CITY OF PHILADELPHIA

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MANAGING DIRECTOR'S
OFFICE OF TRANSPORTATION
& INFRASTRUCTURE SYSTEMS

CASEY C. ROSS
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August 10th, 2018
To: Chris Puchalsky
CC: Kelley Yemen, Akshay Malik
Re: Protected Bike Lane / protected Bike Lane & Trail Population Proximity Analysis

Good afternoon Chris,

Per your request and Kelley's instruction, I undertook an analysis of the percent of population that would live within ¼ mile of a Protected Bike Lane (PBL), or a Protected Bike Lane or Trail, based on the list of existing and proposed protected bike lanes you provided. The results of that analysis, as well as my methodology, are contained in this memo.

Data Sources

Existing and Proposed Protected Bike lanes
A list of existing and proposed protected bike lanes was provided by Chris Puchalsky for the sake of this analysis. I used the existing Streets Centerline Fine on GeoDb2 to create a new shapefile of these existing and proposed PBLs, called PBL-Master.

Existing Trails
The existing trails shapefile on GeoDB2 was used for this analysis. There is also a proposed tails shapefile, but it is unclear which trails are anticipated to be completed by 2025. PCPC had not responded to a request for clarification by the time analysis was underway, so proposed trails have not been included in the analysis that follows. The Existing Trails shapefile was merged with the PBL-Master shapefile. This combined shapefile was called PBL-Trails-Master.

Population Data
Population data comes from 2016 ACS 5-Year Counts at the Block group level for Philadelphia County. The data was downloaded from the Census Bureau's American Factfinder tool on August 9th, 2018.

Network Analysis Data
Network Analysis was performed using the existing Streets Centerline shapefile on geoDB2.

Methodology

To estimate the percent of the population within a ¼ mile distance of a protected bike lane or a protected bike lane/trail, I used Network Analyst to create a network dataset from the Streets centerline shapefile and then create service areas around the PBL-Master shapefile and the PBL-Trail-Master shapefile. I then selected Census Block groups by location to determine which overlapped with the service areas.

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Using the Select by Location function in ArcMap, I performed two selections for each service area. The first selection, which targeted only Census Block groups with their centroid inside the PBL-Master or PBL-Trail-Master service area, is likely an under-estimation of the total population within the service area. The second selection, of Census Block groups that overlap the PBL-Master or PBL-Trail Master service area, is likely an overestimation of the total population within the service area.

Results

The table below contains the results of both selections, as well as an average of the two selections.

Geography	Centroid		Intersection		Average	
	Pop (#)	Pop (#)	Pop (#)	Pop (#)	Pop (#)	Pop (#)
Philadelphia	1,559,938	100%	1,559,938	100%	1,559,938	100%
PBL only	192,860	12%	328,002	21%	260,431	**17%**
PBL/Trail	270,694	17%	545,789	35%	408,242	**26%**

Sincerely,

Casey C. Ross
Pedestrian Transportation Planner, Office of Complete Streets
Office of Transportation & Infrastructure Systems
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