



TEXAS PEDESTRIAN SAFETY COALITION

Texas Pedestrian Safety Coalition Meeting
Wednesday, April 26, 2023



Agenda



10:30 – 10:40: Welcome and Introductions

10:40 – 10:55: 2023 Texas Pedestrian Safety Annual Forum Update

10:55 – 11:00: Pedestrian Safety Taskforce Update

11:00 – 11:10: 2023 Legislative Update

- Jay Crossley, Farm&City

11:10 – 11:40: Impacts of COVID-19 Induced Pedestrian Demand: Before, During, and After the Pandemic

- Bahar Dadashova, Texas A&M Transportation Institute

11:40 – 12:00: Stakeholder Updates

12:00: Adjourn



Texas Pedestrian Safety Forum Update



- Thursday, August 24, 8:30 – 3:30
- Norris Center, San Antonio
- Registration will open May 1
- Questions:
 - Session format:
 - 1-hour sessions with two speakers?
 - 1.25-hour sessions with three speakers?
 - Q&A Format:
 - Moderated Q&A
 - Discussion Circles



Texas Pedestrian Safety Forum Topics



- **Policy & Enforcement**
 - Pedestrian safety laws (e.g., changes, effectiveness, enforcement).
 - Perspectives on pedestrian safety from law enforcement.
 - Working with local decision makers to enhance pedestrian safety.
- **Vision Zero & Safe Systems**
 - How does Vision Zero fits within the Safe Systems approach?
- **Countermeasures**
 - What is the most up to date guidance on pedestrian safety countermeasures?
 - Innovative pedestrian safety approaches from other countries.



Texas Pedestrian Safety Forum Topics



- **Countermeasures (continued)**
 - Metrics associated with ped safety (e.g., physical design, driver/pedestrian behavior).
 - Crash Modification Factors (CMF) for pedestrian safety.
- **Perspectives from Local to State to National**
 - Policy, planning, and engineering perspectives on pedestrian safety from multiple jurisdictional levels.
- **Public Health**
 - Impact of traffic-related air pollution on pedestrians.
 - How equity impacts pedestrian safety from public health perspective.



Texas Pedestrian Safety Forum Topics



- **Blind and Visually Impaired Access**
 - Best practices, innovative approaches to BVI pedestrian safety.
- **Transit and Pedestrian Safety**
 - How are we focusing on pedestrian safety near transit stops?
- **Speed**
 - New approaches to speed limit setting and impact to pedestrian safety.
- **Funding**
 - Overview of local, regional, state, and national funding opportunities.
- **Equity**
 - Demographic implications of pedestrian-related policies and designs.



Texas Pedestrian Safety Forum Topics



- **Rural and Tribal Pedestrian Issues**
 - What are the unique pedestrian safety challenges in rural and tribal communities.
- **Pedestrians and Lighting**
 - How are cities using data to improve lighting to improve pedestrian safety?
- **Pedestrian Safety Data**
 - Innovative applications of pedestrian safety data.
- **Outreach and Education**
 - How to evaluate effectiveness of outreach and education efforts.
 - Working with community groups on pedestrian safety initiatives.



Pedestrian Safety Taskforce Update



- Inaugural Meeting: April 13, 2023
- Group will act as advisory/steering committee for TPSC
- Charge for first year is to produce a Safety Initiatives Technical Brief identifying 10 alcohol and law awareness initiatives
- Members:
 - Carly Haithcock, Nelson\Nygaard
 - Courtney Edwards, Parkland Health
 - Elizabeth Jones, TxDOT
 - Gregory Reininger, TxDOT
 - Heyden Black Walker, Black + Vernooy
 - Joan Hudson, TTI
 - Joel Meyer, City of Austin
 - Josh Peterman, Fehr & Peers
 - Kara Kockelman, University of Texas, Austin
 - Martin Lucero, Lubbock MPO
 - Scott White, Farm&City
 - Zahidul Siddique, infraTECH Engineers



Update on Pedestrian Safety Activities in 2023 Texas Legislative Session

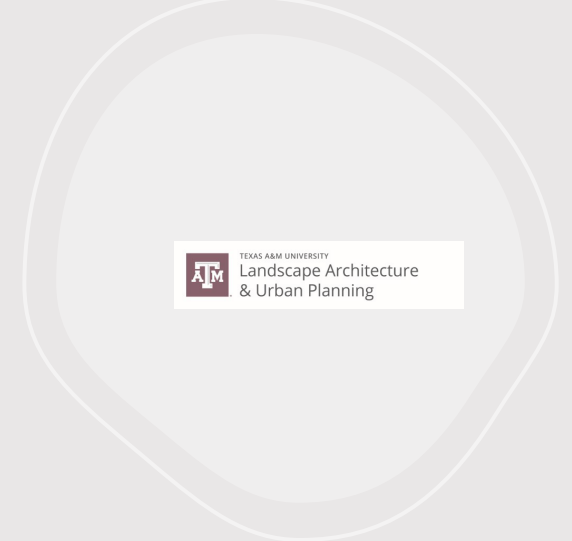
Jay Crossley, Farm&City



Impacts of COVID-19 Induced Pedestrian Demand: Before, During, and After the Pandemic

Bahar Dadashova, Texas A&M Transportation Institute





Impacts of COVID-19 Induced Pedestrian Demand: Before, During, and After the Pandemic

Bahar Dadashova, Ph.D.

