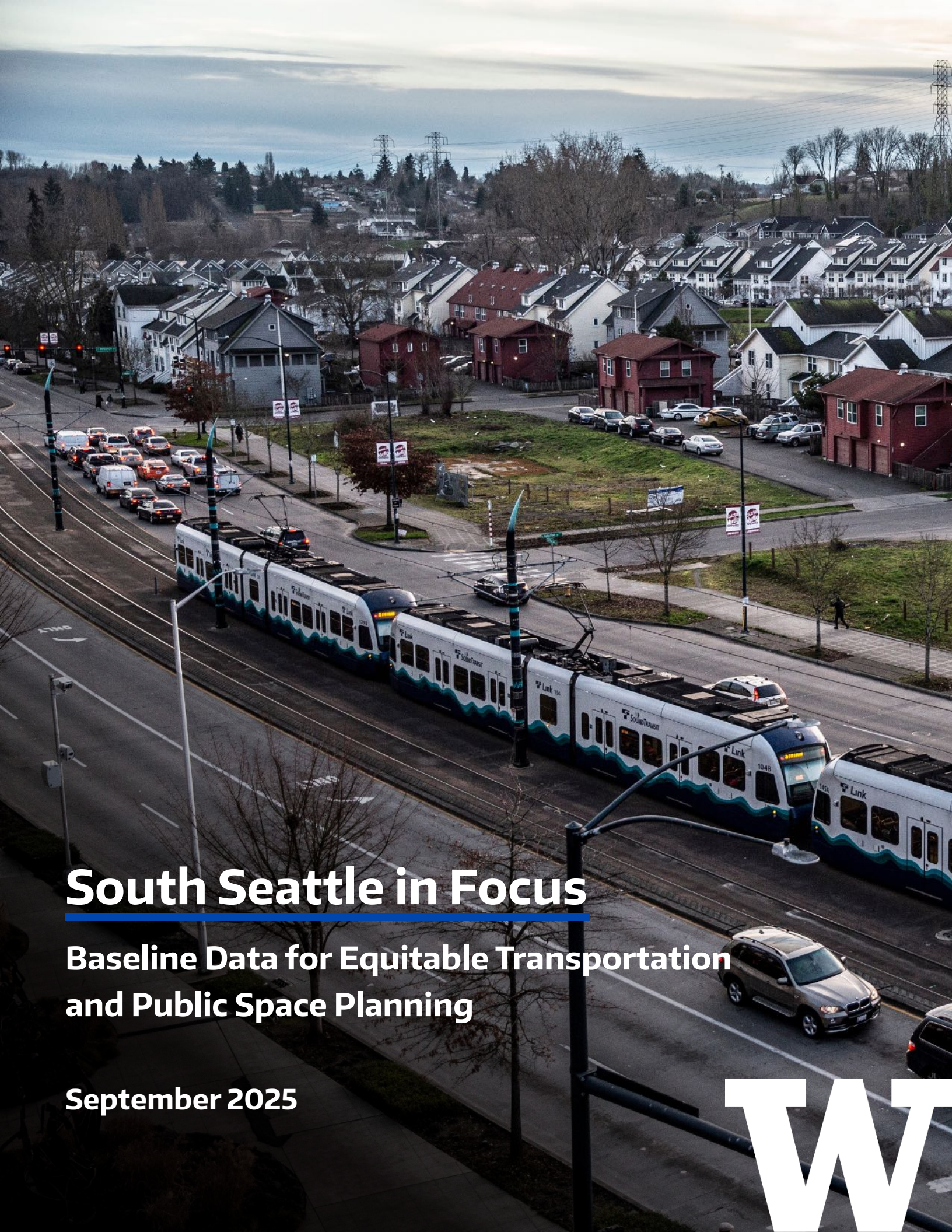

South Seattle in Focus

Baseline Data for Equitable Transportation and Public Space Planning

September 2025

This project documents non-motorized transportation (NMT) and public life patterns in South Seattle—an area historically underserved and understudied in local transportation planning— using SDOT's Public Life Assessment framework. Our baseline findings for several sites, including the future Hillman City Light Rail Station and surrounding area will help guide equitable planning, investment, and improvements to support community mobility and vibrancy.

ACKNOWLEDGMENTS

Authors

Dr. Rachel Berney, Associate Professor, Department of Urban Design and Planning
Haoyu Yue, Ph.D. Student in Urban Design and Planning

Beacon and Lander team

Aaron Lecciones, Ph.D. Student in Urban Design and Planning
Keith Leung, Ph.D. Student in Urban Design and Planning
Hoseok Sa, Ph.D. Student in Urban Design and Planning
Chithira Unnikrishnan, Master's Student in Transportation Engineering

Beacon and McClellan team 1

Jeremy Chan, Master's Student in Transportation Engineering
Jacob Melaragno, Master's Student in Urban Design and Planning
Danielle Slawny, Master's Student in Urban Design and Planning
Sarah Udelhofen, Master's Student in Urban Design and Planning

Beacon and McClellan team 2

Zaref Anderson, Undergraduate Student in Community, Environment, and Planning
Kaiden Cook, Undergraduate Student in Political Science
Garett Davis, Master's Student in Transportation Engineering
Jonah Lorica, Master's Student in Transportation Engineering

Beacon and Columbian Way team 1

Julia Sullivan, Master's Student in Urban Design and Planning
Emily Sherman, Master's Student in Urban Design and Planning
Sierra Topp, Master's Student in Urban Design and Planning
Vanessa Umana, Master's Student in Urban Design and Planning

Beacon and Columbian Way team 2

Jo Baldwin, Master's Student in Urban Design and Planning
Jessica Bonner, Master's Student in Urban Design and Planning
Neha Chinwalla, Master's Student in Urban Design and Planning
Pamela Lim, Master's Student in Urban Design and Planning + Public Health

MLK and Graham team 1

Lizándro García, Master's Student in Transportation Engineering
Chandan Brar, Master's Student in Urban Design and Planning
August Janow, Master's Student in Urban Design and Planning
Brendan Wedderspoon, Master's Student in Urban Design and Planning

MLK and Graham team 2

Carson Bridges, Master's Student in Urban Design and Planning
Eldon Luo, Master's Student in Urban Design and Planning
Aditya Mehta, Master's Student in Transportation Engineering
Tianjiu Zheng, Undergraduate Student in Community, Environment, and Planning

Citation

Berney, R., et al. (2025). *South Seattle in Focus: Baseline Data for Equitable Transportation and Public Space Planning.* Seattle, WA: University of Washington. https://doi.org/10.6069/s4y2-nq66

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Partnership

We extend our sincere thanks to the outstanding team at the Seattle Department of Transportation for their partnership on this project. In particular, we are grateful to Patrick Pirtle, Senior Public Space Planner; Ellie Smith, Senior Transportation Planner; and Alex Hagenah, IT Portfolio Planning Advisor, for their collaboration and expertise. We look forward to continuing to co-develop training, knowledge, and methodologies for data collection and analysis in support of the City of Seattle's Public Life project.

URBAN DESIGN & PLANNING

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INTRODUCTION

CHAPTER 1

This project documents non-motorized transportation (NMT) patterns and public life in south Seattle. Guided by the Seattle Department of Transportation's (SDOT) Public Life Assessment framework—developed with Gehl Architects—our work captures both the quantity and quality of public realm use. The method not only counts how many people move through an area but also records who stays, what they do, and how the environment supports their activities.

In the first week of the spring quarter, student teams completed SDOT's Public Life Assessment training, learning standard protocols for observation, data collection, and coding. This training informed each teams' work plans and ensured that the data could integrate seamlessly with other city-collected information. The alignment with SDOT's standards also means the findings will be directly useful for mobility planning, operational strategies, and public space improvements.

Over a two- to three-week period, teams conducted fieldwork at several downtown locations. Using the Public Life app, teams recorded the number of people moving and staying per hour, documented postures, activities, demographics, and travel modes, and tracked variations by time of day and day of week. Teams also documented the physical setting, including intersection maps, block faces, sidewalk widths, tree canopy, planting strips, posted street speeds, and the number of curb cuts or driveways.

Once collected, the data was analyzed to reveal movement trends and activity patterns as well as the role of design features in shaping public life. Teams then produced graphics to communicate findings to a range of audiences. These visuals were designed to make the data accessible, whether the reader is a transportation planner, community advocate, or policy maker.

This report combines the work of multiple four-person student teams into a single structure, allowing location-specific results to be compared and synthesized. Our findings aim to help SDOT, city leaders, and community partners plan for transportation improvements in south Seattle, enhancing its vibrancy, and welcoming residents and visitors alike.

OTHELLO STATION AND SURROUNDING NEIGHBORHOODS, IMAGE CREDITS:
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CONTEXT

CHAPTER 2

Socioeconomic Context

Basic Socioeconomic Context

Subject area for analysis consists of the North Beacon Hill, Mid-Beacon Hill, and parts of Columbia City neighborhoods in South Seattle (Figure 2-1). This area is bounded west by I-5 and roughly east by Rainier Ave. S. The area east of the subject area with adjacency to Lake Washington is excluded in the analysis due to differences in income, housing occupancy, and distance from our public life study sites.

North Beacon Hill and Mid-Beacon Hill are separated by Jefferson Park. Columbia City consists mostly of the area east of Martin Luther King Way S in our subject area. While each neighborhood is near each other, we find a few distinct features of each of the three neighborhoods.

FIGURE 2-1. CENSUS TRACT MAPPING
SOURCE: US CENSUS BUREAU (USCB, 2021)

Based on a 20-minute walk, we analyzed tracts specific to each public life site we observed. For the sites on Beacon Ave in North Beacon Hill (site 1), tracts 94 and 100.02 are within a 20-min walk. For the Beacon Ave and Columbian Way site (site 2), tracts 100.01,101.01, 104.01, 104.02 and 103.02 meet the 20-minutes criteria. The MLK and Graham site (site 3) is in proximity to tracts 104.01, 103.02, 103.01, 110.02, 110.01 and 111.01. There are some overlapping tracts between site 2 and 3.

Overall, the ACS estimated 2022 population of the subject area is 51,409 persons which comprises 7% of the total Seattle estimated population. The population declined about 0.8% between 2017 and 2022 in our subject area (excluding Columbia City census tracts due to redistricting changes). In contrast, the city of Seattle population increased by 6.7% and the Metro area increased by 7.1% over the same 5-year period.

We used the 5-year ACS estimates to improve accuracy, but this has the downside of less current data. One limitation of the following analysis is the assumption that pre-pandemic and post-pandemic period are similar since the 2022 estimates are based on data from 2017-2022.

Age

The subject area has a slightly above average population aged 65 and over compared to Seattle overall (Figure 2-2). While there are areas of the city which may have higher proportions of elderly, the Beacon Hill area is unique due to lower housing costs

compared to many other census tracts within the City of Seattle that have higher proportions of older residents.

The census tracts in proximity to Site 2 and Site 3 have similar age distribution profiles with more children compared to Seattle overall but fewer young adults (20-40 years old). Site 1 goes the opposite direction with less kids but more young adults, especially in the age 30 to 34 age group. Site 1's inconsistency in age profile to the other two sites also shows up in dependency ratios ; the areas around sites 2 and 3 both have a dependency ratio of 43 compared to 35 of site 1. This is driven by the low child dependency ratio in site 1 which is 12. The city of Seattle overall has a child-dependency ratio of 16, while there are more children in Mid-Beacon hill with a child-dependency ratio of around 23 for sites 2 and 3. The picture the statistics paints is North Beacon Hill's population is weighted towards male young adults and much less children while Mid-Beacon Hill is weighted towards more children. All three sites have higher proportions of seniors than the Seattle average.

With a flatter age distribution profile for sites 2 and 3, it is not a surprise that there is a higher prevalence of multi-generational households for their proximate census tracts. However, ethnicity could be a moderating factor as Asian- and African Americans have higher rates of multi-generational living (He & Jia, 2021).

Gender

One interesting anomaly is that North Beacon Hill has a larger proportion of males than females. The city of Seattle overall has more males than females with a female-to-male ratio of 0.95. In the tracts around Site 1, this ratio is 0.78 (Figure 2-3). Sites 2 and 3 have balanced gender ratios. Site 1's gender ratio is driven by a large proportion of males in the 25-35 age group.

In the observation pedestrian counts for team 2 site, we observed more male presenting than female presenting (75% of pedestrians were observed to be male presenting). This is probably due to the screen lines located north of Beacon hill station. Team 1 site also has higher counts of male presenting than female presenting, but more balanced than the Team 2 site.

Race and Ethnicity

The subject area is higher in proportion in BIPOC populations compared to the rest of Seattle (Figure 2-4). With respect to the three subject sites, the proportion of the White population appears to be declining with distance from the Seattle CBD. Conversely, the proportion of Black and Asian population increases southwards. The 2022 ACS estimated that 20% of the population was black compared to 7% citywide. Asians make up a third of the population in our subject area which is almost

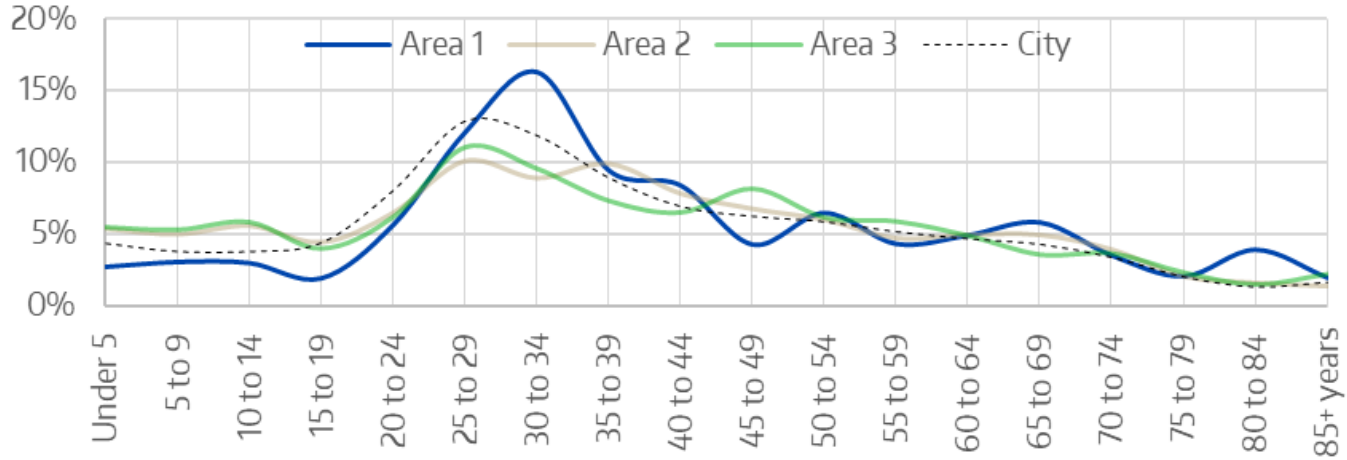


FIGURE 2-2. AGE DISTRIBUTION BY SITES AND CITY SOURCE: US CENSUS BUREAU (USCB, 2024)

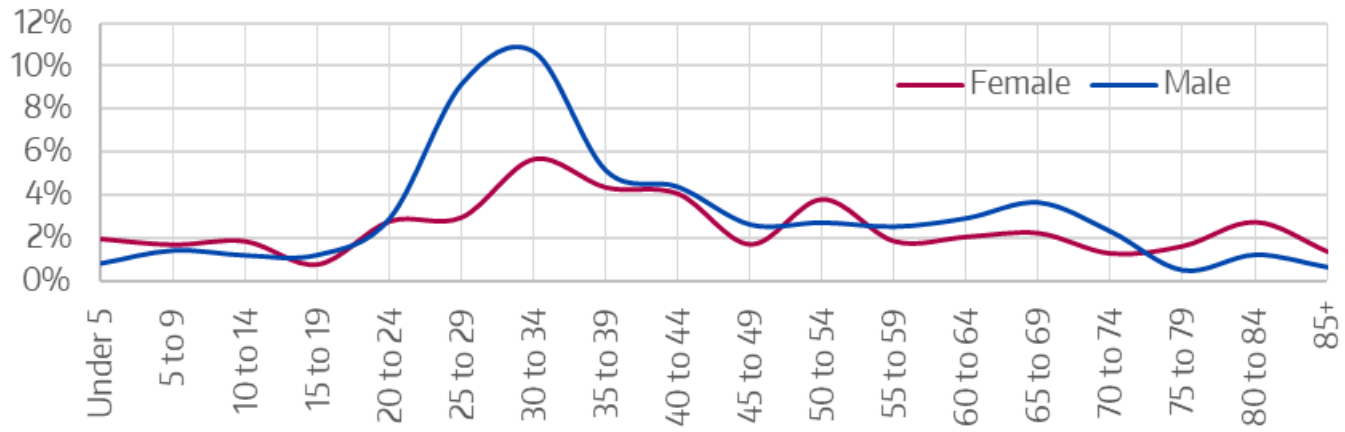


FIGURE 2-3. AREA 1 GENDER AND AGE DISTRIBUTION BY SITE AND CITY
SOURCE: US CENSUS BUREAU (USCB, 2024)

double the proportion in Seattle (16.7%). Asian Americans are the largest group in Mid-Beacon Hill, while the White population is the largest group in North Beacon Hill.

Due to the significant Asian population in the subject area, it is important to recognize the diversity within the Asian category. North Beacon Hill appears to have a larger Chinese and Japanese American populations compared to the city, while Mid-Beacon Hill has significant ethnic enclaves of Filipino and Vietnamese Americans (Figure 2-5).

While few relative to other population groups, the subject area is estimated to be home to a third of all Hawaiian/Pacific Islanders in the City of Seattle. The community fabric will be influenced by the cultural diversity and migration history of Chinese, Japanese, Filipino and Vietnamese Americans. Structural racism may reinforce a non-nativist narrative for these groups, so it is important to acknowledge the rich, at times tragic, history of migration over the past two centuries (Kia, 2007; Liu & Suyemoto, 2016; Yoo & Castro, 2011). It is important not to assume all Asian Americans in this group are immigrants.

With caution, we explore nativity estimates from the ACS. Of the population born outside the country, there are slightly higher proportions of foreign-born within Black and Asian groups in the subject area compared to the City of Seattle.

