Collaborative Sciences Center for ROAD SAFETY

FINAL REPORT

U.S. Vision Zero Implementation

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16. Abstract

Vision Zero aims to reduce fatalities and serious injuries from road traffic crashes to zero through a Safe Systems approach. Little is known about the extent of uptake of Vision Zero in the United States, or the attributes and functioning of the initiatives. Using a mixed-methods design, our objectives were to describe the status of Vision Zero and characteristics of those initiatives among U.S. municipalities and metropolitan planning organizations (MPOs). Websites of all 408 U.S. MPOs and 788 municipalities with a population of at least 50,000 were searched to identify involvement in Vision Zero. When initiatives were identified, we abstracted information from their website and other published documents, using a comprehensive framework of best practice Vision Zero components. From the Vision Zero initiatives identified, we interviewed representatives from 12 municipalities and 10 MPOs with diversity by region of the country, population size, and implementation stage. Interviews were recorded, transcribed, and coded for themes. Through systematic web-based searching, we identified 86 of 788 (11%) municipalities and 16 of 408 (4%) MPOs with a Vision Zero initiative. Vision Zero initiatives began as early as 2014. Among the municipal Vision Zero initiatives, about two-thirds record a vision statement and a little over half set a target year to reach zero deaths. Almost half of the municipal initiatives had published a Vision Zero plan, with another one-quarter working towards a plan. Almost one-third of the municipal initiatives shared resources across interested groups, such as funding or staff. Approximately half of the municipal initiatives had an established coalition, and one-fifth had proposed or were developing a coalition. While one-third of the municipal initiatives provided regular updates or evaluation on progress towards performance metrics, only four initiatives had implemented a performance management system to regularly track progress on Vision Zero-related actions. The interviews provided further context and a more detailed understanding of results. Documenting the characteristics of Vision Zero initiatives can contribute to an understanding of current practice, potential opportunities to support ongoing initiatives, and information to assist new initiatives. Ultimately, the impact of municipal- and MPO-level Vision Zero efforts should be evaluated with regards to traffic-related serious injuries and fatalities.

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Contents

Introduction

While the number of people killed in road traffic crashes has declined over the last few decades, surveillance data indicates that this progress has stalled in the United States [1]. Communities are seeking new ways to address traffic-related fatalities and serious injuries. Vision Zero promotes a Safe Systems perspective to reducing traffic-related fatalities and serious injuries to zero, while increasing healthy, equitable, and safe mobility for all [2,3]. Professionals in Sweden created and officially adopted Vision Zero in 1997 [4]. Since then, the vision has spread worldwide. In January 2015, the U.S. Department of Transportation announced that the official target of the federal government transportation safety policy was zero deaths and a year later (January 2016), ten U.S. cities announced plans to lead initiatives to eliminate traffic fatalities on their roadway networks [5]. Since that time, a growing number of U.S. communities have adopted Vision Zero.

Prior Work Leading to this Effort

The background for the project began with efforts from the Collaborative Sciences Center for Road Safety (CSCRS) project titled *R1: Structures of stakeholder relationships in making road safety decisions*. The goal was to better understand relationships in making road safety decisions, particularly around Vision Zero. We conducted a web-based survey with road safety professionals to document their awareness of Vision Zero [6]. Also from the web-based survey, we sought to understand which professionals, organizations, and U.S. cities possessed social influence (i.e., "opinion leaders") related to traffic safety practice through a social network analysis [7]. The idea was to engage these opinion leaders in implementing evidence-based road safety interventions with the ultimate goal of accelerating the diffusion of effective safety countermeasures across the country.

Next, using applied systems science methods, we sought to understand the structure of inter-organizational relationships in U.S. Vision Zero coalitions [8]. Findings indicated that government agencies often constituted a large proportion of coalition members and generally played central roles in terms of coalition network contact, productivity, and resource flow. Results also highlighted the importance of political will, formal plan development, and increased group cooperation and collaboration in working towards Vision Zero implementation.

Following this, the research team focused on Vision Zero plans through the CSCRS project titled *R17: Strengthening existing and facilitating new Vision Zero Plans*. One important policy tool that municipalities, counties, MPOs, or other entities can use is the development, adoption, and implementation of a Vision Zero plan. A Vision Zero plan is a public document that provides the vision for future efforts to reduce traffic fatalities and serious injuries to zero. Each plan is unique and tailored to the community, creating variation between plans regarding their focus, scope, and strength. For this project, we collected all Vision Zero plans published through 2018. We created a database in Dataverse and asked each community with a Vision Zero plan for permission to post the plan as part of a permanent "library of plans" for other communities to access, as described in more detail elsewhere [9].

