Multi-modal Performance Sensitivity Case Study: How to get an "A"

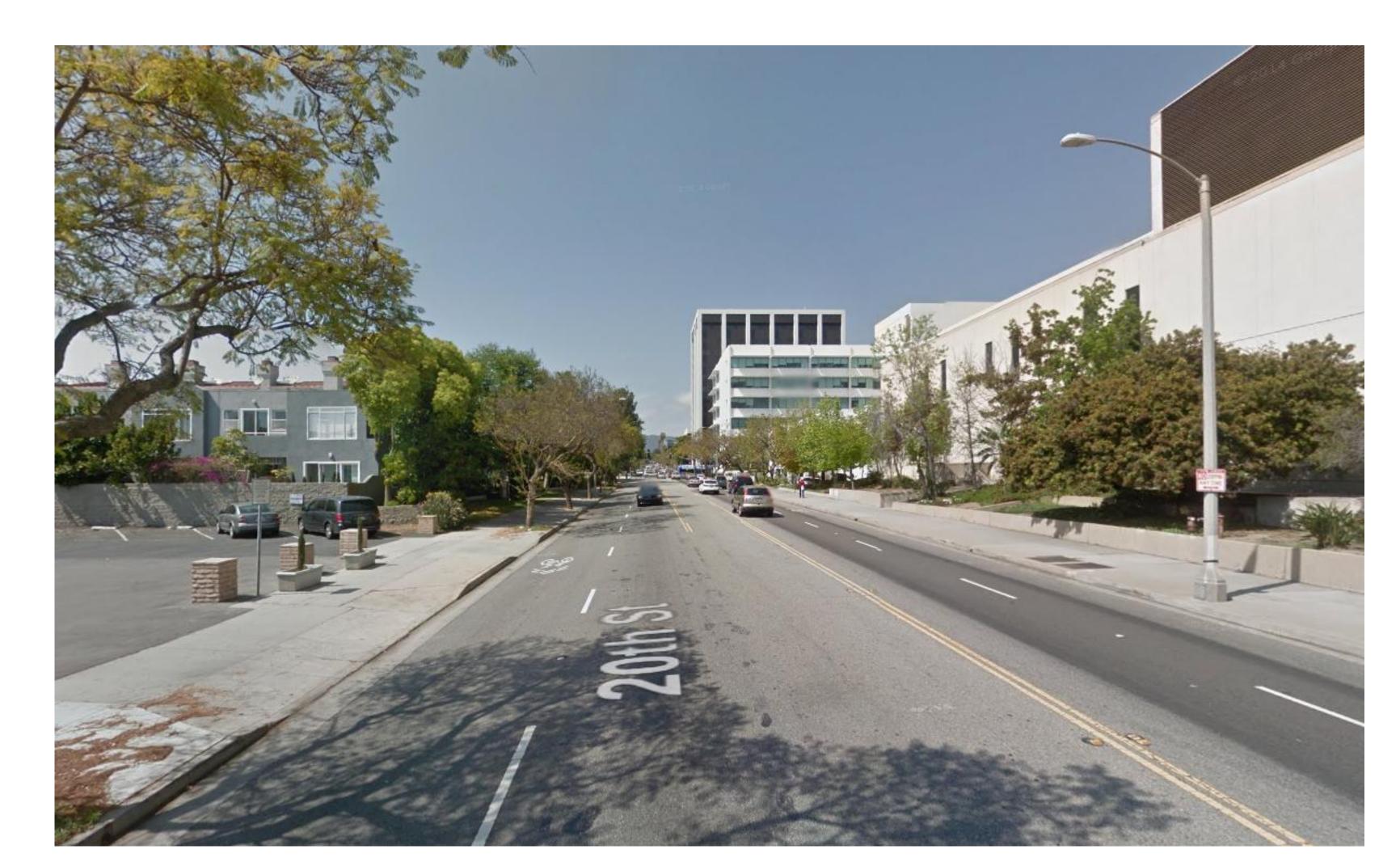
Testing new street performance measurements on different bike facility configurations

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INTRODUCTION

People want to know how changes affect street performance before and after a project is installed. Existing tools typically do not measure changes to the bike and pedestrian environment.

With many options for roadway configurations, how do new tools help to understand how different design options compare to each other?



Street segment used for analysis—20th Street in Santa Monica, CA.