Texas A&M Transportation Institute

Pedestrian Coalition Meeting

April 26, 2023

Problem

- COVID-19 continues to impact people's mobility significantly.
- The number of people bicycling and walking has increased considerably during social distancing orders.
- Cities are converting traffic lanes to temporary bike lanes to meet the demand.
- Need for assessment of health benefits and concerns (traffic risks)



Objectives



Estimate the COVID-19-induced active transportation demand.



Assess Changes to Built Environment

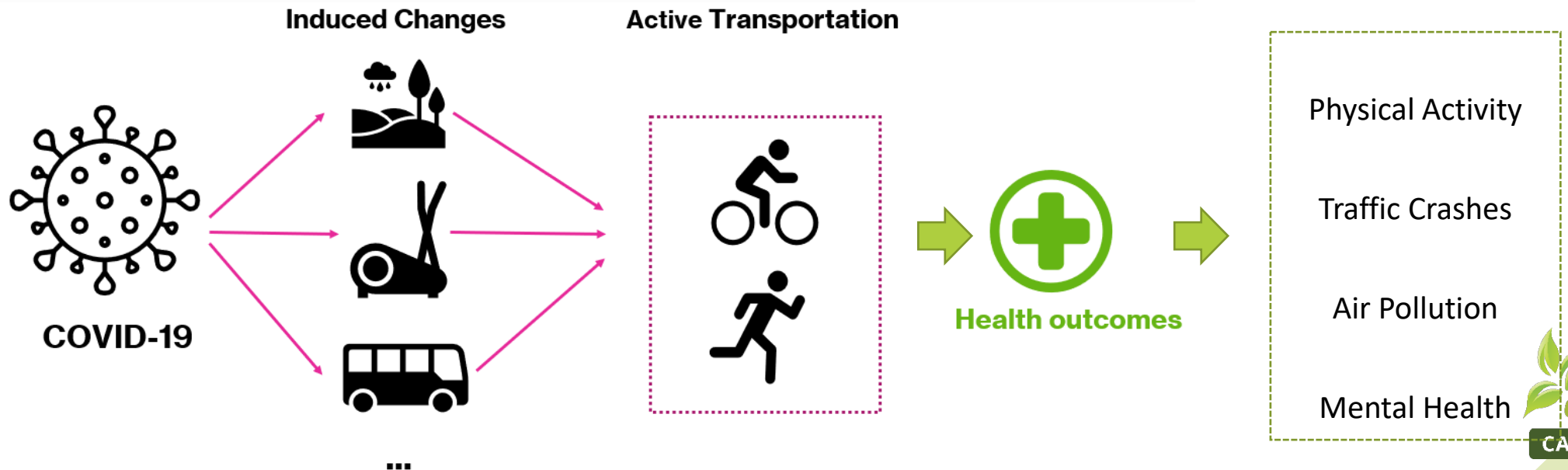


Assess its potential health outcomes through four pathways.



Develop data-driven tools and recommendations.