Next, we identified high-quality Vision Zero elements, ascertained from the literature and experts in the field, and summarized these items into a single document that provided the framework for the development of a coding tool. We created an extensive coding tool that identified the high-quality elements to be used for abstraction. The coding tool was applied to Vision Zero plans published through 2018, with abstraction done by a primary and secondary reviewer and discrepancies resolved by consensus. Based on what we learned from the plans [10] and the literature, we

developed, received expert feedback, revised, and published a *Vision Zero Plan guide*[11]. This work led us to the project aims described in this report.

Project Aims

Vision Zero initiatives generally center their work around common key principles, but how they are developed and implemented is not well understood. In particular, we lacked a systematic overview of the uptake and implementation of Vision Zero across the United States. We also need a better understanding of how best to support communities in their Vision Zero efforts. Using a mixed-method design, we describe municipal-level U.S. Vision Zero initiatives using quantitative data and provide insight from both municipal- and MPO-level initiatives using in-depth interviews.

Methods

Web-based Assessments. From July to October 2020, we conducted web searches to find municipal Vision Zero initiatives in the United States. The municipal list was based on U.S. Census documentation of 788 incorporated places with a population size of at least 50,000 at any time between April 2010 to July 2019 [12]. A protocol for searching was developed, piloted, and refined. Searching commenced by using the Google search engine with the terms "Vision Zero + municipality name + state". The first page of search results was reviewed. If an initiative was not found, then the search continued in a similar manner for the terms Safe Systems (defined elsewhere [13, 14]), as well as other terms that may be used instead of "Vision Zero" (e.g., Target Zero, Towards Zero, Road to Zero). If an initiative was not found, then a search was conducted on the municipality website. Most municipalities had a search engine function, and using this, the terms Vision Zero, Safe Systems, and safety were entered, either for the entire municipality or specifically in their transportation or public works departments. The search ended if no initiative was found.

An abstraction form was developed, piloted, and refined. For all 788 municipalities, we abstracted whether the community was considering or supporting Vision Zero or a similar type of initiative. If the answer was "yes" to this screening question, then we abstracted detailed information about the initiative, guided by our work documenting Vision Zero plans [10, 11] and using a framework on key components of a strong Vision Zero commitment as outlined by the U.S.-based Vision Zero Network [15] and further refined through discussion with transportation experts. The detailed abstraction included several descriptive characteristics of the initiative (e.g., timeline, vision, guiding principles), participants (e.g., meetings, involvement of others, coalition formation), use of data, funding, champions (e.g., local public commitment, local official endorsement), plans, performance measures and management (e.g., strategies implemented, data, progress around goals), and resource implementation (e.g., staffing, on-boarding procedures). We abstracted evidence of community engagement both before the year 2020 and during 2020 to account for differences associated with the COVID-19 pandemic. We collected guiding documents, such as Vision Zero plans and resolutions, and reviewed those, as well as any initiative-related web pages for the abstraction. We also assigned each municipality to one of five U.S. census regions (Midwest, Northeast, Pacific, South, West) for descriptive purposes [16].

The 788 municipalities were screened for a Vision Zero initiative between July to October 2020. The detailed abstraction of the characteristics of the Vision Zero initiative was completed (i) for 314 municipalities with a population size ≥100,000 between July to October 2020 and (ii) for 474 municipalities with a population size of 50,000 to 99,999 in March 2022. Frequencies were presented overall and by municipality size.

From June to August 2021, we conducted web searches to find MPO Vision Zero initiatives in the United States. The search list was based on searching each of the 408 MPOs identified by the U.S.

Department of Transportation and Bureau of Transportation Statistics on the National Transportation Atlas Database [17]. The protocol for searching was similar to that described of municipalities using the Google search engine with the terms "Vision Zero + MPO name + state". The MPOs identified with a Vision Zero initiative were used to select individuals to participate in an in-depth interview.

In-depth Interviews. Before initiation, the interview procedures and guides were reviewed by the University of North Carolina – Chapel Hill Institutional Review Board (#20-2773). Using the sample of Vision Zero initiatives from the web-based abstractions, we invited a subsample of Vision Zero coordinators from diverse municipalities from across the United States with a population size of at least 100,000 and MPOs of any size for an in-depth interview.

Similar to the abstraction tool used for Vision Zero plans, an interview guide was developed using a framework of key components of a strong Vision Zero commitment as outlined by the U.S.-based Vision Zero Network and further refined through discussions with transportation experts. The interview guide included several questions about the Vision Zero initiative including how the initiative began, diversity of organizational involvement, changes in goals over time, and resources that would help their work.

