



Prioritizing New Streetlights With an Equity Lens

City of Tacoma | Public Works/MCO

Council Study Session
June 4, 2019



OVERVIEW

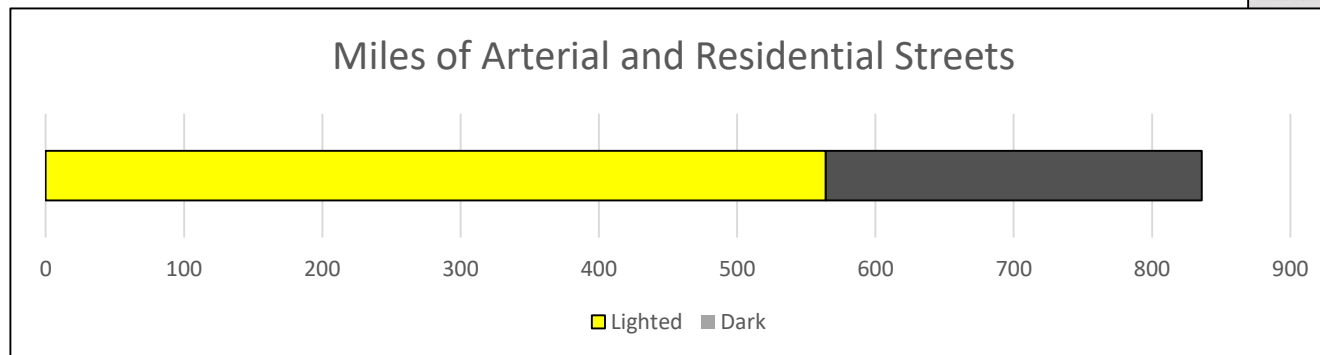


- Background (Budget and Scope)
- Existing Streetlight Infrastructure
- Prioritization of New Streetlights
- Application of Equity Index

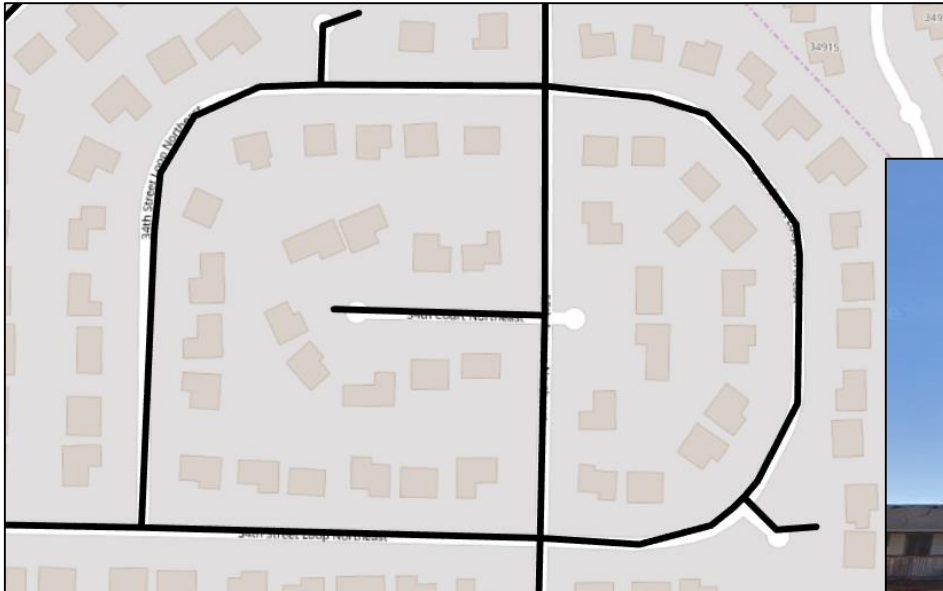
BACKGROUND



- \$200K to add 200 new streetlights in 2019/20
- Approximately 836 centerline miles of Arterial and Residential Streets:
 - 564 miles of streets have streetlights
 - 272 miles of streets do not have streetlights



INFRASTRUCTURE



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Some areas of Tacoma have no overhead infrastructure. The cost to add lighting is very high.

