Collaborative Sciences Center for ROAD SAFETY

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US Vision Zero Implementation
CSCRS-RR2/R33

THE UNIVERSITY of NORTH CAROLINA at CHAPEL HILL

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THE UNIVERSITY OF TENNESSEE KNOXVILLE

Research Team

Kelly Evenson, Principal Investigator

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Rebecca Naumann, Co-Investigator

Fellow UNC students

Background

- "Vision Zero is a strategy to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all." – Vision Zero Network

- It was first implemented in Sweden in the 1990's.

- Starting in ~2014, US communities began implementing Vision Zero into their work. This included at both the local (i.e., municipality) and regional level.

- Not much is known about the extent of uptake of Vision Zero in the US or the attributes of initiatives.

Reference: https://visionzeronetwork.org/about/what-is-vision-zero/

Objectives

- To identify Vision Zero initiatives occurring in municipalities and metropolitan planning organizations (MPOs) across the US
- To describe initiation and implementation of Vision Zero

Methods: Web-based Assessment

Municipalities

- Web-based assessment of 788 cities with a population size of at least 50,000 between April 2010 to July 2019
  - 314 Large-size cities (population >= 100,000)
  - 474 Mid-size cities (population 50,000 to 99,999)

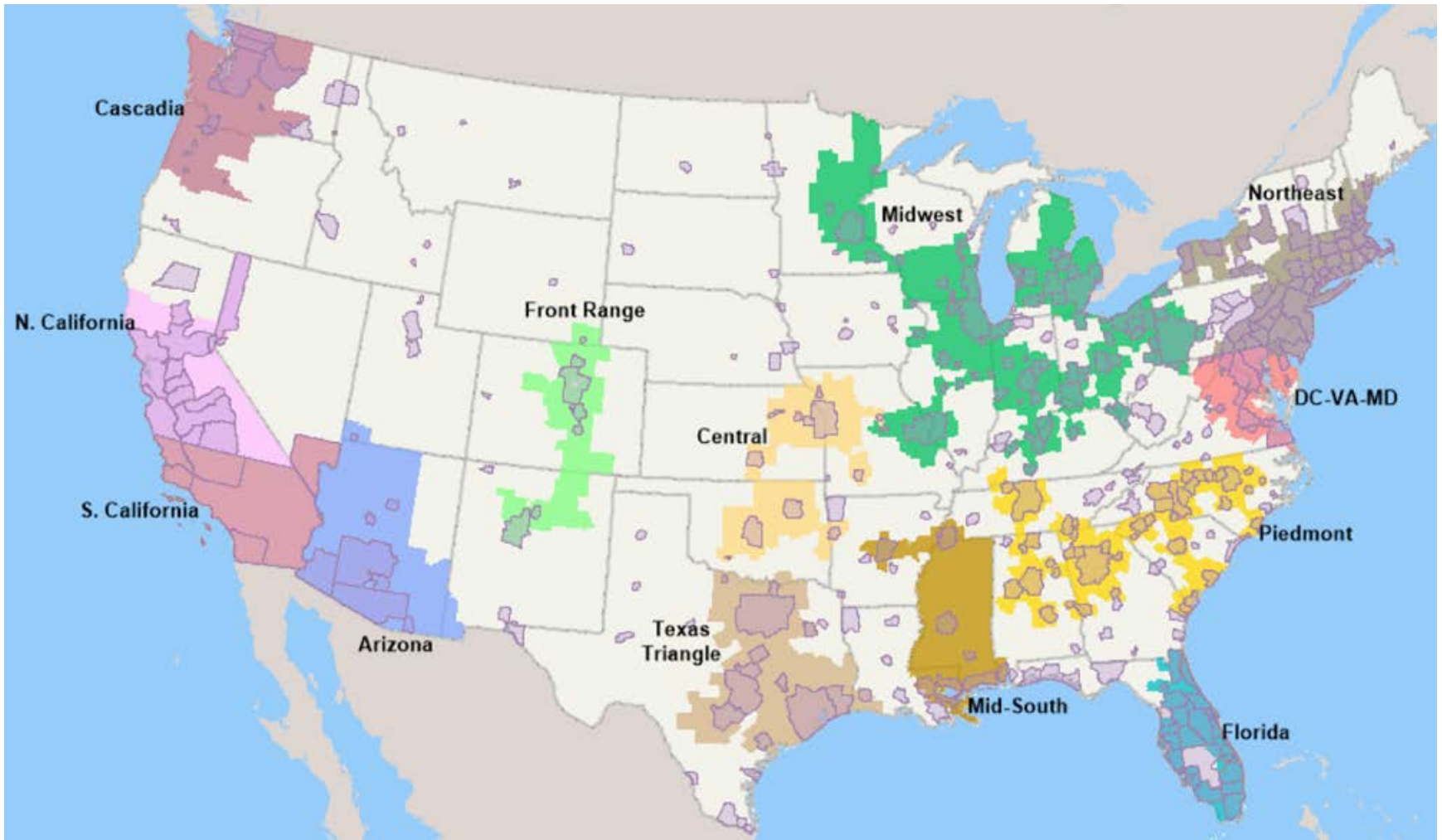- Relevant information recorded from 2014 to when abstraction occurred

MPOs

- Web-based assessment of 408 MPOs

- Relevant information recorded from 2014 to when abstraction occurred
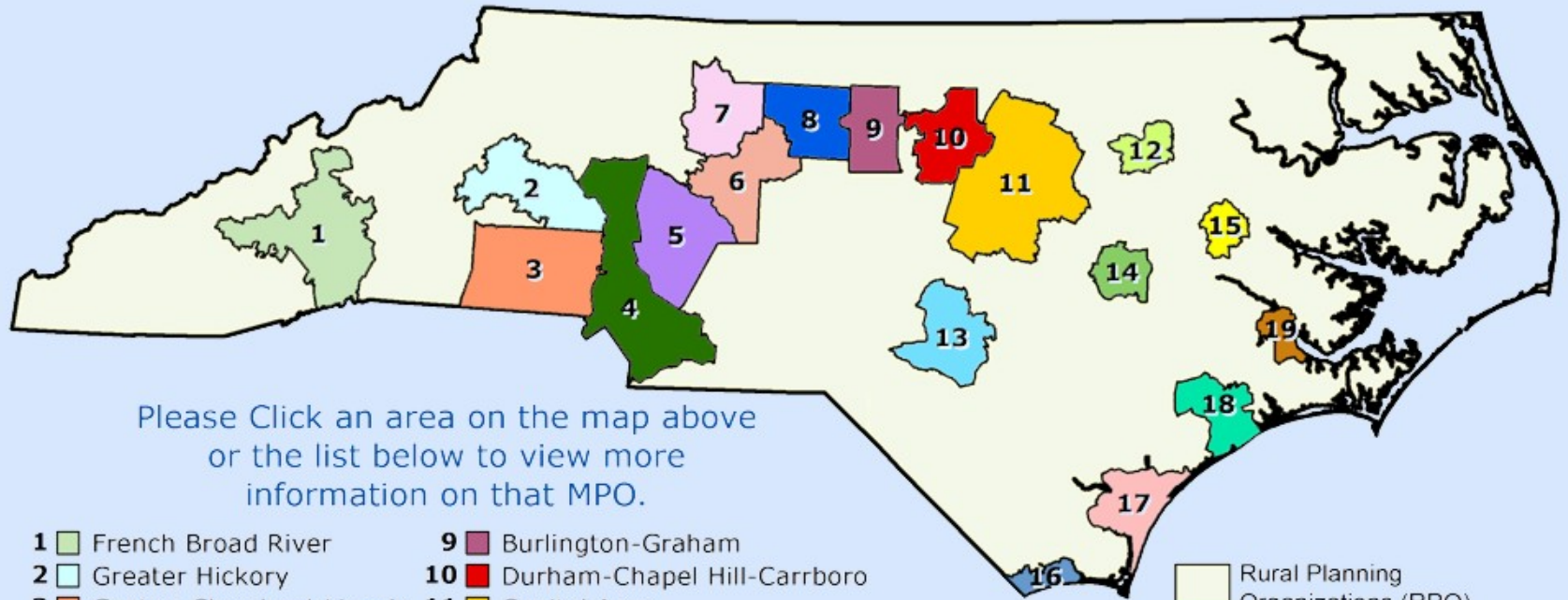
US Major Municipalities

US MPO's

From https://www.planning.org/pas/memo/2020/may/

MPO's in North Carolina

Metropolitan Planning Organizations (MPO)

Please Click an area on the map above or the list below to view more information on that MPO.

