|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| Supplemental Table 1. Association between roadway proximity metrics and fecundability, Pregnancy Study Online (2013-2020). | | | | | | | | | | | | | |
|  | United States (n=7,342) | | | |  | | Canada (n=1,448) | | | |  | | Combineda |
| Exposureb | No. of cycles | No. of pregs | Unadjusted  FR (95% CI) | Adjustedc  FR (95% CI) | | No. of cycles | | No. of pregs | Unadjusted  FR (95% CI) | Adjustedc  FR (95% CI) | | Adjustedc  FR (95% CI) | |
| Distance to major road (m) | | |  |  | |  | |  |  |  | |  | |
| ≥400 | 8151 | 1251 | Reference | Reference | | 1543 | | 254 | Reference | Reference | | Reference | |
| 200-399 | 6629 | 978 | 0.95 (0.88, 1.03) | 0.94 (0.87, 1.02) | | 1372 | | 227 | 0.99 (0.85, 1.17) | 1.00 (0.85, 1.19) | | 0.95 (0.88, 1.02) | |
| 100-199 | 5517 | 862 | 0.99 (0.91, 1.07) | 0.98 (0.90, 1.06) | | 1081 | | 167 | 0.96 (0.80, 1.14) | 1.02 (0.85, 1.22) | | 0.99 (0.92, 1.06) | |
| 50-99 | 3409 | 455 | 0.89 (0.81, 0.99) | 0.92 (0.84, 1.02) | | 585 | | 98 | 1.04 (0.85, 1.28) | 1.04 (0.84, 1.29) | | 0.94 (0.86, 1.03) | |
| <50 | 4210 | 553 | 0.88 (0.80, 0.97) | 0.88 (0.80, 0.98) | | 787 | | 99 | 0.89 (0.72, 1.10) | 0.93 (0.74, 1.16) | | 0.89 (0.81, 0.98) | |
| Distance to highway (m) | | |  |  | |  | |  |  |  | |  | |
| ≥400 | 21833 | 3210 | Reference | Reference | | 4043 | | 645 | Reference | Reference | | Reference | |
| 200-399 | 3411 | 489 | 0.98 (0.90, 1.07) | 0.99 (0.90, 1.08) | | 563 | | 96 | 1.07 (0.87, 1.30) | 1.03 (0.84, 1.26) | | 1.00 (0.92, 1.08) | |
| 100-199 | 1493 | 246 | 1.11 (0.98, 1.26) | 1.12 (0.99, 1.27) | | 405 | | 52 | 0.84 (0.65, 1.09) | 0.86 (0.66, 1.13) | | 1.07 (0.95, 1.20) | |
| 50-99 | 667 | 101 | 1.05 (0.87, 1.27) | 1.15 (0.96, 1.39) | | 138 | | 24 | 1.09 (0.74, 1.61) | 0.99 (0.67, 1.45) | | 1.12 (0.94, 1.32) | |
| <50 | 512 | 53 | 0.76 (0.59, 0.99) | 0.76 (0.59, 0.99) | | 219 | | 28 | 0.92 (0.66, 1.30) | 0.91 (0.64, 1.29) | | 0.81 (0.66, 1.00) | |
| Distance to highway <100m or to major road <50m | | | | | |  | |  |  |  | |  | |
| No | 23156 | 3467 | Reference | Reference | | 4450 | | 723 | Reference | Reference | | Reference | |
| Yes | 4760 | 632 | 0.92 (0.84, 1.00) | 0.93 (0.86, 1.02) | | 918 | | 122 | 0.92 (0.77, 1.10) | 0.92 (0.77, 1.10) | | 0.93 (0.86, 1.01) | |
| Distance to major intersections (m) | | | |  | |  | |  |  |  | |  | |
| ≥400 | 18182 | 2721 | Reference | Reference | | 3832 | | 618 | Reference | Reference | | Reference | |
| 200-399 | 6097 | 900 | 0.97 (0.90, 1.04) | 0.96 (0.90, 1.04) | | 859 | | 146 | 1.05 (0.89, 1.23) | 1.09 (0.92, 1.29) | | 0.98 (0.91, 1.06) | |
| 100-199 | 2675 | 353 | 0.89 (0.80, 0.99) | 0.92 (0.82, 1.02) | | 483 | | 57 | 0.78 (0.61, 1.00) | 0.84 (0.65, 1.09) | | 0.91 (0.83, 1.00) | |
| <100 | 962 | 125 | 0.85 (0.71, 1.02) | 0.83 (0.70, 1.00) | | 194 | | 24 | 0.82 (0.55, 1.23) | 0.79 (0.51, 1.22) | | 0.82 (0.69, 0.98) | |
| Length of major roads in 50m buffer (m) | | | |  | |  | |  |  |  | |  | |
| 0 | 23686 | 3541 | Reference | Reference | | 4585 | | 745 | Reference | Reference | | Reference | |
| 1-72 | 999 | 140 | 0.99 (0.84, 1.17) | 0.97 (0.82, 1.15) | | 240 | | 28 | 0.89 (0.62, 1.28) | 0.95 (0.65, 1.39) | | 0.97 (0.83, 1.13) | |
| 73-97 | 1912 | 268 | 0.93 (0.83, 1.05) | 0.95 (0.85, 1.07) | | 390 | | 57 | 0.97 (0.76, 1.23) | 0.95 (0.74, 1.21) | | 0.95 (0.88, 1.03) | |
| ≥98 | 1319 | 150 | 0.81 (0.69, 0.96) | 0.82 (0.70, 0.96) | | 153 | | 15 | 0.76 (0.48, 1.21) | 0.77 (0.48, 1.24) | | 0.82 (0.70, 0.95) | |
| Length of major roads in 100m buffer (m) | | | |  | |  | |  |  |  | |  | |
| 0 | 20290 | 3088 | Reference | Reference | | 4004 | | 649 | Reference | Reference | | Reference | |
| 1-145 | 1980 | 250 | 0.88 (0.78, 1.00) | 0.92 (0.81, 1.04) | | 323 | | 52 | 1.00 (0.78, 1.28) | 0.94 (0.73, 1.21) | | 0.92 (0.83, 1.03) | |
| 146-204 | 3694 | 510 | 0.94 (0.86, 1.02) | 0.95 (0.87, 1.04) | | 639 | | 89 | 0.97 (0.79, 1.18) | 0.99 (0.81, 1.20) | | 0.96 (0.88, 1.04) | |
| ≥205 | 1952 | 251 | 0.87 (0.77, 0.99) | 0.88 (0.78, 1.00) | | 402 | | 55 | 0.96 (0.75, 1.23) | 0.97 (0.74, 1.26) | | 0.90 (0.80, 1.01) | |
| Length of major roads in 300m buffer (m) | | | |  | |  | |  |  |  | |  | |
| 0 | 10876 | 1634 | Reference | Reference | | 2127 | | 350 | Reference | Reference | | Reference | |
| 1-518 | 4280 | 630 | 0.95 (0.87, 1.03) | 0.94 (0.86, 1.03) | | 843 | | 133 | 0.96 (0.80, 1.15) | 1.00 (0.83, 1.20) | | 0.95 (0.88, 1.03) | |
| 519-677 | 4164 | 606 | 0.96 (0.88, 1.05) | 0.97 (0.89, 1.05) | | 851 | | 138 | 1.04 (0.87, 1.24) | 1.05 (0.87, 1.26) | | 0.98 (0.91, 1.06) | |
| 678-1126 | 4096 | 621 | 1.00 (0.92, 1.08) | 1.02 (0.94, 1.11) | | 790 | | 110 | 0.87 (0.71, 1.07) | 0.91 (0.74, 1.13) | | 1.01 (0.93, 1.09) | |
| ≥1127 | 4500 | 608 | 0.90 (0.82, 0.98) | 0.92 (0.84, 1.00) | | 757 | | 114 | 0.97 (0.80, 1.17) | 0.98 (0.80, 1.20) | | 0.93 (0.86, 1.00) | |
| Length of major roads in 400m buffer (m) | | | |  | |  | |  |  |  | |  | |
| 0 | 8151 | 1251 | Reference | Reference | | 1552 | | 253 | Reference | Reference | | Reference | |
| 1-746 | 4986 | 741 | 0.96 (0.88, 1.05) | 0.95 (0.87, 1.03) | | 1057 | | 166 | 0.97 (0.82, 1.16) | 0.98 (0.82, 1.18) | | 0.96 (0.89, 1.03) | |
| 747-1163 | 4943 | 692 | 0.92 (0.85, 1.00) | 0.91 (0.84, 0.99) | | 1012 | | 168 | 1.04 (0.87, 1.24) | 1.06 (0.89, 1.27) | | 0.94 (0.87, 1.01) | |
| 1164-1736 | 4610 | 717 | 1.01 (0.93, 1.10) | 1.02 (0.94, 1.11) | | 925 | | 131 | 0.93 (0.77, 1.12) | 0.96 (0.79, 1.18) | | 1.01 (0.94, 1.09) | |
| ≥1737 | 5226 | 698 | 0.87 (0.80, 0.95) | 0.88 (0.80, 0.96) | | 822 | | 127 | 0.96 (0.80, 1.16) | 1.00 (0.82, 1.24) | | 0.90 (0.83, 0.97) | |
| Number of major intersections in 500m buffer | | | |  | |  | |  |  |  | |  | |
| 0 | 15416 | 2305 | Reference | Reference | | 3332 | | 524 | Reference | Reference | | Reference | |
| 1-9 | 10582 | 1551 | 0.96 (0.90, 1.02) | 0.96 (0.91, 1.02) | | 1873 | | 302 | 1.02 (0.90, 1.16) | 1.03 (0.90, 1.18) | | 0.97 (0.92, 1.03) | |
| ≥10 | 1918 | 243 | 0.85 (0.75, 0.97) | 0.86 (0.76, 0.97) | | 163 | | 19 | 0.83 (0.55, 1.27) | 0.87 (0.57, 1.33) | | 0.86 (0.77, 0.97) | |

