Mapping Opportunities to Reduce Roadway Fatality and Serious Injury in Partnership with the Montopolis Community of Austin, Texas:

Advancing Vision Zero via a Young Adult-Led Assessment of Road-Related Safety & Active Commuting

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EXECUTIVE SUMMARY

Background: High rates of road-related fatality and injury represent a major public health problem in Texas and beyond. In the Austin area of Texas, over 2,700 people have been seriously injured or killed in traffic crashes in the past five years, with motor vehicle crashes representing among the leading causes of death according to the 2023 *Critical Health Indicator Report* for Travis County. Higher risk geographic areas in Austin for traffic crashes and injury include the Montopolis community, located southeast of Austin's urban core in the 78741 zip code. Within Montopolis, Hispanic residents and young people 15-24 years are overrepresented in crash injuries, underscoring both a need and opportunity to engage residents in exploring strategies for increasing roadway safety *as well as* active commuting, given the multiple benefits of walking, biking and use of public transportation. Vision Zero's Safe Systems Approach presents a robust framework to identify factors that can increase roadway safety, including a focus on safer people and safer roads.

Project Aims: The *Mapping Opportunities to Reduce Fatal & Serious Injuries on Roadways in Austin, Texas: Engaging Young People in Action Planning to Advance Vision Zero* initiative was a one-year community assessment that engaged young adults as *community Change Agent citizen scientists* in co-learning about roadway safety. Primary aims were to identify risk factors and opportunities for safe transportation and active commuting for young people and the Montopolis community via the lens of young adults. This final report presents findings and recommendations from two cohorts of young adult Change Agents *(Summer 2024* and *Fall 2024)* who co-led the assessment.

Methods: Guided by the *Intervention Mapping* health promotion planning framework and *Core Processes* (brainstorming, review of data and literature, primary data collection), this mixed-methods community assessment aimed to generate place and young adult-specific insights about factors that increase or impede roadway safety. Data collection methods included participatory learning, photovoice, peer interviews, and walkability audits of Montopolis.

Findings: Data generated from eleven community Change Agents via participatory workshops and photovoice, interviews with n=41 young adults, and walkability audits of n=24 roadway segments of Montopolis resulted in rich learning about the context of specific risk behaviors (e.g., distracted driving, driving under the influence, speeding and lack of seatbelt use) as well as the environmental factors that impede or support safe transportation and active commuting. Key findings include:

- *Montopolis experienced a higher rate of crashes* compared to Austin as a whole for 2019-23 (87.6 per 100,000 people vs. to 61.2 per 100,000, respectively).
- *Assets*: Among road segments assessed, 77.8% had sidewalks, with 66.7% having road buffers.
- *Need for improved community infrastructure* (sidewalks, crosswalks, lighting, bikeways, shade) was noted across assessment methods (e.g., 47.8% of road segments assessed lack crosswalks).
- *Peer interview themes* included: distracted driving (cell phone normalization; addiction; societal pressures); impaired driving (normalization; lack of perceived consequences; underestimation of impairment; financial barriers; inconvenience of alternatives); speeding (as a cultural norm; time; thrill seeking; masculinity); and lack of seatbelt use (inconvenience; "it's not cool").
- *Barriers for active commuting* included: safety concerns, environmental and infrastructure challenges; distance, convenience and car culture; and stigma and lack of skills for taking bus.
- *Solutions*: Change Agents explored rich solutions to increase roadway safety and active commuting, from promoting technological solutions to reduce distracted driving, to increasing social influence among peers to reduce DUI, to enhancing roadway design and messaging.

Conclusion: Community Change Agents generated rich insights and recommendations for improving roadway safety and promoting active community that hold promise to inform intervention planning aimed at increasing roadway safety among young people and the Montopolis community.

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INTRODUCTION

Despite the decline in the number of people killed in traffic crashes over the last 30 years in the United States, progress has stalled in the last decade, and high rates of road-related fatality and injury continue to represent a major public health problem.[1,2,3] In the Austin area of Texas, over 2,700 people have been seriously injured or killed in traffic crashes in the past five years,[4] with unintentional injury- which includes motor vehicle accidents- representing the third leading cause of death based on the 2023 *Critical Health Indicator Report* for Travis County.[5] Communities of color have been disproportionately affected by traffic crashes in the Austin area, representing 58.9% of all traffic crashes between 2021-24.[4] In addition to higher risk for specific racial/ethnic groups, the City of Austin Transportation and Public Works Department (TPWD) has identified higher risk geographic communities for traffic crashes and injury, which includes the Montopolis community, located southeast of Austin's urban core in the 78741 zip code (Fig. 1). Within Montopolis, TPWD data indicate that Hispanic residents and residents between 15-24 and between 35-59 years are overrepresented in fatal, serious, and minor traffic crash injuries.[6] The

The Montopolis community represents a higher risk area of traffic crashes and injury
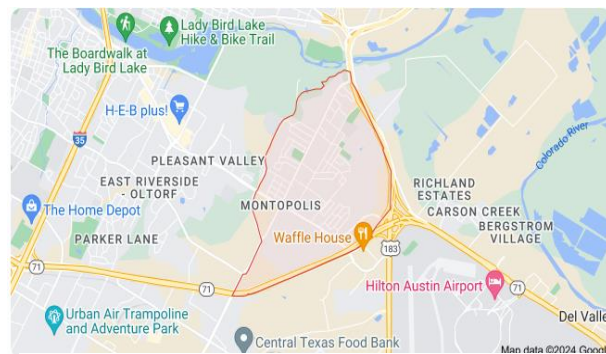
Figure 1. Map of Montopolis, Austin, Texas.

higher burden of roadway crashes and fatal and serious injuries among communities of color and young people within Montopolis underscore both a need and opportunity to engage community members in exploring strategies for increasing roadway safety *and* active commuting, given the multiple benefits of walking, biking and use of public transportation.[7]

PROJECT AIMS

The *Mapping Opportunities to Reduce Fatal & Serious Injuries on Roadways in Austin, Texas: Engaging Young People in Action Planning to Advance Vision Zero* initiative was a one-year community assessment that engaged young adults (18-25 years) as *community Change Agent citizen scientists* in co-learning about roadway safety. Funded by the City of Austin TPWD, primary aims of this assessment were to identify individual-level and environmental-level risk factors and opportunities for safe transportation among residents in and around the Montopolis community of Austin, Texas via the lens of young adults. Specific focus areas

[1] U.S. Department of Transportation. *The Roadway Safety Problem* (Nov. 2024).

[2] Insurance Institute for Highway Safety. (2022). Fatality Facts 2019: Yearly Snapshot. Accessed at https://www.iihs.org/topics/fatality-statistics/detail/yearly-snapshot.

[3] Evenson KR, LaJeunesse S, Keefe E, Naumann RB. Mixed-methods approach to describing Vision Zero initiatives in United States' municipalities. Accident Analysis and Prevention 2023; 184: https://doi.org/10.1016/j.aap.2023.107012

[4] City of Austin Transportation and Public Works Dept. *Vision Zero Viewer.* Vision Zero Viewer

[5] Austin Public Health. Critical Indicators Report 2023.

[6] City of Austin Transportation and Public Works Dept. *Vison Zero and Transportation Safety in the Montopolis* (ppt) (10/8/24) based on TxDOT CRIS data (2019-2023).

[7] Dutheil, F., Pélangeon, S., Duclos, M. *et al.* (2020). Protective Effect on Mortality of Active Commuting to Work: A Systematic Review and Meta-analysis. *Sports Med* **50**, 2237–2250.

of the assessment included identifying barriers and protective factors for safe *driving* (e.g., driving under the influence, distracted driving, speeding, and lack of seatbelt use) and *active commuting*. This final report presents our findings and recommendations from two cohorts of community Change Agent citizen scientists *(Phase 1: June-August 2024; Phase 2: October-December 2024)* who partnered with our team in co-leading the assessment.

METHODS
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Community-Engaged Research Orientation: Our assessment was guided by a research orientation rooted in community-based participatory research (CBPR), which aims to promote collaborative and equitable partnerships with community members in all research phases. A recent publication from ChangeLab Solutions cites involving community members in conducting community assessment and improvement planning as a key strategy for community engagement and for advancing health equity, with benefits for communities that include improved health behaviors, public health planning, access to services, and health literacy, among other positive outcomes.[8,9] In developing our approach, we aimed to embrace CBPR principles that included *recognizing community as a unit of identify, fostering co-learning and capacity building among all partners, focusing on problems of relevance to local communities using an ecological approach, building on strengths and resources within the community, fostering racial and social equity and cultural humility,* and *disseminating findings gained to the broader community*.[10] In doing so, we were intentional in structuring this community assessment as a partnership with young adults between the ages of 18 and 25 who bring lived experience of an at-risk age group for roadway injury and who have lived in or have a connection with the Montopolis community.

Community Assessment Team: In establishing our team, we first developed a recruitment plan led by project co-leader Nicole Trevino of MAYA Consulting. This plan aimed to recruit two teams of 5 to 7 members each of young adult community Change Agents to conduct the assessment during two phases: summer 2024 (Phase 1) and fall 2024 (Phase 2) (Appendix A: *Recruitment Plan*). The recruitment strategy included the development and dissemination of flyers via community organizations and networks with young adults, including: Austin Public Health Austin Healthy Adolescent Program, Breakthrough Central Texas,

Figure 2. *Phase 1 (Summer '24) Change Agent Team.* From right: Myrt'Asia Gowen, Penueli Kies, Caleb Brizuela, Mikey Rush, Nicole Trevino (project co-lead), Eden Miller, Greta Frankert (research assistant), Andrew Springer (project co-lead), Manasa Ramesh (project coordinator).

[8] ChangeLab Solutions. Supporting Equitable Community Engagement: A Resource for State Health Departments. 2024.
[9] Cyril S, Smith BJ, Possamai-Inesedy A, Renzaho AMN. Exploring the role of community engagement in improving the health of disadvantaged populations: a systematic review. Glob Health Action. 2015;8(1):29842. doi:10.3402/gha.v8.29842.
[10] Wallerstein et al. Wallerstein N, Duran B, Oetzel J, Minkler M, eds. *Community-Based Participatory Research for Health: Advancing social and health equity.* 3rd ed. Jossey-Bass: San Francisco, CA; 2018.

neighborhood social media, UT at Austin student clubs, Huston-Tillotson professors, and community forums. Prospective applicants completed an online application that included questions about their experience with the Montopolis community, roadway safety, and previous community service, followed by interviews with the project team. We successfully recruited a total of 11 exceptional Change Agents for the project (5 for Phase 1; 6 for Phase 2),

Figure 3. *Phase 2 (Fall '24) Change Agent Team.* From right: Andrew Springer (co-lead). Back row: Graciela Sayen, Stephany Serna, Asher Hagan, Isabel Thomas (project coordinator), Nicole Trevino (co-lead); First row: Leslie Imafidon, Nyla Ochoa, & Timi Zuokumor.

which included 1 nurse, 2 students from Austin Community College, 2 students from Huston-Tillotson University, 1 recent graduate from St. Edward's University, and 3 students and 2 recent graduates from UT at Austin- of whom one is a civil engineer and the other a public health practitioner (Figs. 2 & 3). An example orientation packet, including roles and responsibilities, is presented in Appendix B. Change Agents received $1000 for full participation.

Vision Zero Change Agents partnered with our planning team in conducting the assessment, which was led by Nicole Trevino (MAYA Consulting), Deborah Salvo (UT at Austin), and Andrew Springer (Dell Center for Healthy Living/UTHealth Houston School of Public Health-Austin), with project coordination provided by UTHealth graduate students Manasa Ramesh (Phase 1) and Isabel Thomas (Phase 2). In addition, Greta Fränkert, a visiting graduate student from Maastricht University, provided helpful support with Phase 1. We also partnered with Adrian Escajeda, a photojournalist, who provided impactful training of our Change Agents with photovoice and conducting interviews. Lastly and importantly, Joel Meyer, Acting Transportation Safety Officer, and Mary Vo, Vision Zero Program Manager, City of Austin TPWD, provided excellent partnership throughout the project, including input with the approach, provision of data, roadway safety orientation to our Change Agents, and active participation with community share-back events.

Community Assessment Approach. We used the Intervention Mapping (IM) health promotion planning framework *Step 1 – Needs Assessment* to guide the assessment[11] with the aim of generating place- and young adult-specific insights about the individual-level factors (e.g., practices; beliefs) and environmental-level factors (e.g., street design) that increase or impede roadway safety among young adults in Montopolis and Austin. Key Step 1 tasks included: *establishing a planning group* and *conducting a needs/asset assessment* guided by the IM Core Processes as presented in Box A and described below.

> **Box A.** IM Core Processes
> - *Analysis of Existing Data & Literature Review* to explore risk factors for roadway safety.
> - *Question Posing & Brainstorming* with community partners via participatory learning sessions held at Montopolis Recreation Center.
> - *Primary Data Collection* via photovoice, peer interviews, and walkability audits.

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[11] Bartholomew-Eldredge L.K., Markham, C.M., Ruiter, R.A.C., Fernández, M.E., Kok, G., & Parcel, G.S., editors. (2016). *Planning health promotion programs: An Intervention Mapping approach* (4th ed.). San Francisco, CA: Jossey-Bass.

Review of Existing Vision Zero Data and Related Literature: We began our assessment with an initial review on road-related data and literature to describe the magnitude of roadway safety challenges in Travis County and beyond and to identify factors and practices that influence roadway injury among young people.

Participatory Learning & Capacity Building Workshops: Our organizational framework was rooted in a participatory learning and capacity building workshop approach. In guiding our approach, we developed a 12-session *Vision Zero Community Assessment* curriculum aimed at engaging community members in exploring roadway safety and active commuting. Sessions were based at the Montopolis Recreation Center and took place during the evenings over a ~2.5-month period. During these sessions, Change Agents participated in a range of participatory learning activities to generate insights about roadway safety, which included small group discussions. Change Agents also participated in training on field data collection methods described below, with the workshops serving as a platform to share back and contextualize findings. Appendix C presents an example scope and sequence of activities; below, we provide a description of the activities and present key findings.

Primary Data Collection: Complementing our participatory learning and action activities described above, Change Agents conducted field assessments of roadway safety and active commuting based on the primary data collection methods described below. Prior to collecting primary data, all Change Agents participated in a training on the Protection of Human Subjects led by Ms. Sylvia Romo from UTHealth Houston School of Public Health.

- *Photovoice:* Photovoice is a qualitative, community-engaged research method that guides community members to explore the root causes of a given problem as well as community strengths and actionable solutions via photography and writing of narratives.[12,13] For the current project, community Change Agents participated in a training on taking impactful photos led by Adrian Escajeda, an experienced photojournalist, as well as on the overall photovoice process led by our project team (Appendix D: Photovoice Training).

- *Peer Interviews:* In generating young adult-specific insights about the factors that impede and promote roadway safety and active commuting, project Change Agents conducted interviews with up to five of their peers. The interview guide was developed by our project team and included open-ended questions on road-related risk behaviors (e.g., driving under the influence, distracted driving, not wearing seatbelts), factors that impede active commuting, and recommendations for promoting roadway safety and active commuting (Appendix E: Interview Guide – Purpose, Content & Protocol). Prior to conducting interviews, Change Agents participated in a training on conducting interviews with Adrian Escajeda and our team, and reviewed ethical considerations.

- *Walkability Audits:* Lastly, Change Agents assessed the walkability of selected segments of the Montopolis community using the MAPS (Microscale Audit of Pedestrian Landscapes) instrument (full measure with minor adaptations and additions). Training in MAPS was provided by co-leader Dr. Deb Salvo. Below we provide further description on our approach (see MAPS website for instrument and protocol).

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[12] Wang CC, Cash JL, & Powers LS. Who knows the streets as well as the homeless? Promoting personal and community action through photovoice. *Health Promotion Practice* 2000; 1, 81-89.
[13] Strack RW. *What is Photovoice? A brief summary*. (n.d.). What-is-Photovoice-white-paper-Strack-RW-1.pdf

FINDINGS
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Section 1: Review of Existing Vision Zero Data and Related Literature

Crash-Related Fatalities and Serious Injuries in Austin & Montopolis

According to the Texas Department of Transportation (TxDOT), one person was killed every two hours, and one person was injured every two minutes in the state of Texas in 2023, with over 250,000 people injured from roadway crashes.[14] Austin ranks among the top five cities for crash-related fatalities and serious injuries in Texas.[15] Between 2020-24, there were a total of 2,707 crash-related fatalities and serious injuries in Austin.[16] Motorists accounted for the highest number of fatal and serious injuries, followed by pedestrians, motorcyclists, bicyclists and e-scooter riders(Fig.4). Communities of color have been disproportionately represented in crash-related fatality and serious injuries in Austin, representing 58.9% of all crash victims between 2021-24.[17]
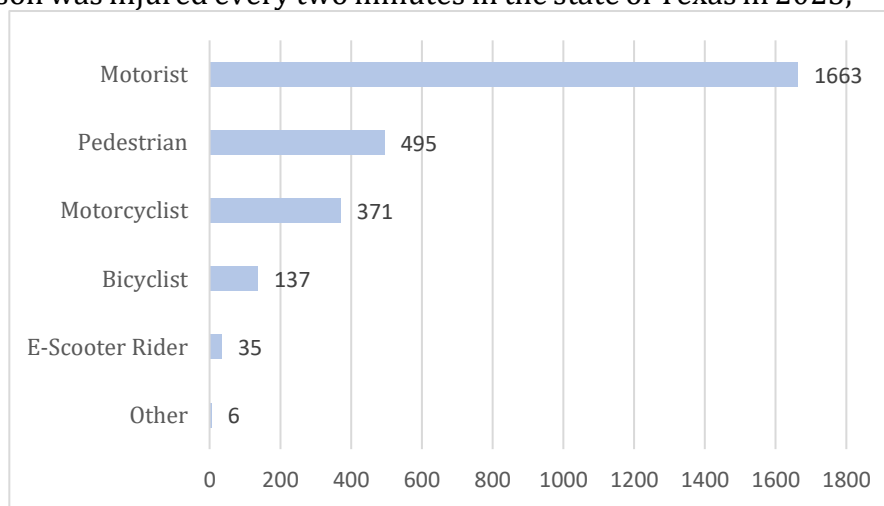
Figure 4. Number of crash-related fatalities and serious injuries in Austin, Texas (2020-24). Source: *City of Austin Transportation and Public Works Department-TxDOT CRIS Data*

Within Austin, the Montopolis community has been identified as an area with higher risk of crash-related fatality and serious injury. Based on an analysis of 2019-2023 TxDOT Crash Records Information Systems (CRIS) data, Montopolis experienced a higher rate of crashes at 87.6 per 100,000 people compared to 61.2 per 100,000 for the city of Austin as a whole (Fig. 5).[16] Within Montopolis, 307 crash-related fatalities (n=10), suspected serious injuries (n=47), and suspected minor injuries (n=250) were documented in Montopolis during this same time period (data not shown).[16]
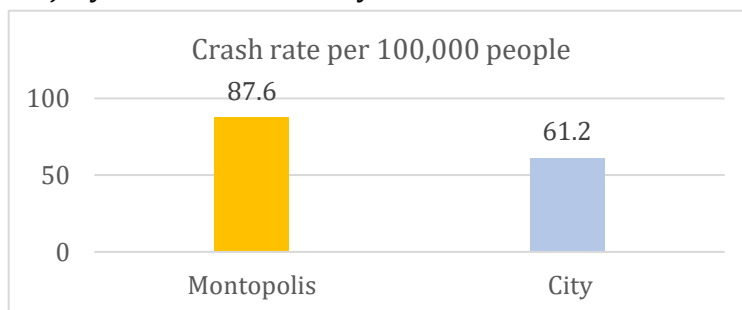
Figure 5. Motor vehicle crash rate for Montopolis versus City of Austin, 2019-2023. Source: *City of Austin Transportation and Public Works Department (Vo & Meyer)-TxDOT CRIS Data*

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[14] Texas Department of Transportation. *Texas Motor Vehicle Traffic Crash Facts Calendar Year 2023*

[15] Average number of crash-related fatalities and serious injuries among Texas cities. 2018-2024. Source: TxDOT CRIS & City of Austin TPWD Vision Zero (Mary Vo).

[16] City of Austin Transportation and Public Works Dept. *Vison Zero and Transportation Safety in the Montopolis* (ppt). 10/8/24 based on TXDoT CRIS Data for 2019-23.

[17] City of Austin Transportation and Public Works Dept. *Vision Zero Viewer.* Vision Zero Viewer

Gender: Important gender differences exist in crashes in Austin and Montopolis, with males accounting for just under two thirds of fatal and serious injury victims (64% in Austin; 64.9% in Montopolis) in 2019-23. In Montopolis during this time period, a higher proportion of males made up fatal, serious and minor injury crash victims (55.7%) compared to Austin (51.6%) (Fig. 6).
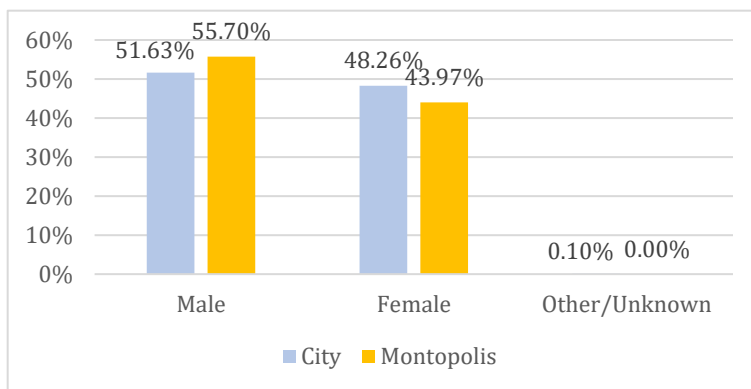
Figure 6. Gender representation (%) in fatal, serious and minor crash-related injuries for City of Austin and Montopolis (2019-23). Source: *City of Austin TPWD (Vo & Meyer) based on TxDOT CRIS data*

Race/Ethnicity: In the Montopolis area, individuals of Hispanic ethnicity had almost twice the representation among fatal, serious and minor crash-related injuries compared to Hispanic crash victims across Austin based on data from 2019-23 (Fig. 7).[18] Individuals of White ethnicity in Montopolis, on the other hand, had a lower representation among crash-victims compared to Austin as a whole (Fig. 7).
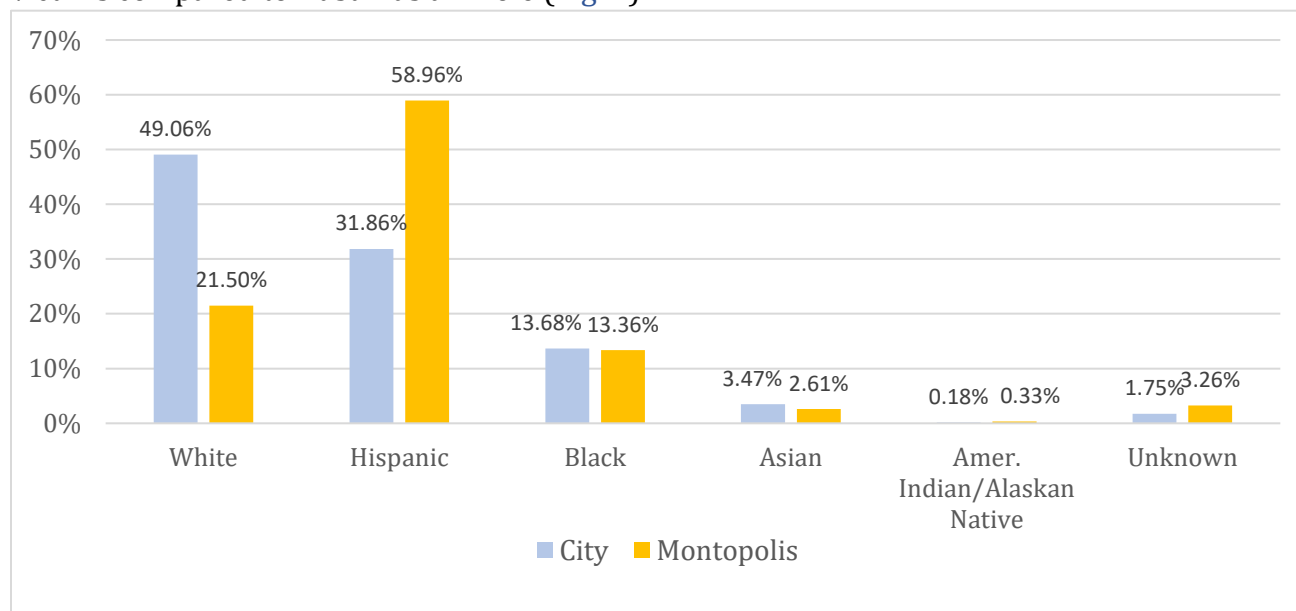
Figure 7. Race/ethnic representation (%) in fatal, serious and minor crash-related injuries for City of Austin and Montopolis (2019-23). Source: *City of Austin TPWD (Vo and Meyer) based on TxDOT CRIS data.*

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[18]City of Austin Transportation and Public Works Dept. *Vison Zero and Transportation Safety in the Montopolis* (ppt). 10/8/24 based on TXDoT CRIS Data for 2019-23.

