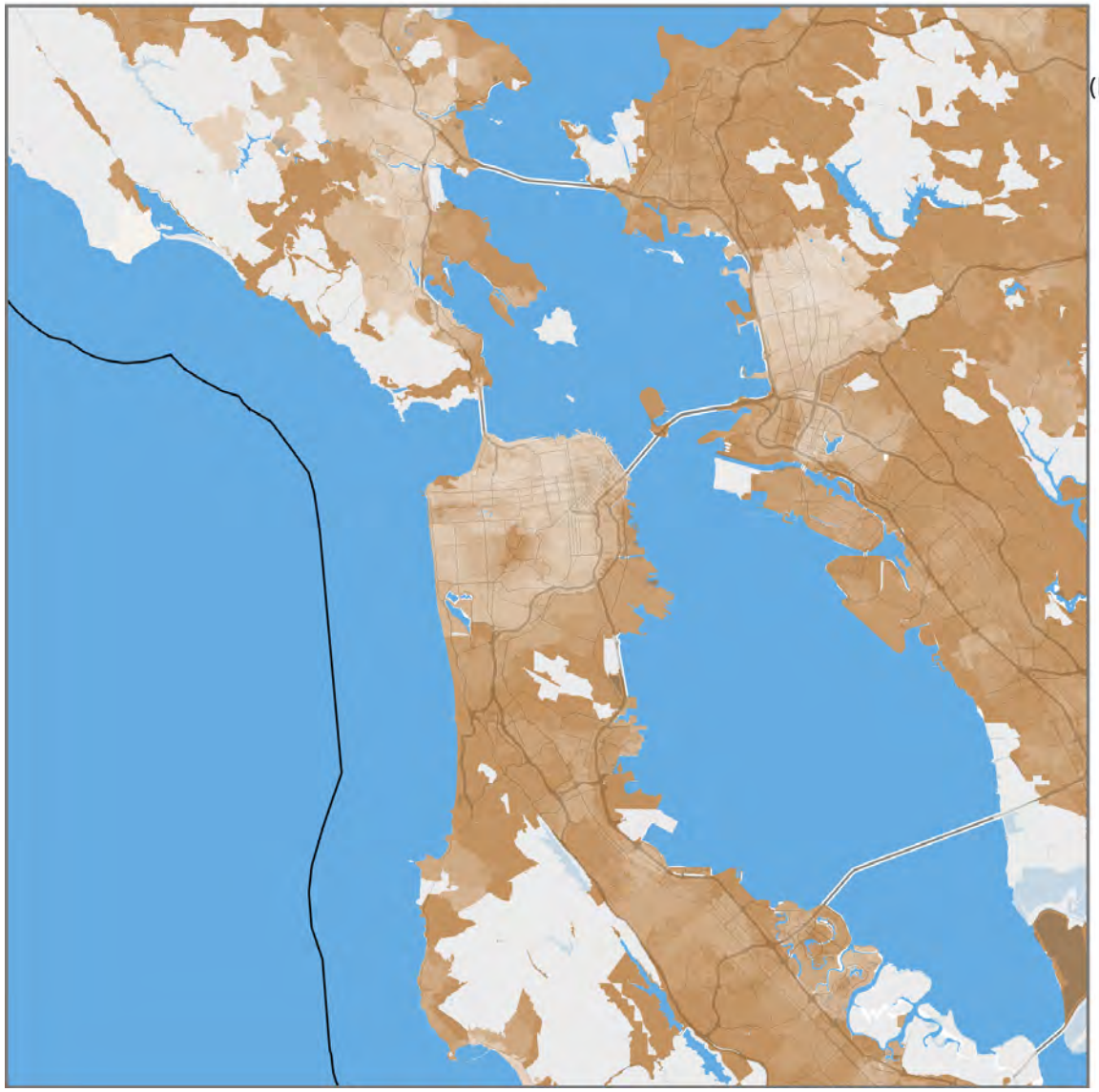
- 0 – 1,000
- 1,000 – 2,500
- 2,500 – 5,000
- 5,000 – 7,500
- 7,500 – 10,000
- 10,000 – 25,000
- 25,000 – 50,000
- 50,000 – 75,000
- 75,000 – 100,000
- 100,000 – 250,000
- 250,000 – 500,000
- 500,000 – 750,000
- 750,000 – 1,000,000
- 1,000,000 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000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

State border

CBSA boundary

San Francisco

San Francisco-Oakland-Fremont, CA



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

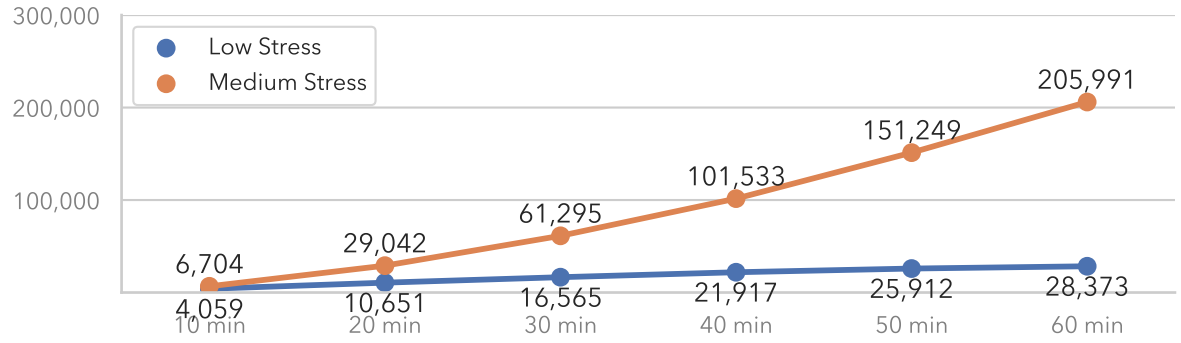
San Jose

San Jose-Sunnyvale-Santa Clara, CA

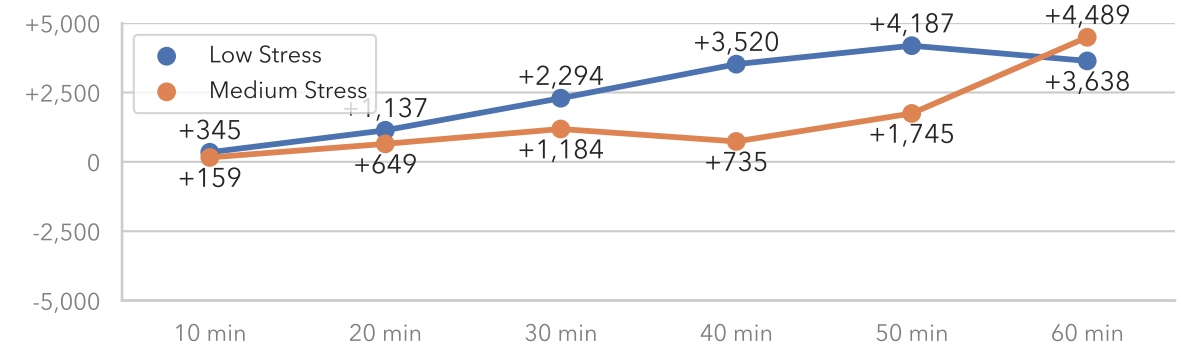
Rank by Weighted Low-Stress Bike Accessibility	**12**
Rank by Weighted Medium-Stress Bike Accessibility	**9**
Rank by Change in Low-Stress Bike Accessibility	**10**
Rank by Change in Medium-Stress Bike Accessibility	**30**
Rank by Total Employment	**31**
Total Jobs	**1,077,279**
Average Job Density (per km^2)	**155**
Total Workers	**947,987**
Average Worker Density (per km^2)	**137**

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

Biking Job Accessibility by Travel Time Threshold



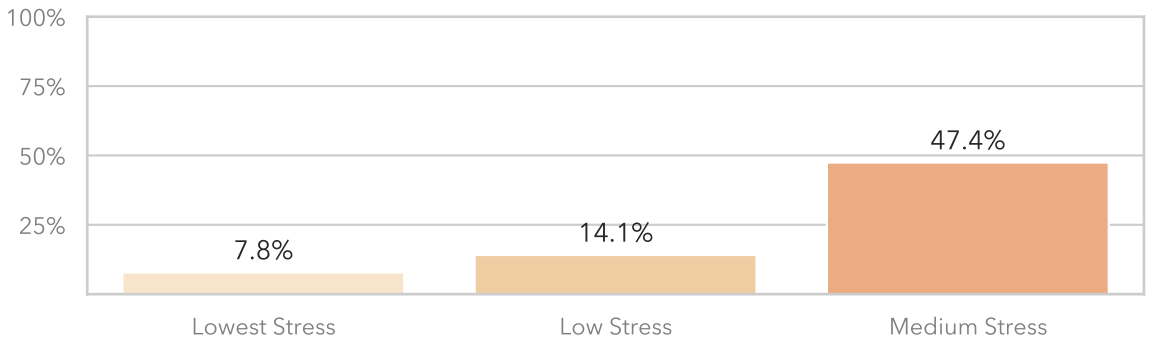
1-Year Change in Biking Job Accessibility by Travel Time Threshold



