



STREETS

SAFE TRAVEL ENVIRONMENT EVALUATION IN TEXAS SCHOOLS

PROGRESS REPORT YEAR 4 | 2021-2022

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Acknowledgements

We want to thank all the participants, schools, and districts for working with us on this project. We recognize the past 2 years have been extremely challenging and we are honored and grateful that you chose to continue this research with us.

Study overview

The STREETS Study (Safe TRavel Environment Evaluation in Texas Schools) is a five-year (2018 – 2023) natural experiment that is evaluating the City of Austin Safe Routes to School (SRTS) program. In 2016, the City of Austin approved \$27.5 million in Mobility Bond Funds for Safe Routes to School infrastructure projects, including protected bike lanes, pedestrian islands, shared-use paths, and pedestrian hybrid beacons. The UTHealth School of Public Health is evaluating these transformative infrastructure changes. The evaluation will include a comparison study with schools outside the city of Austin.



Year 4 Progress

Progress was made on many of the STREETS grant activities outlined for Year 4. We mostly returned to normal data collection after the pandemic school closures in Year 3. We have also made progress on publications and presentations.

Active Commuting to School | Cross-sectional study

- Data collection was resumed after a pause (2020-2021) due to pandemic-related school restrictions. We measured 58 schools this year.
- Campus Improvement Plan (CIP) data have been collected from the STREETS school websites, and we are using these data to develop recommendations for school-level policies related to SRTS.

Physical Activity in Children | Cohort study

- Prior to the pandemic (March 13, 2020), 44 schools (30 Austin SRTS and 14 comparisons) had been recruited, representing 97% of planned recruitment. In Year 3, we were unable to recruit new schools due to pandemic-related school restrictions. In Year 4, we recruited five new cohort schools.
- In Year 4, we measured 287 cohort students from 31 schools. Of those, 216 were 5th-grade students from 26 schools completing the final measurement period and 71 were 3rd-grade students from 5 schools completing the first measurement period. We had three different forms of data collection, depending on school requirements: (1) in-person (18 schools), (2) contactless drop-off at the schools (8 schools), and (3) contactless drop-off at participants' houses (4 schools). For the contactless drop-off at participants' houses, we contacted the parents of the 52 participants, and 15 (28.8%) agreed to participate in this final measurement period.
- All wave 1 (baseline) and wave 2 (interim) Microscale Audit of Pedestrian Streetscapes (MAPS) environmental audits for Austin SRTS and comparison cohort schools were completed.

Qualitative Interviews

- Seven (7) qualitative interviews were conducted with City of Austin SRTS staff/community members/stakeholders. These data are currently being analyzed.
- Twenty (20) parent and child interviews were conducted in Spring 2021. Pilot interviews were conducted prior to data collection with cohort participants that were not part of the final interviews to test the length and comprehension of the questions.
- School administrator/teacher interviews were postponed during the 2020-2021 school year due to the pressure on schools during the pandemic and requests from the school districts. They will be completed during the summer of 2022.

Presentations and Publications

Peer-reviewed publications:

- Published:
 - Burford K, Ganzar LA, Lanza K, Kohl HW, Hoelscher DM. School-level economic disparities in police-reported crimes and active commuting to school. *International Journal of Environmental Research and Public Health*. 2021;18(20):10885. (PMCID: PMC8535774)
 - Hoelscher DM, Ganzar LA, Salvo D, Kohl HW III, Pérez A, Brown HS, Bentley SS, Dooley EE, Emamian A, Durand CP. Effects of large-scale municipal Safe Routes to School infrastructure on student active travel and physical activity: design, methods and baseline data of the Safe Travel Environment Evaluation in Texas Schools (STREETS) natural experiment. *International Journal of Environmental Research and Public Health* 2022, 19, 1810. <https://doi.org/10.3390/ijerph19031810>. (PMCID: PMC8834930)
 - Ganzar LA, Salvo D, Burford K, Zhang Y, Kohl HW, Hoelscher DM. Longitudinal Changes in Objectively-Measured Physical Activity and Sedentary Time Among School-Age Children in Central Texas, US During the COVID-19 Pandemic (submitted 2-11-2022) *International Journal of Behavioral Nutrition & Physical Activity*
- Under review:
 - Ganzar LA, Bentley SS, Emamian A, Salvo D, Durand C, Anderson A, Brodie S, Hoelscher DM. The Use of Municipal Funding for Safe Routes to School Infrastructure Projects: Methods for Resource Prioritization (submitted 4-30-2022) Special issue of Equitable Active Transportation from *Transportation Research Part D: Transport and Environment*
- In process:
 - Ganzar, LA, Hoelscher DM. School Policies and Active Commuting among Elementary Students: A Dose-Response Association, target journal: *Journal of Physical Activity and Health*.
 - Salvo D, Ganzar LA, Hoelscher DM. GIS neighborhood built environment factors and baseline ACS
 - Durand C, Ganzar LA, Hoelscher DM. Association between Weather and Active Travel to School among elementary-age children: A cross-sectional analysis.
 - Durand C, Ganzar LA, Hoelscher DM. Weather as a modifying factor of the impact of a SRTS infrastructure intervention on active commuting to school and physical activity among elementary-age children.