a FRs combined across the U.S. and Canada using a fixed effects meta-analysis.

b Highways defined as A1 or A2 roads in the U.S. and expressways or highways in Canada. Major roads defined as A1-A3 roads in the U.S. and expressways, highways, or major roads in Canada.

c Adjusted for age, race/ethnicity, income, education, BMI, physical activity, smoking, sugar-sweetened soda intake, HEI score, multivitamin/folic acid intake, parity, intercourse frequency, doing something to improve chances of conception, census tract median household income, census tract % with <high school education, and census tract % non-Hispanic white.

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| Supplemental Table 2. Association between roadway proximity metrics and fecundability, stratified by parity, Pregnancy Study Online (2013-2020). | | | | | | | | | | | | | | | | | | | | |
|  | United States (n=7,342) | | | | | |  | | Canada (n=1,448) | | | | | |  | | Combineda | | | | |
|  | Nulliparous (n=4,822) | |  | | Parous (n=2,520) | |  | | Nulliparous (n=1,089) | |  | | Parous (n=359) | |  | | Nulliparous |  | | Parous | |
| Exposureb | No. of pregs | Adjustedc  FR (95% CI) | | No. of pregs | | Adjustedc  FR (95% CI) | | No. of pregs | | Adjustedc  FR (95% CI) | | No. of pregs | | Adjustedc  FR (95% CI) | | Adjustedc  FR (95% CI) | | | Adjustedc  FR (95% CI) | | |
| Distance to major road (m) | | | |  | |  | |  | |  | |  | |  | |  | | |  | | |
| ≥400 | 790 | Reference | | 461 | | Reference | | 187 | | Reference | | 67 | | Reference | | Reference | | | Reference | | |
| 200-399 | 594 | 0.91 (0.83, 1.01) | | 384 | | 1.00 (0.88, 1.13) | | 172 | | 1.00 (0.82, 1.23) | | 55 | | 1.00 (0.68, 1.49) | | 0.93 (0.85, 1.02) | | | 1.00 (0.89, 1.12) | | |
| 100-199 | 552 | 0.98 (0.88, 1.08) | | 310 | | 0.98 (0.86, 1.12) | | 130 | | 1.06 (0.85, 1.32) | | 37 | | 0.93 (0.61, 1.41) | | 0.99 (0.91, 1.09) | | | 0.98 (0.86, 1.11) | | |
| 50-99 | 317 | 0.94 (0.83, 1.06) | | 138 | | 0.89 (0.75, 1.05) | | 69 | | 0.98 (0.76, 1.27) | | 29 | | 1.27 (0.76, 2.12) | | 0.95 (0.85, 1.06) | | | 0.92 (0.79, 1.08) | | |
| <50 | 392 | 0.91 (0.81, 1.02) | | 161 | | 0.82 (0.69, 0.98) | | 75 | | 0.90 (0.68, 1.19) | | 24 | | 0.84 (0.48, 1.45) | | 0.91 (0.82, 1.01) | | | 0.82 (0.69, 0.97) | | |
| Distance to highway (m) | | | |  | |  | |  | |  | |  | |  | |  | | |  | | |
| ≥400 | 2069 | Reference | | 1141 | | Reference | | 479 | | Reference | | 166 | | Reference | | Reference | | | Reference | | |
| 200-399 | 302 | 0.94 (0.84, 1.05) | | 187 | | 1.08 (0.93, 1.24) | | 77 | | 1.13 (0.90, 1.42) | | 19 | | 0.72 (0.46, 1.12) | | 0.97 (0.88, 1.08) | | | 1.04 (0.91, 1.19) | | |
| 100-199 | 166 | 1.11 (0.95, 1.29) | | 80 | | 1.12 (0.91, 1.38) | | 40 | | 1.03 (0.76, 1.38) | | 12 | | 0.59 (0.32, 1.11) | | 1.09 (0.96, 1.25) | | | 1.05 (0.86, 1.28) | | |
| 50-99 | 70 | 1.19 (0.95, 1.50) | | 31 | | 1.03 (0.74, 1.42) | | 16 | | 0.94 (0.58, 1.53) | | 8 | | 1.13 (0.49, 2.61) | | 1.14 (0.92, 1.40) | | | 1.04 (0.77, 1.41) | | |
| <50 | 38 | 0.82 (0.60, 1.11) | | 15 | | 0.62 (0.39, 1.00) | | 21 | | 0.93 (0.61, 1.42) | | 7 | | 0.92 (0.40, 2.13) | | 0.86 (0.67, 1.10) | | | 0.68 (0.45, 1.04) | | |
| Distance to highway <100m or to major road <50m | | | | | |  | |  | |  | |  | |  | |  | | |  | | |
| No | 2196 | Reference | | 1271 | | Reference | | 543 | | Reference | | 180 | | Reference | | Reference | | | Reference | | |
| Yes | 449 | 0.97 (0.88, 1.07) | | 183 | | 0.84 (0.72, 0.99) | | 90 | | 0.89 (0.71, 1.12) | | 32 | | 0.90 (0.58, 1.39) | | 0.96 (0.88, 1.05) | | | 0.85 (0.73, 0.99) | | |
| Distance to major intersections (m) | | | | | |  | |  | |  | |  | |  | |  | | |  | | |
| ≥400 | 1692 | Reference | | 1029 | | Reference | | 458 | | Reference | | 160 | | Reference | | Reference | | | Reference | | |
| 200-399 | 605 | 0.95 (0.87, 1.03) | | 295 | | 0.99 (0.87, 1.11) | | 107 | | 1.11 (0.90, 1.36) | | 39 | | 1.10 (0.76, 1.61) | | 0.97 (0.90, 1.05) | | | 1.00 (0.90, 1.11) | | |
| 100-199 | 252 | 0.93 (0.82, 1.06) | | 101 | | 0.88 (0.72, 1.09) | | 47 | | 0.85 (0.63, 1.14) | | 10 | | 0.83 (0.44, 1.57) | | 0.92 (0.81, 1.03) | | | 0.88 (0.71, 1.07) | | |