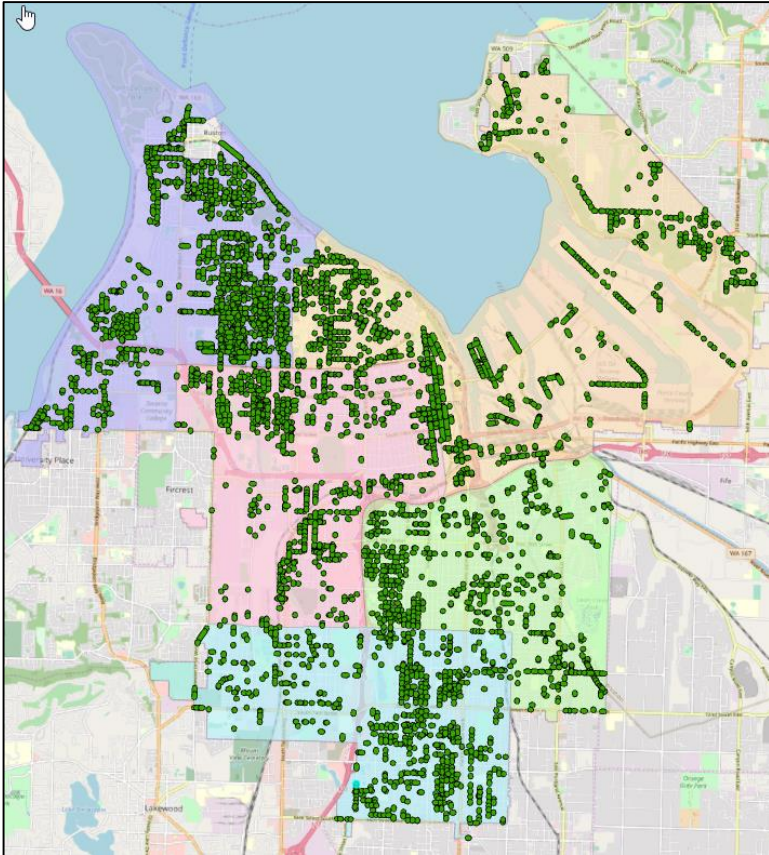


INFRASTRUCTURE

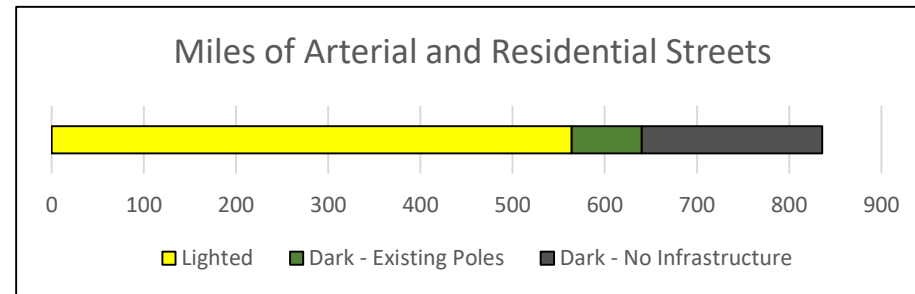




THE LOW HANGING FRUIT



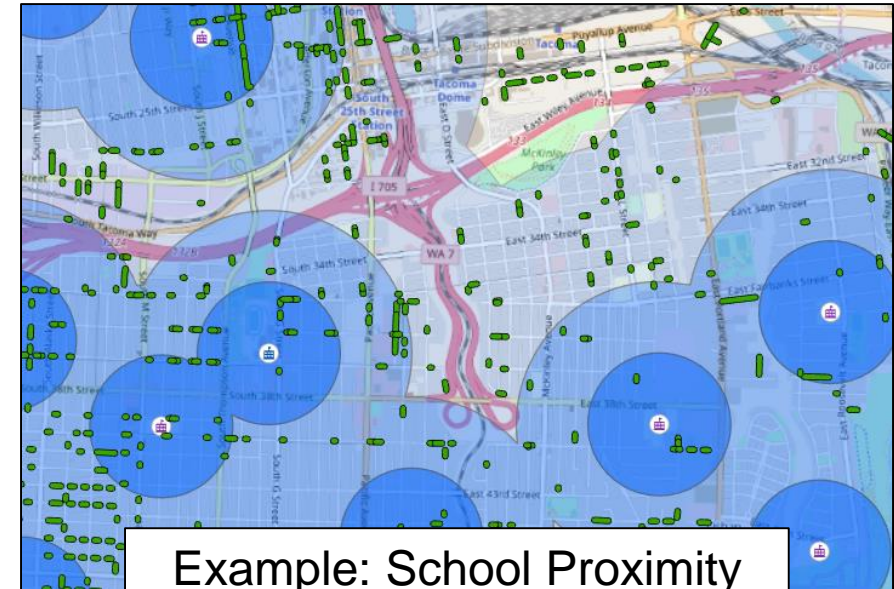
Identified 3870 dark street segments adjacent to existing utility poles (About 76 miles)