Presentations:

- Ganzar LA, Emamian A, Hoelscher DM. Hitting the STREETS: Built Environment and Policy Interventions to Increase Active Commuting to School. Oral presentation at the Outride Research Summit, Virtual: July 28, 2021.
- Ganzar LA, Gentles C, Emamian A, Hoelscher DM. Hitting the STREETS: Evaluating Health Effects of Municipally Funded Safe Routes to School Infrastructure Projects in Austin, Texas. Oral presentation at the Equity and Resilience Workgroup Meeting of the Physical Activity Policy Research and Evaluation Network, April 11, 2022
- Ganzar LA, Salvo D, Burford K, Zhang Y, Kohl HW, Hoelscher DM. Longitudinal Changes in Objectively-Measured Physical Activity and Sedentary Time Among School-Age Children in Central Texas, US During the COVID-19 Pandemic. International Society of Environmental Research and Public Health, May 21, 2022

Challenges and Changes

All cross-sectional measures (e.g., Waves 4 & 5 of ACS, and school policy surveys) were missed due to pandemic-related school restrictions in year 3 (school year 2020-2021) and resumed in Year 4 (school year 2021-2022). In Year 3, we were unable to recruit new schools or conduct any further baseline data collection for the remaining recruited schools (8 Austin and 3 comparison) due to pandemic-related school restrictions. In Year 4, we recruited five new cohort schools. Fortuitously, much of the Austin-based SRTS construction is still behind schedule, and we were able to recruit and measure additional baseline schools in spring 2022; these schools still fit the requirements of our natural experiment study design, e.g., no previous intervention. One positive outcome is that we were able to pivot from school-based data collection to contactless data collection by directly contacting the parents of the 4th and 5th grade participants in year 3 (school year 2020-2021). We offered parents the option of receiving and returning the materials by mail or contactless pick-up/drop-off. We had a 55% participation rate for the pandemic-related data collection, which we considered appropriate considering the pandemic restrictions. In year 4 (school year 2021-2022), we conducted hybrid measurements with 54% school-based data collection, 31% contactless pick-up/drop-off through the schools, and 15% virtual/contactless pick-up/drop-off directly at the participants' homes.



Currently, we are completing data entry and cleaning, conducting analyses, and collecting environmental audit data. We are also seeking other opportunities to leverage our funding for this important project. Finally, our project team is actively working on analyses, publications, and dissemination efforts.

2022-2023 Goals

During the next reporting period, we plan to conduct Wave 2 data collection with the new 4th grade cohort students. Additionally, we will complete two more waves (once per semester) of the cross-sectional ACS tallies.

School-level interviews and qualitative analyses will be conducted during summer 2022.

We plan to continue monthly meetings with the City of Austin to share updates on the study progress as well as construction and infrastructure project progress, as well as hold regular meetings with our Technical Advisory Committee.

We intend to complete analyses of data from previous years, including: (1) qualitative data, (2) MAPS data, (3) campus improvement plan data, (4) accelerometer/GPS data, and (5) National Oceanic and Atmospheric Administration (NOAA) weather data.

Currently, several manuscripts are in process, and we plan to publish these manuscripts during the next reporting period.

We also plan to do a webinar on the COVID physical activity paper (Ganzar et al., IJBNPA) for the summer through the Michael & Susan Dell Center for Healthy Living webinar series.

Specific project goals are listed below. These study goals have been adjusted to account for the change in timeline due to COVID-19 closures and delays.

By December 31, 2022:

- Conduct one 4th grade data collection for new Austin SRTS and Comparison cohort schools
 - Status: Recruitment and baseline data collection complete in new 3rd grade cohorts in Austin SRTS and comparison schools. Since building construction was slowed due to COVID-19-related closures, we were able to recruit five new cohorts of 3rd grade students for the study.
- Complete Wave 8 (fall 2022) cross-sectional data collection for all recruited Austin SRTS and comparison schools
 - Status: Wave 6 was completed in fall of 2021 and wave 7 was completed in spring 2022.
- Conduct school-level interviews and complete qualitative analysis
- Submit publications. Planned publications include: (1) baseline analysis of school-based policies versus active commuting to schools; (2) comparison of physical activity prior to and during COVID-19; (3) GIS neighborhood built environment factors and baseline ACS; (4) association between weather and ACS among elementary-age children: a cross-sectional analysis; and (5) weather as a modifying factor of the impact of a SRTS infrastructure intervention on active commuting to school and physical activity among elementary-age children.
 - Status: See above for list of current publications.

By May 31, 2023:

- Complete Wave 9 (Spring 2023) cross-sectional data collection for all recruited Austin SRTS and comparison schools
- Complete Wave 3 (post-measure) of MAPS environmental audits for new cohort schools.

- Status: Original Austin SRTS and comparison cohort schools have complete MAPS environmental audits (3 time points). New cohort schools have baseline and Wave 2 (interim) complete.
- Complete analyses of data from previous years, including: (1) qualitative data, (2) MAPS data, (3) campus improvement plan data, (4) accelerometer/GPS data, and (5) NOAA weather data.
- Submit publications and presentations. See status above.