| <100 | 96 | 0.96 (0.79, 1.17) | | 29 | | 0.60 (0.41, 0.87) | | 21 | | 0.78 (0.50, 1.22) | | 3 | | 0.27 (0.06, 1.13) | | 0.93 (0.77, 1.11) | | | 0.57 (0.40, 0.82) | | |
| Length of major roads in 50m buffer (m) | | | | | |  | |  | |  | |  | |  | |  | | |  | | |
| 0 | 2250 | Reference | | 1291 | | Reference | | 558 | | Reference | | 187 | | Reference | | Reference | | | Reference | | |
| 1-72 | 85 | 0.91 (0.74, 1.12) | | 55 | | 1.12 (0.87, 1.45) | | 23 | | 0.91 (0.58, 1.43) | | 5 | | 1.15 (0.51, 2.58) | | 0.91 (0.75, 1.10) | | | 1.12 (0.88, 1.44) | | |
| 73-97 | 193 | 1.03 (0.90, 1.18) | | 75 | | 0.77 (0.62, 0.95) | | 39 | | 0.91 (0.68, 1.22) | | 18 | | 0.85 (0.44, 1.67) | | 1.01 (0.89, 1.14) | | | 0.78 (0.64, 0.95) | | |
| ≥98 | 117 | 0.86 (0.72, 1.02) | | 33 | | 0.71 (0.49, 1.03) | | 13 | | 0.77 (0.46, 1.27) | | 2 | | 0.59 (0.18, 1.97) | | 0.85 (0.72, 1.00) | | | 0.70 (0.49, 1.00) | | |
| Length of major roads in 100m buffer (m) | | | | | |  | |  | |  | |  | |  | |  | | |  | | |
| 0 | 1933 | Reference | | 1155 | | Reference | | 491 | | Reference | | 158 | | Reference | | Reference | | | Reference | | |
| 1-145 | 174 | 0.94 (0.81, 1.09) | | 76 | | 0.88 (0.71, 1.10) | | 37 | | 0.90 (0.67, 1.22) | | 15 | | 1.13 (0.66, 1.96) | | 0.93 (0.82, 1.07) | | | 0.91 (0.74, 1.12) | | |
| 146-204 | 350 | 0.97 (0.87, 1.08) | | 160 | | 0.92 (0.79, 1.07) | | 67 | | 1.00 (0.79, 1.27) | | 22 | | 0.85 (0.50, 1.45) | | 0.98 (0.88, 1.08) | | | 0.92 (0.79, 1.06) | | |
| ≥205 | 188 | 0.96 (0.83, 1.10) | | 63 | | 0.70 (0.55, 0.90) | | 38 | | 0.79 (0.57, 1.09) | | 17 | | 1.56 (0.92, 2.64) | | 0.93 (0.82, 1.06) | | | 0.81 (0.65, 1.02) | | |
| Length of major roads in 300m buffer (m) | | | | | |  | |  | |  | |  | |  | |  | | |  | | |
| 0 | 1018 | Reference | | 616 | | Reference | | 258 | | Reference | | 92 | | Reference | | Reference | | | Reference | | |
| 1-518 | 390 | 0.91 (0.81, 1.02) | | 240 | | 1.00 (0.87, 1.15) | | 106 | | 0.99 (0.81, 1.22) | | 27 | | 0.83 (0.53, 1.28) | | 0.93 (0.84, 1.03) | | | 0.98 (0.86, 1.12) | | |
| 519-677 | 381 | 0.98 (0.88, 1.09) | | 225 | | 0.93 (0.81, 1.07) | | 101 | | 1.08 (0.86, 1.34) | | 37 | | 0.89 (0.58, 1.36) | | 1.00 (0.91, 1.10) | | | 0.93 (0.81, 1.06) | | |
| 678-1126 | 419 | 1.02 (0.92, 1.14) | | 202 | | 0.99 (0.85, 1.14) | | 84 | | 0.93 (0.73, 1.19) | | 26 | | 0.91 (0.59, 1.40) | | 1.00 (0.91, 1.11) | | | 0.98 (0.86, 1.12) | | |
| ≥1127 | 437 | 0.95 (0.85, 1.05) | | 171 | | 0.85 (0.73, 1.00) | | 84 | | 0.93 (0.72, 1.19) | | 30 | | 1.03 (0.65, 1.63) | | 0.95 (0.86, 1.04) | | | 0.87 (0.75, 1.01) | | |
| Length of major roads in 400m buffer (m) | | | | | |  | |  | |  | |  | |  | |  | | |  | | |
| 0 | 790 | Reference | | 461 | | Reference | | 187 | | Reference | | 66 | | Reference | | Reference | | | Reference | | |
| 1-746 | 448 | 0.94 (0.84, 1.05) | | 293 | | 0.95 (0.83, 1.09) | | 125 | | 0.98 (0.80, 1.21) | | 41 | | 0.96 (0.63, 1.47) | | 0.95 (0.86, 1.05) | | | 0.95 (0.83, 1.08) | | |
| 747-1163 | 432 | 0.89 (0.80, 0.99) | | 260 | | 0.94 (0.82, 1.08) | | 126 | | 1.09 (0.87, 1.36) | | 42 | | 0.92 (0.59, 1.42) | | 0.93 (0.84, 1.02) | | | 0.94 (0.82, 1.07) | | |
| 1164-1736 | 470 | 1.02 (0.91, 1.14) | | 247 | | 1.02 (0.89, 1.18) | | 98 | | 0.90 (0.71, 1.14) | | 33 | | 1.17 (0.77, 1.78) | | 1.00 (0.90, 1.10) | | | 1.04 (0.90, 1.19) | | |
| ≥1737 | 505 | 0.89 (0.80, 0.99) | | 193 | | 0.83 (0.71, 0.97) | | 97 | | 1.00 (0.78, 1.28) | | 30 | | 1.04 (0.64, 1.68) | | 0.91 (0.82, 1.00) | | | 0.85 (0.73, 0.98) | | |
| Number of major intersections in 500m buffer | | | | | |  | |  | |  | |  | |  | |  | | |  | | |
| 0 | 1418 | Reference | | 887 | | Reference | | 390 | | Reference | | 134 | | Reference | | Reference | | | Reference | | |
| 1-9 | 1039 | 0.94 (0.87, 1.02) | | 512 | | 0.99 (0.89, 1.10) | | 227 | | 1.02 (0.86, 1.20) | | 75 | | 1.02 (0.76, 1.36) | | 0.96 (0.89, 1.03) | | | 0.99 (0.90, 1.10) | | |
| ≥10 | 188 | 0.89 (0.77, 1.03) | | 55 | | 0.79 (0.61, 1.02) | | 16 | | 0.82 (0.51, 1.33) | | 3 | | 1.32 (0.50, 3.50) | | 0.88 (0.77, 1.02) | | | 0.82 (0.64, 1.05) | | |