PRIORITIZATION



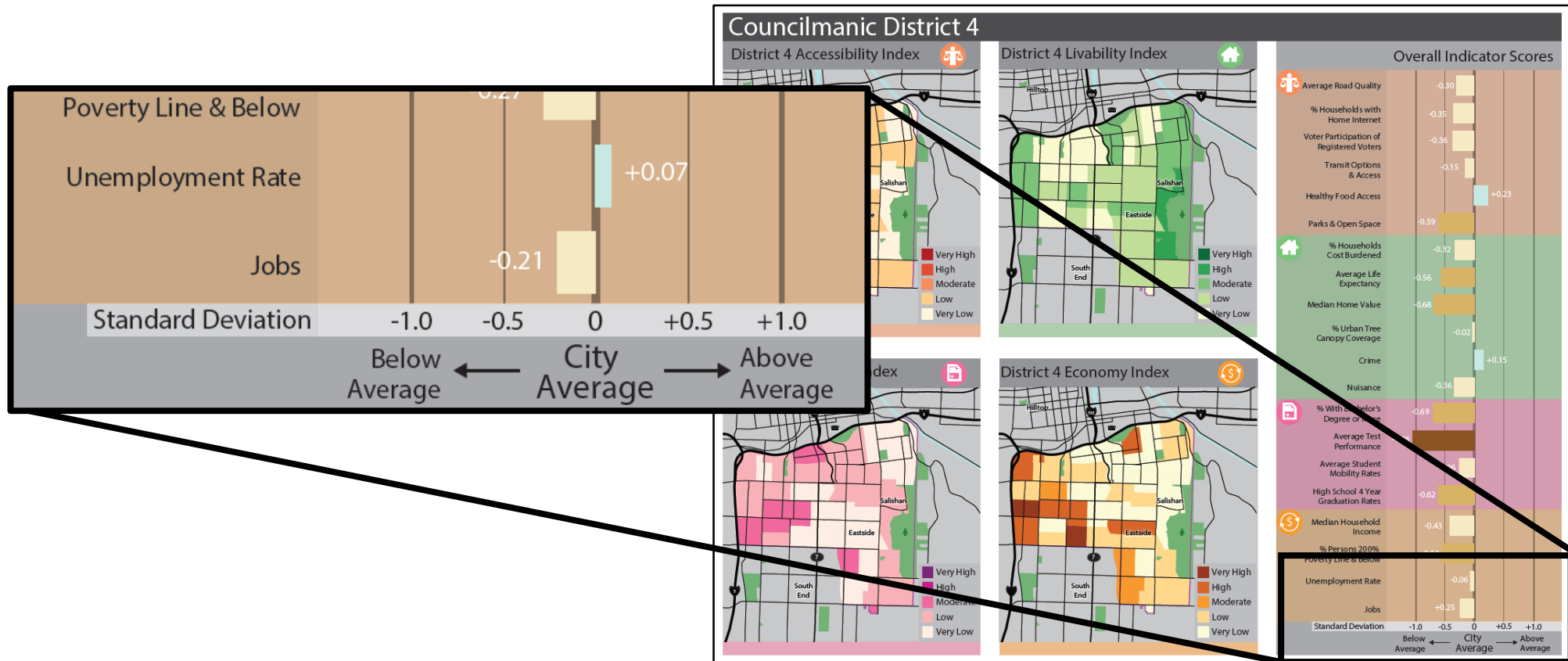
- Nighttime Accident History
 - Fatalities and Serious Injuries
 - Pedestrians and Bicycles
- School Safety
 - Proximity to Schools
 - Existing School Walking Routes
 - Prioritization of the SRTS Program
- High Crime Activity
 - Crime Count Related to Lighting
 - Suspicious Activity Reports (Calls to 911)