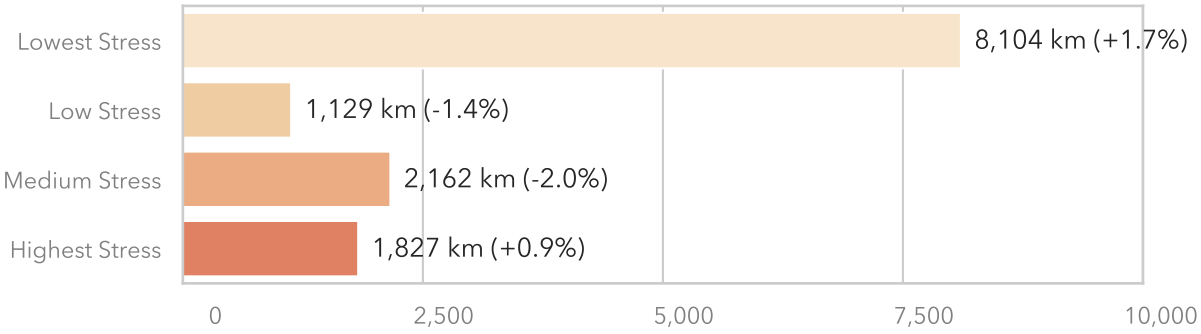
San Jose

San Jose-Sunnyvale-Santa Clara, CA

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

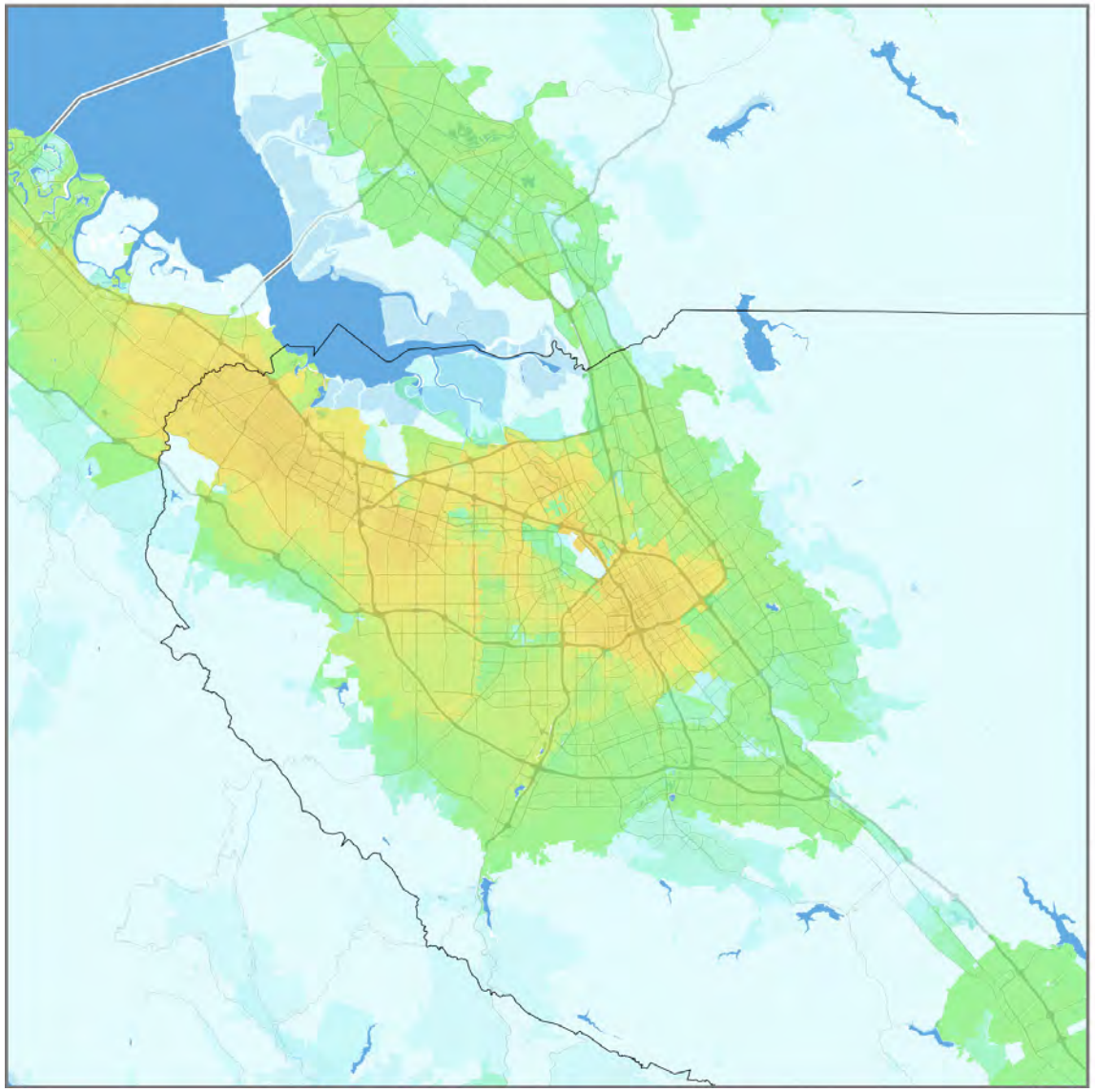


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



San Jose

San Jose-Sunnyvale-Santa Clara, CA



Jobs within 30 minutes
(Biking, medium stress)

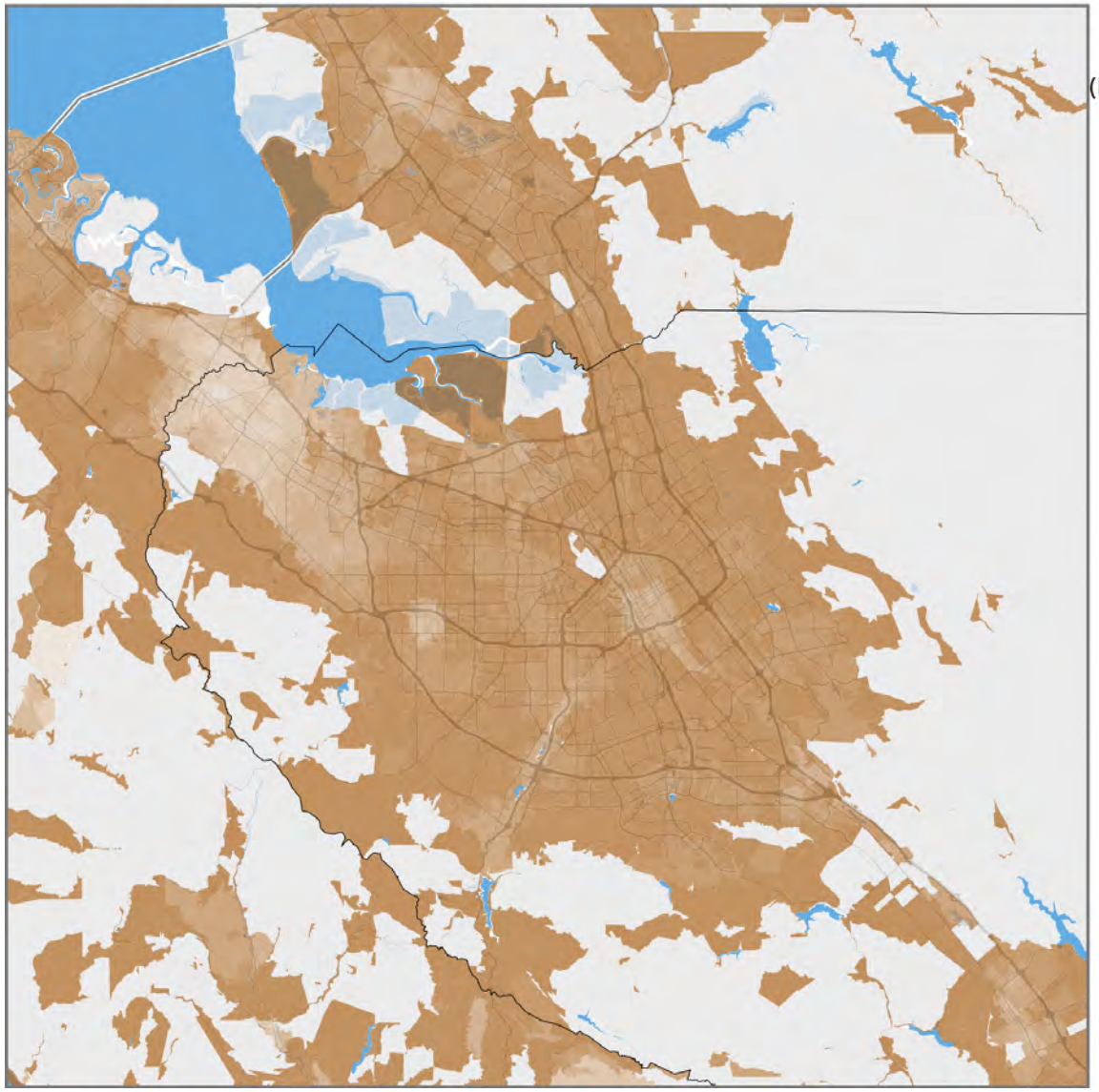
- 0 – 1,000
- 1,000 – 2,500
- 2,500 – 5,000
- 5,000 – 7,500
- 7,500 – 10,000
- 10,000 – 25,000
- 25,000 – 50,000
- 50,000 – 75,000
- 75,000 – 100,000
- 100,000 – 250,000
- 250,000 – 500,000
- 500,000 – 750,000
- 750,000 – 1,000,000
- 1,000,000 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000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

State border

CBSA boundary

San Jose

San Jose-Sunnyvale-Santa Clara, CA



Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

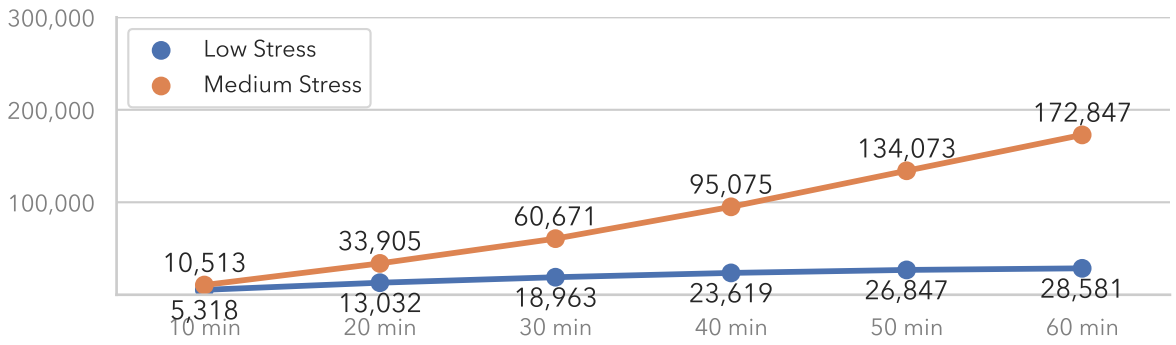
Seattle

Seattle-Tacoma-Bellevue, WA

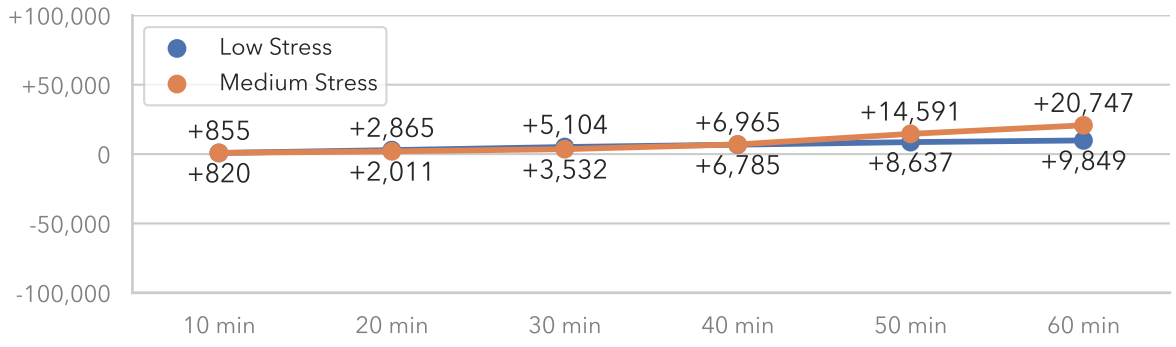
Rank by Weighted Low-Stress Bike Accessibility	**8**
Rank by Weighted Medium-Stress Bike Accessibility	**7**
Rank by Change in Low-Stress Bike Accessibility	**6**
Rank by Change in Medium-Stress Bike Accessibility	**17**
Rank by Total Employment	**15**
Total Jobs	**1,919,635**
Average Job Density (per km^2)	**126**
Total Workers	**1,798,352**
Average Worker Density (per km^2)	**118**