a FRs combined across the U.S. and Canada using a fixed effects meta-analysis.

b Highways defined as A1 or A2 roads in the U.S. and expressways or highways in Canada. Major roads defined as A1-A3 roads in the U.S. and expressways, highways, or major roads in Canada.

c Adjusted for age, race/ethnicity, income, education, BMI, physical activity, smoking, sugar-sweetened soda intake, HEI score, multivitamin/folic acid intake, intercourse frequency, doing something to improve chances of conception, census tract median household income, census tract % with <high school education, and census tract % non-Hispanic white.

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Supplemental Table 3. Association between roadway proximity metrics and fecundability, stratified by total folate intake (from food and supplements), Pregnancy Study Online (2013-2020). | | | | | | | | | | | | | | | | | | | | |
|  | United States (n=7,342) | | | | | |  | | Canada (n=1,448) | | | | | |  | | Combineda | | | |
|  | Total folate  <1,000 DFE/day (n=4,050) | |  | | Total folate  ≥1,000 DFE/day (n=3,292) | |  | | Total folate  <1,000 DFE/day (n=782) | |  | | Total folate  ≥1,000 DFE/day  (n=666) | | | Total folate <1,000 DFE/day | |  | | Total folate ≥1,000 DFE/day |
| Exposureb | No. of pregs | Adjustedc  FR (95% CI) | | No. of pregs | | Adjustedc  FR (95% CI) | | No. of pregs | | Adjustedc  FR (95% CI) | | No. of pregs | | Adjustedc  FR (95% CI) | | Adjustedc  FR (95% CI) | | | Adjustedc  FR (95% CI) | |
| Distance to major road (m) | | | |  | |  | |  | |  | |  | |  | |  | | |  | |
| ≥400 | 644 | Reference | | 607 | | Reference | | 121 | | Reference | | 133 | | Reference | | Reference | | | Reference | |
| 200-399 | 495 | 0.90 (0.79, 1.02) | | 483 | | 1.00 (0.88, 1.13) | | 121 | | 0.90 (0.69, 1.17) | | 106 | | 1.07 (0.83, 1.38) | | 0.90 (0.80, 1.01) | | | 1.01 (0.91, 1.13) | |
| 100-199 | 448 | 0.99 (0.87, 1.12) | | 414 | | 0.97 (0.86, 1.09) | | 75 | | 0.89 (0.65, 1.20) | | 92 | | 1.11 (0.87, 1.42) | | 0.98 (0.87, 1.09) | | | 0.99 (0.90, 1.11) | |
| 50-99 | 211 | 0.91 (0.78, 1.07) | | 244 | | 0.93 (0.80, 1.09) | | 48 | | 1.00 (0.72, 1.38) | | 50 | | 1.07 (0.77, 1.49) | | 0.93 (0.80, 1.07) | | | 0.96 (0.83, 1.10) | |
| <50 | 291 | 0.94 (0.80, 1.10) | | 262 | | 0.83 (0.72, 0.95) | | 48 | | 0.77 (0.53, 1.13) | | 51 | | 1.04 (0.75, 1.44) | | 0.91 (0.79, 1.06) | | | 0.86 (0.76, 0.97) | |
| Distance to highway (m) | | | |  | |  | |  | |  | |  | |  | |  | | |  | |
| ≥400 | 1646 | Reference | | 1564 | | Reference | | 317 | | Reference | | 328 | | Reference | | Reference | | | Reference | |
| 200-399 | 240 | 0.93 (0.81, 1.06) | | 249 | | 1.07 (0.94, 1.22) | | 40 | | 1.15 (0.77, 1.72) | | 56 | | 0.90 (0.67, 1.21) | | 0.95 (0.84, 1.08) | | | 1.04 (0.92, 1.17) | |
| 100-199 | 118 | 1.01 (0.82, 1.25) | | 128 | | 1.23 (1.03, 1.46) | | 24 | | 0.70 (0.46, 1.05) | | 28 | | 1.05 (0.67, 1.65) | | 0.93 (0.77, 1.13) | | | 1.21 (1.03, 1.42) | |
| 50-99 | 60 | 1.20 (0.94, 1.52) | | 41 | | 1.13 (0.83, 1.53) | | 14 | | 1.18 (0.66, 2.13) | | 10 | | 0.82 (0.35, 1.94) | | 1.20 (0.96, 1.49) | | | 1.09 (0.82, 1.45) | |
| <50 | 25 | 0.82 (0.55, 1.22) | | 28 | | 0.72 (0.51, 1.03) | | 18 | | 0.94 (0.59, 1.48) | | 10 | | 0.77 (0.43, 1.37) | | 0.87 (0.65, 1.17) | | | 0.73 (0.54, 0.99) | |
| Distance to highway <100m or to major road <50m | | | | | |  | |  | |  | |  | |  | |  | | |  | |
| No | 1752 | Reference | | 1715 | | Reference | | 351 | | Reference | | 372 | | Reference | | Reference | | | Reference | |
| Yes | 337 | 0.99 (0.87, 1.13) | | 295 | | 0.88 (0.78, 0.99) | | 62 | | 0.89 (0.67, 1.18) | | 60 | | 0.95 (0.73, 1.24) | | 0.97 (0.86, 1.10) | | | 0.89 (0.80, 0.99) | |
| Distance to major intersections (m) | | | | | |  | |  | |  | |  | |  | |  | | |  | |
| ≥400 | 1404 | Reference | | 1317 | | Reference | | 308 | | Reference | | 310 | | Reference | | Reference | | | Reference | |
| 200-399 | 448 | 0.95 (0.84, 1.07) | | 452 | | 0.97 (0.86, 1.10) | | 70 | | 0.97 (0.75, 1.25) | | 76 | | 1.21 (0.95, 1.54) | | 0.95 (0.86, 1.06) | | | 1.02 (0.91, 1.14) | |
| 100-199 | 173 | 1.00 (0.86, 1.17) | | 180 | | 0.84 (0.72, 0.98) | | 24 | | 0.65 (0.42, 1.00) | | 33 | | 1.04 (0.67, 1.62) | | 0.95 (0.82, 1.10) | | | 0.86 (0.74, 0.99) | |
| <100 | 64 | 0.88 (0.69, 1.11) | | 61 | | 0.79 (0.60, 1.04) | | 11 | | 0.65 (0.32, 1.29) | | 13 | | 1.02 (0.59, 1.76) | | 0.85 (0.69, 1.06) | | | 0.83 (0.65, 1.06) | |