Example: School Proximity
¼ Mile Radius: 4 Points
½ Mile Radius: 2 Points
1 Mile Radius: 1 Point

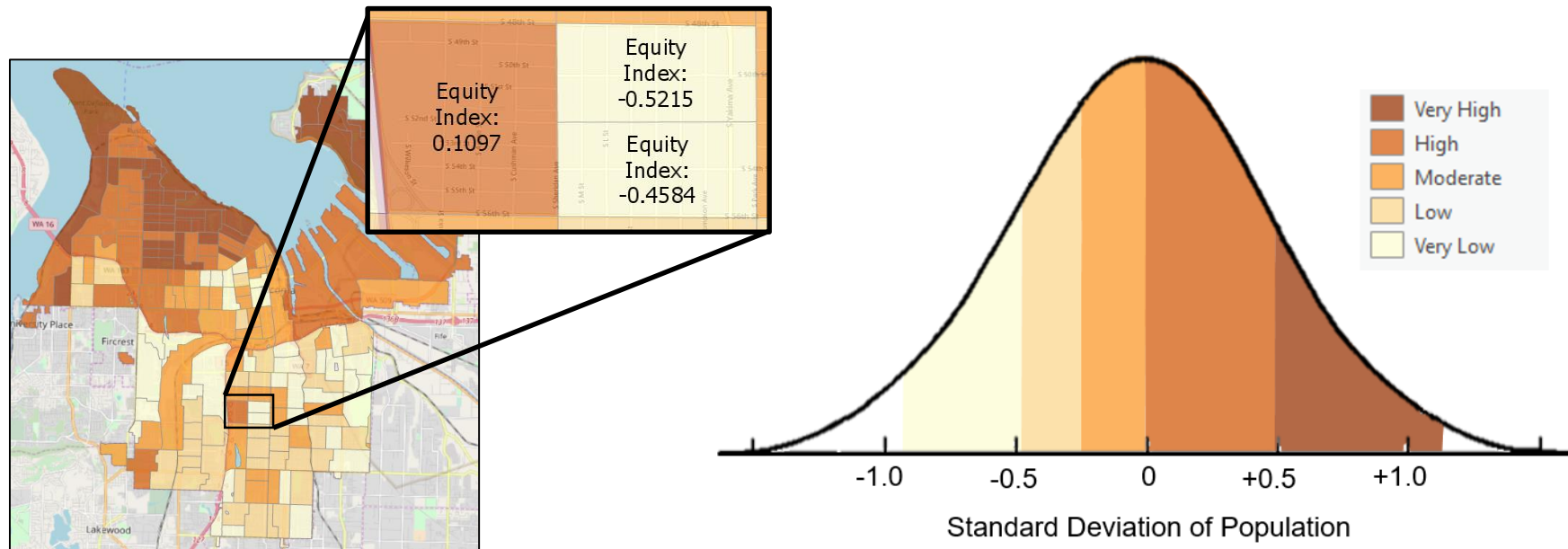


EQUITY INDEX VALUES



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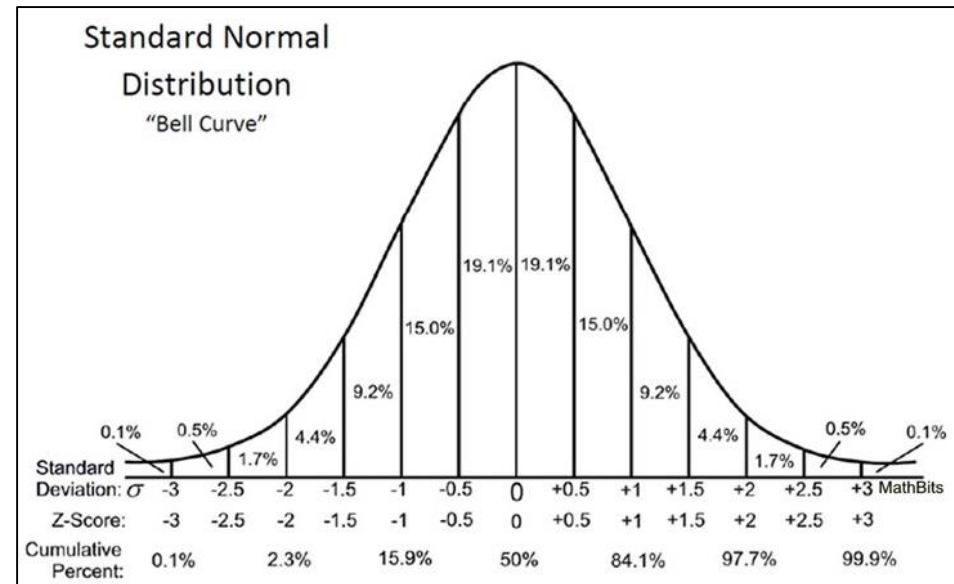
- Each census block has its own unique Equity Index Value.
- Values are shown as a plus/minus standard deviations (Range: -0.8 to +1.2)
- The Equity Index map groups the values into five colors.



PERCENT OF POPULATION

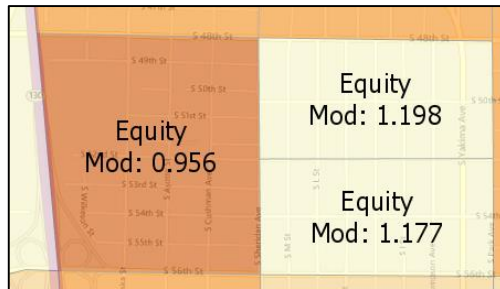
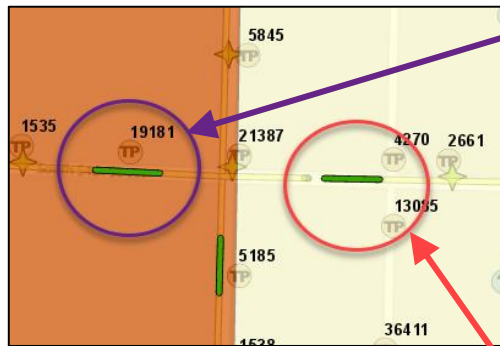
- At the mean (average), 50% of the City has a higher opportunity and 50% has a lower opportunity.
- By knowing the standard deviation from the mean, the percent of the population can be calculated on any point on the curve.

- Example: At +0.5 standard deviations above the mean, 19.1% of the population has a higher opportunity than the average Tacoma citizen.





APPLICATION OF INDEX



Example 1: S. 54th Street, West of Sheridan.

- Raw Score = **6.4**
- Equity Index = +0.1097 Std. Dev.
- Percent of Population = +4.4%
- Multiply Raw Score by 0.956
- Normalized Equitable Result = **6.1**

Example 2: S. 54th Street, East of Sheridan.

