

**A Tier-1 University Transportation Center**

|  |  |
| --- | --- |
| Insert Title Here | |
| June  2025 | A Report From the  Center for Pedestrian and Bicyclist Safety |
| **Author 1**  Affiliation  **Author 2**  Affiliation  **Author 3**  Affiliation  **Nicholas N. Ferenchak**  The University of New Mexico  (example) | |

About the Center for Pedestrian and Bicyclist Safety (CPBS)

The Center for Pedestrian and Bicyclist Safety (CPBS) is a consortium of universities committed to eliminating pedestrian and bicyclist fatalities and injuries through cutting-edge research, workforce development, technology transfer, and education. Consortium members include: The University of New Mexico; San Diego State University; The University of California Berkeley; The University of Tennessee Knoxville; and The University of Wisconsin Milwaukee. More information can be found at: <https://pedbikesafety.org>

Disclaimer

The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the information presented herein. This document is disseminated in the interest of information exchange. The report is funded, partially or entirely, by a grant from the U.S. Department of Transportation’s University Transportation Centers Program. However, the U.S. Government assumes no liability for the contents or use thereof.

The U.S. Department of Transportation requires that all University Transportation Center reports be published publicly. To fulfill this requirement, the Center for Pedestrian and Bicyclist Safety provides reports publicly on its website, www.pedbikesafety.org The authors may copyright any books, publications, or other copyrightable materials developed in the course of, or under, or as a result of the funding grant; however, the U.S. Department of Transportation reserves a royalty-free, nonexclusive and irrevocable license to reproduce, publish, or otherwise use and to authorize others to use the work for government purposes.

Acknowledgments

This study was funded, partially or entirely, by a grant from the Center for Pedestrian and Bicyclist Safety (CPBS), supported by the U.S. Department of Transportation (USDOT) through the University Transportation Centers program. The authors would like to thank CPBS and the USDOT for their support of university-based research in transportation, and especially for the funding provided in support of this project. [Add any additional acknowledgements here, such as for those that provided a review of your paper or students that contributed in some way.]

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| TECHNICAL DOCUMENTATION | | | | | | |
| 1. Project No.  [Enter project no.] | 2. Government Accession No. | | | 3. Recipient’s Catalog No. | | |
| 4. Title and Subtitle  [Enter report title] | | | | 5. Report Date  [Enter date] | | |
| 6. Performing Organization Code  N/A | | |
| 7. Author(s)  [List each author on separate line; refer to formatting guide]  Nicholas Ferenchak https://orcid.org/0000-0002-3766-9205  (example – do not add any other punctuation) | | | | 8. Performing Organization Report No.  N/A | | |
| 9. Performing Organization Name and Address  Center for Pedestrian and Bicyclist Safety Centennial Engineering Center 3020 The University of New Mexico Albuquerque, NM 87131 | | | | 10. Work Unit No. (TRAIS) | | |
| 11. Contract or Grant No.  69A3552348336 | | |
| 12. Sponsoring Agency Name and Address  United States of America Department of Transportation Office of Research, Development, and Technology (RD&T) | | | | 13. Type of Report and Period Covered  Final Report (June 2025) | | |
| 14. Sponsoring Agency Code  USDOT OST-R | | |
| 15. Supplementary Notes  Report uploaded and accessible at the [CPBS website](https://www.pedbikesafety.org) [[https://pedbikesafety.org](https://www.pedbikesafety.org)] | | | | | | |
| 16. Abstract  [Enter report abstract. Abstract should be no longer than 300 words. Abstract should include clear and sufficient detail of the work conducted, the main results, and main conclusions] | | | | | | |
| 17. Key Words  [Enter three to five key words from the TRANSPORTATION RESEARCH THESAURUS] | | | 18. Distribution Statement  No restrictions. This document is available through the National Technical Information Service, Springfield, VA 22161. | | | |
| 19. Security Classif. (of this report)  Unclassified | | 20. Security Classif. (of this page)  Unclassified | | | 21. No. of Pages  [Add page length] | 22. Price |
| Form DOT F 1700.7 (8-72) Reproduction of completed page authorized. | | | | | | |

Metric%20Portrait6_26

**Report Title**

A Center for Pedestrian and Bicyclist Safety Research Report

**June 2025**

Author Name(s)

Affiliation or Department

University

Nicholas N. Ferenchak

Gerald May Department of Civil, Construction & Environmental Engineering

University of New Mexico

(Example)

**INSTRUCTIONS** (delete these pages before submitting)

We recommend that you print these instruction pages for reference, then delete them from the document. Go to Print, then select to print the range of pages 6-7.