Age: Crash-related injuries also pattern by age in Montopolis. Age groups that were overrepresented in crashes based on the percentage of crash-related fatalities, serious injuries, and minor injuries in relation to the age distribution of Montopolis include teenagers/young adults between 15 and 24 years and middle-age adults between the ages of 35 and 59 years (Fig. 8).
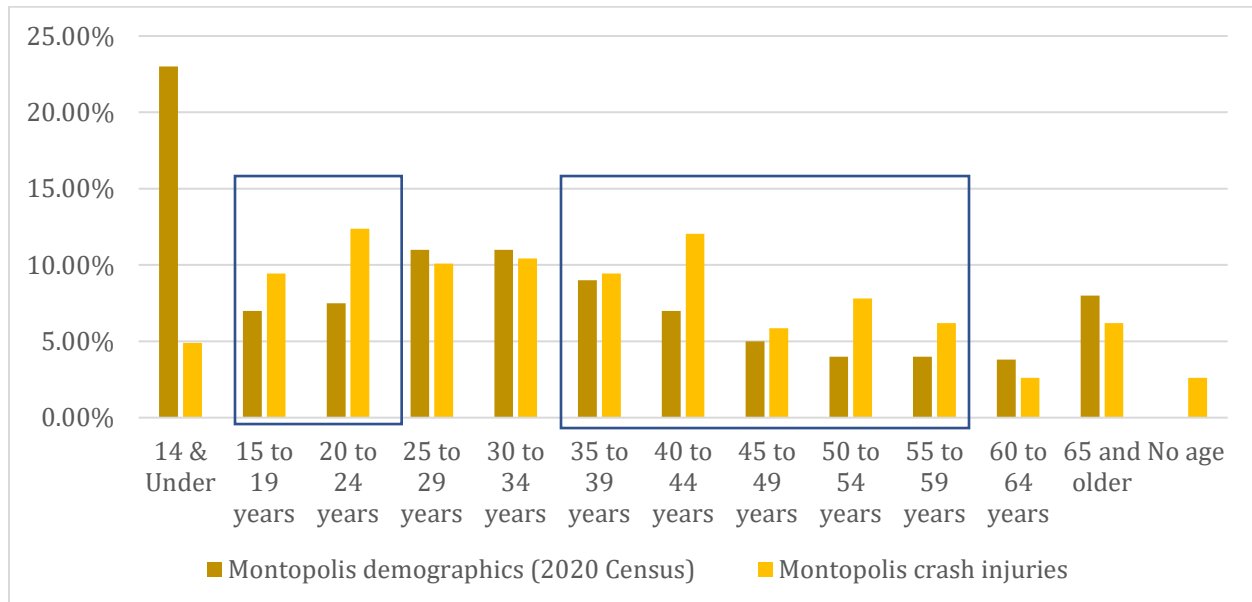
Figure 8. Comparison of percentage of age groups represented in fatal, serious, and minor crash-related injuries with age distribution of Montopolis. Source: *City of Austin TPWD (Vo and Meyer) based on TxDOT CRIS data.*

Vision Zero and Environmental & Behavioral Influences on Roadway Safety

Environmental Influences on Roadway Safety: Vision Zero, a strategy launched in Sweden in the 1990s to eliminate all traffic fatalities and serious injuries while increasing safe, equitable mobility for all, has advanced the field of roadway safety promotion via their "Safe Systems Approach." This systems framework moves from a sole focus on changing individuals' roadway behaviors, to focusing on a systems approach for improving the roadway environment and related policies, including promoting safer roads, safer vehicles, policies for safer speeds, and post-crash care approaches (Fig. 9)[19]. In support of this approach, recent data from 2024 indicate a 22% decrease in fatal and serious injury crashes at intersections in Austin that have been improved.[20] Given the importance of environmental influences on roadway safety, our Change Agent-led

Figure 9. Vision Zero Safe Systems Approach.

assessment aimed to better understand how roadway design in the Montopolis area along with other environmental factors (e.g., peer norms, policies) influence roadway safety, with findings presented below.

Risk Behaviors for Roadway Crashes. While Vision Zero moves us from a sole focus on the individual via traditional approaches such as messaging, individuals' roadway behaviors represent an important target of environmental and policy approaches given their key role in roadway fatality and serious injury. A recent analysis by McCarty and Woo Kim (2024)[21], for example, finds that human behavior contributes to more than 70% of roadway crashes (see Box B: Risk Behaviors). These behaviors include both the behaviors that can increase the risk of a crash, such as DUI and speeding, as well as the failure to engage in behaviors that can reduce the adverse effects of a crash, such as wearing a bicycle helmet, a seatbelt, or other restraint such as a car seat.[21] According to TxDOT, among people killed in vehicles in 2023, 48.9% were not restrained,

> **Box B.** Risk Behaviors for Roadway Crashes.[21]
> - Speeding (exceeding speed limits; traveling too fast for conditions; driver carelessness)
> - Driving under the influence (alcohol, drugs)
> - Driving fatigued
> - Distracted driving (using a cell phone, distractions within/outside vehicle)
> - Inexperience and reckless driving (inexperience, driving too slow; driving too close; sudden braking)
> - Aggressive driving
> - Nervous, Uncertain or Panic

underscoring the importance of behaviors as part of a systems approach for increasing roadway safety.[22] Our Change Agent-led community assessment aimed to explore the context of roadway behaviors, as reported below.

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[19] Vision Zero Network. What is Vision Zero? | Vision Zero Network

[20] Austin Transportation and Public Works Department - Vision Zero Analytics. Crash reductions continue at Austin's major intersection safety project locations. (June 2024).

[21] McCarty D, Kim HW. Risky behaviors and road safety: An exploration of age and gender influences on road accident rates. PLoS ONE 2024; 19(1): e0296663. https://doi.org/ 10.1371/journal.pone.0296663.

[22]Texas Department of Transportation*. Texas Motor Vehicle Traffic Crash Facts Calendar Year 2023*

Section 2: Participatory Learning & Capacity Building Workshops

Overview

We implemented two phases of participatory learning and capacity building workshops with our eleven young adult Change Agent partners, which provided the organizational platform for this community assessment: *Phase 1 (June-August, 2024) (n=5 Change Agents),* and *Phase 2 (October-December, 2024) (n=6 Change Agents).* Guided by a 12-session scope and sequence of activities, Change Agents engaged in participatory learning and action-type activities aimed at fostering team cohesion and generating insights about roadway safety, as well as capacity building sessions aimed at increasing roadway safety knowledge as well as skills in conducting the field assessments described below (*Appendix C: Example Scope and Sequence*). Figure 10 presents a general flow of our primary activities, which began with an orientation to the project, followed by in-workshop participatory learning and action activities; training in our field activities; reflection, analysis and preparation of our findings and recommendations; and two community share-back events held at the Montopolis Recreation Center in August and December 2024. Each phase took place over a 2.5-month period, with approximately 1-2 meetings per week that alternated with field data collection activities.
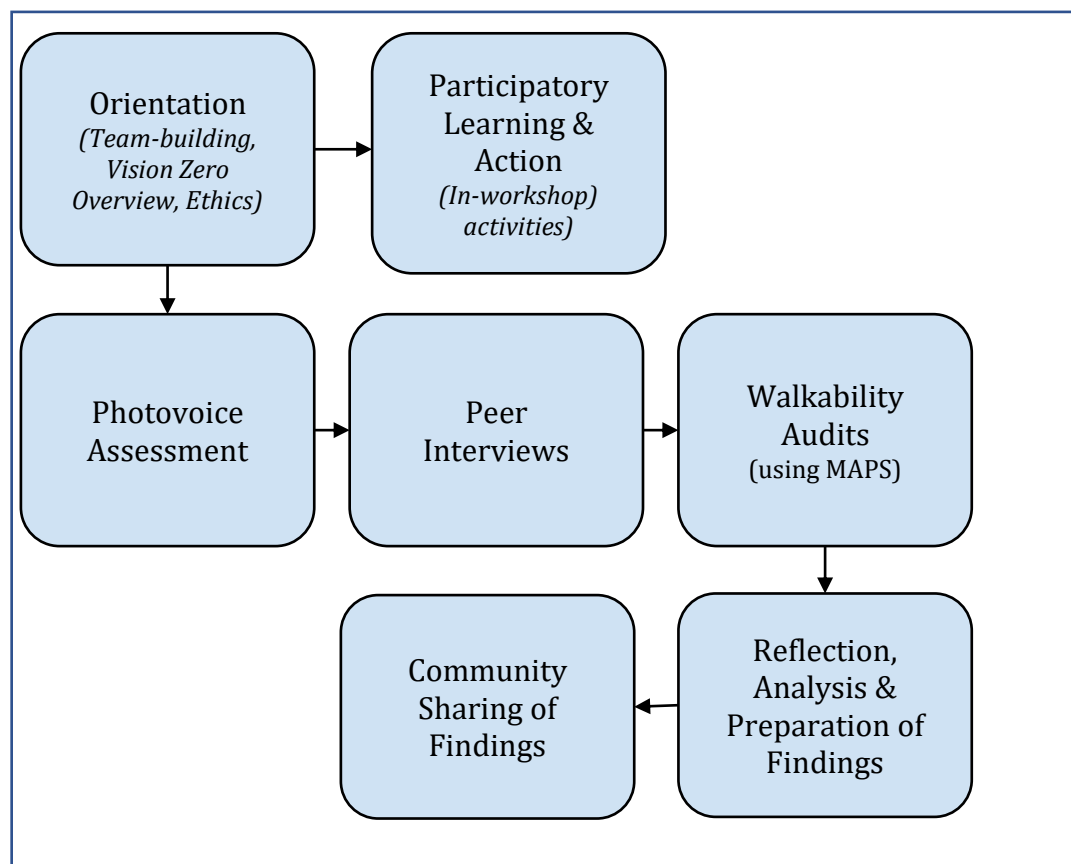
Figure 10. Flow Chart of Participatory Learning and Action Workshops- *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community, Austin, Texas.*

Findings

Our participatory learning workshop sessions were guided by a participatory learning & action (PLA) orientation. PLA is an umbrella term for a family of group-based community inquiry methods and approaches that "enable and empower people to share, analyze and enhance their knowledge of their life and conditions, and to plan, act, monitor, evaluate and reflect."[23] For this project, co-leader Nicole Trevino and our planning group engaged Change Agents in a range of activities, including *cultural sharing* ice-breakers and reflections in which team members shared about a given topic via their lived experience, establishing *community agreements* for working together, as well as activities that explored the factors that influence roadway safety and active commuting, including the "*5 Whys*" root cause analysis activity and a *risks and protection of our community* brainstorming activity guided by *TRIZ*, a problem solving activity that begins with exploring how a given project may fail with the aim of then exploring how to ensure success. Below, we share a summary of findings from the 5 Whys and TRIZ activities; Appendix F presents a synthesis of notes and themes from all activities.

Community Change Agents explore factors that increase and prevent roadway injury (Fall 2024).

Joel Meyer and Mary Vo from City of Austin Transportation and Public Works Department provide an overview of Vision Zero and roadway crashes in the Montopolis area to Community Change Agents (Fall 2024).

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[23]Institute of Development Studies. Participatory Learning and Action. *Participatory Methods.* Participatory Learning and Action (PLA) | Participatory Methods (n.d.)

5 Whys Activity: During this activity, Change Agents were asked to discuss why young adults are over-represented in local crash data in the Austin area of Texas. They could talk through several ideas but were asked to take at least one of their ideas and to dig deeper by asking "why" five times to get closer to the root causes of this issue. Table 1 presents a summary themes and ideas discussed from Phases 1 (summer 2024) and 2 (fall 2024).

Community Change Agents add thoughts to a group brainstorm (Summer 2024).

Community Change Agents share findings from small group participatory learning and action activities (Fall 2024).
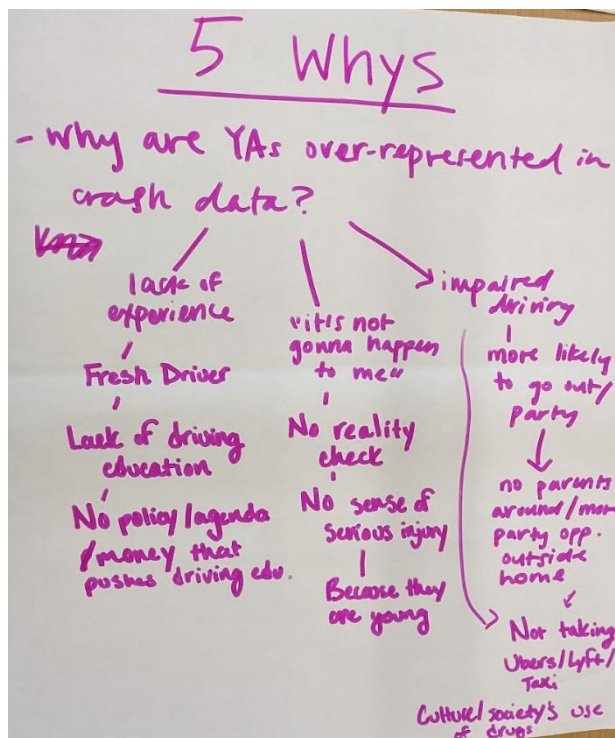
Example "5 Whys" analysis.

Table 1. *5 Whys Activity*: Exploring why young people are: over-represented in crash data, do not engage in active commuting, and drive under the influence. *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community, Austin, Texas. (Summer & Fall 2024)*

Why are young people overrepresented in crash data?	Why don't young people walk, bike or take public transit?
Phase 1 (Summer 2024) (n=11) • *Lack of experience and educational supports***:** Lack of experience→ fresh drivers→ lack of driving education→ no policy/ agenda/ money that pushes driving education • *Young people feel invincible:* "It's not going to happen to me"; no reality check no sense of serious injury because they are young • *Impaired driving, party culture, and low norms/barriers for alternate transportation:* Impaired driving→ more likely to go out / party→ no parents around/ more party opportunities outside home→ not taking Uber/ Lyft/ Taxi→ culture/ society's use of drugs • *Lack of alternative transportation and distance:* They are driving a lot→No other forms of transportation available→community under-investment in supporting those [transportation] services and fast population growth → Housing costs rising, making living unaffordable (and pushing people further outside of Austin) →Capitalism	Phase 2 (Fall 2024) (n=9) • *Cars are the Prioritized (& Easier) Mode of Transportation*: They do not have the time or organizational skills → Active transport would require access to showers, more time and more planning to not face being judged by others → It's hot and transportation routes are not always consistently available in all places around the city →Lackluster infrastructure → Insurance companies, lobbyists for car manufacturers and capitalism have made our cities prioritize cars, making them the most convenient option.
	Why do young people drive under the influence of alcohol or drugs?
Phase 2 (Fall 2024) (n=9) • *They are Inexperienced and Engage in Greater Risk-Taking:* They are more prone to being in a rush or engaging in distracted or impaired driving →They have a sense of invincibility, lack of skills in organizing designated drivers or finding affordable alternatives, and may lack access to safe transportation alternatives →Drivers are inexperienced in both driving and driving/ getting around in Austin → Their brains aren't fully developed due to age and policymakers have not prioritized improving access to convenient, safe transportation options. • *Lack of Access to Resources/ Infrastructure & Stigma:* Lack of bus routes/ stops, walkways, sidewalks, bikes, etc. → We live in a car dominated society →People lack perspective on the costs associated with the car →Using transit is seen as a low-class activity → There is a perception of high criminality on busses or at bus stops and a high level of danger in biking.	Phase 2 (Fall 2024) (n=9) • *Barriers at Every Level of Society:* Individual: people are stubborn, overconfident, feel invincible or just don't know when they are above the legal limit → Interpersonal: Because everyone else is doing it and lack of awareness between how you feel and being over the legal limit → Community: They can't rely on others for transportation, can't afford Lyft, and have to get car back home; representation in the media has normalized it → Environmental: They may live farther away from friends, out of their school's Lyft zone (can't use university resources) and can't afford parking tickets/ overnight parking → Policy: there is a lack of infrastructure to support safe commuting after engaging in late evening social activities.

TRIZ: Change Agents were also asked to brainstorm potential risks and ways to protect the community, with the overarching aim of exploring how we can increase the overall ethics and success of the project. Change Agents were split into three groups and asked to answer the question, "How can we ensure we spectacularly fail at protecting human subjects and at the project activities overall?" Key themes explored that could pose as barriers to the project included lack of safety, low community engagement, lack of time, low ethics, and limited resources (see Appendix F for further detail). In Box C, we share the constructive recommendations for creating an ethical, safe and community-engaged project that stemmed from the TRIZ problem solving activities.

Box C. *TRIZ:* Ways to Reduce Community Risks and Increase Success of this Community Assessment Project

1.) Create Community Partnerships & Engage Community in Truth-Grounding
- Form partnerships with organizations in Montopolis that serve our priority population of young adults.
- Share our findings with community partners to get further context and identify next steps.

2.) Engage the Full Community
- Do stakeholder and community outreach throughout the project.
- Good communication within the team and interviewees
- Reach out to a variety of demographics

3.) Build a Strong Project & Project Team That Reflects, Learns & Evolves
- Break up project into realistic chunks.
- Think about change at different levels. Short-term, long-term but also small and large-scale solutions.
- Regular reflections on progress, honesty, communication, etc.
- Be helpful and optimistic.
- Don't think that it's our way or the highway when other members of the team critique our methods or actions setting goals. Short-term long-term.

4.) Practice Safety During Field Activities
- Make sure to take safety seriously on audits and interviews.
- Make safety measures during interview/audit process extra clear.
- Have someone you trust go with you.

Section 3: Photovoice Assessment

Overview

Our first field method was guided by *photovoice*, a qualitative, community-engaged research method that guides community members to explore the root causes of a given problem as well as community strengths and actionable solutions via photography and writing of narratives.[24,25] In addition to an orientation session on taking impactful photos by our photojournalist community partner, Adrian Escajeda (Scenic Drive LLC), community Change Agents engaged in the following photovoice activities: learning about photovoice, exploring guiding questions for the photovoice projects, discussing ethical considerations (e.g., not taking photos of people's faces) as well as ways to keep ourselves safe (Step 1); going to 'the field' to take photos (Step 2); discussing and analyzing the photos using the SHOWED method and writing narratives (Step 3); and developing a presentation to share photovoice projects with community leaders (Step 4) (Appendix D). Box D presents guiding questions for the photovoice assessment.

> **Box D.** *Photovoice Assessment Guiding Questions.*
>
> •What contributes to unsafe transportation (roadway crashes, injuries and fatalities) in Montopolis and the broader Austin Community?
>
> •What can be done to increase safe transportation among young people? (e.g., What can be done to reduce driving while intoxicated, texting, speeding? How can we increase seatbelt use?)
>
> •Why do young people engage in active commuting (bike, walk, use public transit)?
>
> •Why don't young people engage in active commuting?

Findings

Change Agents' photovoice projects explored both the factors that reduce roadway safety, and strategies and recommendations for increasing roadway safety and active commuting. We share here selected examples of Change Agents photovoice projects (Figs.-11-13) along with a synthesis of key themes from our team's photovoice projects and reflections (Box E). Appendix G presents all photovoice projects shared in our community share-back events, as organized by key themes.

A Tale of Two Sidewalks

These two images are prominent sidewalks in their respective communities. The one of the left was taken at St. Edward's University and the one of the right was taken by homes and the main road leading towards the highway 183. The sidewalk on the left is noticeably more accommodating towards pedestrians while the one on the right is not. We can see this in the care or lack of thereof taken.

Captured by Graciela Sayen

Figure 11. Sidewalk comparisons: St. Edward's University and a Montopolis street.

[24] Wang CC, Cash JL, & Powers LS. Who knows the streets as well as the homeless? Promoting personal and community action through photovoice. *Health Promotion Practice* 2000; 1, 81-89.

[25] Strack RW. *What is Photovoice? A brief summary*. (n.d.). What-is-Photovoice-white-paper-Strack-RW-1.pdf

Lack of crosswalks and lack of speed bumps

Crosswalks or raised crosswalks are a great way to slow traffic down. During my time doing the audits I noticed that there was not many people crossing the streets at designated areas. If more controlled, crossing locations were available I think the drivers would know they need to slow down. This would make it safer for the people crossing streets, and they can also greatly improve the pedestrian safety overall. I saw many people cutting across the busy road of Montopolis because the crosswalks and stop lights were too spread out

Captured by: Caleb Brizuela

Figure 12. Need and opportunity for more crosswalks in Montopolis.

Feet Big, Furry, and Small Use Public Transit

Austin - Riverside & Willow Creek

Taking public transportation doesn't have to be scary...despite the stereotypes behind utilizing public transit, it is eco-friendly, and considered cost-friendly and fun when traveling with friends.

Captured by: MyrT'asia Gowan

Figure 13. Opportunity to promote the safety, economic and environmental benefits of public transit.

Box E. Key themes of photovoice projects and reflection (n=11 Change Agents). *Montopolis/Austin, Texas (Summer & Fall 2024).*

Factors that reduce roadway safety and active commuting

Community Infrastructure
- Community and street design barriers for walking and biking (e.g., lack of crosswalks, speedbumps, and signage; streets designed for cars, not pedestrians).
- Infrastructure upkeep barriers for walking and biking (e.g., damaged sidewalks, crosswalks, signage)
- Litter, graffiti, overgrowth & social decay
- Lack of benches and shade at bus stops

Economic Stress and Mental Health
- Financial struggles, lack of access to mental health resources, and other social challenges that negatively impact mental health and increase *road rage.*

Low Perceived Safety, Stigma & Social Norms
- Perceived safety concerns of taking the bus
- Perceived stigma of taking the bus
- Roadway promotion and social norms of alcohol use

Strategies and recommendations for increasing safety and active commuting
- Enhance community involvement in upkeeping sidewalks and reducing litter and graffiti, including providing city contracts directly to community residents to upkeep streets and vegetation
- Improve street design via crosswalks and other safety features, with opportunity to further promote and activate neighborhood residents to report problems to 3-1-1
- Design/implement media campaigns to promote the safety & social acceptability of public transit
- Educate residents on the short and long-term health and social benefits as well as societal benefits (e.g., less pollution) of walking
- Limit alcohol advertising on the roadways
- Increase access to mental health services and economic supports for low-income communities, and explore strategies for reducing road rage
- Promote active commuting and other transportation alternatives (uber) to reduce impaired driving
- Promote community agreements about putting safety first among friends and family when walking, biking or taking public transit

Section 4: Peer Interviews

Overview

In exploring the needs and barriers as well as the proposed solutions and recommendations for roadway safety and active commuting among young adults, Change Agent partners conducted semi-structured interviews with their peers. A secondary aim focused on exploring community resources that can be activated to support Vision Zero's mission of roadway injury, following the *Environmental Asset Mapping* framework[26] Box F presents guiding questions for the peer interviews (see Appendix E: Interview Guide content).

In planning for the interviews, Change Agents identified a list of up to five peers between the ages of 18 and 29 with whom to conduct the interviews. Upon completion of our training, prospective interviewees were invited to participate in the interview, and were provided an informed consent, which emphasized the purpose of the interview, time commitment, the voluntary and confidential nature, and potential risks and benefits. Change Agents then conducted the interviews, which included recording and generating a transcript of the interview. Each peer interviewee received a $25 gift card for their participation.

Initial themes were first generated collectively by our community Change Agents, with additional thematic analysis then conducted by our UTHealth research team (IT & AS), which was guided by a deductive approach (guided by the interview questions) and an inductive approach (allowing for emerging themes).[27,28] Coding was performed using Atlas.ti qualitative data analysis software (Version 24). Analysis consisted of: familiarizing ourselves with the data by first reading through all open-ended responses; attaching a descriptor (code) to the qualitative data; creating categories; and identifying key themes.

Box F. Peer Interviews Guiding Questions (Summer & Fall 2024).

Needs
- What contributes to higher risks of roadway injury among young adults in Austin/Travis County?
- How common are speeding, driving under the influence, lack of seatbelt use, and distracted driving? Why do young adults engage in these risk behaviors?
- What are the barriers to active commuting (walking, biking & public transit) among young adults?

Solutions
- How can we reduce speeding, driving under the influence, lack of seatbelt use, and distracted driving?
- How can we support young adults in active commuting (walking, biking & public transit)?

Environmental Assets
- *Settings:* What are the settings where we can reach young adults (18-25 years) in and around Montopolis- and in the broader Austin/Travis County area?
- *Environmental Resources: a.) Information Environment*: What are the communication channels that could promote Vision Zero messaging? (e.g., social media, university newsletters, etc.).; b.) *Social/Organizational Environment*: What are the organizations that could serve as partners with Vision Zero?

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[26]Springer AE, Evans AE. Assessing environmental assets for health promotion program planning: a practical framework for health promotion practitioners. *Health Promotion Perspectives* 2016; 6(3): 111-118.

[27] Braun V, Clarke V. Using thematic analysis in psychology. *Qual Res Psychol* 2006;3:77–101.

[28] Neundorf KA. *Research Methods for Applied Psychologists: Design, Analysis and Reporting. Content Analysis and Thematic Analysis.* New York: Routledge; 2019. p. 211-23.

Findings

Descriptive Characteristics of Interviewees

A total of 41 young adults participated in the peer interviews (n=15 for Phase 1 and n=26 for Phase 2), who had an average age of 22 years (range: 18-28 years). Just under two-thirds of the participants were female (63.4%)- with 36.6% identifying as male, and just under half of the participants self-identified as Hispanic/Latino (48.6%), followed by African American/Black/African (35.1%), mixed race/ethnicity (10.8%), Asian (2.7%) and white (2.7%) (missing race/ethnicity for n=4 participants). The majority of participants (63.2%) reported living in East and Southeast Austin (78722, 78724, 78725, 78741, 78744, 78753,), areas that historically have more working-class residents and higher populations of people of color. Other participants reported living in 78610, 78613, 78640, 78660, 78705, and 78745 (*Note: two participants provided their original home address outside of Austin, underscoring the need to improve this question for future interviews).

Key Themes

Table 2 presents factors identified by young adult interviewees that increase roadway fatality and serious injury and reduce active commuting along with potential solutions and recommendations for reducing roadway fatality and serious injury and promoting active commuting. Below, we provide a summary of these key themes explored in our Change Agent-led interviews.

Table 2. Perceived causes of roadway fatality and serious injury and proposed solutions as reported by young adult interviewees - Peer Interviews Phases 1 & 2 (n=41 interviewees). *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community (2024).*

Roadway Risk Factor	Causes	Proposed Solutions
General Risk Factors for Roadway Fatality & Serious Injury	• Distracted and inexperienced drivers • Impaired and reckless driving • Poor infrastructure/roadway design	*(*See below and narrative)*
Driving-Related		
Distracted Driving	• Normalization and addiction of cell phone use • Overconfidence and underestimation of risk of using cell phones • Societal pressures and need for constant connectivity	• Promote technology-based strategies to limit cell phone use • Foster social accountability for behavior change • Enhance education and awareness campaigns
Impaired Driving (Driving under the influence)	• Normalization and lack of awareness of consequences • Overconfidence and underestimation of impairment • Financial barriers and inconvenience of alternatives	• Increase social responsibility: bartenders, patrons and peers. • Increase awareness about risks and consequences • Increase availability of alternative transportation and pre-planning. • Enhance and promote safety of alternative transportation modes
Speeding & Reckless Driving	• Speeding as a cultural norm • Practical justifications for speeding • The thrill and risk perception of speeding • Speeding and masculinity	• Enhance infrastructure/signage • Enforce speed limits • Provide incentives and financial rewards for safe driving • Implement educational programs and awareness campaigns
Lack of Seatbelt Use	• Inconvenient to wear seatbelts (especially for short rides) • It's cool not to wear a seatbelt	• Increase awareness about the importance of seatbelt use
Roadway Design and Active Commuting-Related		
Unsafe and/or low engagement in active commuting (walking, biking, and bus use)	• Safety concerns (crime and traffic) • Environmental and infrastructure challenges • Distance, convenience, and car culture • Stigma and lack of skills for taking bus	• Promote active commuting via social media campaigns and digital engagement • Provide incentives and implement community engagement initiatives • Expand infrastructure improvements and accessibility

1.) Causes of roadway fatality and serious injury for young adults and communities of color.

<u>General Reasons for Higher Risk for Roadway Crashes among Young Adults</u>: Change Agents first explored with peer interviewees their general thoughts about why young adults and communities of color may have increased risk for roadway fatality and serious injury. Common reasons for higher roadway fatality and serious injury among young adult interviewees included: *distracted and inexperienced drivers, impaired and reckless driving*, and *poor infrastructure and roadway design* – including poorly designed roads, lack of sidewalks, lack of lighting, unclear pedestrian crossings, and congestion. In the sections below, we explore further these and other risk factors, as well as proposed solutions.

