

# Evaluation of Posted Speed Limit Reductions on Urban Roads with a High Percentage of Cyclists

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# Outline

- Project background
- Brief overview of analysis approach
- Key findings
- Application and recommendations



# Project Background

- Trend in reducing speed limits re: Vision Zero and safety of vulnerable road users
- Oregon DOT study on methodology of setting speed limits – parent project
- Effectiveness of 5-mph speed limit reductions on urban roads with high bicycle mode share in Portland, Oregon

LOCAL POLITICS

**Denver city council votes to lower residential speed limits from 25 to 20**

**Raleigh city leaders reduce speed limits on over 100 streets in 2021**

Tags: speeding, crash, public safety  
Posted December 7, 2021 8:16 p.m. EST

**Vision Zero: New York City Lowers Speed Limits by 5 MPH on Nine Major Streets Citywide**

September 1, 2020

**Speed limits will be reduced on Minneapolis, St. Paul streets**

The change affects arterial and side streets in the metro's two biggest cities.

ADAM UREN • MAR 12, 2020

Virginian Pilot + Follow

**Norfolk neighborhood speed limits will be 20 mph**  
City, some residents want to reduce danger for pedestrians and bicyclists.

Josh Reyes, The Virginian-Pilot - Nov 26, 2021



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# Research Approach

- Multi-layered before/after analysis of speeds (treatment vs. control)
- Neighborhood greenways (shared bikeways) vs. non-greenways
- Series of statistical tests comparing performance measures

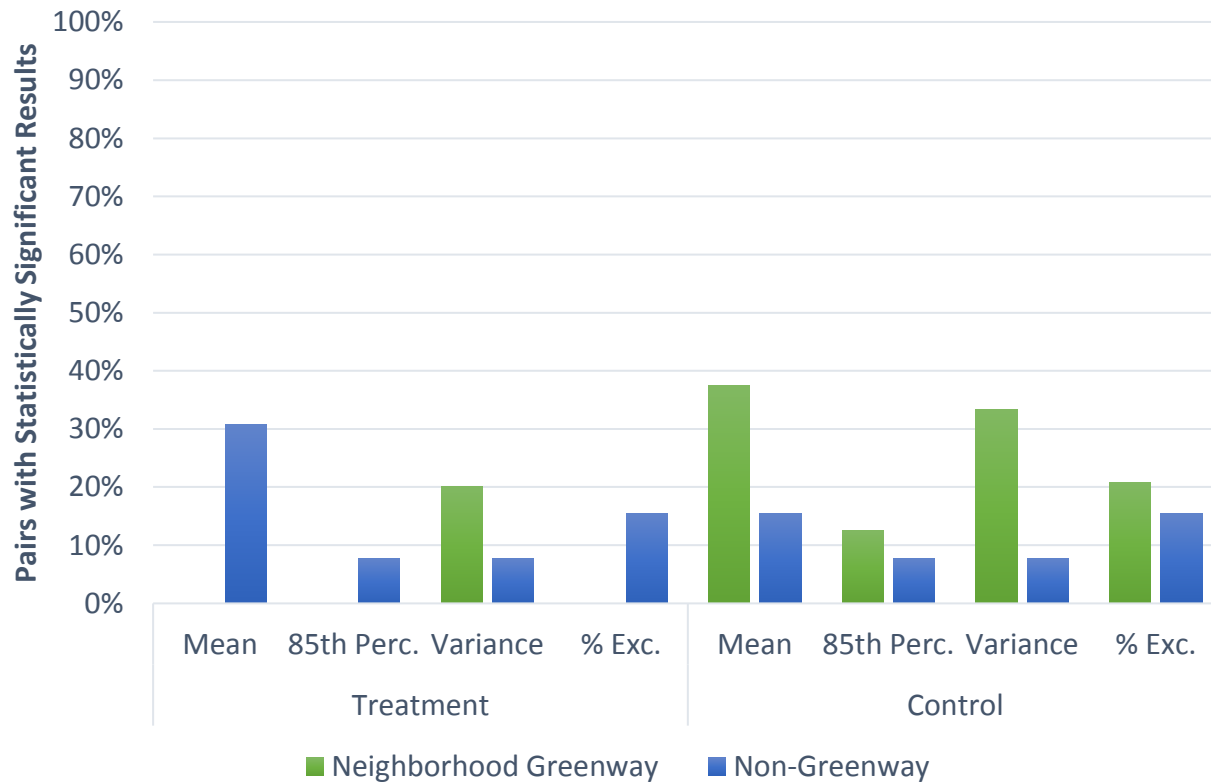


Example of a neighborhood greenway (top) and a non-greenway (bottom)