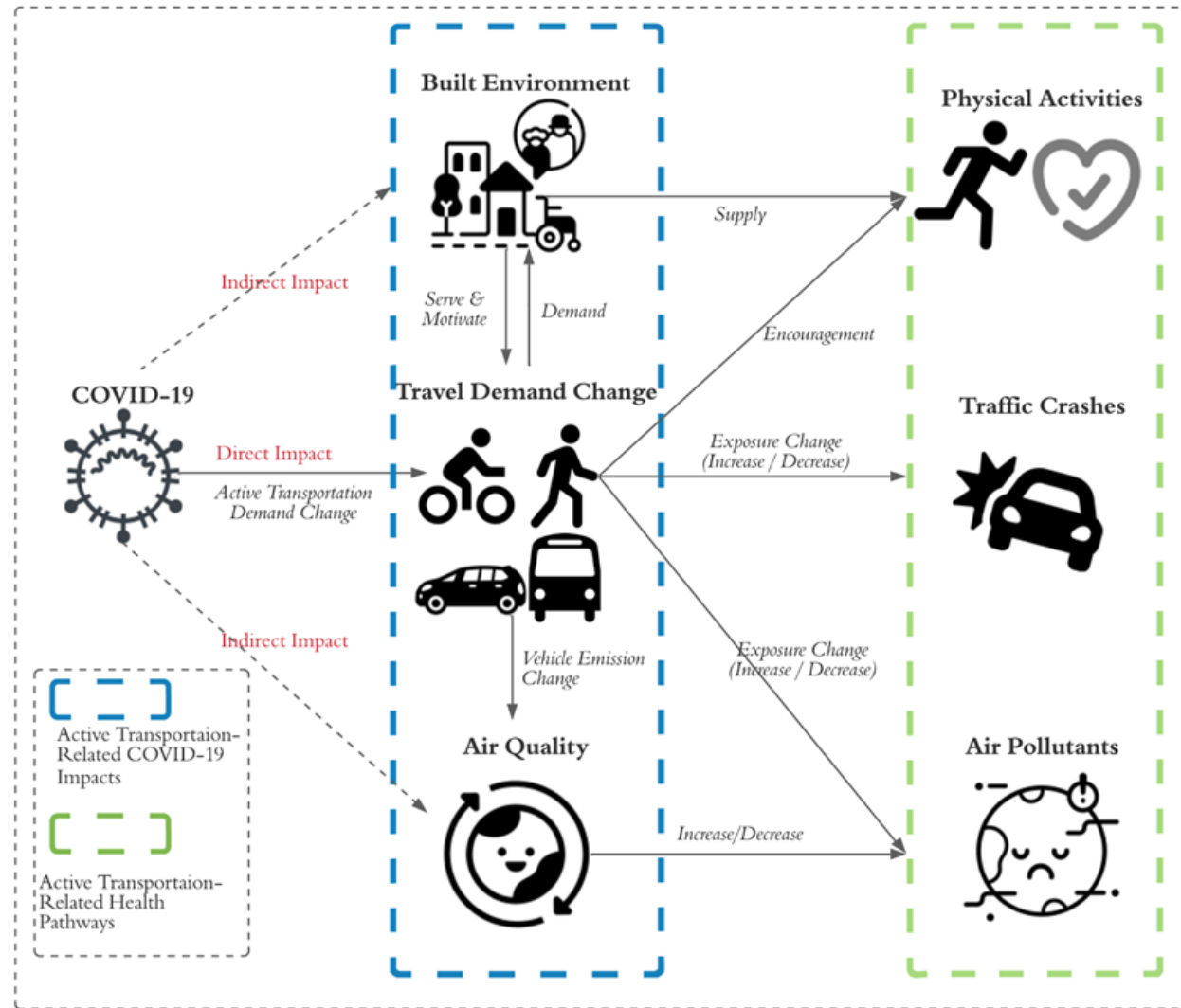
Multi-Disciplinary Approach



Research Question #1

 How does COVID-19 impact the health outcomes of active transportation?