1 French Broad River
2 Greater Hickory
3 Gaston-Cleveland-Lincoln
4 Charlotte Regional
5 Cabarrus-Rowan
6 High Point
7 Winston-Salem
8 Greensboro
9 Burlington-Graham
10 Durham-Chapel Hill-Carrboro
11 Capital Area
12 Rocky Mount
13 Fayetteville
14 Goldsboro
15 Greenville
16 Grand Strand
17 Wilmington
18 Jacksonville
19 New Bern

Rural Planning Organizations (RPO)

From https://www.ncampo.org/

Methods: Web-based Assessment

- Abstraction form: Is community supporting or considering a Vision Zero initiative? If yes….
  - characteristics of the initiative
  - stakeholders and community engagement
  - guiding documents
  - implementation

- Abstracted key information, where possible, as described on the next slide

9 Components *of a* Strong Vision Zero Commitment

Based on the experiences of early-adopter cities in the United States, these nine components have proven to be an effective high-level framework for communities considering a Vision Zero commitment. While these are not the only factors to consider, they are critical aspects to ensure a strong and lasting commitment to Vision Zero.

POLITICAL COMMITMENT

The highest-ranking local officials (Mayor, City Council, City Manager) make an official and public commitment to a Vision Zero goal to achieve zero traffic fatalities and severe injuries among all road users (including people walking, biking, using transit, and driving) within a set timeframe. This should include passage of a local policy laying out goals, timeline, stakeholders, and a commitment to community engagement, transparency, & equitable outcomes.

MULTI-DISCIPLINARY LEADERSHIP

An official city Vision Zero Taskforce (or Leadership Committee) is created and charged with leading the planning effort for Vision Zero. The Taskforce should include, at a minimum, high-ranking representatives from the Office of the Mayor, Police, Transportation (or equivalent), and Public Health. Other departments to involve include Planning, Fire, Emergency Services, Public Works, District Attorney, Office of Senior Services, Disability, and the School District.

ACTION PLAN

Vision Zero Action Plan (or Strategy) is created within 1 year of initial commitment and is implemented with clear strategies, owners of each strategy, interim targets, timelines, & performance measures.

EQUITY

City stakeholders commit to both an equitable approach to Vision Zero by establishing inclusive and representative processes, as well as equitable outcomes by ensuring measurable benchmarks to provide safe transportation options for all road users in all parts of the city.

COOPERATION & COLLABORATION

A commitment is made to encourage meaningful cooperation and collaboration among relevant governmental agencies & community stakeholders to establish a framework for multiple stakeholders to set shared goals and focus on coordination and accountability.

SYSTEMS-BASED APPROACH

City leaders commit to and prioritize a systems-based approach to Vision Zero — focusing on the built environment, systems, and policies that influence behavior — as well as adopting messaging that emphasizes that these traffic losses are preventable.

DATA-DRIVEN

City stakeholders commit to gather, analyze, utilize, and share reliable data to understand traffic safety issues and prioritize resources based on evidence of the greatest needs and impact.

COMMUNITY ENGAGEMENT

Opportunities are created to invite meaningful community engagement, such as select community representation on the Taskforce, broader community input through public meetings or workshops, online surveys, and other feedback opportunities.

TRANSPARENCY

The city's process is transparent to city stakeholders and the community, including regular updates on the progress on the Action Plan and performance measures, and a yearly report (at minimum) to the local governing board (e.g., City Council).

For more visit the Vision Zero Network at visionzeronetwork.org. Questions or ideas? Contact leah@visionzeronetwork.org.

VISION ZERO NETWORK

https://visionzeronetwork.org/project/9-components-of-a-strong-vision-zero-commitment/

Methods: Interviews

Municipalities

- Focused on cities with >=100,000 population size

- 12 cities participated in interviews

- All interviews were recorded, transcribed, and coded
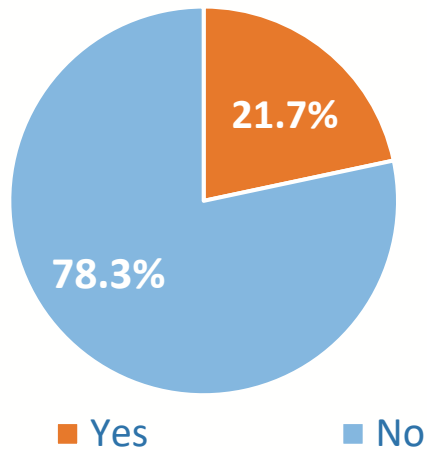
MPOs

- 10 MPOs participated in interviews

- All interviews were recorded, transcribed, and coded

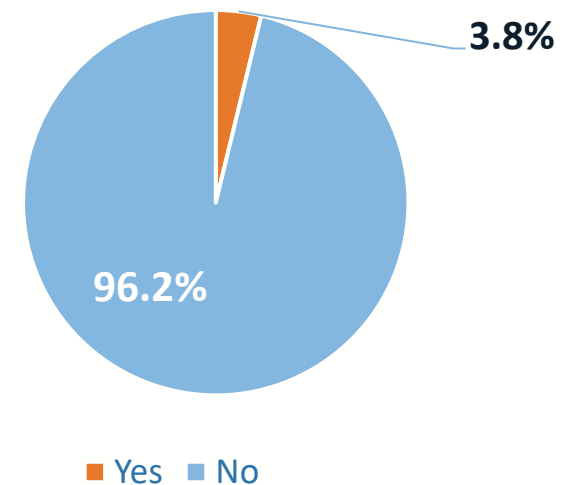# Municipalities Supporting or Considering Vision Zero by Population Size (n=86)
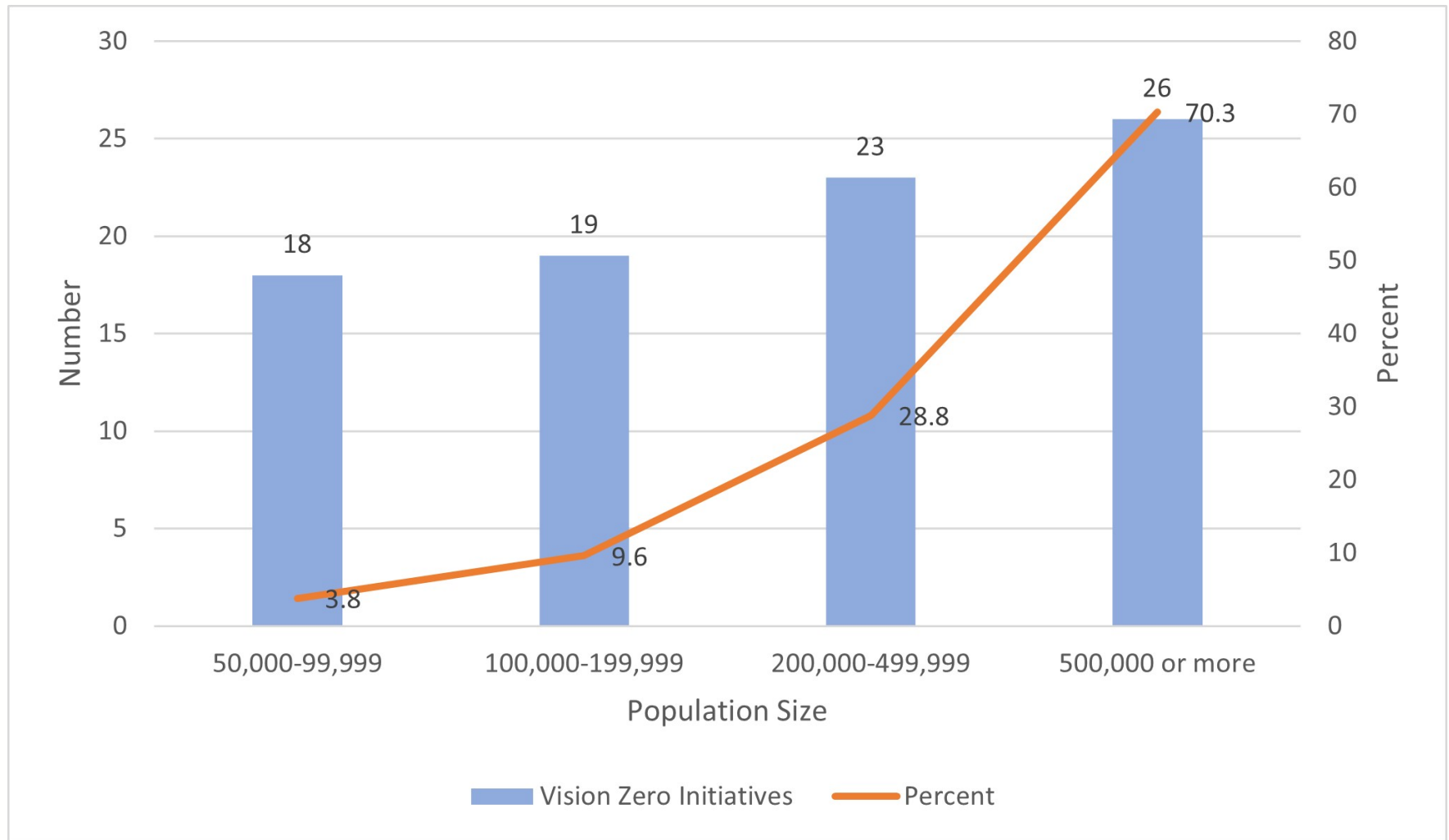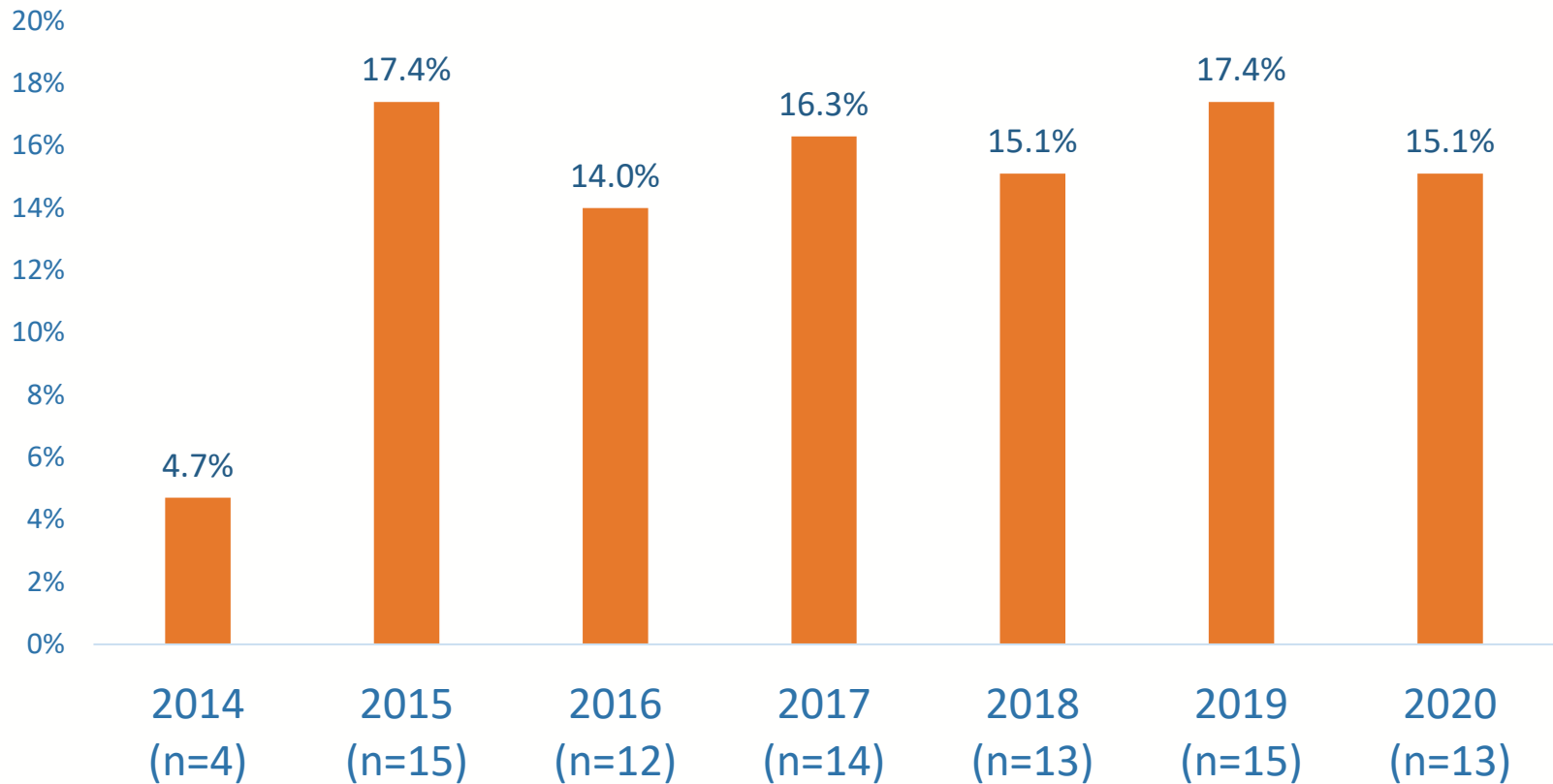