AIM

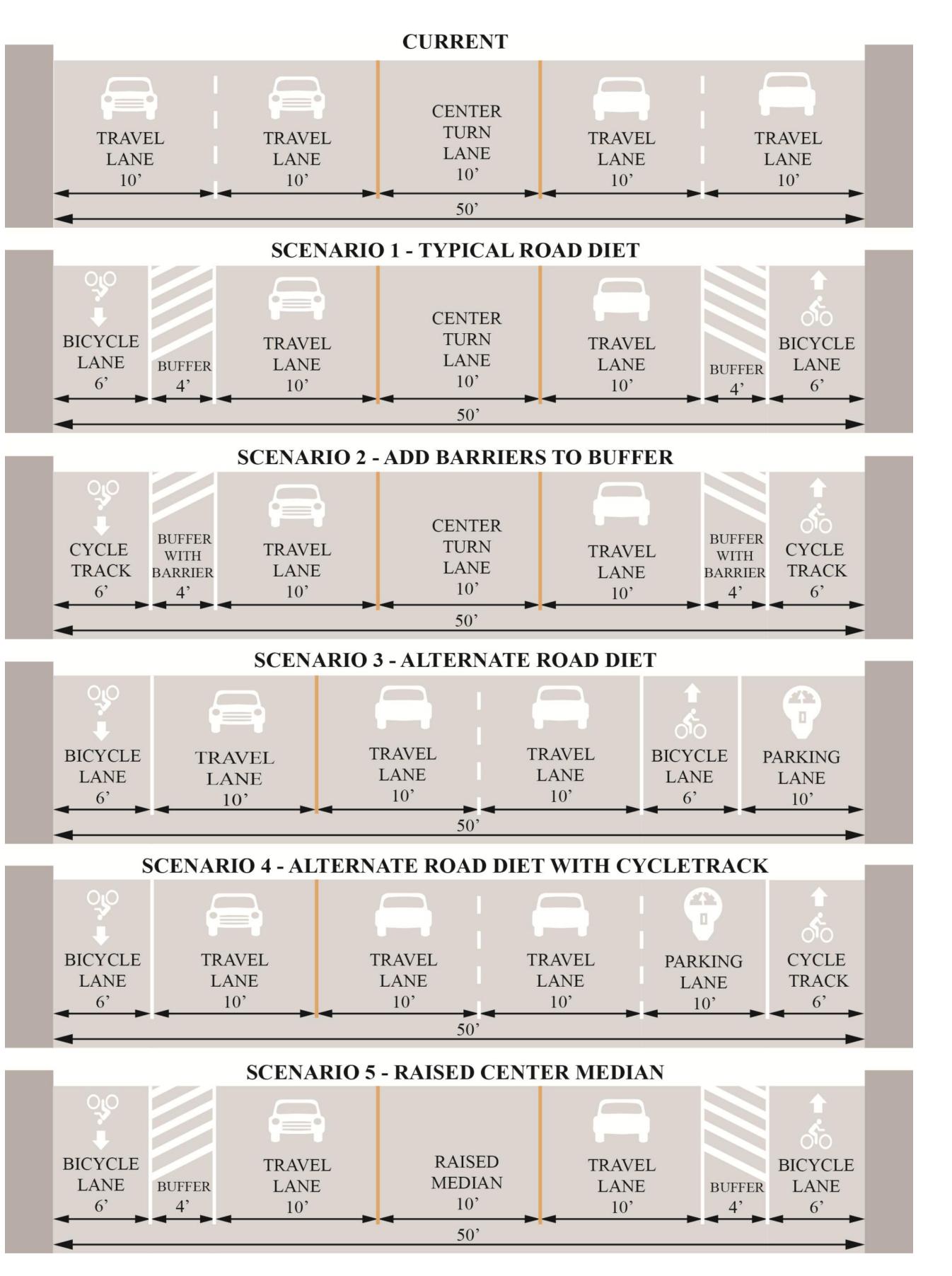
We aim to see whether each measure performs consistently and analyze how the scoring outputs compare to each other.