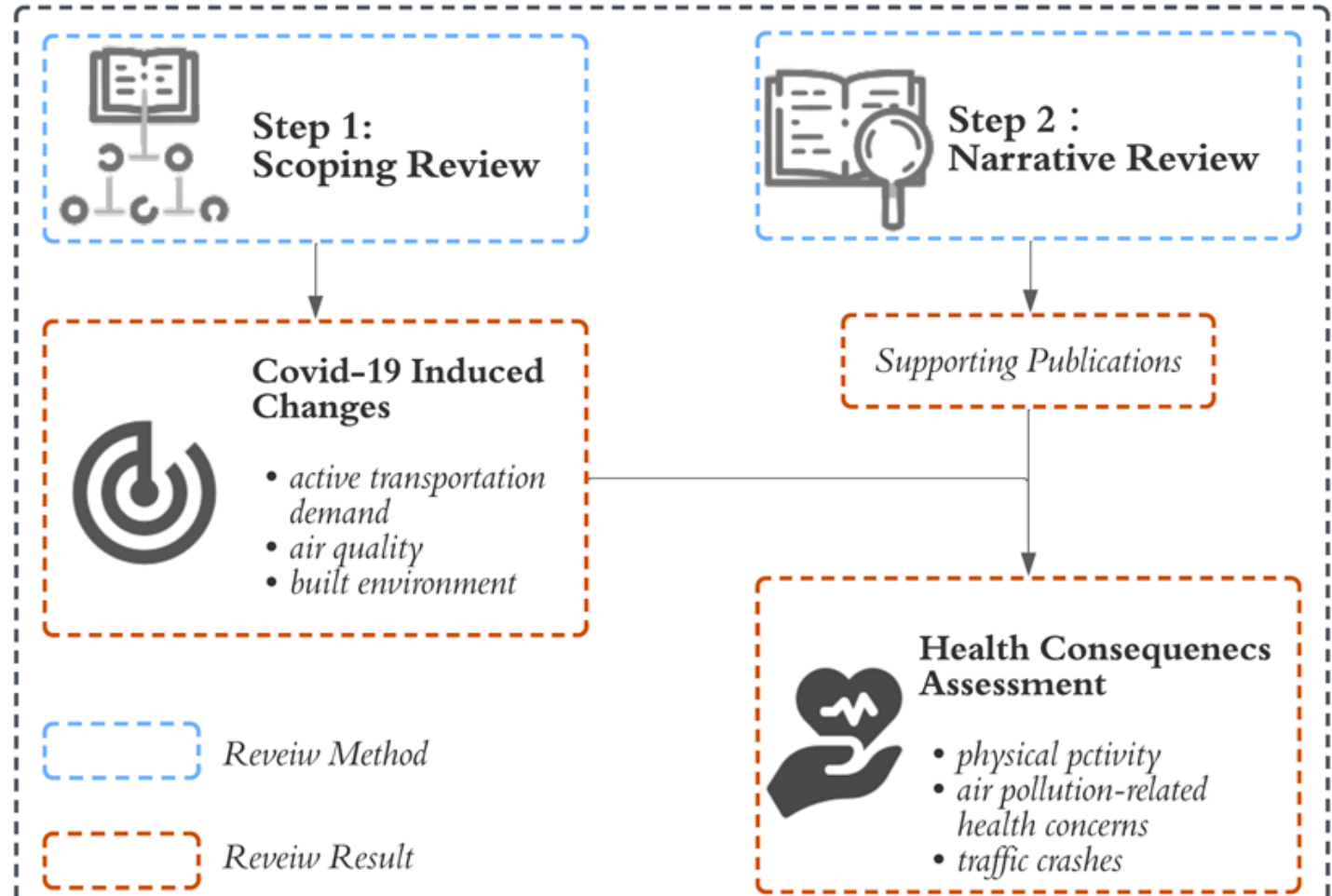
Conceptual Framework



Review Method

Scoping review to summarize the observed and estimated changes in active transportation demand, air quality, and built environment

Narrative review to support the inferences about the potential impacts of COVID-19 induced changes on active transportation users' health



Changes in Active Transportation Demand

Walking



Volume Change: 50% of reviewed studies observed a **decrease** in volume. 50% reported that changes vary spatially or among population groups.

Share Change: 100% observed an **increase** in the modal share of walking.

Biking



Volume Change: 50% of reviewed studies observed an **increase** in certain bike trip or frequent cyclists. 37.5% reported no change; 12.5% reported **decrease**.

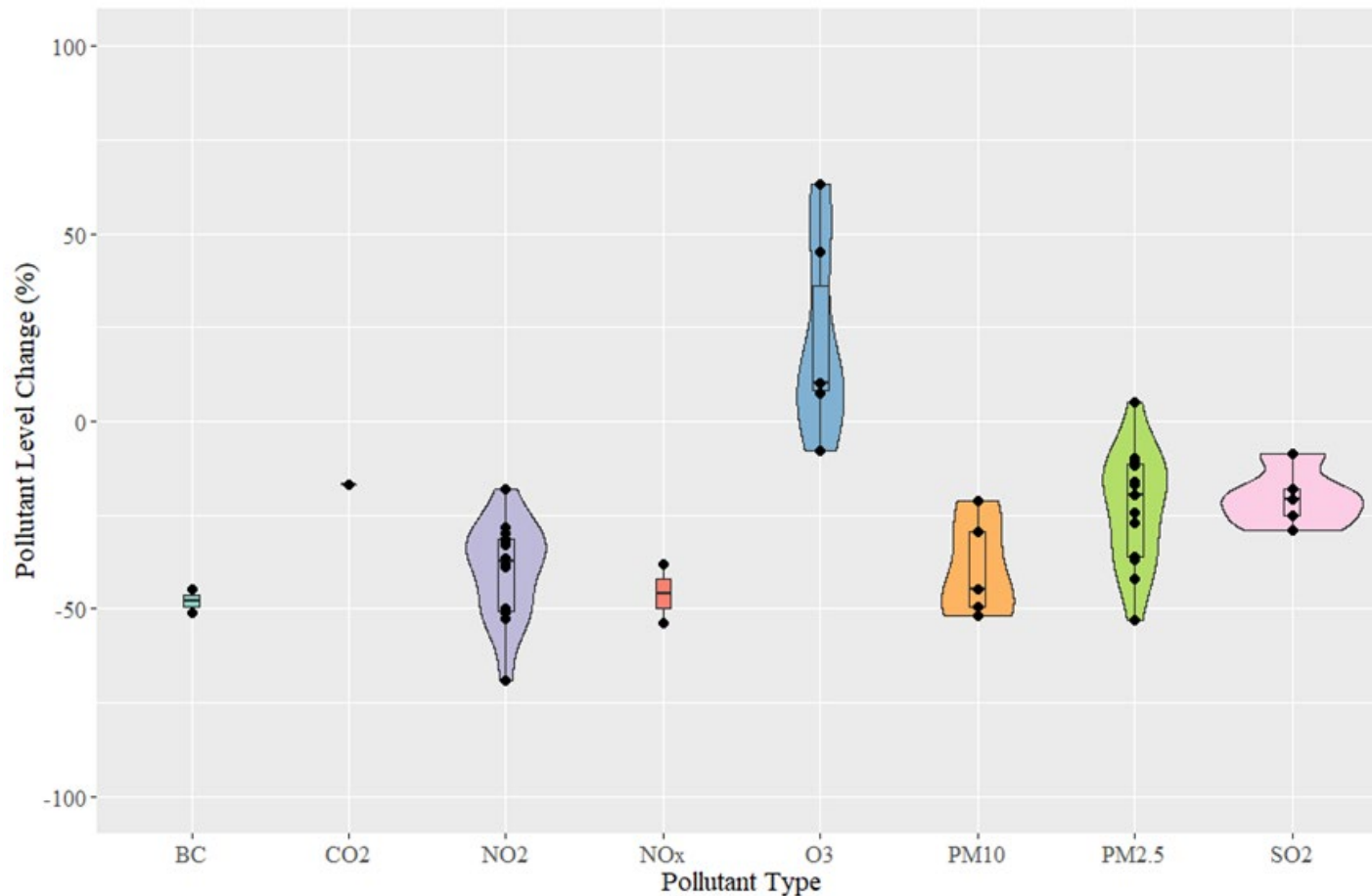
Share Change: 100% observed an **increase** in the modal share of biking.