| Length of major roads in 50m buffer (m) | | | | | |  | |  | |  | |  | |  | |  | | |  | |
| 0 | 1794 | Reference | | 1747 | | Reference | | 363 | | Reference | | 382 | | Reference | | Reference | | | Reference | |
| 1-72 | 74 | 0.93 (0.72, 1.20) | | 66 | | 1.01 (0.80, 1.29) | | 14 | | 0.89 (0.51, 1.56) | | 14 | | 1.03 (0.64, 1.66) | | 0.92 (0.73, 1.16) | | | 1.01 (0.82, 1.26) | |
| 73-97 | 148 | 1.09 (0.93, 1.27) | | 120 | | 0.81 (0.67, 0.99) | | 27 | | 0.81 (0.52, 1.26) | | 30 | | 1.14 (0.75, 1.73) | | 1.06 (0.91, 1.22) | | | 0.86 (0.72, 1.04) | |
| ≥98 | 73 | 0.87 (0.67, 1.13) | | 77 | | 0.77 (0.62, 0.95) | | 9 | | 0.84 (0.43, 1.63) | | 6 | | 0.61 (0.30, 1.23) | | 0.87 (0.68, 1.10) | | | 0.76 (0.62, 0.92) | |
| Length of major roads in 100m buffer (m) | | | | | |  | |  | |  | |  | |  | |  | | |  | |
| 0 | 1585 | Reference | | 1503 | | Reference | | 316 | | Reference | | 333 | | Reference | | Reference | | | Reference | |
| 1-145 | 114 | 0.90 (0.73, 1.11) | | 136 | | 0.93 (0.78, 1.11) | | 30 | | 0.99 (0.70, 1.41) | | 22 | | 0.98 (0.65, 1.49) | | 0.92 (0.77, 1.11) | | | 0.94 (0.80, 1.10) | |
| 146-204 | 260 | 1.01 (0.86, 1.18) | | 250 | | 0.89 (0.78, 1.02) | | 43 | | 0.96 (0.70, 1.33) | | 46 | | 0.93 (0.69, 1.25) | | 1.00 (0.87, 1.15) | | | 0.90 (0.79, 1.02) | |
| ≥205 | 130 | 0.94 (0.79, 1.13) | | 121 | | 0.82 (0.69, 0.98) | | 24 | | 0.85 (0.53, 1.37) | | 31 | | 1.12 (0.77, 1.61) | | 0.93 (0.78, 1.10) | | | 0.87 (0.74, 1.02) | |
| Length of major roads in 300m buffer (m) | | | | | |  | |  | |  | |  | |  | |  | | |  | |
| 0 | 832 | Reference | | 802 | | Reference | | 172 | | Reference | | 178 | | Reference | | Reference | | | Reference | |
| 1-518 | 312 | 0.93 (0.81, 1.07) | | 318 | | 0.95 (0.84, 1.07) | | 64 | | 0.88 (0.65, 1.19) | | 69 | | 1.06 (0.82, 1.38) | | 0.92 (0.81, 1.05) | | | 0.97 (0.87, 1.08) | |
| 519-677 | 315 | 0.98 (0.85, 1.12) | | 291 | | 0.94 (0.82, 1.08) | | 70 | | 1.11 (0.83, 1.48) | | 68 | | 0.96 (0.73, 1.26) | | 1.00 (0.89, 1.13) | | | 0.94 (0.83, 1.07) | |
| 678-1126 | 337 | 1.03 (0.91, 1.16) | | 284 | | 1.00 (0.88, 1.14) | | 55 | | 0.74 (0.53, 1.03) | | 55 | | 1.11 (0.83, 1.49) | | 0.97 (0.89, 1.07) | | | 1.02 (0.90, 1.15) | |
| ≥1127 | 293 | 0.96 (0.84, 1.10) | | 315 | | 0.87 (0.77, 1.00) | | 52 | | 0.89 (0.61, 1.28) | | 62 | | 1.10 (0.82, 1.49) | | 0.95 (0.84, 1.08) | | | 0.91 (0.80, 1.03) | |
| Length of major roads in 400m buffer (m) | | | | | |  | |  | |  | |  | |  | |  | | |  | |
| 0 | 644 | Reference | | 607 | | Reference | | 120 | | Reference | | 133 | | Reference | | Reference | | | Reference | |
| 1-746 | 364 | 0.91 (0.78, 1.06) | | 377 | | 0.98 (0.86, 1.12) | | 85 | | 0.89 (0.67, 1.19) | | 81 | | 1.03 (0.78, 1.35) | | 0.91 (0.79, 1.04) | | | 0.99 (0.88, 1.12) | |
| 747-1163 | 365 | 0.94 (0.83, 1.06) | | 327 | | 0.89 (0.77, 1.01) | | 85 | | 1.00 (0.77, 1.30) | | 83 | | 1.11 (0.85, 1.45) | | 0.95 (0.85, 1.06) | | | 0.93 (0.83, 1.04) | |
| 1164-1736 | 373 | 1.01 (0.89, 1.13) | | 344 | | 1.04 (0.91, 1.18) | | 63 | | 0.77 (0.57, 1.06) | | 68 | | 1.14 (0.84, 1.54) | | 0.98 (0.88, 1.09) | | | 1.05 (0.94, 1.19) | |
| ≥1737 | 343 | 0.88 (0.77, 1.01) | | 355 | | 0.88 (0.77, 1.00) | | 60 | | 0.93 (0.63, 1.37) | | 67 | | 1.07 (0.75, 1.53) | | 0.89 (0.78, 1.01) | | | 0.90 (0.80, 1.02) | |
| Number of major intersections in 500m buffer | | | | | |  | |  | |  | |  | |  | |  | | |  | |
| 0 | 1176 | Reference | | 1129 | | Reference | | 254 | | Reference | | 270 | | Reference | | Reference | | | Reference | |
| 1-9 | 791 | 0.98 (0.89, 1.08) | | 760 | | 0.94 (0.86, 1.02) | | 150 | | 0.93 (0.76, 1.14) | | 152 | | 1.16 (0.94, 1.42) | | 0.97 (0.89, 1.06) | | | 0.97 (0.90, 1.04) | |
| ≥10 | 122 | 0.92 (0.75, 1.12) | | 121 | | 0.81 (0.65, 1.00) | | 9 | | 0.78 (0.37, 1.68) | | 10 | | 0.85 (0.47, 1.55) | | 0.91 (0.75, 1.10) | | | 0.81 (0.67, 0.99) | |

a FRs combined across the U.S. and Canada using a fixed effects meta-analysis.

b Highways defined as A1 or A2 roads in the U.S. and expressways or highways in Canada. Major roads defined as A1-A3 roads in the U.S. and expressways, highways, or major roads in Canada.

c Adjusted for age, race/ethnicity, income, education, BMI, physical activity, smoking, sugar-sweetened soda intake, HEI score, multivitamin/folic acid intake, parity, intercourse frequency, doing something to improve chances of conception, census tract median household income, census tract % with <high school education, and census tract % non-Hispanic white.