Between December 2020 and June 2021, the municipal interviews were conducted and between October 2021 and December 2021 the MPO interviews were conducted, both using video calling. Interviews were recorded with permission and transcribed verbatim. A codebook was developed from the interview questions and then expanded as themes emerged. The transcripts were entered into ATLAS.ti (version 8) for coding and analysis. A deductive and inductive process was used to create a coding scheme[18, 19]. The data were reviewed line-by-line with codes assigned by two team members and discrepancies were resolved through consensus.

Results

Web-based Assessment of Municipalities. From the web-based searches, among 788 (10.9%) municipalities we identified 86 Vision Zero initiatives. The proportion of municipalities with a Vision Zero initiative was higher with larger population sizes (at least 100,000) compared to smaller population sizes (50,000 to 99,999), as displayed in **Figure 1**.

Description: The Vision Zero initiatives began as early as 2014, starting with the larger municipalities (population size at least 100,000) and followed in 2016 by medium-sized municipalities (population size 50,000-99,999; **Table 1**). Initiatives were located in all regions of the United States, with more in the Pacific (32.6%) and South (31.4%) regions. From the web-based assessments, we identified local public commitment to Vision Zero (i.e., resolution, policy, ordinance) for 61 (70.9%) initiatives and endorsement by a high-ranking official (i.e., mayor, city council member) for 55 (64.0%) initiatives. While evidence of local public commitment did not vary much by municipality size, endorsement by a high-ranking official was higher among larger-sized municipalities (70.6%) compared to medium-sized municipalities (38.9%).

Vision: Among the 86 initiatives, 58 (67.4%) had a stated vision (**Table 1**); however, this varied by municipality size, with 70.6% of larger-sized municipalities declaring a vision, as compared to 55.6% of medium-sized municipalities. Of those with a vision, the date to achieve the vision ranged from 2020 to 2040 with medium-sized initiatives generally setting later dates (2030 to 2040). The vision statements were almost always connected to eliminating all traffic fatalities and serious injuries. Seven (8.1%) initiatives had a vision but did not set a target date.

Figure 1: Percentage (orange line) and number (blue bars) of municipal Vision Zero initiatives in the United States by population size (n = 86 of 788 municipalities)
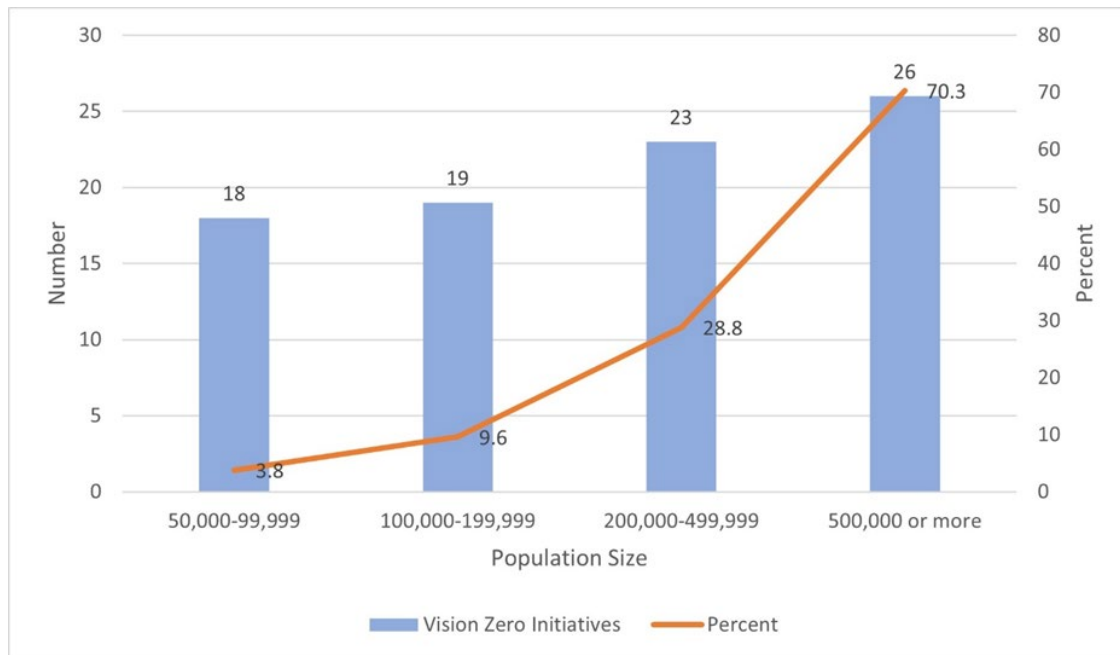
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Table 1: Frequency and percent of municipal Vision Zero initiative location, timeline, champion, vision, and guiding principles from the web-based surveys, overall and by population size