The following instructions assume you are using Office 365 (also known as [Word 2021](https://en.wikipedia.org/wiki/History_of_Microsoft_Word)). To check your version on Windows, click on the File menu, then select Account in the bottom left corner, then look where it says About Word near the center of the screen. As of May 19th, 2025 the current version on [Windows is 2504 / Build 18730.20168](https://learn.microsoft.com/en-us/officeupdates/update-history-microsoft365-apps-by-date). On a Mac, while using Word, go to the Word menu (far left, next to the Apple menu) and choose About Microsoft Word. The current version is 16.96.2 (25042933).

If you don't have the newest version of Office, we highly recommend upgrading. If you choose to stay on an older version, make sure you [download the new standard Aptos font](https://71d50c4a-44e2-48f5-8840-40720e21cb6a.usrfiles.com/archives/71d50c_bb70684b634847f7bfde39fe024d16cd.zip) and [install it](https://daordesign.com/install-fonts-computer-mac-pc/).

**IMPORTANT!** We are required to follow Section 508 guidelines to make this document accessible by a variety of assistive technologies such as screen readers. The only way to do this is by using the built-in text Styles which can be found under the Home tab 🡪 Styles section or with the recommended shortcut **CTRL-ALT-SHIFT-S** (Mac: CMD-OPT-SHIFT-S)**.**

You must use these styles for the titles of all headings, sections, and sub-sections, as well as all table and figure captions. It is not enough to apply the same look manually, such as by selecting a section title, making it bold, and changing the font size. Using Styles also makes it easier to change the look and layout of multiple elements across the entire document in a single click, instead of having to adjust each element one-by-one.

The headings are included below. You can copy and paste them to other parts of the document as necessary and the Style will be preserved.

For paragraph text such as what you're reading right now, choose the style "Normal".

Normal Shortcut: CTRL+SHIFT+N (Mac: CMD+SHIFT+N)

# Chapter Heading / Top Level Heading (Heading 1 style)

Heading 1 Shortcut: CTRL+ALT+1 (Mac: CMD+OPT+1)

## Second level heading (Heading 2 style)

Heading 2 Shortcut: CTRL+ALT+2 (Mac: CMD+OPT+2)

### Third level heading (Heading 3 style)

Heading 3 Shortcut: CTRL+ALT+3 (Mac: CMD+OPT+3)

**Figures**: Each figure must be referenced in the text, numbered consecutively, typed as *sentence case*, clear (not pixelated), and avoid fill/shading that does not help clarify the data. Graphs constructed using Excel should be pasted in as Excel Chart Objects (CTRL-ALT-V; Mac CMD-CTRL-V) so that they can be edited as needed.

All figures must have alt text for accessibility. The alt text should describe the figure or picture in case the user is unable to see the image. Alt text should be short and concise, but *not* a copy of the figure caption. Right click the image and select "View Alt Text". Try the image below.

**To add a caption to a Figure or a Table**, you **must** use the Insert Caption function found under References 🡪 Captions. This will automatically put figure captions below the figure, and table captions above the table. First click on the figure or table that needs a caption, then click the Insert Caption button. When the window appears, select Label: Figure or Label: Table (as appropriate) – this will insert the word "Figure 1" or "Table 1" as the name (or "Figure 2" etc for subsequent additions). Now you can add the description of the caption (e.g. Figure 1. Graph of something). Do not select any other options (*Exclude label from caption* is NOT checked), then click OK. Your caption will now be styled appropriately and added to the document's internal database.