Large Cities
68/314

Mid-size Cities
18/474

21.7%
78.3%
■ Yes   ■ No

3.8%
96.2%
■ Yes   ■ No

From Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/

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Municipal Vision Zero Initiatives by Population Categories (n=86)

Reprinted from Figure 1 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/

Year When Municipal Vision Zero Initiatives Began (n=86)

See Table 2 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/

How Vision Zero Initiatives Began

- High profile traffic-related fatality
- History of high traffic-related fatalities
- Champions
  - Mayor initiative
  - City council or council member
  - Other champions or leaders within city departments
  - Across several city departments
- State, MPO, or municipality encouragement
- Community advocacy and demand
- Task force recommendation
- Plan/policy direction

Municipal Vision Zero Initiative Commitment and Champion (n=86)

Local Public Official Commitment to Vison Zero Secured (e.g., Resolution, Policy, or Ordinance)

29.1%

70.9%
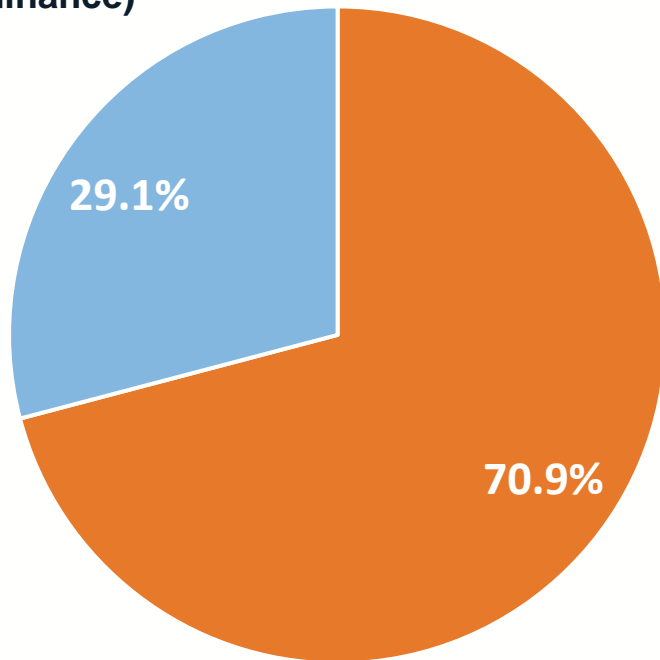
■ Yes (n=61)
■ No or not mentioned (n=25)

Endorsed By a High-Ranking Local Official (e.g., Mayor, City Council Member)
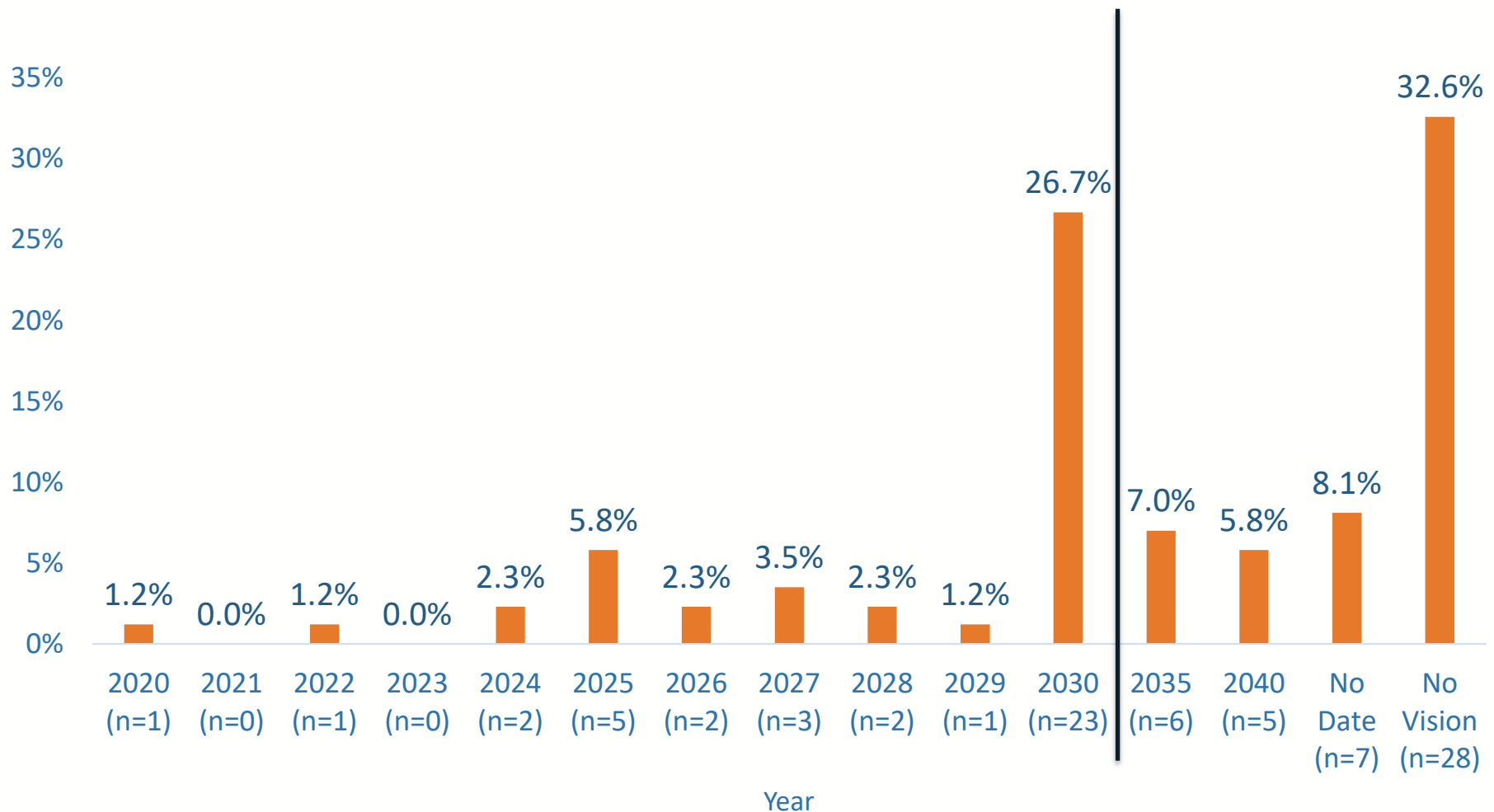