	Overall		Municipality with >=100,000 Population Size		Municipality with 50,000-99,999 Population Size	
	n=86	%	n=68	%	n=18	%
Location						
Census region:						
Midwest	13	15.1	12	17.6	1	5.6
Northeast	11	12.8	6	8.8	5	27.8
Pacific	28	32.6	19	27.9	9	50.0
South	27	31.4	24	35.3	3	16.7
West	7	8.1	7	10.3	0	0.0
Timeline						
Year Vision Zero began:						
2014	4	4.7	4	5.9	0	0.0
2015	15	17.4	14	20.6	1	5.6
2016	12	14.0	9	13.2	3	16.7
2017	14	16.3	12	17.6	2	11.1
2018	13	15.1	9	13.2	4	22.2
2019	15	17.4	10	14.7	5	27.8
2020	13	15.1	10	14.7	3	16.7

Vision Zero initiative ended or paused:						
Yes or maybe	21	24.4	13	19.1	8	44.4
No	65	75.6	55	80.9	10	55.6

Champion

Local public official commitment to Vision Zero secured (e.g., resolution, policy, or ordinance):						
Yes	61	70.9	47	69.1	14	77.8
No or not mentioned	25	29.1	21	30.9	4	22.2
Vision Zero initiative endorsed by a high-ranking local official (e.g., mayor, city council member):						
Yes	55	64.0	48	70.6	7	38.9
No or not mentioned	31	36.0	20	29.4	11	61.1

Vision

Initiative has a vision:						
Yes	58	67.4	48	70.6	10	55.6
No	28	32.6	20	29.4	8	44.4
Date to achieve vision:						
2020	1	1.2	1	1.5	0	0.0
2022	1	1.2	1	1.5	0	0.0
2024	2	2.3	2	2.9	0	0.0
2025	5	5.8	5	7.4	0	0.0
2026	2	2.3	2	2.9	0	0.0
2027	3	3.5	3	4.4	0	0.0
2028	2	2.3	2	2.9	0	0.0
2029	1	1.2	1	1.5	0	0.0
2030	23	26.7	17	25.0	6	33.3
2035	6	7.0	3	4.4	3	16.7
2040	5	5.8	5	7.4	0	0.0
No date for the vision	7	8.1	6	8.8	1	5.6
No vision	28	32.6	20	29.4	8	44.4

Guiding Principles

Equity mentioned or incorporated:						
Yes	49	57.0	40	58.8	9	50.0
No or not mentioned	37	43.0	28	41.2	9	50.0
Safe Systems-based approach mentioned or incorporated:						
Yes	59	68.6	49	72.1	10	55.6
No or not mentioned	27	31.4	19	27.9	8	44.4

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Guiding Principles: We found equity mentioned or incorporated in 49 (57.0%) initiatives and a Safe Systems-based approach mentioned in 59 (68.6%) initiatives (**Table 1**). Notably, a greater percentage of larger-sized municipalities had evidence of incorporating a Safe Systems approach than medium-sized municipalities (72.1% vs. 55.6%).

Community Engagement: Among the 86 municipal Vision Zero initiatives across the United States, we searched for documentation related to involvement and community engagement. We found documentation of meetings with both governmental agencies and other groups for 49 (57.0%) and meetings with only governmental agencies for 24 (27.9%) of the initiatives (**Table 2**). Entities that were frequently mentioned in any capacity included, from highest to lowest percent, included law enforcement (55.8%), transportation (48.8%), public health (39.5%), planning (38.4%), positions of leadership (i.e., mayor, city manager, city council member; 37.2%), non-profit organizations (36.0%), and engineering (32.6%). For medium-sized municipalities, non-profit organizations (27.8%), engineering (27.8%), and public health (16.7%) were involved in fewer initiatives. About half (53.5%) of the initiatives had an established coalition, and 20.9% had either proposed or were developing a coalition. Community engagement could be documented for 52.3% of the initiatives before 2020 and for 22.1% of the initiatives in 2020. Before 2020, medium-sized municipalities appeared less likely to have community engagement efforts (33.3% vs. 57.4% for larger-sized municipalities).

Overall, 45 (52.3%) of the Vision Zero initiatives engaged with community groups to gather, utilize, or share data to understand traffic safety issues. Almost half of the initiatives (46.5%) shared road safety-related data with their community; however, this occurred less often in medium-sized municipalities (27.8% vs. 51.5% for larger-sized municipalities). We found that one-quarter (24.4%) of the initiatives used data beyond traffic crashes, to assess their Vision Zero progress, and a similar proportion of municipalities (29.1%) shared resources, such as funding and staffing, across groups.