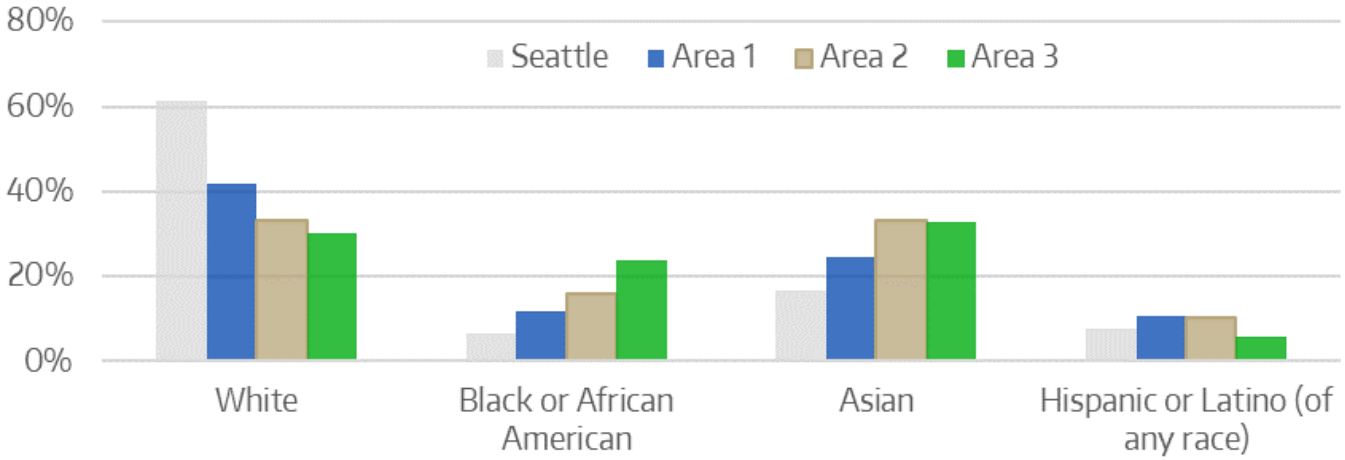


FIGURE 2-4. BIPOC POPULATION PERCENTAGE BY SITE
SOURCE: US CENSUS BUREAU (USCB, 2024)

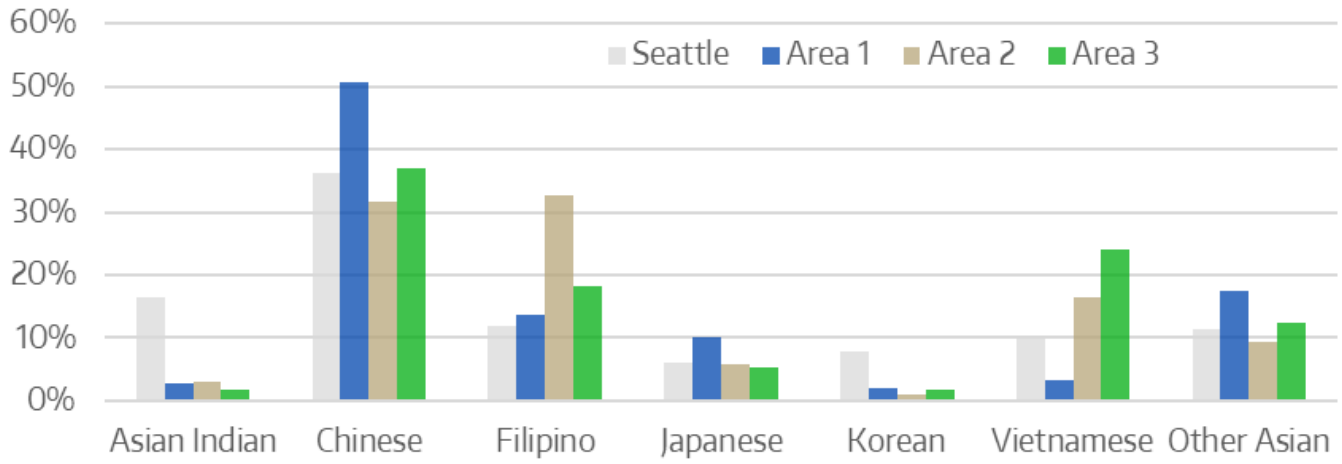


FIGURE 2-5. ASIAN POPULATION PERCENTAGE BY SITE
SOURCE: US CENSUS BUREAU (USCB, 2024)

However, the overwhelming majority 96.4% of the population in the subject area were born in the United States (Figure 2-7). Depending on one's definition of local nativity, Mid-Beacon hill (with its elevated Black and Asian populations) has a higher proportion of people born in-state compared to the rest of Seattle. This pattern would concur with migration literature, as greater resources aid in mobility. The subject area has historically been a lower opportunity area compared to neighborhoods to the north, which could lead to lower mobility patterns. Seattle has experienced dramatic growth in the past few decades. Along with economic growth, Seattle gained an influx of new residents from out of state. Beacon Hill likely has a higher concentration of people who have been residents before Seattle transformed into a world-class technology hub.

Income and Education

Our subject area has a greater proportion of households with an income below $35,000 (30%) and less households above $200,000 (20%) compared to the city of Seattle overall (23% below $35,000 and 27% above $200,000).

The lower income level in the subject area can also be expressed as median income of $93,542 compared to $116,068 in Seattle. However, there

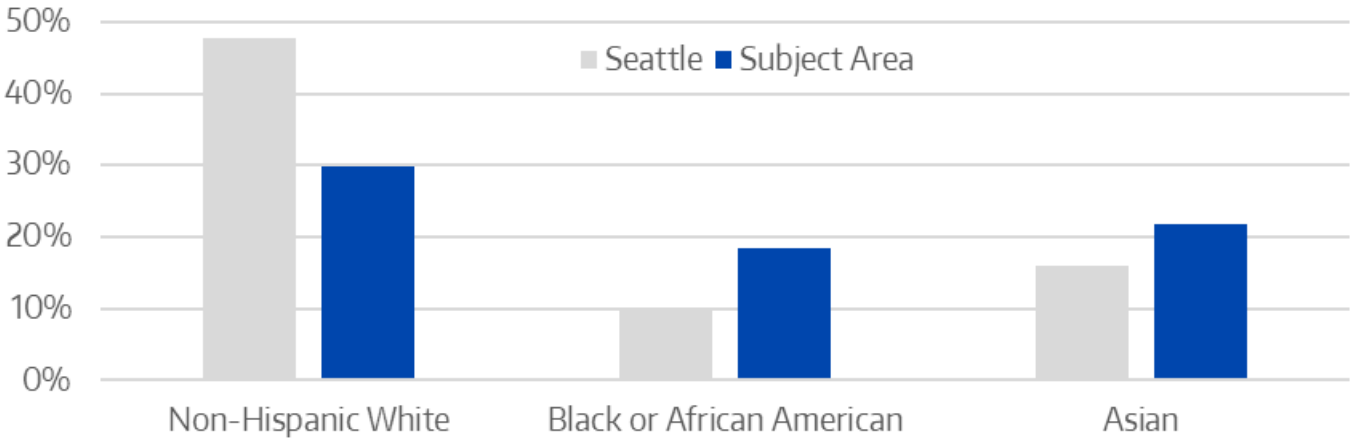


FIGURE 2-6. POPULATION BORN OUTSIDE OF THE U.S. WITHIN RACE GROUP
SOURCE: US CENSUS BUREAU (USCB, 2024)

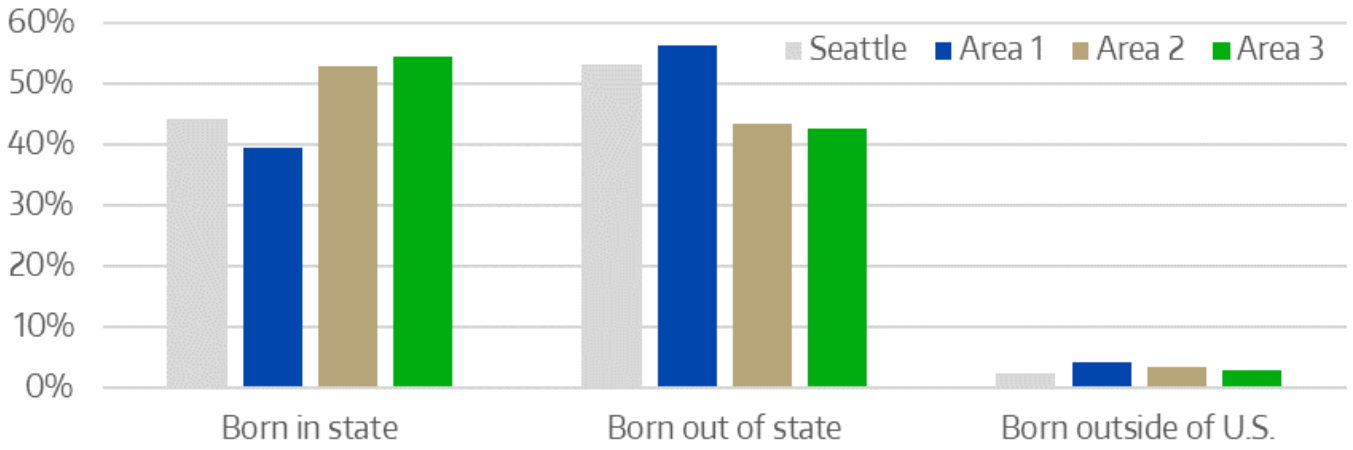


FIGURE 2-7. NATIVITY ESTIMATES
SOURCE: US CENSUS BUREAU (USCB, 2024)

is substantial dispersion in the subject area census tracts. The census tracts with the highest median income are 100.02 ($112,000), 103.01 ($125,000), 103.02 ($121,000), and 104.01 ($134,000). While a robust analysis is required, it appears that the higher income census tracts are clustered around light rail stations. Additionally, census tracts east of MLK seem to have higher incomes.

The population of the subject area tends to have lower years of education which concurs with lower income levels (Figure 2-9). The population that is a high school graduate or higher in the subject area is 85% compared to 96% in the city of Seattle. Our subject area also lags behind in population with a bachelor's degree or higher with 45% compared to 67% in the city.

Commute Mode

Our subject area has a mean commute time of 32 minutes compared to the city mean of 27 minutes. In line with its more centralized location, North Beacon hill has a slightly shorter commute (28 minutes) compared to Mid-Beacon hill (32 minutes).

Driving alone is the predominant mode of transportation for all neighborhoods. North Beacon

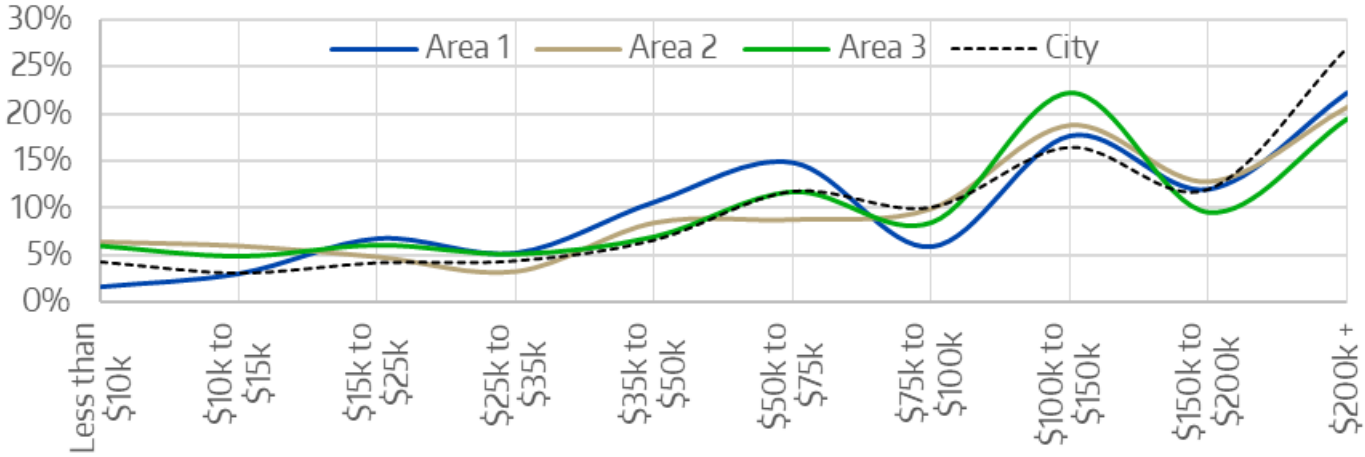


FIGURE 2-8. HOUSEHOLD INCOME DISTRIBUTION
SOURCE: US CENSUS BUREAU (USCB, 2024)

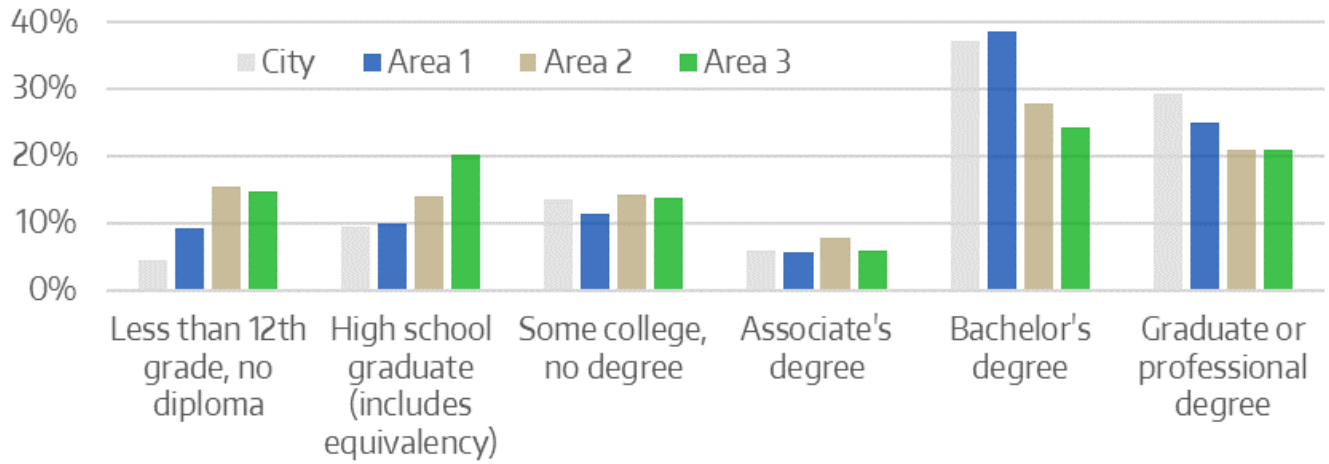


FIGURE 2-9. EDUCATIONAL ATTAINMENT BY SITE
SOURCE: US CENSUS BUREAU (USCB, 2024)

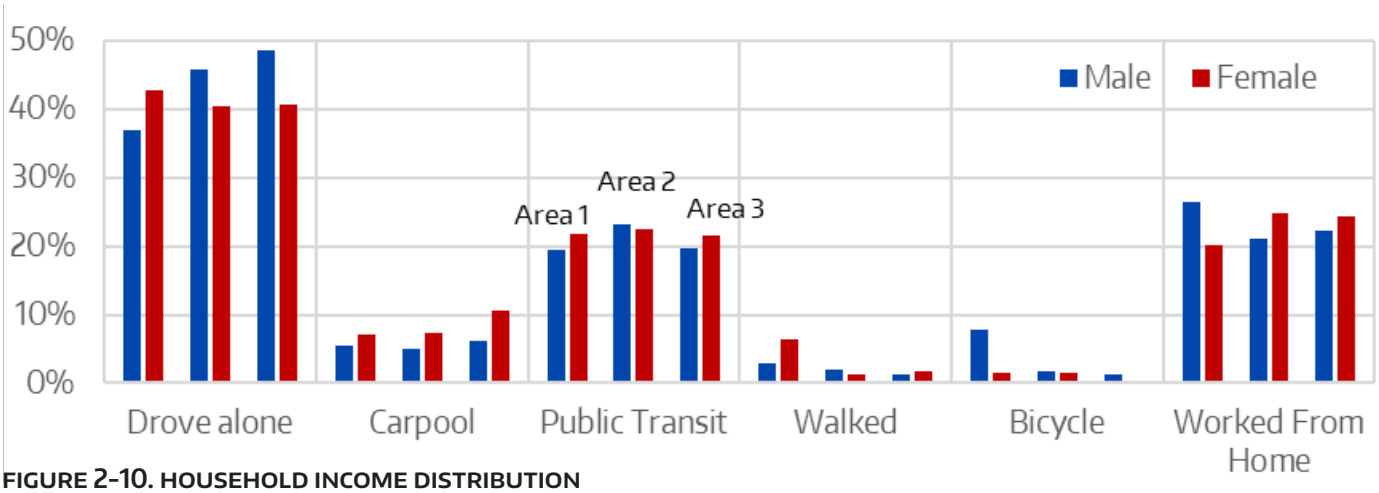


FIGURE 2-10. HOUSEHOLD INCOME DISTRIBUTION
SOURCE: US CENSUS BUREAU (USCB, 2024)

Hill has a higher prevalence of non-motorized transportation (walk and bike) with more females walking but more males biking. Women are also estimated to be more likely to carpool.

Land Use and Zoning

The land use and zoning of the areas surrounding the three sites are all of particular interest to the City of Seattle as they influence the characteristics of individuals moving and staying. Indeed, the land uses surrounding public spaces greatly influence the types of behavior that can be observed. Typically, public parks or plazas surrounded by bustling retail and commercial will have higher rates of foot traffic, in contrast with parks nestled in single-family neighborhoods. As such, the current land uses surrounding the sites can help inform why we see certain activity levels of staying versus moving, and future land uses help predict how these behaviors may change over time. Through this, public space has the potential to evolve and change to suit the future needs of the area.

The Beacon Hill Light Rail Station is located south of Interstate-90 and east of Interstate-5, limiting certain connections to nearby neighborhoods. Directly adjacent to the station itself is primarily neighborhood commercial (NC2), high-density

multi-family (MR), and low rise multi-family (LR1). This largely reflects traditional transit-oriented development (TOD), which works to create compact and mixed-use environments near transit. The rest of the nearby area is mostly made up of neighborhood residential (NR3) and residential small lot (RSL), with lower densities than the immediate vicinity of the light rail station. In contrast, the future land use has consolidated much of the neighborhood commercial, high-density multi-family, and low rise multifamily with the residential small lot for the City's residential urban village vision, highlighting the diverse land use needs that the community may have and simplifying to create a livable and active area surrounding the station.