36.0%

64.0%
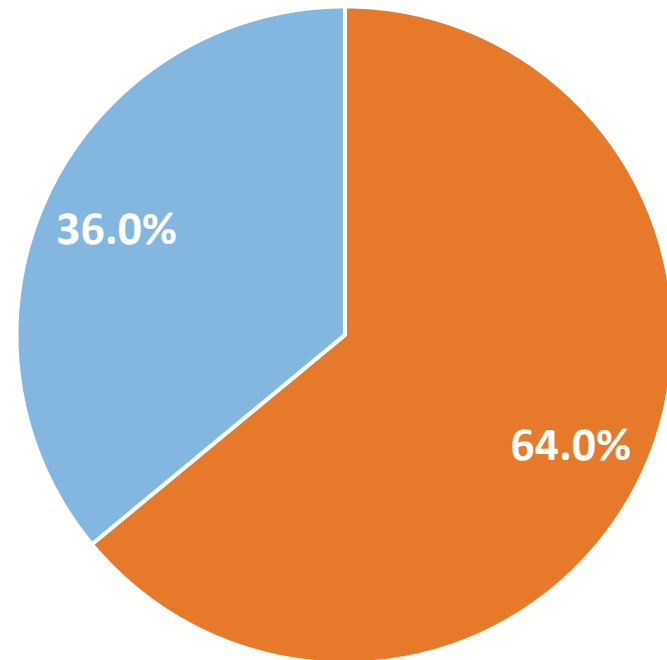
■ Yes (n=55)
■ No or not mentioned (n=31)

See Table 2 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/

Municipal Vision Statement for the Vision Zero Initiatives (n=86)

- Yes (n=58)
- No (n=28)

See Table 2 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/
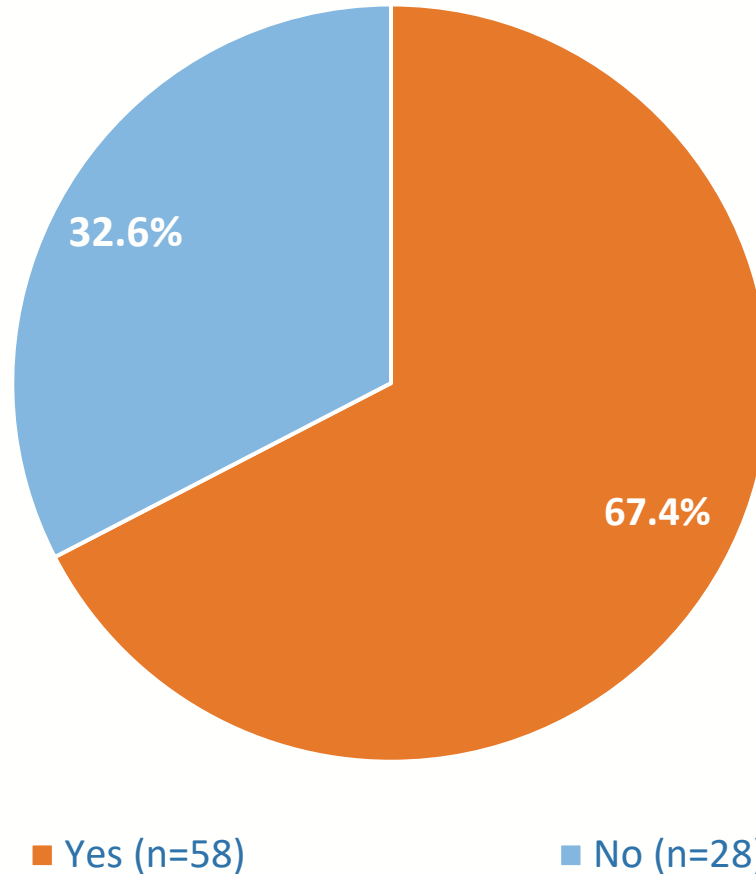
Municipality: Date to Achieve the Vision (n=86)
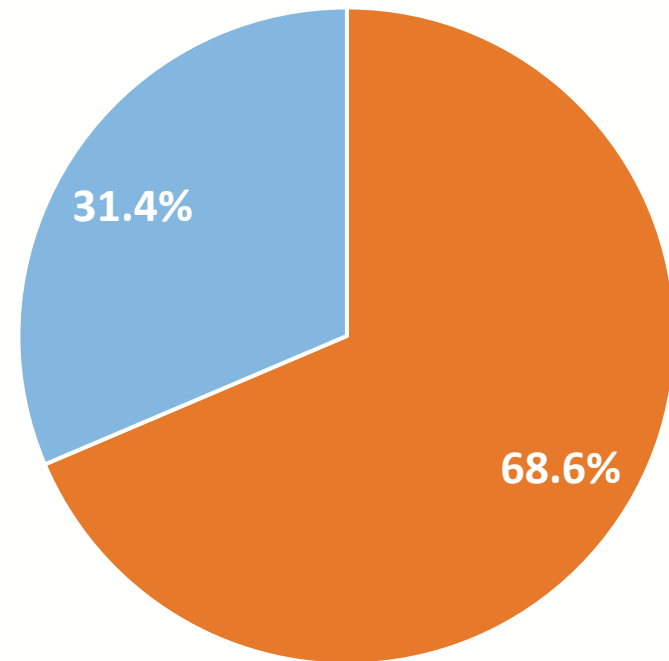

See Table 2 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/

Guiding Principles of the Municipal Vision Zero Initiatives (n=86)

Does the initiative mention or incorporate equity?

Is a systems-based or safe systems approach mentioned or incorporated in initiative?
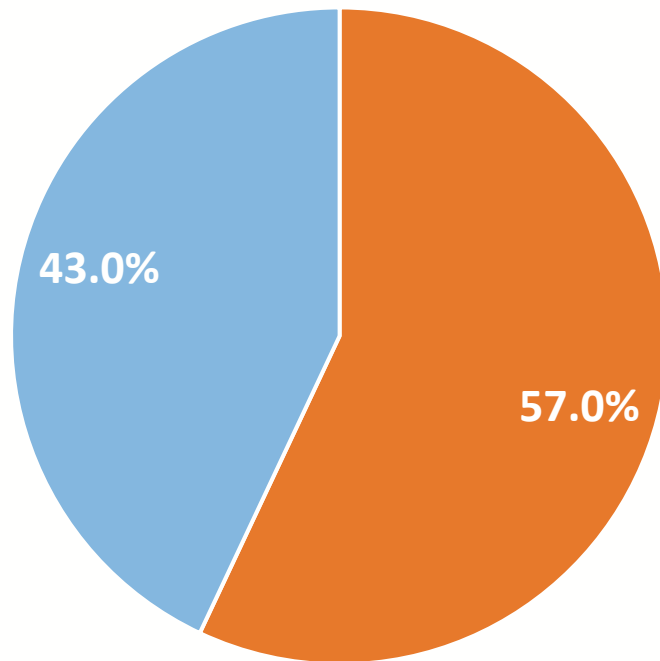
Left pie chart:
- 43.0%
- 57.0%
- Yes (n=49)
- No or not mentioned (n=37)