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| Supplemental Table 4. Association between roadway proximity metrics and fecundability, restricted to 0-6 and 0-2 cycles of attempt time at study entry, Pregnancy Study Online (2013-2020). | | | | | | | | | | | | | | | | | | | | |
|  | 0-6 cycles of attempt at study entry | | | | | | | | |  | | 0-2 cycles of attempt time at study entry | | | | | | | | |
|  | United States  (n=6,589) | |  | | Canada  (n=4,246) | |  | | Combineda |  | | United States  (n=1,313) | |  | | Canada  (n=906) | |  | | Combineda |
| Exposureb | No. of pregs | Adjustedc  FR (95% CI) | | No. of pregs | | Adjustedc  FR (95% CI) | | Adjustedc  FR (95% CI) | | | No. of pregs | | Adjustedc  FR (95% CI) | | No. of pregs | | Adjustedc  FR (95% CI) | | Adjustedc  FR (95% CI) | |
| Distance to major road (m) | | | |  | |  | |  | | |  | |  | |  | |  | |  | |
| ≥400 | 1194 | Reference | | 248 | | Reference | | Reference | | | 842 | | Reference | | 191 | | Reference | | Reference | |
| 200-399 | 934 | 0.94 (0.87, 1.01) | | 218 | | 0.99 (0.83, 1.17) | | 0.95 (0.89, 1.01) | | | 676 | | 0.92 (0.84, 1.01) | | 165 | | 0.97 (0.80, 1.17) | | 0.93 (0.86, 1.01) | |
| 100-199 | 818 | 0.97 (0.89, 1.06) | | 159 | | 1.00 (0.82, 1.21) | | 0.98 (0.90, 1.06) | | | 596 | | 0.96 (0.87, 1.05) | | 123 | | 1.00 (0.80, 1.26) | | 0.97 (0.89, 1.05) | |
| 50-99 | 436 | 0.92 (0.84, 1.02) | | 96 | | 1.04 (0.84, 1.29) | | 0.94 (0.86, 1.03) | | | 327 | | 0.93 (0.82, 1.04) | | 67 | | 0.99 (0.76, 1.30) | | 0.94 (0.85, 1.04) | |
| <50 | 531 | 0.87 (0.79, 0.97) | | 97 | | 0.92 (0.74, 1.16) | | 0.88 (0.80, 0.97) | | | 379 | | 0.87 (0.78, 0.97) | | 70 | | 1.06 (0.81, 1.37) | | 0.90 (0.81, 0.99) | |
| Distance to highway (m) | | | |  | |  | |  | | |  | |  | |  | |  | |  | |
| ≥400 | 3058 | Reference | | 625 | | Reference | | Reference | | | 2195 | | Reference | | 469 | | Reference | | Reference | |
| 200-399 | 472 | 0.99 (0.91, 1.08) | | 91 | | 1.02 (0.83, 1.26) | | 0.99 (0.92, 1.08) | | | 338 | | 0.97 (0.87, 1.08) | | 64 | | 0.93 (0.73, 1.19) | | 0.96 (0.87, 1.06) | |
| 100-199 | 236 | 1.13 (1.00, 1.28) | | 51 | | 0.86 (0.66, 1.12) | | 1.08 (0.96, 1.20) | | | 181 | | 1.17 (1.02, 1.35) | | 44 | | 0.89 (0.66, 1.20) | | 1.11 (0.98, 1.27) | |
| 50-99 | 97 | 1.18 (0.98, 1.42) | | 23 | | 0.97 (0.65, 1.43) | | 1.14 (0.96, 1.35) | | | 70 | | 1.15 (0.93, 1.44) | | 17 | | 0.92 (0.56, 1.51) | | 1.11 (0.90, 1.36) | |
| <50 | 50 | 0.74 (0.57, 0.96) | | 28 | | 0.93 (0.65, 1.31) | | 0.81 (0.65, 0.99) | | | 36 | | 0.72 (0.53, 0.97) | | 22 | | 1.20 (0.81, 1.78) | | 0.87 (0.68, 1.10) | |
| Distance to highway <100m or to major road <50m | | | | | |  | |  | | |  | |  | |  | |  | |  | |
| No | 3306 | Reference | | 699 | | Reference | | Reference | | | 2386 | | Reference | | 530 | | Reference | | Reference | |
| Yes | 607 | 0.93 (0.86, 1.01) | | 119 | | 0.93 (0.77, 1.11) | | 0.93 (0.86, 1.00) | | | 434 | | 0.93 (0.85, 1.03) | | 86 | | 1.03 (0.84, 1.27) | | 0.95 (0.87, 1.04) | |
| Distance to major intersections (m) | | | | | |  | |  | | |  | |  | |  | |  | |  | |
| ≥400 | 2583 | Reference | | 602 | | Reference | | Reference | | | 1832 | | Reference | | 452 | | Reference | | Reference | |
| 200-399 | 867 | 0.97 (0.90, 1.04) | | 138 | | 1.05 (0.89, 1.25) | | 0.98 (0.92, 1.05) | | | 646 | | 0.97 (0.89, 1.05) | | 106 | | 1.10 (0.90, 1.35) | | 0.99 (0.92, 1.06) | |
| 100-199 | 344 | 0.92 (0.82, 1.02) | | 54 | | 0.83 (0.64, 1.08) | | 0.91 (0.82, 1.00) | | | 255 | | 0.90 (0.80, 1.02) | | 40 | | 0.91 (0.67, 1.24) | | 0.90 (0.80, 1.01) | |
| <100 | 119 | 0.85 (0.71, 1.01) | | 24 | | 0.77 (0.50, 1.18) | | 0.84 (0.71, 0.98) | | | 87 | | 0.83 (0.67, 1.01) | | 18 | | 0.99 (0.63, 1.55) | | 0.85 (0.71, 1.02) | |
| Length of major roads in 50m buffer (m) | | | | | |  | |  | | |  | |  | |  | |  | |  | |