Table 2: Frequency and percent of municipal Vision Zero involvement, community engagement, use of data, and resources from the web-based surveys, overall and by population size

	Overall		Municipality with >=100,000 Population Size		Municipality with 50,000-99,999 Population Size	
	n=86	%	n=68	%	n=18	%
Involvement						
Meetings documented on Vision Zero:						
Yes within governmental agencies (local, regional, or state) and groups in the community	49	57.0	43	63.2	6	33.3
Yes within governmental agencies only (local, regional, state)	24	27.9	16	23.5	8	44.4
No or not mentioned	13	15.1	9	13.2	4	22.2
Involvement from each group (*each row represents "yes" and is not mutually exclusive*):						
Law enforcement	48	55.8	37	54.4	11	61.1
Transportation	42	48.8	33	48.5	9	50.0
Public health	34	39.5	31	45.6	3	16.7
Planning	33	38.4	24	35.3	9	50.0

Mayor, city manager, or council member	32	37.2	24	35.3	8	44.4
Non-profit organizations	31	36.0	26	38.2	5	27.8
Engineering	28	32.6	23	33.8	5	27.8
Vision Zero coalition to implement actions:						
Yes - established	46	53.5	37	54.4	9	50.0
Yes - proposed or in development	18	20.9	16	23.5	2	11.1
No or not mentioned	22	25.6	15	22.1	7	38.9

Community Engagement						
Community engagement on Vision Zero before 2020:						
Yes	45	52.3	39	57.4	6	33.3
No or not mentioned	41	47.7	29	42.6	12	66.7
Community engagement on Vision Zero in 2020:						
Yes	19	22.1	15	22.1	4	22.2
No or not mentioned	67	77.9	53	77.9	14	77.8

Use of Data						
Community groups commit to gather, analyze, utilize, or share data to understand traffic safety issues and prioritize resources:						
Yes	45	52.3	38	55.9	7	38.9
Maybe	17	19.8	15	22.1	2	11.1
No	24	27.9	15	22.1	9	50.0
Measurements or data shared across groups or with the community:						
Yes	40	46.5	35	51.5	5	27.8
No or not mentioned	46	53.5	33	48.5	13	72.2
Staff used data beyond traffic crashes to assess their Vision Zero progress:						
Yes	21	24.4	17	25.0	4	22.2
No or not mentioned	65	75.6	51	75.0	14	77.8

Resources						
Resources (e.g., funding, staffing) have been shared across groups:						
Yes	25	29.1	20	29.4	5	27.8
No or not mentioned	61	70.9	48	70.6	13	72.2

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Guiding Documents: Among the 86 Vision Zero initiatives across the United States, 39 (45.3%) had completed plans and 22 (25.6%) had plans in progress at the time of the search (**Table 3**). Publication dates of plans occurred as early as 2014; however, the earliest plan publication found

among medium-sized municipalities was 2017. In 2022, we searched all of the municipal initiatives with Vision Zero plans in development to check on progress. Among the four medium-sized municipalities, one published a Vision Zero plan in 2021 and three remained in development or stalled. Among the 17 larger-sized municipalities, seven published a Vision Zero plan in 2020, four published in 2021, one published in 2022, and five remained in development or stalled.

About half of the initiatives (54.7%) had documented implemented strategies, regardless of the plan status; however, this was more common among larger-sized than medium-sized municipalities (61.8% vs. 27.8%). About one-third (38.4%) had a process to provide regular updates or evaluation on progress, and a similar proportion ensured those updates were disseminated (30.2%). While medium-sized municipalities had a process in place more than half of the time (55.6%), updates were less frequently disseminated (16.7%). Twenty (23.3%) initiatives documented progress toward Vision Zero goals, but only four (4.7%) had a performance management system in place. We found 21 initiatives (24.4%) documented onboarding procedures (e.g., to ensure new participants were quickly integrated into efforts). However, only larger-sized municipalities had evidence of such procedures, with no medium-sized municipalities providing evidence of these procedures.

Table 3: Frequency and percent of municipal Vision Zero initiative plans, implementation, and performance measures and management from the web-based surveys, overall and by population size

	Overall		Municipality with >=100,000 Population Size		Municipality with 50,000-99,999 Population Size	
	n=86	%	n=68	%	n=18	%
Plan						
Vision Zero plan:						
Yes, completed	39	45.3	34	50.0	5	27.8
Yes, in development	21	24.4	17	25.0	4	22.2
No	26	30.2	17	25.0	9	50.0
Vision Zero plan publication year:						
2014	1	1.2	1	1.5	0	0.0
2015	3	3.5	3	4.4	0	0.0
2016	5	5.8	5	7.4	0	0.0
2017	13	15.1	12	17.6	1	5.6
2018	3	3.5	2	2.9	1	5.6
2019	9	10.5	9	13.2	0	0.0
2020	5	5.8	2	2.9	3	16.7
No plan or in development	47	54.7	34	50.0	13	72.2
Implementation						
Vision Zero-related strategies have been implemented:						
Yes	47	54.7	42	61.8	5	27.8
No or not mentioned	39	45.3	26	38.2	13	72.2