Right pie chart:
- 31.4%
- 68.6%
- Yes (n=59)
- No or not mentioned (n=27)

See Table 2 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/
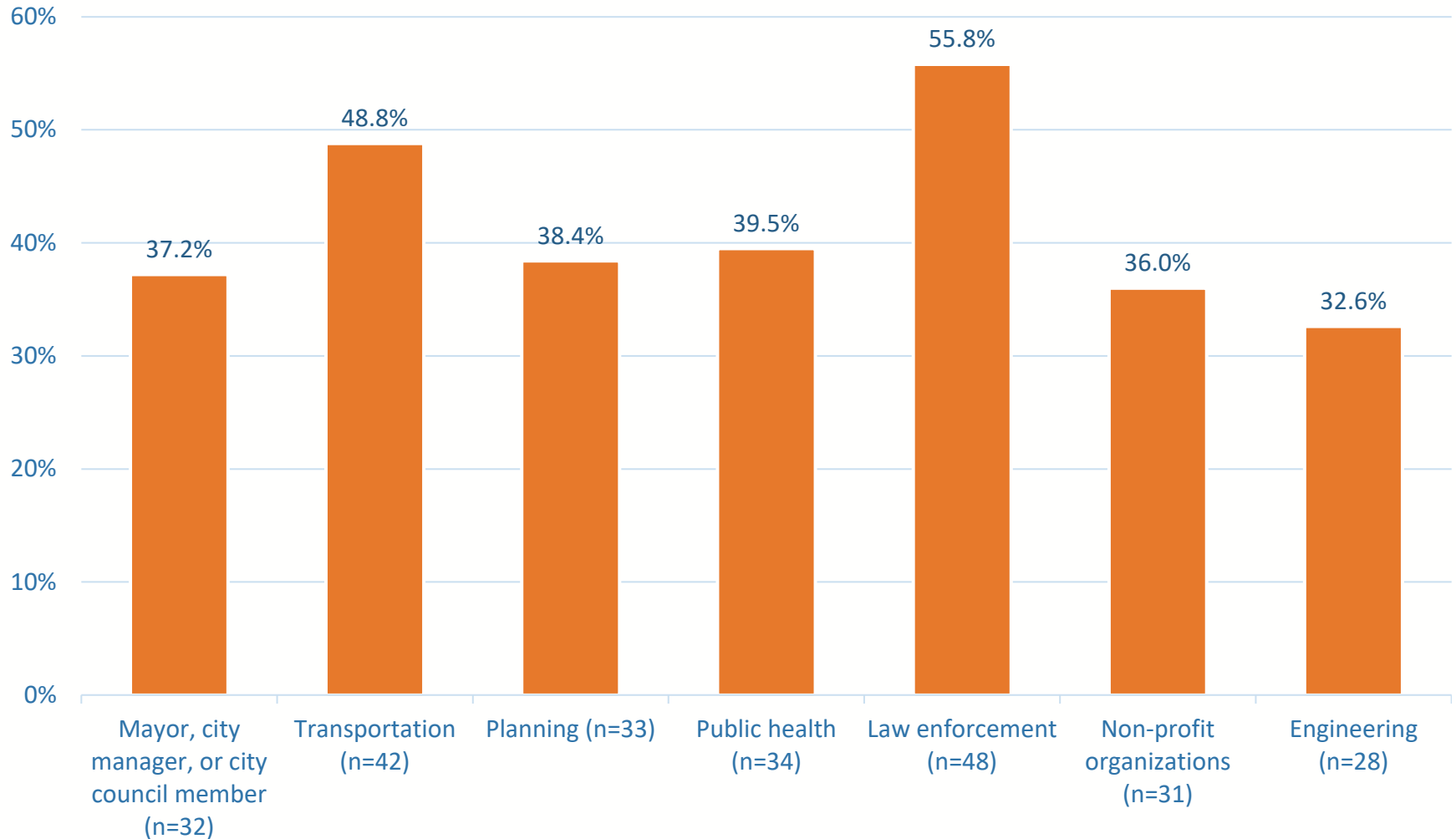
Meetings Documented from Municipal Vision Zero Initiatives (n=86)
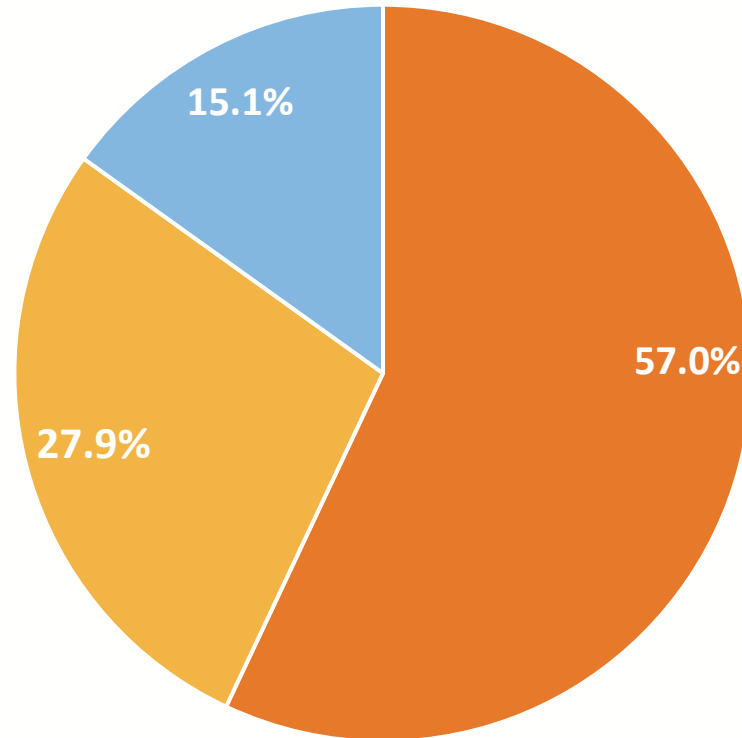
- Yes within Governmental Agencies (Local, Regional, or State) and Stakeholders in the Community (n=49)
- Yes within Governmental Agencies (Local, Regional, or State) Only (n=24)

- No or Not Mentioned (n=13)

See Table 5 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/

Stakeholders Involved in Municipal Vision Zero Initiatives (n=86)

See Table 5 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/

Stakeholders Involved in Municipal Vision Zero Initiatives from the Interviews

Public works and facilities

Municipal development

City planning

Transportation

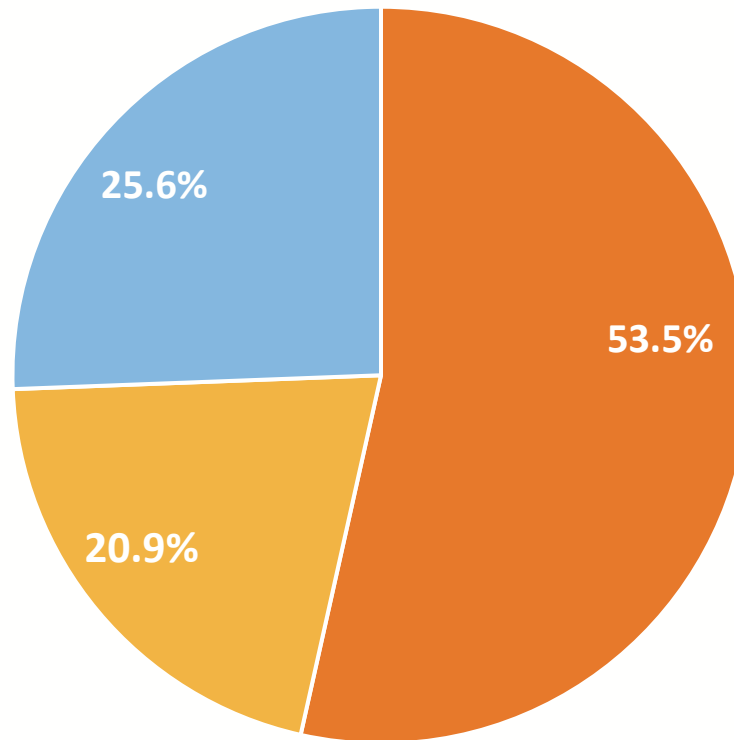Mayor's office

City manager's office

Fire

Police

- Human resources
- Communications
- EMS
- Information technology
- Public health
- Parks and recreation
- City attorney's office

From Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/

Municipal Vision Zero Coalition Formed (n=86)

