NATURGREEN paper tables & figure (main text)

Michael D Garber

2022-05-24

Table of Contents

This document contains tables and figures presented in the main text. The URL for this page is <https://michaeldgarber.github.io/green-space-denver/tables_figs_main_text.html>

Additional detail is presented in the appendix: <https://michaeldgarber.github.io/green-space-denver/tables_figs_appendix.html>

7/8/22 Update to concatenate (paste0) confidence intervals, so they’re all in the same cell.

# 1 Figure 1

Note this is directly copied from the appendix version. The weighted block-group-level mean NDVI on July 4, 2021 is presented here.

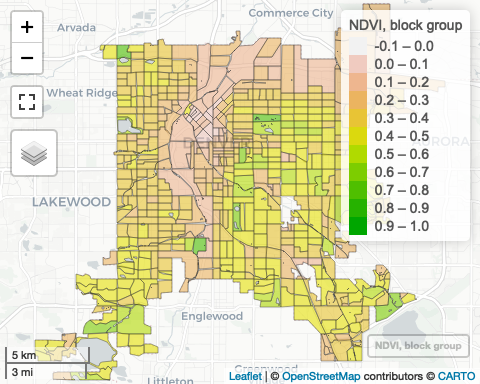


Figure 1.1: Mean normalized difference vegetation index (NDVI) of census block groups in Denver, Colorado (excluding some in the northeast, described in main text) on July 4, 2021 as measured by the Landsat-8 satellite on July 4, 2021. NDVI is measured at a spatial resolution of 30 meters squared. The weighted block-group-level mean NDVI is weighted by the proportion Landsat pixels overlap the water-free land area of the block group

# 2 Tables

## 2.1 Table 1: Description of scenarios (area, pop affected)

Table 2.1: The cumulative area of the treatment, its corresponding residential buffer, and the population affected

| Scenario num. | Scenario | Equity Tertile | Area, treatment (mi2), median (95% UI) | Area, residential buffer (mi2), median (95% UI) | Prop. of residential buffer treated, median (95% UI) | Pop. affected, estimate (95% UI) |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Block-group level | NA | 68.0 (41.5, 93.5) | 68.0 (41.5, 93.5) | 1.00 (1.00, 1.00) | 287,158 (149,606; 390,692) |
| 1 | Block-group level | [1.6,2.5] | 31.6 (20.7, 35.7) | 31.6 (20.7, 35.7) | 1.00 (1.00, 1.00) | 122,875 (64,292; 145,255) |
| 1 | Block-group level | (2.5,3.5] | 18.0 (9.0, 29.4) | 18.0 (9.0, 29.4) | 1.00 (1.00, 1.00) | 101,604 (50,823; 145,808) |
| 1 | Block-group level | (3.5,4.7] | 18.4 (11.8, 28.5) | 18.4 (11.8, 28.5) | 1.00 (1.00, 1.00) | 62,679 (32,039; 103,003) |
| 2 | Riparian areas | NA | 4.0 (2.6, 5.8) | 35.1 (22.9, 48.7) | 0.11 (0.11, 0.12) | 130,341 (68,160; 184,866) |
| 2 | Riparian areas | [1.6,2.5] | 1.9 (1.1, 2.2) | 17.1 (10.0, 19.9) | 0.11 (0.11, 0.11) | 63,178 (26,690; 78,411) |
| 2 | Riparian areas | (2.5,3.5] | 0.9 (0.6, 1.9) | 7.9 (4.9, 14.1) | 0.12 (0.12, 0.13) | 38,605 (20,991; 62,102) |
| 2 | Riparian areas | (3.5,4.7] | 1.2 (0.9, 1.7) | 10.1 (8.0, 14.7) | 0.12 (0.11, 0.12) | 28,558 (19,398; 46,717) |
| 3 | Retention basins | NA | 0.6 (0.4, 0.6) | 14.1 (9.3, 15.8) | 0.04 (0.04, 0.04) | 67,770 (43,970; 77,383) |
| 3 | Retention basins | [1.6,2.5] | 0.4 (0.3, 0.4) | 9.4 (5.8, 9.8) | 0.04 (0.04, 0.04) | 39,235 (20,317; 43,221) |
| 3 | Retention basins | (2.5,3.5] | 0.1 (0.1, 0.1) | 2.3 (1.8, 3.0) | 0.04 (0.03, 0.04) | 15,900 (13,025; 20,145) |
| 3 | Retention basins | (3.5,4.7] | 0.1 (0.1, 0.1) | 2.4 (1.7, 3.0) | 0.04 (0.04, 0.05) | 12,635 (9,363; 15,202) |
| 4 | Parking | NA | 8.7 (7.1, 9.5) | 68.0 (41.6, 92.3) | 0.13 (0.10, 0.17) | 285,431 (149,846; 384,069) |
| 4 | Parking | [1.6,2.5] | 4.4 (3.8, 4.4) | 31.7 (20.8, 35.5) | 0.14 (0.13, 0.18) | 122,563 (64,251; 142,844) |
| 4 | Parking | (2.5,3.5] | 2.1 (1.6, 2.6) | 17.9 (9.0, 29.1) | 0.12 (0.09, 0.17) | 101,075 (51,139; 144,484) |
| 4 | Parking | (3.5,4.7] | 2.2 (1.8, 2.4) | 18.4 (11.8, 27.7) | 0.12 (0.09, 0.15) | 61,793 (32,337; 99,957) |

