How Bikeshare is Changing City Transit: Evidence from the City of Chicago

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Background

➢ Chicago is the home to 2.7 million residents and ranks in the top quarter as economically and ethnically segregated city.

➢ Past research has suggested that both transit and bike share ridership levels are low amongst ethnic minority and low-income population group (O. Caspi et al., 2019).

Objectives

➢ Identify how factors affecting rail station/bus stop level transit ridership (with and without bike share) impact each community differently resulting different proportions of population mix? (cross-sectional analysis)

➢ Rank the communities into groups based on transit/bike share access and suggest possible implementation strategies to bridge the identified gap to meet the first and last mile goal.

Preliminary Analysis

Stop-level bus ridership: with & without bikeshare

Statistical Analysis Trends

Population Mix

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Population Mix</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>30%</td>
</tr>
<tr>
<td>Zero Auto</td>
<td>25%</td>
</tr>
<tr>
<td>Income Range</td>
<td></td>
</tr>
<tr>
<td>Low</td>
<td>20%</td>
</tr>
<tr>
<td>Middle</td>
<td>15%</td>
</tr>
<tr>
<td>High</td>
<td>10%</td>
</tr>
</tbody>
</table>

Percentage of Different Population group per Neighborhood in each community

Analysis of Results

- The maximum percent population of each population group (White, Zero Auto, Income) is used to determine population mix per community side.
- The statistical analysis trend from tables and access (Transit / Bike share) has been compared for each population group per community.
- Based on above two point the community sides are Ranked from 1 to 5.

Discussion

Community Ranked based on Transit/Bike share Service condition

➢ Identified the gaps in access to transit and bike share in different communities in Chicago.

➢ Ranked the communities into five groups based on statistical analysis results and transit/Bike Share Service access: Central (Rank 1), North Side (Rank 2), Far North Side (Rank 3) North west, West and Near west side and South west side (Rank 4) and South Side, Far South West and Far South East side (Rank 5).

Conclusion

➢ The maximum percent population of each population group (White, Zero Auto, Income) is used to determine population mix per community side.

➢ The statistical analysis trend from tables and access (Transit / Bike share) has been compared for each population group per community.

➢ Based on above two point the community sides are Ranked from 1 to 5.

References