<u>General Reasons for Higher Risk among Communities of Color:</u> In reflecting on the higher risk for roadway crashes for communities of color, peer interviewees cited *lack of investment in infrastructure in lower income communities, systemic economic disparities,* and *economic instability and limited resources.* With regard to lack of investment in infrastructure, interviewees shared that Black and Hispanic communities often experience higher roadway risks due to outdated or neglected infrastructure, such as poor road conditions, inadequate street lighting, and a lack of pedestrian-friendly spaces. As one interviewee stated: "You can look at the history of who's lived where, and you look at the roads, the worst roads in Austin, you can see where that lines up. You can see where the city puts its money, you can see where the city invests in street lights, invests in like, you know, stop signs (Participant 9, Male, Age 25). Another interviewee shared: "I just think of the infrastructures in certain areas... when you think about how roads and just like in general, like taxpayers' money, how it looks across different districts and zones, like usually Black and Brown communities, it's not as invested in." (Participant 7, Female, missing age).

Peer interviewees also noted the systematic economic disparities that can drive differences in roadway safety, recognizing that lower-income Black and Hispanic residents often have fewer transportation options, leading to increased risk due to walking, biking, or using unreliable vehicles in unsafe conditions: "If you're Black or Brown, once again, you tend not to be in a significantly high tax bracket... you're gonna want to try to save money, no matter what, every dollar counts. So Black or Brown people tend to just fall into that dynamic, historically." (Participant 8, Female, Age 23). The economic pressures result in lower investment in roadway safety: "Black and Hispanic communities may have less access to safe vehicles, or lack proper car maintenance, or just driving education in general, which can increase the risk of accidents." (Participant 10, Female, Age 18).

The higher economic instability in communities of color results *in higher pressure and limited resources*, forcing individuals to take greater risks, such as rushing to work or school without adequate transportation options, leading to unsafe behaviors on the road. As one interviewee noted, "With minorities having more financial instability, there is more pressure in making sure they're getting to places, such as work or school on time, to prevent them from losing those things and causing more instability." (Participant 13, missing gender, Age 20). Another noted that more communities of color may have to walk or ride the bus, which may increase their exposure to roadway crashes: "Maybe you don't have a car yet. So you're just gonna walk to where you gotta go. Maybe walk to the bus stop just to get to the next place... Black or Brown people tend to just fall into that dynamic." (Participant 8, Female, Age 23).

2a.) Distracted Driving - *Causes*

<u>Normative Nature of Cell Phone Use</u>: Peer interviewees cited distractions, especially phone use, as a major contributor to roadway fatalities: "I think one of the main contributors amongst young people is distractions whether that be using their phone or even just glancing at it for a few seconds." (Participant 12, Unknown gender, Age 22). In exploring this topic, interviewees shared that phone use while driving was very normative among their peers, and underscored its stimulative and addictive nature:

> "…[I]t's so normal to be on your phone and crave that kind of stimulation. I feel like you just forget sometimes that you're not supposed to do that while driving." (Participant 3, Female, missing age)."

> "It['s] like natural, as breathing, you know, you pick up your phone, you just checking, yeah, just look at it." (Participant 15, Male, Age 24).

> "I feel like people use their cell phone while they're driving. Because I feel like this generation of people are glued to their phone. Yeah, I feel like people can't go anywhere, do anything without their phones." (Participant 3, Female, Age 18)

<u>Overconfidence and Underestimation of Risk</u>: Another theme related to distracted driving included young people's *overconfidence and underestimation of risk*. Peer interviewees shared how many drivers, especially younger ones, believe they can safely multitask while driving because they have not experienced any immediate consequences. This overconfidence leads them to continue engaging in distracted driving behaviors:

> "They feel like 'I know how to do it, like I do it all the time, you know, like nothing has [happened] yet. I haven't gotten in an accident. I haven't gotten pulled over', so it's just like they haven't run into any consequences yet, so they're gonna keep doing it." (Participant 17, Female, Age 25)

> "I think it's just underestimating the danger, like many young drivers might not fully grasp the danger of getting distracted while on their phone, or believing that they can handle multitasking while driving." (Participant 10, Female, Age 18)

<u>Societal Pressure and the Need for Constant Connectivity.</u> In addition to the normative nature of cell phone use and young people's overconfidence and underestimation of risk, society's emphasis on being constantly available and instant responses makes it difficult for people to put their phones down, even while driving. The pressure to stay connected, whether for work, navigation, or social reasons fuels distracted driving:

> "People have jobs, and time, like, is so pertinent. I feel like in today's society, like, the quicker, if you're not first, your last, that mentality is prevalent, yeah, you just have to. I feel like people feel that they have to be always on their phone, even when they're driving, you know." (Participant 15, Male, Age 24)

> "Like, it's very hard to let go of that phone. It's like, not even on, just like, oh, let me, like, scroll on Instagram or TikTok or whatever bullshit. But like, also, I'm just like, 'oh, I need to look at the directions.' Or like, 'Oh, let me change my music'." (Participant 18, Male, Age 23).

2b.) Distracted Driving –*Solutions*

<u>Promote Technology-Based Strategies</u>. In exploring potential solutions to reduce distracted driving, technology-based approaches, including automatic restrictions on phones while driving such as "Drive Mode" and automatic text responses, were cited as promising strategies by interviewees to reduce distractions and limit phone usage:

"Some people have that [cell phone function that]... if anybody texts you or calls you, it'll send the call to voicemail, and they'll text and be like, 'Hey, I'm driving.' I think that's good." (Participant 14, Female, Age 28).

<u>Foster Social Accountability for Behavior Change</u>. Encouraging friends and family to hold each other accountable, alongside apps that track phone use while driving, can help drivers become more aware of their habits and reduce distractions.

"I have an app on my phone, Life360... it counts how many times I pick my phone up while I drive." (Participant 17, Female, Age 25)

<u>Enhance Education and Awareness Campaigns</u>. Public campaigns with real-life stories or statistics showing the consequences of distracted driving were cited by interviewees as another promising strategy to increase awareness and make the dangers more personal.

"They put up, like, how many people have died this year... I feel like you have to scare them when it comes to this, because it is scary operating a motor vehicle." (Participant 15, Male, Age 24)

3a.) Impaired Driving - *Causes*

<u>Normalization of DUI and Lack of Awareness of Consequences.</u> Driving under the influence (DUI), including drunk driving, was cited as routine and socially acceptable for many peer interviewees ("...I feel like [DUI is] very common." (Participant 3, Female, Age 18)), especially among younger individuals who may not fully grasp the risks. As one interviewee shared:

"I feel like in Austin there is a lot of drinking, especially among young people, and people may not utilize Ubers, and they may hop into their car. So I feel like drunk driving would contribute to [higher roadway fatality and injury.]" (Participant 17, Female, Age 25).

Interviewees also shared that their peers believe they will not get caught or do not consider the potential consequences:

"... A lot of them think that they'll get away with it because, you know, probably because they've done it so many times, they think like it's so easy to do it without knowing the consequences of it." (Participant 11, Female, Age 20)

"Some people think that they won't get in trouble until it actually happens to them." (Participant 10, Female, Age 18)

Overconfidence and Underestimation of Impairment: Similar to distracted driving, peer interviewees shared that many young people believe they are still capable of driving safely despite being under the influence of alcohol or drugs. They convince themselves they are sober enough or have the ability to "snap out of it" when behind the wheel:

> "Young people drive under the influence because they feel like they're capable, like they just, they genuinely feel confident, like, 'Oh, I'm okay to drive. I'm okay to drive.' And they get in their car and they drive, honestly." (Participant 17, Female, Age 25)

> "There will be times where I offer to pay our Uber, but despite that, they insist on driving themselves because they 'sober up' by the end of the night. Or they're 'good at snapping out of it' as soon as they're behind the wheel." (Participant 12, Unknown gender, Age 22)

Financial Barriers and Inconvenience of Alternatives. Some people drive under the influence because they either cannot afford or do not want to pay for ride-sharing services like Uber or Lyft, a common theme that emerged across interviews. The cost was cited as an important deterrent for opting for alternative transportation, especially late at night when ridesharing services get more expensive:

> "I feel like just in general, like the younger audience, they typically tend to like drink and drive because, one, they don't want to pay for Ubers..." (Participant 11, Female, Age 20)

> "The problem is when you stay out all late and then Ubers start getting expensive. Like, no one wants to pay $40 for Uber for two people. So a lot of times people be like, 'Screw it. I'll just drive back if they bought the car'." (Participant 18, Male, Age 23)

3b.) Impaired Driving –*Solutions*

Increase Social Responsibility among Bartenders, Patrons and Peers. A general theme that emerged for reducing impaired driving was the need to increase social responsibility for intervening when a person is too impaired to drive by identifying intoxicated individuals and ensuring they have a safe way home. Encouraging a culture of accountability can help prevent impaired individuals from making dangerous decisions. As shared by one interviewee, "I feel like people need to, or security [personnel], or whoever, even bartenders, they need to be more aware who's maybe a little bit too intoxicated, and asking more questions, like, who's driving..." (Participant 14, Female, Age 28). Another interviewee insightfully noted the importance of creating a culture of checking on each other:

> "Building that sort of, like, culture repertoire of like, yeah, when we leave the bar and we're all in the parking lot. We might not know each other. We might be strangers, but like, let's keep each other in check." (Participant 15, Male, Age 24).

Increase Awareness about Risks and Consequences. A common strategy cited by interviewees for decreasing impaired driving was the need for enhancing education and public awareness about the individual, social, and legal consequences of impaired driving while making consequences more severe. According to peer interviewees, education

campaigns about risks, alternative options for impaired driving, and stricter laws can encourage people to think twice before getting behind the wheel while impaired:

> "Education awareness campaign, which can increase awareness about the danger and legal consequences if you do get behind the wheel while being under the influence, but also just promote safe rides..." (Participant 10, Female, Age 18)

> "I would say make the consequences much more severe, like making it a felony. Maybe add jail time or extended jail time for those who get caught driving under any influence." (Participant 13, Missing gender, Age 20)

With regard to education, some interviewees emphasized the importance of beginning at an earlier age, such as high school, as well as delivering education across organizations:

> "Like it should be focused more on...high school and like that age. I think at this point in college, that's not really possible. Like, whatever people have learned, they're probably gonna make their own choices, so probably in high school. Also, I feel like there's like, a lot of...harm reduction workshops and organizations around, like Austin. I know, like a harm reduction group, like, did a presentation at my co-op. I think a lot of organizations could make an effort to, like, educate people as well." (Participant 2, Female, Age missing).

Increase Availability of Alternative Transportation and Promote Pre-Planning. Peer interviewees noted the opportunity to further expand access to low cost or free modes of alternative transportation for young people and economically disadvantaged residents in order to reduce the possibility of driving under the influence:

> "I feel like there needs to be more resources for people like Get Home Safe [a free safety app that allows users to share their GPS location and set safety timers], like after partying, or like, doing any substances. A lot of times, I don't think it's like a very affordable option [e.g., rideshares], and I think that plays into the fact that, like, poor people are getting in more accidents. I think a lot of people like, maybe, I know UT has like discounts set up for, like, night rides and stuff like that. I think there needs to be some sort of like system, like better system to get people home safe after partying." (Participant 2, Female, Age missing).

As cost of rideshare services increase depending on the time of day, Change Agents emphasized the need to explore further how to reduce this cost to incentivize alternative transportation. Related to increasing the availability of free or low-cost alternative modes of transportation, peer interviewees also discussed the importance of promoting the planning of alternative modes of transportation with young people before they go out to 'party': "That's like, avoid driving, like, you know, get a taxi...beforehand, you know, like plan that before you even get drunk." (Participant 6, Female, Age 19).

Enhance and Promote the Safety of Alternative Modes of Transportation. Related to increasing the availability of alternative modes of transportation for impaired drivers, peer interviewees also emphasized the need to make these alternative modes of transportation, such as ridesharing or bus riding, safer, while also promoting the safety of public transportation:

"...So I would say, like, trying to make those other modes of transportation beyond, like, carpooling, more accessible, more friendly, especially for women, because, yeah, like, my sister told me she got into one and she was a little tipsy, and they were like, the driver, the first thing she says is like, 'Oh my God, you're gorgeous'. ...[M]y sister is just like, 'Oh, my God, I'm gonna die. Yeah, serial killer.' Luckily...she was fine. But like, why do we have to, like... put up with that?... I wish like, City of [Austin] would do something like that, make it more accessible, or like that, only women drivers... Definitely think making public transportation...either like bringing it more attention or like making people feel safer using it..." (Participant 1, Female, Age 21).

4a.) Speeding and Reckless Driving - *Causes*

<u>Speeding as a Cultural Norm</u>. As with other risk behaviors noted above, peer interviewees noted how speeding was widely accepted and even expected in many places, especially like Texas, where long commutes and car dependency are common. Underscoring how common this major risk factor for unsafe driving is, interviewees noted that speeding has become ingrained in driving culture in both Texas and the U.S., reflecting both our fast-paced culture and making speeding feel normal rather than reckless:

"I personally feel like in Texas, especially, everybody speeds and it's become almost like a culture here." (Participant 13, Gender unknown, Age 20).

"I think it's like American culture in general. Like, everything's really fast. Everything's fast paced." (Participant 8, Female, Age 23).

"I don't want to sound like, kind of cynical, but I think people in general drive like maniacs. I mean, I'm like, constantly, always having to drive defensively." (Participant 1, Female, Age 21).

<u>Practical Justifications for Speeding</u>. According to peer interviewees, young people justify speeding due to tight schedules, work obligations, or frustration with slow drivers. The urgency to be on time often leads to risky behavior, making speeding feel like a necessity rather than a choice:

"Amongst people your age, speeding is definitely common... Just a lot to do, not a lot of time to do it. So of course, you know, waking up late and, you know, having to make, you know, things being schedules, being very strict." (Participant 16, Male, Age 22).

"For me... every time I've noticed myself speeding, it's because I had a lack of planning. Same thing with my brother and my sister. Like every time they've done it, too, it's always been like, I gotta get to class, right? Because we wake up at like, nine o'clock and class is at 11, but you have to wake up that early to the traffic. But then even then, the traffic ends up being longer than you thought, so you still kind of have to speed to get there in time." (Participant 1, Female, Age 21).

The Thrill and Risk Perception of Speeding: In exploring the topic of speeding, interviewees noted that younger drivers may engage in speeding for the excitement and sense of control, often underestimating the risks involved. Exposure to speeding from a young age, whether through parents or peers, also contributes to the normalization of the behavior, with one interviewing noting: "I think it is very common with younger people because they might simply like the thrill of speeding and most think that they are well-experienced drivers so they ignore the potential consequences." (Participant 13, Gender Unknown, Age 20). Another interviewee note: "A lot of kids in my school got Mustangs or cars that are sporty... just love to show it off". (Participant 19, Female, Age 18). This desire for thrill often comes at the expense of safety.

Speeding and Masculinity: Some interviewees underscored a gender dimension to speeding, with some suggesting this related to toxic masculinity, which is often associated with beliefs about 'toughness' and the need to be strong and behaviorally aggressive, and the need to demonstrate one's masculinity via engagement in risk behaviors. Example quotes include:

> "…A lot of men I know tend to speed a lot. Anytime I've been in a car with a young man, they're just like swerving and going really fast. I think that more has to do with, like, toxic masculinity." (Participant 2, Female, Age missing)

> "...but I don't know, like, people in general, like, want to just like, you know, like a car culture thing and, like, I want to go as fast as I can because my car is nice or whatever, which I know this happens a lot in younger guys." (Participant 1, Female, Age 19).

4b.) Speeding and Reckless Driving –*Solutions*

Enhance Built Environment Infrastructure and Signage. Interviewees cited enhancing roadway design and the built environment as a way to reduce speeding ("Like, changing maybe the infrastructure? 'Cause like, you know… people can speed." (Participant 6, Female, Age 19), and increasing roadway signage and signs that reflect the speed a driver is going: "Maybe more like speed limit signs and like, you know those signs that, like, say what speed you're going?" (Participant 3, Female, Age 18).

Increase Enforcement of Speed Limits: Interviewees also cited common approaches such as increasing police enforcement of speed limit: "Like, the road patrol, or whatever you want to call them. DPS, you know, there's just, you'll be driving randomly, and then you see, like a cop car next to you, I guess that then you're like, 'Okay, shoot. Let me go slow down a little bit...'" (Participant 5, Female, Age 18).

Provide Incentives and Financial Rewards for Safe Driving. Offering financial incentives, such as discounts on insurance or rewards for safe driving habits, was proposed by peer interviewees as a way to motivate people to adopt better driving practices, which may include reduced speeding: "Maybe insurance companies can [provide] funding…to help reward these safe, you know, these good driving practices... incentives... maybe points for doing those type of things that can be maybe funded by the government." (Participant 16, Male, Age 20).

Implement Educational Programs and Awareness Campaigns. Implementing targeted education, especially in schools, and awareness campaigns were cited as a general recommendation for increasing safe driving practices and their long-term benefits. "It should be focused more on, like, high school... that age... I think a lot of organizations could make an effort to educate people as well." (Participant 2, Female, Age missing).

5a.) Lack of Seatbelt Use – *Causes*

Inconvenient to Wear Seatbelts. Some interviewees shared that it is normal for their peers to not wear seatbelts, which may be due to seatbelts being annoying, uncomfortable, or inconvenient if driving short distances:

> "I think it's pretty common not to wear a seat belt. [They] think seatbelts can be annoying... I think you're not really like weighing that out and like, haven't gotten to a point where, like, 'I have to be wearing this at all times'." (Participant 2, Female, Age missing).

> "[People may] not like wearing their seatbelts because they feel uncomfortable, like how it feels, or like if they're just going somewhere [that doesn't take a] long time. 'Yeah, I'll be safe in reality.' Like, you never know, like, what can happen... So yeah, I feel like maybe like out of like being uncomfortable." – Participant 3, Female, Age 18

> "Maybe I don't throw on a seatbelt if I'm in a rush." (Participant 4, Male, Age 21).

> "I think ... that has to do with the sense of urgency, and they think they'll be safe for that little small trip that they may have to make to the store to get snacks or something so they just won't put it on." (Participant 20, Male, Age 21).

It's Cool Not to Wear a Seatbelt. Several peer interviewees noted that there is a perception that not wearing your seatbelt is 'cool', and that young people also feel invincible:

> "But then even I feel like some people think it's cool, I don't think it's cool getting hurt, so I put my seat belt on." (Participant 5, Female, Age 18).

> "Cause they think they're cool...They think they're like invincible. You know, that nothing's gonna happen to them. So they think it's like, 'oh, like if I wear my seatbelt', they don't think of the consequences...And like, I don't care if you want to look cool, because [this family member] is definitely, like, a very, like car guy. Like, he's like, all obsessed with his Camaro and like, speeding and looking cool. And it's like, what happens if you crash one day, you're gonna roll over, and you're not gonna wear a seat belt, and that's it. So I mean, if I had to guess based off, like, my experiences with, like, my [family member], maybe it's macho thing, like, I'm too cool for that. It's my car, my own autonomy, whatever. And just like, a kind of an ignorance towards, like, how effective seat belts are, like the fact that, like, they will save your life." (Participant 6, Female, Age 19).

Wearing a Seatbelt Is a Personal Choice: Another theme that emerged for why young people do not wear seatbelts was related to personal autonomy and personal choice: "I feel like they're already doing as much as they can [to promote seatbelt use]. I feel like that's such a choice that, like people are just gonna make if they don't wanna wear" (Participant 2, Female, Age missing).

5b.) Lack of Seatbelt Use –*Solutions*

<u>Increase Awareness about the Importance of Seatbelt Use</u>: As with other strategies, peer interviewees cited the opportunity to enhance public education via awareness raising campaigns and other educational initiatives about the importance of seatbelt use, with ideas that ranged from fear arousal type approaches that present the consequences of not wearing seatbelts, to the use of humor. Interviewees also noted the opportunity to deliver videos in schools, messages via social media and TV, and messages via social influencers:

"There were a lot of like actual videos [in high school] showing what happens when you're in a crash; I feel like more video materials might make the point." (Participant 4, Male, Age 21).

"So I think…using social media, because everybody uses social media to, like, talk about those, like, scary stories, you know, yeah, this true story, the things that are happening that people don't necessarily know about or whatever. And like, just trying to, like, promote it through that, like, this is a real consequence that can happen. Yeah, I don't know affected those are, but I know they always cause me to pay attention. [There] are also those funny campaigns [during] the holiday.., yeah, always makes me laugh." (Participant 1, Female, Age 21).

"I don't know, just it goes back to those ads, you kind of see those on TV, and it's like, everything's normal, and then you're like, 'Wait, did it crashes happen?' Like, what just happened? …And so I think that it kind of like spreads, like more awareness. But I feel like, still people, you know, it depends on the person, yeah, yeah." (Participant 5, Female, Age 18).

"Like social media, very simple and take on Instagram. Snapchat. There's so many ways of promoting safety and you can even use celebrity. Yeah, like also that every day, kids like now. [Use] Influencers…- And like put them using like kids. 'Remember always when you get in a car, use your seatbelt' like stuff like that and kids will actually like they'll capture it because they know the person…Like effective storytelling." (Participant 6, Female, Age 19).

6a.) Unsafe and Low Engagement in Active Commuting – *Causes*

<u>Safety Concerns</u>. Safety concerns, both social/crime-related (e.g., harassment) and traffic-related, were cited by peer interviewees as factors that reduce active commuting (walking, biking and use of public transportation/bus) and make active commuting less safe. Women interviewees, in particular, expressed concerns about personal safety, especially at night. Other active commuting safety concerns included lack of well-maintained roads, lack of lighting, and reckless drivers.

"I preferred walking in the morning, but if I got off work late, or like school was running late, I would, you know, walk at night and I did not feel comfortable. Now, it was very like, when it gets dark too, I'm a woman, so, you know, like you always like, like you're not comfortable doing anything that can, like, give rise to opportunity to be like, jumped..." (Participant 8, Female, Age 23).

"Probably the fear of getting hit, especially when people are not slowing down far enough from the crosswalk, is like, 'Can I even get on the crosswalk without getting hit?'" (Participant 5, Female, Age 18).

"[People don't walk] because the community is kind of dangerous to walk in…there's no light here. So you can get, I don't know, ambushed, or like, pointing a gun at or a knife or whatever. People just can't see you too if they're driving….So there's many potential risks here. Like, it's like, safer to get in a car, or a car than." (Participant 6, Female, Age 19).

"I would not go on the bus if it's dark, you know… I have been screamed at, heckled at, yeah, all of these things…Like, it just makes me feel unsafe. And it's like, I just gonna drive where I know, like I'm safer in my car." (Participant 1, Female, Age 21).

Environmental and Infrastructure Challenges. Lack of or poorly maintained sidewalks and bike lanes, lack of crosswalks, weather conditions, and a general lack of accommodations such as water stations or rest areas were also cited by interviewees as reasons people choose not to walk or bike.

"There are hardly any bike lanes or medians so it's [the] road right next to sidewalk. This is dangerous because on some parts of the sidewalks there are severe cracks or plants blocking the pathway, forcing people to figure out ways around them. One way being walking on the road." (Participant 3, Female, Age 18).

"I love riding my bike... bike lanes aren't too protected... I've gotten hit twice." (Participant 20, Male, Age 21).

"For biking, a lot of the bike lanes, I feel like, are a little bit rough. The roads in general are not the best maintained downtown correctly. That's a major component." (Participant 4, Male, Age 21).

"But as far as, like, walking to the store or things like that, no. Um, maybe the thing is, it's hot in Texas. Most people don't want to get sweaty, and my friends aren't that active. So I just, I just don't think that's our lifestyle." (Participant 17, Female, Age 25).

Distance, Convenience and Car Culture. Many interviewees cited long distances, the time commitment of walking, biking or taking the bus, and our car-dependent culture as major deterrents for active commuting. While interviewees noted that there are some communities that are more amenable to walking, such as around UT at Austin, they noted many of their friends rely on their car for transportation. The layout of the city, urban sprawl, and a lack of nearby amenities were all factors that make active commuting impractical for many residents.

"I don't think people live close enough to their job to justify being like, you know what, I'm not gonna drive. Like, if I worked at that H-E-B, I could walk or take my bike. But since the one I work at is like, eight miles away, I'm gonna have to leave really early…" (Participant 18, Male, Age 23).

"I mean, just the way the city is built out, like, especially out here in Austin, is very new. Like, residences kind of pop up in bubbles and like, aren't really, like, built for that, like to be crazy walkable, or like to have all these things you need in mind." (Participant 9, Male, Age 25).

"I think like our society is just very reliant on cars, especially in Texas, where everything's so far away." (Participant 2, Female, Age missing).

"I feel like the main thing is, like the time factor, it's not worth it, especially when your car can get you there faster, more comfortably, you know [than the bus]." (Participant 1, Female, Age 21).

"[Active commuting is] not common. Everybody wants to have a car. So everybody gets a car. Even if it's either from parent or from themselves or they get a way to get a car." (Participant 6, Female, Age 19)

<u>Stigma and Lack of Skills for Taking the Bus</u>. While some peer interviewees noted that their friends will take the bus around specific places such as UT campus, others noted that factors such as stigma of taking the bus as well as lack of skills for how to take the bus keep them from pursuing this form of transportation.

"I feel like a lot of young people don't want to take the bus because it can be viewed...by some as the cheaper option [and] as kind of less dignified. I don't know what I'm thinking of [other] than just driving there yourself." (Participant 4, Male, Age 21).

"Well, I would like to know, because I still don't know. And my sister's been living here for a minute, and so she kind of knows which stop the bus takes you to, or which busses take you to which stop. But I still don't know. I still don't know…That's like, a common thing of why people don't take the bus is because you just, like, don't know how, or there's like, a lack of resources to learn how to use the bus." (Participant 5, Female, Age 18).

6b.) Unsafe and Low Engagement in Active Commuting – *Solutions*

<u>Promote Active Commuting via Social Media Campaigns and Digital Engagement</u>**.** Leveraging social media platforms were recommended as ways to reach a wide audience and effectively promote safe driving and active commuting messages (see section below).

<u>Provide Incentives and Implement Community Engagement Initiatives</u>. Providing incentives for safe driving and active commuting, and fostering community engagement through events or special days, were also noted by peer interviewees as promising strategies for motivating individuals to engage in safe active commuting such as walking or biking.

"Incentives from employers or schools, or maybe even just special days, like Bike to Work Day, Bike to School Day, walk to school slash work day... something to promote people to do things because they're getting something." (Participant 15, Female, Age 25).

"Creating different organizations that specifically focus on going on community walks... people need to feel comfortable doing these things, and the comfortability will bring them confidence." (Participant 12, Gender unknown, Age 20).

<u>Expand Infrastructure Improvements and Accessibility</u>. Peer interviewees also underscored the need and opportunity to enhance and expand infrastructure supports, such as designated walking areas, wider sidewalks, and bike lanes, to encourage active commuting and provide safer transportation alternatives.

"More like designated walking areas, or just like more streamlined walking areas, maybe note, like, the highest traffic areas, like... which areas can I just, like, make a walkway... maybe a sky bridge, or something." (Participant 15, Male, Age 24).