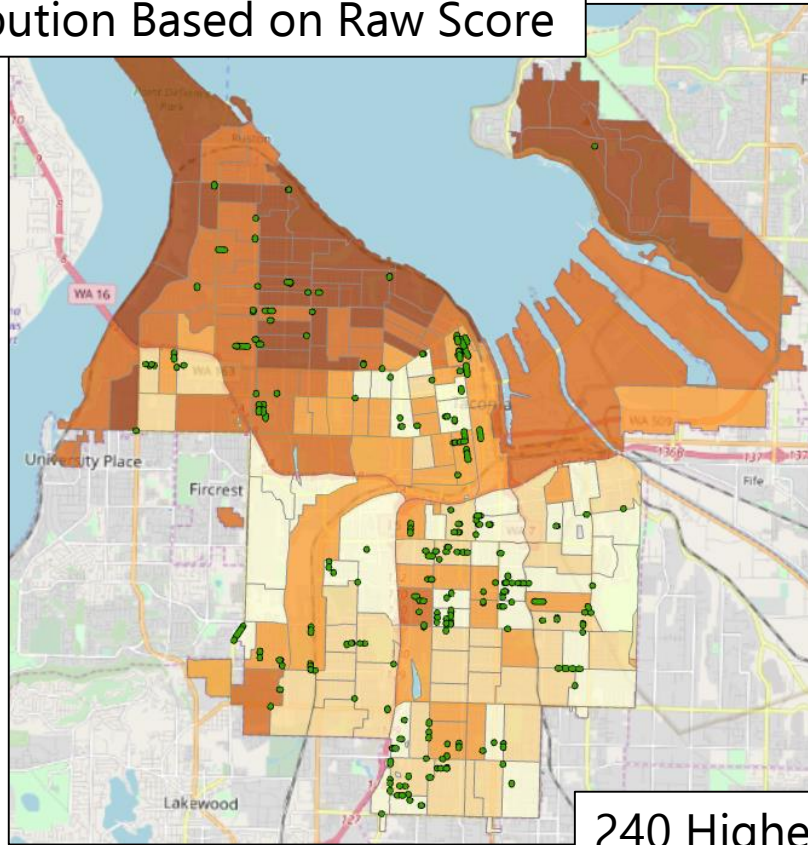
- Raw Score = **6.6**
- Equity Index = -0.5215 Std. Dev.
- Percent of Population = -19.8%
- Multiply Raw Score by 1.198
- Normalized Equitable Result = **7.8**



