CAMBRIDGE SYSTEMATICS

Think Forward

Memorandum

TO: Rye Baerg, SCAG

FROM: Cambridge Systematics, Inc.

DATE: September 15, 2017

RE: Preliminary Pedestrian Counter Siting Strategy

This memorandum proposes a preliminary stratification concept aimed at methodically collecting pedestrian data across the SCAG region for the purposes of regional scalability. Given the short-distance nature of pedestrian travel, wide swaths of the region can be excluded, constraining potential counter locations to those with a high potential for pedestrian activity. If desired, the siting analysis could be isolated to zones with pedestrian mode choice above a desired constraint threshold (e.g., 10 percent), using California Household Travel Survey (CHTS) or SCAG Travel Demand Model data.

Potential Stratification Criteria

Note that lack of complete pedestrian facility information for the SCAG region precludes development of a stratified network similar to the network developed for bicycle counter siting. As an alternative, consider a three-tier zone-based stratification schema that considers a land use variable, a demographic variable, and an access variable. Below are several potential criteria to consider in the scheme. Criteria not selected for primary stratification might still be considered as a secondary factor.

Land Use

o **Intersection Density**: A number of studies show intersection density has the greatest impact of any readily available geospatial variable on pedestrian activity. Where multiple parallel and redundant routes exist, a pedestrian can more easily navigate to their destination. Calculate the density of these nodes and consider the following categories:
  - >100 intersections per square mile
  - 25-99 intersections per square mile
  - <25 intersections per square mile

o **Population/Employment Density**: Alternatively, using the SCAG SPM or Census data, identify and separate "high density" vs. "medium/low" population/employment density areas. The following thresholds employed in the bicycle stratification analysis could be revisited:
  - High-Density: Greater than 33.7 persons per acre
  - Medium/Low-Density: Lower than 33.7 persons per acre

Demographics

- o **Median Household Income**: In the Bicycle siting strategy, the following income category breaks were selected by SCAG and could be revisited:
  - Very High = >$150,000 household income per year
  - High = $75,000-$150,000 household income per year
  - Medium = $35,000-$75,000 household income per year
  - Low = <$35,000 household income per year

- o **Average Number of Household Vehicles:** Access to a vehicle is a key predictor of mode choice. Even if a household has one vehicle, this may represent a lack of vehicle access if there are two or more working adults or commuting students in the household. Consider the following categories:
  - >= 2.0
  - 1.00-1.99
  - <1.0

Accessibility

- o **Proximity to High-Capacity Transit (Rail or BRT)**: Proximity to high-capacity transit (HCT) access is a key driver of regional pedestrian travel. Known high-ridership bus stops could be considered as well, if data are available. Consider the following category breaks:
  - Within ½-mile of HCT access point
  - Between ½-mile and 1-mile of HCT access point
  - > 1 Mile from HCT access point

- o **Proximity to Schools and Universities:** Students walk at a higher rate than other populations, and Safe Routes to School programs are a regional priority. Consider the following category breaks:
  - Within ½-mile of a school or university
  - Between ½-mile and 1-mile of a school or university
  - > 1 mile of a school or university

- o **Proximity to Parks, Plazas, and Cultural Institutions:** City and state parks draw pedestrians and increase pedestrian circulation. Some privately operated, but publicly accessible cultural institutions would also fit in this category. Consider the following category breaks:
  - Within ½-mile of a park or institution
  - Between ½-mile and 1-mile of a park or institution
  - > 1 mile of a park or institution

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