

Analyzing the Impact of Median Treatment Safety Countermeasures on Bicycle and Pedestrian Safety

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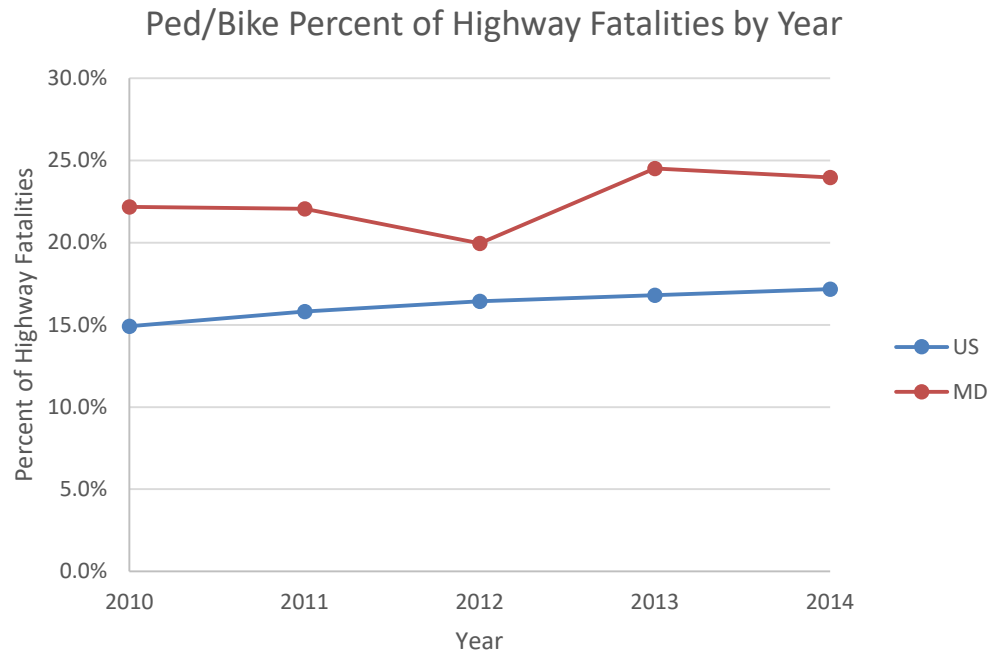
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Background

- **Fatal pedestrian and bicycle crashes are over represented in MD**



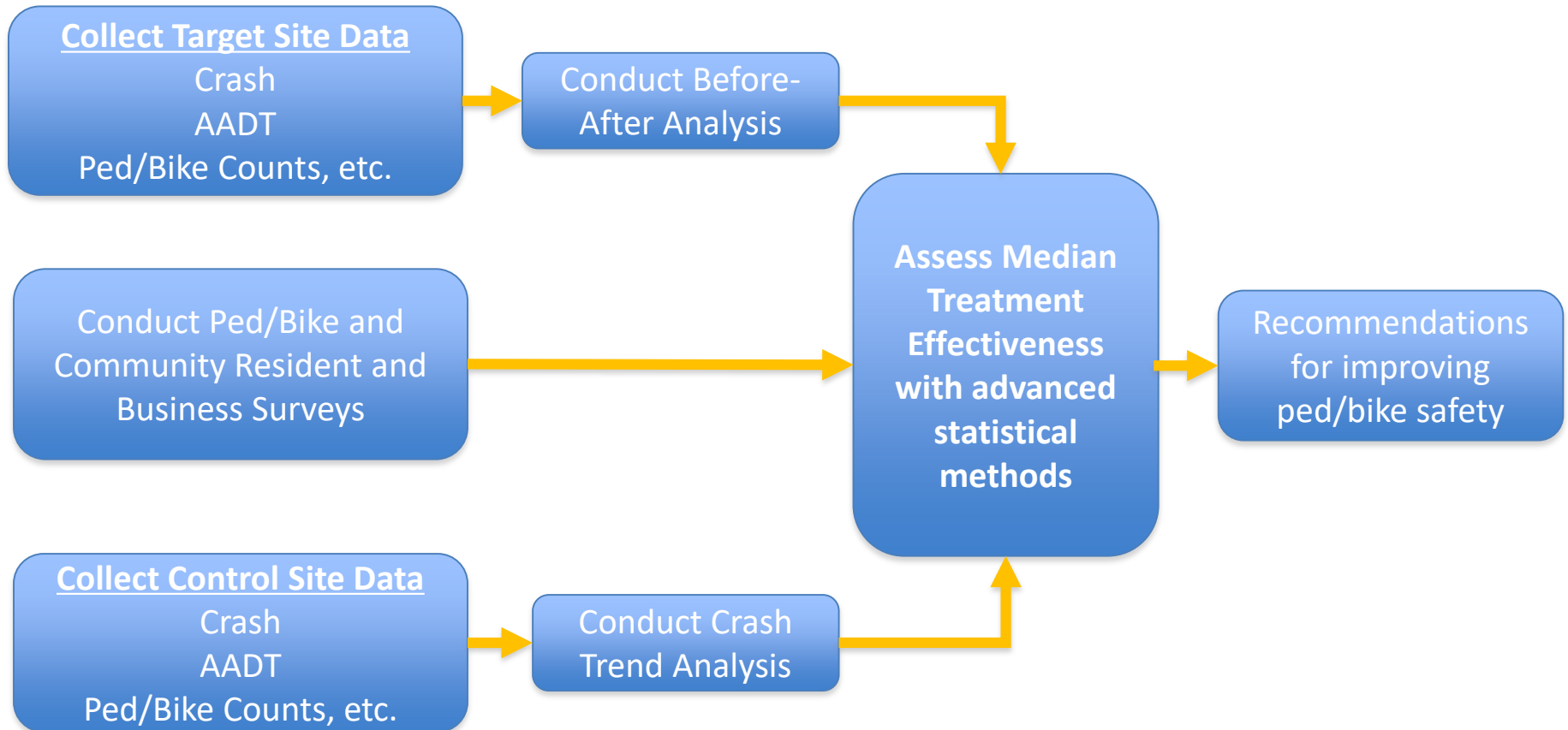
US 5 yr average = 16.2%
MD 5 yr average = 22.5%