COMPARING DATA SETS

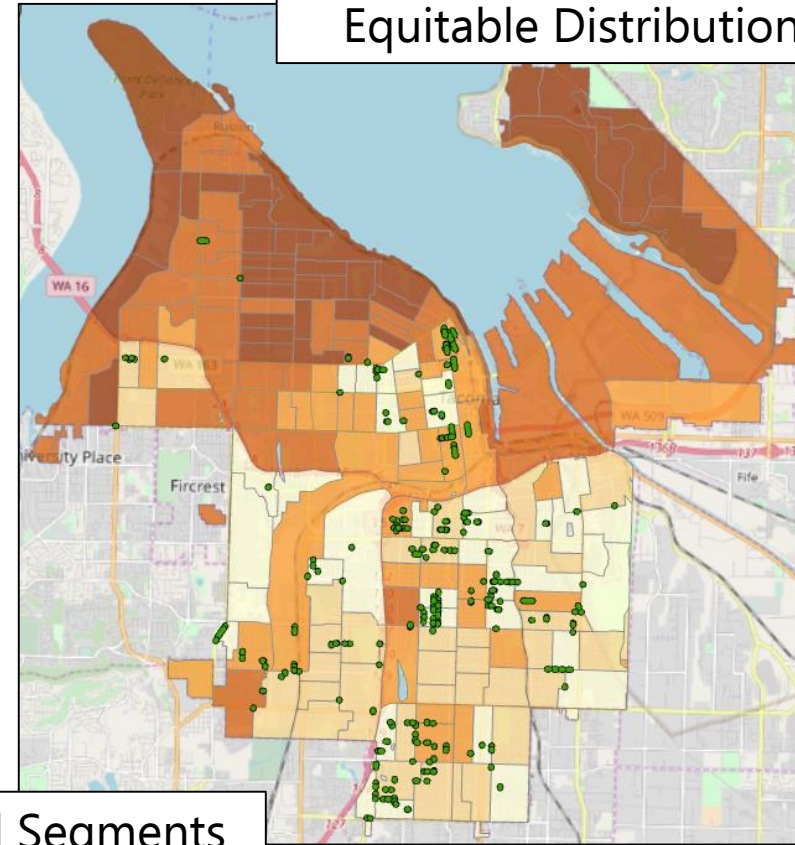


Distribution Based on Raw Score



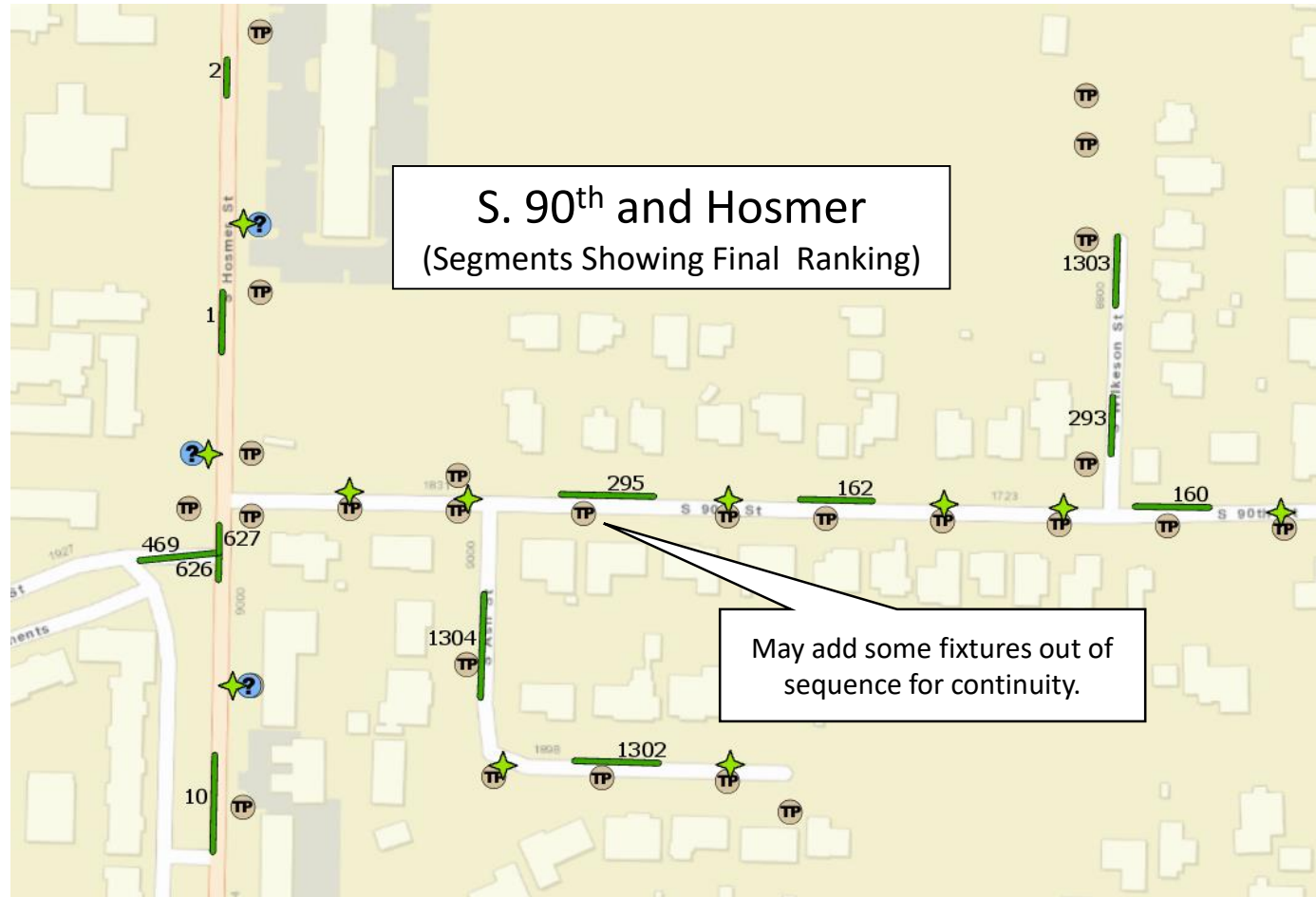
240 Highest Ranked Segments

Equitable Distribution