## 2.2 Table 2: NDVI at baseline, alternative, and difference therein

Table 2.2: Baseline and alternative NDVI of the residential buffer and the corresponding difference

| Scenario num. | Scenario | Equity Tertile | Baseline NDVI, treatment area, median (95% UI) | Baseline NDVI, residential buffer, median (95% UI) | Alternative NDVI, residential buffer, median (95% UI) | Difference: NDVI, residential buffer, median (95% UI) |
| --- | --- | --- | --- | --- | --- | --- |
| 1 | Block-group level | NA | 0.29 (0.23, 0.34) | 0.29 (0.23, 0.34) | 0.33 (0.27, 0.40) | 0.037 (0.034, 0.061) |
| 1 | Block-group level | [1.6,2.5] | 0.28 (0.22, 0.30) | 0.28 (0.22, 0.30) | 0.32 (0.26, 0.37) | 0.041 (0.036, 0.073) |
| 1 | Block-group level | (2.5,3.5] | 0.32 (0.26, 0.38) | 0.32 (0.26, 0.38) | 0.35 (0.29, 0.43) | 0.028 (0.025, 0.048) |
| 1 | Block-group level | (3.5,4.7] | 0.28 (0.23, 0.35) | 0.28 (0.23, 0.35) | 0.32 (0.26, 0.40) | 0.040 (0.036, 0.058) |
| 2 | Riparian areas | NA | 0.34 (0.30, 0.39) | 0.28 (0.22, 0.33) | 0.29 (0.23, 0.35) | 0.008 (0.005, 0.018) |
| 2 | Riparian areas | [1.6,2.5] | 0.34 (0.27, 0.36) | 0.28 (0.20, 0.30) | 0.29 (0.21, 0.32) | 0.009 (0.008, 0.020) |
| 2 | Riparian areas | (2.5,3.5] | 0.35 (0.31, 0.43) | 0.30 (0.25, 0.38) | 0.31 (0.26, 0.39) | 0.008 (0.004, 0.015) |
| 2 | Riparian areas | (3.5,4.7] | 0.34 (0.31, 0.38) | 0.26 (0.23, 0.32) | 0.27 (0.23, 0.34) | 0.009 (0.004, 0.019) |
| 3 | Retention basins | NA | 0.38 (0.33, 0.39) | 0.27 (0.21, 0.29) | 0.27 (0.21, 0.29) | 0.001 (0.000, 0.004) |
| 3 | Retention basins | [1.6,2.5] | 0.39 (0.38, 0.40) | 0.28 (0.23, 0.29) | 0.28 (0.23, 0.29) | 0.001 (-0.001, 0.004) |
| 3 | Retention basins | (2.5,3.5] | 0.35 (0.23, 0.38) | 0.25 (0.21, 0.29) | 0.25 (0.21, 0.30) | 0.003 (0.002, 0.004) |
| 3 | Retention basins | (3.5,4.7] | 0.38 (0.24, 0.38) | 0.24 (0.17, 0.28) | 0.24 (0.17, 0.28) | 0.003 (0.001, 0.005) |
| 4 | Parking | NA | 0.16 (0.15, 0.17) | 0.29 (0.23, 0.34) | 0.30 (0.24, 0.35) | 0.010 (0.010, 0.011) |
| 4 | Parking | [1.6,2.5] | 0.15 (0.13, 0.15) | 0.28 (0.22, 0.30) | 0.29 (0.23, 0.31) | 0.012 (0.011, 0.015) |
| 4 | Parking | (2.5,3.5] | 0.20 (0.19, 0.21) | 0.32 (0.26, 0.38) | 0.33 (0.27, 0.39) | 0.008 (0.008, 0.009) |
| 4 | Parking | (3.5,4.7] | 0.16 (0.14, 0.17) | 0.28 (0.23, 0.34) | 0.29 (0.24, 0.35) | 0.009 (0.009, 0.010) |

## 2.3 Table 3: Estimated deaths averted (total and rate per 100k) under each scenario

Table 2.3: Estimated annual premature deaths prevented

| Scenario num. | Scenario | Equity Tertile | Deaths prevented, estimate (95% UI) | Deaths prevented per 100k, estimate (95% UI) |
| --- | --- | --- | --- | --- |
| 1 | Block-group level | NA | 33 (13, 93) | 11 (9, 24) |
| 1 | Block-group level | [1.6,2.5] | 13 (4, 36) | 10 (7, 25) |
| 1 | Block-group level | (2.5,3.5] | 11 (4, 34) | 11 (7, 24) |
| 1 | Block-group level | (3.5,4.7] | 9 (4, 25) | 15 (11, 25) |
| 2 | Riparian areas | NA | 3 (1, 13) | 3 (1, 7) |
| 2 | Riparian areas | [1.6,2.5] | 1 (0, 5) | 1 (1, 6) |
| 2 | Riparian areas | (2.5,3.5] | 1 (0, 5) | 3 (1, 8) |
| 2 | Riparian areas | (3.5,4.7] | 1 (0, 4) | 4 (1, 9) |
| 3 | Retention basins | NA | 1 (-0, 2) | 1 (-0, 3) |
| 3 | Retention basins | [1.6,2.5] | 0 (-0, 2) | 1 (-1, 4) |
| 3 | Retention basins | (2.5,3.5] | 0 (0, 0) | 1 (1, 2) |
| 3 | Retention basins | (3.5,4.7] | 0 (-0, 0) | 0 (-1, 2) |
| 4 | Parking | NA | 8 (4, 15) | 3 (3, 4) |
| 4 | Parking | [1.6,2.5] | 3 (2, 6) | 3 (2, 4) |
| 4 | Parking | (2.5,3.5] | 3 (1, 6) | 3 (3, 4) |
| 4 | Parking | (3.5,4.7] | 2 (1, 4) | 3 (2, 4) |