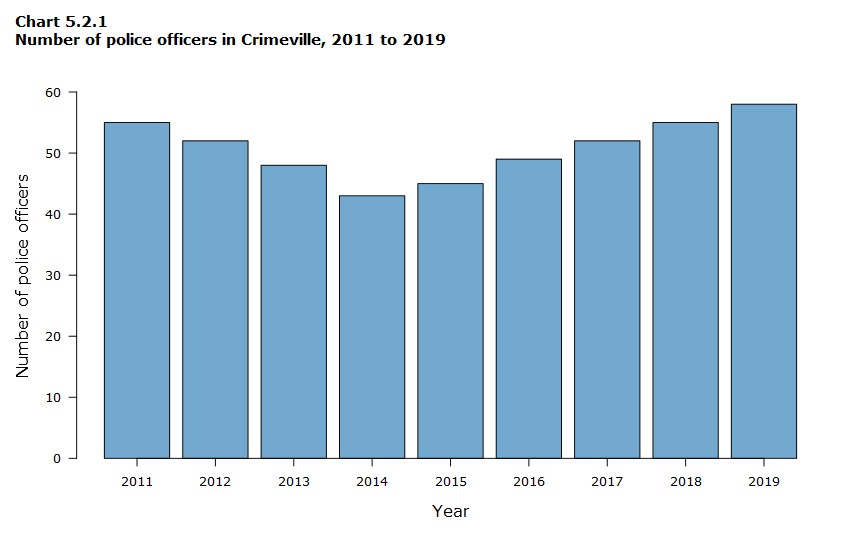


Figure . Example figure here

**Tables**: Each table must be referenced in the text, numbered consecutively, and typed as *sentence case*. OPTIONAL: Headers for Rows and Columns can use the **Table Row / Column Header** style. Data within the table can use the Table Data style. Notes below the table can use the Table Notes style. Or style the table to your liking using the Aptos font.

**Avoid splitting tables across pages if possible.** When this is unavoidable, repeat the column headings on subsequent page(s) by right clicking within the header row, selecting Table Properties, and checking “Repeat as header row at the top of each page” in the Row tab. If your table is too large, feel free to put the page in Landscape. Highlight the table (including the caption), then insert a Section Break around the table (Layout 🡪 Page Setup 🡪 Breaks 🡪 Section Breaks 🡪 Next Page), then change the Orientation of the page under the Layout tab to Landscape.

Table . Example table here

|  |  |  |
| --- | --- | --- |
| Column 1 | Column 2 | Column 3 |
| Row 1 | Info | Info |
| Row 2 | Info | Info |

Note: Table notes go here.

[Make sure to go to References 🡪 Table of Contents 🡪 Update Table **or** right-click in the list below and select Update Field and then select the option Update entire table to show any changes made in the document. **The Table of Contents should NOT be edited manually.** After you delete the two instruction pages 6-7 and update the table, the first 3 entries will disappear as they are provided as examples only and are not part of the final document.]

TABLE OF CONTENTS

[Chapter Heading / Top Level Heading (Heading 1 style) v](#_Toc181952360)

[Second level heading (Heading 2 style) v](#_Toc181952361)

[Third level heading (Heading 3 style) v](#_Toc181952362)

[Acronyms, Abbreviations, and Symbols iv](#_Toc181952363)

[Abstract v](#_Toc181952364)

[Executive Summary vi](#_Toc181952365)

[Introduction 1](#_Toc181952366)

[Literature Review 2](#_Toc181952367)

[Data and Methodology 3](#_Toc181952368)

[Results 4](#_Toc181952369)

[Discussion 5](#_Toc181952370)

[Conclusions and Recommendations 6](#_Toc181952371)

[References 7](#_Toc181952372)

[Appendix A 8](#_Toc181952373)

[Make sure to go to References 🡪 Captions 🡪 Update Table **or** right-click in the list below and select Update Field and then select the option Update entire table to show any changes made to figures in the document. After you update the list for the final time, make sure you apply the style Figure-Table-List-Item. **The List of Figures should NOT be edited manually.** After you delete the two instruction pages 6-7 and update the table, the example entry below will disappear. You can re-add the list by going to References 🡪 Captions 🡪 Insert Table of Figures then select Caption Label: Figure in the window that appears. ]

List of Figures

[Figure 1. Example figure here vi](#_Toc181952338)

[Make sure to go to References 🡪 Captions 🡪 Update Table **or** right-click in the list below and select Update Field and then select the option Update entire table to show any changes made to tables in the document. After you update the list for the final time, make sure you apply the style Figure-Table-List-Item. **The List of Tables should NOT be edited manually.** After you delete the two instruction pages 6-7 and update the table, the example entry below will disappear. You can re-add the list by going to References 🡪 Captions 🡪 Insert Table of Figures then select Caption Label: Table in the window that appears.]