"Well, I just think our transportation systems need to be better. I think it's just not an option for a lot of like people to do active commuting. I think we need better bus routes. I think we need more bus routes. I think we need, probably more bike lanes and like, maybe a train one day. That would be nice." (Participant 2, Female, Age missing).

"More accessible bikes... I see a lot of people utilizing [bike sharing programs]... Austin does a pretty good job of making the city walkable. There are lanes for pedestrians, and there are bike lanes." (Participant 16, Male, Age 22).

7. Recommendations for Reaching Young Adults

For the last part of the interview, Change Agents explored with their peers the best ways to reach young adults to engage them with Vision Zero and promote safe transportation practices. Table 3 presents a summary of these recommendations followed by a brief summary.

Table 3. Recommendations for reaching young adults to promote roadway safety and active commuting - Peer Interviews Phases 1 & 2 (n=41 interviewees). *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community (2024)*.

Strategy	Recommendation
Social Media	Leverage social media platforms to promote safe transportation with young adults, including TikTok, Instagram and Facebook
Young adult-led content creation	Engage young adults in creating content for safe transportation promotion (videos, art, posters)
"Interweaving" messaging and providing incentives for engagement	Deliver messaging via existing communication channels and places (e.g., grocery stores, universities, recreation centers), and provide incentive programs to engage young adults

<u>Leverage Social Media to Promote Safe Transportation</u>: Leveraging social media platforms, especially popular ones like TikTok, Instagram, and Facebook, were noted as ways to reach a wide audience and effectively promote safe driving and active commuting messages.

"I feel like Instagram most definitely for people our age, Instagram and you know, different social medias can't really grab their attention... 'Hey, when was the last time you text and drive? That's not good.' Or 'Do you put your seatbelt on every time you get in your car?'" (Participant 17, Female, Age 25).

"I for sure want to say TikTok, it's so popular now, and everybody is so indulged in TikTok... The messages are very strong, to the point where people are like, okay, like, I need to listen. This is like, something that should be upon her." (Participant 11, Female, Age 20).

<u>Engage Young People to Create Content and Messaging</u>: Peer interviewees also note the opportunity further engage young people in developing content to promote safe transportation and active commuting with their peers.

"[In] high school, like our community, so, like, students would make videos on safety. I think, I know we're not in like, high school anymore, but I feel like those kind of helped, and they were, like, funny videos, but it was serious, you know, so I think something like that to watch every month. Or, you know what? I mean...art, ...video or whatever, yeah, even that could play a little snippet of be, like, 'Make sure to wear your seat belt today'. You know, does not be anything long...I think that would help, like, a lot." (Participant 5, Female, Age 18).

<u>Deliver Messaging via Existing Communication Channels and Places, and Provide Incentive Programs</u>. Other innovative ideas for reaching young adults included delivering, or 'interweaving', messaging into existing communication platforms/channels found within settings with widespread reach of young adults, as noted by one peer interviewee:

"I mean, like...UT has TV screens, yeah, around campus. I'm like, might as well just post something, yeah, especially if people are so concerned about, like, driving safety and walking around, making your safe at night, especially walking around at night, you know you should promote that..." (Participant 5, Female, Age 18).

Physical community spaces such as recreation centers, grocery stores, and universities were highlighted as ideal venues for outreach: "Probably promote [at grocery stores around Riverside] would be the best spot... grocery store would be really big". The findings also indicated that incentive programs and interactive elements could enhance engagement, with suggestions such as offering gift cards for participation in community activities.

Section 5: MAPS Walkability Assessment

Overview

Embracing our mixed methods community assessment approach, we also aimed to generate insights about the walkability of specific areas of Montopolis via environmental audits guided by the Microscale Audit of Pedestrian Streetscapes (MAPS) measure.[29,30] While macro-level factors of the built environment refer to elements such as street connectivity and residential density, microscale factors refer to characteristics of the built environment related to streets, sidewalks, and other design characteristics such as presence of trees, bicycle lanes and curbs, as well as characteristics of the social environment (e.g., graffiti, trash, presence of people).[29,30] A growing body of literature finds microscale features to be related to active commuting behaviors of walking, biking and public transit use[31,32,33](see Box G for aspects assessed via MAPS). A guiding question for our walkability audit was: *What are features of the built and social environment of selected areas and segments of the Montopolis community that either support or inhibit active commuting?*

> **Box G.** MAPS Walkability Audit Instrument - Key Sections. *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community.*
>
> - Section I: Land use/Destinations (e.g., retail, Food, Residential, parking?)
> - Section II: Streetscape (public transit stops; street lighting, street calming, crosswalks)
> - Section III: Aesthetics & Social (hardscape features such as sculptures, fountains; softscape features such as ponds; buildings/landscape well maintained? Physical/social disorder?)
> - Section IV: Signage (e.g., "share the road"; "Crime watch")
> - Section V: Social Environment (people visible in this segment; teenagers/adults engaging in active behaviors; people fighting)
> - Section VI: Walkways/Sidewalks
> - Section VII: Crossings (Intersection control such as yield signs, traffic signals)
> - Section VIII: Open-Ended Observations

Selection of Areas & Data Collection: As a first step, we identified priority areas within Montopolis for this assessment. For Phase 1 (summer 2024), street segments were selected according to the following criteria: hot spots for traffic incidents (n=3 areas observed);

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[29] Cain KL, Millstein RA, Geremia CM (2012). Microscale Audit of Pedestrian Streetscapes (MAPS): Data Collection & Scoring Manual. University California San Diego. Available for download at: http://sallis.ucsd.edu/measures/maps.

[30] Sallis JF, Slymen DJ, Conway TL, Frank LD, Saelens BE, Cain K, Chapman JE: Income disparities in perceived neighborhood built and social environment attributes. Health Place 2011, 17:1274–1283. doi: http://dx.doi.org/10.1016/j.healthplace.20117

[31] Terrón-Pérez, M.; Molina-García, J.; Santainés-Borredá, E.; Estevan, I.; Queralt, A. Using the MAPS-Global Audit Tool to Assess the Influence of Microscale Built-Environment Attributes Related to Physical Activity and Sedentary Behavior in Spanish Youth. *Safety* **2024**, *10*, 73.

[32] Evans, J.T., Phan, H., Buscot, MJ. *et al.* Correlates and determinants of transport-related physical activity among adults: an interdisciplinary systematic review. *BMC Public Health* **22**, 1519 (2022).

[33] Smith, M., Hosking, J., Woodward, A. *et al.* Systematic literature review of built environment effects on physical activity and active transport – an update and new findings on health equity. *Int J Behav Nutr Phys Act* **14**, 158 (2017).

transit stops (n=1 area observed); and recent improvements (n=2 areas observed). For Phase 2 (fall 2024), we followed a 'nearest neighbor approach', which was based on selecting street segment in neighborhoods that connected with main thoroughfares ("1st neighbor"; n=4 areas observed), neighborhoods located further inside the community that connected to the 1st neighbor street segments ("2nd Neighbor"; n=2 areas observed), and street segments even further insight the community that connect with the 2nd neighbor ("3rd Neighbor"; n=2 areas observed) (see Appendix H for segments selected). In identifying the areas and segments to assess, we received data from the City of Austin Transportation and Public Works Department, and also accessed publicly available data. These areas were selected with the aim of developing a more comprehensive assessment of Montopolis and for exploring how microscale factors of the built and social environment may differ by these areas. With the areas selected, Dr. Deborah Salvo, our co-leader and an expert in community physical activity assessment, led both a classroom-based mini-training on the MAPS tool, and a practice-based field training in which community Change Agents practiced conducting the assessment. We then divided into three teams of 2-3 people each (including our broader planning team) to conduct the assessments during the month of July 2024 (Phase 1) and November of 2024 (Phase 2). In conducting the assessment, each team followed the MAPS protocol, which consisted of each observer recording observations on a form and then reviewing and confirming observations made with their team upon completion of a given observation of a segment (see MAPS website for instrument and protocol).

Analysis: Both quantitative and qualitative analyses were conducted of MAPS data. Quantitative analyses were run in Stata 18 and consisted of basic frequencies (%, means). For the purpose of this report, we conducted an analysis of the total sample of areas and street segments observed with the aim of developing an initial snapshot of the walkability of diverse areas that include hotspots, bus stops, improved areas, and neighborhoods. For our qualitative data, we conducted a thematic analysis of open-ended questions/observations, which were based on two questions: *1.) Please share your overall thoughts about how walkable this segment of the community is. (Would you feel safe from traffic walking in this segment?);* and *2.) Other thoughts about what is needed in this segment to make it safer for all road users?* In addition, we incorporated themes that emerged from our post-data collection discussions with Change Agent partners.

Findings

Overview of the Area

The total area of analysis of the Montopolis community consisted of 28 records spanning 10 different geographic areas (hotspots, bus stops, improved areas, and neighborhoods) and 24 street segments (see Fig. 14: *Map of Area Assessed* and Appendix H for specific road segment maps). The built environment appears to be primarily residential, with single-family houses being the dominant form of housing (71.4%). Multi-unit homes and apartments were also present but were relatively scarce in the area observed, and there was no presence of mixed-use buildings such as apartments above retail spaces. The commercial and service infrastructure was minimal in the areas observed, suggesting a primarily residential setting with limited economic activity. Below, we provide a summary of key findings.
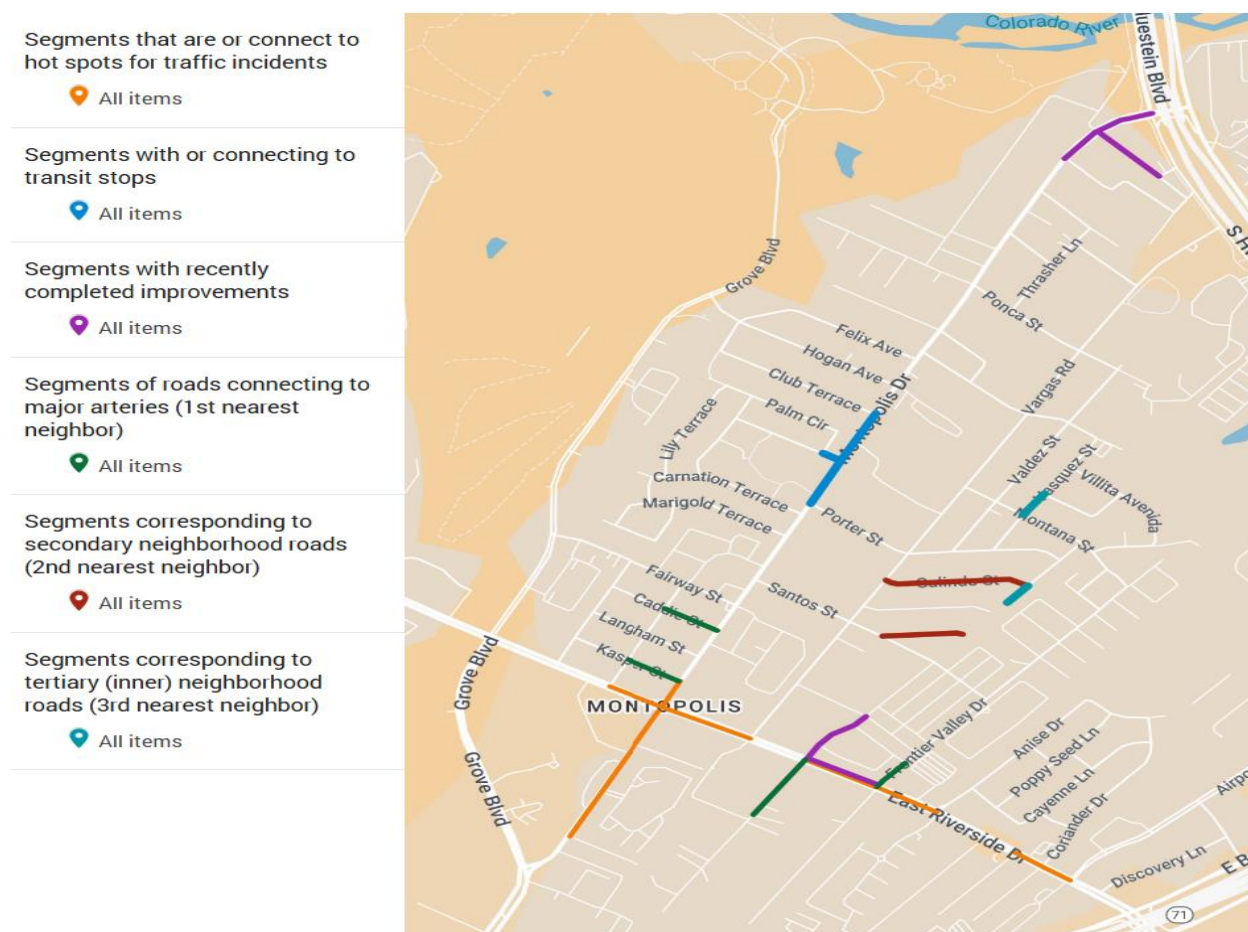
Figure 14. Montopolis Areas & Street Segments Assessed – MAPS Walkability Audit, Montopolis, Austin, Texas (n=10 areas, 24 street segments). *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community* (Summer & Fall 2024).

Figure 15. Example photos of MAPS Walkability Audit of the Montopolis community. *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community (2024).*

Pedestrian Friendliness & Walkability Sidewalk Infrastructure

- Sidewalks were present in 77.8% of segments, representing an important asset for walkability. We note the opportunity for improvement for 22.2% of segments (Fig. 16).
- Among existing sidewalks, the majority were 3-5 feet wide (53.8%), with a notable proportion wider than 5 feet (23.1%), allowing for better pedestrian movement.
- Buffers between sidewalks and roads were present in 66.7% of segments observed, helping separate pedestrians from vehicular traffic, but their width varies, with most being between 3-5 feet wide (55.6%).
- Sidewalk continuity is a concern, as 25.9% of sidewalks were not continuous, and 22.2% of segments lacked sidewalks entirely, reducing pedestrian connectivity.
- Sidewalk maintenance was also identified as a concern, with minor trip hazards identified in 28.6% of segments and major hazards in 3.8%.
- Physical obstructions (either permanent or temporary) on sidewalks were present in 14.3% of segments, further reducing pedestrian ease of movement.
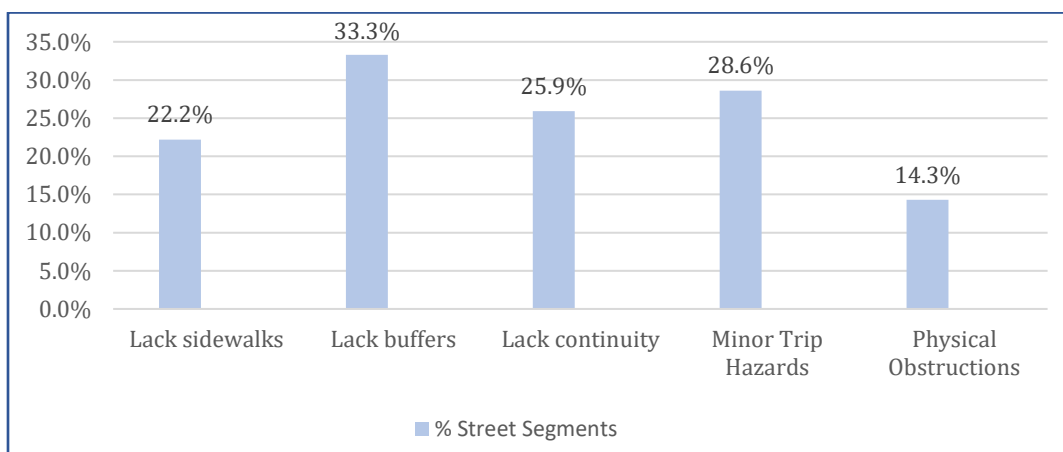
Figure 16. Percentage of segments observed that lack sidewalk supports or have barriers - Montopolis Walkability Audit (n=24 street segments observed). *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community (2024).*

Crosswalks & Intersection Safety

- Crosswalks with signals were available in only 30.4% of the area, while 47.8% of segments lack crosswalks entirely (Fig. 17).
- Pedestrian walk signals, push buttons, and countdown timers were present in 23-27% of intersections, representing an important opportunity for improvement in pedestrian infrastructure.
- Mid-segment street crossings were largely absent (92.3%), making crossing major roads difficult.
- Traffic calming measures (signs, circles, speed tables, speed humps, curb extension) were present in only 22.2% of segments, meaning vehicle speeds may not be well managed for pedestrian safety.
- The absence of pedestrian or bicycle-friendly signage (92.9% segments lack such signage) represents an opportunity for further action.
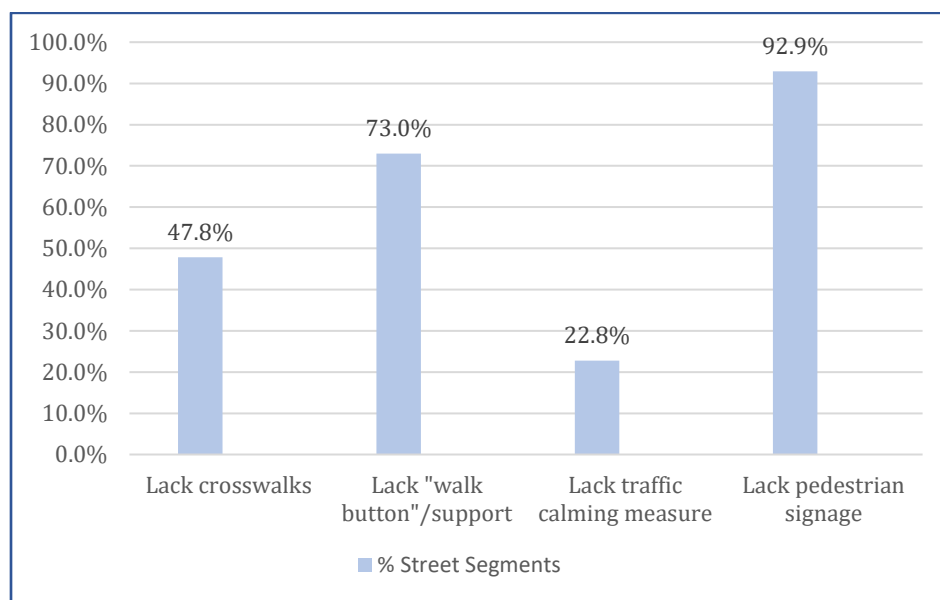
Figure 17. Percentage of segments observed that lack crosswalks and related supports- Montopolis Walkability Audit (n=24 street segments observed). *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community (2024).*

Safety Considerations - Crime and Disorder

- Physical disorder was noted in roughly a quarter or more of segments observed, including graffiti (25.0%), broken glass (21.4%), and beer/liquor bottles (39.3%), suggesting signs of neglect and potential safety concerns for pedestrians ((Fig. 18).
- Social disorder was generally low, with 67.9% of segments found to have none, yet 25% were rated as "little to some", and 7.1% of segments were rated as "a lot".
- Security warning signs were present in 10.7% of segments, and neighborhood watch signs were absent, indicating a possible opportunity for enhancing the information environment for crime prevention via community-led monitoring.
- Abandoned buildings (14.3%) and unmaintained lots (42.9%) were also noted, which may contribute to an atmosphere that deters pedestrian activity.

Traffic & Noise Concerns

- Loud traffic noise appears to be a significant issue, affecting 64.3% of segments, which can negatively impact pedestrian comfort and safety (Fig. 18).
- High-speed traffic is also of concern given that 59.3% of streets observed did not have posted speed limits.
- Large roads were present, with some areas having up to six or more lanes, further reducing pedestrian safety and walkability.
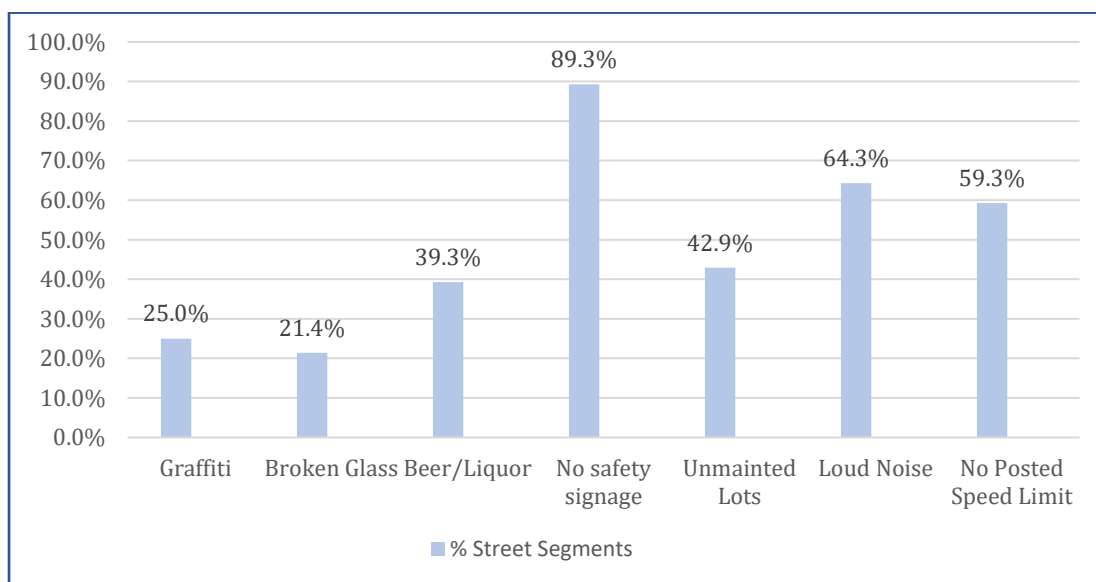
Figure 18. Percentage of segments with physical disorder, traffic, noise concerns, and lack of speed limit signage - Montopolis Walkability Audit (n=24 street segments observed). *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community (2024).*

Public Transit & Street Amenities

- Public transit was present but has minimal infrastructure, as only 62.5% of transit stops were found to have covered shelters, and none have timetables (n=10 observed) (Fig. 19).
- The presence of street amenities such as benches (22.2%) and bicycle racks (3.7%) were limited, reducing convenience for pedestrians and active commuters.
- Trash bins were available in 37% of segments, helping manage litter but still insufficient for widespread cleanliness.
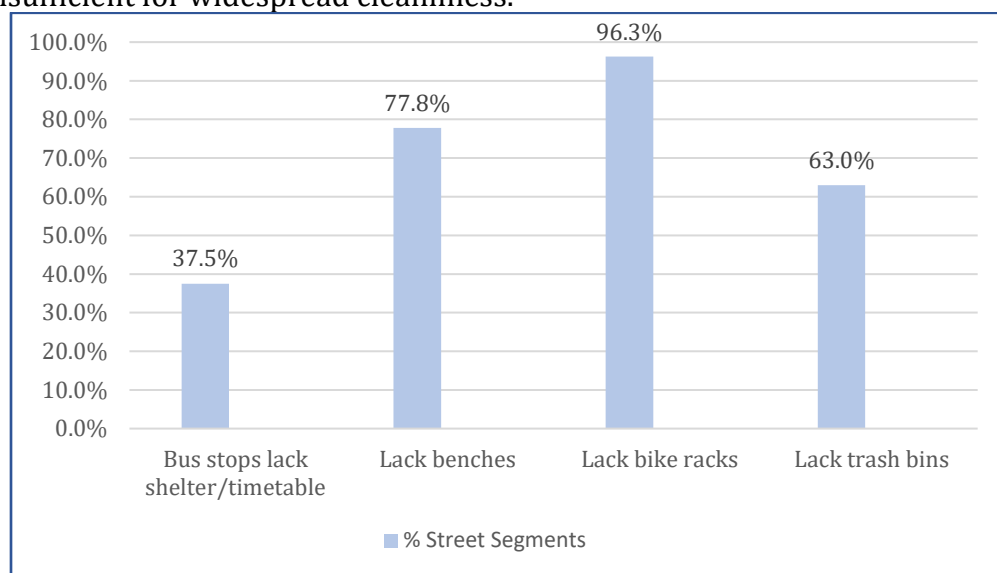
Figure 19. Percentage of segments with public transit amenities and street amenities- Montopolis Walkability Audit (n=24 street segments observed). *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community (2024).*

Land Use & Destinations

- With approximately half of the segments observed being residential, we noted few commercial or service destinations within walking distance in these areas.
- Grocery stores (14.8%), restaurants (14.3% for fast food and 14.3% for sit-down), and specialty food stores (7.1%) were rare for our overall assessment, indicating that residents likely need to drive for errands.
- Schools, banks, pharmacies, and other essential services were absent, making the area car-dependent.
- Public parks (3.6%) and other recreational spaces were sparse in the areas observed, limiting opportunities for pedestrian-friendly activities.

Environmental Features & Aesthetics

- Trees were present but irregularly spaced in most segments (78.6%), and tree coverage over sidewalks is limited, with only 32.1% of sidewalks having at least 25% coverage (Fig. 20).
- Pleasant hardscape features (fountains, sculptures, or art) were absent in 85.7% of the area, reducing the visual appeal of the walking environment.
- Historic or cultural features, which could enhance the pedestrian experience, were present in only 7.1% of segments.
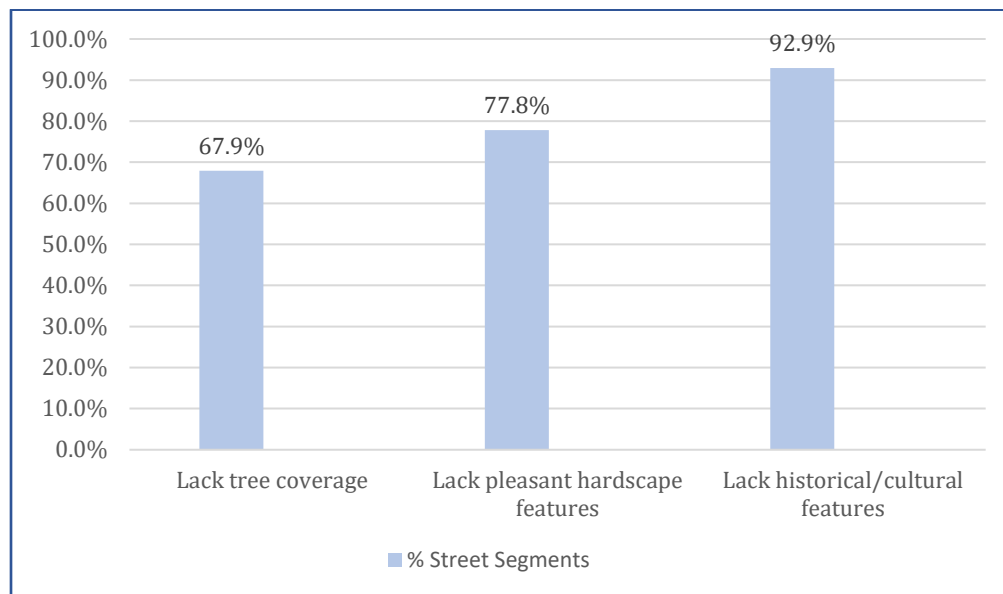
Figure 20. Percentage of segments lacking tree coverage of >25% of area, pleasant hardscape features (e.g., fountains, art), and historic/cultural features. Montopolis Walkability Audit (n=24 street segments observed). *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community (2024).*

Change Agent Walkability Audit Observations

Lastly, we share in Table 4 selected quotes and themes based on the open-ended observations of the walkability audit by our Change Agent partners, followed by example photos of the street segments and areas observed (Fig. 21).

