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## Creating a Community-level Document Library: Application using Vision Zero Plans

**Kelly R. Evenson, PhD, MS<sup>1</sup>, Elyse Keefe, MPH, MSW<sup>2</sup>, Seth LaJeunesse, MS<sup>3</sup>, Rebecca B. Naumann, PhD, MSPH<sup>1,2</sup>**

<sup>1</sup>Department of Epidemiology, Gillings School of Global Public Health, University of North Carolina – Chapel Hill, Chapel Hill, North Carolina, United States

<sup>2</sup>Injury Prevention Research Center, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, United States

<sup>3</sup>Highway Safety Research Center, University of North Carolina at Chapel Hill, Chapel Hill, North Carolina, United States

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### Commentary

#### Importance of Environment- and Policy-Level Research

McLeroy et al.<sup>1</sup> proposed the ecologic model as a way to understand the multi-layered influences on health behaviors more than three decades ago. Specifically, the model defined the multiple layers of influence on behavior at the intrapersonal, interpersonal, institutional, community/environment, and policy levels. Historically, the environmental and policy levels had received less attention for their important contributions to healthy and safe behaviors. However, since the publication of this model, researchers have applied the model extensively to a variety of behaviors, with newfound interest on environment and policy levels of influence.

When seeking to understand the impact of environment- and policy-level factors on health and safety behaviors, it is common for researchers to systematically collect community-level documents at a local, regional, or state level, such as plans or policies, in order to extract and understand specific community-level, factors, exposures, or potential influences on behavior. Through this work, researchers often create detailed datasets of local or state plan features, as well as policy features. Examples of studies that have collected and analyzed local-level plans include research on pedestrian and bicycle plans,<sup>2</sup> master plans for active living,<sup>3</sup> and community health improvement plans.<sup>4</sup> Examples of state-level plan synthesis and analysis include research on obesity plans<sup>5</sup> and public health plans.<sup>6</sup> Finally, policy-level examples include research on district and state level physical education policies,<sup>7</sup> state comprehensive planning statutes,<sup>8</sup> zoning codes,<sup>9</sup> and land use policies.<sup>10</sup> While the datasets created from these research studies may be available for public use, the documents behind these datasets

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Address for Correspondence: Kelly R. Evenson, 123 W Franklin Street, Building C, Suite 410, University of NC, Gillings School of Global Public Health, Department of Epidemiology, Chapel Hill, North Carolina, USA 27599-8050, kelly\_evenson@unc.edu.

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often are not. In fact, as new plans and policies are replaced, access to the prior versions is often difficult to obtain, since they are often no longer available on a website, limiting researchers' abilities to track and learn from changes in plan and policy evolution.

### Document Library

The purpose of this paper is to highlight a method by which documents, such as plans and policies, can be archived and made available in perpetuity. The importance of this cannot be overstated for community- and policy-level learning, advocacy, and research advancement. Laloë<sup>11</sup> describes the importance of archives of and for science: "... the scientific method seeks to expand on the discoveries of the past, with each generation of scientists building upon the work of their predecessor or, as Newton put it, "If I have seen further, it is by standing on the shoulders of Giants", referring to how his own discoveries had built on the work of René Descartes and Robert Hooke... By working together, archivists and scientists can help ensure that today's traces remain available for others to consult and build on." (page 1278)

When collecting plans or policies for research, more researchers should consider creating archives to permanently store these critical documents for others to use, including current and future plan developers, policymakers, and other researchers. There are many repositories readily available to researchers to host permanent records. Specifically, in the example we provide next, we used Dataverse, an open-source research data repository software originally developed at the Institute of Quantitative Social Science at Harvard University (<https://odum.unc.edu/archive/>). While we used Dataverse at the University of North Carolina at Chapel Hill, where our research takes place, there are 90 Dataverse repositories around the world (<https://dataverse.org/>).

### Example Application and Benefits to Researchers and Practitioners

The following example collected Vision Zero plans and archived them into a document library. Vision Zero employs a public health and systems-based approach to reducing fatalities and serious injuries from road traffic crashes to zero, while increasing healthy, equitable, and safe mobility for all.<sup>12</sup> As part of the development of Vision Zero, local (e.g., municipalities) and regional (i.e., metropolitan planning organizations, counties) entities often develop plans with community input.<sup>13</sup> The Vision Zero plan usually:

- i. states the vision for future efforts to reduce traffic fatalities and serious injuries to zero;
- ii. assesses current conditions for safety and public health burden of injury (e.g., past injuries or crashes);
- iii. reviews existing policies, ordinances, and programs;
- iv. describes goals to achieve the vision; and
- v. provides specific implementation steps, including a timeline, review of potential funding sources, and a plan for evaluation and monitoring.

Each plan is unique and tailored to the community, with often a wealth of information about road traffic injury burden in the community and their current prioritized action steps to reduce this burden.