The intersection of S Columbian and Beacon Ave S is situated just south of a large swath of city-owned

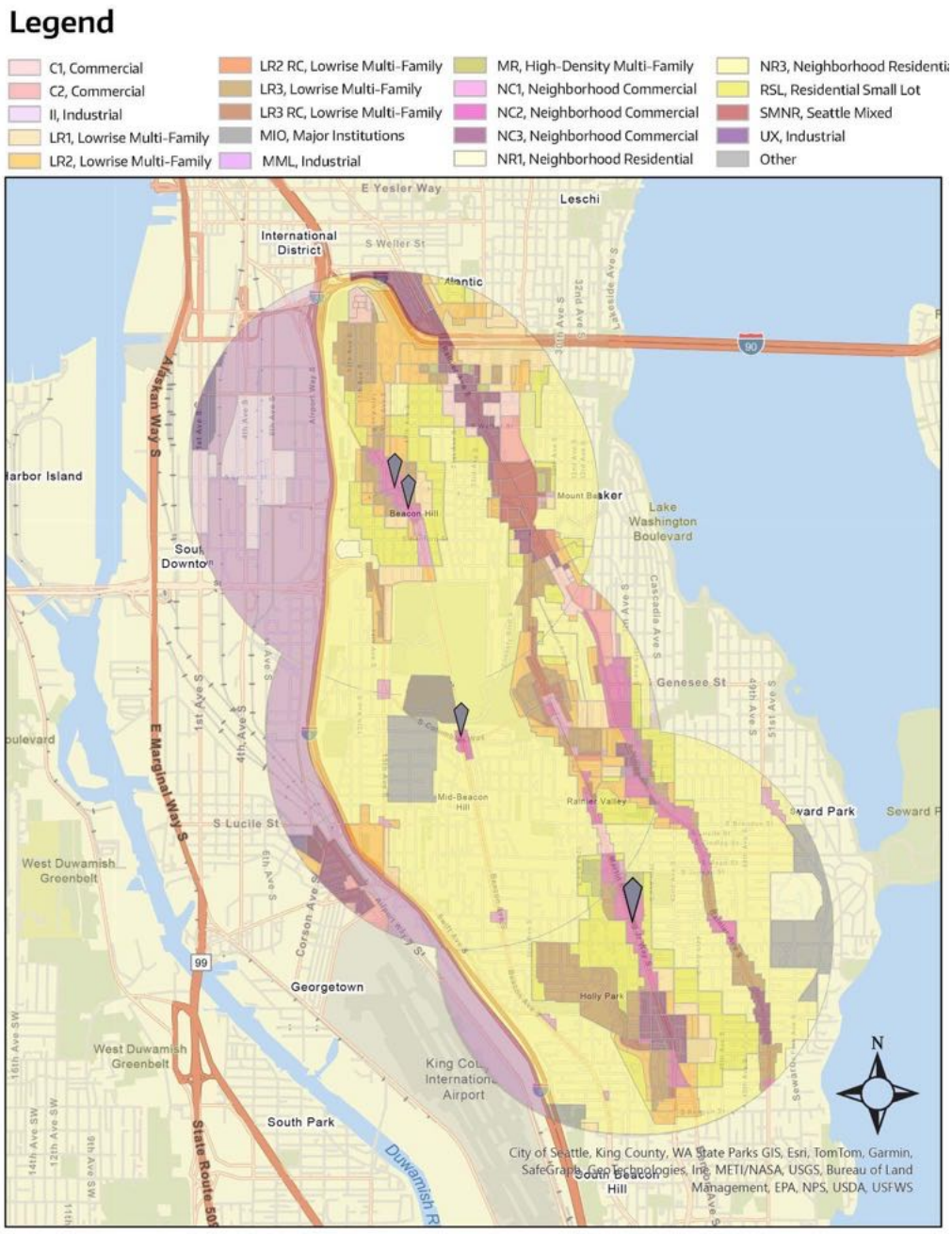


FIGURE 2-11: CURRENT ZONIN IN ALL THREE STUDY AREAS.

*NOTE: A 1-MILE RADIUS WAS SUBSTITUTED FOR A 20-MINUTE WALKSHED FOR ALL ZONING MAPS.

land (the Jefferson Park Golf Course). The intersection itself is zoned for neighborhood commercial (NC2) and is surrounded by neighborhood residential (NR3) and an institution (the VA Puget Sound Health Care System). The future land use does not indicate any significant changes to the land use surrounding the intersection.

The intersection of MLK Jr. Way and S Graham Street is the location of a future Link light rail infill station. MLK Jr. Way has a large stretch of neighborhood commercial (NC2) along much of the street, which is then surrounded by residential small lot (RSL) and neighborhood residential (NR3). South of the site is the Othello light rail station and King Plaza shopping center, zoned for neighborhood commercial (NC3).

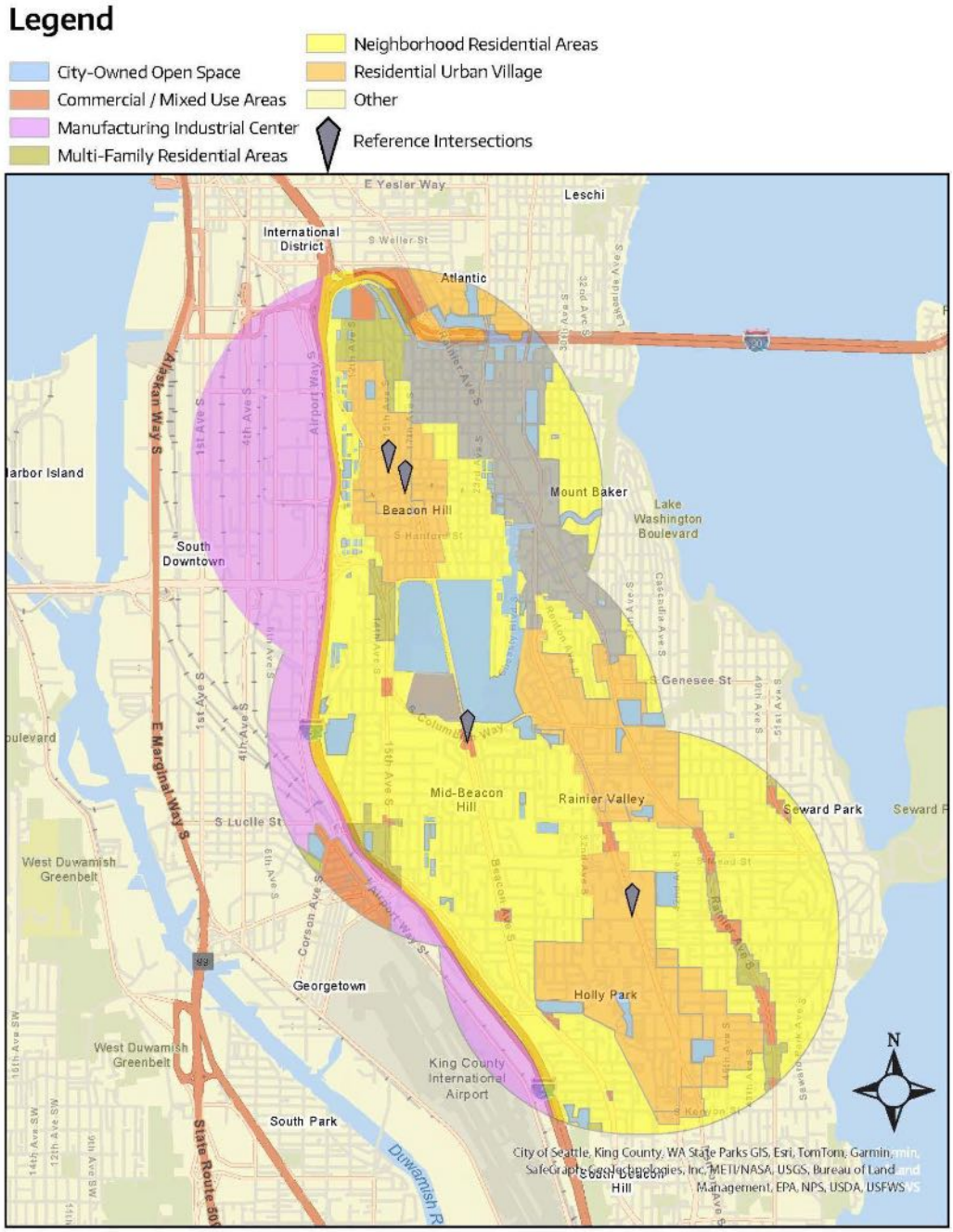


FIGURE 2-12: FUTURE LAND USE PLANNING IN ALL THREE STUDY AREAS.

Running parallel to MLK Jr. Way to the east, Rainier Ave S has some of the same zoning types (NC2) and also low-rise multifamily (LR3). In the future, the land uses surrounding the future Link light rail station will be consolidated into a residential urban village, encapsulating both the future infill and Othello stations.

The land use and zoning around Seattle's Beacon Hill Light Rail Station, the intersection of S Columbian and Beacon Ave S, and the intersection of MLK Jr. Way and S Graham Street reflect the patterns of development and future planning. Beacon Hill's zoning promotes mixed-use environments and future plans aim to create a residential urban village. In contrast, the S Columbian and Beacon Ave S intersection is surrounded by stable uses with no significant changes planned, and the MLK Jr. Way and S Graham Street area will consolidate into a residential urban village, enhancing connectivity and livability around future transit stations.

Capital Improvement Projects

Seattle's Department of Transportation (SDOT) references and coordinates capital improvement projects happening in the right-of-way (ROW) through a series of plans, reports, maps, and guiding documents. Some of those include Vision Zero, Neighborhood Greenways, DotMaps, Modal Master Plans, 20-Year Bicycle Plan, One Seattle Comprehensive Plan, and the Levy to Move Seattle.

Having a clear picture of planned and anticipated transportation capital improvements adjacent to a specific site can ensure SDOT division staff adopt a coordinated approach to improving transportation needs within that area. Each improvement will have a different time period and project length, project manager or division lead, as well as disruptions to the right-of-way and flow of travel which can impact safety, efficiency, and overall enjoyment of moving through or staying in an area.

To mitigate negative impacts to pedestrians, bicyclists, and vehicles and create seamless transitions within the ROW a 20 minute walkshed generated from TravelTime Maps (n.d.) at the intersections of Beacon Avenue S and S Lander Street & S McLellan Street, Beacon Avenue S and S Columbian Way, and Martin Luther King Jr Way S and S Graham Street was conducted to inform SDOT of future planning needs, where gaps exist, and important projects to be aware of.

Vision Zero

Vision Zero is the City of Seattle's goal and movement to end traffic related fatalities and serious injuries on city streets by 2030. SDOT recently released a 2024 update to the Vision Zero Action Plan in addition to a variety of projects already underway that aim to increase the safety of pedestrians, cyclists, and drivers. Notable projects in southeast Seattle that are in proximity to our three locations include the Beacon Ave S and 15th Ave S Safety Project as well as the Martin Luther King Jr Way Safety Project.

Beacon Ave S and 15th Ave S Safety Project

This project seeks to improve pedestrian and bicycle safety as well as connections to transit through updated infrastructure in north Beacon Hill. Construction will begin summer of 2024. Improvements include sidewalk repairs along the entire route with a focus on intersections. Americans with Disabilities (ADA) infrastructure such as Accessible Pedestrian Signals (APS) buttons at crossings and 42 new curb ramps will be installed that will allow wheelchair users and those using mobility devices to more easily travel safely from Dr. Jose Rizal Bridge to S Spokane Street along 15th Ave S and Beacon Ave S. In addition to improved pedestrian infrastructure, this project will install concrete protected bike lanes for both sides of 15th Ave S as well as post protected bike lanes on Beacon Ave S. New bike traffic and crossing signals will be added to three intersections along the route. To improve connections to transit in north Beacon Hill, bus stop islands will be constructed on both sides of Beacon Ave S at two intersections: S Hanford St and the Beacon Hill Link Light Rail Station.

Martin Luther King Jr Way Safety Project

This project that is already underway seeks to

update the street design along Martin Luther King (MLK) Jr Way S from the Mount Baker Light Rail Station to the future Judkins Park Light Rail Station. Construction began at the end of September 2023 and will continue through 2024. These improvements will create safer pedestrian connections to transit by reducing vehicle lanes, slowing down cars, and building protected bike lanes. One lane in each direction in addition to a center turn lane will result in more predictable vehicle movements while still accommodating freight and transit. Additional infrastructure upgrades include road repainting to increase visibility, the repair and widening of sidewalks to increase separation of pedestrians from traffic. Similarly to the Beacon Hill Project, ADA upgrades will be installed including 30 curb ramps and pedestrian walk signals. Parking will be revised while also ensuring access to local businesses.

Neighborhood Greenways

The City of Seattle has developed a network of neighborhood greenways, protected bike lanes, and trails that connect people to the places they want and need to go (City of Seattle, 2024). Specifically, Neighborhood Greenways are neighborhood streets that are safer and calmer. People who are walking and biking are prioritized with better wayfinding and a variety of traffic calming measures.

DotMaps

DotMaps is SDOT's interactive project and construction coordination map that shows where future construction projects will take place or other events that may impact the ROW (Project and Construction Coordination Map, n.d.). The map shows where the project will take place, the expected time frame, a description of the work, the department managing the project, and the specific project manager with contact information. When projects intersect or potential improvements will overlap, this tool can help coordinate between projects to ensure the least amount of disruption to the ROW takes place, as well as inform the design of the project to help it seamlessly transition into the existing conditions and environment. For this analysis, the projects referenced are by agency type and look at SDOT specifically.

While some projects in DotMaps are smaller and more focused on a specific intersection or portion of a road others are larger in scope and take place across all three walksheds. In DotMaps there is a function to draw a boundary within the map that shows all the projects taking place in that area. After drawing a rough boundary comparable to the 20-minute walkshed and filtering for SDOT projects, 48 results were found. The full project list can be found in the appendix.

Notable projects running through all three 20-minute walksheds or across multiple blocks within a walkshed include Beacon Hill Bike, Route 36 Transit Corridor, Beacon Ave S Walkway, S Orcas St speed cushions, Better Bike Barriers, MLK Jr. Way S BMP Study, MLK Data Pilot Project, Beacon Ave S and 15th Ave S Safety Project, and the MLK Jr Way S PBL - S Judkins St to Rainier Ave S. All of these projects aim to increase safety for pedestrians and bicyclists, however the focus remains on creating barriers between those modes of transportation from vehicles and freight and are concerned with moving people through spaces. When thinking about public life, especially staying and lingering, none of these projects are concerned with reallocation of space to support that.

Modal Master Plans

SDOT's modal master plans are 20 year plans that envision ways to coordinate across transportation modes and keep the city moving safely and efficiently (Modal Plans, n.d.). While the new Seattle Transportation Plan will supersede the modal master plans, these planning documents have been a guiding framework across the city and will still be referenced when looking at specific areas and streets (Seattle City Council, 2024). The modal plans include the Bicycle Master Plan, Pedestrian Master Plan, Freight Master Plan, and Transit Master Plan. Each plan addresses how to better connect transportation networks, increase safety and efficiency, create more accessible and enjoyable spaces, and keep goods moving. Each street in Seattle may have a modal plan associated with it and some have already been

improved based on the plan. Others will highlight future projects that are going to take place there.

20-Year Bicycle Plan

We specifically call out the proposed 20-Year Bicycle Plan in Seattle Bike Blog (2024) to support our research regarding proposed changes to the built environment around our sites. This proposed plan is expected to affect Beacon Hill and Rainier Valley most. We call out specific intersections near our sites as highlighted in the 20-Year Bicycle Plan proposed by Mayor Bruce Harrell:

- S Snoqualmie St: Bike + Non-Arterial, Proposed
- S Snoqualmie St & 15th Ave S: Bike + Arterial, Proposed upgrade
- S Ferdinand St: Bike + Non-Arterial, Proposed
- S Dawson St: Bike + Non-Arterial, Proposed
- S Holly St: Bike + Non-Arterial, Proposed
- Beacon Ave S: Bike + Arterial, Proposed upgrade
- S Forest St: Bike + Non-Arterial, Proposed
- S Roxbury St: Bike + Arterial, Proposed

We highlight these areas of focus and the proposed network expansion to expand on ongoing efforts around our study sites and consider relevant recommendations.

Additionally, to determine which of our project sites reference a modal plan, SDOT's Streets Illustrated Map (n.d.) was used. This map allows the user to click on any street in Seattle to see what it is classified as, as well as any associated modal plans. Each street at this project's 3 intersections references a modal plan, shown in table 2-1. These documents along with the Seattle Transportation Plan could be useful to reference when thinking about future improvements to the project's intersections and how those could coordinate with existing efforts, networks, and plans.

Levy to Move Seattle

Our Seattle Transportation Levy (City of Seattle, 2024) is expiring soon. Mayor Bruce Harrell has proposed priorities tied to funds for the next term. These funds are intended to support SDOT in their efforts to improve all modes of transportation for users. The proposed Transportation Levy details where we could stand in terms of funding and transit improvements that would affect our study sites. The levy also details the interconnectedness between modal plans and the 20-Year Bicycle Plan in hopes of aligning priorities with all efforts around Seattle's transportation systems.

One Seattle Vision and Levy

We refer to the One Seattle Vision (2024) to find relevant information regarding how realistic and fully funded transportation and NMT projects currently are in Seattle. The most recent news shared by Mayor Bruce Harrell is a 8-year $1.45 billion Transportation Levy centering long-term safe, reliable and connected transportation modes

TABLE 2-1: ASSOCIATED MODAL PLANS BY STREET

Street	Bicycle Master Plan	Freight Master Plan	Pedestrian Master Plan	Transit Master Plan
Beacon Avenue S	Sharrows	n/a	Priority Investment Network	Frequent Transit Network
MLK Jr Way S	n/a	Major Freight	Priority Investment Network	Frequent Transit Network
S Columbian Way	Protected Bike Lane	Minor Freight	Priority Investment Network	n/a
S Graham Street	n/a	n/a	Priority Investment Network	n/a
S Lander Street	n/a	n/a	Priority Investment Network	n/a
S McClellan Street	n/a	n/a	Priority Investment Network	n/a

(Craighead, 2024). This levy explains the proposal is essential to the improvements we recommend for our study sites because it allows us to consider where there are feasible opportunities given a possible budget for each given improvement. The relevant tasks highlighted and funding for each are as follows:

- $423 million to repave arterial streets but also improved infrastructure for walking, biking, and rolling.
- $162 million for safety improvements including street, sidewalk, intersection, and crossing improvements.
- $145 million to connect people to transit hubs, including the Link Light Rail, and improve transit reliability.
- $114 million to expand Seattle's protected bike lane network. Connecting major facilities and institutions to bike paths, lanes, and neighborhood greenways.
- $100 million to install and maintain traffic signals to improve safe and reliable pedestrian connectivity and movement.

All of these proposed focus areas would be the primary focus of Mayor Bruce Harrell through the next transportation levy. We highlight these areas of investment to show how Seattle is a growing City and these are the specific transportation improvements next in the pipeline.

Seattle in Progress

Data on in-progress developments was gathered through the Seattle In Progress website and sorted into projects that are in pre-review, in review, and those that have been approved for development. These were overlaid with a 20-minute walkshed from the three project sites. The majority of developments are in the Beacon and McClellan/Lander survey area at 465 followed by the MLK and Graham survey area at 370 and the Beacon and Columbian area at 302. A significant portion of the Beacon and Columbian walkshed is taken up by greenspace and thus cannot be developed.

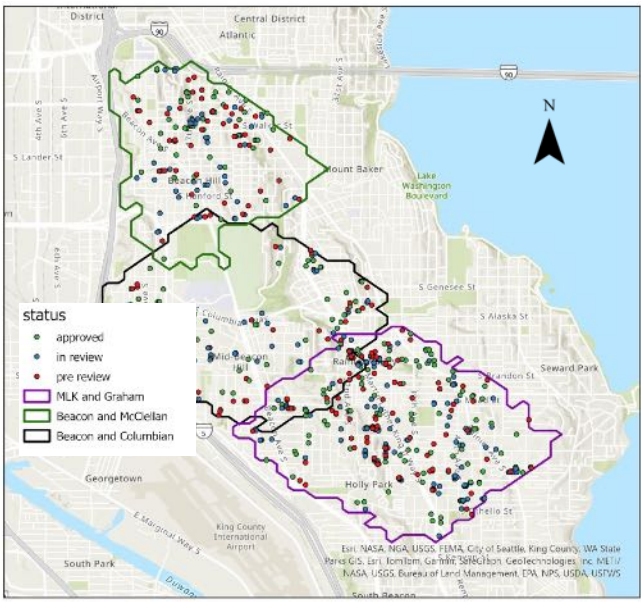


FIGURE 2-13: IN-PROGRESS DEVELOPMENTS FOR ALL SURVEY AREAS WITHIN A 20-MINUTE WALKSHED

The Beacon and Columbian walkshed area has a total of 302 sites in development, with 120 approved, 90 in review, and 92 in pre-review. The projects are mostly spread out over the area, with some

TABLE 2-2: COUNTS OF IN-PROGRESS DEVELOPMENTS FOR ALL SURVEY AREAS WITHIN A 20-MINUTE WALKSHED.