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

Biking Job Accessibility by Travel Time Threshold



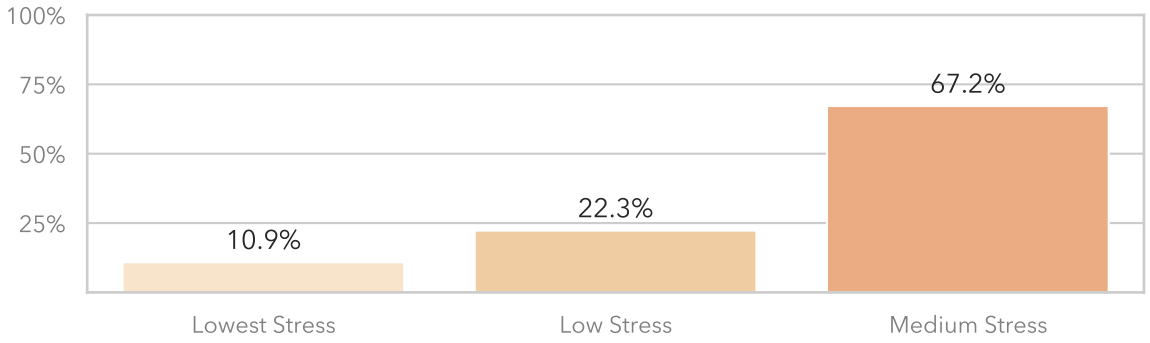
1-Year Change in Biking Job Accessibility by Travel Time Threshold