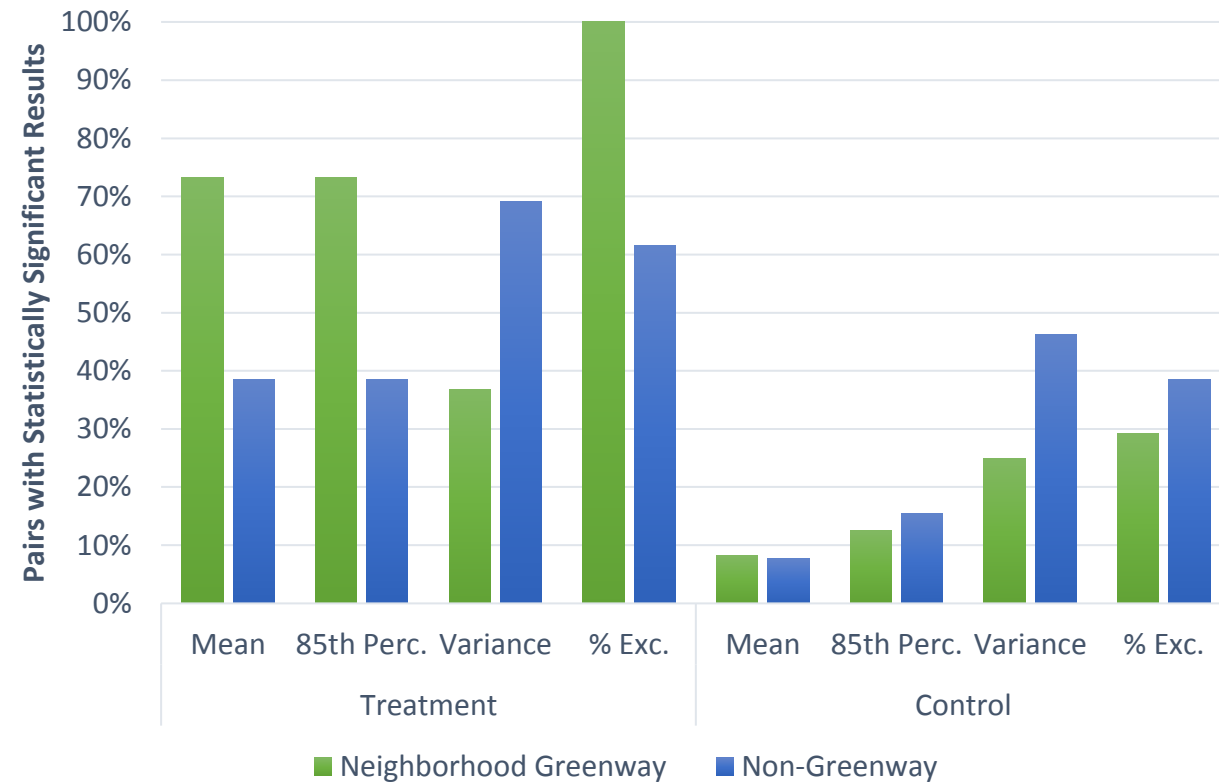


# Outcomes

## Increases



## Decreases





# Application and Recommendations

- Results suggest motorists' behavior is influenced by awareness of cyclists – infrastructure and volume (i.e., safety in numbers -> positive feedback loop)
- Practical implications for cities fostering active transportation modes
- Develop active transportation corridors using best practices



Photo courtesy of PBOT



# Application and Recommendations

- Inspect speed-volume and speed-gap time relationships to determine if the operation matches expectations of the facility type
- Monitor speeds after a speed limit reduction – speed characteristic reductions likely but not guaranteed
- Monitor changes in traffic volumes – speed reductions may be linked to reduced volume



# Application and Recommendations

- Research was performed pre-COVID, unsure whether/how shifts in travel behaviors or mode splits have influenced the phenomenon observed
- Recommend a follow-up study post-COVID after macro trends stabilize to verify results
  - Utilize sufficient collection period
- Extended study - incorporate social equity into data collection
  - Are the results consistent across all areas





# Thank You!

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