Table 4. Example factors that make the area less walkable and safe based on community Change Agent observations – *MAPS Walkability Audit. Co-learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community* (2024) (n=11 Change Agents).

Theme	Example Quotes
Challenges & Barriers for Active Commuting (walking, biking, public transit use)	
Safety – Traffic-Related: Noise, Speed of Traffic, Lack of Crosswalks	*"I would feel safe [but] the noise and traffic speed is a deterrent."* *"There is a lot of noise; no crosswalks…"; "…no crosswalks and no sidewalk buffer." "There aren't many crosswalks or bike lanes on either side."* *"No sidewalks at all. Too much noise due to highway. Narrow two-way road with no road lines/markings."* *"I would not feel safe walking in this segment because there isn't a sidewalk present on both sides. We had to walk on the side of the road and keep checking if there were any cars passing by." "During this walking audit we didn't feel very safe considering the lack or sidewalk, lampposts, crosswalks, and the large drain to the other side of the road."*
Safety –Social-Related: Violence/Drug Use, People Experiencing Homelessness	*"There is so much violence and signs of drug use. I would feel safer if I could ensure my safety."; "There was a gunshot in the neighborhood behind the buildings…."* *"The closer you get to Montopolis, the worse the conditions get. And more houseless populations." "Homeless encampment."* *"This segment is walkable but not a pleasant walk. I wouldn't typically walk through here willingly or feel too safe."*
Lack of Trees/Shade	*"…no shade."; "there are no trees…"(common theme for all areas observed)*
Lack of Lighting	*"Overall we both felt pretty safe walking around this segment, however the lack of lighting was the one thing we wouldn't have been comfortable with had it been night time."* *"There are a lot of dangers with night time traffic. The eastside of the street. There was a man in a wheelchair with disabilities asking why these street lights aren't working."*
Lack of Signage	*"No, there is not a speed limit visible, and everyone drives crazy."*
Overgrowth/Poor Maintenance	*"The overgrown area and litter could make it unsafe for children in the area." "The grass is really tall."*
Positive Supports for Active Commuting	
Sidewalks (and dual sidewalks)	*"yea, sidewalks are solid. Only thing is the overgrowth issue and shade; also wasp problem and ants. Shade was the main problem."* *"This area is well maintained. It had a dual sidewalk with a large buffer, yet really loud [still] due to traffic."*
Well-maintained & clean	*"General thoughts: well-maintained, walkable, [but] not much lights."* *"The positive is that the residential side is well kept and I feel safe. However, the non-residential side is overgrown in comparison. The overgrown area and litter could make it unsafe for children in the area. This neighborhood is also very quiet."*

Figure 21. Examples of streets segments observed as part of the MAPS Walkability Audit. *Co-learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community (Summer & Fall 2024).*

Summary

The combined area observed in the Montopolis community, representing 10 different geographic areas and 24 street segments, exhibits **low-to-moderate walkability**. While our assessment notes several strengths and promising features for walkability in specific segments-including a large percentage of the area assessed having access to sidewalks (77.8%), our low-to-moderate rating is based on the following challenges:

1. *Gaps in pedestrian infrastructure* – Missing sidewalks in 22.2% of segments, lack of crosswalks (69.6% lacked crosswalks), and minimal pedestrian signage make walking inconvenient and, in some cases, unsafe.

2. *Limited commercial and service destinations* – The absence of essential services within walking distance forces reliance on automobiles.

3. *Traffic-related safety concerns* – Loud traffic noise, high vehicle speeds, and the lack of pedestrian-friendly infrastructure make walking less safe and comfortable.

4. *Presence of physical disorder* – Litter, graffiti, and unmaintained lots contribute to a less inviting walking environment.

5. *Lack of tree coverage*: Lastly, based on both lived experience of our 'walkability' audit team in conducting the audits during summer and fall as well as documentation with the MAPS instrument, we note the opportunity to further enhance tree coverage and other shade to reduce sun and heat exposure.

These findings aim to highlight facets of the built and natural environment that can be further enhanced in Montopolis to promote walking, biking and use of public transit.

Section 6. Community Share-Back Events

At the end of each phase of the project, we implemented a community share-back presentation to share our findings with community leaders and representatives. Both presentations were held at the Montopolis Recreation Center in the Montopolis community,

Austin, Texas, on August 1, 2024 (Phase 1) and December 12, 2024 (Phase 2) from 6-7:30 p.m. In Phase 1, attendees included City of Austin Transportation and Public Works Department (TPWD) leaders (n=2), Austin Public Health leaders (n=2), and members from the larger Austin community (n=6). In Phase 2, attendees included Austin Public Health (n=2), TPWD (n=2), national youth bike organization (n=1), UT at Austin (n=1), and community representatives (n=3). Community Change Agents helped plan the session and led the entire presentation, which included sharing of our initial findings and recommendations as well as

Box H. Agenda for Community Share-Back Event - August 1 & December 12, 2024. *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community (2024)*

- Welcome & Ice-Breaker
- Project Overview: Co-Learning & Action Planning to Advance Vision Zero Project – Initial Findings
  - Photovoice
  - Peer Interviews
  - Environmental Audit
- Recommendations
- Q&A/Community Discussion

facilitation of general discussion with those attending (see Box H for agenda).

Community Change Agents share their photovoice projects and recommendations with community members at end-of-project Community Share-Back Event. *Montopolis Recreation Center, Austin, Texas - Summer 2024.*
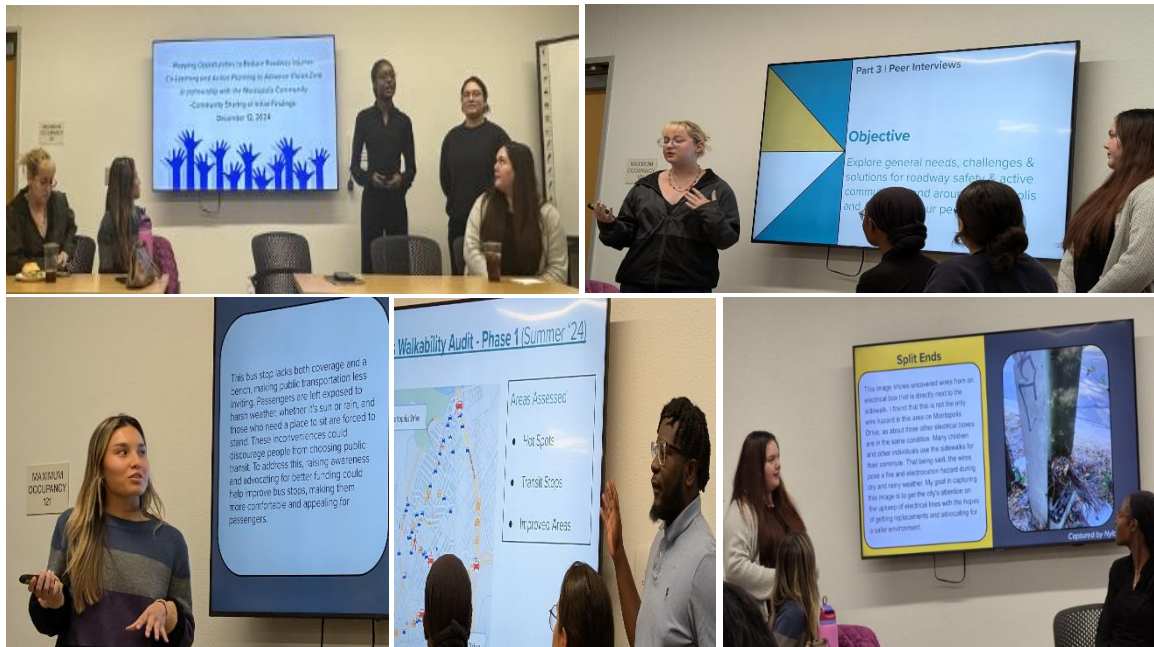
Community Change Agents share findings at end-of-project Community Share-Back event.
Montopolis Recreation Center, Austin, Texas - Fall 2024.

Recognizing Vision Zero Change Agents for their contributions to advancing roadway safety & active commuting, *Montopolis Recreation Center, Austin, Texas – Fall 2024.*

Section 7: Change Agent Post-Project Evaluation

Overview

As a final activity, we invited Change Agents to share thoughts about the project via a self-administered post-project survey. The overarching aims of the survey were to identify project highlights and recommendations for improvement. The survey was administered in February 2025 with our eleven project Change Agents. Developed by our internal project team, the survey comprised closed- and open-ended questions on: *Perceived roadway safety problems, perceived supports for roadway safety for young people,* and *recommended strategies*; *Project satisfaction; Project highlights* and *personal highlights*; and *Project recommendations*

Findings

Perceived Roadway Safety Problems for Young Adults: Box I presents Change Agents' top road-related safety problems in response to the question: "What do you see as the three biggest road-related safety problems for young adults of your age in the Austin/Travis County area?"

Box I. Perceived road-related safety problems for young adults in Austin, Travis County area (n=6 Change Agents) (Feb. 2025).

- Construction/Consistent and clear merge lanes into construction areas.
- Distracted driving/cell phone use (both while driving and crossing streets)
- DUI/Lack of Convenient Public Transportation Options for Adults Who Drink
- Inexperience/Lack of experience with driving and need for driving education
- Pedestrian and cyclist safety/ Jay walking
- Road rage: "I think the last one may not be as big but the consequences are the most serious, which is Road Rage."
- Speeding/speeding or trying to make up time on the road when you're late
- Time management

Perceived Supports for Roadway Safety for Young People Box J presents Change Agents' top perceived supports for roadway safety for young adults in response to the question: "What do you see as the three biggest supports to help young adults of your age be safe on the roadways in Austin/Travis County? Consider supports for those driving as well as pedestrians."

Box J. Perceived supports for roadway safety for young adults in Austin, Travis County area (n=6 Change Agents) (Feb. 2025).
- Advertisement/Billboards
- Benefits of taking public transport
- Crosswalks and thick sidewalks/Crosswalks/"Crosswalks and wider sidewalks to reduce pedestrians in the street and encourage folks to walk to their destinations over driving"
- Driving education programs/Increased access to effective driver's education
- More reminders to put their phones down
- More access to rideshare apps like Uber and Lyft for when drivers are inebriated or tired
- Road Safety Programs
- "Signs on the highway with cute messages about driving safely"
- Roadway design/The road dividers that slow people down
- Expanding public transit system. Less danger if you drive less.
- Having your phone be connected to your car and not handheld.

Strategies to Reduce Roadway Injuries & Crashes. Box K presents Change Agents' recommended strategies for reducing roadway crashes in response to the question: "What is one or more strategies we should explore to reduce roadway serious injury and crashes?"

Box K. Recommended strategies that should be explored to reduce roadway serious injury and crashes (n=6 Change Agents) (Feb. 2025).
- *Ridesharing and DUI:* Emphasis on ride-share to reduce crashes from drinking and driving.
- *Construction-related supports:*
    - Easier navigation of lanes by new road construction/navigation/Explore how to navigate construction safely.
    - "As there is a lot of new construction around Austin especially along highways, maybe findings a way for merging exists to be safer. Or to notify drivers
- *Incentives*: Programs that incentivize good driving and pedestrian habits.
- *Road design:*
    - Less lanes and more medians and barriers on roads to slow car speed.
    - Putting speed bumps on roads or speedometer signs that tell people how fast they're going.
    - Easier and safer routes in the Austin area
    - Traffic Calming Devices. Slimmer lanes, and other strategies that slow people down closer to the speed limit
- *Speeding:* Increasing ways drivers have to check their speeds.
- *Technology:* Promote technology such as Carplay (interface with car for music, navigation, etc.) to reduce distracted driving

Project Satisfaction: In exploring project satisfaction, we asked Change Agents to rate their satisfaction of specific facets of the project on a scale of 1 (strongly disagree) to 5 (strongly agree), with 5 representing the highest satisfaction (see Table 5). Change Agents provided overall high ratings for the project, with an average score of 4.74 across items/activities for the project. Comments on the project included:

- "I think that this program was great and couldn't recommend it more."

- "I thank the entire team for welcoming me onto the project. Getting to see how passionate everyone was about the community and its health was so inspiring. It was one of the best public health experiences I have ever had and I won't forget it."

- "Vision zero opened my world view on Austin as a whole. I believe this project will continue to grow in the progression of roadway safety and living conditions in cities!"

Table 5. Satisfaction with Vision Zero Action Planning Project (n=6 Change Agents). *Engaging Young People in Action Planning to Advance Vision Zero Project, Montopolis/Austin, Texas (Feb. 2025)*

Item	Mean Score
The recruitment and onboarding process were easy to follow.	4.67
I enjoyed the *classroom activities* of this project.	5.00
I enjoyed the *photovoice activity* we did in this project.	4.83
I enjoyed the *peer interviews* we did with this project.	4.50
I enjoyed the *walkability audits (MAPS)* we did with this project.	4.17
I enjoyed the *community share-back event.*	4.83
The project team leaders provided helpful support.	4.83
I felt supported and connected with my peer Change Agent group	4.83
I feel confident in promoting the health & safety of my community.	4.83
I learned about the factors that make a community safe from traffic incidents	4.83
I learned new research skills with this project.	4.83
I would recommend this project to other friends.	4.67
Total Mean Score	*4.74*

Project & Personal Highlights: Table 6 presents project highlights ("What were the highlights of the project for you?") and personal highlights ("What are some of the things you learned with this project? What activities were most helpful for growing your personal leadership and public health skills?"). Among the project highlights, Change Agents cited the group activities, photovoice, peer interviews, and walkability audits, as well as the community share-back event. With regard to personal impact, Change Agents noted how the project helped to build safety-related knowledge and skills- including learning about pedestrian safety and the impact of speeding; communication skills; collaboration and leadership skills; and community research skills.

Project Recommendations: Table 7 presents recommendations for project improvement ("How can we improve the Vision Zero Action Planning Project?"). Key themes related to improving specific logistics of the project, such as better efficiency in distributing gift cards to interviewees, increasing size of the Change Agent cohort, and providing bug spray for walkability audits, as well as enhancing aspects of data collection, including ensuring equal distribution of tasks across Change Agents, increasing opportunities for residents of Montopolis to engage with the project, and exploring ways to translate recommendations into action.

Table 6. Project Highlights among Community Scientist Change Agents (n=6 Change Agents). Post Project Evaluation, *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community (Feb. 2025).*

Theme	Selected Quotes
Project-specific activities: • Photovoice • Peer interviews • Group activities • MAPS/walkability audits • Community share-back event	"The photovoice aspect was the highlight of this project for me." "My favorite aspect of the project was probably the Peer Interviews. So much was gleaned from talking to folks who lived in and around Montopolis, it also made me realize some interesting ways I socialize." "I think the MAPS was really helpful." "A highlight of this project was the community share back event. It tied together our research and showed the community our ideas and intel that we collected over the course of the project." "Some things that I learned during the project is how much data and planning it takes to get results in your findings. I learned to see the world through a new lens when facing public health issues and how it affects the community and environment, such as the photo voice project. I also learned that the community always comes together when there is safety concerns. Some activities that helped shape my leadership skills were the group activities. When we would split into groups it helped me develop a voice to share my ideas and present them at the end when we all came back together. Activities that were helpful for my public health skills was the walking audits. It helped me pay attention to things that I wouldn't normally think was an issue. Seeing small details in neighborhoods made me realize that there is always improvement and that public health always plays a role in even the tiniest of things."
Personal impact: • Safety-related knowledge & skills: Awareness about pedestrian safety, the impact of speeding, overall driving-related health impacts, psychology of drivers • Communication skills • Collaboration & leadership skills • Community research skills	"The photovoice aspect was the highlight of this project for me. It gave me an opportunity to experience Montopolis in a different way and provided an accurate sense of some of the dangers for pedestrian safety in the area. This has also made me a more informed driver in Montopolis, when I travel…now I am more aware of my speed, how that speed is being perceived by pedestrians and the community in the area." "The community share-back [event] required me to practice communication skills as well as pitch the work we were doing to different groups which gets at the collaboration aspect I feel is very important to public health research…" "I learned how to better work with others. I think the MAPS was really helpful." "The most growing part of this project was using different data collection methods to capture every aspect of the problem. It helped me see how you can investigate a public health issue and use diverse perspectives to solve a problem in a way, you would never have thought of with a single lens." "I learned more about Austin and driving-related incidents. I also learned more about the psychology of drivers."

	"Some activities that helped shape my leadership skills were the group activities. When we would split into groups it helped me develop a voice to share my ideas and present them at the end when we all came back together." "I think I learned a lot of how to conduct a proper interview. I've never really conducted one before and now I think I could take many of the things I learned with me for the rest of my life."
Collaborating with a diverse team: Diverse perspectives for creating change and opportunity to	"The highlights of this project were the conversations about change from diverse perspectives. We had Change Agents from different schools, majors, and professions which made our group diverse. This expanded my mind tremendously." "I enjoyed meeting all of the people that worked on this project and collaborating with them." "What I liked most about the vision zero planning project was the collaboration. All team members worked together to build new ideas and supported one another.".
Community impact	"The highlights was that we were doing positive change for the community with meaningful action."

Table 7. Recommendations for Project Improvement cited by Community Scientist Change Agents (n=6). Post Project Evaluation, *Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community (Feb. 2025).*

Theme	Selected Quotes
Improve specific logistics of project: • Expedite delivery of gift cards to interviewees • Increase the size of Change Agent cohorts • Provide bug spray for walkability audits	"Some of my interviewees said they had not received a gift card as of Feb 22nd so maybe providing quicker access to incentives." "I don't have many improvements because I enjoyed myself. I loved the project's timeline and structure, and I think we accomplished a lot considering we were only involved for a month. My only improvement would be to bring bug spray for those walking audits." "I think bigger cohorts...."
Enhance specific aspects of data collection: • Ensure equal task assignment for data collection • Increase opportunities for community members from Montopolis to provide input • Explore ways to translate recommendations to action	"… [M]y group was assigned two segments instead of one [for the walking audits], and it took us a really long time. So maybe making sure that everyone has an equal amount of work. I've also found that with the walking audits, it doesn't really matter if there isn't much happening on a street or if it's boring; the survey is the thing that takes the longest." "I think a great way to get intel on what the community thinks of roadway safety and living conditions is to get data from frequent visitors at recreation centers. This could also tie into peer interviews. This idea will help vision zero collect data from people that live within the community, whereas some Change Agents may not know many people who do live in the specific community. This idea shouldn't replace peer interviews, but act as a support." "Find ways to get more of the community involved. The share back event was wonderful but it didn't feel like any Montopolis folks who weren't already interested in our project came out. If there was a way to bring the average person into the fold, I think it would have helped a lot." "… more implementation of recommendations."

DISCUSSION & RECOMMENDATIONS
_____

The high number of roadway fatalities and serious injuries in Montopolis/Austin, as well as Texas, the U.S. and beyond, underscore an urgent and ongoing need for new strategies and approaches to improve roadway safety for drivers and active commuters. The *Mapping Opportunities to Reduce Fatal & Serious Injuries on Roadways in Austin, Texas: Engaging Young People in Action Planning to Advance Vision Zero* project represents an innovative initiative for engaging young adults in co-learning about both the needs and barriers for safe transportation as well as the opportunities for improving the conditions that make safe transportation possible.

Our partnership with eleven community Change Agent citizen scientists and a mixed-methods community assessment approach resulted in rich learning around the factors that increase the risk for roadway crashes via the lens of young adults. In addition to insights about the context for specific risk behaviors such as driving under the influence and failure to use seatbelts from young adults, our Change Agents also documented specific features of selected areas and street segments within the Montopolis community that may reduce the walkability of the community and increase roadway risk for injury. Importantly, our Change Agents also noted specific strengths of community design in Montopolis (e.g., improved sidewalks), and identified opportunities for promoting safe transportation both with their peers (e.g., technology solutions for reducing distracted driving; the opportunity to increase peer influence on reducing DUI and speeding) and for the Montopolis community (e.g., the need for more crosswalks, shade and signage, among other possible improvements for specific areas). These findings hold promise to inform intervention planning aimed at increasing roadway safety in the Montopolis community.

In this final section, we present a summary of our findings as presented in two logic models: a *logic model of the problem*, and an initial *logic model of change*. With guidance from the Intervention Mapping (IM) planning framework, the logic model of the problem presents a visual summary of key individual-level and environmental risk factors for roadway fatality and serious injury as identified from our mixed methods community assessment (brainstorming, review of literature and existing data, and collection of primary data via photovoice, peer interview, and walkability audits) (Fig. 22). In moving from the needs assessment toward community health improvement (Step 2 of IM), we also present an initial *logic model of change*, which aims to identify what needs to change at the individual level (e.g. enhanced intrapersonal outcomes such as perceived norms for safety and practices such as reduced cell phone use), interpersonal level (e.g. increased peer influence for safe driving), organizational level (increased role of bars in preventing drunk driving), and community and societal levels (e.g. improved crosswalks, sidewalks and bikeways; enhanced information environment to promote safety, such as technological approaches to reduce distracted driving) (Fig. 23). In building from Vision Zero's Safe Systems approach, we see great opportunity for further developing risk factor-specific logic models, recognizing that strategies may be different depending on the risk factor (e.g., strategies to reduce speeding vs. DUI). Lastly, we present summary recommendations generated by our community Change Agent partners as well as findings from our assessment (Table 8).

Phase 4
Personal Determinants
(Young Adults)

- Low knowledge, skills, self-efficacy for:
  - Safe driving practices (e.g., seatbelt/helmet use, not using cell phone, speeding)
- Low perceived susceptibility/severity for transportation-related injury among young people ("won't happen to me!")
- Overconfidence of ability (to multitask, drive while intoxicated)
- Low perceived safety for rideshare (DUI)
- High perceived social norms for DUI, cell use, speeding, not using seatbelt
- Addictive nature of cell phone use & societal expectations of constant connectivity
- Negative outcome expectations (e.g. speeding and lack of seatbelt use are cool, masculine; seatbelts are inconvenient)
- Low perc'd social support for safe transportation practices (e.g. not using cell phone, not driving while intoxicated)

Active Commuting-specific
- Low knowledge, skills, self-efficacy for active commuting (e.g. taking bus)
- Time concerns and perceived barriers for public transit (e.g. takes too long)
- Low perceptions of safety on the road & on the bus (crime/traffic)

Phase 3
Behavioral and Environmental Factors

Behaviors
- Aggressive driving
- Distracted driving (cell phone use)
- Speeding
- Driving under the influence
- Inexperience and reckless (driving too slow; driving too close; sudden braking)
- Lack of seatbelt use/helmet use
- Use of older cars

- Low/unsafe active commuting (walking, biking, public transit use)

Environmental Factors
Interpersonal
- Negative peer influence (DUI, speeding, lack of seatbelt use)
- Low positive social influence for safe driving/active commuting
Organizational
- Low enforcement of designated driver (bars)
Community & Societal
- Poor roadway design *(no crosswalks, sidewalks, buffers, bike lanes, traffic calming, lighting, congestion)*
- Poor information environment (lack of signage, stoplights)
- Economic barriers for rideshare services/alternative transport to prevent DUI
- Low enforcement (speeding, seatbelt use, DUI)
- Societal norms: fast-paced society; promotion of speeding (e.g. car ads)
- Societal norms: driving under influence
- Long distance: barrier for active commuting

Phase 2
Health Problems

Increased roadway fatality & serious injury among young people & Montopolis area residents

Increased chronic disease (obesity, diabetes, hypertension)

Phase 1
Quality of Life

- Increased chronic morbidity/premature mortality
- Reduced participation in activities of daily living
- Family & societal economic costs (e.g., healthcare)

Figure 22. Logic Model of the <u>Problem</u> - *Roadway Fatality & Injury among Young People & Montopolis/Austin, Texas*

Phase 4
Personal Determinants
(Young Adults)

- High knowledge, skills, self-efficacy for:
  - Safe driving practices (e.g., seatbelt/helmet use, not using cell phone, speeding)
- High perceived susceptibility/severity for transportation-related injury among young people ("it could happen to me!")
- Realistic expectations of ability (to multitask, drive while intoxicated)
- Higher perceived safety for rideshare (DUI)
- Low perceived social norms for DUI, cell use, speeding, not using seatbelt
- Perceived societal expectations of <u>not</u> being constantly connected
- Positive outcome expectations/benefits (e.g. "not speeding and using seatbelts is what real men do for their friends, family, community)
- Low perc'd social support for safe transportation practices (e.g. not using cell phone, not driving while intoxicated)

Active Commuting-specific
- High knowledge, skills, self-efficacy for active commuting (e.g. taking bus)
- Positive perceived benefits of public transit (e.g. it's safe, healthy for environment, healthy for me)
- High perceptions of safety on the road & on the bus (crime/traffic)

Phase 3
Behavioral Outcomes
Environmental Conditions

Behaviors
- Defensive driving
- Not using cell phone and/or hands-free cell phone use
- Driving within speed limits
- Driving while sober/seeking alternative modes/planning ride before drinking
- Using seatbelts/other restraints

- Safe active commuting (walking, biking, public transit use)

Environmental Factors
Interpersonal
- Increased positive social influence for safe driving (e.g. peers discourage DUI, speeding, lack of seatbelt use, cell phone use)

Organizational
- Increased enforcement of designated driver/intervening when inebriated (bars)
- Increased opportunities for leisure-time activities that don't involve substance use
- Increased opportunities to learn about safe driving/active commuting

Community & Societal
- Enhanced roadway design *(crosswalks, sidewalks, buffers, traffic calming, lighting, bike lanes)*
- Enhanced information environment (e.g., signage to support driver/active commuter; enhanced messaging to promote safe transportation practices)
- Economic supports for rideshare services/alternative transport to prevent DUI
- Relevant/adequate enforcement (speeding, seatbelt use, DUI)
- High societal norms for not speeding/active commuting/not driving under influence
- Promotion of technological solutions that can reduce/make safer cell use while driving

Phase 2
Health Outcomes

- Decreased roadway fatality & serious injury among young people & Montopolis area residents

- Decreased chronic disease (obesity, diabetes, hypertension); Increased physical, mental, social health

Phase 1
Quality of Life Outcomes

- Decreased chronic morbidity/premature mortality
- Increased participation in activities of daily living
- Lower family & societal economic costs (e.g., healthcare)
- Increased overall QOL from active commuting
- Reduced air pollution

Figure 23. Initial Logic Model of <u>Change</u>: *Preventing Roadway Fatality & Injury among Young People & Montopolis/Austin, TX*

Recommendations

As a final activity, community Change Agents developed recommendations for promoting roadway safety and active commuting based on their photovoice, peer interviews, and walkability audit findings (see Table 8). These recommendations were shared at the final community share-back events held in August and December, 2024.

