OVERVIEW

Person throughput describes the potential of a street to carry travelers by different modes of transportation. The person throughput analysis was completed to provide a multimodal alternative to traditional vehicle capacity and level of service analyses. Person throughput estimates were developed in order to compare the existing conditions on each project corridor to the conditions that result from each of the design options on these corridors. This comparison illustrates the potential each design option has to accommodate/encourage higher volumes for each mode of transportation. The analysis shows how, by dedicating space for bicyclists and buses and improving the pedestrian environment, more people can travel more efficiently along each of the study area corridors.

ANALYSIS ASSUMPTIONS

The assumptions for the person throughput analysis are as follows. The numbers below are the potential number of travelers that can be carried by different modes of transportation under different conditions, they are not actual traffic volumes or traffic counts.

- Auto: Person throughput is the average intersection capacity for existing conditions as calculated through the traffic operations analysis. Vehicle volumes are adjusted to person throughput based on average vehicle occupancy for the study area.

- Bus: For mixed flow operations, person throughput is the estimated bus passenger capacity based on pre-COVID (February 2020) service levels and full buses. For design options with bus lanes for the majority of the length, person throughput is estimated on the theoretical capacity of the bus lane, as follows (based on NACTO Transit Street Design Guide)
    - 6,000 persons per hour for one-way curbside busway without parking
    - 4,000 persons per hour for one-way busway with adjacent curbside parking or loading

- Bicycle: Person throughput is the maximum theoretical throughput based on the existing facility type. Where the bicycle facility type changes along the length, the person throughput is a weighted average based on the length of each facility type.
    - 7,500 persons per hour assumed for a two-way bikeway (based on NACTO Transit Street Design Guide)
    - 3,750 persons per hour assumed for a one-way protected bikeway, with an estimated reduction of 25% if no protection is provided
    - 300 persons per hour assumed for shared lane or mixed flow operations
    - Throughput is calculated as a weighted average based on the length of each facility type

- Pedestrian: Person throughput is the maximum theoretical throughput based on the existing sidewalk width.
    - 9,000 persons per hour is assumed for a 10' sidewalk (based on NACTO Transit Street Design Guide), excluding furnishing zones
    - Throughput is directly proportional to the unobstructed sidewalk width

POTENTIAL PERSON THROUGHPUT ANALYSIS RESULTS

The following tables summarize the potential person throughput analysis results for baseline existing conditions and for each of the corridor design options. The numbers below are the potential number of travelers that can be carried by different modes of transportation under different conditions, they are not actual traffic volumes or traffic counts.

Key findings are as follows:

- The greatest potential person throughput is provided through the pedestrian sidewalk space, as pedestrians require less space than vehicles.
- For design options that include bike lane or bus lane improvements, the potential for increased person throughput associated with these modes offsets any decrease in automobile throughput.
- All of the design options result in significantly increased potential person throughput when compared to baseline conditions and the existing street configuration. The one exception is Option 2 for Telegraph Avenue, where the resulting potential person throughput is comparable to baseline conditions.

PM Peak Hour Potential Person Throughput by Corridor, Baseline Conditions

Corridor	Auto	Bus	Bicycle	Pedestrian	**Total**
Bancroft	2,554	794	1,740	12,600	17,688
Dana	2,280	387	2,813	12,600	18,079
Telegraph	2,397	380	300	18,000	21,077
Fulton	3,004	0	2,025	10,800	15,829

1/19/2022

Bancroft Way Corridor - PM Peak Hour Potential Person Throughput

Corridor	Auto	Bus	Bicycle	Pedestrian	**Total**
Baseline	2,554	794	1,740	12,600	17,688
Option 1	2,400	6,000	7,500	12,600	28,500
Option 2	2,100	6,000	7,500	12,600	28,200
Option 3	2,000	800	7,500	12,600	22,900

1/19/2022

Telegraph Ave. Corridor - PM Peak Hour Potential Person Throughput

Corridor	Auto	Bus	Bicycle	Pedestrian	**Total**
Baseline	2,397	380	300	18,000	21,077
Options 1, 3, 4	2,300	4,000	4,100	18,000	28,400
Option 2	2,400	400	300	18,000	21,100

1/19/2022

Fulton St. Corridor - PM Peak Hour Potential Person Throughput

Corridor	Auto	Bus	Bicycle	Pedestrian	**Total**
Baseline	3,004	0	2,025	10,800	15,829
Option 1	2,600	0	7,500	10,800	20,900
Option 2	2,600	0	7,500	10,800	20,900
Option 3	2,500	0	7,500	10,800	20,800

1/19/2022