Performance Measures and Management						
Has a process to provide regular updates or evaluation on progress towards performance measures and goals:						
Yes	33	38.4	23	33.8	10	55.6
No or not mentioned	53	61.6	45	66.2	8	44.4
Provided updates or evaluation on progress towards performance measures and goals:						
Yes	26	30.2	23	33.8	3	16.7
No or not mentioned	60	69.8	45	66.2	15	83.3
Documentation indicates progress towards the Vision Zero goal of zero traffic related serious injuries and deaths:						
Yes	20	23.3	18	26.5	2	11.1
No or not mentioned	66	76.7	50	73.5	16	88.9
A Vision Zero performance management system has been implemented:						
Yes	4	4.7	3	4.4	1	5.6
No or not mentioned	82	95.3	65	95.6	17	94.4
On-boarding procedures have been implemented into practice:						
Yes	21	24.4	21	30.9	0	0.0
No or not mentioned	65	75.6	47	69.1	18	100.0

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In-depth Interviews with Municipalities and MPOs. A sample of 20 coordinators was invited for interviews from the 68 larger-sized municipal Vision Zero initiatives (29.4%) identified through the web-based assessments. In total, 12 completed the interview, six did not respond, and two declined to participate. The 12 participating municipalities were located in four of the five U.S. Census regions, with a range of estimated population sizes. Three-fourths had a Vision Zero initiative at the municipal level, while one-fourth had an initiative that linked the municipality and county in the effort.

From the web-based assessments, we identified 16 MPOs with involvement in Vision Zero or a similar initiative. From the list of 16 MPOs, we contacted 10 MPOs from across the United States, chosen for diversity by location and population size, to participate in an in-depth interview. All 10 that were contacted agreed to participate.

Start of Initiative: Interview data indicated that Vision Zero initiation for both municipalities and MPOs often began with a champion in leadership, such as a mayor or city council member, or internally with a key departmental person advocating and supporting Vision Zero. A tragic traffic injury or fatality or exceedingly high serious traffic crash counts spurred some initiatives to begin. Community demand, advocacy, and recommendations from a task force were also mentioned as reasons the initiative began. One initiative described state Vision Zero-related declarations as a

supporting reason for the initiation of their Vision Zero initiative, while another initiative described the lack of support from their state. One interviewee described a learning institute that their state puts on yearly that motivated them to begin work on Vision Zero.

Several municipal initiatives described leadership from their respective MPO as a supporting factor. Examples included the MPO passing a Vision Zero resolution, funding their action plan, providing traffic data, or participating in regular meetings to coordinate safety efforts with a regional focus. One initiative mentioned concurrent prioritization for the county where the municipality was located. While not the original instigator, a few interviewees identified Vision Zero inclusion in community plans that facilitated their work. Additionally, a few MPO initiatives described municipal-level Vision Zero initiatives motivating their work as well.

Specific to the MPOs, one interviewee described starting Vision Zero through work on a regional safety campaign. Another described their work on safety targets that moved them towards Vision Zero goals by being more specific and less "aspirational". Another described their historical development, working on Towards Zero Deaths with a focus on serious traffic-related crashes before working on Vision Zero. Generally, we found that in most communities, several of these key factors co-occurred to initiate Vision Zero, while in other communities there was one key factor the interviewee could identify that initiated Vision Zero.

Vision Statement: When initiatives began, they often considered the development of a vision statement, typically to reduce serious traffic injuries and deaths to zero by a certain year. One initiative reflected on the difficulty of setting a target date for reaching zero serious traffic injuries and deaths:

> We also had to do a lot of thinking about how we set goals. And I'm not sure if I have a lesson here. What I've gotten more of is a dilemma because we debated about, "Do we want to set a target date for when we get to zero? So how aggressive should we be?" And we ended up settling on 2040, which is not that far off. It's very ambitious and … ambition can push us to make rapid changes and … prevent unnecessary deaths much more quickly. The downside of that is that we get to 2040 and if there are traffic fatalities then it can undercut the credibility of the process.

Guiding Principles: Some interviewees highlighted both equity and Safe Systems when describing their work. Regarding equity, one interviewee stated, "We have gone out of our way to make sure a lot of those voices are incorporated into our thinking about where do we go from here and how do we work together with our community. So definitely on the engagement side, equity features prominently."