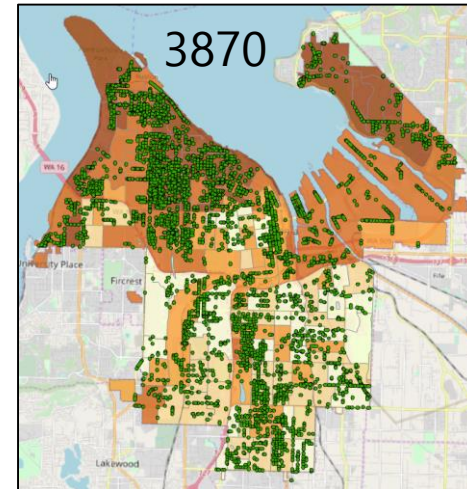
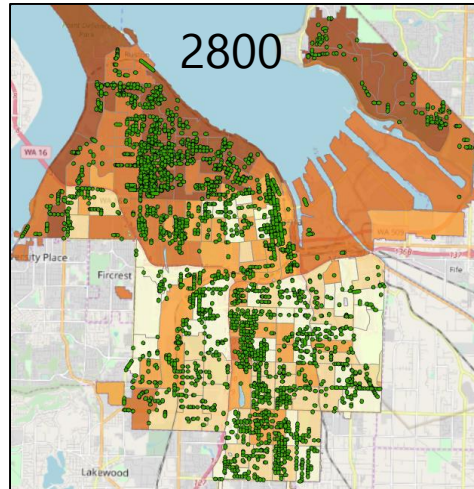
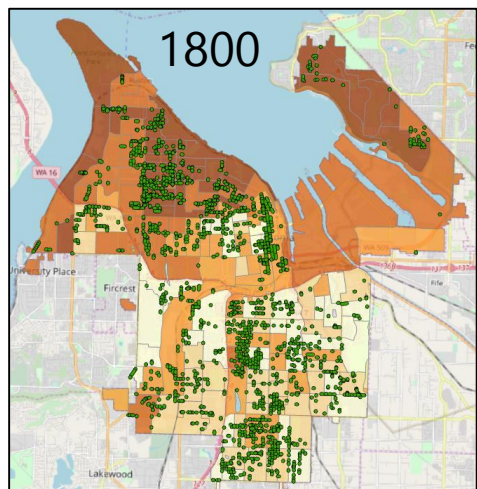
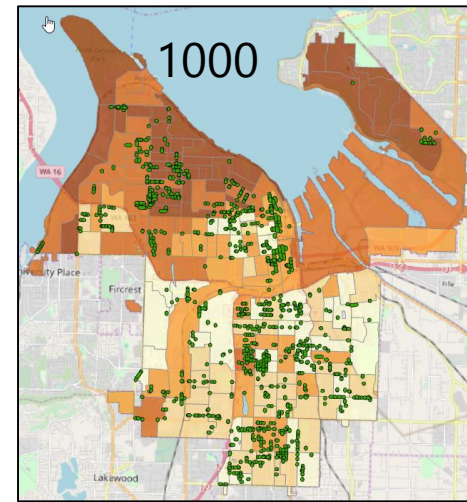