| 0 | 3377 | Reference | | 720 | | Reference | | Reference | | | 2437 | | Reference | | 544 | | Reference | | Reference | |
| 1-72 | 134 | 0.96 (0.82, 1.13) | | 26 | | 0.92 (0.62, 1.37) | | 0.95 (0.82, 1.11) | | | 99 | | 0.99 (0.83, 1.19) | | 17 | | 0.97 (0.61, 1.54) | | 0.99 (0.83, 1.17) | |
| 73-97 | 258 | 0.95 (0.84, 1.07) | | 57 | | 0.97 (0.76, 1.24) | | 0.95 (0.86, 1.06) | | | 181 | | 0.93 (0.80, 1.07) | | 43 | | 1.12 (0.84, 1.49) | | 0.96 (0.85, 1.09) | |
| ≥98 | 144 | 0.82 (0.70, 0.96) | | 15 | | 0.80 (0.50, 1.29) | | 0.82 (0.70, 0.95) | | | 103 | | 0.83 (0.69, 1.00) | | 12 | | 1.03 (0.62, 1.73) | | 0.85 (0.71, 1.01) | |
| Length of major roads in 100m buffer (m) | | | | | |  | |  | | |  | |  | |  | |  | |  | |
| 0 | 2944 | Reference | | 626 | | Reference | | Reference | | | 2112 | | Reference | | 478 | | Reference | | Reference | |
| 1-145 | 237 | 0.92 (0.81, 1.05) | | 51 | | 0.94 (0.73, 1.21) | | 0.92 (0.82, 1.04) | | | 174 | | 0.91 (0.79, 1.05) | | 35 | | 0.89 (0.65, 1.23) | | 0.91 (0.80, 1.03) | |
| 146-204 | 491 | 0.95 (0.87, 1.04) | | 87 | | 1.00 (0.82, 1.23) | | 0.96 (0.88, 1.04) | | | 353 | | 0.96 (0.87, 1.07) | | 61 | | 1.03 (0.81, 1.32) | | 0.97 (0.88, 1.07) | |
| ≥205 | 241 | 0.88 (0.78, 1.00) | | 54 | | 0.97 (0.75, 1.27) | | 0.90 (0.80, 1.01) | | | 181 | | 0.91 (0.79, 1.05) | | 42 | | 1.25 (0.94, 1.65) | | 0.97 (0.86, 1.11) | |
| Length of major roads in 300m buffer (m) | | | | | |  | |  | | |  | |  | |  | |  | |  | |
| 0 | 1557 | Reference | | 338 | | Reference | | Reference | | | 1093 | | Reference | | 252 | | Reference | | Reference | |
| 1-518 | 599 | 0.93 (0.85, 1.02) | | 128 | | 1.00 (0.83, 1.21) | | 0.94 (0.87, 1.03) | | | 441 | | 0.91 (0.82, 1.01) | | 102 | | 0.97 (0.78, 1.20) | | 0.92 (0.84, 1.01) | |
| 519-677 | 569 | 0.95 (0.87, 1.04) | | 135 | | 1.06 (0.88, 1.28) | | 0.97 (0.89, 1.05) | | | 412 | | 0.96 (0.87, 1.06) | | 100 | | 1.05 (0.84, 1.31) | | 0.97 (0.89, 1.07) | |
| 678-1126 | 603 | 1.02 (0.94, 1.11) | | 108 | | 0.91 (0.73, 1.13) | | 1.01 (0.93, 1.09) | | | 443 | | 1.04 (0.94, 1.15) | | 77 | | 0.93 (0.71, 1.20) | | 1.02 (0.93, 1.13) | |
| ≥1127 | 585 | 0.92 (0.84, 1.00) | | 109 | | 0.96 (0.78, 1.19) | | 0.93 (0.86, 1.00) | | | 431 | | 0.91 (0.82, 1.01) | | 85 | | 1.08 (0.85, 1.37) | | 0.94 (0.85, 1.03) | |
| Length of major roads in 400m buffer (m) | | | | | |  | |  | | |  | |  | |  | |  | |  | |
| 0 | 1194 | Reference | | 247 | | Reference | | Reference | | | 842 | | Reference | | 188 | | Reference | | Reference | |
| 1-746 | 698 | 0.93 (0.85, 1.01) | | 159 | | 0.97 (0.81, 1.17) | | 0.94 (0.87, 1.01) | | | 493 | | 0.90 (0.81, 0.99) | | 122 | | 0.97 (0.78, 1.20) | | 0.91 (0.84, 0.99) | |
| 747-1163 | 653 | 0.90 (0.83, 0.98) | | 165 | | 1.06 (0.88, 1.27) | | 0.93 (0.86, 1.00) | | | 481 | | 0.90 (0.81, 0.99) | | 115 | | 1.04 (0.83, 1.29) | | 0.92 (0.85, 1.01) | |
| 1164-1736 | 694 | 1.02 (0.94, 1.12) | | 126 | | 0.95 (0.77, 1.17) | | 1.01 (0.93, 1.10) | | | 514 | | 1.05 (0.95, 1.16) | | 97 | | 1.01 (0.80, 1.28) | | 1.04 (0.95, 1.14) | |
| ≥1737 | 674 | 0.88 (0.80, 0.96) | | 121 | | 0.97 (0.79, 1.20) | | 0.89 (0.82, 0.97) | | | 490 | | 0.85 (0.77, 0.95) | | 94 | | 1.06 (0.83, 1.36) | | 0.88 (0.80, 0.98) | |
| Number of major intersections in 500m buffer | | | | | |  | |  | | |  | |  | |  | |  | |  | |
| 0 | 2183 | Reference | | 512 | | Reference | | Reference | | | 1554 | | Reference | | 382 | | Reference | | Reference | |
| 1-9 | 1496 | 0.96 (0.91, 1.03) | | 289 | | 1.01 (0.88, 1.16) | | 0.97 (0.91, 1.03) | | | 1088 | | 0.95 (0.88, 1.02) | | 221 | | 1.06 (0.91, 1.24) | | 0.97 (0.91, 1.03) | |
| ≥10 | 234 | 0.86 (0.76, 0.98) | | 17 | | 0.82 (0.52, 1.29) | | 0.86 (0.76, 0.97) | | | 178 | | 0.82 (0.71, 0.95) | | 13 | | 0.90 (0.54, 1.49) | | 0.83 (0.72, 0.95) | |