METHODS

Analyzing tools from three different sources:

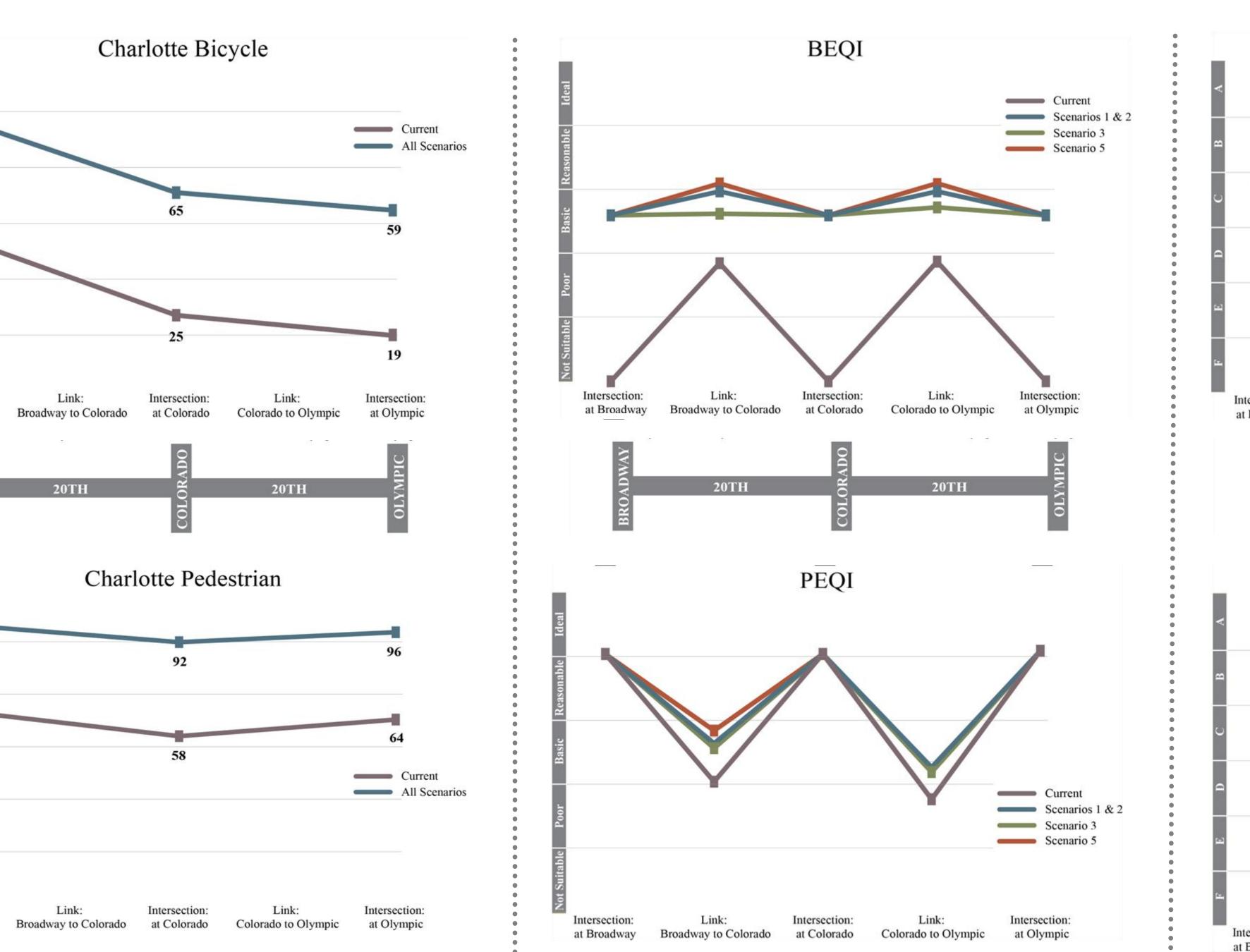
- City of Charlotte Level of Service Protocol
- San Francisco Department of Public Health BEQI/PEQI
- Highway Capacity Manual (2010) Multi-Modal:

Tested them along five different designs including : new bikeway treatments.