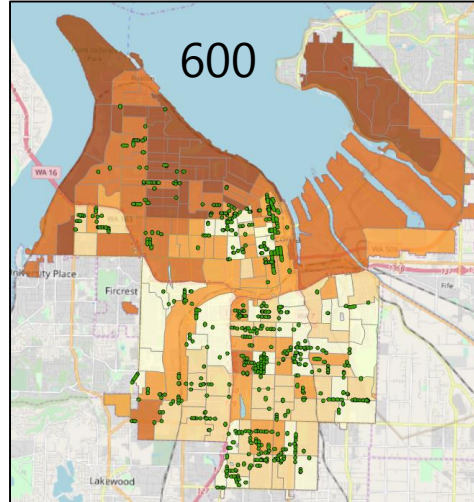
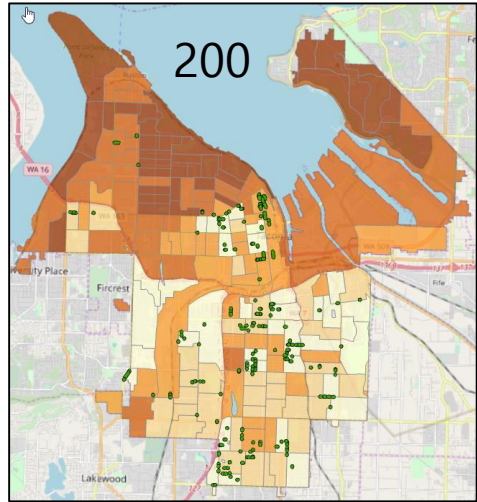




DESIGN AND CONTINUITY



Ranked, Equitable, & Scalable





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