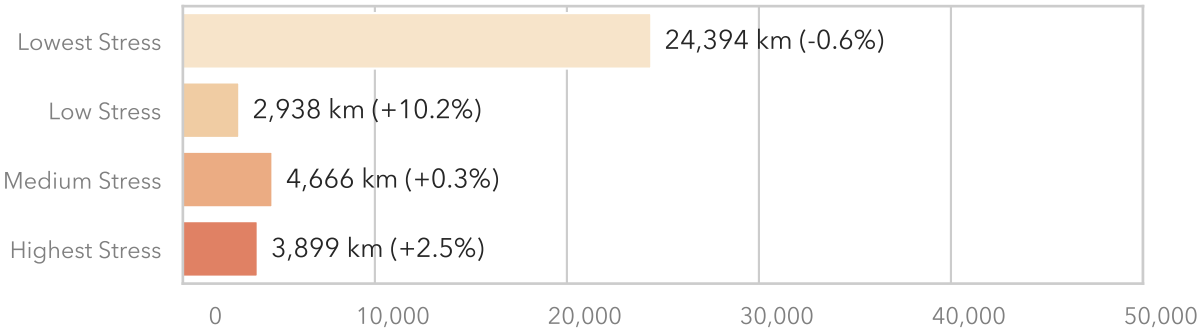
Seattle

Seattle-Tacoma-Bellevue, WA

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

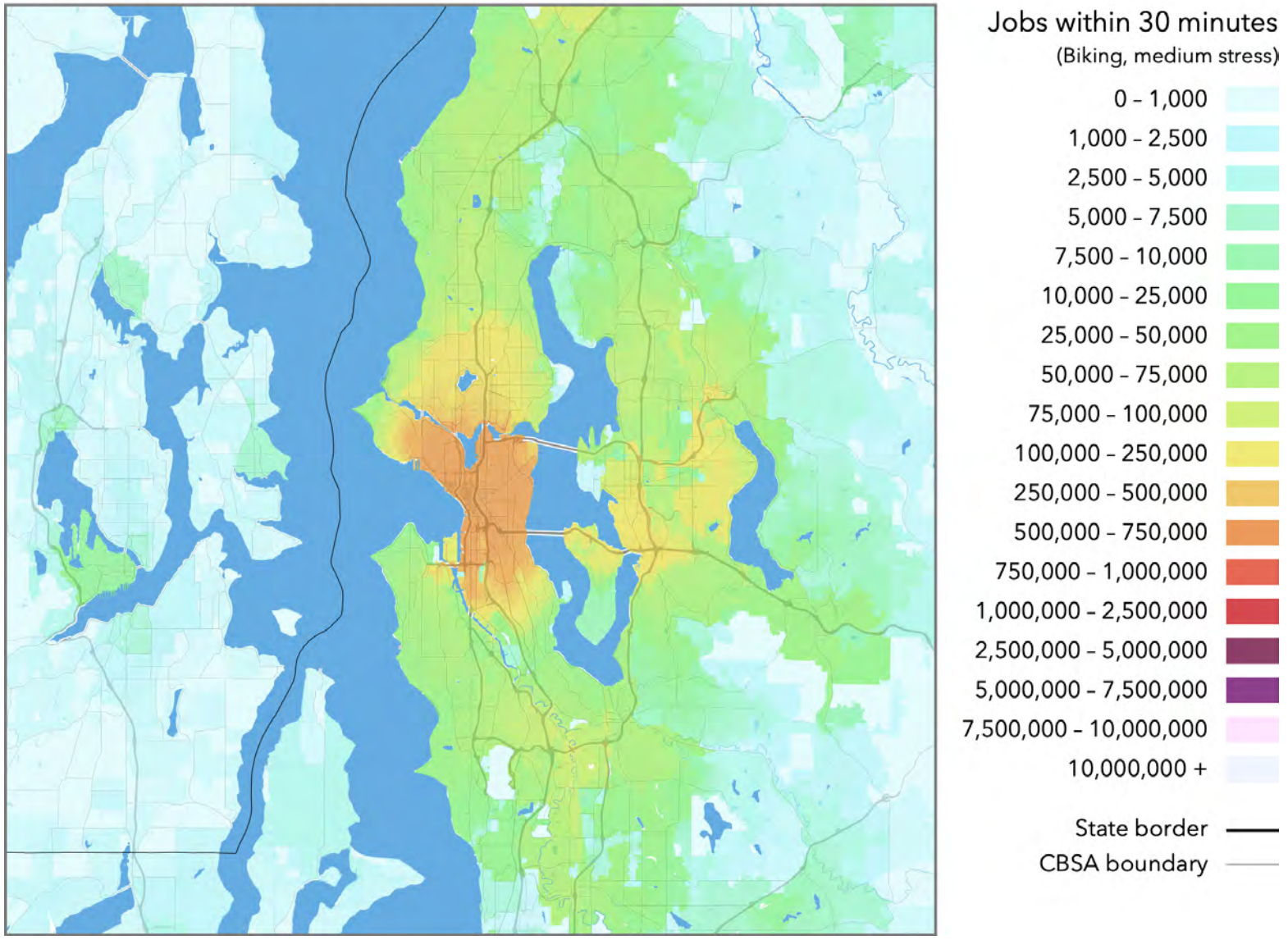


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



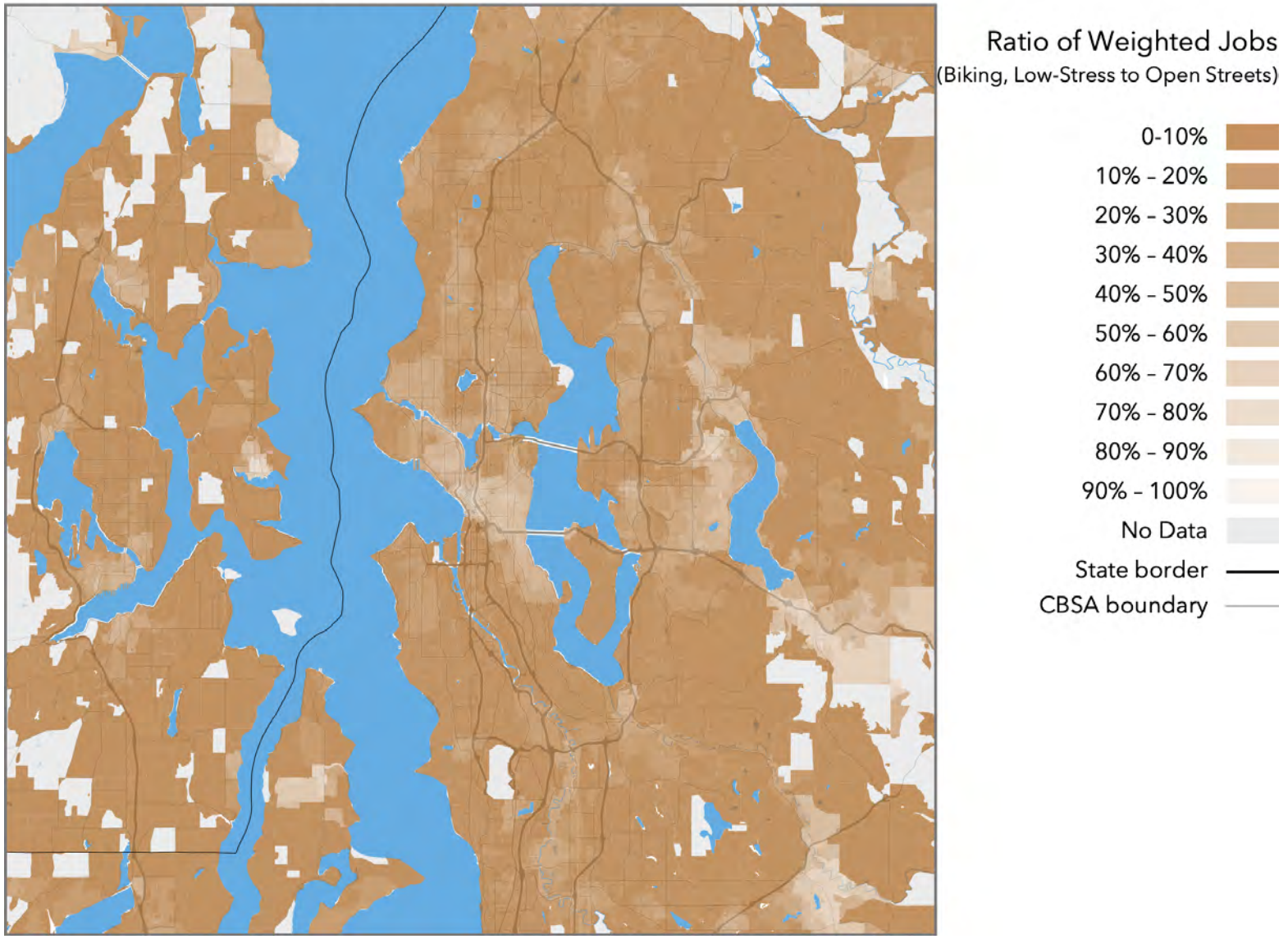
Seattle

Seattle-Tacoma-Bellevue, WA



Seattle

Seattle-Tacoma-Bellevue, WA



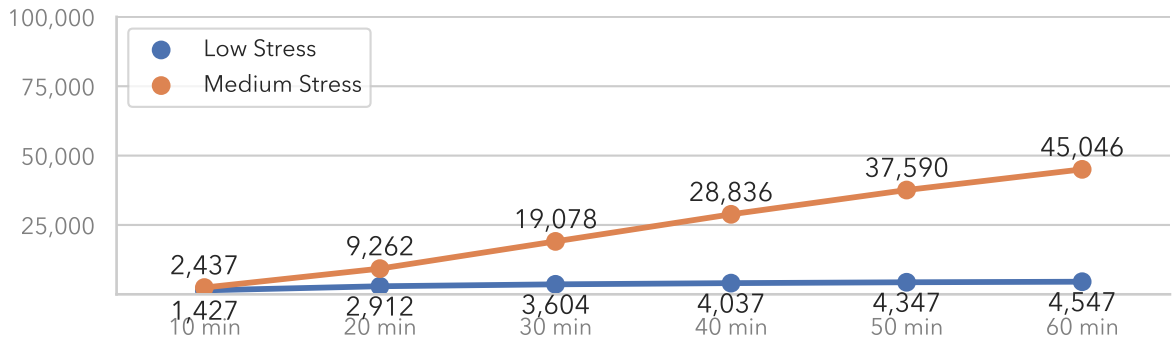
St. Louis

St. Louis, MO-IL

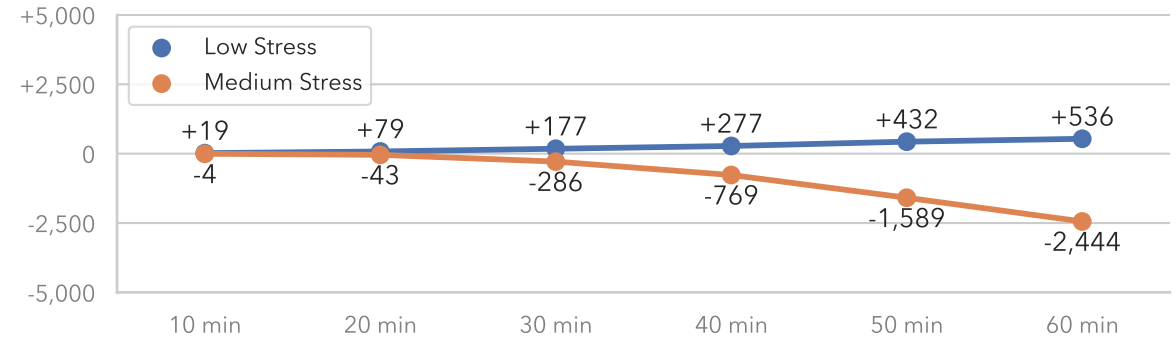
Rank by Weighted Low-Stress Bike Accessibility	**38**
Rank by Weighted Medium-Stress Bike Accessibility	**36**
Rank by Change in Low-Stress Bike Accessibility	**34**
Rank by Change in Medium-Stress Bike Accessibility	**44**
Rank by Total Employment	**19**
Total Jobs	**1,363,165**
Average Job Density (per km^2)	**61**
Total Workers	**1,344,165**
Average Worker Density (per km^2)	**60**

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

Biking Job Accessibility by Travel Time Threshold



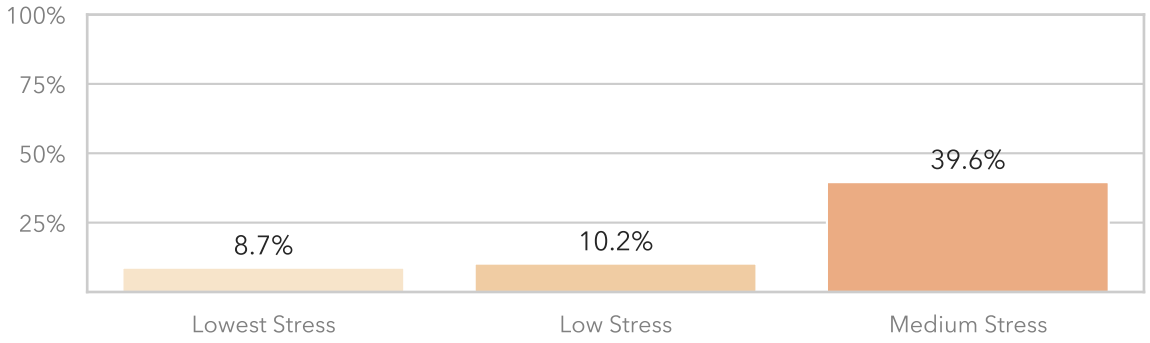
1-Year Change in Biking Job Accessibility by Travel Time Threshold



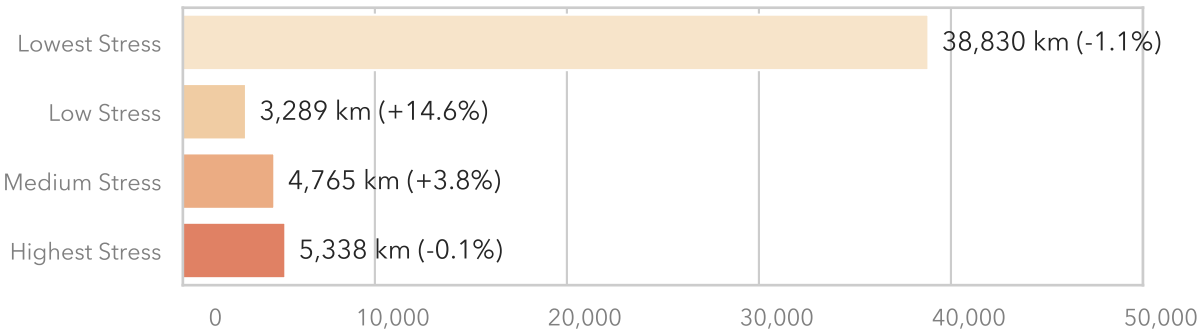
St. Louis

St. Louis, MO-IL

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

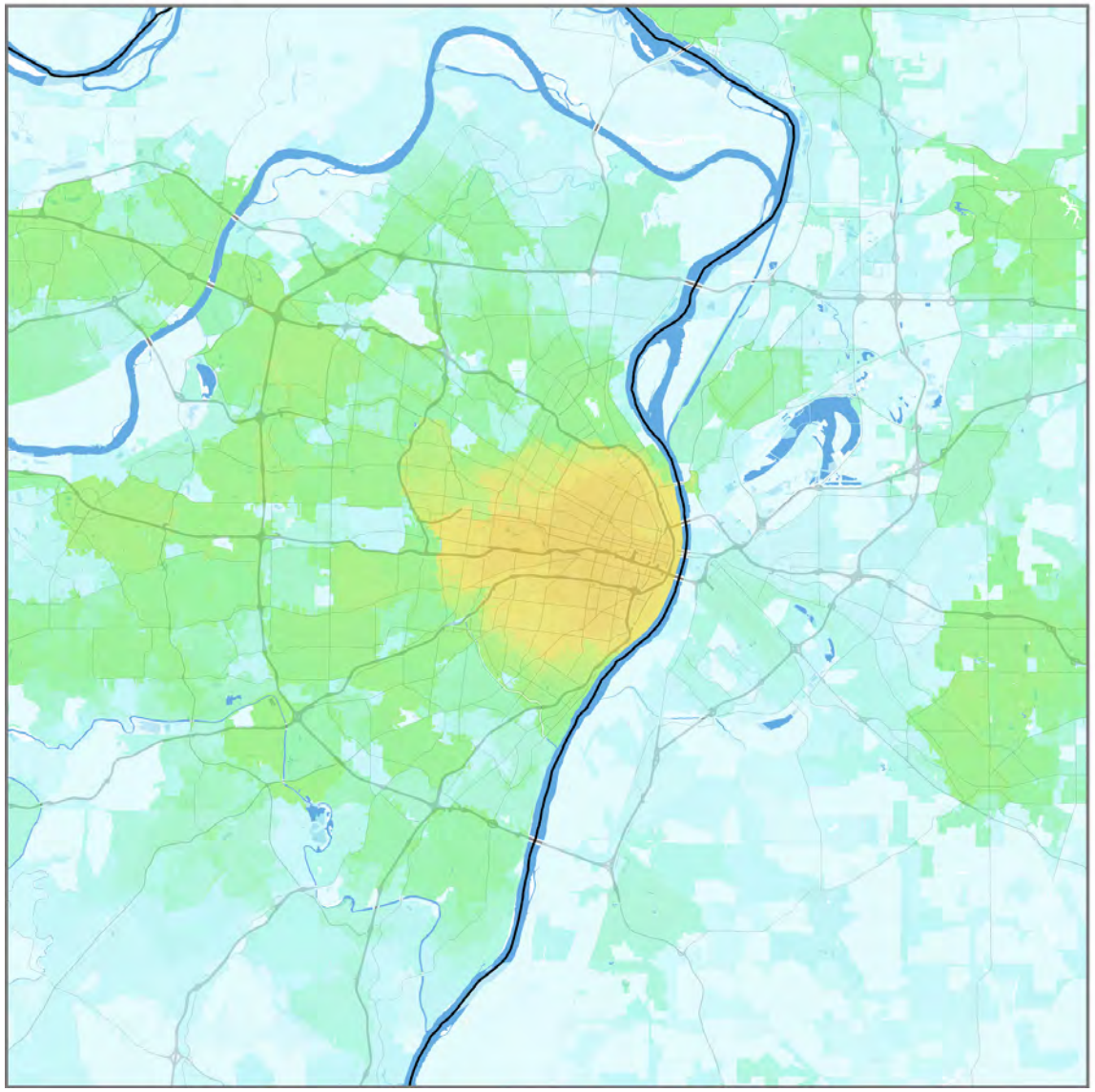


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



St. Louis

St. Louis, MO-IL



St. Louis

St. Louis, MO-IL

Ratio of Weighted Jobs
(Biking, Low-Stress to Open Streets)