- ■ Established (n=46)
- ■ Proposed (n=18)
- ■ No or Not Mention (n=22)
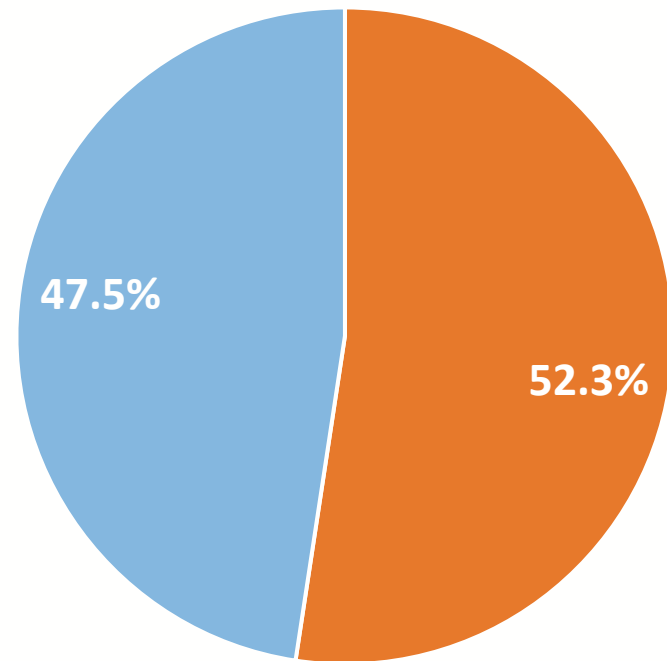
See Table 5 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/

Community Engagement of the Municipal Vision Zero Initiatives (n=86)

In 2020

22.1%

77.9%
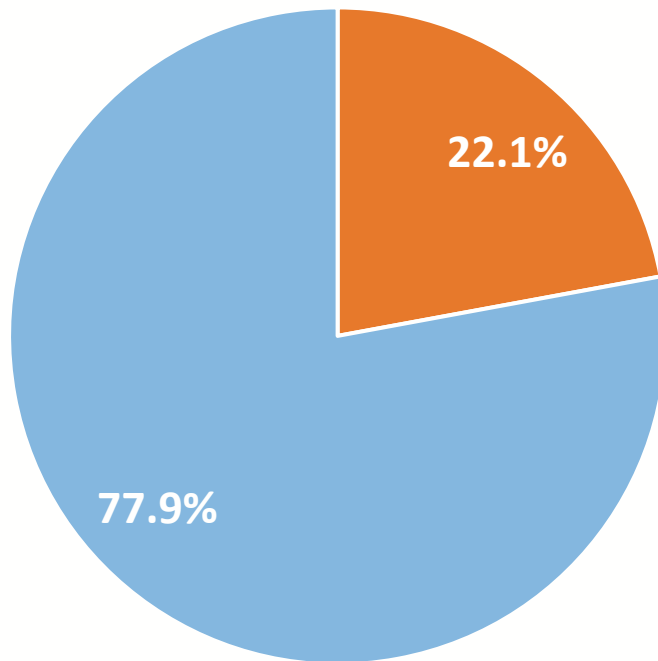
■ Yes (n=19)
■ No or not mentioned (n=67)

Before 2020

47.5%

52.3%

■ Yes (n=45)
■ No or not mentioned (n=41)
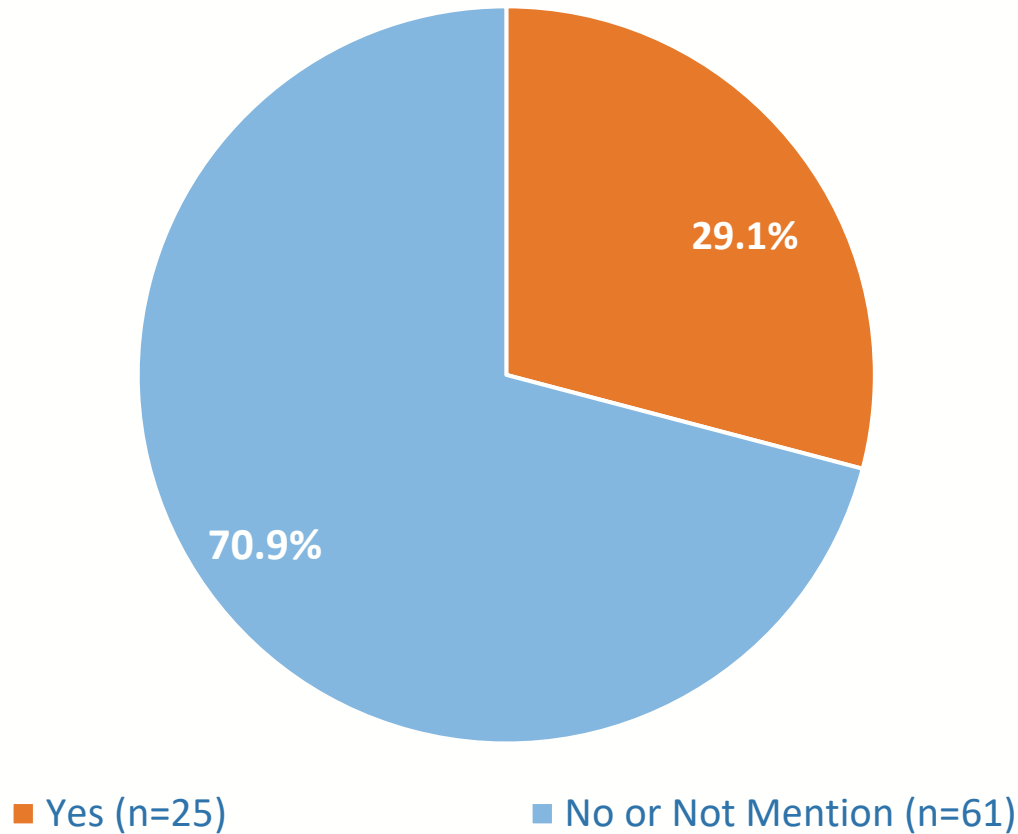
See Table 5 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/

Data Shared Across Stakeholder Groups and/or with the Community from Municipal Vision Zero Initiatives (n=86)

Pie chart:
- 46.5% — Yes (n=40) (orange)
- 53.5% — No or Not Mention (n=46) (blue)

See Table 5 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/
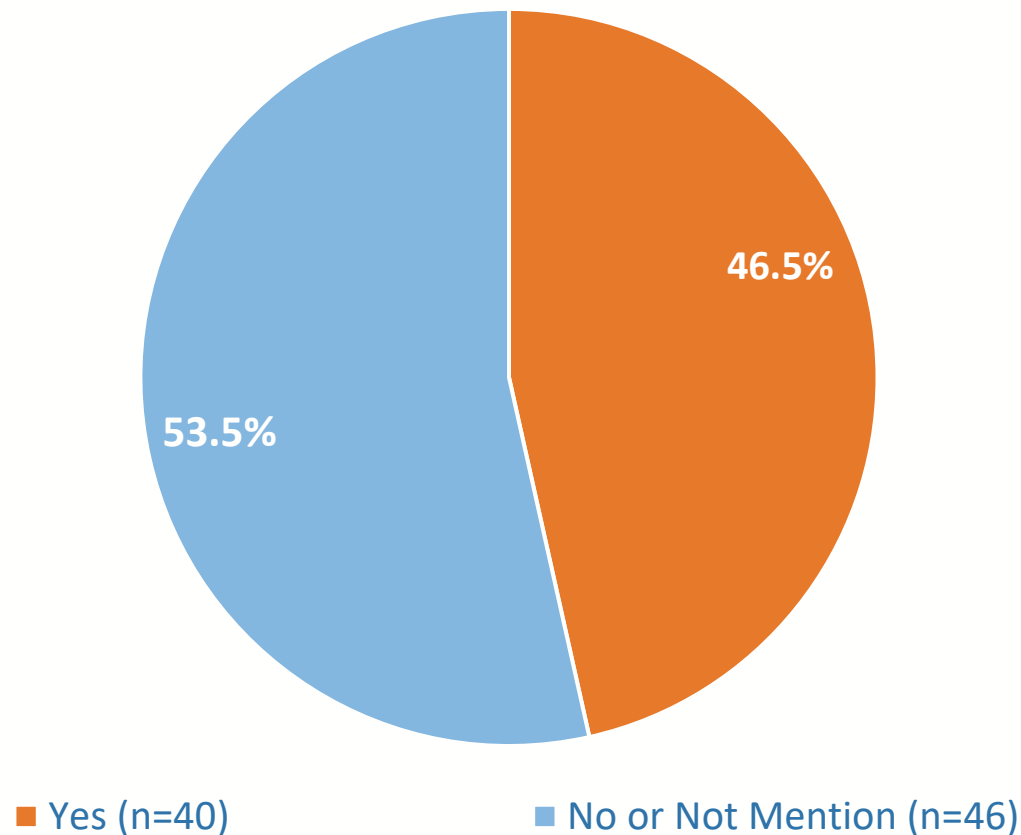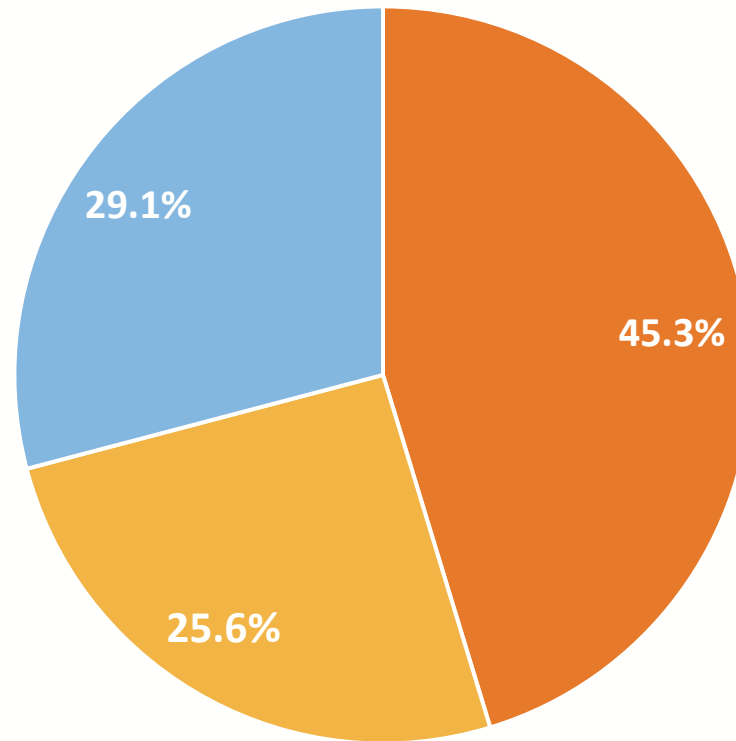
Resources (e.g., funding, staffing) Shared Across Stakeholder Groups from Municipal Vision Zero Initiatives (n=86)