Survey area	Projects in pre-review	Projects in review	Approved projects	Total projects In progress
Beacon and McClellan/Lander	134	158	173	465
MLK and Graham	101	153	116	370
Beacon and Columbian	92	90	120	302
Total	327	401	409	1,137

clustering around MLK and S Alaska St and near the Jefferson Park Community Center. There are many in-progress developments around the Columbia City light-rail station, particularly South of this area in the Rainier Valley.

The walkshed around Beacon and McClellan/Lander has 465 total in-progress developments, with 173 approved, 158 in review, and 134 in pre-review. There are clusters of development around 17th Ave S and S Walker St, McClellan and 14th Ave S, and north of the Jefferson Park Community Center. There are very few in-progress developments around the Cheasty Greenspace/Mount Baker light-rail station.

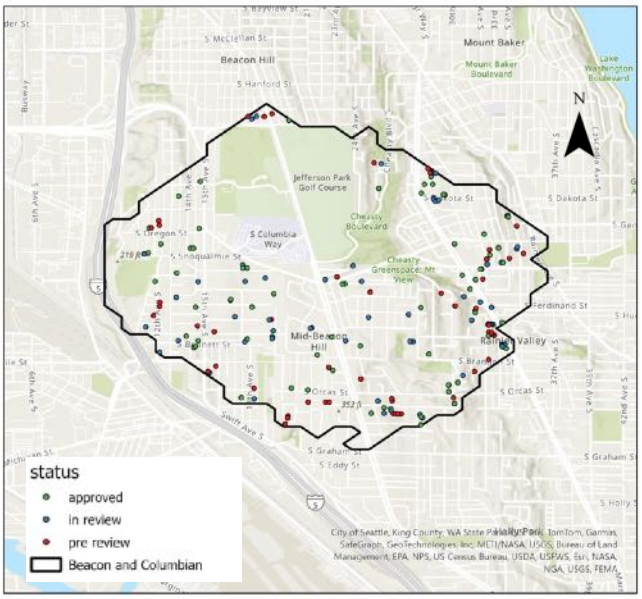


FIGURE 2-14: IN-PROGRESS DEVELOPMENTS FOR BEACON AVE S AND S COLUMBIAN WAY WITHIN A 20-MINUTE WALKSHED.

The walkshed around MLK and Graham has a total of 370 developments, with 116 approved, 153 in review, and 101 in progress. There is a cluster of projects around MLK and S Dawson St as well as around Rainier Ave S and S Holly St. There are few developments around Holly Park, north of the Van Asselt Community Center, or near the Othello light-rail station.

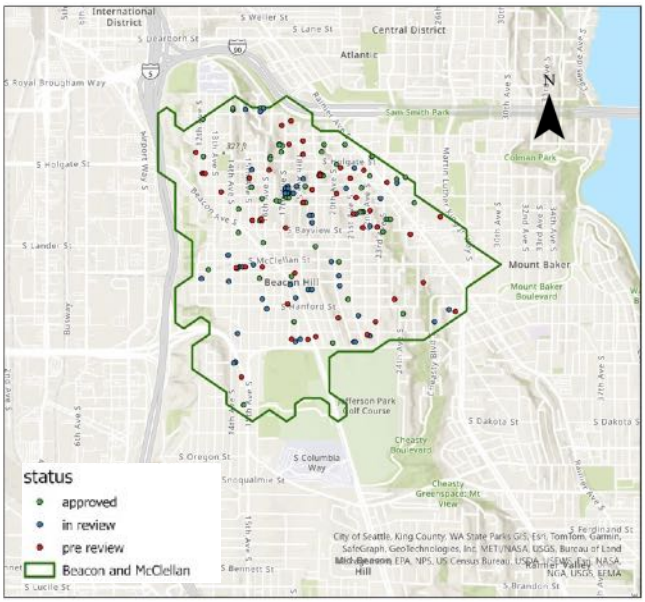


FIGURE 2-15: IN-PROGRESS DEVELOPMENTS FOR THE BEACON AND MCCLELLAN/LANDER SURVEY AREA WITHIN A 20-MINUTE WALKSHED.

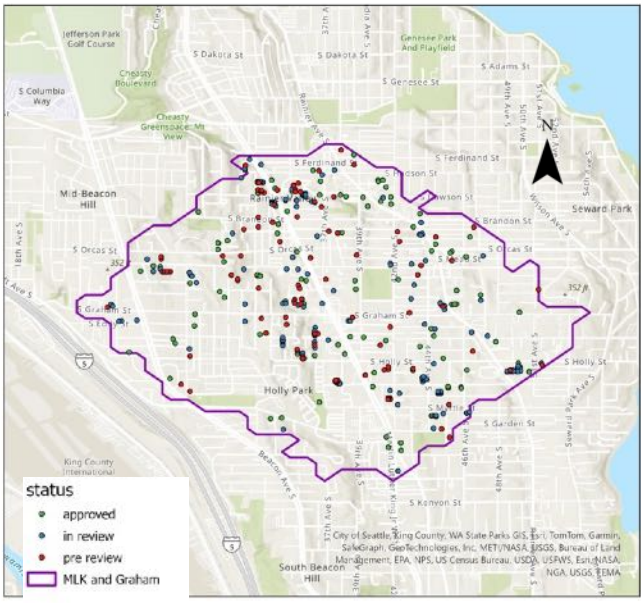


FIGURE 2-16: IN-PROGRESS DEVELOPMENTS FOR THE MLK AND GRAHAM SURVEY AREA WITHIN A 20-MINUTE WALKSHED

Walksheds

The three intersections being studied in the Public Life Assessment include two intersections along Beacon Ave S at S Lander/S McClellan St and at S Columbian Way and a third intersection at Martin Luther King Jr. Way S and S Graham St. These intersections were chosen due to their proximity to nearby destinations of interest and existing and future transit services. The following figures show the walkshed maps developed from TravelTime of the aforementioned intersections depicting 5-minute (in orange), 10-minute (in red), and 20-minute extents (in blue).

The walkshed for these intersections in Seattle are influenced by the layout of the street network and topography of South Seattle. Generally, the gridded street network in South Seattle contributes to the circular-shape of the walkshed at all intersections. Some exceptions to this include the walkshed of S Lander/S McClellan which is cut short to the west due to Interstate 5 (I-5). Additionally, at the intersection at S Columbian Way, the topography and nearby land use impacts the walkshed north of the intersection.

Figure 2-17 shows how a 5 and 10-minute walkshed from the intersection Beacon Ave S near S Lander/S McClellan St gives access to many of the residential areas around Beacon Hill. Meanwhile, a 20-minute walk can reach as far as Mount Baker to the east, SODO to the west, and areas north of Beacon Hill just south of I-90.

Figure 2-18 shows how a 5-minute walk can access the business district surrounding Beacon Avenue S and S Columbian Way. A 10-minute walkshed can access the surrounding neighborhood and VA hospital, while a 20-minute walkshed accesses portions of the Rainier Valley to the south and central Beacon Hill to the north.

Figure 2-19 shows how a 5-minute walk can access the immediate buildings around Martin Luther King Jr. Way S and S Graham Street. A 10-minute walkshed includes most of the surrounding neighborhood, while a 20-minute walk includes Othello Station, as well as large parts of the Rainier Avenue S corridor including much of Columbia City.

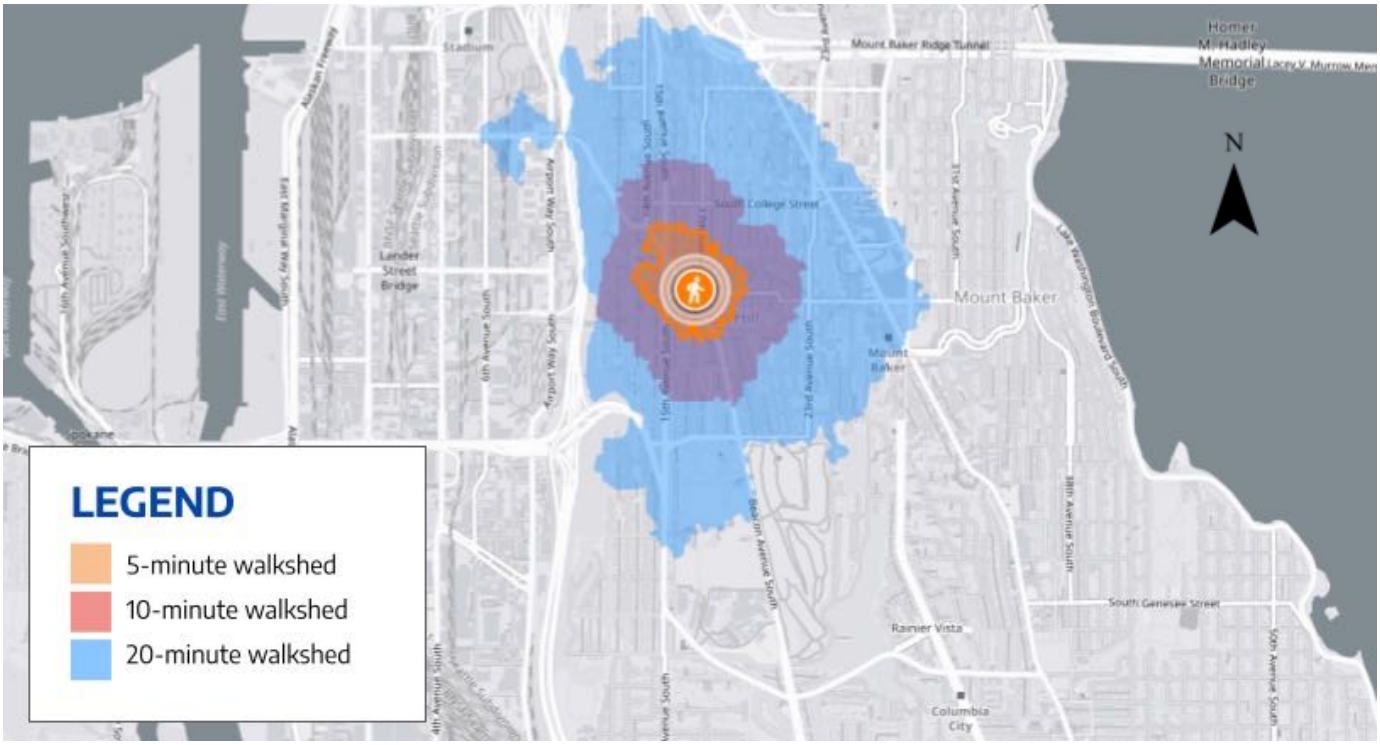


FIGURE 2-17: WALKSHED MAP OF BEACON AVE S AND S COLUMBIAN WAY (SOURCE: TRAVELTIME)

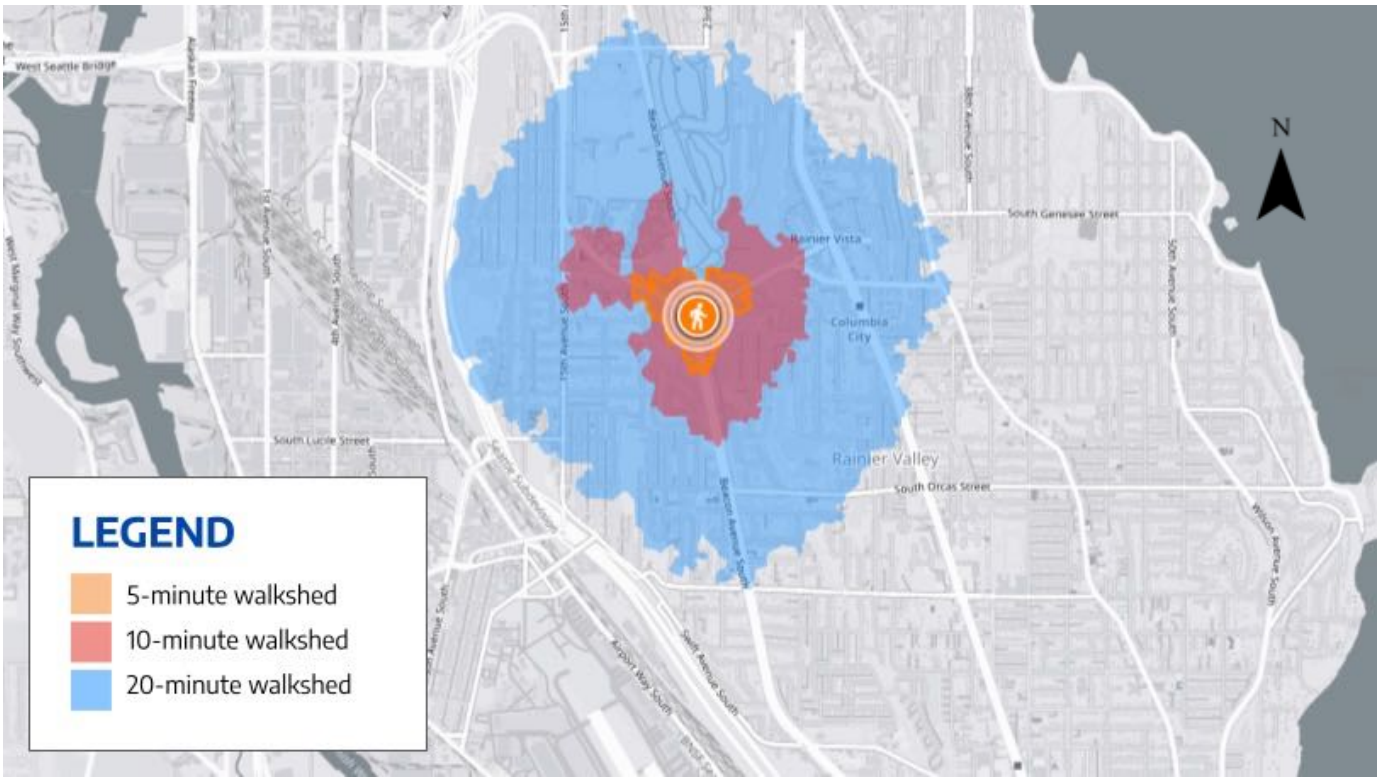


FIGURE 2-18: WALKSHED MAP OF BEACON AVE S AND S COLUMBIAN WAY (SOURCE: TRAVELTIME)

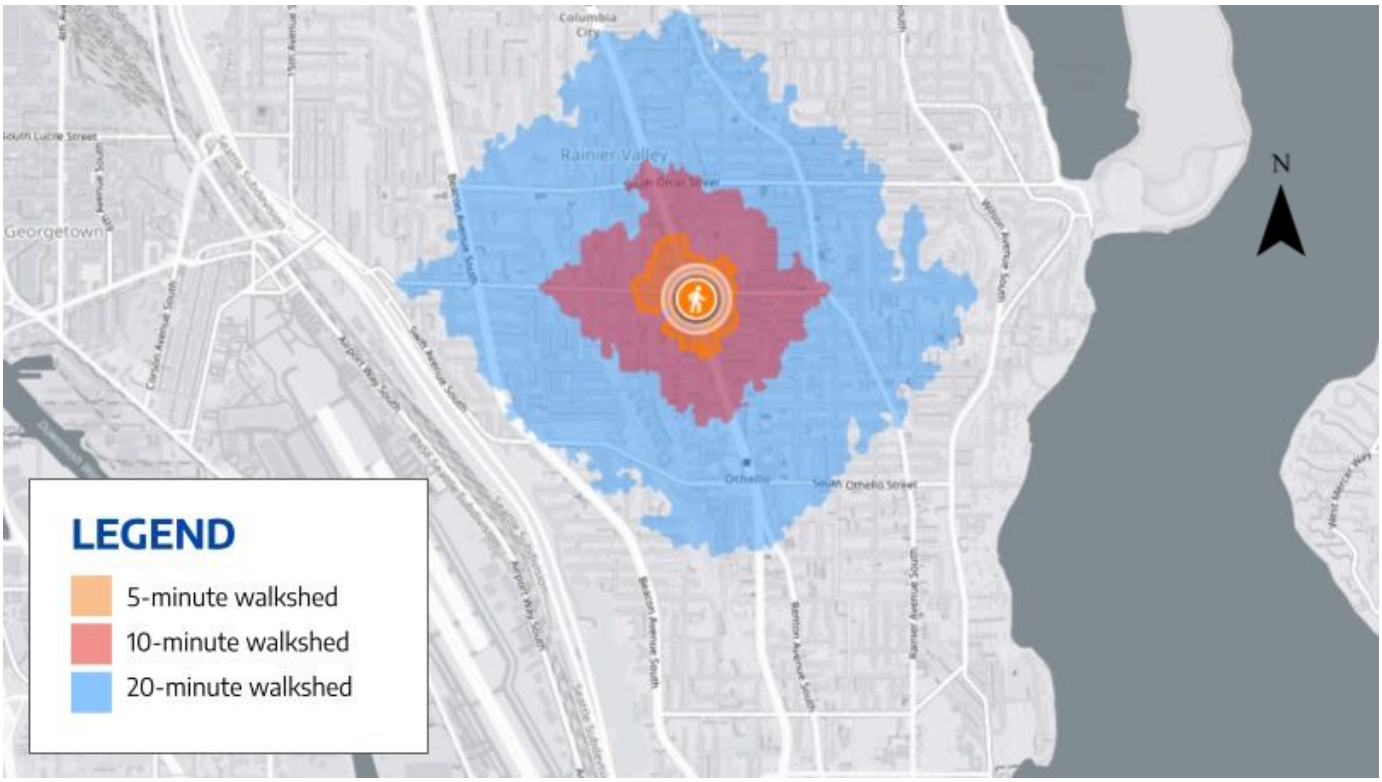


FIGURE 2-19: WALKSHED MAP OF MARTIN LUTHER KING JR. WAY S AND S GRAHAM ST (SOURCE: TRAVELTIME)

Looking across S Lander Street at the Beacon Hill Link light rail station
Image credits: Authors (2024)

BEACON AVE S X NORTH BEACON COMMERCIAL DISTRICT & LIGHT RAIL STATION

CHAPTER 3

S Lander Street & Roberto Maestas Plaza

Study Site Introductions

Two locations proximate to the intersection of Beacon Ave S and Lander (BH LRS) labeled Team 1 and Team 2 (Figure 3-1) were studied for public life using the SDOT Public Life App methodology. Team 1 is located along Lander Street fronting the sidewalk area adjacent to eastbound vehicular traffic with a screen line (orange solid line in Figure 3-1) approximately at the sidewalk light fixture in front of the Seattle Credit Union. This is composed of two areas covering the north and south sidewalks of Lander Street. Team 2 is located along Beacon

FIGURE 3-1. LOCATION OF PROJECT SITE
SOURCE: ADAPTED FROM GOOGLE MAPS AND COURSE MATERIALS

Avenue South fronting the sidewalk area adjacent to northbound vehicular traffic with a screen line approximately fronting the "The Best Income Tax Consultant Service" store and the southern edge of the property line for lot 2548. Team 2 site only covers the eastern sidewalk along Beacon Avenue South. The observation area for Team 1 is approximately 270 linear feet while for Team 2 it is 470 linear feet.

The Team 1 site is characterized by a redeveloped section of urban space comprising newly built residential apartments and civic and commercial space, all within proximity to the Beacon Hill Light Rail Station (BH LRS). This observation site is composed of two areas designated as the North Sidewalk Section and the South Sidewalk Section.

The Team 2 site is characterized by an older section of the neighborhood comprising single-detached homes, low-density apartments, and commercial establishments.

