Opportunity And Desired Impact

The Colorado Department Of Transportation has mandates to expand bicycle and micromobility networks within the Denver Metro Area. Part of that mandate is to prioritize reaching first/last mile gaps and food deserts. How can they identify those locations and determine where to start planning expansion?

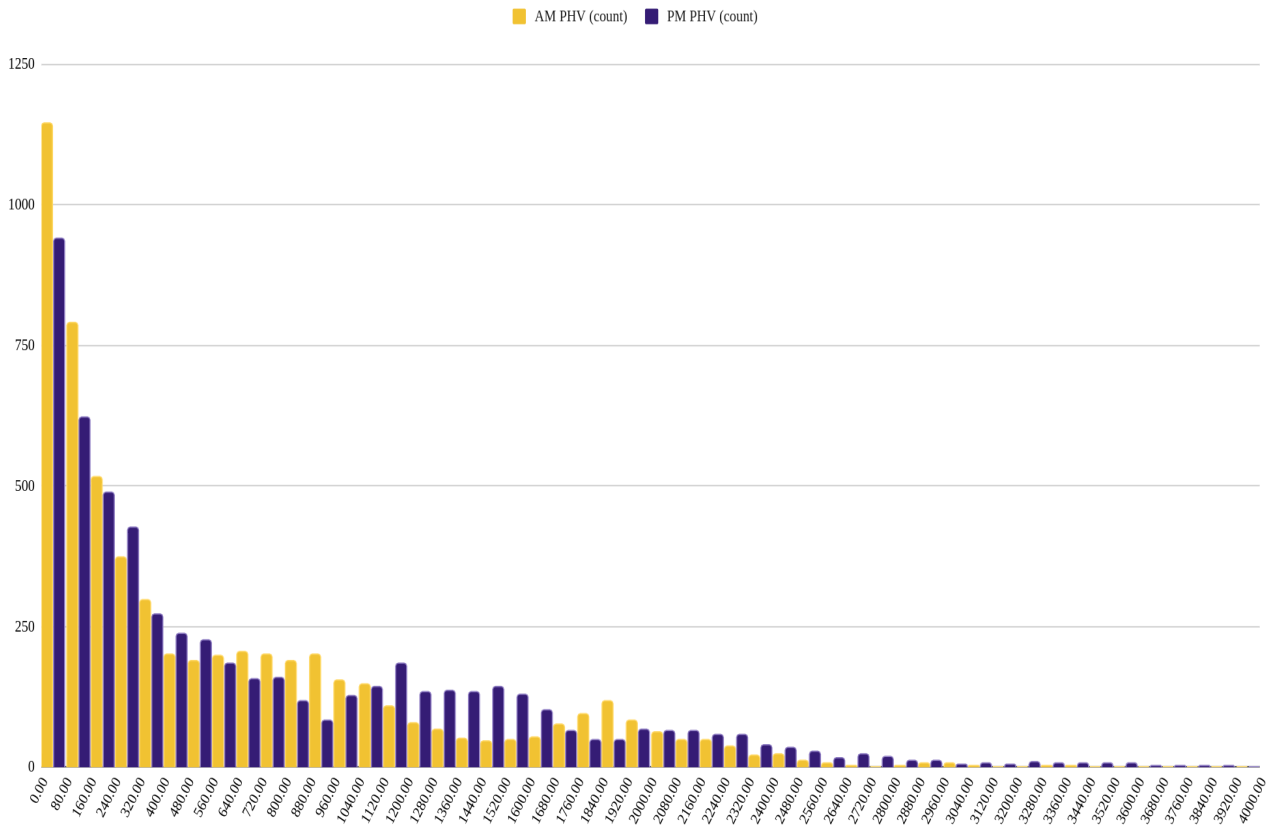
Recent census data reveals that there are a number of neighborhoods (and census tracts, for higher resolution) where a majority of the population does not live within a 10-minute walking distance of a grocery store. Knowing where these areas are located, as well as which roadway corridors in the city exhibit the ideal combination of peak hourly volume, surface type, speed limit, and traveled way width, will prove valuable in guiding planning efforts to expand alternative transport options (bikeshare and microtransit, primarily) in these areas.

A very desirable goal would be to utilize an additional 5% (roughly 3500 miles) of existing Denver roadways as main bikeshare and microtransit corridors, while simultaneously expanding the 10-minute walking distance to the nearest grocery store to 50% of those residents currently not in such a walkshed.