a FRs combined across the U.S. and Canada using a fixed effects meta-analysis.

b Highways defined as A1 or A2 roads in the U.S. and expressways or highways in Canada. Major roads defined as A1-A3 roads in the U.S. and expressways, highways, or major roads in Canada.

c Adjusted for age, race/ethnicity, income, education, BMI, physical activity, smoking, sugar-sweetened soda intake, HEI score, multivitamin/folic acid intake, parity, intercourse frequency, doing something to improve chances of conception, census tract median household income, census tract % with <high school education, and census tract % non-Hispanic white.

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| Supplemental Table 5. Association between roadway proximity metrics and fecundability among pregnancy planners from the contiguous United States and Canada, restricted to urban addresses,a Pregnancy Study Online (2013-2020). | | | | | | | | | |
|  | United States (n=6,318) | |  | | Canada (n=1,140) | |  | | Combinedb |
| Exposurec | No. of pregs | Adjustedd  FR (95% CI) | | No. of pregs | | Adjustedd  FR (95% CI) | | Adjustedd  FR (95% CI) | |
| Distance to major road (m) | | | |  | |  | |  | |
| ≥400 | 912 | Reference | | 193 | | Reference | | Reference | |
| 200-399 | 912 | 0.95 (0.87, 1.04) | | 181 | | 0.98 (0.80, 1.20) | | 0.96 (0.88, 1.04) | |
| 100-199 | 815 | 0.99 (0.90, 1.09) | | 138 | | 1.05 (0.85, 1.29) | | 1.00 (0.92, 1.09) | |
| 50-99 | 421 | 0.93 (0.83, 1.03) | | 85 | | 1.04 (0.82, 1.32) | | 0.95 (0.86, 1.04) | |
| <50 | 497 | 0.87 (0.78, 0.98) | | 74 | | 0.92 (0.70, 1.21) | | 0.88 (0.79, 0.98) | |
| Distance to highway (m) | | | |  | |  | |  | |
| ≥400 | 2744 | Reference | | 533 | | Reference | | Reference | |
| 200-399 | 447 | 0.98 (0.89, 1.07) | | 74 | | 0.97 (0.76, 1.25) | | 0.98 (0.90, 1.06) | |
| 100-199 | 230 | 1.13 (0.99, 1.29) | | 37 | | 0.85 (0.62, 1.18) | | 1.09 (0.96, 1.23) | |
| 50-99 | 91 | 1.14 (0.95, 1.39) | | 15 | | 0.94 (0.56, 1.59) | | 1.11 (0.92, 1.34) | |
| <50 | 45 | 0.74 (0.56, 0.97) | | 12 | | 0.66 (0.37, 1.16) | | 0.72 (0.57, 0.92) | |
| Distance to highway <100m or to major road <50m | | | | | |  | |  | |
| No | 2990 | Reference | | 596 | | Reference | | Reference | |
| Yes | 567 | 0.92 (0.84, 1.01) | | 88 | | 0.91 (0.73, 1.13) | | 0.92 (0.84, 1.00) | |
| Distance to major intersections (m) | | | | | |  | |  | |
| ≥400 | 2238 | Reference | | 469 | | Reference | | Reference | |
| 200-399 | 867 | 0.98 (0.91, 1.05) | | 130 | | 1.18 (0.98, 1.42) | | 1.00 (0.94, 1.07) | |
| 100-199 | 335 | 0.93 (0.83, 1.03) | | 52 | | 0.91 (0.68, 1.20) | | 0.93 (0.84, 1.02) | |
| <100 | 117 | 0.84 (0.70, 1.00) | | 20 | | 0.79 (0.50, 1.25) | | 0.83 (0.71, 0.98) | |
| Length of major roads in 50m buffer (m) | | | | | |  | |  | |
| 0 | 3055 | Reference | | 597 | | Reference | | Reference | |
| 1-72 | 130 | 0.99 (0.84, 1.18) | | 27 | | 0.99 (0.68, 1.46) | | 0.99 (0.84, 1.16) | |
| 73-97 | 235 | 0.92 (0.81, 1.04) | | 38 | | 0.93 (0.69, 1.26) | | 0.92 (0.82, 1.03) | |
| ≥98 | 137 | 0.81 (0.69, 0.97) | | 9 | | 0.70 (0.38, 1.31) | | 0.80 (0.67, 0.95) | |
| Length of major roads in 100m buffer (m) | | | | | |  | |  | |
| 0 | 2636 | Reference | | 514 | | Reference | | Reference | |
| 1-145 | 226 | 0.89 (0.78, 1.02) | | 44 | | 0.98 (0.74, 1.29) | | 0.91 (0.80, 1.03) | |
| 146-204 | 448 | 0.95 (0.86, 1.04) | | 66 | | 0.96 (0.76, 1.22) | | 0.95 (0.87, 1.04) | |
| ≥205 | 247 | 0.89 (0.78, 1.01) | | 47 | | 1.01 (0.75, 1.36) | | 0.91 (0.81, 1.02) | |
| Length of major roads in 300m buffer (m) | | | | | |  | |  | |
| 0 | 1265 | Reference | | 269 | | Reference | | Reference | |
| 1-518 | 581 | 0.96 (0.87, 1.06) | | 100 | | 0.95 (0.77, 1.18) | | 0.96 (0.88, 1.05) | |
| 519-677 | 515 | 0.96 (0.87, 1.06) | | 97 | | 1.04 (0.84, 1.29) | | 0.97 (0.89, 1.07) | |
| 678-1126 | 599 | 1.04 (0.95, 1.14) | | 96 | | 0.97 (0.77, 1.22) | | 1.03 (0.95, 1.12) | |
| ≥1127 | 597 | 0.92 (0.84, 1.01) | | 109 | | 1.01 (0.81, 1.25) | | 0.93 (0.86, 1.02) | |
| Length of major roads in 400m buffer (m) | | | | | |  | |  | |
| 0 | 912 | Reference | | 191 | | Reference | | Reference | |
| 1-746 | 669 | 0.95 (0.86, 1.04) | | 125 | | 0.97 (0.78, 1.20) | | 0.95 (0.88, 1.04) | |
| 747-1163 | 596 | 0.92 (0.83, 1.01) | | 116 | | 1.04 (0.84, 1.28) | | 0.94 (0.86, 1.02) | |
| 1164-1736 | 690 | 1.03 (0.94, 1.14) | | 116 | | 1.03 (0.82, 1.29) | | 1.03 (0.94, 1.13) | |
| ≥1737 | 690 | 0.88 (0.80, 0.97) | | 123 | | 1.05 (0.83, 1.32) | | 0.90 (0.83, 0.99) | |
| Number of major intersections in 500m buffer | | | | | |  | |  | |
| 0 | 1846 | Reference | | 391 | | Reference | | Reference | |
| 1-9 | 1473 | 0.97 (0.91, 1.04) | | 261 | | 1.10 (0.94, 1.28) | | 0.99 (0.93, 1.06) | |
| ≥10 | 238 | 0.86 (0.75, 0.97) | | 19 | | 0.93 (0.60, 1.44) | | 0.87 (0.77, 0.97) | |

a Urban addresses defined as addresses within an urbanized area or urban cluster in the United States, or within a Census Metropolitan Area in Canada.

b FRs combined across the U.S. and Canada using a fixed effects meta-analysis.

c Highways defined as A1 or A2 roads in the U.S. and expressways or highways in Canada. Major roads defined as A1-A3 roads in the U.S. and expressways, highways, or major roads in Canada.

d Adjusted for age, race/ethnicity, income, education, BMI, physical activity, smoking, sugar-sweetened soda intake, HEI score, multivitamin/folic acid intake, parity, intercourse frequency, doing something to improve chances of conception, census tract median household income, census tract % with <high school education, and census tract % non-Hispanic white.

Parity

Neighborhood SES

Income

Education

Residential proximity to major roads

Fecundability

*Intensity of trying to conceive*

Age

Supplemental Figure 1. Directed acyclic graph of the association between residential proximity to major roads and fecundability. Observed variables are displayed in regular font; unobserved variables are displayed in *italics*.

*Health conscious*

Smoking

Multivitamin intake

Body mass index

Physical activity

Sugar-sweetened soda intake

Healthy Eating Index score

Using methods to improve chances of conception

Intercourse frequency

Structural racism

Self-reported race

Green space

Noise

Traffic-related air pollution