Interviewees also discussed how Safe Systems was integrated into their work:

> Within Safe Systems, we have three priority actions. One of those is to switch how we're analyzing traffic. Right now, we're looking at vehicle level of service and we want to switch that to multi-modal level of service. And then we also want to incorporate Vision Zero goals in our city-wide design manual. So, we think that's part of a Safe Systems approach is thinking about all road users and the impact there. And then making sure we're analyzing all of our roadway projects to consider multi-modal safety from the project inception and having a standardized way of doing that from the start.

Challenges with understanding and communicating Safe Systems were mentioned by several interviewees:

I think a big piece of it up until this point has really been trying to help our partners, especially within the city, understand those Safe Systems. It's something that I learned about early on, and I think just in a planner mindset we learn about systemic—how systems impact all of our decisions. So, to me, it wasn't like a new thing, but I think that our work up to this point, has really been about really trying to help our on-the-ground staff understand those things and understand how those systems are important.

Local and Regional Engagement: Coordination and cross-sharing occurred between MPOs and municipalities with regard to education, data, and planning. Education took place between the two entities based on their experience and time working on Vision Zero. Data sharing occurred to facilitate improved estimates of serious and fatal traffic-related crashes at both a local and regional level. Vision Zero-related plans were shared between municipalities and MPOs. In some instances, this motivated an entity to consider working on Vision Zero. In other instances, this facilitated updates to existing or the creation of new plans to work towards consistency in vision and goals. The MPO also facilitated Vision Zero at the local level through funding opportunities and prioritization of Vision Zero-related projects.

Internal and External Engagement: All municipality interviewees described Vision Zero as an initiative that involved multiple departments; the key groups were mostly internal to the municipality. One interviewee stated that Vision Zero is "being led by our Department of Public Service, but it's a multi-agency initiative." From the interviews, departments supporting Vision Zero included public works and facilities, municipal development, city planning, transportation services including public transit, office of the mayor or city manager, fire, and police. Other departments that were mentioned less often included human resources, emergency medical services, communications, information technology, public health, parks and recreation, and the city attorney's office.

Many interviewees acknowledged the importance of community engagement. One interviewee stated, "We also reached out to minority groups to participate in some of our working groups and collaborations, but again, you know the ability for people to delve into that is a challenge if, you know, they were working during when our meetings were being held. I know we would have liked to have more of that than we did. We tried, it's just a really tough time to be launching this and planning this." Another interviewee stated, "The conversation with communities is also about equity. We can't just apply the same safety treatment to each community. We need to talk to them about what their needs are and what their vision is for safer streets. And that's how we get to the equitable outcomes piece too, I think."

Guiding Documents: To further understand the process of Vision Zero implementation, interviewees were asked to identify their initiative with one of four implementation stages (exploration, installation, initial implementation, full implementation). While we identified four stages for the initiatives to self-select into, sometimes they fell into more than one stage depending on the focus. For example, one interviewee stated, "[O]n certain aspects of safe streets, safe speeds, safe vehicles, we're full-on implementation. We're leading in the pack. On other facets, we're still scratching our heads, figuring it out." As another example, an interviewee stated, "In some ways we're in installation and in some ways we're in exploration." Another interviewee marked the release of the Vision Zero plan as the first day of implementation. "[W]e felt that was sort of the signal; let's now move to implementation."

Changes in Goals: During the municipal interviews, we asked if the goals around Vision Zero changed since they were initially formulated. Many of the initiatives agreed that some of their goals

had changed over time. Changes included realigning with the state, being more specific about where to focus resources as they learned more about the need, and less focus on the E's (e.g., engineering, enforcement, education, encouragement). One initiative expressed the need for more short-term goals and another reflected on the need to update goals as accomplishments happened. Two initiatives reflected that their goals had not changed over time.

Municipal interviewees were also asked if Vision Zero was a shift in thinking or viewed as another program or project. Respondents often indicated that the answer was mixed between answers. "Depends who you're asking. I will speak for the city as a whole and say that definitely a new thing, a new program, you know. I think there's some on the task force that would say the latter, that this is more of a shift in thinking. But by and large the mindset, I think, especially within the public works department is this is just another added project." Another interviewee stated, "I was having this conversation with one of our engineers the other day that like if we're really going to say that we're a Vision Zero city and that this is a commitment we're making, when we're deciding on and scoping projects, we should be having the conversation about safety projects over capacity projects. So, getting that conversation to kind of stick."