Results

The results of the analysis are divided into 3 sections, namely: people, mobility and transport, and public infrastructure. The analysis for Team 1 site and Team 2 site is made separately in each section.

People

TEAM 1 SITE

The data provided in Table 3-1 shows that, on both weekdays and weekends, people are more likely to be moving rather than staying at the observed site. The weekday morning period for males stands out with the highest linger factor, emphasizing a strong movement trend. Conversely, females exhibit more variability, with significant lingering during the weekday afternoons and a high movement trend on weekend evenings.

The overall tendency for males to move more than females is evident in both weekday and weekend data. Additionally, the reduced number of people staying compared to those moving underscores the transient nature of the site's use. This pattern is

FIGURE 3-2. TEAM 1 SITE NORTH SIDEWALK SECTION
SOURCE: COMPOSITE IMAGE FROM GOOGLE STREET VIEW; LEGEND: BLUE LINE INDICATES SCREEN LINE

FIGURE 3-3. TEAM 1 SITE SOUTH SIDEWALK SECTION
SOURCE: COMPOSITE IMAGE FROM GOOGLE STREET VIEW; LEGEND: BLUE LINE INDICATES SCREEN LINE

FIGURE 3-4. TEAM 2 SITE SOUTH SIDEWALK SECTION
SOURCE: COMPOSITE IMAGE FROM GOOGLE STREET VIEW; LEGEND: BLUE LINE INDICATES SCREEN LINE

slightly more balanced on weekends, particularly in the afternoon, where the linger factor for females indicates a higher staying rate. Nonetheless, the prevailing trend is a higher rate of pedestrian movement across all observed periods and demographics.

TABLE 3-1. THE NUMBER OF PEOPLE MOVING AND STAYING BY GENDER IN TEAM 1 SITE

			Number of people moving per 1 hour	Number of people staying per 1 hour	Linger Factor (Moving/Staying)
Weekday	male	Morning	282 (16.2)	18 (5.5)	15.7
		Afternoon	360 (20.6)	60 (18.2)	6.0
		Evening	210 (12.0)	51 (15.5)	4.1
	female	Morning	372 (21.3)	24 (7.3)	15.5
		Afternoon	192 (11.0)	81 (24.5)	2.4
		Evening	330 (18.9)	96 (29.1)	3.4
	Total		1746 (100.0)	330 (100.0)	5.3
Weekend	male	Afternoon	162 (40.9)	21 (25.9)	7.7
		Evening	78 (19.7)	9 (11.1)	8.7
	female	Afternoon	114 (28.8)	48 (59.3)	2.4
		Evening	42 10.6)	3(3.7)	14.0
	Total		396 (100.0)	81 (100.0)	4.9
The number of people moving and staying per 1 hour is calculated by multiplying six times and three times, respectively. The proportion refers to the percentage that each group represents out of the total.					

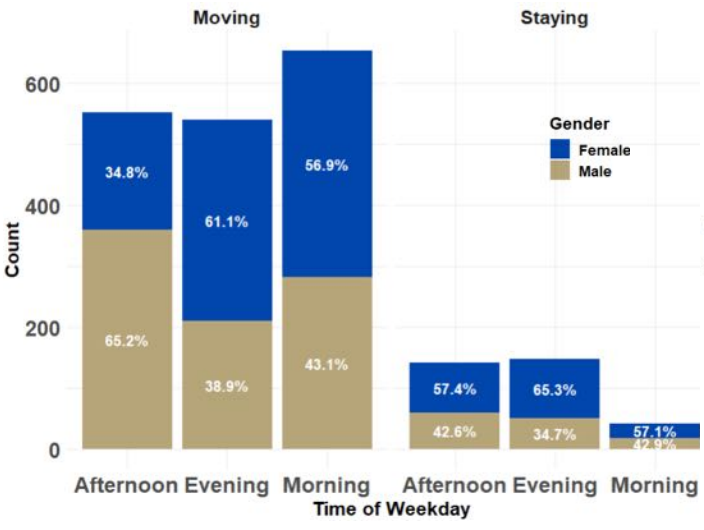


FIGURE 3-5. COUNTS OF MOVING AND STAYING PEOPLE, TIME AND GENDER (SITE 1, WEEKDAY)

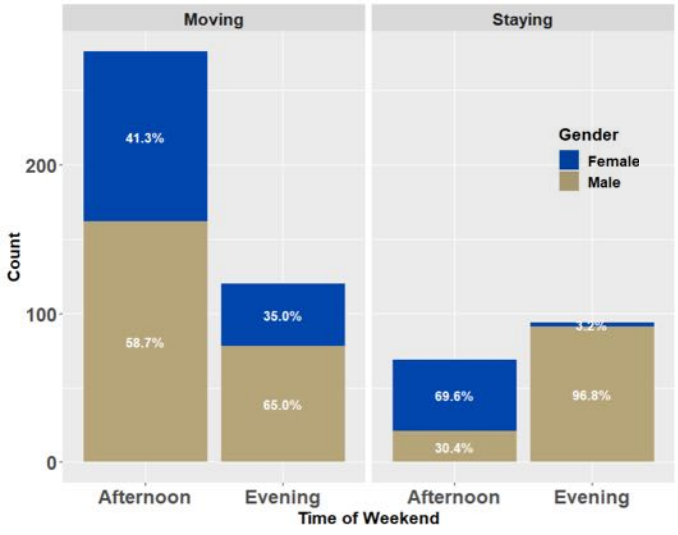


FIGURE 3-6. COUNTS OF MOVING AND STAYING PEOPLE, TIME AND GENDER (SITE 1, WEEKEND)

From Table 3-2, it can be seen that weekdays see the highest pedestrian movement in the 25-64 age group, especially in the morning. The lingering is minimal compared to movement, particularly in the weekday mornings for the same age group. Weekends exhibit a more balanced pattern of movement and staying, with the afternoon period showing the most significant activity across all age groups. The overall linger factors for both weekdays and weekends highlight a consistent trend of more people moving than staying at the site.

TABLE 3-2. THE NUMBER OF PEOPLE MOVING AND STAYING BY AGE GROUP IN TEAM 1 SITE

	Age Group		Number of people moving per 1 hour	Number of people staying per 1 hour	Linger Factor (Moving/Staying)
Weekday	0 - 4	Morning	18 (1.0)	-	-
	5 - 14		6 (0.3)	-	-
	15 - 24		90 (5.0)	-	-
	25 - 64		486 (27.2)	12 (3.8)	40.5
	65+		66 (3.7)	-	-
	0 - 4	Afternoon	24 (1.3)	6 (1.9)	4
	5 - 14		12 (0.7)	-	-
	15 - 24		24 (1.3)	-	-
	25 - 64		444 (24.8)	135 (43.3)	3.3
	65+		54 (3.0)	15 (4.8)	3.6
	0 - 4	Evening	72 (4.0)	21 (6.7)	3.4
	5 - 14		30 (1.7)	-	-
	15 - 24		120 (6.7)	15 (4.8)	8
	25 - 64		336 (18.8)	102 (32.7)	3.3
	65+		6 (0.3)	6 (1.9)	1
	Total		1788 (100.0)	312 (100.0)	5.7
Weekend	0 - 4	Afternoon	24 (5.7)	-	-
	5 - 14		6 (1.4)	-	-
	15 - 24		18 (4.3)	3 (4.0)	6.0
	25 - 64		228 (54.3)	-	-
	65+		18 (4.3)	-	-
	0 - 4	Evening	-	-	-
	5 - 14		6 (1.4)	-	-
	15 - 24		-	-	-
	25 - 64		114 (27.1)	72 (96.0)	1.6
	65+		6 (1.4)	-	-
	Total		420 (100.0)	75 (100.0)	5.6

The number of people moving and staying per 1 hour is calculated by multiplying six times and three times, respectively. The proportion refers to the percentage that each group represents out of the total.

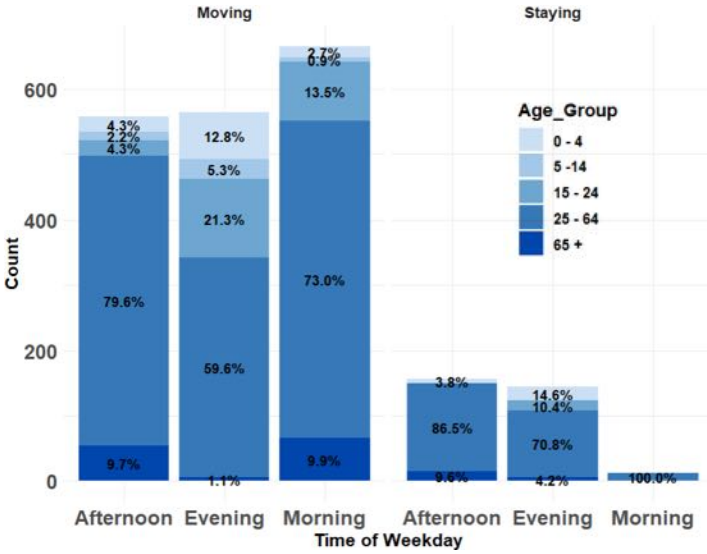


FIGURE 3-7. COUNTS OF MOVING AND STAYING PEOPLE, TIME AND AGE GROUP (SITE 1, WEEKDAY)

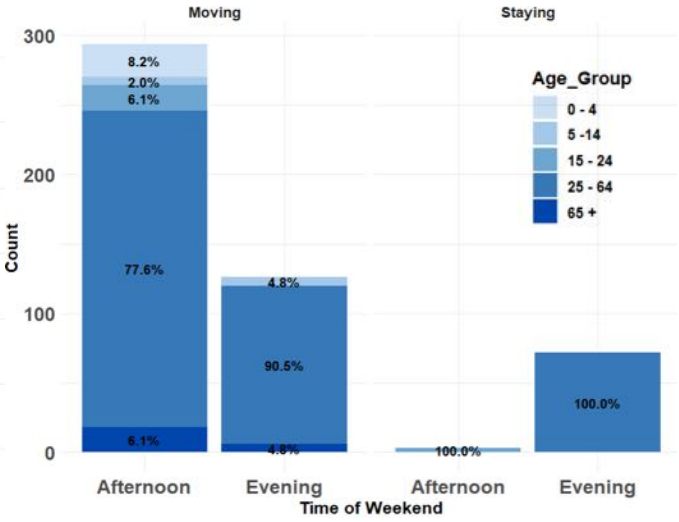


FIGURE 3-8. COUNTS OF MOVING AND STAYING PEOPLE, TIME AND AGE GROUP (SITE 1, WEEKEND)

TEAM 2 SITE

Table 3-3 compares the trends of pedestrian movement and lingering at the Team 2 site. The linger factor suggests that the number of people moving consistently exceeds those staying at the site. Notably, the linger factor is highest for males during the weekday morning. According to the table, across all genders, the evening period on weekdays sees the highest movement compared to morning and afternoon periods. Males are more likely to move than females at the Team 2 site. Additionally, the data show that the number of people staying is significantly lower than those moving. Over the weekends, afternoon movements surpass those in the evening, with males again showing higher movement rates.

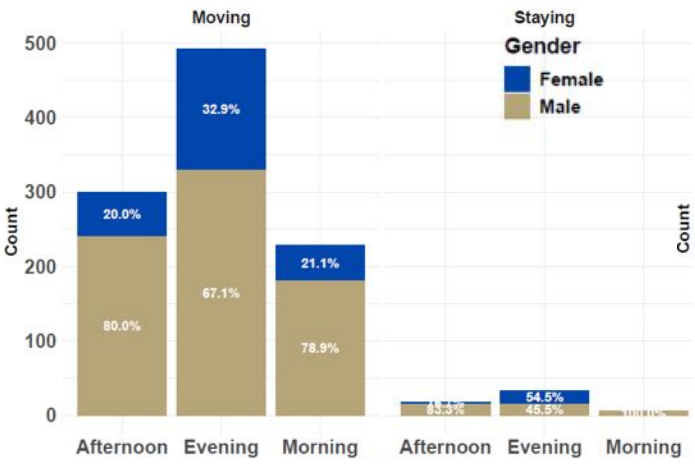


FIGURE 3-9. COUNTS OF MOVING AND STAYING PEOPLE, TIME AND GENDER (SITE 2, WEEKDAY)

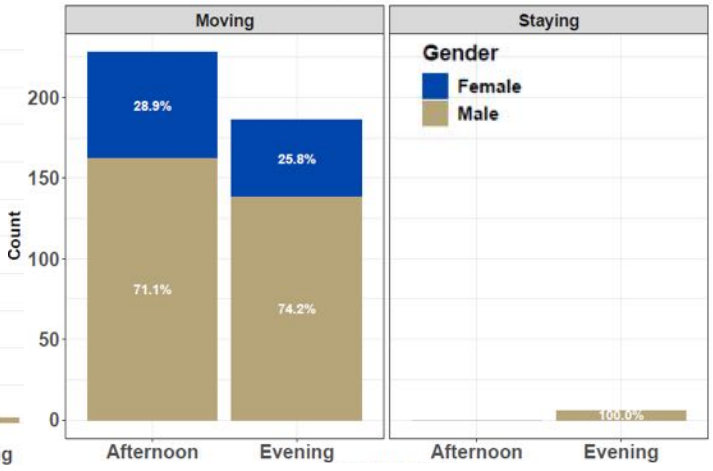


FIGURE 3-10. COUNTS OF MOVING AND STAYING PEOPLE, TIME AND GENDER (SITE 2, WEEKEND)

TABLE 3-3. THE NUMBER OF PEOPLE MOVING AND STAYING BY GENDER IN TEAM 2 SITE

			Number of people moving per 1 hour	Number of people staying per 1 hour	Linger Factor (Moving/Staying)
Weekday	male	Morning	180(17.7)	6 (10.5)	30.0
		Afternoon	240(23.5)	15 (26.3)	16.0
		Evening	330(32.4)	15 (26.3)	22.0
	female	Morning	48(4.7)	0	-
		Afternoon	60(5.9)	3 (5.3)	20.0
		Evening	162(15.9)	18 (31.6)	9.0
	Total		1,020 (100.0)	57 (100.0)	17.9
Weekend	male	Afternoon	162 (39.1)	6 (100.0)	27.0
		Evening	138 (33.3)	0	-
	female	Afternoon	66 (15.9)	0	-
		Evening	48 (11.6)	0	-
	Total		414 (100.0)	6 (100.0)	69.0
The number of people moving and staying per 1 hour is calculated by multiplying six times and three times, respectively. The proportion refers to the percentage that each group represents out of the total.					

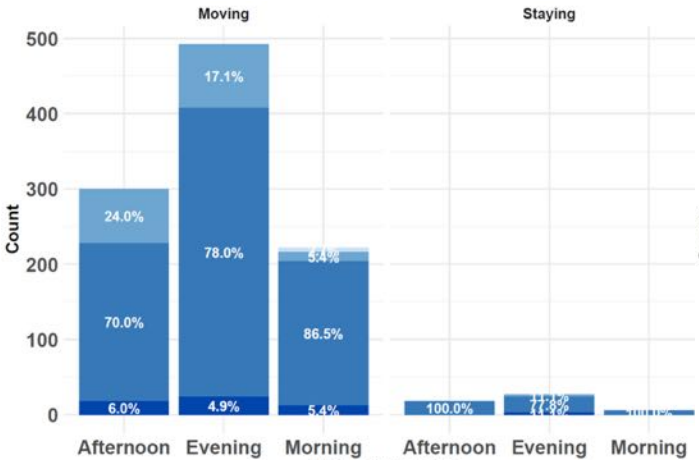


FIGURE 3-11. COUNTS OF MOVING AND STAYING PEOPLE, TIME AND AGE GROUP (SITE 2, WEEKDAY)

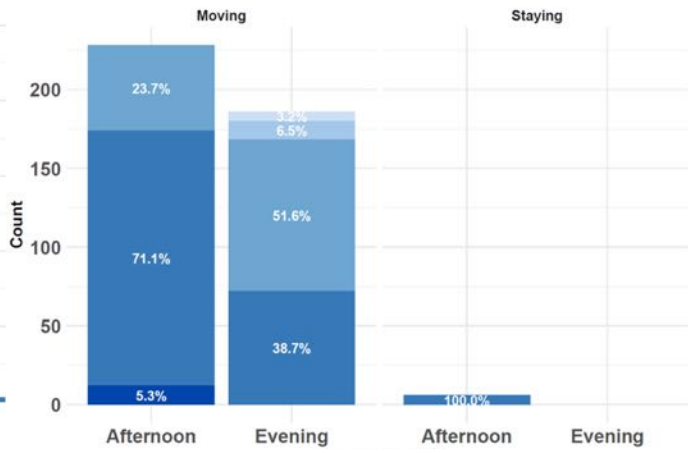


FIGURE 3-12. COUNTS OF MOVING AND STAYING PEOPLE, TIME AND AGE GROUP (SITE 2, WEEKEND)

Table 3-4 illustrates the trends in movement and staying among different age groups during weekdays and weekends at the Team 2 site. During weekdays, the age group 25 to 64 had the highest proportion of movement, followed by the 15 to 24 age group, with significant disparities noted between the 25 to 64 group and other age categories. Additionally, the number of people staying was also highest within the 25 to 64 age group, but a notable difference was observed between the numbers moving and staying, leading to high linger factors and indicating a prevalence of movement overstaying. During weekend afternoons, the 25 to 64 age group was particularly active in moving. Interestingly, the 15 to 24 age group displayed more movement during weekend evenings.

TABLE 3-4. THE NUMBER OF PEOPLE MOVING AND STAYING BY AGE GROUP IN TEAM 2 SITE

			Number of people moving per 1 hour	Number of people staying per 1 hour	Linger Factor (Moving/Staying)
Weekday	0 - 4	Morning	6 (0.6)	-	-
	5 - 14		0	-	-
	15 - 24		12 (1.2)	-	-
	25 - 64		192 (18.9)	6 (10.5)	37.0
	65+		12 (1.2)	-	-
	0 - 4	Afternoon	0	0	-
	5 - 14		0	0	-
	15 - 24		72 (7.1)	0	-
	25 - 64		210 (20.7)	18 (31.6)	11.7
	65+		18 (1.8)	0	-
	0 - 4	Evening	0	0	-
	5 - 14		0	0	-
	15 - 24		84 (8.3)	3 (5.3)	28.0
	25 - 64		384 (37.9)	21 (36.8)	18.3
	65+		24 (2.4)	3 (5.3)	8.0
	Total		1,014 (100.0)	57 (100.0)	17.8
Weekend	0 - 4	Afternoon	0	0	-
	5 - 14		0	0	-
	15 - 24		54 (13.0)	0	-
	25 - 64		162 (39.1)	6 (100.0)	27.0
	65+		12 (2.9)	0	-
	0 - 4	Evening	6 (1.5)	0	-
	5 - 14		12 (2.9)	0	-
	15 - 24		96 (23.2)	0	-
	25 - 64		72 (17.4)	0	-
	65+		0	0	
	Total		414 (100.0)	6 (100.0)	69.0

The number of people moving and staying per 1 hour is calculated by multiplying six times and three times, respectively. The proportion refers to the percentage that each group represents out of the total.