- 0-10%
- 10% – 20%
- 20% – 30%
- 30% – 40%
- 40% – 50%
- 50% – 60%
- 60% – 70%
- 70% – 80%
- 80% – 90%
- 90% – 100%
- No Data
- State border
- CBSA boundary

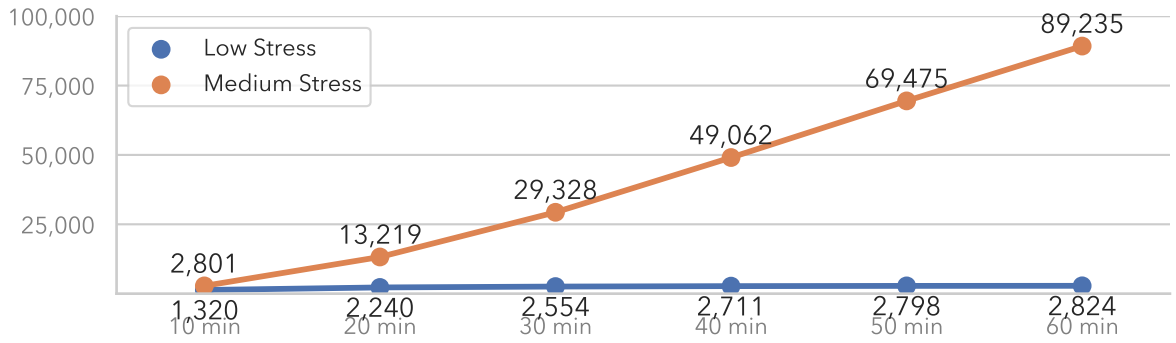
Tampa

Tampa-St. Petersburg-Clearwater, FL

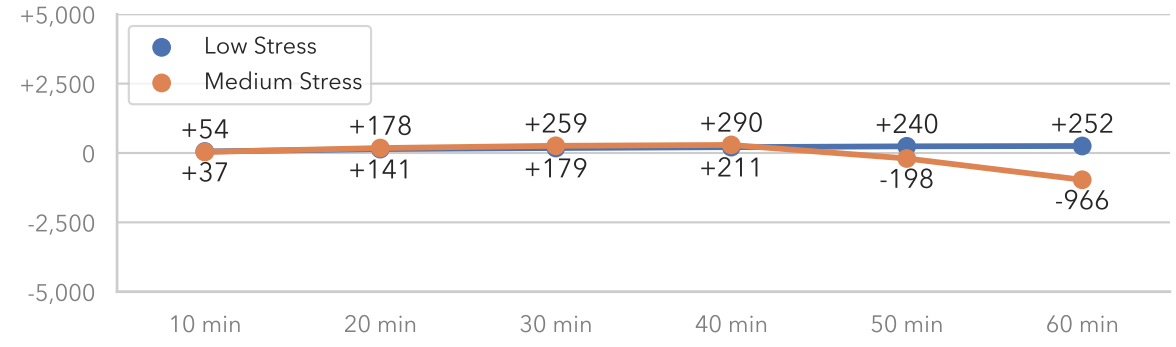
Rank by Weighted Low-Stress Bike Accessibility	**43**
Rank by Weighted Medium-Stress Bike Accessibility	**23**
Rank by Change in Low-Stress Bike Accessibility	**28**
Rank by Change in Medium-Stress Bike Accessibility	**34**
Rank by Total Employment	**20**
Total Jobs	**1,307,910**
Average Job Density (per km^2)	**201**
Total Workers	**1,293,226**
Average Worker Density (per km^2)	**199**

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

Biking Job Accessibility by Travel Time Threshold



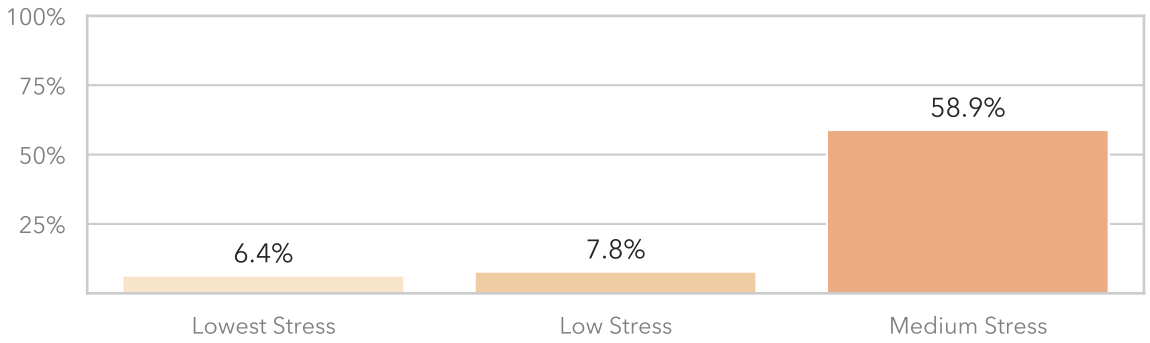
1-Year Change in Biking Job Accessibility by Travel Time Threshold