Through our research team's Vision Zero work, since 2018 we have collected United States' Vision Zero plans using periodic online searching.<sup>13</sup> Most plans are available electronically on the community's Vision Zero initiative webpage. Once we locate a plan, we contact the Vision Zero coordinator to ask if our team has permission to repost the plan to our Vision Zero Plan library. Nearly all communities allow the reposting of the plan. Plans are then placed within the Vision Zero Plan library housed on Dataverse (<https://dataverse.unc.edu/dataverse/VZPlans>), an open-source repository used for archiving, sharing, and accessing research data (<https://odum.unc.edu/archive/>). When placing the files on Dataverse, a permanent digital object identifier (DOI) is issued and provided back to the community contact. To date, our Vision Zero library includes 77 plans originally published between 2014 to 2022 (Figure 1 top panel). Additionally, to facilitate searching on relevant plans of interest (e.g., communities in a similar geographic area that may be attempting to learn from historical and current plans in their area), we created a map interface to visually display plans that can be accessed by clicking on a state (<https://www.roadsafety.unc.edu/profdev/vz-plans-map/>) (Figure 1 bottom panel).

The repository facilitates easy access for plan developers, policymakers, community members, and researchers. For those interested in developing or updating Vision Zero plans, the repository provides easy access to a near census of Vision Zero plans from across the United States all in one place. Moreover, with the DOI assignment, there is no concern about broken links to the website for continued reference. For community members, the Vision Zero Plan repository provides a place to quickly gather ideas from other communities about priorities and actions that may be worth advocating for in one's own community. Finally, for researchers, archives such as these are critical for longitudinal analyses on how policies, plans, and other higher-level features of the ecologic model<sup>1</sup> shape public health outcomes.

Vision Zero plans are critical artifacts of community sentiment and intentions related to addressing the public health crisis of road traffic injury and death. Our team's hope is that by making communities' Vision Zero plans available and easily accessible to residents, advocates, professionals, and researchers, these groups will develop a deeper understanding of where they have been and what they have learned, which will ideally shape strategic next steps and new directions for advancing Vision Zero and eliminating preventable road traffic injury in the United States.

## Acknowledgments

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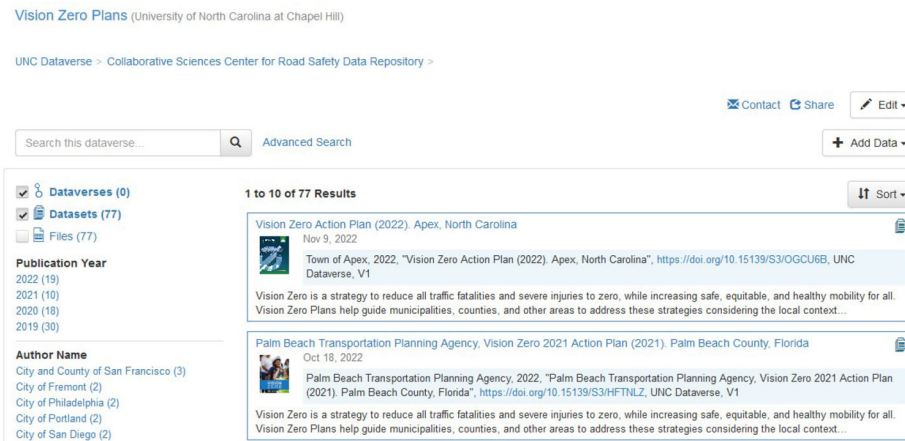
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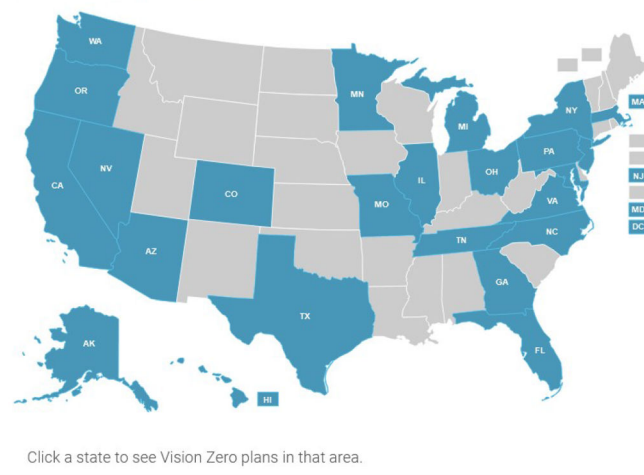
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## Vision Zero Plans by State

The map below provides links to Vision Zero Plans by state. The plans include entities at the municipal, county, and metropolitan planning organization (MPO) level. Click on the state and a list of plans available for download will appear below the map.

Please contact us at [info@roadsafety.unc.edu](mailto:info@roadsafety.unc.edu) if you would like your Vision Zero Plan considered for inclusion on the map.



**Figure 1.** top panel: Screenshot from the Vision Zero Plan library within the Dataverse data repository (<https://dataverse.unc.edu/dataverse/VZPlans>). Figure 1 bottom panel: Screenshot from the map linking Vision Zero plans to the Dataverse repository (<https://www.roadsafety.unc.edu/profdev/vz-plans-map/>).\*

\*housed by the Collaborative Sciences Center for Road Safety at <https://www.roadsafety.unc.edu/>