Mobility and Transport

TEAM 1 SITE -Transportation Modes

Table 3-5 highlights the usage of various transportation modes during weekdays and weekends, showcasing distinct patterns. On weekdays, pedestrian movement dominates (17.1%) in the morning, increasing significantly (27.4%) in the afternoon and maintaining a similar level (27.1%) in the evening. Bicycling, both personal and shared mobility, remains minimal across all periods, with a slight presence in the evening. Motorized transport, which includes vehicles, is most prevalent in the evening (9.5%), and also notable in the morning (7.3%). Stroller usage peaks in the afternoon (1.8%), while other mobility devices are scarcely used. On weekends, pedestrian activity is highest in the afternoon (32.5%) and evening (28.8%), while bicycling shows a small increase compared to weekdays, particularly in the afternoon and evening (3.8% each). Motorized transport also rises significantly during weekends, peaking in the evening (21.3%). Overall, the total counts show that pedestrian movement remains the dominant mode across both weekdays and weekends, with motorized transport and bicycling being more prevalent during weekend evenings.

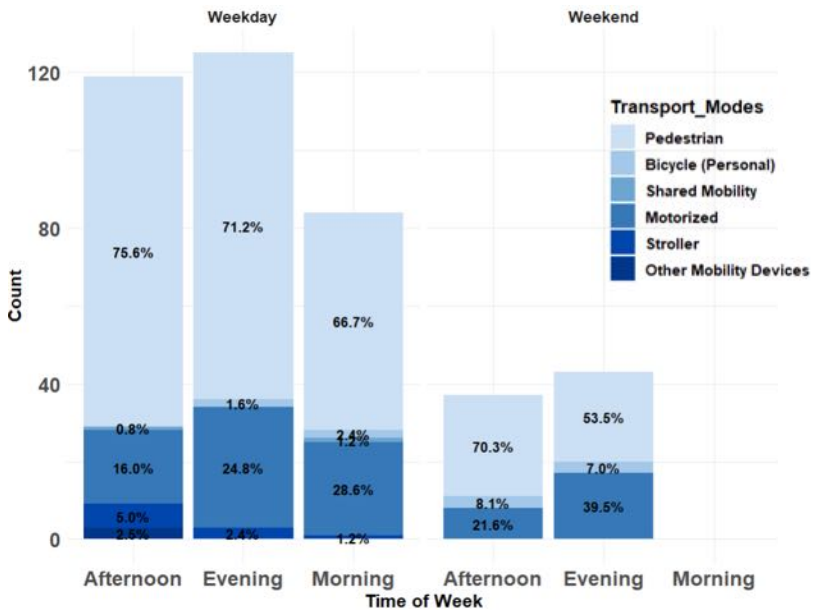


FIGURE 3-13. COUNTS OF TRANSPORT MODES, TIME OF WEEK (SITE 1)

		Weekday	Weekend
Pedestrian	morning	56 (17.1)	-
Bicycling (Personal)		2 (0.6)	-
Shared Mobility		1 (0.3)	-
Motorized		24 (7.3)	-
Stroller		1 (0.3)	-
Other Mobility Devices		0	-
Pedestrian	afternoon	90 (27.4)	26 (32.5)
Bicycling (Personal)		0	3 (3.8)
Shared Mobility		1 (0.3)	0
Motorized		19 (5.8)	8 (10)
Stroller		6 (1.8)	0
Other Mobility Devices		3 (0.9)	0
Pedestrian	Evening	89 (27.1)	23 (28.8)
Bicycling (Personal)		2 (0.6)	3 (3.8)
Shared Mobility		0	0
Motorized		31 (9.5)	17 (21.3)
Stroller		3 (0.9)	0
Other Mobility Devices		0	0
Total		328 (100.0)	80 (100.0)

The number is based on the statistic measured for 10 min. The proportion refers to the percentage that each group represents out of the total.

TABLE 3-5. ANALYSIS ON THE TRANSPORTATION MODES IN TEAM 1 SITE

TEAM 1 SITE -Posture and Activities

Table 3-6 examines the postures and activities of individuals across different times of day on weekdays and weekends. Overall, standing is the predominant posture both on weekdays and weekends, with a clear peak during weekday evenings. Public sitting is more common in the mornings on weekdays and afternoons on weekends. The data suggests a trend towards more standing and public sitting in the afternoons, regardless of the day, while weekend activities tend to be more varied with a slight increase in commercial sitting and public sitting in the afternoons.

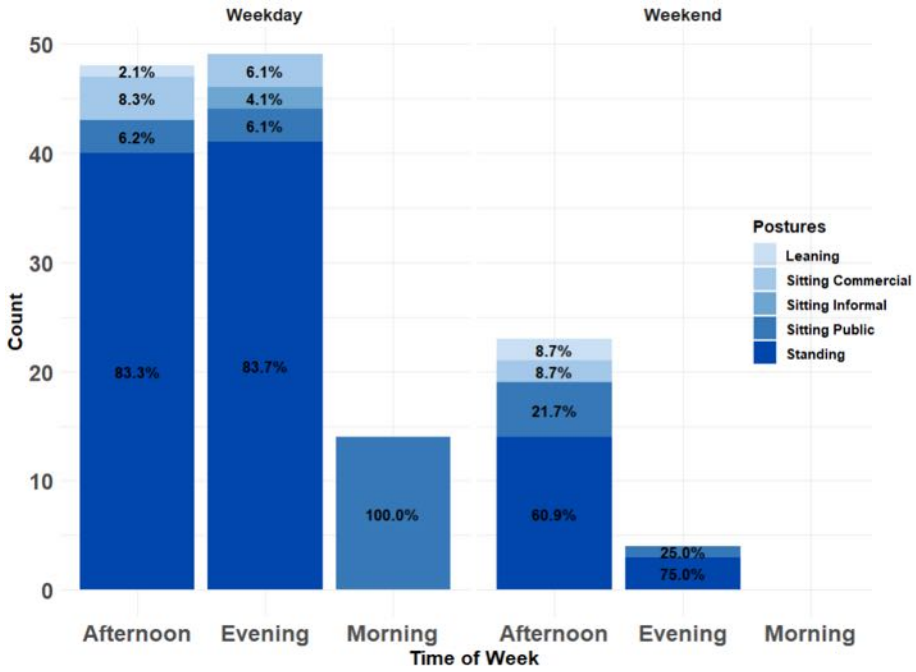


FIGURE 3-14. COUNTS OF POSTURES, TIME OF WEEK (SITE 1)

		Weekday	Weekend
Leaning	morning	0	-
Sitting Commercial		0	-
Sitting Informal		0	-
Sitting Public		14 (12.6)	-
Standing		0	-
Leaning	afternoon	1 (0.9)	2 (7.4)
Sitting Commercial		4 (3.6)	2 (7.4)
Sitting Informal		0	0
Sitting Public		3 (2.7)	5 (18.5)
Standing		40 (36.0)	14 (51.9)
Leaning	Evening	0	0
Sitting Commercial		3 (2.7)	0
Sitting Informal		2 (1.8)	0
Sitting Public		3 (2.7)	1 (3.7)
Standing		41 (36.9)	3 (11.1)
Total		1111 (100.0)	27 (100.0)
The number is based on the statistic measured for 20 min. The proportion refers to the percentage that each group represents out of the total.			

TABLE 3-6. ANALYSIS ON THE PEDESTRIAN POSTURES IN TEAM 1 SITE

Table 3-7 provides a summary of various activities observed on weekdays and weekends across different times of the day. The data indicates that both weekdays and weekends see a variety of activities, but weekends have a higher proportion of electronics usage and passive recreation, while weekdays are more varied with interpersonal interactions and commercial engagements Weekday activities are more diverse, with a higher emphasis on talking to others and using electronics, especially during the afternoon and evening. Weekends, however, show a higher concentration of electronics usage and passive activities like people watching, particularly in the afternoon. This suggests that people are more engaged in social and commercial activities during weekdays, whereas weekends are more focused on leisure and passive recreation.

		Weekday	Weekend
Chance Encounter	morning	0	-
Civic work		0	-
Eating/Drinking		0	-
Engaged with commerce		0	-
Others		0	-
Passive Recreation/People Watching		0	-
Pet care/play		1 (0.8)	-
Play		0	-
Reading/Writing		0	-
Taking care of child/children		0	-
Talking to others		2 (1.7)	-
Using electronics		10 (8.4)	-
Waiting for non-public transport		0	-
Waiting in line		0	-
Wayfinding		1 (0.8)	-
Chance Encounter	afternoon	2 (1.7)	0
Civic work		4 (3.4)	0
Eating/Drinking		6 (5.0)	2 (5.4)
Engaged with commerce		2 (1.7)	3 (8.1)
Others		0	2 (5.4)
Passive Recreation/People Watching		1 (0.8)	5 (13.5)
Pet care/play		2 (1.7)	0
Play		1 (0.8)	0
Reading/Writing		2 (1.7)	2 (5.4)
Taking care of child/children		0	0
Talking to others		17 (14.3)	4 (10.8)
Using electronics		11 (9.2)	13 (35.1)
Waiting for non-public transport		4 (3.4)	1 (2.7)
Waiting in line		3 (2.5)	0
Wayfinding		0	0
Chance Encounter	Evening	0	0
Civic work		0	0
Eating/Drinking		2 (1.7)	0
Engaged with commerce		0	0
Others		0	1 (2.7)
Passive Recreation/People Watching		8 (6.7)	1 (2.7)
Pet care/play		2 (1.7)	0
Play		1 (0.8)	0
Reading/Writing		1 (0.8)	0
Taking care of child/children		6 (5.0)	0
Talking to others		12 (10.1)	0
Using electronics		11 (9.2)	3 (8.1)
Waiting for non-public transport		4 (3.4)	0
Waiting in line		3 (2.5)	0
Wayfinding		0	0
Total		119 (100.0)	37 (100.0)
The number is based on the statistic measured for 20 min.			

TABLE 3-7. ANALYSIS ON THE PEDESTRIAN ACTIVITIES IN TEAM 1 SITE

TEAM 1 SITE - Places

Table 3-8 provides an analysis of place utilization, indicating the availability and in-use proportions of various facilities on weekdays and weekends. In summary, weekday mornings and evenings see high utilization of car parking and loading zones, with minimal use of bike parking and public benches. Certain figures exceeding 100% reflect instances during our survey when several cars occupied a single designated parking space within the same timeframe. The afternoon period on weekdays also shows high utilization of commercial seating and loading zones, though bike parking and public benches remain underutilized. On weekends, available data indicates moderate utilization of commercial seating and loading zones, with no usage of bike parking and public benches. This suggests that car parking and loading zones are critical during weekdays, while public seating remains largely unused across all times.

TABLE 3-8. ANALYSIS ON THE PLACE UTILIZATION IN TEAM 1 SITE

		Weekday			Weekend		
		Available	In-Use	Proportion	Available	In-Use	Proportion
Bike parking	Morning	16	2	12.5	-	-	-
Car parking		14	10	71.4	-	-	-
Commercial seating		14	1	7.1	-	-	-
Loading zone		13	4	30.8	-	-	-
Public bench		33	0	0.0	-	-	-
Bike parking	Afternoon	28	1	3.6	5	0	0.0
Car parking		1	2	200.0	0	0	-
Commercial seating		24	9	37.5	18	5	27.8
Loading zone		2	3	150.0	3	2	66.7
Public bench		20	0	0.0	7	0	0.0
Bike parking	Evening	27	0	0.0	3	0	0.0
Car parking		1	2	200.0	0	0	-
Commercial seating		22	4	18.2	6	2	33.3
Loading zone		4	4	100.0	3	1	33.3
Public bench		21	2	9.5	7	0	0.0

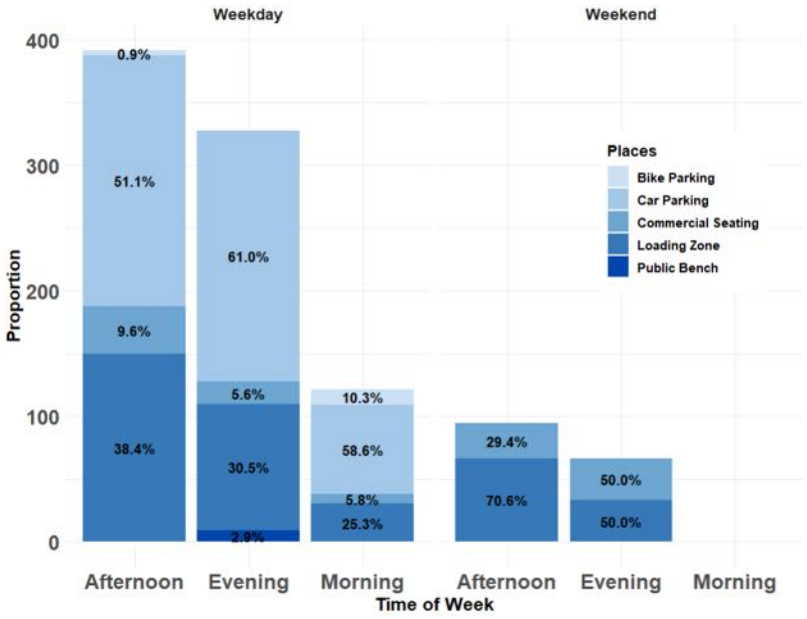


FIGURE 3-15. PROPORTION OF PLACES UTILIZED, TIME OF WEEK (SITE 1)

TEAM 2 SITE – Transportation Modes

Table 3-9 shows that the Team 2 site is predominantly motorized. During weekdays, motorized vehicles comprise over 75% of the modes. This trend continues into the weekends. In contrast, active travel modes at the Team 2 site, both during weekdays and weekends, account for a much smaller proportion. Nonetheless, the percentage of pedestrians is notably higher on weekends compared to weekdays.

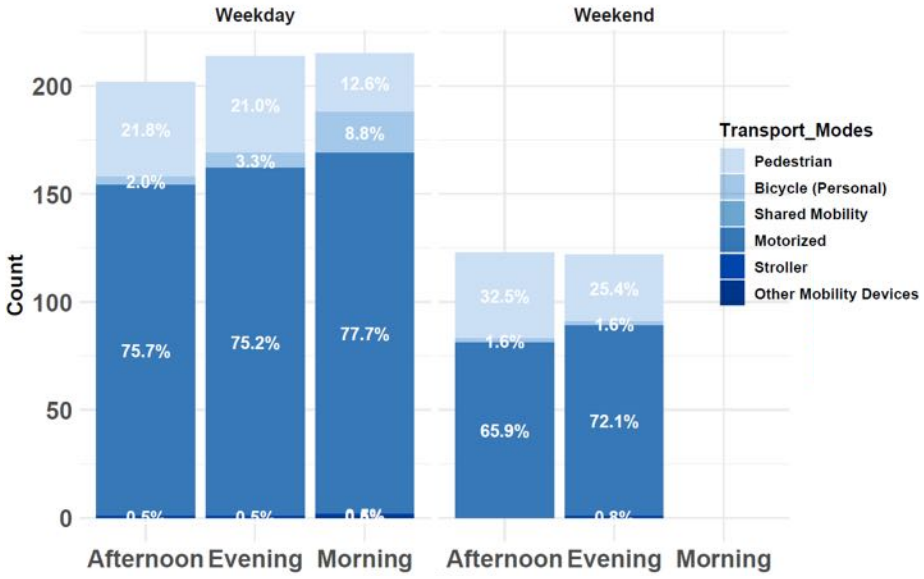


FIGURE 3-16. COUNTS OF TRANSPORT MODES, TIME OF WEEK (SITE 2)

		Weekday	Weekend
Pedestrian	Morning	27 (4.3)	-
Bicycling (Personal)		19 (3.0)	-
Shared Mobility		0	-
Motorized		167 (26.5)	-
Stroller		1 (0.2)	-
Other Mobility Devices		1 (0.2)	-
Pedestrian	Afternoon	44 (7.0)	40 (16.3)
Bicycling (Personal)		4 (0.6)	2 (0.8)
Shared Mobility		0	0
Motorized		153 (24.2)	81 (33.1)
Stroller		1 (0.2)	0
Other Mobility Devices		0	0
Pedestrian	Evening	45 (7.1)	31 (12.7)
Bicycling (Personal)		7 (1.1)	2 (0.8)
Shared Mobility		0	0
Motorized		161 (25.5)	88 (35.9)
Stroller		1 (0.2)	1 (0.4)
Other Mobility Devices		0	0
Total		631 (100.0)	245 (100.0)

The number is based on the statistic measured for 10 min. The proportion refers to the percentage that each group represents out of the total.

TABLE 3-9. ANALYSIS ON THE TRANSPORTATION MODES IN TEAM 2 SITE

TEAM 2 SITE – Postures and Activities

Considering the low number of pedestrians at the Team 2 site, there was limited data on pedestrian postures. Nevertheless, Table 3-10 shows that, during weekdays, standing was the predominant posture, accounting for approximately 70% of observations. Additionally, a few instances of sitting in commercial, public, and informal settings were noted. Over the weekend, pedestrian postures were scarce, but there were occasional sightings of people sitting informally and standing.

Table 3-11 illustrates that the Team 2 site exhibited minimal pedestrian activities. On weekdays, occasional interactions occurred, with a few people engaging in conversations during the afternoon, and others seen eating, drinking, or waiting for transportation in the evening. Additionally, some individuals were observed using electronic devices on the street. In contrast, pedestrian activity

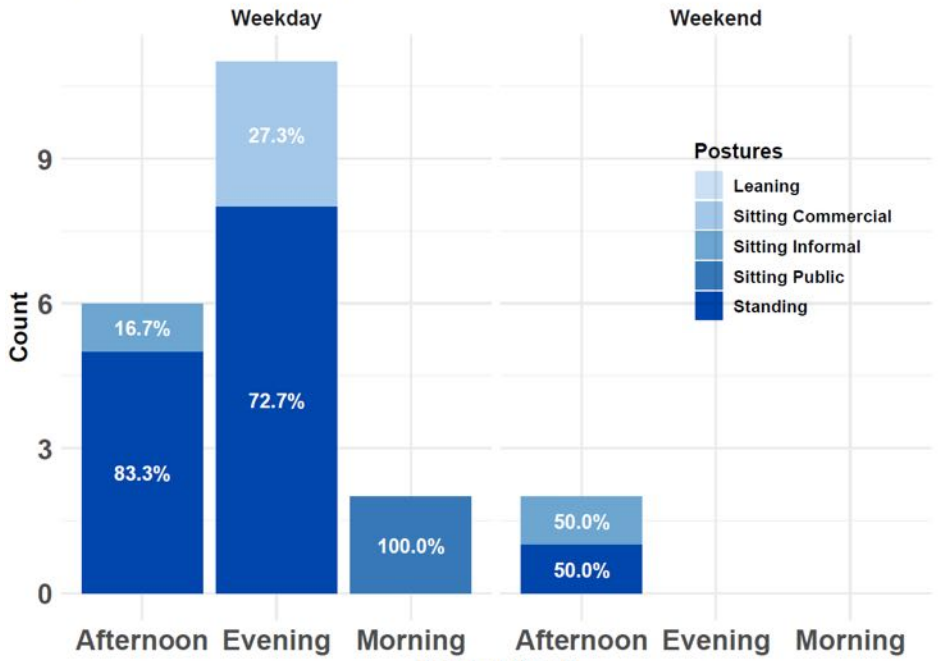


FIGURE 3-17. COUNTS OF POSTURES, TIME OF WEEK (SITE 2)

		Weekday	Weekend
Leaning	Morning	0	-
Sitting Commercial		0	-
Sitting Informal		0	-
Sitting Public		2 (10.5)	-
Standing		0	-
Leaning	Afternoon	0	0
Sitting Commercial		0	0
Sitting Informal		1 (5.3)	1 (50.0)
Sitting Public		0	0
Standing		5 (26.3)	1 (50.0)
Leaning	Evening	0	0
Sitting Commercial		3 (15.8)	0
Sitting Informal		0	0
Sitting Public		0	0
Standing		8 (42.1)	0
Total		19 (100.0)	2 (100.0)

The number is based on the statistic measured for 20 min. The proportion refers to the percentage that each group represents out of the total.