Table 8. Community Change Agent Recommendations for Increasing Safe Transportation & Active Commuting from Phases 1 & 2. *Co-learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community* (n=11 Change Agents).

Topic Domain	Recommendation
Enhance Community Design & Infrastructure for Active Commuting	1.) Continue to improve infrastructure and design of communities to support safe transportation and active commuting. *Themes from the Walking Audits.* Need for more: ○Crosswalks, traffic calming, and buffers; protected bike lanes. "People need to feel safe 'off' the street. ○Trees/shades/Coverings. "evenly spaced trees and other forms of shade to protect people from elements". ○Maintenance (e.g., overgrown grass), trashcans, trash pick-up ○Signage: "...and something to slow down drivers along this area. For instance, pedestrian signage since we see so many people walking." ○Places to sit: Comfort- "A theme from our walkability audit, was a lack of places to sit. People need to convene in public. Remove "hostile infrastructure"." ○Lighting
Increase Community Engagement to Improve Infrastructure & Upkeep	2.) Tailor Vision Zero to specific communities, and engage community members to assess, plan and advocate for community improvements (e.g. Train community members to conduct walking audits and to build advocacy skills to improve the design of their community.) 3.) Create a community member program where funds can be provided directly to communities to take care of their sidewalks and overall community (and/or tax breaks for members who help).
Change our Car-Dependent & Fast-Paced Culture	4.) Explore policies and other intervention approaches to change our dependence on cars as well as our fast-paced culture. *"We are not addressing the root problem. For example, our car-dependent culture, our fast-paced culture, [and the need to] design our communities to support active commuting." -Change Agent*
Increase Resources & Incentives to Support Safe Transportation	5.) Enhance outreach & messaging about mental health resources (e.g., to avoid road rage, impaired driving) 6.) Make resources available for safe transportation, such as increased city-sponsored Uber/Lyft to reduce impaired driving. 7.) Enhance strategies at bars to decrease impaired driving (e.g., designated driver) 8.) Create incentives to promote greater use of public transportation/walking/biking. For example: a) Extra hour of flex time if you walk/bike/use public transit! Tax credit? Carpooling incentives? Single family car incentive?) *"If public transportation is cheaper and more convenient, more people will use it."*

	b) Tax rebates for having an e-bike
	c) Free transportation day with Cap Metro
Enhance education and promotion of safe transportation	9.) Increase education about safe transportation, starting at an early age. 10.) Explore creative ways to get messages to people (e.g., social media, Next Door to promote walking audit groups...). 11.) Enhance outreach to help people navigate the bike and bus system efficiently, including enhanced navigation at bus stops. 12.) Target screens to promote safety and active commuting (e.g. 'how to videos' or 'Instagram reels'); use City spaces like Rec Centers, Parks.
Foster social accountability and support for safe transportation	13a.) Bars: Increase accountability for safe transportation with customers they serve. For example, provide rideshares from bars as a service; allow people to stay after 2:00 AM to sober up; encourage Buddy Systems to keep people safe. 13b.) Increase peer influence to reduce DUI, speeding, distracted driving, and seatbelt use.
Promote opportunities, spaces, events that can foster greater social connectivity (e.g., more 'third places')	14.) Community- increase promotion and establishment of 'third places' where newer people to Austin and established people can socialize in Montopolis. Include more social media ads for promoting neighborhood events (e.g., need more free Zumba/Dance classes. A perfect third place: A brand new dog park!). Establish or promote existing businesses/locations.

Limitations and Strengths

As with all research, this community assessment had specific limitations and lessons learned that merit mention. Among these limitations, we note that our findings are based on a limited number of Change Agents, peer interviews, and geographic areas assessed within the Montopolis community. As such, caution is needed in generalizing our findings across all young adults and across the Montopolis community. We also recognize the opportunity to engage further the voice of Montopolis residents within this community assessment. While the majority of our Change Agents and peer interviewees represent young adults of Hispanic and African/African American background- higher risk groups for roadway injury, and have lived or have a connection with the eastside of Austin-including the Montopolis community, we note the opportunity to further engage residents of Montopolis to co-learn about ways to promote safe transportation specific to Montopolis, including expanding the age and language groups for future assessment. Lastly, while we generated initial input about community resources, we note the opportunity for further assessment of community assets that can be leveraged for community health improvement planning.

These limitations notwithstanding, specific strengths of this community assessment include the use of a mixed-methods approach comprised of qualitative (participatory learning, photovoice and peer interviews) and quantitative methods (analysis of transportation-related indicators; MAPS audit); a large sample of peer interviewees; and a cross-section of geographic areas and segments of the Montopolis community for the walkability audit. Importantly, this assessment was led by young adults, which allowed for exploration of the context of roadway safety via their lens and lived experience, including identification of risk factors as well as opportunities for community improvement.

CONCLUSION AND FUTURE DIRECTIONS

This community assessment of roadway safety in partnership with young adult community Change Agents, the City of Austin Transportation and Public Works Department, and the Montopolis community provided a vehicle for rich learning around roadway safety and active commuting. In addition to identifying assets of the Montopolis community that support active commuting, such as sidewalks available in just over two-thirds of roadway segments assessed, our community Change Agent-led assessment identified barriers and needs for roadway safety and active commuting among young people and within the Montopolis community. Key findings in this assessment included:

- *Montopolis experienced a higher rate of crashes* compared to Austin as a whole for 2019-23 (87.6 per 100,000 people vs. to 61.2 per 100,000, respectively);

- *Assets* that include a high percentage of roadway segments assessed (n=24) that had sidewalks (77.8%), with 66.7% of sidewalks having road buffers;

- *Need for improved community infrastructure* (e.g., sidewalks, crosswalks, lighting, bikeways, shade, benches) noted across assessment methods (e.g., 47.8% of road segments assessed lack crosswalks);

- *Peer interview themes* that provide further context to roadway risk behaviors: distracted driving (cell phone normalization; addiction; societal pressures); impaired driving (normalization; lack of perceived consequences; underestimation of impairment; financial barriers; inconvenience of alternatives); speeding (as a cultural norm; time; thrill seeking; masculinity); and lack of seatbelt use (inconvenience; "it's not cool");

- *Barriers for active commuting* that included: safety concerns, environmental and infrastructure challenges; distance, convenience and car culture; and stigma and lack of skills for public transportation (e.g., taking bus); and

- *Promising solutions* identified by Change Agents to increase roadway safety and active commuting, from promoting technological solutions to reduce distracted driving, to increasing social influence among peers to reduce DUI, to enhancing roadway design and messaging.

The barriers and needs identified in this assessment, along with the recommendations and solutions proposed by our Change Agents and their peers, represent rich opportunities for informing future transportation-related health promotion and prevention strategies with young adults and community health improvement efforts with the Montopolis community. While community-engaged approaches require time and support, we feel the curriculum and overall approach developed for this project are feasible and provide a template for guiding neighborhood groups, youth-led organizations, and other community organizations interested in generating community-informed insights and action for roadway safety. We express gratitude to our community Change Agent citizen scientists for their partnership with this assessment and look forward to ongoing co-learning around community-led assessment and planning efforts to advance roadway safety and active commuting.

APPENDICES
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Appendix A
Community Change Agent Recruitment Plan

RECRUITMENT & RETENTION PLAN FOR YOUNG ADULT CHANGE AGENTS

RECRUITMENT & RETENTION GOALS

- Recruit up to 30 young adult applicants for leadership roles.
- Recruit 10 young adult leaders for the Vision Zero community outreach project.
- Retain 5-7 young adult leaders for the project.

RECRUITMENT STRATEGIES

BROAD RECRUITMENT STRATEGIES

The aim of our broad recruitment strategies is to cast a wide net in recruiting prospective applicants for the youth leadership roles and build community interest in the vision Zero Outreach Project.

| METHODS	LOCATIONS
Flyers/ Posters with QR code	- Libraries: Ruiz Library - Schools: ACC, HT - HEBs: Riverside - Texas Workforce Commission - Child Development Center at ACC or other nearby centers - Community Housing Locations: Daffodil Apartments (Foundations Communities), Lifeworks Young Adult Housing, SAFE Housing - Community Centers: Montopolis Recreation Center, Central Texas Food Bank
Social Media Ads	- Instagram - Facebook - NextDoor
School Program/ Extracurricular Outreach	- ACC- Eastview - Recruit from: Health Sciences and Education/ Child Development Programs - ACC- Riverside - Recruit from: welding, automotive mechanics, building construction and Latino/ Latin American Studies Center (El Centro) programs - Huston Tillotson - Recruit from: Kinesiology, Sociology, Psychology, Environmental Studies - Local High Schools - Garza, Del Valle High School, Travis High School, KIPP Austin Brave, IDEA Montopolis
Microsite	Online website to host application and information about community events

Note: many of these strategies can also be used to recruit participants for the community forums and other project activities, such as surveys/ events.

TARGETED RECRUITMENT STRATEGIES

The aim of the targeted recruitment strategies is to locate young adults that have a special interest in health, transportation or similar community issues that are already connected to an existing network of community services.

METHODS	LOCATIONS
Partner Organization Outreach- email & flyers/ direct appeals during programming	• AHA/ Austin Public Health • SAFE • El Buen • Integral Care • Central Health • People's Community Clinic • Communities in Schools
Snowball Recruitment During Key Informant Interviews & With Previously Recruited Young Adults	• On-site
Tabling/ Direct Recruitment at Open Gym	• Montopolis Rec Center/ Gym

Young adults will be asked to go through a simplified and expedited application, interview and selection process to ensure they have significant interest in the project and the available time and commitment to participate in the project. This process is outlined below.
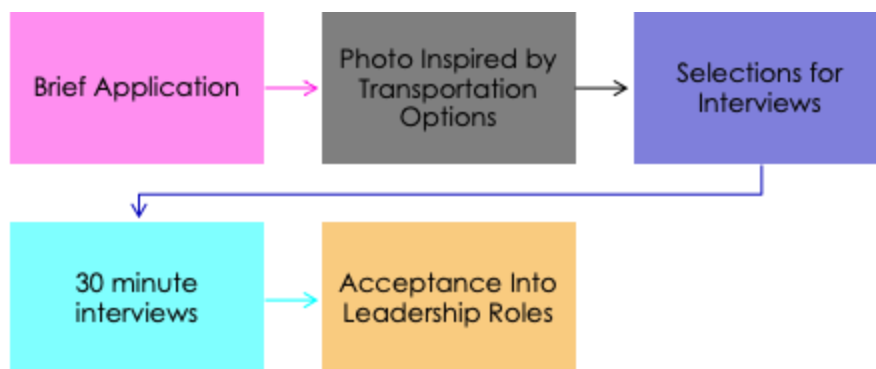
BRIEF APPLICATION & PHOTO SUBMISSION

A brief online application will be used to gather information from applicants and to ensure they are eligible to participate in the project. Information gathered may include:

- Name
- Date of Birth

- Address
- Race/ Ethnicity
- Gender
- Schools Attended
- Connection to the Montopolis/ Southeastern Austin area
- How they get around (bus, bike, walking, car, mixed methods)
- Languages spoken (English, Spanish, Vietnamese, other)
- Access to cellphone/ internet
- Dates/ Times they are available to meet
- Childcare needs/ requirements
- Transportation needs/ requirements
- Which social media platforms they use most frequently

Applicants will also have an opportunity to submit a photo or series of photos with their application to show their point of view and that provides insight into how they get around when they need to go somewhere. Applicants will be asked if they consent to their photo being used as part of the project and given the option to consent or not consent based on their acceptance or rejection from the leadership program.

SELECTION FOR INTERVIEWS

Brief, 30-minute interviews will be conducted with applicants to narrow down the applicant pool. Applicants will be selected for interviews based on the following criteria:

- Age Range: 18-25
- Address: In close proximity to the Montopolis area or grew up in the Montopolis area.
- Gender: A greater number of male applicants will be prioritized for interviews to better generate a sense for the unique perspectives of the population most harmed by traffic fatalities and injuries.
- Bilingual Capability (English & Spanish)
- General Availability that aligns with the rest of the applicant pool

30 MINUTE INTERVIEWS

The interviews will be completed via phone or zoom (or in-person at Montopolis recreation center). During the interviews, applicants will be invited to share the following:

- What interests them about the project
- What special skills or talents they would like to bring to the project
- Why they think young adults have such high rates of traffic injuries and fatalities
- Why they think young adults drink/ use substances and drive or drive distracted (cell phones, friends in the car, etc.)
- What would help them be successful in this project and prioritize their participation
- What type of activities they would most be interested in engaging in (taking photos, community data walks, recruiting people to attend the community forums/ other project activities, facilitating discussions or presenting at community forums, interviewing community members)
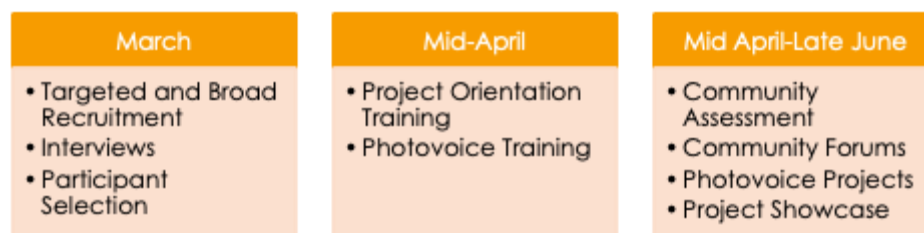
ACCEPTANCE INTO LEADERSHIP ROLES

Once the applicants are interviewed, 10 young adult leaders will be selected into the leadership roles available during the first phase of the project. An oversample will be selected to account for attrition during the project, with the hopes that 5-7 young leaders complete the first phase of the project and move on to the second phase. Their work on the project will include:

- Attending Project Orientation
- Attending 80% of the Group Meetings
- Participating in one key area of the leadership project's activities (community forums, community interviews, or photovoice)
- Supporting the projects activities (facilitating or presenting at meetings, recruiting participants for project activities)

POSSIBLE RETENTION STRATEGIES

Compensation up to $1000 per project round	Food Provided	Bus Passes?
Text Message Meeting Reminders	Training/ Skill Building	Showcasing Work & Celebrating Milestones
	Additional Leadership Opportunities	

1ST ROUND TIMELINE

March	Mid-April	Mid April-Late June
• Targeted and Broad Recruitment • Interviews • Participant Selection	• Project Orientation Training • Photovoice Training	• Community Assessment • Community Forums • Photovoice Projects • Project Showcase

KEY MEETING DATES:

Date	Activity
April 16 + 18	Project Orientation Training
April 23 + 26	Photo Voice Training

April 30	Project Meetings/ Activities Begin
May 28	Project Meetings/ Activities End
June 11 + June 25	Project Showcase

2ND ROUND TIMELINE

Early August- Early September	Mid September	October-December
• Targeted and Broad Recruitment • Interviews • Participant Selection	• Project Orientation Training • Photovoice Training	• Community Assessment • Community Forums • Photovoice Projects • Project Showcase

YOUNG ADULT CHANGE AGENT ACTIVITIES

Change Agents will complete an 8-hour orientation delivered over 2 days. The orientation is designed to orient them to Vision Zero, review the project's planned activities, build group cohesion, and provide foundational skills they'll need to complete project activities.

PROJECT ORIENTATION PLAN

Week 1 (April 16 + 18) – 6-8 PM

Day 1	Day 2
Team Building	Team Building
Vision Zero Orientation	Project Activities Orientation
Exploring The Issues	Exploring the Issues

Week 2 (April 23 + 26) – 6-8 PM

Day 1	Day 2
Team Building	Team Building
PhotoVoice Applied Training	PhotoVoice Presentation Skills
Guest Speaker	Generating Narratives

DETAILED AGENDA- WEEK 1, DAY 1

Time	Agenda Item	Presenter/ Facilitator
15 mins	**Welcome & Settling In** • Staff Team Introductions (name, role on the project) • Housekeeping • Agenda Review	

15 mins	**Team Building Activity** • Young Adult Introductions/ Cultural Sharing	
20 mins	**Project Foundations** • Roles of Change Agents & Staff • Brief Project Activities Overview • Group Agreements- what will help you engage in this group and feel comfortable sharing?	
5 mins	**Break**	

20 mins	**Vision Zero Orientation**
	• Project Overview
	• Brief Data Presentation
	    o Key Roadways for Crashes
	    o Time of Day for Crashes
	    o Demographics of People involved in Crashes
	    o Other Critical Data Points?
	• Q&A- What questions do you have?
		COA Team

35 mins	**Exploring the Issues** • Root Cause Analysis: 5 Whys of the Issue (2 small groups) o Why are young adults overrepresented in crash data? • Team Presentations & Reflections	
10 mins	**Closing & Next Steps** • Highlight Day 2 Agenda • Answer Questions	

DETAILED AGENDA- WEEK 1, DAY 2

Time	Agenda Item	Presenter/ Facilitator
10 mins	**Welcome & Settling In** • Housekeeping Reminders • Agenda Review	
25 mins	**Team Building Activity** • Young Adult Introductions/ Cultural Sharing	

30 mins	**Project Activities Orientation**
	• Recap Ground Rules & Previous Information Shared
	• Detailed Project Activities Review & Feedback
	    o Activity (Role of Change Agents, Timeline, etc.)
	    o Questions & Feedback About Each Activity
	    o What do you hope to learn or contribute to this activity?	

5 mins	**Break**	

45 mins	**Exploring the Issues**
	• Review Root Cause Analysis Findings
	• Mapping Montopolis Neighborhood
	    o Review Crash Map
	    o Explore: What is Contributing to Crashes?
	• Team Presentations & Reflections	

10 mins	**Closing & Next Steps** • Highlight Week 2 Activities • Answer Questions	

DETAILED AGENDA- WEEK 2, DAY 1

Time	Agenda Item	Presenter/ Facilitator
10 mins	**Welcome & Settling In** • Housekeeping Reminders • Agenda Review	
25 mins	**Team Building Activity** • Young Adult Introductions/ Cultural Sharing	
	Photovoice Activity Overview • What is Photovoice? • How we're using Photovoice • Timeline	
5 mins	**Break**	
30 mins	**Photography 101** • Guest Presentation	Guest Presenter
20 mins	**Practicing Photography Skills?**	
10 mins	**Closing & Next Steps** • Highlight Week 2 Activities • Answer Questions	

DETAILED AGENDA- WEEK 2, DAY 2

2nd session: framing questions, plan of action, safety/ ethics of photographer

Time	Agenda Item	Presenter/ Facilitator
10 mins	**Welcome & Settling In** • Housekeeping Reminders • Agenda Review	
25 mins	**Team Building Activity** • Young Adult Introductions/ Cultural Sharing	
30 mins	**Framing Questions** • What's the Problem? • What's the Solution? • Planning for Photos	
10 mins	**Closing & Next Steps** • Highlight Week 2 Activities • Answer Questions	

Project Recruitment Flier

NOW RECRUITING:

YOUNG ADULT CHANGE AGENTS

For the Austin
Vision Zero Project

CITY OF AUSTIN | TRANSPORTATION PUBLIC WORKS

APPLY NOW:

ABOUT VISION ZERO:

Vision Zero is the Austin community's goal to reduce people hurt or killed by crashes to zero with street improvements, policy changes, enforcement, and education. Change Agents will help analyze how these issues are impacting the Montopolis neighborhood and how to prevent crashes, injuries, and deaths.
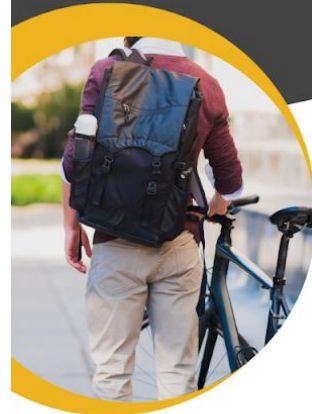
PROJECT INFORMATION

- Serving as a Young Adult Change Agent is a compensated (up to $1000) leadership opportunity for young adults ages 18-25 who live near the Montopolis neighborhood.
- Change Agents will serve between October and December 2024.
- All meetings and sessions will be in the Montopolis area.

PARTICIPANT REQUIREMENTS

- Ability to attend 4 project orientation sessions (2 hours each) in October 2024, complete field assignments, and attend at least 80% of project sessions (held in evenings from 6-8 PM) between October - December 2024 .
- A brief application, 30-minute interview and a criminal background check is required for this role.

The University of Texas at Austin
College of Education

UTHealth Houston
School of Public Health

This project is led by The University of Texas at Austin and UTHealth Houston. This project is funded by the City of Austin Transportation and Public Works Department. Please contact Dr. Andrew Springer via email: Andrew.E.Springer@uth.tmc.edu or phone: (512) 391-2523 with any questions or concerns.

Appendix B
Example Change Agent Orientation Packet

Phase 2 Orientation Packet

Project Purpose, Aims, & Methods

Purpose:

The purpose of this study is to learn more about community needs, resources, and opportunities for promoting safe transportation in the Austin area of Texas. This study will help us better understand the factors that may increase risk for roadway injury and fatality among young adults, as well as the factors that may increase risk for roadway injury and fatality among young adults, as well as the factors that may promote safe transportation within the Austin area.

Overarching Aim:

To reduce fatal and serious injuries on roadways and promote active commuting among young adults & higher risk communities in Austin, TX.

Specific Aims:

1. Identify barriers and supports (individual-level & environmental level) for increasing safe transportation among young adults in and around the Montopolis community of Austin, Texas.
2. Identify community resources that can be activated to advance Vision Zero's mission of reducing the number of "people hurt or killed by crashes to zero with street improvements, policy changes, enforcement and education."

Methods:

1. Intervention Mapping Core Processes
a.   Question posing & brainstorming
b.   Literature review/Google Searches
c.   Primary data collection

2.   Community Planning Meetings
a.   Root Cause Analysis, Data Walks, La Ventana, etc.

3.   Community Assessment
a.   Photovoice
b.   Peer Interviews
c.   Environmental Asset Assessment
d.   Walking Audits

Young Adult Citizen Scientists Roles & Responsibilities

Role: The role of the young adult citizen scientist will be to collaborate with the Vision Zero Co-Learning & Action Planning team to support an assessment of factors contributing to roadway safety and active commuting among young adults living in and around the Montopolis community.

Responsibilities: The expected time for participation in this project spans over a 2.5 month period, with activities that will include:

- Completion of Background Check and Other Paperwork needed from UTHealth Houston School of Public Health-Austin.
- Attend and participate actively at 11 planning meetings of approximately 2 hours each, including 4 Orientation Sessions, 6 Planning Meeting Sessions and 2 Sessions for planning and implementing a Community Share Back Presentation.
- Support with implementing the following field activities:

  - *Photovoice:* Conduct a photovoice assessment to explore topics related to roadway safety.
  - *Peer interviews*: Conduct 5 peer interviews to learn about driving-related risk behaviors and barriers to active commuting/public transportation among young adults, as well as environmental assets such as communication channels that can be activated to promote roadway safety and active commuting among young adults.
  - *Walking Environmental Audits:* Support the implementation of walking environmental audits aimed at assessing physical features of the built environment and neighborhood design that inhibit or promote the walkability of a given street/neighborhood.

- Staying up-to-date with meeting content and above responsibilities by checking in on this folder: [Change Agent Resources Folder](#)
  - QR Code to folder:

For participation and completion of all activities, participants will receive a $1,000 stipend. Partial completion of activities may result in a decrease in stipend provided. *Note: Stipends will be processed upon completion of project involvement and may take up to a month to be delivered.*

Meeting Dates

All meetings will be held from 6-8 PM at Montopolis Recreation Center, unless a schedule change is needed.