- **24 critical and high-frequency bicycle/pedestrian crash locations in Maryland through the Pedestrian Roadway Safety Audit (PRSA) Program**
- **Median treatments were installed at 16 of these sites to prevent illegal mid-block crossings**

Research Objectives

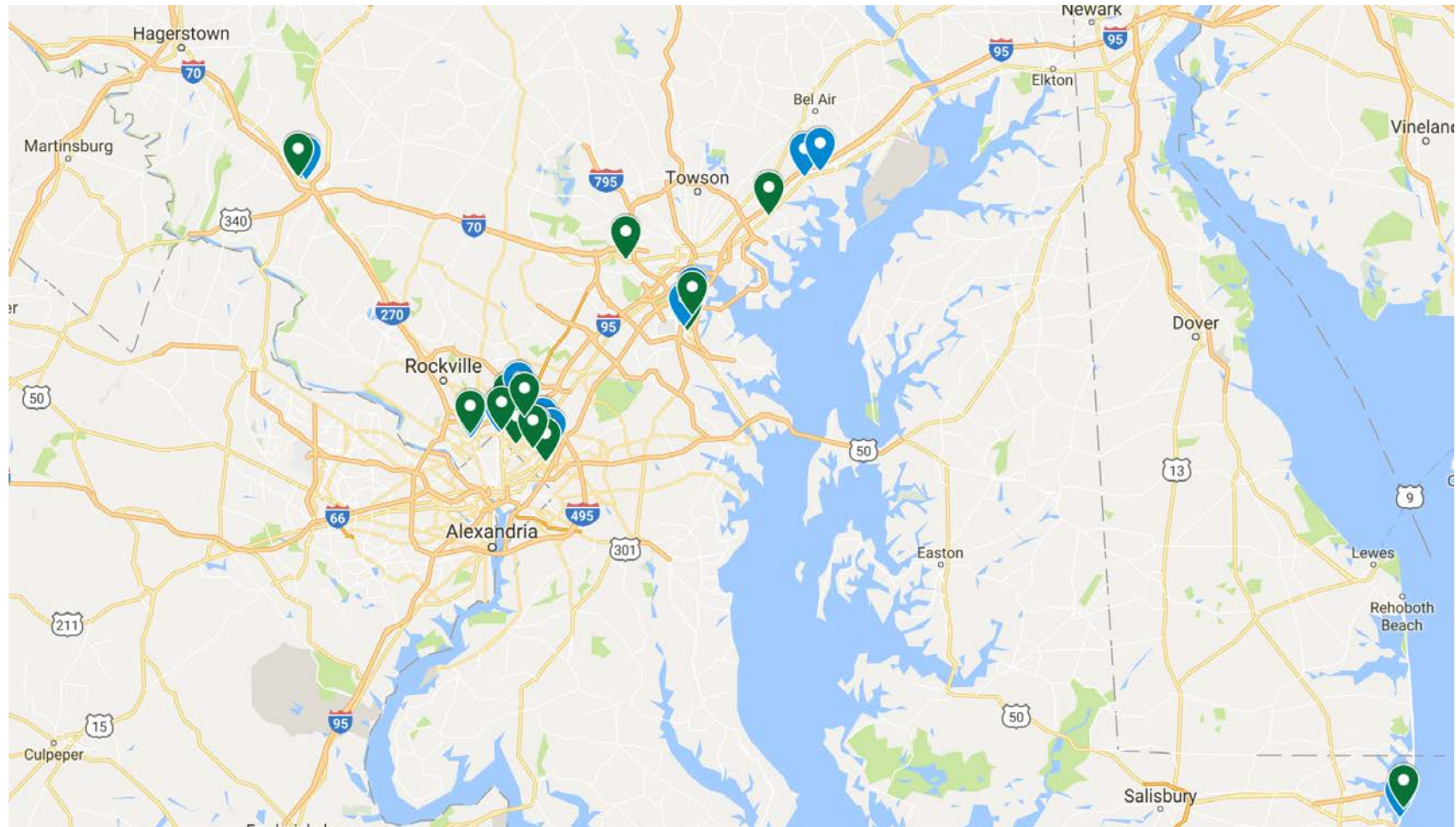
- **Assess the effectiveness of median treatments in reducing pedestrian and bicycle crashes**
- **Conduct trend analysis and advanced statistical analysis at more than 30 treatment and control sites**
- **Investigate human and socio-demographic factors related to illegal mid-block crossings**
- **Identify methods that can further improve the effectiveness of bicycle/pedestrian safety countermeasures**

