Systemic Noteworthy Practice
Pittsburgh's Traffic Calming Program

Introduction

The systemic approach to safety prioritizes reducing systemic risk to produce a reduction in fatal and serious injury crashes. Given that high speed contributes to the likelihood of a severe crash outcome, a systemic program to reduce traffic speed is expected to reduce severe crash frequency. In this vein, the City of Pittsburgh's Department of Mobility & Infrastructure (DOMI) adopted a risk-based traffic calming program to reduce the risk of severe crashes on neighborhood streets.

Pittsburgh's Neighborhood Traffic Calming Program

Pittsburgh's Neighborhood Traffic Calming Program is designed to install traffic calming measures on neighborhood roads that have issues with high vehicular speeds which place residents, particularly those walking and biking along the streets, in a vulnerable position. Community members can submit a street for consideration of traffic calming measures. Once a street has been submitted for review, the City applies a data-driven and risk-based approach to prioritizing sites for improvement(s).

The following are eligibility requirements for traffic calming:

1. **Ownership:** City of Pittsburgh.

2. **Maximum number of lanes:**

    a. Two travel lanes if a two-way street.

    b. One travel lane if a one-way street.

3. **Functional class:** local street or collector.

4. **85th percentile speed:** 5 mph or more than the posted speed limit.

DOMI maintains a webmap and application portal displaying which streets are eligible as well as if a street has been improved, selected, or is under evaluation.

Risk-Based Scoring

The City uses a risk-based engineering score to prioritize sites for improvement. Table 1 summarizes the risk-based scoring procedure for the traffic calming program. Generally, the volume and pedestrian trip generator criteria measure the exposure to risk, while speed and pedestrian access capture the risk of the outcome of a crash being severe. Finally, crash history provides some weight for crashes that occurred along the street already.

Table 1. Engineering Score Calculation.

Criteria	Scoring Range	Scoring Procedure
Speed	0-35	2 points for every 1 MPH the 85th percentile speed is greater than the posted speed limit.
Volume	0-20	0 points if less than or equal to 1,000 vehicles per day; 1 point for every 200 vehicles between 1,000 and 5,000 vehicles per day; maximum of 20 points for 5,000 or more vehicles per day.
Crash History	0-20	1 point for every crash, 2 points for every pedestrian or cyclist crash, 3 points for every fatal crash.
Pedestrian Trip Generators	0-15	3 points for every park, school, grocery or convenience story, transit stop, or City senior center that abuts the street or is adjacent to an intersection within the corridor.
Pedestrian Access	0-10	0 points if fully accessible sidewalk on both sides; 5 points if accessible sidewalk on one side of the street; 10 points if no accessible sidewalk on the street

Incorporating Equity

After assigning an engineering score out of 100 to each candidate location, the City overlays the results against the United States Department of Transportation's (USDOT) Justice 40 Equity Data to identify any equity issues present within the street's neighborhood. The City then assigns an equity score extracted from the Justice40 data to each candidate location

Prioritization

Finally, the City prioritizes candidate locations by first ranking them using the engineering score, then running a secondary ranking using the equity score. The equity score functions as a tie-breaker for candidate locations on the margin with similar engineering scores – those with higher equity scores are more likely to be treated in the program. The number of projects advanced depends on the amount of funding the program receives for a given year.

Countermeasures

The City has a wide range of countermeasures for traffic calming. The most common are vertical deflections (e.g., speed cushions, speed humps, speed tables), but the City has also deployed some horizontal deflections (e.g., curb extensions, chicanes, neighborhood traffic circles, pedestrian refuge islands). The City has used quick-build applications for most installations; however, contractors have been used for more permanent installations.

Results

The neighborhood traffic calming program is relatively new, so a full crash-based evaluation had not been completed as of this writing. In lieu of crash-based results, the City has reviewed several speed-based and volume-based metrics at the installation locations. Across 39 evaluated installations, the program produced a 7.2 MPH reduction in 85th percentile speed, 46 percent fewer drivers speeding, and 716 fewer daily trips along the streets.

Contact

For more information about the program, contact: **Sean Stephens** (sean.stephens@pittsburghpa. gov), a Project Manager with the City of Pittsburgh DOMI.

Figure 1. Neighborhood Traffic Calming Program. Source: Dan Ference, City of Pittsburgh.

References

City of Pittsburgh DOMI Neighborhood Traffic Calming Program Website: https://pittsburghpa.gov/domi/traffic-calming.

City of Pittsburgh DOMI Neighborhood Traffic Calming Webmap: https://experience.arcgis.com/experience/4299aff15d8a47a69a9a352aa5ce3049/page/Page/.

USDOT Justice40 Website: https://www.transportation.gov/equity-Justice40.