Orientation Dates:

Overview of Vision Zero:	10/8
Protection of Human Subjects Review:	10/10
Taking Photos 101 & Interviewing Best Practices:	10/15
PhotVoice Action Planning:	10/17

Planning Meeting Session Dates:

PhotoVoice Sharing Session:	10/24
Peer Interview Planning:	11/7
Walking Audits:	11/14
Walking Audit Make Up Day:	11/19
Walking Audits:	11/21
Walking Audit Make Up Day:	12/3

Community Share Back Dates:

Preparation for Community Share Back:	12/5
Community Share Back:	12/12

Contact Information

Team Leads:

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Nicole Treviño

Email: info@nicoletrevino.com

Deborah Salvo

Email: dsalvo@austin.utexas.edu

Team Coordinators:

Isabel Thomas

Email: Isabel.M.Thomas@uth.tmc.edu

Vision Zero Change Agents – Phase 2 Meeting Calendar (DRAFT)

OCTOBER 2024

SUN	MON	TUE	WED	THU	FRI	SAT
		1	**2** **Complete**	**3** **Pre-Work →**	**4** → → →	**5** → →
6 → →	**7** → → →	**8** **Orientation: Overview of Vision Zero (6-8)**	**9** *Action Item: Complete Protection of Human Subjects Webinar*	**10** **Orientation: Protection of Human Subjects Review (6-8)**	**11** *Action Item: Practice Taking Photos Around Your Neighborhood*	**12**
13	**14**	**15** **Orientation: Taking Photos 101 & Interviewing Best Practices (6-8)**	**16** *Action Item: Explore PhotoVoice Topics*	**17** **Orientation: PhotoVoice Action Planning (6-8)**	**18** *Action Item: Work on PhotoVoice Projects (Due 10/24)*	**19**
20	**21**	**22**	**23**	**24** **Session: Photo-Voice Sharing & Peer Interview Overview**	**25** *Action Item: Identify Peers to Potentially Interview*	**26**
27	**28** **Complete**	**29** **PhotoVoice**	**30** **Projects**	**31** → → →	**NOV. 1** → → →	**NOV. 2**

NOVEMBER 2024

SUN	MON	TUE	WED	THU	FRI	SAT
3	4	5	6	7 **Session: Peer Interview Planning**	8 *Action Item:* Complete Peer Interviews by 11/21	9
10	11	12	13	14 **Session: Walking Audit Overview & Practice**	15 *Action Item:* Schedule & Complete Walking Audits	16
17	18	19 **Optional Session: Walking Audit Make Up Day**	20 *Action Item:* Schedule & Complete Walking Audits by 11/21	21 **Session: Walking Audits**	22	23
24 H → →	25 O → → →	26 L → → →	27 I → → →	28 D → → →	29 A → → →	30 Y → →

DECEMBER 2024

SUN	MON	TUE	WED	THU	FRI	SAT
1	2	3 **Optional Session: Walking Audit Make Up Day**	4	5 **Session: Final Prep for Community Share Back**	6 *Action Item:* Complete final tasks and prepare for presentation	7
8	9	10	11	12 **Session: Community Share Back & Celebration**	13	14

Appendix C
Example Action Plan Scope and Sequence for
Change Agent Community Assessment of Roadway Safety

Example Action Plan Scope & Sequence for Young Adult
Change Agent Community Assessment (Phase 2)

Mapping Opportunities to Reduce Fatal & Serious Injuries on Roadways in Austin, Texas: Engaging Young People in Action Planning to Advance Vision Zero

Session	Date	Objectives	Topics/Activities	Materials Needed	Leads/Facilitators
Phase 2: September-December, 2024					
0	*By 9/27*	*Pre-Work*	• Complete the Protection of Human Subjects Webinar • Review Change Agent Information Packet • Log in to Google Drive and Review Folder Organization		•
1	10/8 (Tues) *In-Person*	*Overview of project and Vision Zero and begin building team*	• Welcome, Settling In (6:00-6:15) (Nicole) • Team Builder (6:15-6:30) (Nicole) • Project Overview & Project Foundations (6:30-6:45) (Andrew) • Vision Zero Orientation (6:45-7:10) (Joel/Mary) • Exploring the issues via Root Cause Analysis (RCA): 5 Whys (7:10-7:40) (Nicole) • Closing activity (Nicole) (7:40-8:00) **Action Item: Complete Protection of Human Subjects Webinar before 10/10 Session**	PPT Orientation Packet Agenda Food	• Nicole • Mary/Joel • Andrew • Isabel
2	10/10 (Thurs) *In-Person*	*Protection of Human Subjects and Guidelines for Community-based Research*	• Welcome, Settling In (6:00-6:15) (Nicole) • Team-builder (6:15-6:30) (Nicole) • Discuss Protection of Human Subjects & Answer Questions (6:30-7:00 p.m.) (Andrew) • Brainstorm: Risks to community and protection of our community: think about your personal safety and being protective of your community during research (7:00-7:15) (Andrew)	PPT Agenda Food Rotafolio paper	• Nicole • Andrew • Isabel

			• Community Facilitated Risk Model (7:15-7:45) (Isabel) o Ecological Framework • Closing activity (7:45-8:00 p.m.) (Nicole) ***Action Item: Practice taking a few photos (safely) around your own neighborhood to reflect on during 10/15 session.***		
3	10/15 (Tues) In-Person	*Taking Photos 101, and Interviewing Best Practices 101, and Photovoice Overview*	• Welcome, Settling In, Team Building (6:00-6:15) • Taking Impactful Photos (6:15-7:15) (30: mins: Photo 101; 30 mins: Interviews 101) • Photovoice Overview (7:15-7:30) (Andrew) • Closing activity (7:50-8:00 p.m.) **Action Item: Change Agents explore topics for PhotoVoice Projects**	PPT Agenda Food	• Adrian (Buddy) Escajeda (Photojournalist) • Nicole • Andrew • Isabel
4	10/17 (Thurs) *In-Person*	*Photovoice – Action Planning*	• Welcome, Settling In, Team Building (6:00-6:20) (Nicole) • Photovoice: Action Planning *(6:20-7:15)* • Photovoice: SHOWeD method & Tips for Writing Narratives (7:15-7:30) (Andrew) • Next Steps & Closing Activity (7:45-8:00) **Action Item: Continue to develop photovoice projects with aim of sharing back for October 24 meeting**	PPT Agenda Food	• Nicole • Isabel • Andrew
5	10/24 (Thurs) *In-Person*	*Photovoice – Sharing & Peer Interviews Overview*	• Welcome, Settling In, Team Building (6:00-6:20) (Nicole) o Introduce Stephany! • SHOWeD Analysis: Share initial photos & generate ideas for narratives (6:20-7:35) (Nicole) • Closing Activity (Isabel) **Action Item: Identify 5 friends to potentially interview**	PPT Agenda	• Nicole • Isabel • Andrew

6	11/7 (Thurs) In-Person	*Peer Interviews Details & Planning*	• Welcome, Settling In, Team Building (6:00-6:25) (Nicole) • Peer Interviews - Goals & Protocol Review (6:25-6:55) • Peer Interviews- Brainstorm Interviewees & methods for scheduling/ reaching out (6:55-7:20) • Practice Interviewing Skills (7:20-7:45) • Closing Activity (7:45-8:00) **Action Item: Complete Peer Interviews and submit documentation by 11/21** **Reminder: wear light color clothes; get**	PPT Agenda Peer Interview Guide Food	• Nicole • Isabel • Andrew
7	11/14 (Thurs)	*Walkability Audits Overview & Practice*	• Welcome & Settling In, Team Building (6:00-6:20) (Nicole) • Walking Audits Overview (6:20-7:00) (Deb) • Walking Audits Practice **Action Item: Schedule and conduct walking audits in Montopolis for this week and next**	Walking Audit Forms/ Maps Safety Vests Water	• Deb • Isabel • Nicole • Andrew
8	11/21 (Thurs) In-Person	*Walkability Audits*	• Review of plan of action • Conduct walking audits in Montopolis community **Action Item: Conduct walking audits & submit documentation by 12/5**	Walking Audit Forms/Maps Safety Vests Water	• Deb • Isabel • Nicole • Andrew
	11/25-11/29	*BREAK*	Thanksgiving Break		
10	12/3 (Tues) In-Person, if needed	*Walkability Audits Completion (if needed*	• Review of plan of action • Conduct walking audits in Montopolis community **Action Item: Finish walking audits & submit documentation by 12/5**	Walking Audit Forms/Maps Safety Vests Water	• Deb • Isabel • Andrew

11	12/5 (Thurs) In-Person	*Prepare Community Share-Back Presentation: Photovoice, Interviews & Walking Audits*	• Welcome, Settling In & Culture Share
			• Planning agenda for August 1, 2024 "Community Sharing Session"
			   o *Photovoice*: Practice sharing photovoice projects
			   o *Peer Interviews*: Share key themes
			   o *Walking Audit:* Identify findings/ lessons learned
			   o *Recommendations*: Identify our group recommendations for City of Austin
			• Next Steps & Closing Activity
				PPT Agenda Food	• Nicole
					• Isabel
					• Deb
					• Andrew

12	12/12 (Thurs) In-Person	*Community Share-Back Presentation*	• Welcome! & Ice-breaker/Culture Share
			• Exploring roadway safety via:
			   o Background on Vision Zero
			   o Photovoice
			   o Peer Interviews
			   o Walking Audits
			   o Recommendations
			• Q&A and Group Discussion
				PPT Agenda Food	• Nicole
					• Isabel
					• Deb
					• Andrew

Next Steps: Explore hosting a final 'showcase' session event with Change Agents from both Phases 1 & 2					

Appendix D
Photovoice Training

Photovoice Training (Selected Slides):

*Co-Learning & Action Planning to Advance Vision Zero
in Partnership with the Montopolis Community (2024)*

Co-Learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community
Photovoice Overview Training
October 15, 2024

Presented by:
Vision Zero Action Planning Team in partnership with Buddy Escajeda

Welcome! & Today's Agenda

- Welcome, Settling In & Cultural Share

- Taking Impactful Photos & Conducting Rich Interviews (Buddy)(6:15-7:15)

- Break! (5 min)

- Reflection (10 min)

- Photovoice 101 – Overview (Andrew)(7:30-7:45)

- Closing Activity (Nicole)

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Vision Zero: Exploring needs and opportunities for increasing roadway safety among young people

Goal: Via the photovoice method, explore:

- General needs and challenges for roadway safety and active commuting in Montopolis and the broader Austin community

- Risk behaviors/practices for unsafe transportation (e.g., driving under the influence; distracted driving; lack of seatbelt use; speeding; use of older vehicles)

- Barriers and facilitating factors for active commuting (biking, walking, use of public transit)

- Best practices/recommendations/solutions for promoting safe transportation & active commuting (biking, walking, public transit)
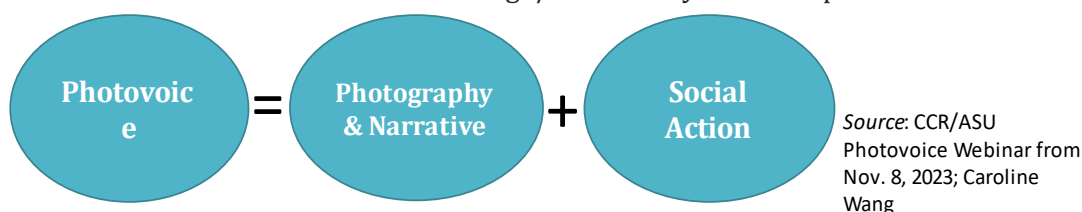
What is Photovoice?

Description: "A picture is worth a thousand words". It means that a picture can deliver messages or ideas more effectively than words alone...*Photovoice* is one method to take that storytelling one step further.

Photovoice is a way for community members to take and share photographs that express the strengths and needs of their community.

✔️ A *participatory method* based on health promotion principles and rooted in critical consciousness and feminist theory.

✔️ Allows participants to *record and reflect* their community's strengths and concerns through taking photographs, promote critical dialogue and knowledge about personal and community issues through discussion of their photographs, and to focus on social action for change/community health improvement.

Photovoice = **Photography & Narrative** + **Social Action**

Source: CCR/ASU Photovoice Webinar from Nov. 8, 2023; Caroline Wang

Photovoice – Key Steps

Step 1. Participatory learning about photovoice

✔️ Share rationale for using photovoice

✔️ Engage in Action Planning:
- Explore 'research' questions
- Consider where you will take pictures

✔️ Train on how to use camera to take pictures

✔️ Discuss informed consent, ethical considerations, personal boundaries and personal safety.

Step 2: Participants go on "picture-taking" assignment

✔️ Confirm where you will take pictures

✔️ Upload pictures to shared platform

Step 3: Discuss the pictures & write narratives

✔️ Participants choose which pictures to share

✔️ Group analysis of pictures using SHOWeD framework

✔️ Summarize themes that emerge from discussion

✔️ Write a narrative

Step 4. Plan & Disseminate findings

✔️ Identify venues/opportunities to share findings with community partners and decision-makers

✔️ Prepare presentations

✔️ Share with community!

Analysis: *SHOWeD method*

S - What do you **SEE**? What is the first thing you notice?

H – What is really **HAPPENING?**

O - How does this relate to **OUR** lives? Make it personal.

W – **WHY** does this problem or condition **EXIST?** **WHERE** did this issue come from?

E - How could this image educate others? (the community, policy makers)

D - What are some things we can **DO** about it?

Adapted from: Source CCR/ASU Webinar -Nov. 8, 2023 (Zoe Sommerville (ASU), Dr. Chidinma Ibe, Dr. Dana Hunter, Dr. Mayfield -Johnson)

Photovoice Action Planning

1. Identify <u>Vision Zero topics</u> you would like to explore (see example questions).

2. Write <u>2-4 'guiding questions'</u> to guide your picture taking. Try to have a balance on exploring both the needs and challenges as well as the strengths and opportunities for increasing roadway safety and active commuting.

3. Identify <u>where and when</u> you will take pictures.

4. Upload pictures to [Google Drive](#) (and put your initials next to your photos)

5. Aim to <u>have some photos ready</u> to review by next Thursday, October 24 *(5 photos?)*

Possible Themes to Guide Writing Your Questions:
- Needs and challenges for roadway safety
- Needs and challenges for active commuting
- Best practices/recommendations/solutions for roadway safety
- Best practices/recommendations/solutions for active commuting

Example Questions
- What contributes to unsafe transportation (roadway crashes, injuries and fatalities) in Montopolis and the broader Austin Community?
- What can be done to increase safe transportation among young people? (e.g., What can be done to reduce drinking while driving, texting, speeding? How can we increase seatbelt use?)
- Why do young people engage in active commuting? (bike, walk, use public transit)
- Why don't young people engage in active commuting?

Photovoice –Analyzing our photos & writing captions/narratives

1. Take multiple photos!
2. Select the most impactful photos (up to 5)-with consultation from team
3. Analyze photos to generate themes for your caption using the SHOWeD method.
   a. Goal: "identify the problem or the asset, critically discuss the roots of the situation, and develop strategies for improving the situation" (Wang, 1999, p. 190).
4. Write a caption/narrative (next slide)

Analysis: *SHOWeD method*

S - What do you **SEE**? What is the first thing you notice?

H – What is really **HAPPENING?**

O - How does this relate to **OUR** lives?

W – **WHY** does this condition **EXIST? WHERE** did this issue come from?

E - How could this image **EDUCATE** people? *(or: How do we become empowered through our new understanding?)*

D - What are some things we can **DO** about it?

SHOWed Analysis Example 1

S - What do you **SEE**? What is the first thing you notice?

H – What is really **HAPPENING?**

O - How does this relate to **OUR** lives?

W – **WHY** does this condition **EXIST? WHERE** did this issue come from?

E - How could this image **EDUCATE** people? *(or: How do we become empowered through our new understanding?)*

D - What are some things we can **DO** about it?

Photovoice- Tips for writing captions/narratives

Tips for writing a caption/narrative

- Identify themes from SHOWED analysis
  - Consider 'the problem' and 'the solution'.
- Keep it short (~3 to 6 sentences)
- Remember your guiding question(s). *How does this photo/caption respond to the guiding question?*
- Write a tagline to 'draw in the reader'

Appendix E
Peer Interview Guide to Explore Roadway Safety with Young Adults:
Purpose, Content, and Steps for Conducting Interviews

Peer Interview Guide to Explore Roadway Safety with Young Adults:
Purpose, Content, and Steps for Conducting Interviews

Co-Learning & Action Planning to Advance Vision Zero
in Partnership with the Montopolis Community (2024).

Key Informant Interviews <u>with Peers</u> *Co-Learning & Action Planning to Advance Vision Zero*

Purpose 1.) To explore needs and opportunities for safe transportation among young adults in Austin, Texas and in and around Montopolis.

Study Questions
Needs
- **What contributes to higher risks of roadway injury among young adults in Austin/Travis County?**
- **How common are speeding, driving under the influence, lack of seatbelt use, and distracted driving Why do young adults engage in these risk behaviors?**
- **What are the barriers to active commuting (walking, biking & public transit) among young adults?**

Solutions
- **How can we reduce speeding, DUI, lack of seatbelt use, and distracted driving?**
- **How can we support young adults in active commuting (walking, biking & public transit)?**

Key Informant Interviews <u>with Peers</u> *Co-Learning & Action Planning to Advance Vision Zero*

Purpose 2.) To explore community resources that can be activated to support Vision Zero's mission of reducing roadway fatality & serious injury.

Study Questions

Settings: **What are the settings where we can reach young adults (18-25 years) in and around Montopolis and in the broader Austin/Travis County area?**

Environmental Resources
Information Environment: **What are the communication channels that could promote Vision Zero messaging? (e.g. social media, university newsletters).**

Social/Organizational Environment: **What are the organizations that could serve as partners with Vision Zero?**

Key Informant Interviews with Peers -
Interview Guide - Key Sections of Main Interview

- Section I: Delivery of Interview (Fill out before interview)
- Informed Consent
- Section II: Descriptive Characteristics of Interviewee
- Section III: General Roadway Safety among Young People & Communities of Color
- Section IV: Roadway Safety among Young People and Residents in Montopolis
- Section V: Roadway Safety - Exploring Risk Factors and Solutions
  - Driving Under Influence: Causes and Solutions
  - Lack of Seatbelt Use: Causes and Solutions
  - Distracted Driving: Causes & Solutions
  - Lack of Active Commuting: Causes & Solutions
  - Lack of Public Transportation: Causes & Solutions
- Section VI: Community Resources
  - Settings to Reach Young People
  - Communication Channels & Organizations
- Section VII: Final Thoughts

Key Informant Interviews with Peers
*At-A-Glance Protocol (*located in Google drive)*

VISION ZERO Co-Learning & Action Planning Project

-PEER INTERVIEWS-

Purpose: To explore further the needs and opportunities for promoting safe transportation and active transportation and reducing risky transportation-related behaviors (impaired driving, speeding, lack of seatbelt use, distracted driving) among young adults (ages 18 years) in and around Montopolis/Austin, Texas.

Core Steps for Conducting Peer Interviews:

1. **Review Protocol and Interview Guide** for Conducting Peer Interviews

2. **Identify 5 of your friends/peers** who are between the ages of 18 – 25 years to invite to conduct interview (note: While we would prefer young adults from Montopolis and/or the east side of Austin, we are open to any young adults)

3. **Schedule Day/Time** to Conduct Interview with your proposed interviewee/peer.

4. **Prior to Interview, email the Informed Consent f**orm

5. **Bring Interview Guide** which includes Consent Form to interview, and be prepared to record the interview.

6. **Conduct Interview**
   a. **Complete information sheet (First page of interview)**
   b. **Introduce yourself and the purpose of the interview, and thank interviewee for participating.**
   c. **Build trust and put interviewee at ease.**
   d. **Review key points of the informed consent:**
      - **Purpose of interview**
      - **This is voluntary**
      - **Your name will not be used.**
      - **Ask permission to record the interview**
         - **If they agree, record the interview using Otter:** https://otter.ai/

   a. **Conduct interview, with guidance from the interview guide. Take notes as appropriate.**
   b. **Thank interviewee for participating.**
   c. **Submit transcript of recording and hard copy of interview guide to Google Drive Peer Interviews**

Appendix F
Themes & Notes from
Participatory Learning and Capacity Building Workshops

Participatory Learning and Capacity Building Workshops:
Phase 1 (Summer 2024) and Phase 2 (Fall 2024) Notes & Findings

VISION ZERO PHASE ONE NOTES

COMMUNITY AGREEMENTS

Make it fun and funny
Respect other's viewpoints
Step up or step back
Get creative
Stay open
Show up on time
Participate
Right to pass
Communicate your needs

5 WHYS ACTIVITY

GROUP 1: WHY ARE YOUNG ADULTS OVER-REPRESENTED IN CRASH DATA?

- Lack of experience→ fresh drivers→ lack of driving education→ no policy/ agenda/ money that pushes driving education

- Quotation marks it's not going to happen to me no reality check no sense of serious injury because they are young

- Impaired driving→ more likely to go out / party→ no parents around/ more party opportunities outside home→ not taking Uber/ Lyft/ Taxi→ culture/ society's use of drugs

GROUP 2: WHY ARE YOUNG ADULTS OVER-REPRESENTED IN CRASH DATA?
- They are driving a lot
- no other forms of transportation available
- Community under investment in supporting those services and fast population growth
- housing costs rising, making living unaffordable
- Capitalism

GROUP 3: WHY ARE YOUNG ADULTS OVER-REPRESENTED IN CRASH DATA?
- Most distracted age group
- Young people feel invincible
- Lack of risk education
- Lack of enforcement of laws
- Cultural

TRIZ

Increase of gentrification [might mean a] lack of Montopolis residents.
Our feedback increases unwanted infrastructure.
Lack of support.
No change in education

Lack of Safety

- Putting our peers in danger during our interview process or walking audits etc. Unsafe environments for pedestrians during walking our process, taking pics or notes in cars, etc.

- Too much pressure.

- Implementing bad/unsafe/counterproductive measures.

Poor Community Engagement

- Not communicating.

- No stakeholder involvement (not listening).

- Creating a confirmation bias.

- Not adapting to interviewees → To Address use a more flexible approach.

- Not listening to community/ further alienating community.

Under-Resourced & Unethical Research

- Not having enough time to conclude the research.

- Not setting goals for the research. Not enough sources (of information)

- Not reaching out enough to the community to participate.

- Dishonest about research/findings

- Lie about our work to the community.

- Say we'll pay people and don't

- Unrealistic goals

- Focus on unrealistic possibilities.

GROUP 2

Timeframe and results won't occur right away

- Expecting a big change at first

- Not setting short-term goals

- Even if city of Austin can implement ideas, it might take longer than we hope will need to plant seeds for the future

- City of Austin may not be able to implement some of our best ideas due to other constraints

Reaching all members of the community and involving them at all steps in the process

- Not surveying enough community members.

- Not targeting some at-risk groups.

- Lack of someone who knows the history and changes of Montopolis over the decades.

- Need to foster more partnerships with Montopolis and institutions that serve young adults.

- If whatever measure we come up with in the end is finalized with no input from the community, we'd not be listening to them and may accidentally implement something that might further alienate them.

- Explore having residents from Montopolis inform where we do the walking audits.

Taking interviews seriously

- It might be hard for peers to take interviews as seriously as we hope they do.

- Not having our ideas implemented.

Safety during interviews and audits

- Unsafe measures.

- Not involving the community and informing the Vision Zero plan of action.

- Assume that we know what improvements the community wants

GROUP 3

Create Community Partnerships & Engage Community in Truth-Grounding

- Look for ways to partner with Community leaders and groups who can help keep advocating on this issue.

- Making a short but comprehensive survey. We ask for community members that can be involved.

- Make sure to survey a broad demographic of residents.

- Double check with Montopolis members at the end of the project to ensure they approve of our final solutions.

- Forming more partnerships with organizations in Montopolis that serve our priority population of young adults.

- Build partnerships with community institutions for better outreach and to get more participation.

- Share findings with community partners to contexualize & identify next steps.

Engage the Full Community

- Do stakeholder and community outreach throughout the project.

- Good communication within the team and interviewees

- Reach out to a variety of demographics

- Create a community outreach plan for the survey

Build a Strong Project & Project Team That Reflects, Learns & Evolves

- Break up project into realistic chunks.

- Think about change at different levels. Short-term, long-term but also small and large-scale solutions.

- Creating, pause and reflect sessions throughout our planning to review our collective learning and problem solving and to set goals and next steps.

- Regular reflections on progress, honesty, communication, etc.

- Create different timed action plans/ goals (one month, 3-month, one year, 5 years).

- Be helpful and optimistic.

- Don't think that our way or the highway when other members of the team critique our methods or actions setting goals. Short-term long-term.

Practice Safety During Field Activities

- Make sure to take safety seriously on audits and interviews.

- Make safety measures during interview/ audit process extra clear.

- Have someone you trust go with you.

VISION ZERO PHASE TWO NOTES

COMMUNITY AGREEMENTS

- Use I statements
- Take turns speaking
- Respect all ideas
- Recognize different backgrounds
- Have patience with others
- Commit to doing Ice Breakers
- Active listening to others
- Step/ step back
- Water other people's flowers
- Right to pass

5 WHYS ACTIVITY

GROUP A: WHY DO PEOPLE DRIVE UNDER THE INFLUENCE OF DRUGS/ ALCOHOL?

Individual Factors:

- Empowerment
- Stubborn
- Overconfidence / invincibility
- Breathalyzer culture → you don't know when you're above

Interpersonal Factors:

- Peer pressure (others are doing it)

Transportation/ Community Related Barriers

- Have to get car home didn't intend to drink
- Can't rely on others for transportation
- Can't afford the Lyft
- Representation in the media →driving and drinking with friends is fun (Dazed N Confused)

Environmental:

- Lack of public transportation
- Unsafe evening commutes

Policy:

- Lack of infrastructure to support safe commute

GROUP B: WHY DON'T PEOPLE WALK, BIKE, OR TAKE PUBLIC TRANSIT?

Lack of Time & Self Organizational Skills

- In Austin the public transit walking or biking is always seen as the slowest route.
- They don't have time
- Time management, not catching bus on time, or putting aside extra time for bike riding

How They Will Be Perceived or Judged by Others or for Other Social Reasons

- Stigma
- They want to look and smell nice (and not be sweaty)
- No showers at work or school
- Community: safety of area, community standards
- Holding back because of other's opinions (such as what friends/ family might think)
- Class: Transit taking is seen as low class
- Friends want to ride together

Lack of Desire/ Interest

- Don't want to
- Individual: personal preference
- Global warming… it's hot!

Perception of Safety and Accessibility Concerns

- Feels unsafe in some parts of route
- Lack of protected bike lanes
- Perceptions of safety, people view transit as the less safe option as far as criminality and socialization. Biking is seen as dangerous activity because of cars.
- Disability / age

Lack of Awareness or Self-Efficacy

- We live in a car dominated society. People aren't aware of the access that they have. I didn't know how good the bus route was until my car broke down
- Perspective: people lack perspective on the costs associated with the car

Available Resources and Quality of Infrastructure

- Lackluster infrastructure
- Lack of bus routes
- No bike (to ride), no shoes (to walk long distances), no bus (near their home/ work/ school)
- No connecting sidewalks
- Lack of bus stops, walkways, or it's not walkable due to distance or weather

GROUP C: WHY ARE YOUNG ADULTS OVERREPRESENTED IN THE CRASH DATA

Inexperience and risk-taking

- Driver inexperience
- Inexperienced with driving in Austin
- In a rush
- Distracted Driving
- Impaired Driving
- Age

Laws, brain isn't fully developed, peer pressure

- Lack of affordable alternatives
- Lack of designated driver skills
- Independence
- Invincibility

Policymakers, society

- Lack of access to safe transportation

Insurance companies/ lobbyists, car manufacturers, capitalism

- Cheaper to drive
- Convenience

5 WHYS SUMMARY

WHY ARE YOUNG ADULTS OVERREPRESENTED IN THE CRASH DATA

- **They are Inexperienced and Engage in Greater Risk-Taking:** They are more prone to being in a rush or engaging in distracted or impaired driving →They have a sense of invincibility, lack of skills in organizing designated drivers or finding affordable alternatives, and may lack access to safe transportation alternatives →Drivers are inexperienced in both driving and driving/ getting around in Austin → Their brains aren't fully developed due to age and policymakers have not prioritized improving access to convenient, safe transportation options.

WHY DON'T PEOPLE WALK, BIKE, OR TAKE PUBLIC TRANSIT?

- **Cars are the Prioritized (& Easier) Mode of Transportation**: They do not have the time or organizational skills → Active transport would require access to showers, more time and more planning to not face being judged by others → It's hot and transportation routes are not always consistently available in all places around the city →Lackluster infrastructure → Insurance companies, lobbyists for car manufacturers and capitalism have made our cities prioritize cars, making them the most convenient option.
- **Lack of Access to Resources/ Infrastructure & Stigma**: Lack of bus routes/ stops, walkways, sidewalks, bikes, etc. → We live in a car dominated society →People lack perspective on the costs associated with the car →Using transit is seen as a low-class activity → There is a perception of high criminality on busses or at bus stops and a high level of danger in biking.

WHY DO PEOPLE DRIVE UNDER THE INFLUENCE OF DRUGS/ ALCOHOL?

- **Barriers at Every Level of Society**: Individual: people are stubborn, overconfident, feel invincible or just don't know when they are above the legal limit → Interpersonal: Because everyone else is doing it and lack of awareness between how you feel and being over the legal limit → Community: They can't rely on others for transportation, can't afford Lyft, and have to get car back home; representation in the media has normalized it → Environmental: They may live farther away from friends, out of their school's Lyft zone (can't use university resources) and can't afford parking tickets/ overnight parking → Policy: there is a lack of infrastructure to support safe commuting after engaging in late evening social activities.

TRIZ

WHAT MIGHT WE DO THAT COULD HARM OUR PARTICIPANTS?