TABLE 3-10. ANALYSIS ON THE PEDESTRIAN POSTURES IN TEAM 2 SITE

was even more sparse on weekends, primarily limited to a few people conversing.

TEAM 2 SITE – Places

At the Team 2 site, which predominantly accounts for high percentage of motorized transport, there was a higher availability of car parking spaces compared to areas designated for other purposes. Table 3-12 indicates that during weekdays, the usage of car parking areas consistently exceeded 60%, with particularly high usage in the afternoons, where it sometimes surpassed 100%. This figure exceeding 100% reflects instances during our survey when several cars occupied a single designated parking space within the same timeframe. Frequent uses for the loading zone were also observed. However, facilities intended for active travel, such as bike parking, additional loading zones, and public benches, were significantly underutilized. On weekends, the area was exclusively used for car parking.

TABLE 3-11. ANALYSIS ON THE PEDESTRIAN ACTIVITIES IN TEAM 2 SITE

		Weekday	Weekend
Talking to others	Morning	0	-
Civic work		0	-
Eating/Drinking		0	-
Engaged with commerce		0	-
Passive Recreation		0	-
Waiting in line/for transport		0	-
Wayfinding		0	-
Others (Using electronic device, etc.)		2 (10.5)	-
Talking to others	Afternoon	4 (21.1)	2 (100.0)
Civic work		0	0
Eating/Drinking		0	0
Engaged with commerce		0	0
Passive Recreation		0	0
Waiting in line/for transport		1 (5.3)	0
Wayfinding		0	0
Others (Using electronic device, etc.)		1 (5.3)	0
Talking to others	Evening	1 (5.3)	0
Civic work		0	0
Eating/Drinking		3 (15.8)	0
Engaged with commerce		0	0
Passive Recreation		0	0
Waiting in line/for transport		3 (15.8)	0
Wayfinding		0	0
Others (Using electronic device, etc.)		4 (21.1)	0
Total		19 (100.0)	2 (100.0)

Public Infrastructure

Street Type and Speed Limit

The Team 1 site is located along S. Roberto Maestas Festival St. (Table 3-13) which is classified as an Urban Village Neighborhood Access street type. The SDOT has not yet given an arterial classification for this street and therefore, based on Municipal Code 11.52.060 the speed limit is set at 20 miles per hour. As an Urban Village Neighborhood Access street type it generally follows the standards and layouts in Seattle Street Illustrated for Urban Village Neighborhood Access.

The Team 2 site is located along Beacon Avenue South which is classified as an Urban Village Neighborhood street type. The SDOT has designated this a Minor Arterial classification and therefore, the speed limit is set at 25 miles per hour. As an Urban Village Neighborhood street type it generally follows the standards and layouts in Seattle Street Illustrated for Urban Village Neighborhood (Table 3-14).

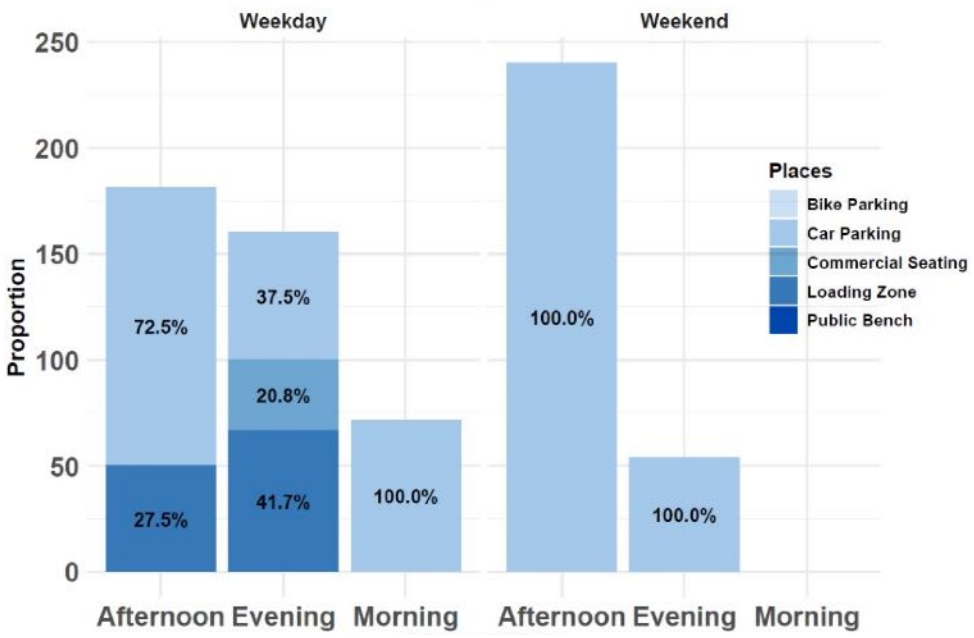


FIGURE 3-18. PROPORTION OF PLACES UTILIZED, TIME OF WEEK (SITE 2)

TABLE 3-12. ANALYSIS ON THE PLACE UTILIZATION IN TEAM 2 SITE

		Weekday			Weekend		
		Available	In-Use	Proportion	Available	In-Use	Proportion
Bike parking	Morning	4	0	0.0	-	-	-
Car parking		14	10	71.4	-	-	-
Commercial seating		4	0	0.0	-	-	-
Loading zone		2	0	0.0	-	-	-
Public bench		0	0	-	-	-	-
Bike parking	Afternoon	4	0	0.0	0	0	-
Car parking		19	25	131.6	5	12	240.0
Commercial seating		4	0	0.0	0	0	-
Loading zone		4	2	50.0	0	0	-
Public bench		0	0	-	0	0	-
Bike parking	Evening	6	0	0.0	0	0	-
Car parking		20	12	60.0	13	7	53.8
Commercial seating		3	1	33.3	0	0	-
Loading zone		3	2	66.7	0	0	-
Public bench		1	0	0.0	0	0	-

FIGURE 3-19. URBAN VILLAGE NEIGHBORHOOD ACCESS LAYOUT
SOURCE: SEATTLE STREETS ILLUSTRATED (SEATTLE GOV, 2024)

TABLE 3-13. S. ROBERTO MAESTAS FESTIVAL ST.

Street Name	S. Roberto Maestas Festival St.
Street Type	Urban Village Neighborhood Access
Arterial Classification	Not categorized
Speed Limit	20 MPH

FIGURE 3-20. URBAN VILLAGE NEIGHBORHOOD LAYOUT
SOURCE: SEATTLE STREETS ILLUSTRATED (SEATTLE GOV, 2024)

TABLE 3-14. BEACON AVENUE SOUTH

Street Name	Beacon Avenue South
Street Type	Urban Village Neighborhood
Arterial Classification	Minor Arterial
Speed Limit	25 MPH

Sidewalk Widths

Team 1 site is divided into 2 screen lines, one each for the north sidewalk and the south sidewalk. The sidewalk width of Team 1 site ranges from 12 to 26 feet. The sidewalk width for Team 1 north sidewalk is nominally 18 feet comprised of a 6 feet frontage zone, 6 feet pedestrian clear zone, and a 6 feet landscape furniture zone. Team 1 south had 3 layouts for sidewalk widths of 12 feet, 14 feet, and 26 feet; comprising a combination of 6 feet frontage zone, 6 feet pedestrian clear zone, 6 feet landscape furniture zone, and an 8 feet flex zone (Table 3-15).

Team 2 site is divided into two screen lines along Beacon Avenue South at the northern and southern end of the observation blocks. The sidewalk width for Team 2 site ranges from 12 to 20 feet. These are either 20 feet layouts of 6 feet pedestrian clear zone, 6 feet landscape furniture zone, and 8 feet flex zone allotted for a curb or for parking (Table 3-15).

Sidewalk Planting Strips and Tree Coverage

Both Team 1 and Team 2 sites had nominal 6 feet sidewalk planting strips (Table 3-16). Team 1 Site had a total of 9 trees. Six (6) of which were located along the north sidewalk, where half had a canopy size of approximately 19 feet and the other half had a canopy size of approximately 8 feet. Team 2 Site had a total of 3 trees all of which had a nominal canopy size of 8 feet in diameter (Table 3-17).

TABLE 3-15. SIDEWALK WIDTHS

Team 1 nominal: 12-26 ft	Team 2 nominal: 12-20 ft
• North Layout 1 (18ft): 6ft frontage zone, 6ft pedestrian clear zone, 6 ft landscape furniture zone • South Layout 1 (12ft): 6 ft pedestrian zone, 6 ft landscape furniture zone • South Layout 2 (14ft): 6 ft pedestrian clear zone, 8ft flex zone • South Layout 3 (26ft): 6 ft frontage, 6 ft pedestrian clear zone, 6 ft landscape furniture zone, 8ft flex zone	• Layout 1 (20ft): 6 ft pedestrian clear zone, 6 ft landscape furniture zone, 8ft flex zone (curb) • Layout 2 (20ft): 6 ft pedestrian clear zone, 6 ft landscape furniture zone, 8ft flex zone (parking)

TABLE 3-16. SIDEWALK PLANTING STRIPS

Team 1 Site	Team 2 Site
• 6 feet planting strip	6 feet planting strip

TABLE 3-17. TREE COVERAGE

Team 1 Site	Team 2 Site
Team 1 North Sidewalk: • 6 trees • max canopy diameter: ~19ft (n=3), min canopy diameter: ~8ft (n=3) Team 2 South Sidewalk: • 3 trees • average canopy diameter: ~8ft, negligible)	• 8 trees • max canopy diameter: 30ft (n=2), min canopy diameter: ~8ft (n=4), other canopy diameter: 12-15ft (n=2)

TABLE 3-18. CURB CUTS AND DRIVEWAYS

Team 1 Site	Team 2 Site
North: Around ~87% (235 of 270 linear feet) of sidewalks are at grade to street level • 1 nominal (pedestrian curb) at western pedestrian crossing • 1 at center (driveway, access with bollards) South: Around ~87% (235 of 270 linear feet) of sidewalks are at grade to street level • 1 nominal (pedestrian curb) at western pedestrian crossing • 1 at center (driveway)	3 curb cuts for pedestrians or driveways for vehicles. • 1 at north (pedestrian) • 2 at south (driveway, cloud city)

Curbs cuts for pedestrians and vehicular driveways

Team 1 Site had 1 curb cut for each north and south sidewalk for pedestrians (western side) and 1 driveway for vehicles at the center for each sidewalk. Meanwhile, Team 2 site had 3 curb cuts – 1 at the north for pedestrians and 2 driveways cuts for vehicles (Table 3-18).

The typical sidewalk layout for these streets is diagrammed in Figure 3-21.

Street Type	Frontage Zone Desirable width	Pedestrian Clear Zone[1,2,3] Minimum width	Landscape/Furniture Zone[2,4] Minimum width	6" Curb	Total Minimum width (without frontage)
Downtown	6′	8′[6] (10′ minimum for streets with RapidRide stops)	6′ (8′ minimum for RapidRide stops)		14′ (18′ if RapidRide)
Downtown Neighborhood	6′	6′[6] (8′ minimum for streets with RapidRide stops)	6′		12′ (14′ if RapidRide)
Downtown Neighborhood Access	6′	6′	6′		12′
Urban Village Main	6′	6′ (8′ minimum for streets with pedestrian-designated zones)	6′		12′ (14′ if P-DZ)
Urban Village Neighborhood	6′	6′ (8′ minimum for streets with pedestrian-designated zones)	6′		12′ (14′ if P-DZ)
Urban Village Neighborhood Access	-	6′	6′		12′
Urban Center Connector[7]	6′	6′ (10′ minimum for streets with RapidRide stops)	6′ (8′ minimum for RapidRide stops)		12′ (18′ if RapidRide)
Neighborhood Corridor	-	6′	6′		12′
Industrial Access	-	6′	6′		12′
Minor Industrial Access	-	6′	6′		12′
Neighborhood Yield	-	6′	6′ (5′ if required to fit 40′ ROW)		12′
Urban Curbless	6′	6′	12′		18′
Neighborhood Curbless[5]	-	6′	6′ (12′ for streets with one sided sidewalk)		18′
Commercial Alley	-	-	-		-

FIGURE 3-21. STANDARD SIDEWALK DESIGN
SOURCE: SEATTLE STREETS ILLUSTRATED (SEATTLE GOV, 2024)

These public infrastructure components are illustrated for each screen line – Team 1 site north sidewalk, Team 1 site south sidewalk, and Team 2 site in the following figures below.

FIGURE 3-22. CROSS SECTION DETAIL OF TEAM 1 NORTH (WEST END); SOURCE: ADAPTED FROM GOOGLE STREET VIEW

FIGURE 3-23. CROSS SECTION DETAIL OF TEAM 1 NORTH (EAST END); SOURCE: ADAPTED FROM GOOGLE STREET VIEW

FIGURE 3-24. CROSS SECTION DETAIL OF TEAM 1 SOUTH (EAST END); SOURCE: ADAPTED FROM GOOGLE STREET VIEW

FIGURE 3-25. CROSS SECTION DETAIL OF TEAM 1 SOUTH (WEST END); SOURCE: ADAPTED FROM GOOGLE STREET VIEW

FIGURE 3-26. CROSS SECTION DETAIL OF TEAM 2 (NORTH END); SOURCE: ADAPTED FROM GOOGLE STREET VIEW

FIGURE 3-27. CROSS SECTION DETAIL OF TEAM 2 (SOUTH END); SOURCE: ADAPTED FROM GOOGLE STREET VIEW

Conclusions

The structural differences in the urban texture of the built environment in Team 1 and Team 2 sites result in variations of public life observations in the two study sites. This texture is seen in both neighborhood building types and infrastructure elements present. Team 1 site (S. Roberto Maestas Festival St.) is the site of a block redevelopment – with large multistorey multifamily housing apartments adjacent to the Beacon Hill Light Rail Station, and a full suite of street and sidewalk amenities; its urban fabric may be characterized as gentrified. Meanwhile, Team 2 site preserves much of the historical urban texture of the area – with a predominance of single-family homes and stand-alone commercial establishments with much of the conventional street and sidewalk amenities; its urban fabric may be characterized as mature residential urban village. The sites are adjacent to the Seattle City designated North Beacon Hill Residential Urban Village which is governed by its own set of neighborhood design guidelines (Seattle DPD, 2006) which aim to improve the character of the city and ensure developments fits sensitively into existing neighborhoods. In relation to this, we find that there is an overall need to connect the improved urban street and sidewalk form in Team 1 site at S. Roberto Maestas Festival Jr. St. with that of its adjacent streets, which includes the Team 2 site at Beacon Ave S. One aspect to improve this connection is to focus on the mobility of the people living and using this area, specifically as it pertain to non-motorized transportation.

By focusing on the mobility aspects of connecting these adjacent streets, pressure is relieved from older, existing neighborhoods to change their granularity just for them to fit in with the newer more gentrified part of their changing neighborhood. They can develop at their own pace while becoming part of and joining in on the benefits of a better improved personal mobility infrastructure that comprises the delivery of street and sidewalk amenities that focus especially on non-motorized transportation infrastructure.

The following recommendations are therefore proposed to improve non-motorized transportation in Team 1 and Team 2 sites.

S. Roberto Maestas Festival St. (Lander St.)

Improvements to policies

- strict enforcement of parking regulations
- alternative drop off areas
- improve last mile modes and coverage

Improvements to the general environment

- reduce strong winds due to urban morphology (from nearby building form)
- enhance connection with nearby streets (aesthetic and functional disconnect)
- improve sidewalk (street furniture reduces the effective width of the sidewalk)

BEACON AVENUE SOUTH (east sidewalk)

Improvements to street amenities

- Maintenance for sidewalk (damaged & uneven, material type)
- Curb cuts for pedestrians near loading area
- Benches for area near Cloud City (no space for lingering & social interaction)
- Improve shade (tree coverage) near Cloud City
- Improve general accessibility for the disabled (tactile paving, etc.)

Improvement to the general environment

- Pest control and garbage collection (visible rodents and trash)
- Safety (open drug use and others)
- Incorporate local feel and character into sidewalk aesthetics
- Explore partnerships with local businesses to improve NMT conditions

ALLEY IN DOWNTOWN, IMAGE CREDITS: AUTHORS

Beacon Ave S

Study Area Description

The study area is located southeast of downtown Seattle, in the Beacon Hill neighborhood of Seattle, as seen in Figure 3-28.

The study area includes a one block north-south section of Beacon Ave S between S Lander Street and S McClellan Street, as well as a one block east-west section of McClellan Street between 15th Ave S and Beacon Ave South, as seen in Figure 3-29. We will refer to the study sites as W Beacon, E Beacon, N McClellan, and S McClellan. The entire study area has 6 foot wide sidewalks in fair to good condition, at a consistently flat grade. There are trees throughout both the Beacon and McClellan sections of the study area, though there is a noticeable lack of trees in front of the Beacon Hill Link Light Rail station.

FIGURE 3-28: SITE LOCATION WITHIN SEATTLE AREA

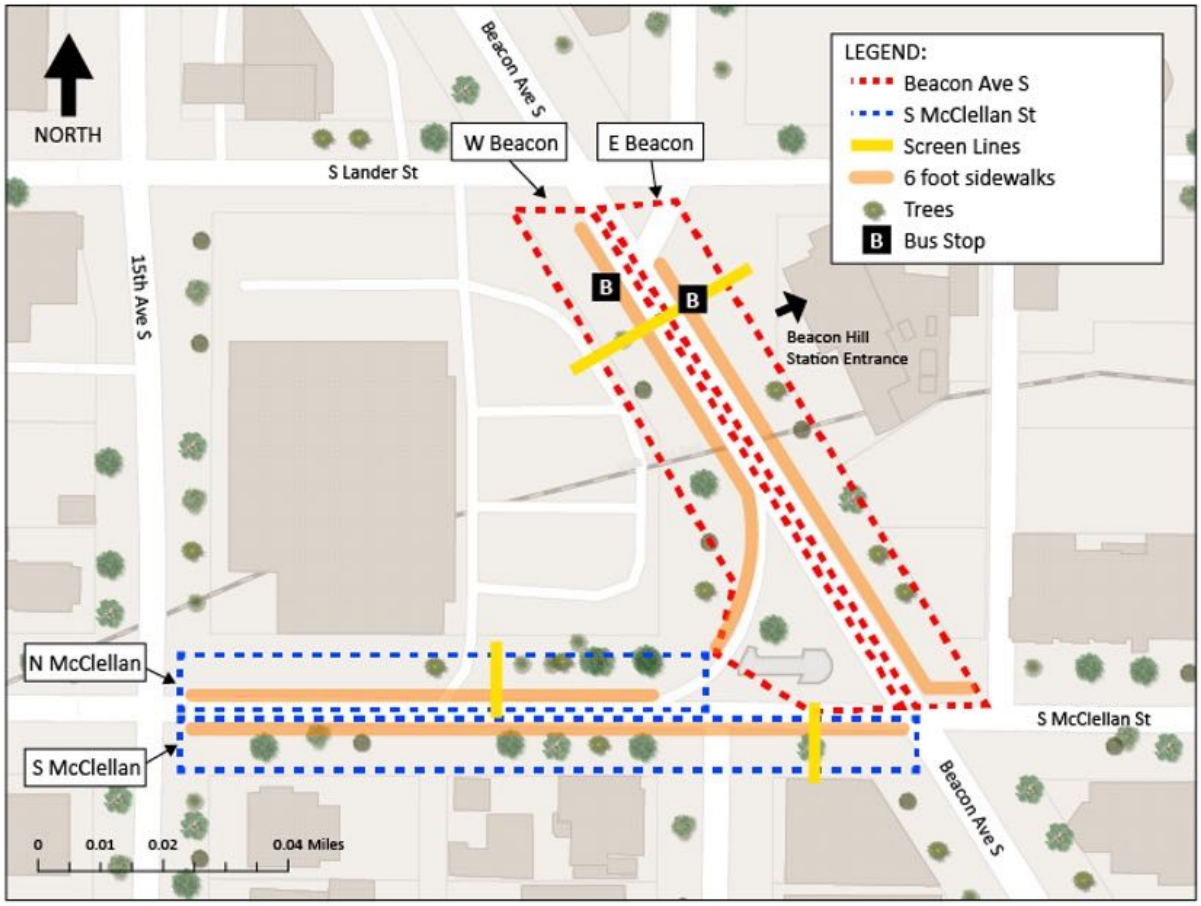


FIGURE 3-29: MAP OF SITES, SCREEN LINES, SIDEWALKS, TREES, AND BUS STOPS.