Pie chart:
- 29.1% — Yes (n=25)
- 70.9% — No or Not Mention (n=61)

See Table 5 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/

Municipalities with Vision Zero Plans (n=86)

Pie chart legend:
- Yes, Completed (n=39) — 45.3%
- Yes, In Development (n=22) — 25.6%
- No (n=25) — 29.1%

See Table 7 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/

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Publication Year of the Municipal Vision Zero Plan (n=42)

Year	Percent
2014 (n=1)	1.2%
2015 (n=3)	3.5%
2016 (n=5)	5.8%
2017 (n=13)	15.1%
2018 (n=3)	3.5%
2019 (n=9)	10.5%
2020 (n=5)	5.8%
2021 (n=0)	0.0%
No Plan or In Development (n=47)	54.7%

See Table 7 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/
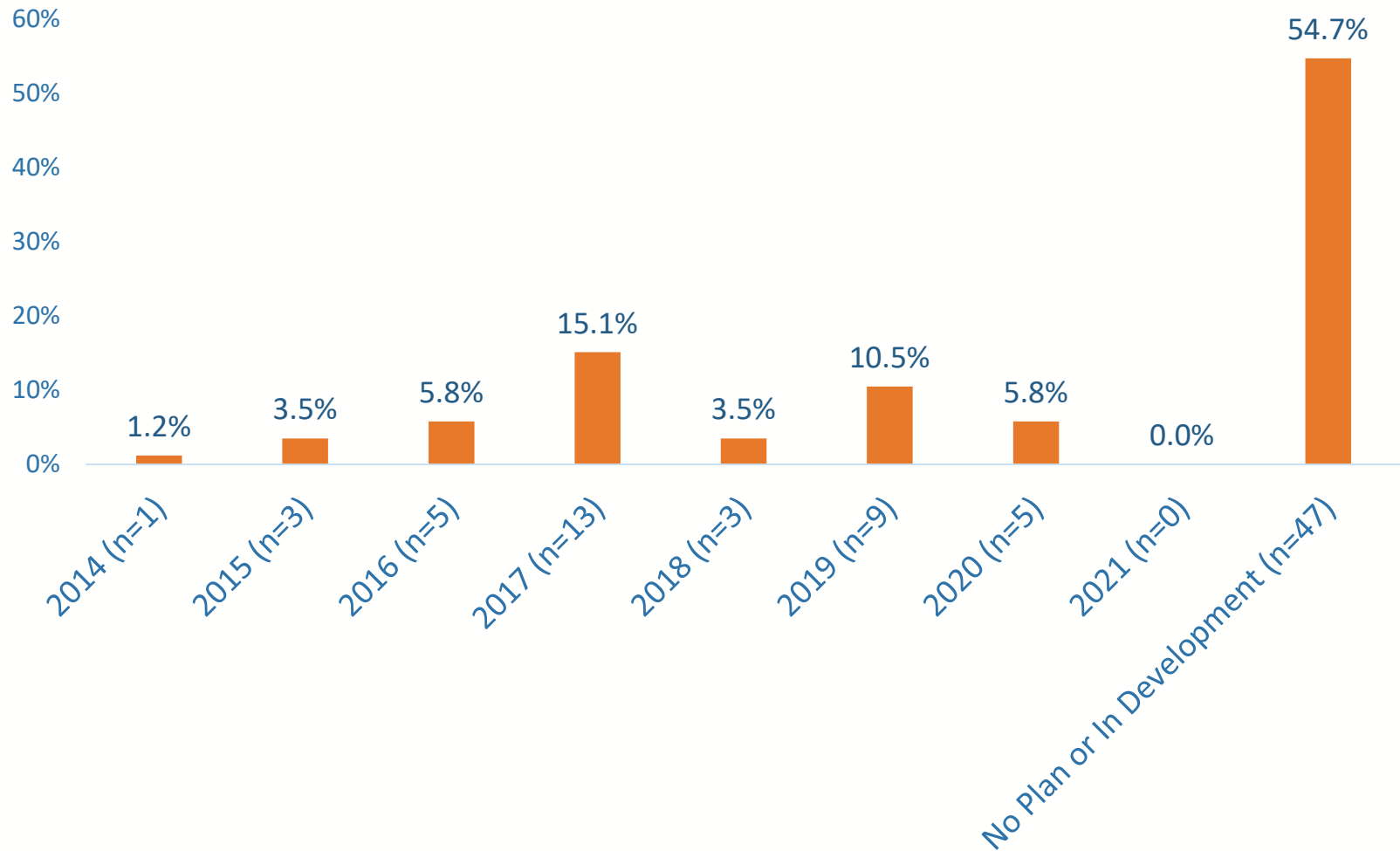
Implementation of Vision Zero Strategies from Municipalities (n=86)

Legend:
- ■ Yes (n=47) — 54.7%
- ■ No or Not Mention (n=39) — 45.3%

See Table 7 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/
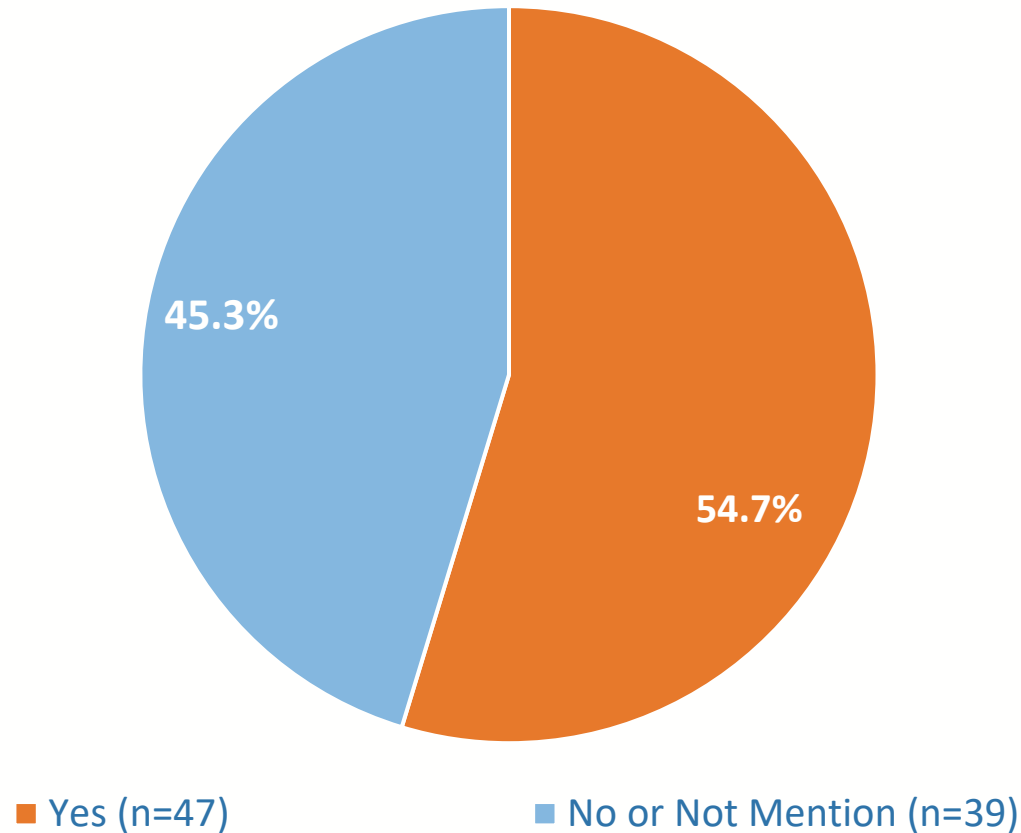
Changes in Goals Since Vision Zero Began from the Interviews