Poor Communication

- Not effectively communicating what this study will be used for
- Promising something you can't deliver
- People may mistake a survey of the community for a promise of change

Being Disruptive

- Disturbing others on walking audits and photo voice
- Randomly engaging with folks in Montopolis persistently
- Causing a disturbance in the neighborhood

Lack of Follow Through/ Engaging Wrong Audiences

- Poor gift card distribution
- Not having interviewees reflect community members
- Biasing who we survey which could skew our results

Reminding Participants of Past Harm

- Reminding participants of unwanted past memories
- Harm study participants by revisiting trauma
- Interviews could bring up bad or painful memories for participants

WHAT STEPS CAN WE TAKE TO PROTECT HUMAN SUBJECTS?

Engage Specific Audience and More Broad Audiences

- Engage young adults
- Give larger neighborhood opportunity to provide input/ feedback (QR codes in neighborhood center?)

Create Safety

- Always state what is going to be asked and give them a chance to back out
- Conduct interview in appropriate space
- Make it clear that participants don't have to answer questions they don't want to
- Be aware of intent versus impact

HOW MIGHT WE CAUSE HARM OR UNSAFE CONDITIONS FOR OUR TEAM?

- Not being aware of surroundings
- Pushing team members to get out there even if they are uncomfortable
- We could become distracted while taking photos or doing walking audits and get hurt

WHAT STEPS CAN WE TAKE TO PROTECT OURSELVES?

Practice Situational Awareness and Work in Groups

- Situational awareness
- Trusting our gut if something feels unsafe

- Groups to lookout for each other be aware of surroundings
- To protect ourselves we can walk in groups and try to recognize any erratic behaviors

Use Our Resources to Keep Ourselves Safe

- Use safety vests
- Time of day- finish before dark
- Bring hydration and sun protection

Practice Safe Behaviors

- Be careful crossing dangerous roadways on walking audits
- Use crosswalks and follow the rules

GALLERY WALK REFLECTION AFTER INTERVIEWS

WHY AREN'T PEOPLE ACTIVE COMMUTING?
- Confusion
- Accessibility
- Safety with daylight savings time
- People aren't active commuting because there isn't enough access around the city and if there is it lacks lighting or safety
- Approach to time strictness and lack of time management
- Perception of safety around "shady people"
- Public perception of public transportation people thinking it's unsafe
- Unsafe area
- Non-walkable city
- Self-efficacy

WHAT WOULD HELP PEOPLE ACTIVE COMMUTE?
- Highlighting the health and environmental benefits
- Teach people how to ride bikes
- Increase destinations / meeting locations (i.e. third spaces different from home and work/school)
- Increasing reliability of public transport both safety and making efforts to get buses to stops on time
- More bike lanes
- Adding elements that allows people to feel safe such as lighting or improved sidewalks with buffers
- Promote / teach navigation skills and how to get around using different methods (e.g. how to plan a bus or bike trip)
- Offering alternate work and school schedules
- Taking the college campus aesthetic off campus because everyone walks on campus (i.e. create a pleasing environment to walk in)

WHAT CONTRIBUTES TO THE INDIVIDUAL RISK FACTORS FOR ROADWAY INJURY AND FATALITY?
- Speeding is the default
- Speeding in cars
- People using their phones while driving (i.e. sometimes for directions sometimes for social purposes)

- Driving at night because there's less visibility
- Lots of distraction with electronics (e.g. phones and smart watches)
- Lack of community (i.e. missing connections to community around you)
- Not experienced at driving

WHAT CONTRIBUTES TO ENVIRONMENTAL RISK FACTORS FOR ROADWAY INJURY AND FATALITY?

- Bars should stay open later (i.e. without continuing to serve alcohol to allow people to sober up before getting on the road)
- Overnight Airbnb / hotels
- Reckless driving
- Unmaintained areas and roads
- Lack of crosswalks
- Lack of roadway signs /blockages
- Construction on roads like I-35 throws people off and potentially causes accidents
- Lighting
- Lack of infrastructure
- No funding
- Potholes or narrow lanes
- Lack of crosswalk lights

Appendix G
Photovoice Projects

Photovoice Projects

*Co-Learning & Action Planning to Advance Vision Zero
in Partnership with the Montopolis Community (2024)*

Phase 1 – Photovoice Projects *(Summer 2024)*

Community Design Barriers & Opportunities for Safe Biking and Walking

Lack of crosswalks and lack of speed bumps

Crosswalks or raised crosswalks are a great way to slow traffic down. During my time doing the audits I noticed that there was not many people crossing the streets at designated areas. If more controlled, crossing locations were available I think the drivers would know they need to slow down. This would make it safer for the people crossing streets, and they can also greatly improve the pedestrian safety overall. I saw many people cutting across the busy road of Montopolis because the crosswalks and stop lights were too spread out

Captured by: Caleb Brizuela

Lack of Crosswalk Signs

A pedestrian is spotted crossing where there's no a crossingwalks. This is due to a long distance between the crosswalks. As it is noticed, this is a blind spot while driving in this area. Due to the curving of the road, the pedestrian would not be seen by most drivers making it more dangerous for anyone to cross at this point of the road without a crosswalk.

Adding more crosswalks and reducing the distance between them would reduce the risks of fatal crashes between pedestrians and drivers and would promote safe foot commuting for many in the community.

Captured by: Penueli Kies

Captured by: Mikey Rush

"Factors"

If we want the community to actively commute more, we must improve the factors that will increase this Much of the Montopolis neighborhood and its greater area looks like this. Starting from left to right, the major street that runs through the neighborhood is a major feed. It doesn't have sufficient markings, crosswalks and cars are frequently speeding upon Then the sidewalks are either missing, too close, or too small. Most of the streets don't even have bike lanes. Also factors such as in litter, graffiti, and social decay leads to people being disincentivised to actively commute. In order to increase active commuting we must address the factors that lead to it.

Need for More Signage, Benches and Share for Bus Stops

Captured by: Mikey Rush

"You with the Bus people?"

I met this gentleman while surveying the neighborhood and after a warm welcome he had a lot to say about the bus stop. He first told that he had missed a couple of buses because of the bent stop number sign. He also stated that he had been calling CapMetro for about a month about it. He told me that he had been riding the buses for ten years. With his experience he said that more stops need benches and shade. After a brief conversation about the stop, he pointed to the cemetery to the left and said, "thatprolly needs some cleaning up too" before he got on the bus.

Economic Stress, Mental Health, and Opportunity to Increase Supports for Low Income Communities

Captured by: Eden Miller

Mental Health Impacts Safe driving

In low income communities, individuals may face high levels of stress and anxiety due to financial struggles, lack of access to mental health resources, and other social challenges. These stressors can exacerbate mental health conditions such as depression, anxiety, and anger issues, leading to increased susceptibility to road rage. Limited access to mental health services and stigma surrounding mental health services can prevent individuals from seeking help and learning coping skills. Road rage may serve as a coping mechanism for individuals who are dealing with untreated mental health issues, as it provides a temporary release for pent up emotions and frustrations. The constant stress and pressure we all feel from financial stressors can further fuel feelings of aggression and impulsivity while driving, increasing the likelihood of engaging in aggressive and reckless behavior the road. Addressing mental health disparities and providing accessible resources for individuals in low income communities can help reduce instances of road rage and promote safer driving behaviors.

Low Perceived Safety & Stigma of Public Transit

Captured by: MyrT'asia Gowan

Feet Big, Furry, and Small Use Public Transit
Austin - Riverside & Willow Creek

Taking public transportation doesn't have to be scary...despite the stereotypes behind utilizing public transit, it is eco-friendly, and considered cost-friendly and fun when traveling with friends.

Active Commuting (walk, bike, public transit) as a Way to Reduce Impaired Driving

Captured by: MyrT'asia Gowan

Going Out?
Austin - Guadalupe (Drag)

In Austin, there are endless thrills and activities to do with friends. So let's keep the thrills to the activities and not driving under the influence. Active community means no one has to be designated driver and everyone can have fun while traveling responsibly.

Friend and Community Agreements & Accountability for Staying Safe 'out on the road'

Captured by: MyrT'asia Gowan

Run Club
Austin - Govalle

"We're bringing sexy back to running", according to *RawDawg Run Club* Another thing they are bring back to running is road safety. The only rule they have during their runs is to hold each other accountable to driver - pedestrian safety. This picture shows being safe and active is fun when it's done with friends.

Phase 2 – Photovoice Projects *(Fall 2024)*

Community Design Barriers for Biking and Walking

Big Bus, Small Kid

In this image a kid was biking down the road and a bus started gaining on him. The kid was looking behind him trying to get onto the sidewalk before the bus caught up to him since there was no bike lane on that side of the road. **When bikes have to share the road with things like cars and buses it increases the danger for bikers and causes less people to want to bike.** The main thing to take away from this image is the importance of bike lanes. We cannot confidently say more people should bike then not take into account people's access to biking safely.

Captured by Asher Hagan

It's A Car's World

This is a photo of one of the few people I encountered in my walk through Montopolis. A person is walking at the end of the day and crosses the road in the middle of the street. There is no safe way for this person to cross the street that protects them from oncoming traffic. My goal in capturing this image is to **raise awareness on how prioritizing the roadway experience of cars as opposed to pedestrians forces pedestrians to bear the responsibility of their safety.**

Captured by Leslie Imafidon

Infrastructure Upkeep Barriers for Safe Walking

XOXO - Montopolis

This image that I have captured is a deep pothole in the middle of a pedestrian crosswalk. I want to bring attention to the elderly and children that use this cross walk on a daily basis. Pedestrians will have to go around the crosswalk, eventually using the busy road to get across. While it may seem like a harmless pothole, this image conveys the importance of accessibility and the maintenance on Montopolis roads.

Captured by Nyla Ochoa

Sidewalk vs walk on the side

This pair of images highlights a evident contrast: one sidewalk is well-maintained and walkable, while the other is obstructed by cracks, overgrown grass, and flooding. The maintained portion was fixed to match new homes, while the neglected part was left in poor condition due to the lack of nearby developments. This disparity forces pedestrians to walk on the road, discouraging safe and enjoyable walks. The issue stems from prioritizing aesthetics for new homes over the community as a whole. Raising awareness can push for equitable maintenance of all sidewalks.

Captured by Stephany Serna

A Tale of Two Sidewalks

These two images are prominent sidewalks in their respective communities. The one of the left was taken at St. Edward's University and the one of the right was taken by homes and the main road leading towards the highway 183. The sidewalk on the left is noticeably more accommodating towards pedestrians while the one on the right is not. We can see this in the care or lack of thereof taken.

Captured by Graciela Sayen

Mixed Signals

This image shows a stop sign that has been vandalized along with its accompanying, and bent, "fasten your seatbelt" sign. This was taken near ACC when people are pulling out of a parking lot. **Without clear and proper signage in this busy area lends itself to the idea that people won't listen to the sign itself.** Other than the readability of the signs, this image highlights the lack of respect for signs such as these. That lack of respect could cause people to disregard them all together. **People don't want to listen to something that clearly no one cares about enough to fix.**

Captured by Asher Hagan

Split Ends

This image shows uncovered wires from an electrical box that is directly next to the sidewalk. I found that this is not the only wire hazard in this area on Montopolis Drive, as about three other electrical boxes are in the same condition. Many children and other individuals use the sidewalks for their commute. That being said, the wires pose a fire and electrocution hazard during dry and rainy weather. My goal in capturing this image is to get the city's attention on the upkeep of electrical lines with the hopes of getting replacements and advocating for a safer environment.

Captured by Nyla Ochoa

Roadway Alcohol Use Promotion and Social Norms as Barriers for Roadway Safety

Hierarchy of Misdeeds

This photo's darker message is hidden by how mundane it looks initially. You can get everything you need at the TOMGRO as long as you look outside of your car window at the **big bold letters.** Sustenance, legal documentation, communication and alcohol.

Captured by Timi Zuokumor

Sobering Reality

You never know what you can come across on the street. So why put yourself in a situation where you could hurt others? The sidewalk isn't the only place pedestrians inhabit.

Captured by Timi Zuokumor

Appendix H

MAPS Walkability Audit of Selected Areas of the Montopolis Community

MAPS Walkability Audit of Selected Areas of the Montopolis Community

Co-Learning & Action Planning to Advance Vision Zero
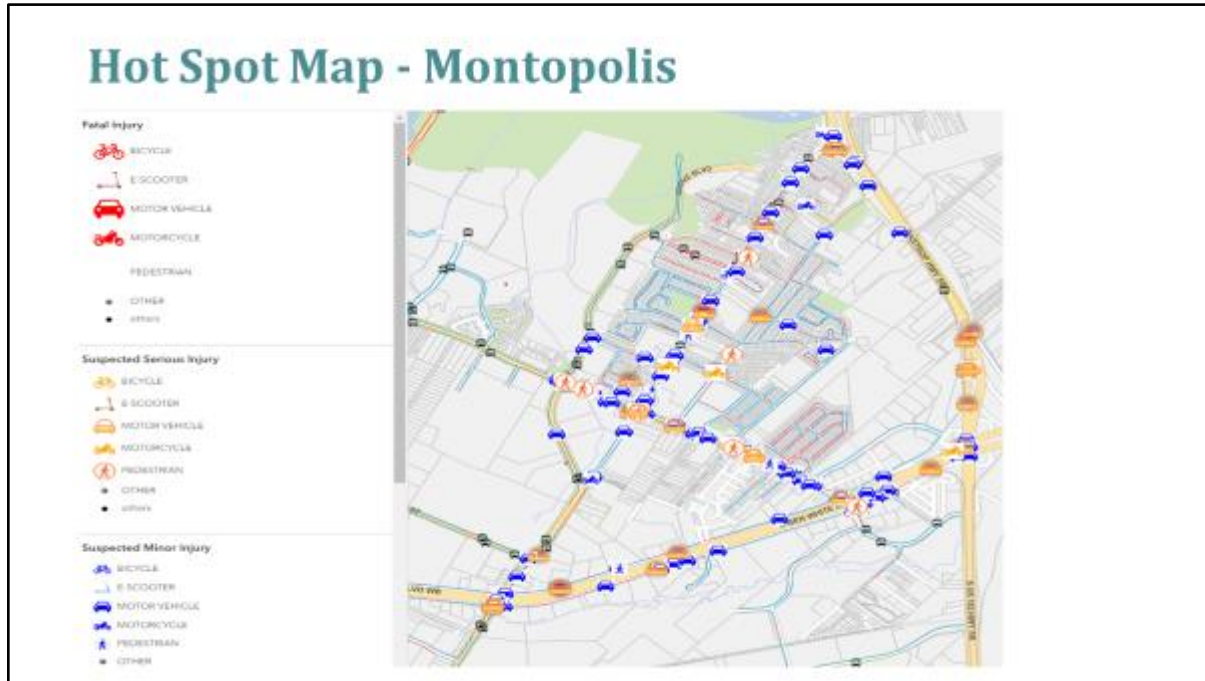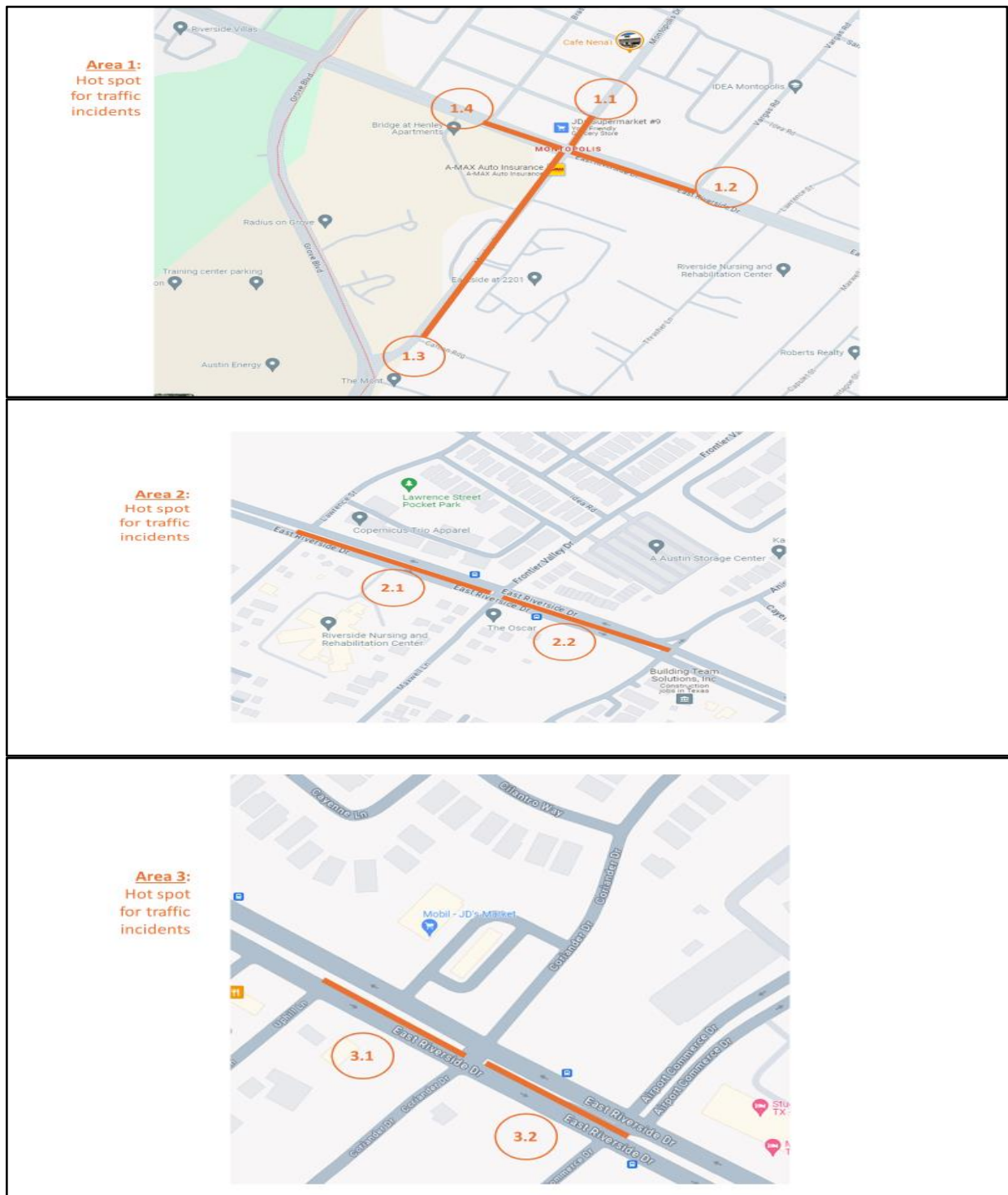*in Partnership with the Montopolis Community (2024)*

Figure 1. Hot spot areas for overall traffic incidents in Montopolis Community. *Co-learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community.* (2024).

Figure 2. Hot spot areas for traffic incidents selected for MAPS environmental walkability audit. *Co-learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community.* (Phase 1: June-August, 2024).

Figure 3. Transit stops and recently improved areas for traffic incidents selected for MAPS environmental walkability audit. *Co-learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community.* (Phase 1: June-August, 2024).
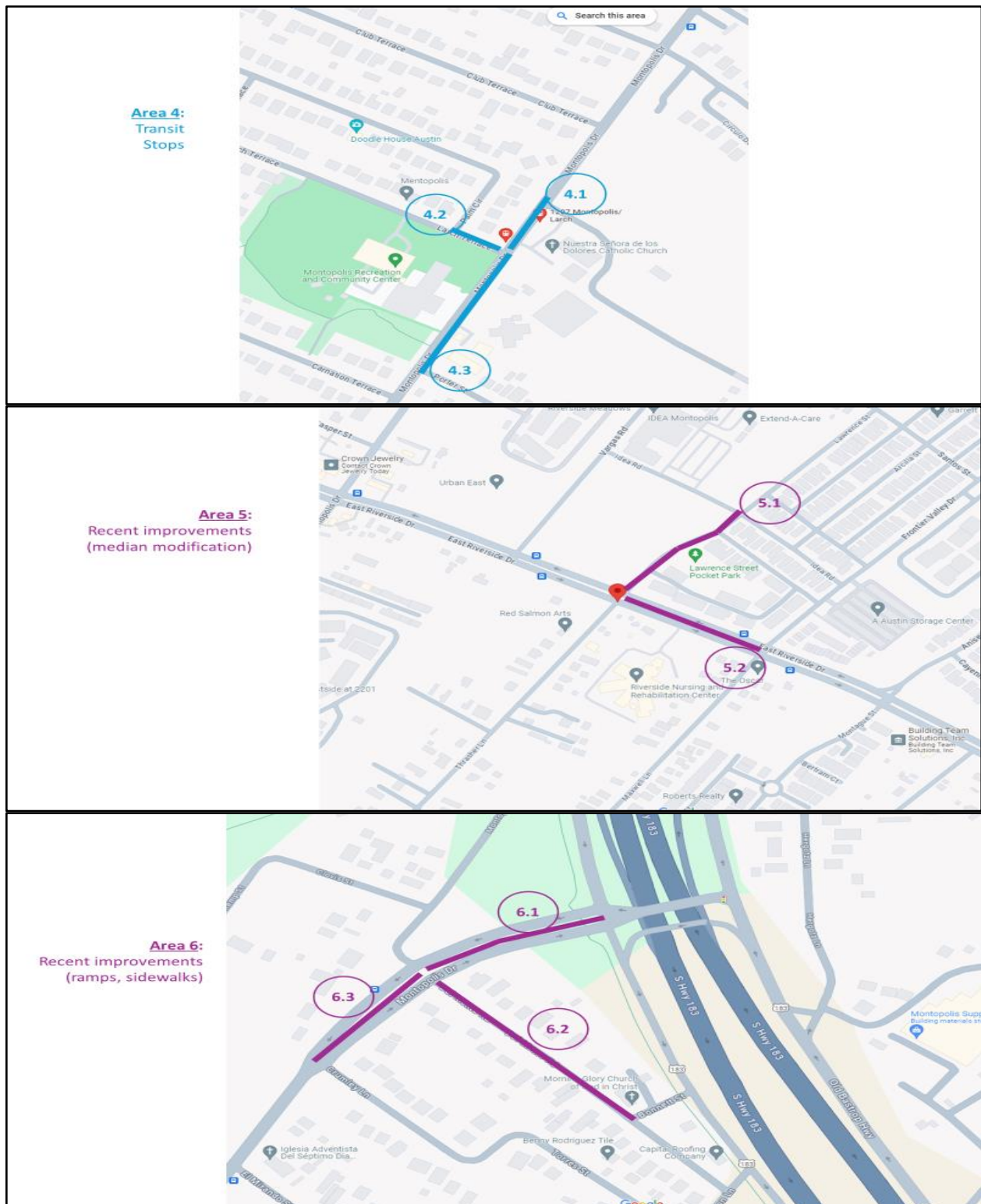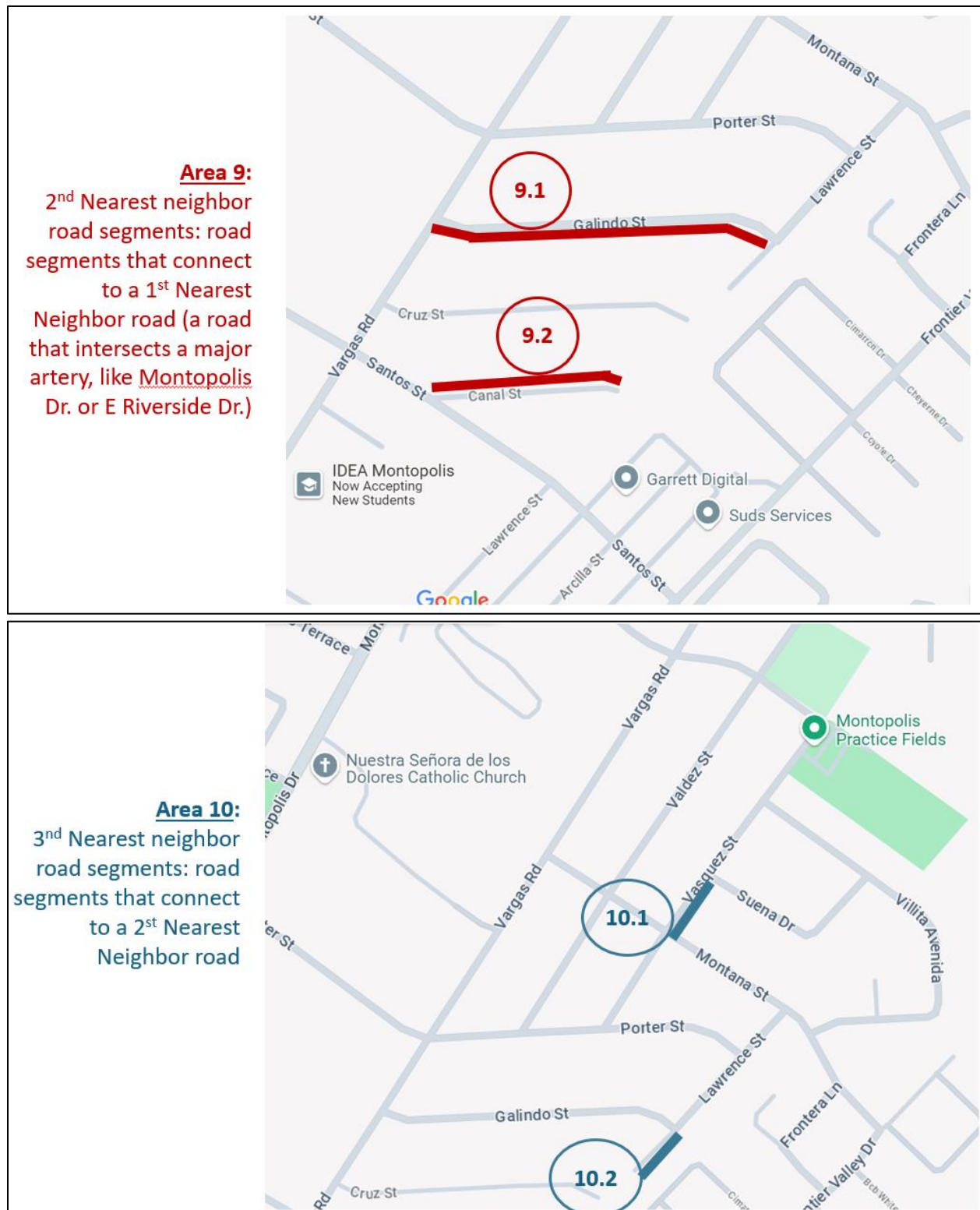
Figure 4. 1st Nearest Neighbor – Adjacent roads to key arteries (Montopolis and Riverside) selected for MAPS environmental walkability audit. *Co-learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community.* (Phase 2: October-December, 2024).

Area 9:
2nd Nearest neighbor road segments: road segments that connect to a 1st Nearest Neighbor road (a road that intersects a major artery, like Montopolis Dr. or E Riverside Dr.)

Area 10:
3nd Nearest neighbor road segments: road segments that connect to a 2st Nearest Neighbor road

Figure 5. 2nd & 3rd Nearest Neighbor – Road segments that connect with 1st & 2nd Nearest Neighbors selected for MAPS environmental walkability audit. *Co-learning & Action Planning to Advance Vision Zero in Partnership with the Montopolis Community.* (Phase 2: October-December, 2024).