Bike Sharing



Volume Change: 75% observed a **decrease** in volume, 25% reported uncertain or no change in BSS usage.

Changes in Air Pollutants



Eight air pollutants observed by the reviewed articles.

Most examined pollutants are NO₂ and PM_{2.5}

O3 is the only increased pollutant.

Changes in Built Environment

Category	Recommendation	Duration
Infrastructure	Add temporary bike lane and sidewalk.	Short-term
	Re-allocate street spaces (i.e., repurpose curb space, on-street parking, outer traffic lanes to bike lane or sidewalk).	Short-term
	Take traffic calming measures (i.e., reduce speed limit, set restricted zones).	Short-term
	Install and improve facilities for bike parking, storage, and e-bike charging.	Long-term
	Add permanent bike lane and sidewalk.	Long-term
	Install automated crossing signals reducing the need to touch the button.	Long-term
	Expand public spaces and green spaces (i.e., create pop-up parks).	Long-term

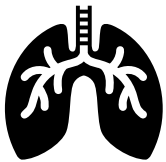
Narrative Review Results

Health Pathways



Physical Activities

- Reduced physical activities for commuting to workplaces and activities at recreational facilities
- Older population in lower socioeconomic status were less likely to be active.



Air Pollution Concerns

- Air pollutants' reductions imply significant health benefits for active transportation users.
- How to maintain the temporarily reduced air pollution level beyond the pandemic remains a challenge.



Crash

- Fewer crashes but more fatality and severe injuries.
- Share of bike and pedestrian crashes increased.
- Increase in drug usage and aggressive driving behaviors among drivers.

Policy Recommendations



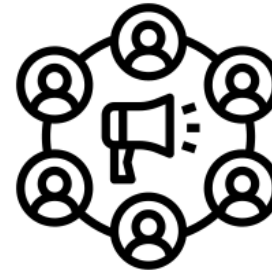
Install and improve facilities for active transportation. Take traffic calming measures.



Take immediate action for policymakers and improve the engagement of residents.



Optimize planning for green spaces and improve accessibility to bike-sharing service.



Enhance biking education and disseminate the benefits for biking and walking.