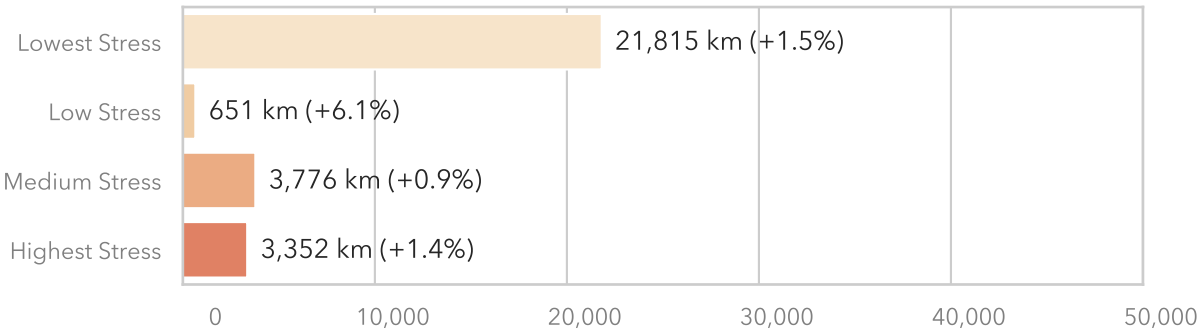
Tampa

Tampa-St. Petersburg-Clearwater, FL

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

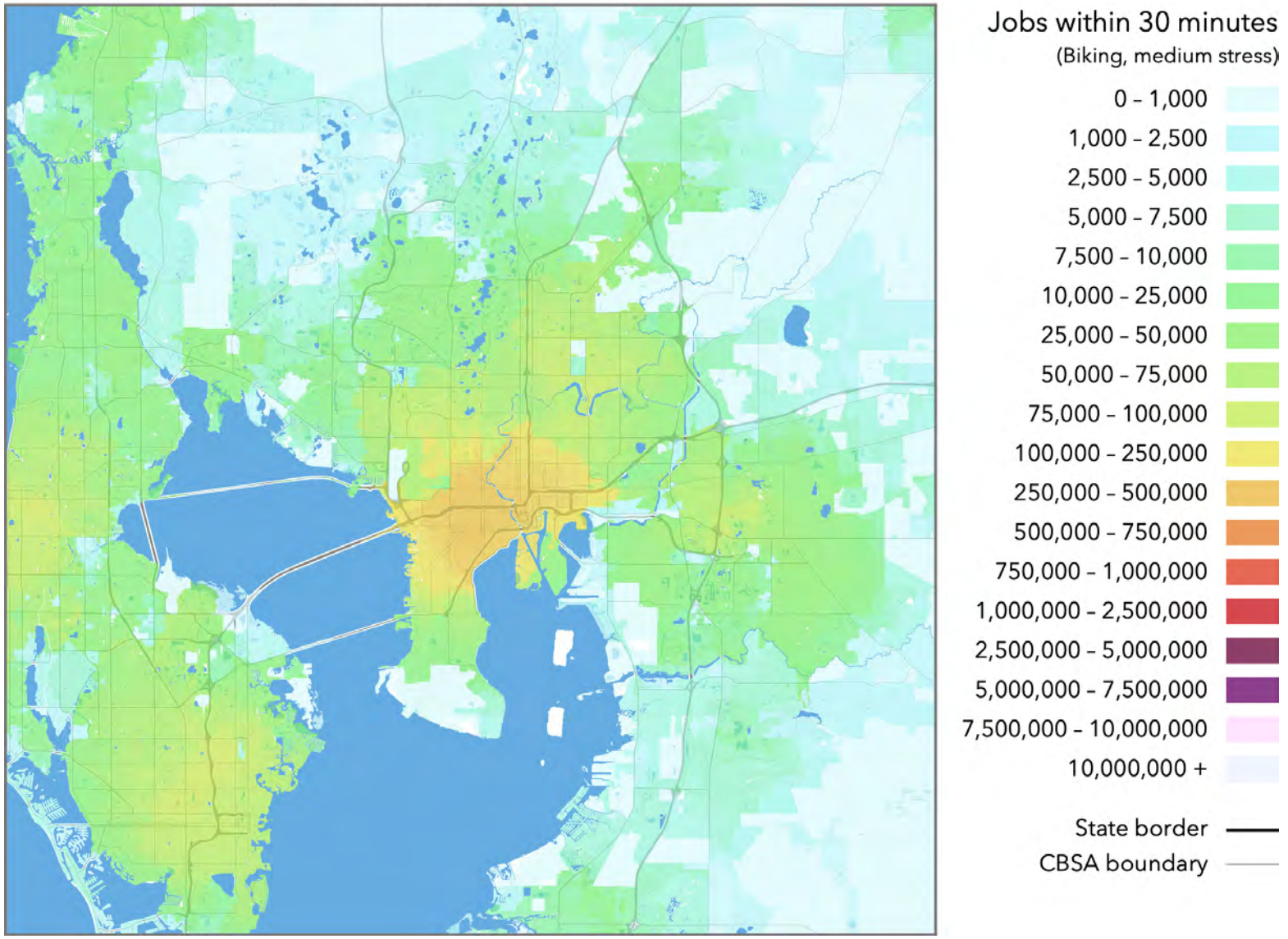


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



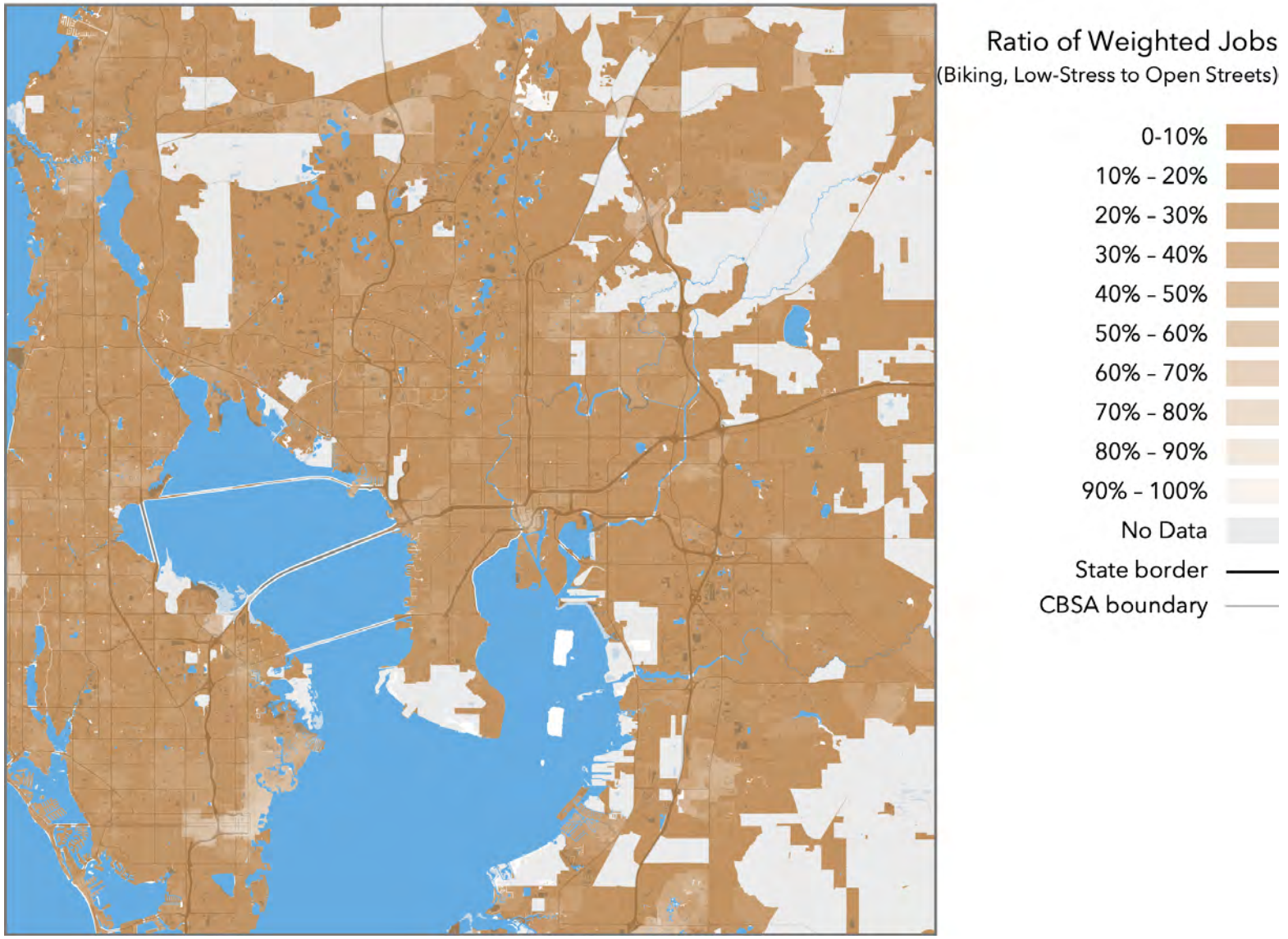
Tampa

Tampa-St. Petersburg-Clearwater, FL



Tampa

Tampa-St. Petersburg-Clearwater, FL



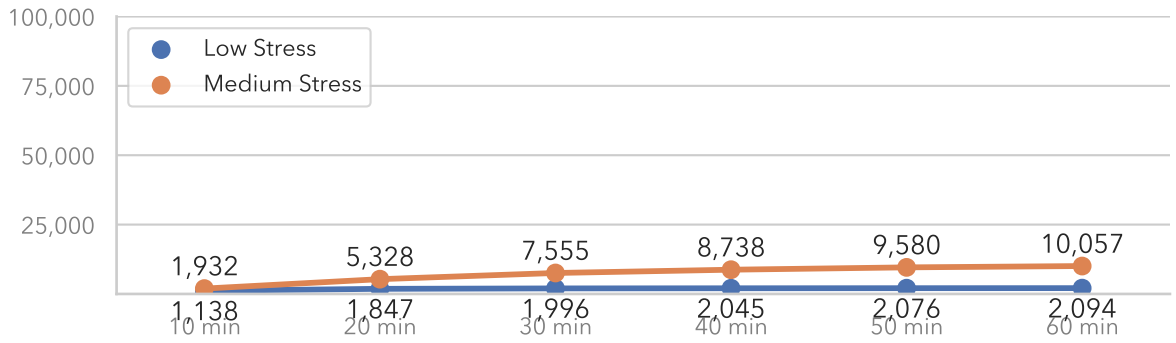
Virginia Beach

Virginia Beach-Norfolk-Newport News, VA-NC

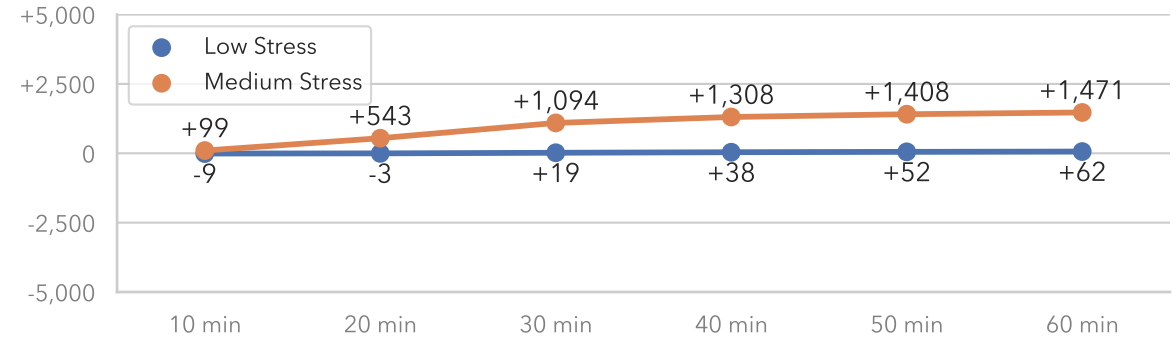
Rank by Weighted Low-Stress Bike Accessibility	**45**
Rank by Weighted Medium-Stress Bike Accessibility	**48**
Rank by Change in Low-Stress Bike Accessibility	**41**
Rank by Change in Medium-Stress Bike Accessibility	**11**
Rank by Total Employment	**39**
Total Jobs	**711,408**
Average Job Density (per km^2)	**104**
Total Workers	**715,637**
Average Worker Density (per km^2)	**105**

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

Biking Job Accessibility by Travel Time Threshold



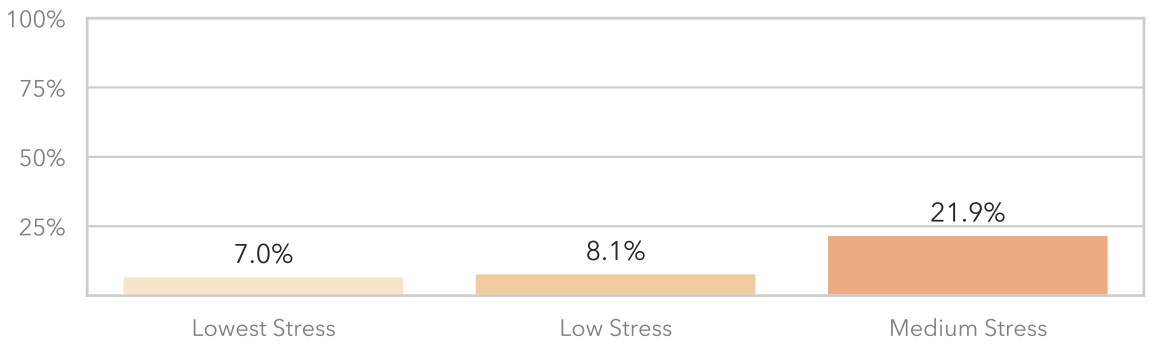
1-Year Change in Biking Job Accessibility by Travel Time Threshold