Research Plan



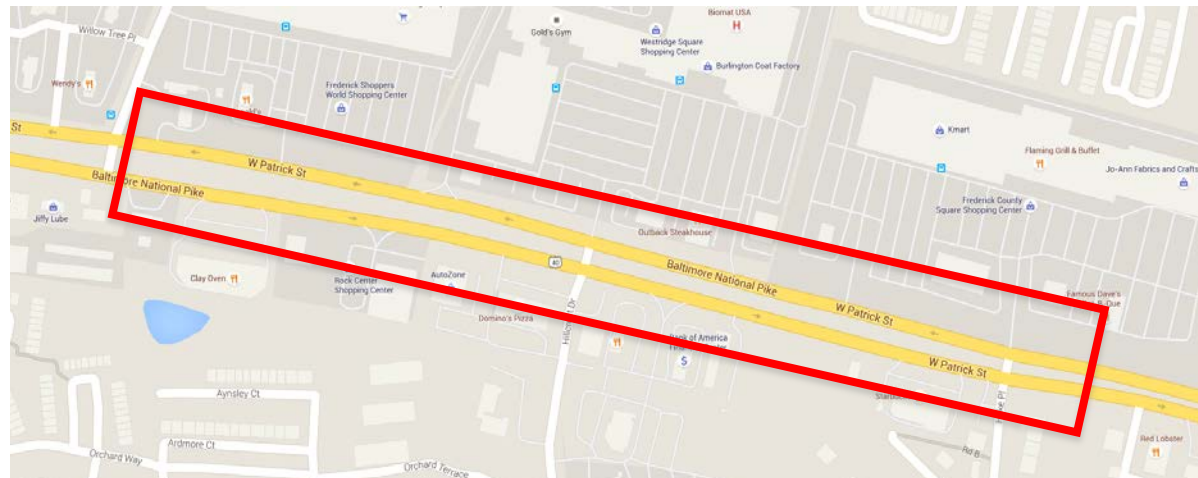
Map of Treatment & Control Sites

-  Target Site
-  Control Site



Simple Trend Analysis at Site 1

- Target Site: Fredrick, MD
 - US 40 from Willowdale Dr to shopping center entrance
- Treatment Type: Landscaped Median, installed in 2005
- Lanes: 6
- Speed Limit: 45 mph
- 2015 AADT: 48,851
- AADBP: 258