Research Question #2

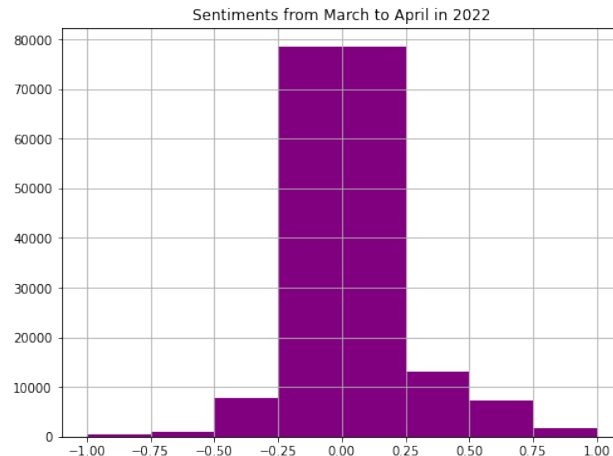
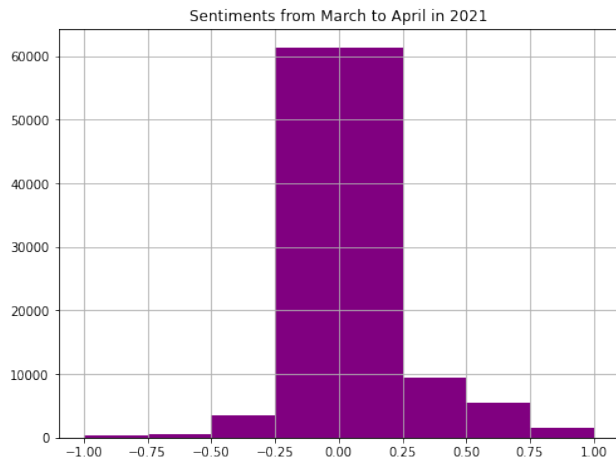
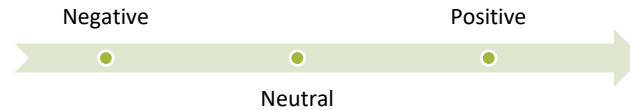
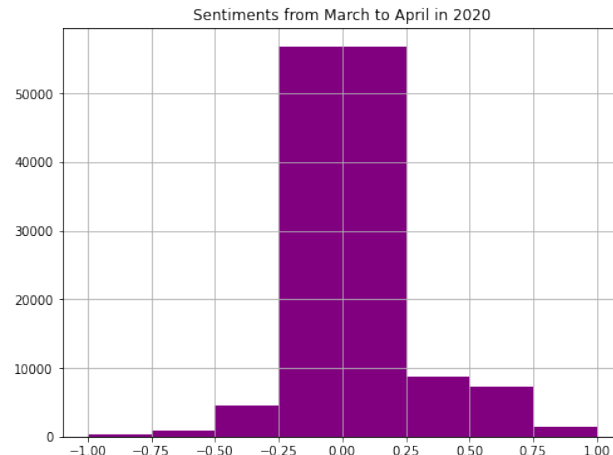
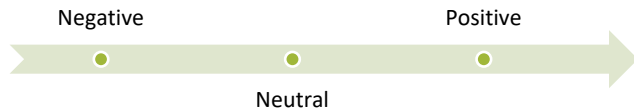
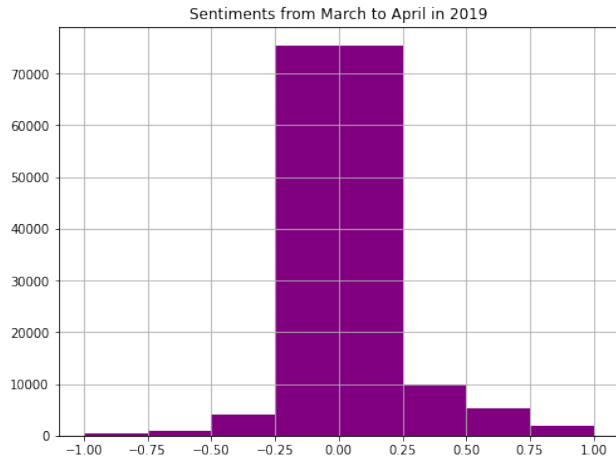


How did people's sentiment change with respect to the use of Active Transport before and after COVID?

Sentiment Analysis

Number of Tweets			
Before COVID	Early COVID	During COVID	Post-COVID
March to April 2019	March to April 2020	March to April 2021	March to April 2022
103,381	87,130	87,947	118,117