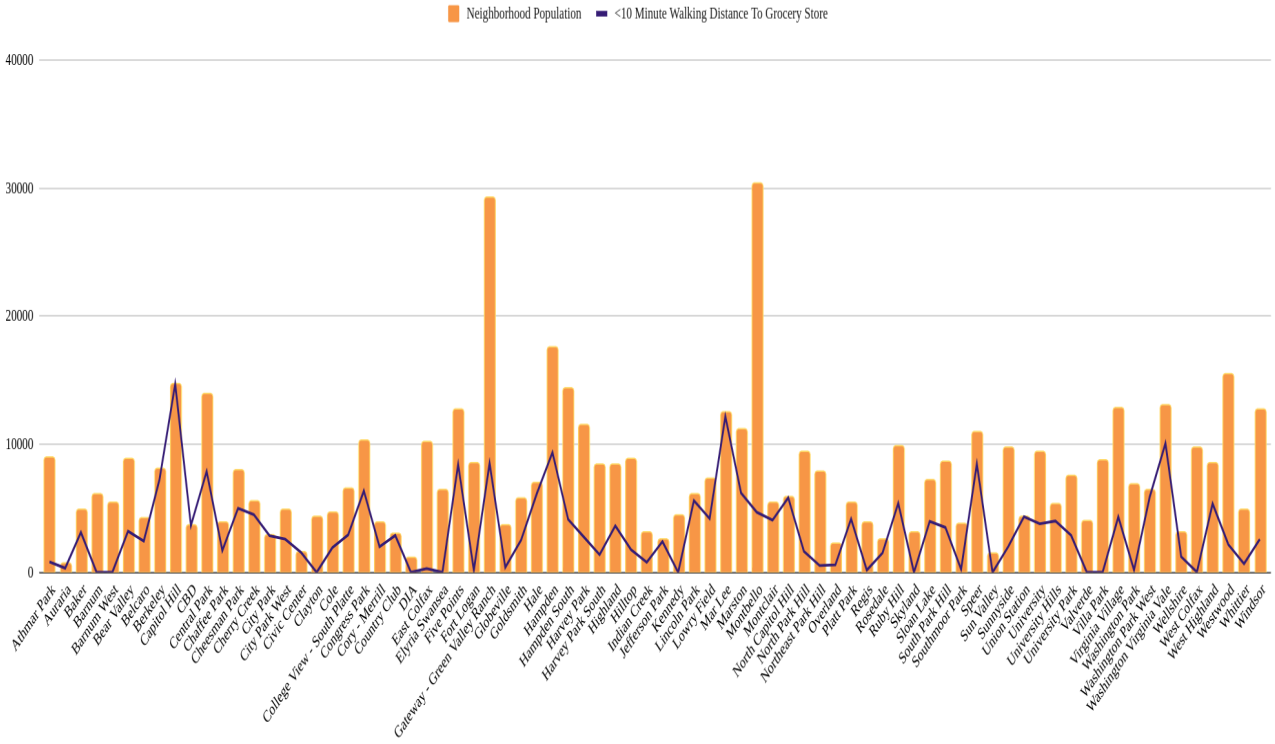
Solution Path

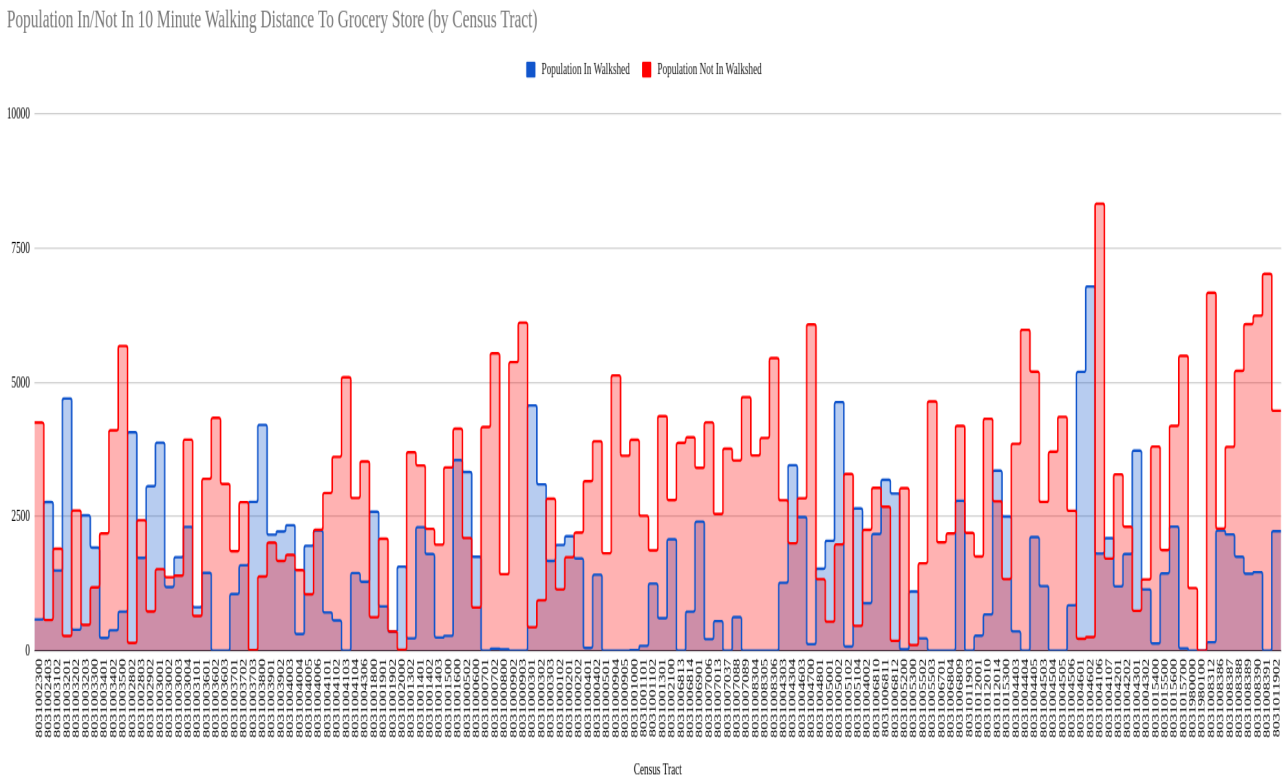
Public data regarding transit realities and census information in the Denver Metropolitan Area are easily accessible and readily provided in .csv, .shp, and .gdb formats. This data includes information on local roadway attributes as well as walking distance to the nearest grocery store for given neighborhoods and census tracts.

AM and PM Peak Hourly Volume Counts For Denver Roadways



Denver Neighborhood Population Within 10 Minute Walking Distance Of Grocery Store





Impact Hypothesis

By understanding where food access in Denver is impeded and the physical attributes of local roadways, CDOT can effectively plan expansions to bikeshare and microtransit networks to reduce the area of food deserts, and secondarily create efficient travel corridors for alternative transport modes.