List of Tables

[Table 1. Example table here vi](#_Toc181952354)

# Acronyms, Abbreviations, and Symbols

[Add acronyms, abbreviations, and symbols (in alphabetical order) that are commonly used throughout the report. Only include those used in the report. Insert a tab after the acronym/abbreviation and then enter the full name of the acronym/abbreviation. Delete these instructions and the examples below before submitting]

## 

EXP Examples

NHTSA National Highway Traffic Safety Administration

UCR Uniform Crash Report

# Abstract

[This is a one-paragraph summary of the entire study – typically no more than 250 words in length. Delete these instructions before submitting]

# Executive Summary

[This section should generally be one to two pages in length and should contain no subsections. The EXECUTIVE SUMMARY should contain a detailed summary of the report: project objectives, sufficient description of work conducted, main results, and main conclusions. It should be more detailed than, and not a direct repetition of, the Abstract. Delete these instructions before submitting]

# Introduction

[This section should provide sufficient background information and proper context regarding the subject area and specific problem the research is meant to solve – in order for the reader to fully understand the contribution of the research. Delete these instructions before submitting]

# 

# Literature Review

[This section should include a detailed and substantial literature review with in-text references properly cited. Delete these instructions before submitting]

# Data and Methodology

[This section should appropriately describe how specific research activities were conducted. It should include a description of materials, apparatus, or equipment, software programs used, modeling assumptions, testing procedures, treatment of data, analysis methods utilized, etc. See formatting guide for properly adding subsections and equations. Delete these instructions before submitting]

# Results

[Describe, in detail, findings from the conducted analyses. This is the most important section of the report, since it is the basis from which conclusions are drawn. Hence, it is imperative that the evidence be organized and presented so the reader can follow the thinking, step by step, to the author’s conclusions. This section of the report should present a comprehensive analysis of the entire problem. When writing, keep in mind logical order, interdependence of parts, relative importance of parts, emphasis, and sequence. Delete these instructions before submitting]

# Discussion

[Your discussion section should generalize what you have learned from your research. One way to generalize is to explain the consequences or meaning of your results and then make your points that support and refer back to the statements you made in your introduction. Your discussion should be organized so that it relates directly to your thesis. You want to avoid introducing new ideas here or discussing tangential issues not directly related to the exploration and discovery of your thesis. The discussion section, along with the introduction, is usually written in the present tense. Delete these instructions before submitting]

# Conclusions and Recommendations

[Conclusions should be stated in the order of their importance, the most important first. Conclusions must be directly drawn from the analyses conducted, findings achieved, and based on adequate data; they must agree with the details presented in the preceding pages. If conclusions are made on the basis of limited materials, equipment, testing, modeled scenarios, etc., then an accompanying statement to that effect should be made. If appropriate, recommendations can also be made in this section, including any future course of action that may be or should be taken to confirm the findings. This may involve either field evaluation of materials and/or equipment or cost analysis. In general, recommendations should be made concerning the integration of the findings into the highway system by their inclusion into specifications, standards, procedures, methods, or techniques. Delete these instructions before submitting]

# References

[Add a full list of references in APA style and in alphabetical order. Cite references in the main body of the text by name and year in italics [e.g., (*Marshall & Ferenchak, 2019*)]. References with three or more authors should be abbreviated with “et al.” [e.g., (*Schneider et al., 2021*)]. Delete these instructions and the examples below before submitting. Please keep the same formatting as below, including the spacing between entries and the proper indentation.]

Langford, B.C., Chen, J., & Cherry, C.R. (2015). Risky riding: Naturalistic methods comparing safety behavior from conventional bicycle riders and electric bike riders. *Accident Analysis & Prevention*, 82, 220-226.

Marshall, W.E., & Ferenchak, N.N. (2019). Why cities with high bicycling rates are safer for all road users. *Journal of Transport & Health*, 13, 100539.

Schneider, R.J., Proulx, F.R., Sanders, R.L., & Moayyed, H. (2021). United States fatal pedestrian crash hot spot locations and characteristics. *Journal of Transport and Land Use*, 14(1), 1-23.

# 

# Appendix A

[If necessary, add supplemental information, data, tables, and figures in the Appendix. If appropriate, include multiple sections divided into logical topical areas. Only include information which cannot be reasonable inserted into the main narrative (such information that is too technical or would otherwise deviate from comprehension of the main narrative). See the formatting guide for additional information. If the PI chooses not to include an Appendix, delete this section entirely. Delete these instructions before submitting]