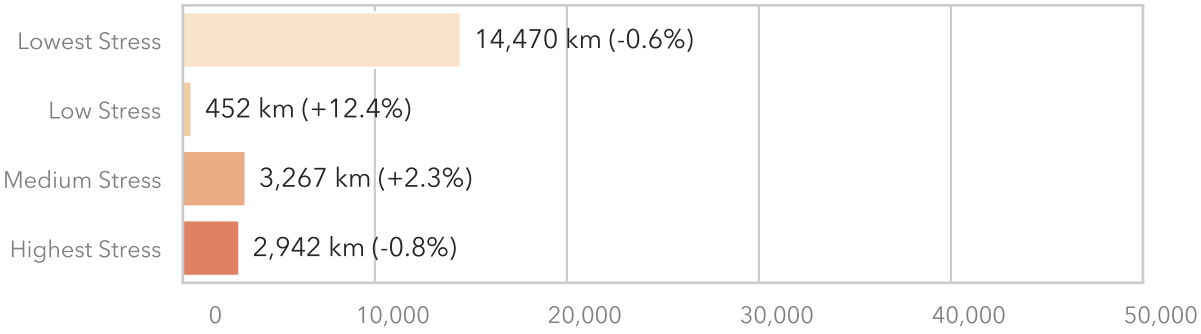
Virginia Beach

Virginia Beach-Norfolk-Newport News, VA-NC

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

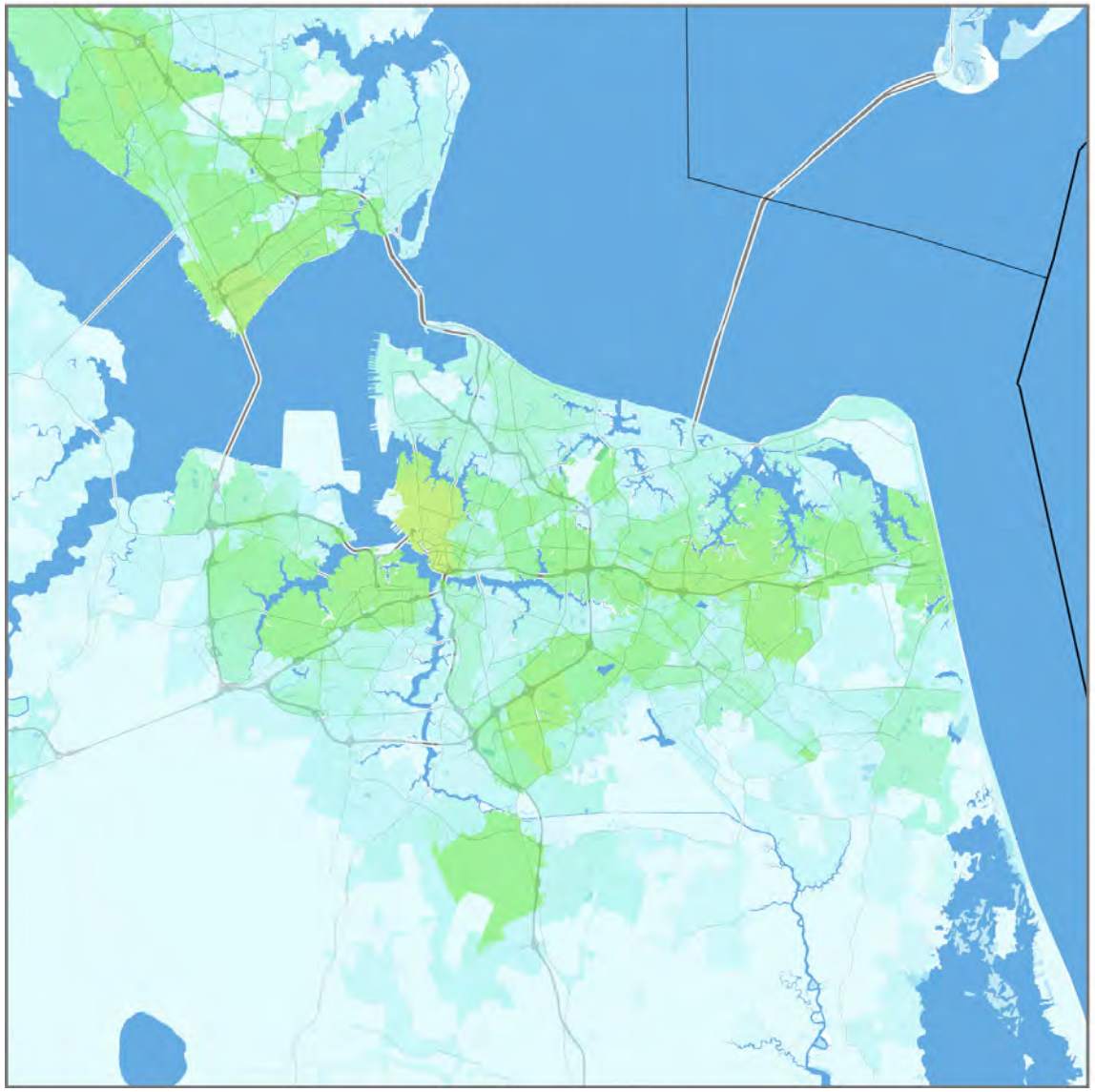


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



Virginia Beach

Virginia Beach-Norfolk-Newport News, VA-NC



Jobs within 30 minutes
(Biking, medium stress)

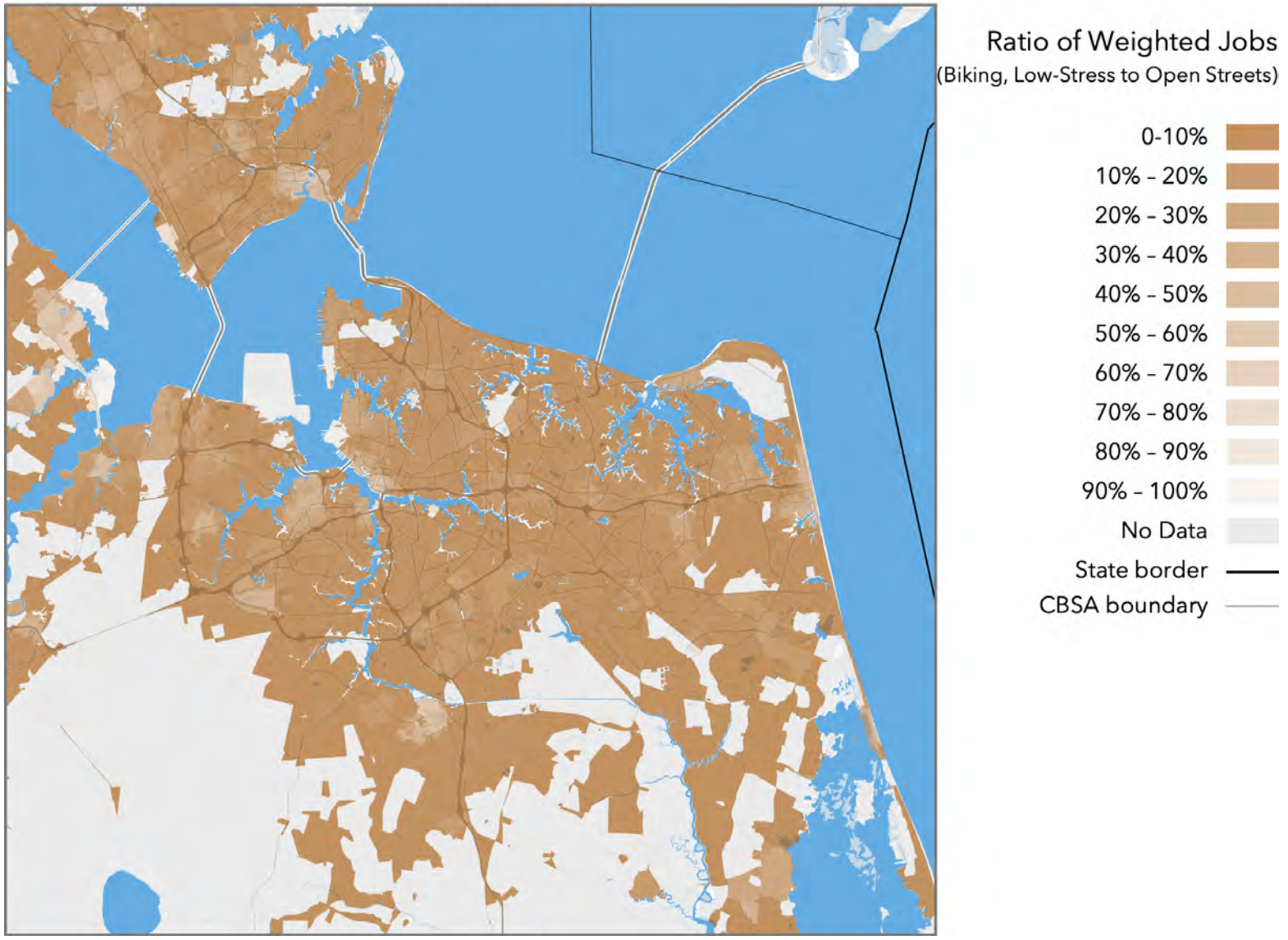
- 0 – 1,000
- 1,000 – 2,500
- 2,500 – 5,000
- 5,000 – 7,500
- 7,500 – 10,000
- 10,000 – 25,000
- 25,000 – 50,000
- 50,000 – 75,000
- 75,000 – 100,000
- 100,000 – 250,000
- 250,000 – 500,000
- 500,000 – 750,000
- 750,000 – 1,000,000
- 1,000,000 – 2,500,000
- 2,500,000 – 5,000,000
- 5,000,000 – 7,500,000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

State border

CBSA boundary

Virginia Beach

Virginia Beach-Norfolk-Newport News, VA-NC



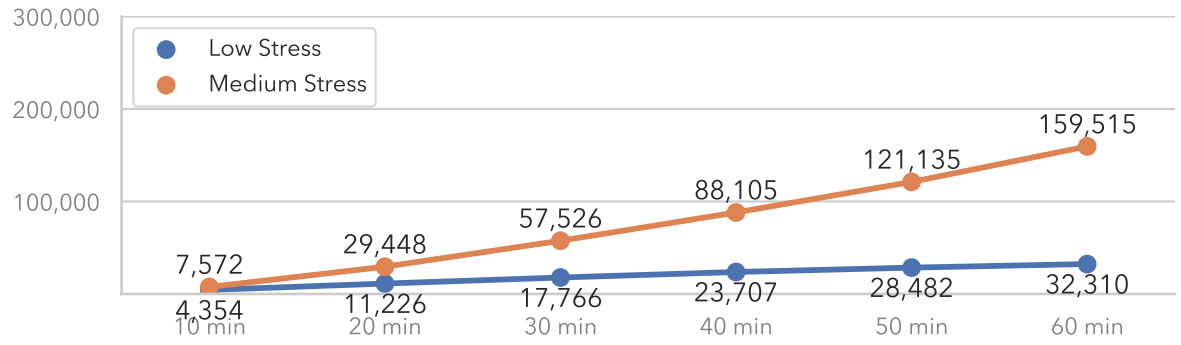
Washington

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

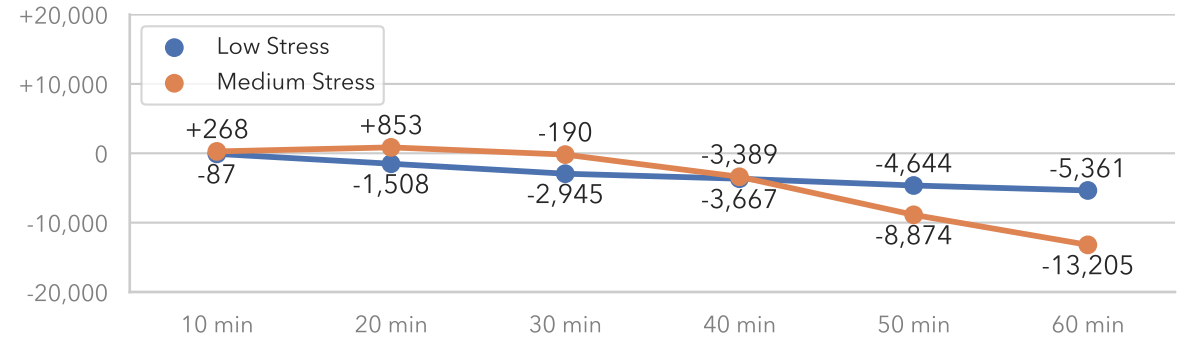
Rank by Weighted Low-Stress Bike Accessibility	**11**
Rank by Weighted Medium-Stress Bike Accessibility	**11**
Rank by Change in Low-Stress Bike Accessibility	**48**
Rank by Change in Medium-Stress Bike Accessibility	**39**
Rank by Total Employment	**7**
Total Jobs	**2,830,896**
Average Job Density (per km^2)	**195**
Total Workers	**2,683,930**
Average Worker Density (per km^2)	**185**