Resources Requested: Interview participants from both MPO and municipal initiatives were asked what resources would benefit their Vision Zero work, to aid their work or other initiatives early in the developmental process. A variety of recommendations were provided and are summarized in **Table 4**, regardless of the frequency of response. Interviewees provided a variety of recommendations to foster Vision Zero. Recommendations included: (i) the need for crash and other community-level data, (ii) improving procedures around management of the initiative and communication internally and externally, (iii) assistance in making both changes within their organization and in their community, (iv) best practices around Vision Zero, (v) funding, (vi) resources on specific issues, and (vii) national guidance to add credibility to their work.

Table 4: Recommendations to foster Vision Zero from the in-depth interviews with municipalities and MPOs (n=22)

Theme	Description
Data	Need for more accurate, complete, and timely crash data
	Lack of enforcement data
	Assistance on conducting analysis of crash reports
	Lack of demographic data related to crashes
	Better spatial data of infrastructure in the community
Management and Communication	Improving procedures for management of their initiative
	Improving communication internally and externally
Change in Their Organization and Community	Understanding how to make political change
	Understanding how to change the perspective of some engineers
	Integration of the initiative across the city
	Understanding how to shift social norms
Best Practices	Seeking information on other Vision Zero initiatives
	Participating in a Vision Zero peer exchange
	External review of the initiative
	Identify most important actions in plans to focus on
Funding	Monetary and staffing needs

Resources on Specific Issues	Equity information
	Case studies
	How to incorporate Safe Systems
	Impact of changing speed limits on safety outcomes
	Evaluation and performance monitoring
National Guidance	Recommendations from a national entity to add credibility to their work
	Industry safety developments

Reprinted from **Table 9** in Evenson et al., 2023[21] with permissions from the creative commons license ([CC By-NC-ND 4.0](#)). This version was expanded to include findings from the MPO interviews.

Highlights of Findings

- In the United States, Vision Zero began in larger-sized municipalities before reaching medium-sized municipalities.
- Based on the website searches, municipalities with a smaller population size were less likely to have: a vision statement, endorsement from a high-ranking official, or community engagement. These differences may be because more medium-sized Vision Zero initiatives stopped or paused; therefore, the development of the initiative as documented on the website was discontinued. The differences could also be due to differing start dates and varying resource constraints.
- Having a champion of Vision Zero was important to many of the Vision Zero initiatives.
- The date to achieve Vision Zero varied widely across initiatives.
- Community engagement is an important component of Vision Zero initiatives, and it was reported to be lower during the COVID-19 pandemic.
- An important policy tool that municipalities can use in the development, adoption, and implementation of Vision Zero is an action plan, also identified as a key element [15]. Almost half of the initiatives we assessed had a Vision Zero plan, with one-quarter in the process of developing a plan.
- The cross-sharing and support around Vision Zero between municipalities and their MPO are important and productive for both entities.
- The in-depth interview participants identified many recommendations for other Vision Zero initiatives or to assist their initiative. These recommendations can be considered when developing future resources and support for Vision Zero initiatives.

Strengths of this Project

- Assessment of all municipalities with a population size of at least 50,000 in the United States.
- Assessment of all MPOs.
- Mixed-method approach with enrichment of findings through in-depth interviews.

Limitations of this Project

- Reliance on website postings to identify Vision Zero initiatives likely missed those in the early phases of their work, particularly the exploration stage.

- The website may not reflect all that is happening with the initiatives and could lead to an underrepresentation of characteristics.
- Some initiatives we found had either ceased or paused their work, with more than 1 year without any meetings or updates on Vision Zero posted to their website. The inclusion of these initiatives in the data could lead to underrepresentation of what may have been happening with Vision Zero programming.
- For the in-depth interviews, although we aimed to include a diverse set of initiatives, the sample may not reflect the breadth of Vision Zero initiative experiences. For example, none of those interviewed worked at a Vision Zero initiative in the exploration stage.
- The municipal interviews were also limited to initiatives at municipalities with a population size of at least 100,000 people. Further exploration would be worthwhile to identify adaptations of Vision Zero with small- to-mid-sized municipalities.

Summary

Employing a mixed-methods approach, this project provides insight into the characteristics and uptake of Vision Zero initiatives across the United States. The understanding of the community context where the existing Vision Zero 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. We did not collect information on the connection of the vision to the goals, objectives, actions, and performance measures [11], nor the approaches to road safety [20]. Future research could quantify the specific changes being implemented toward the goal of Vision Zero. Additionally, it would be helpful to confirm our findings using other data sources, such as direct surveys or interviews with initiatives of various sizes. Our findings indicate the importance of providing layers of support for Vision Zero initiatives from communities with less population, such as through regional (e.g., MPO) and state support, to sustain the initiative through changes in political leadership and staffing. Ultimately, this work can contribute to an understanding of current practice, potential areas of opportunity to support ongoing initiatives, and information to assist new initiatives.

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