- Coordination with the state
- Being more specific about where to focus resources to make changes in infrastructure
- Less focus on the E's (engineering, enforcement, education, encouragement, etc.)
- More short-term planning goals
- Update goals once accomplishments are made
- Goals did not change

Change in Traffic Safety Involvement Since Vision Zero Began from the Interviews

- Increase in traffic safety involvement
- No change in traffic safety involvement
- Decrease in traffic safety involvement

Municipal Vision Zero Initiative Paused or Ended (n=86)

- Yes or Maybe (n=22)
- No (n=64)

25.6%

74.4%
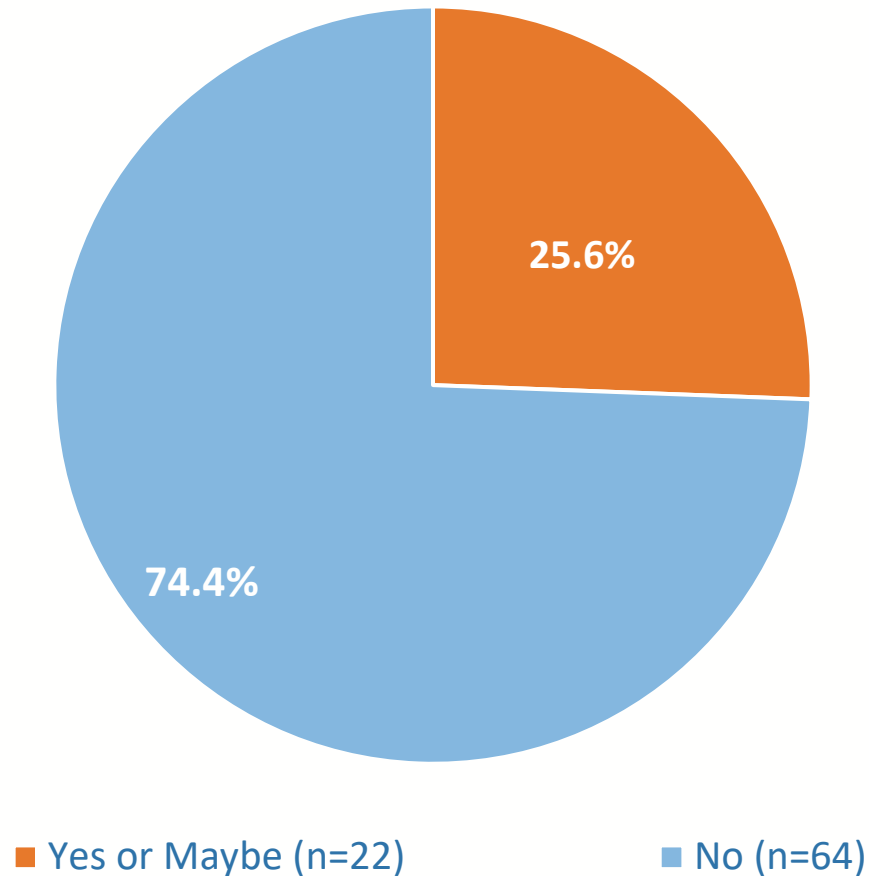
Supplemental Table 4 in Evenson et al. 2023; https://pubmed.ncbi.nlm.nih.gov/36848752/

Strengths and Limitations

- Strengths
  - Assessed all municipalities with >=50,000
  - Assessed all MPOs
  - Mixed methods design
- Limitations
  - Web-based assessment
    - Reliance on what is posted on the website
    - Under representation of characteristics
    - May miss initiatives in the exploration stage (before they post on a public website)
  - Interviews
    - Municipal interviews focused on communities with population >=100,000

Summary

- This project provided a comprehensive description of the initiation and implementation of Vision Zero in the United States.

- The results highlight the creative ways Vision Zero is being implemented across the US.

- The understanding of the community context where the initiatives take place, with its unique policy, environment, and culture, can be useful to communities considering Vision Zero as well as to those already working on Vision Zero.

Resources on Vision Zero Plans

●

**Collaborative Sciences Center for
ROAD SAFETY**

Guide to Developing
a Vision Zero Plan

August, 2020

Seth LaJeunesse
Rebecca B. Naumann
Laura Sandt
Camden Spade
Kelly R. Evenson
University of North Carolina, Chapel Hill

- Why plans are needed
- Community involvement
- Analyzing current conditions and opportunities for change
- Developing evidence-based metrics
- Evaluating implementation progress
- Leveraging complementary planning efforts
- Bringing in a systems perspective to Vision Zero planning
- Understanding the history of traffic safety paradigms in the U.S.

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https://www.roadsafety.unc.edu/profdev/resource-hub/

https://www.roadsafety.unc.edu/research/projects/2018r17/

Vision Zero Library of Plans – UNC Dataverse

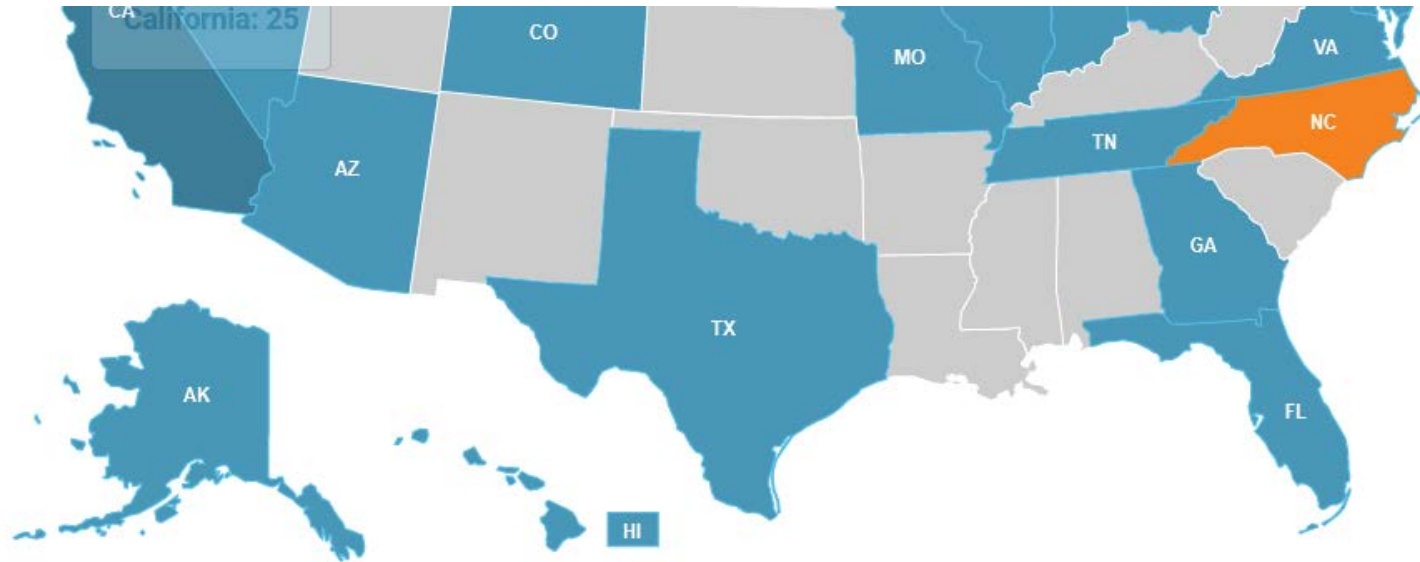https://dataverse.unc.edu/dataverse/VZPlans

Vision Zero Library of Plans (1)

Click a state to see Vision Zero plans in that area.

Vision Zero Library of Plans (2)

North Carolina

Town of Apex – 2022

Burlington-Graham MPO – 2022

City of Charlotte – 2019

City of Durham – 2017

City of Greensboro – 2019

US Vision Zero Implementation

For more information:

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