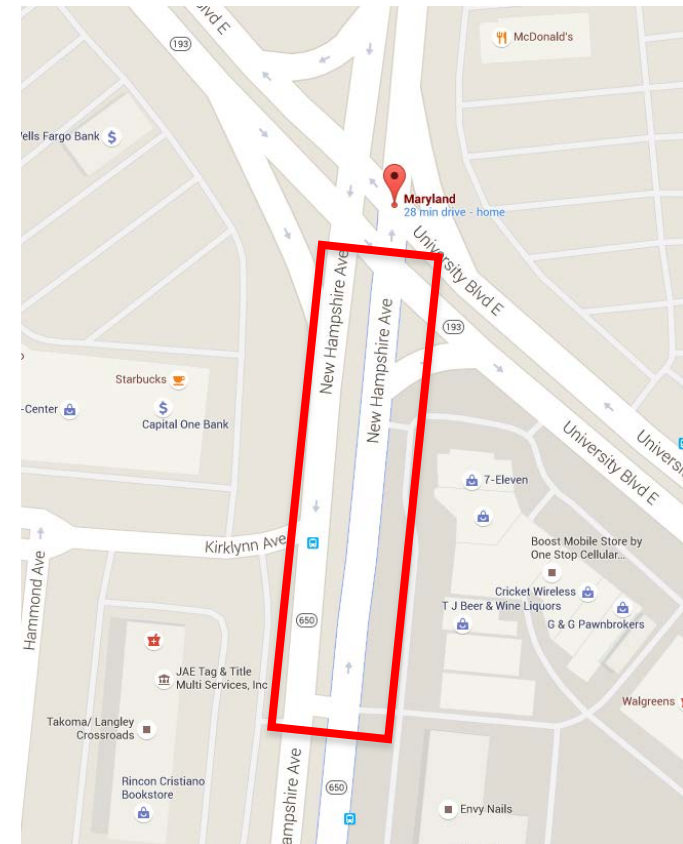
Ped/Bike Crashes

3 yr Before = 4

3 yr After = 1

Simple Trend Analysis at Site 2

- Target Site: Silver Spring MD
 - MD 650 from MD193 to shopping center entrance
- Treatment Type: Median Fencing, installed in 2010
- Lanes: 6, Speed Limit: 35 mph
- 2015 AADT: 40,322, AADBP: 503



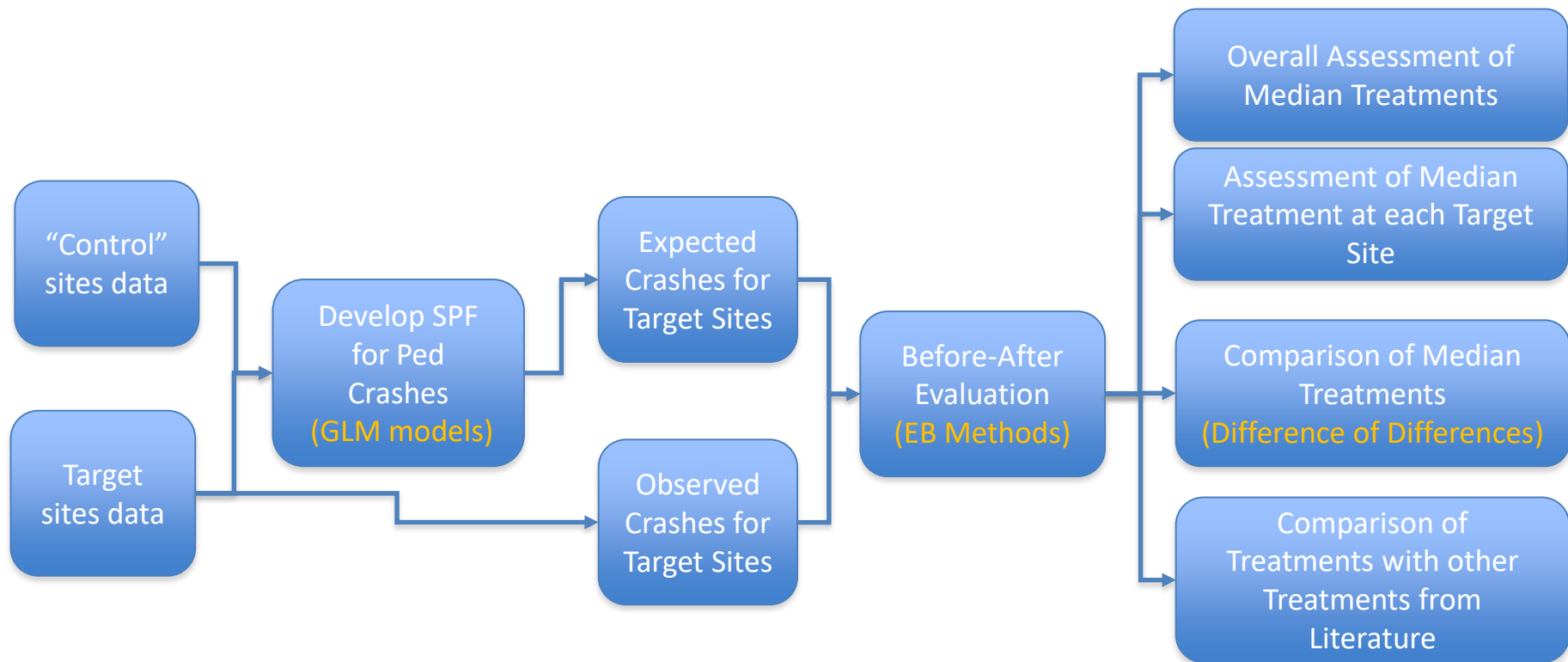
Ped/Bike Crashes

3 year Before Installation = 2

3 year After Installation = 6

Preliminary Findings & Next Steps

- Trend analysis results are inclusive so far
- Need advanced statistics methods to separate the effect of median treatment from the effect of other factors
- Statistical method example: SPF and Empirical Bayes



Thank you!

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