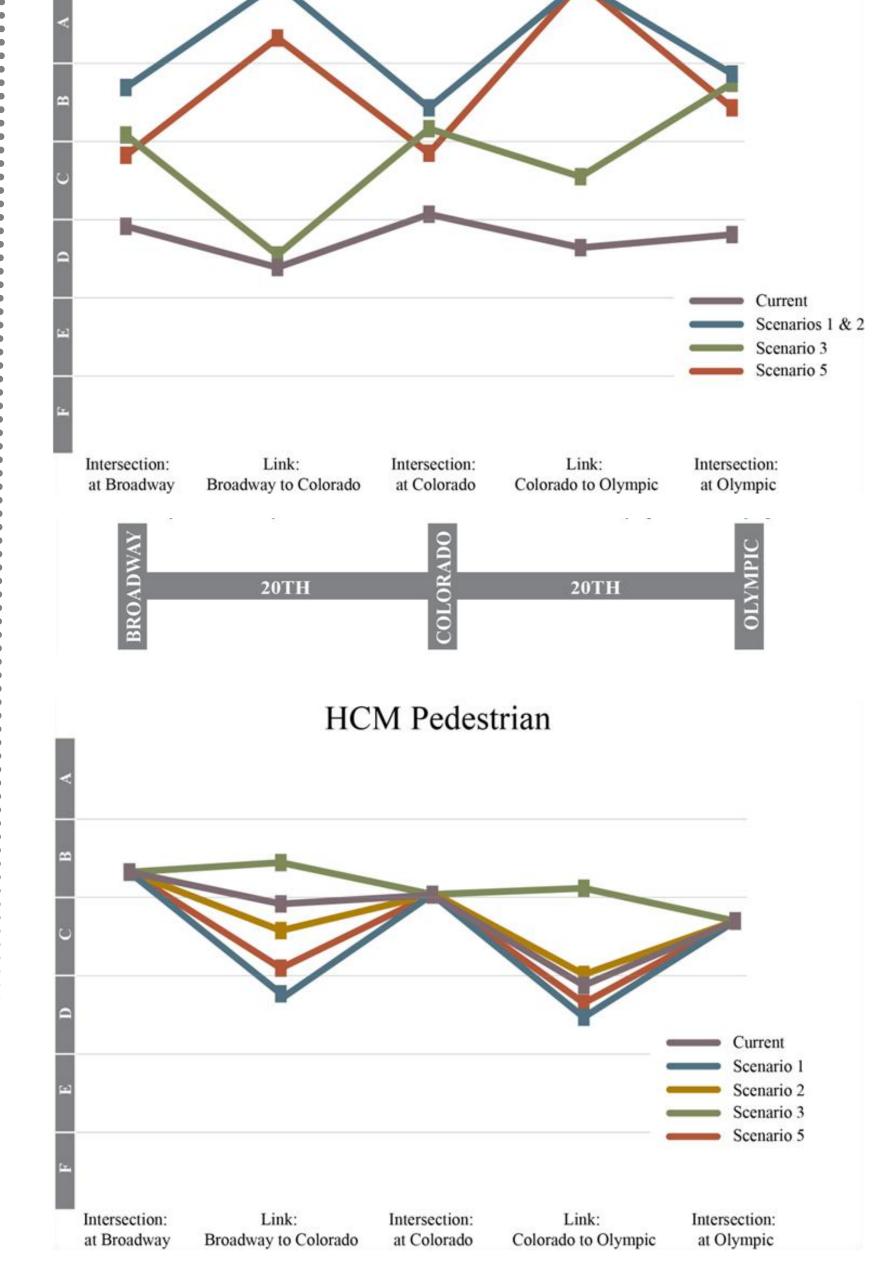


: RESULTS

- Similar to previous research in this project, results were mixed.
- None of the tools could evaluate cycle track (protected bicycle facility) features in Scenarios 2 and 4.
- All tools did show some response to proposed changed in the built environment



- Cannot discern distinct differences in scenarios
- Calculates scores based on all 4 approaches improvements needed to cross-streets
- Intersections improved because of right-turn Restrictions
- Further improvements include reducing drive way cuts, lighting, & bicycle parking



- On street parking hurt bike score and improved : Seattle, WA pedestrian score
- Bicycle buffer did not improve pedestrian scores—contrary to

CONCLUSIONS

While our previous work did not provide enough information to guide someone to select one measure over another, this work provided more guidance towards that goal.

The responses of the tools were not consistent across all the different proposed change scenarios, but all showed some improvements overall.

Each tool is mired in the time it was created and the various treatments available at that time. As the number of treatments for bicycling and walking infrastructure continue to grow, the tools used to measure these modes need to be flexible to accommodate change.

The field likely requires new or flexible tools for evaluating new facilities and treatments as the ones seen below.





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