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

Biking Job Accessibility by Travel Time Threshold



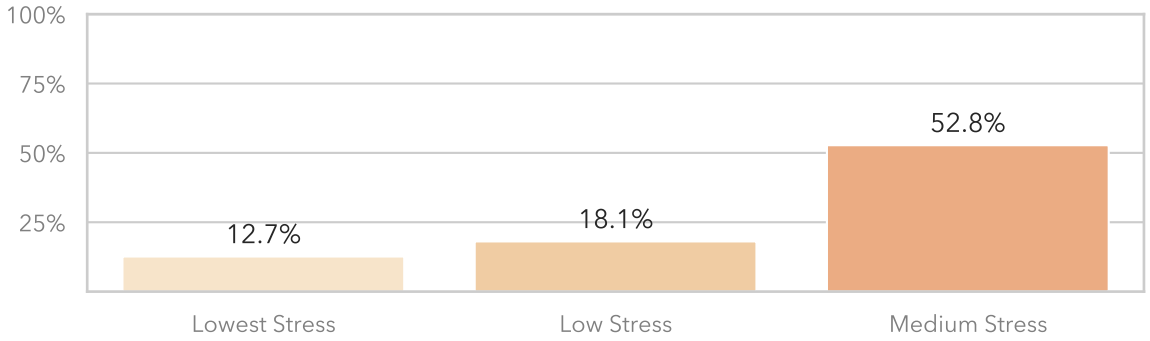
1-Year Change in Biking Job Accessibility by Travel Time Threshold



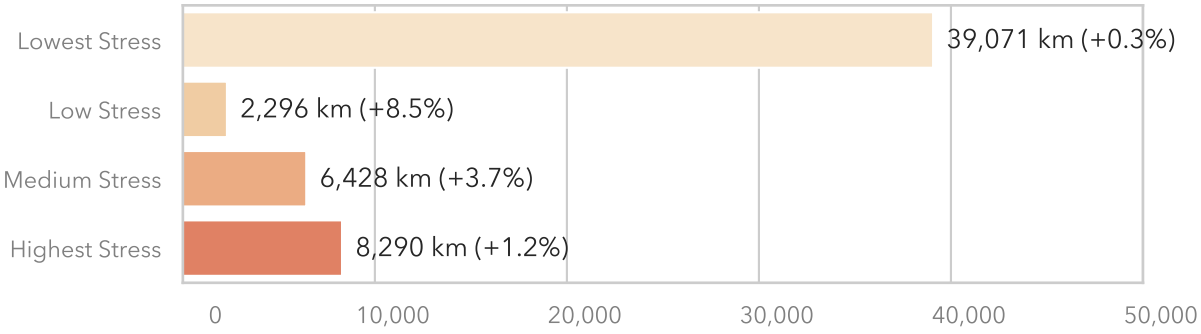
Washington

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

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

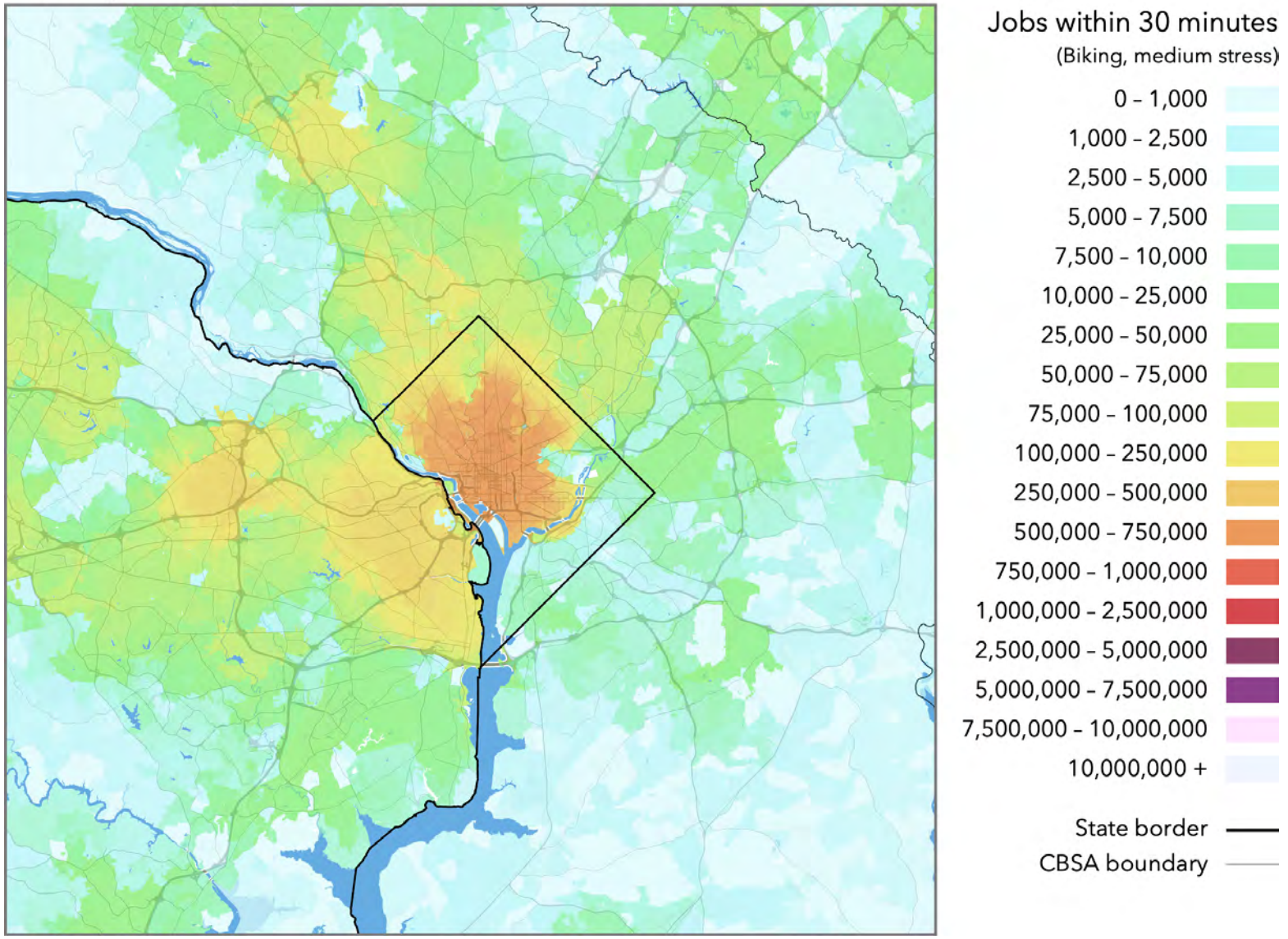


Kilometers of Bikeable Streets by LTS Category (Percent Change from 2018)



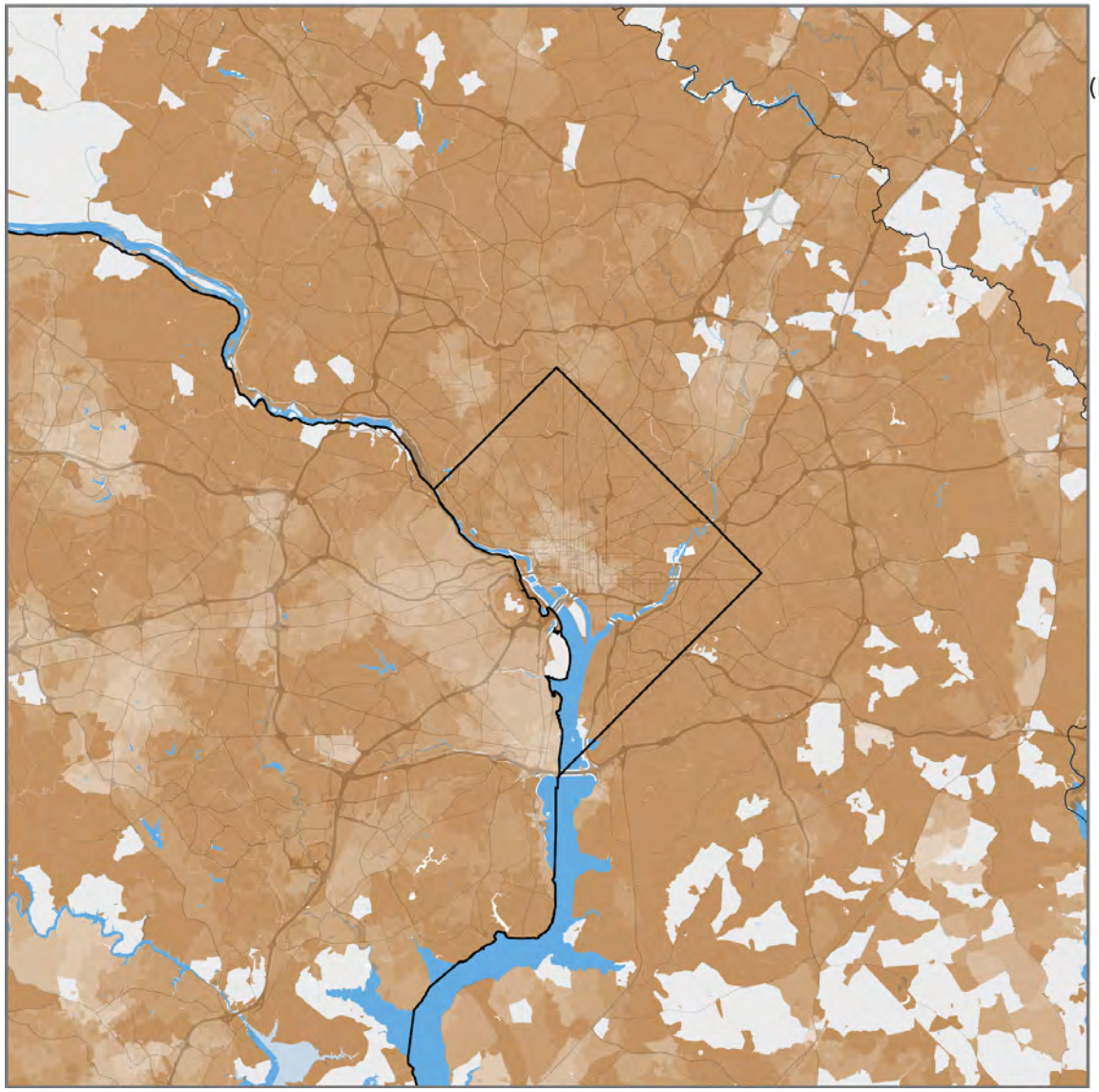
Washington

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



Washington

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



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