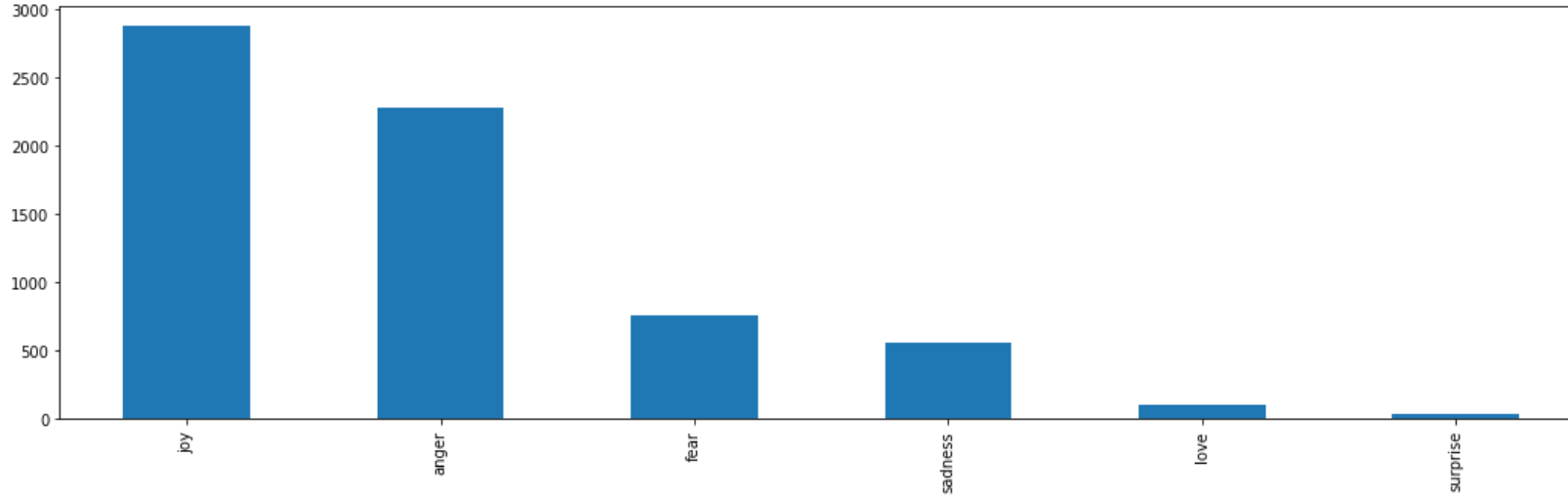
Sentiment Analysis



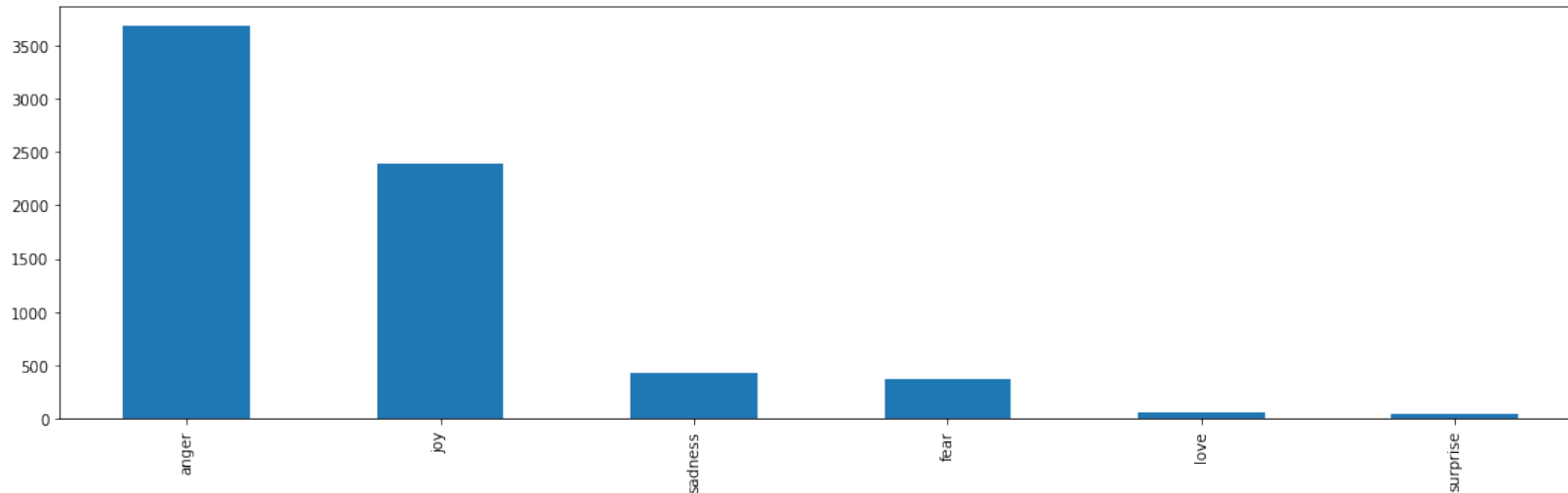
- More positive sentiments about active transportation in 2019 compared to 2020;
- There is a small rebound in 2021 compared to 2020, probably associated with vaccination and full-opening of Texas.
- In 2022, positive sentiments increase.

Emotion Assessment

number of emotions labels in 2019

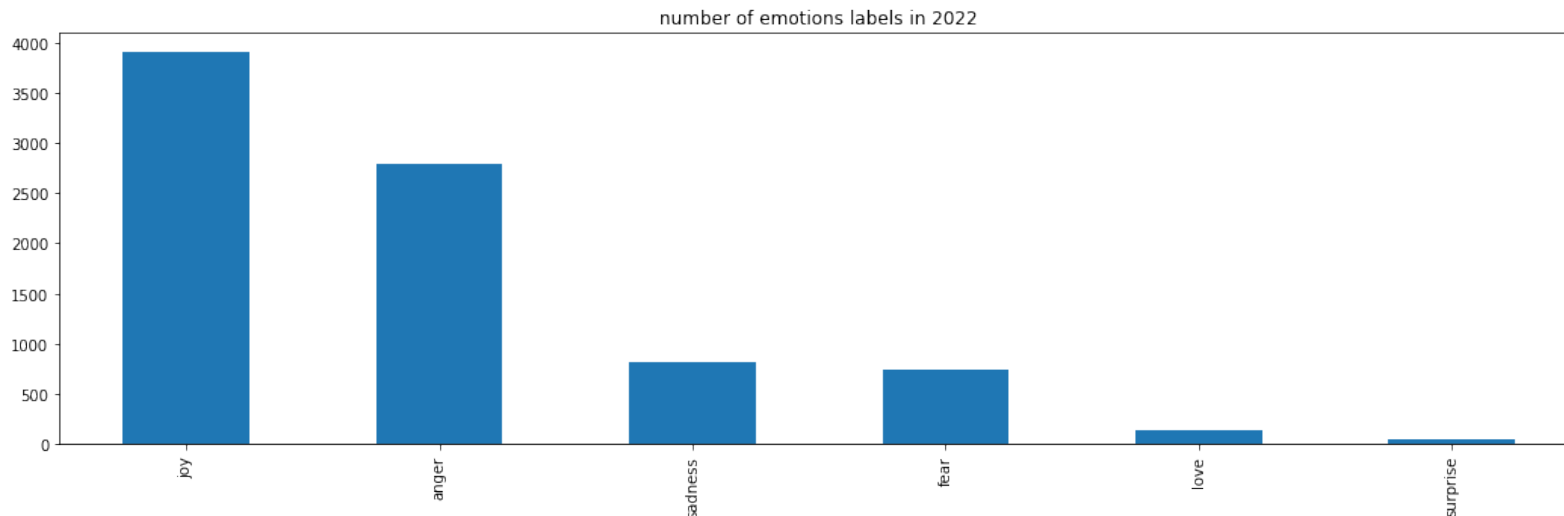
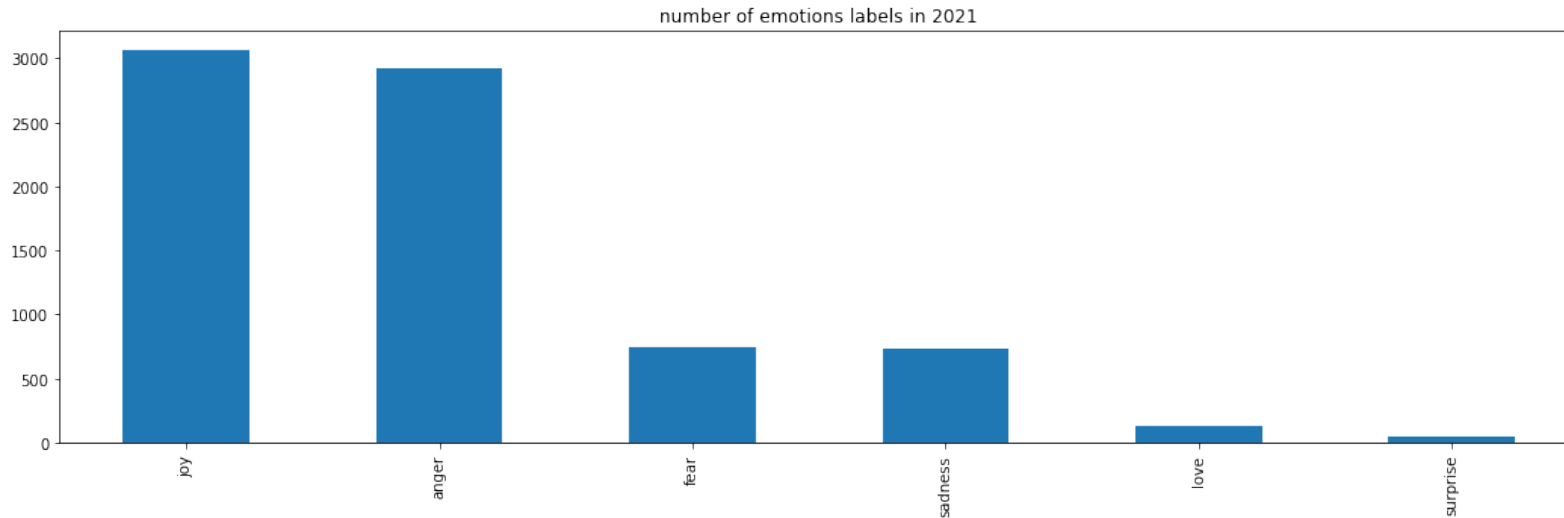


number of emotions labels in 2020



- The DistilBERT-base-uncased model will output six emotion scores including joy, anger, sadness, fear, love, and surprise.
- In 2019, most of the emotion labels are Joy, followed by Anger and Fear.
- In 2020, most tweets feel Angry about active transportation, followed by Joy and Sadness.

Emotion Assessment



- Compared to 2020, people feel more joy in 2021 about active transportation.
- However, there are still many tweets showing Anger towards active transportation.
- In 2022, people feel happier about active transportation, with more tweets indicating Joy.

Next Steps

- Conduct survey to learn more about
 - Travel behavior
 - How people's travel behavior changed?
 - What are the short and long-term impacts?
 - Built environment
 - Did built environment change to curb demand?
 - What are people's perception about these changes?
 - What active infrastructure is perceived as walkable/bikeable based on safety and comfort?
 - Health impacts
 - Do people's perception about health effects of COVID-19 change based on the travel mode?



Thank You!

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Stakeholder Updates