In addition to street trees, there are sidewalk and planting strips throughout the study area, with the highest concentration of greenery being on S McClellan. The landscaping in the middle section of W Beacon felt somewhat unkempt and overgrown, while the landscaping throughout E Beacon felt the newest and most carefully maintained.

The study area has high-quality pedestrian infrastructure, including marked crosswalks and curb cuts at every crossing. This design supports walking for people of all ages and abilities; however there is a lack of durable, protected infrastructure for people who are riding bikes, scooters, and other wheeled devices. As seen in Figure 3-30, there is one bike corral on the southwest corner of Beacon Ave S and S McClellan Street and two other bike racks on Beacon Ave South for people to lock their bikes. There are not any bike racks directly outside the Beacon Hill station entrance, though there are bike racks on the north side of the station.

There are not any driveway aprons on Beacon Ave S, which keeps pedestrians on this section safe from the threat of turning vehicles. Instead, the entrances to the Red Apple Grocery Store are on S McClellan St and S Lander Street. The posted speed limit throughout the study area is 25 mph.

Key Findings

General Trends

The sites' location on Beacon Ave S, outside the light rail station, were overall more consistently busy with people both moving and staying.

Time Trends

Time trends by time of day and day of week are presented as bar charts for moving and staying average hourly counts, age and gender average hourly counts, and mode of transportation hourly counts.

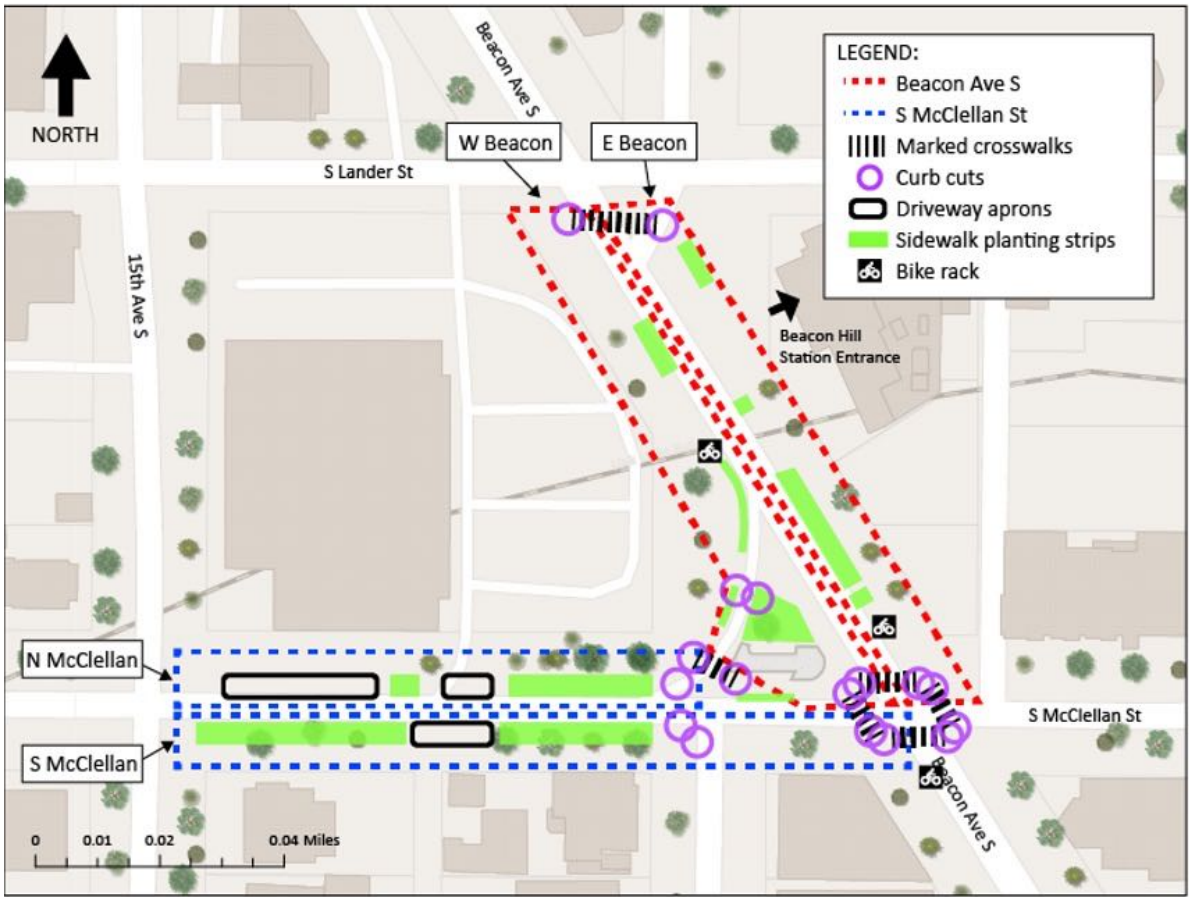


FIGURE 3-30: MAP OF MARKED CROSSWALKS, CURB CUTS, DRIVEWAY APRONS, AND SIDEWALK PLANTING STRIPS.

Moving Counts Time Trends

For each site, the evenings were more active than the morning or afternoon. Additionally, for McClellan St, the southern portion was busier on the weekend than the northern, and vice versa. This may be due to the location of several restaurants near the sightline, compared to the location near a grocery store. The location near the grocery store also had many people cutting through the parking lot and not crossing the sightline while accessing the store.

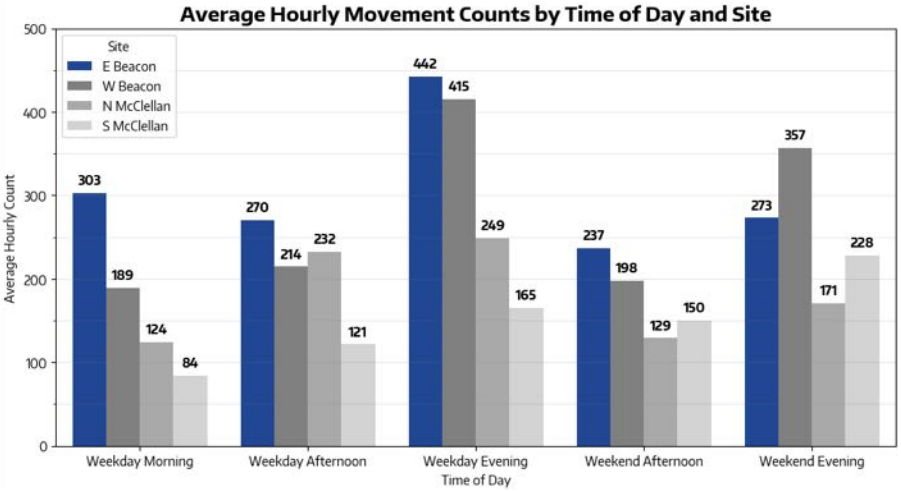


FIGURE 3-31: AVERAGE HOURLY MOVEMENT COUNTS BY TIME OF DAY AND SITE.

Staying Counts Time Trends

In general, people were significantly more likely to be staying in a place on Beacon as opposed to McClellan. This is largely due to its location near the light rail station and bus stops, which led to many people waiting at the bus stop between transfers. The population that commutes during the week is comparatively high compared to those that are in the area for leisure over the weekends. In comparison, McClellan only saw many people staying on the weekends at the brewery, and did not see many people staying near the grocery store.

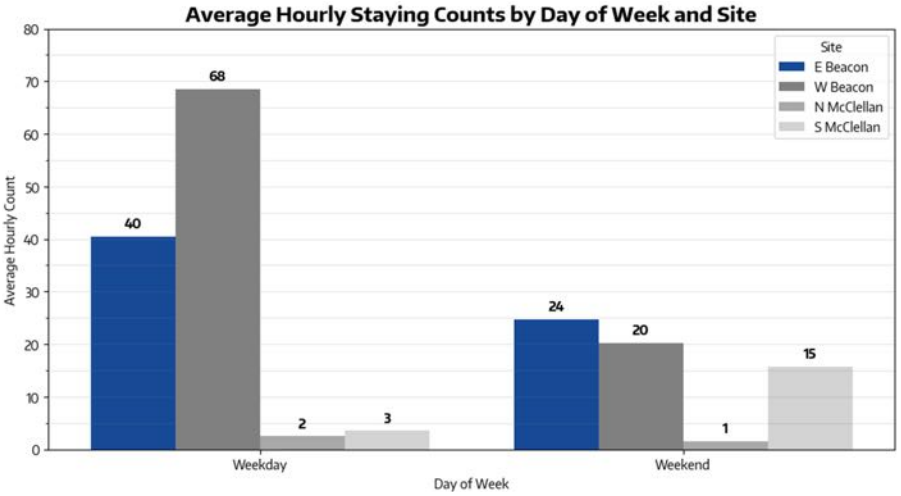


FIGURE 3-32: AVERAGE HOURLY STAYING COUNTS BY DAY OF WEEK AND SITE.

Linger Factor Time Trends

The linger factor is the percentage of people staying out of the people moving. This largely mirrors 3.2, however it comparatively demonstrates that over the weekends, people are more likely to linger than during the week, considering the lower counts (for Beacon Ave). This is also noticeable with S McClellan, which appears much more lively during the weekend as people sit outdoors at a restaurant. Note that the linger factor for S McClellan is far lower on

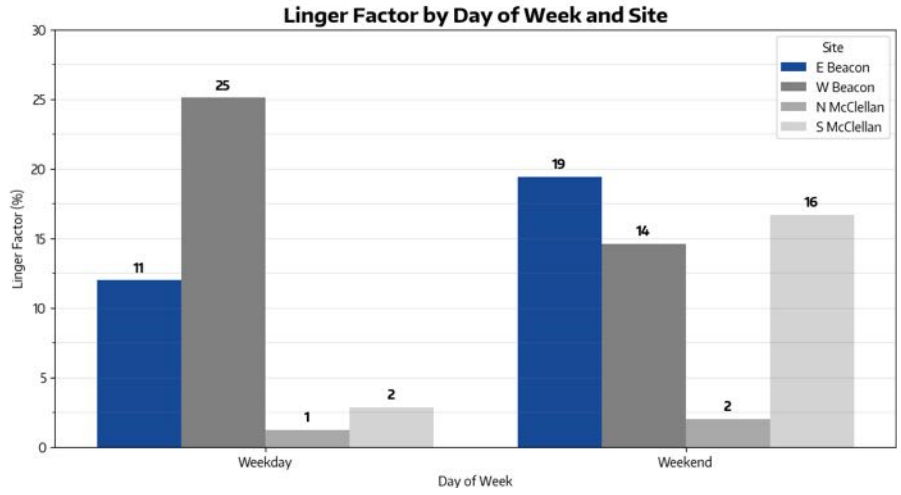


FIGURE 3-33: LINGER FACTOR BY DAY OF WEEK AND SITE.

weekdays compared to weekends, as the restaurant on that blockface which generates most of the staying behavior was closed for all weekday observation periods except for one weekday evening.

Moving Age Categories Time Trends, Aggregated for All Block Faces

Generally, the weekday and weekend counts found that the age of people moving was mostly adults (25-64), with other groups being represented at most one fifth as often. Weekends saw a drop in the number of young people between the ages of 5-24 and people 65 or older moving through the study area, compared to weekdays.

Moving Perceived Gender Time Trends, Aggregated for All Block Faces

Aggregately, there were always more masculine-presenting people moving across all block faces. In general, these were relatively comparable between weekdays and weekends; however, the weekend evening saw counts of masculine-presenting folks twice that of feminine-presenting. This may be indicative of safety concerns from feminine-presenting people as the sun goes down. That said, in general, more people were seen moving throughout the day.

Staying Age Categories Time Trends, Aggregated for All Block Faces

Generally, the weekday and weekend counts found that the age of people staying was mostly adults (25-64), with other groups being represented at most one third as often. The study area includes well-marked crosswalks

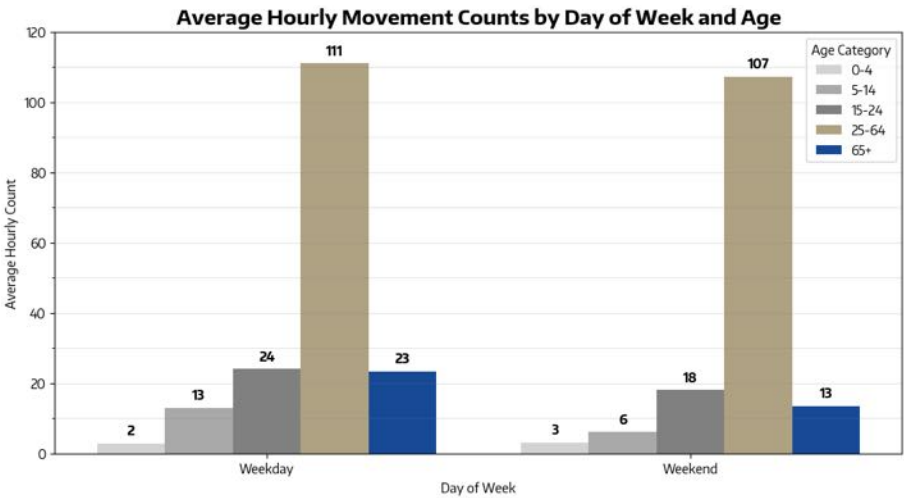


FIGURE 3-34: AVERAGE HOURLY MOVEMENT COUNTS BY DAY OF WEEK AND AGE

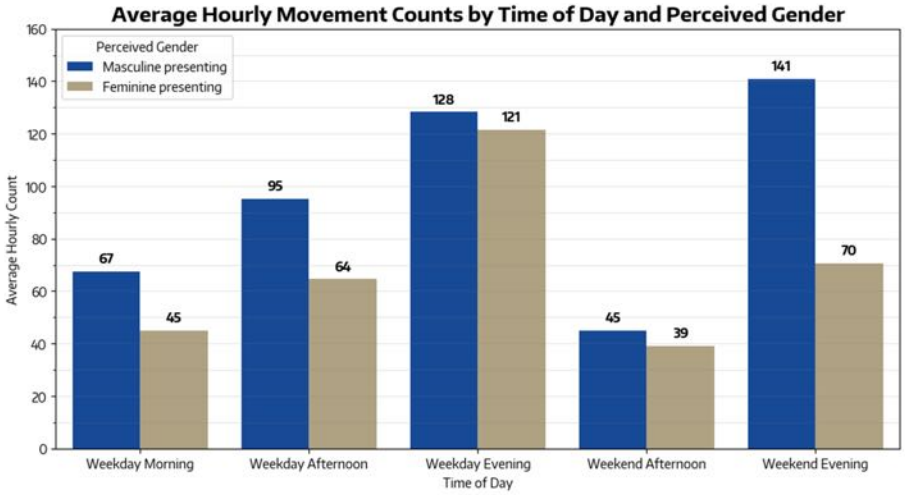


FIGURE 3-35: AVERAGE HOURLY MOVEMENT COUNTS BY TIME OF DAY AND PERCEIVED GENDER (MASCULINE- AND FEMININE-PRESENTING ONLY).

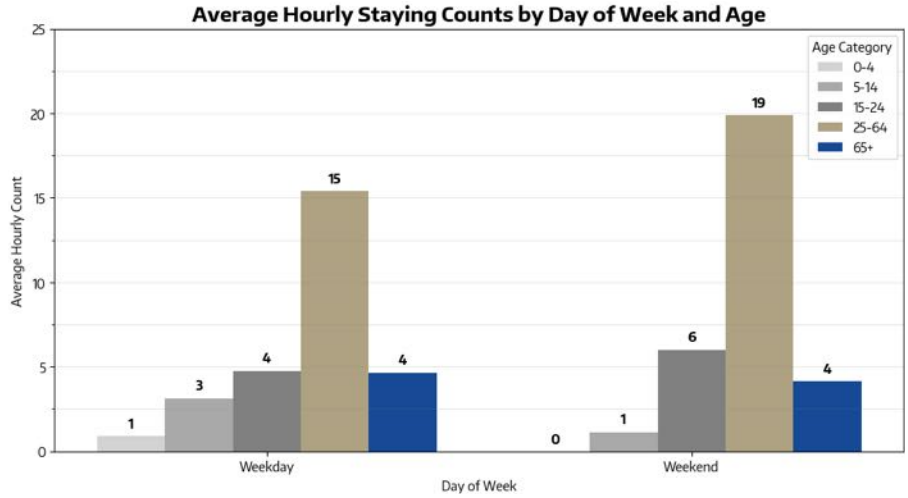


FIGURE 3-36: AVERAGE HOURLY STAYING COUNTS BY DAY OF WEEK AND AGE.

and curb cuts at every intersection, which makes it accessible to aging residents and could potentially be a reason we see such high numbers of 65+ users. These numbers are equivalent to the 15-24 category at times, pointing to the importance of well maintained pedestrian infrastructure that accommodates walkers of all ages and abilities.

Staying Perceived Gender Time Trends, Aggregated for All Block Faces

The gender distribution of those staying in the study area reflected similarly to the gender distribution of those moving through the study area across the various observation periods. The greatest parity across genders was observed at commute times (weekday morning and evening). People staying in the study area during non-commuting hours tended to skew strongly towards masculine-presenting.

Hourly Counts for Mode of Transportation, Aggregated Across All Observation Times: Beacon Ave

On Beacon Ave, motorized modes were most prevalent, though there were insignificant counts of bicyclists and users of mobility devices and micro mobility (e.g. e-scooters). Pedestrian counts are displayed alongside counts of people waiting for a bus on either side of Beacon Ave. Of all staying behavior on the north and west sides of this intersection, 80% of people staying were waiting for a bus. This staying behavior is correlated strongly with pedestrian counts.

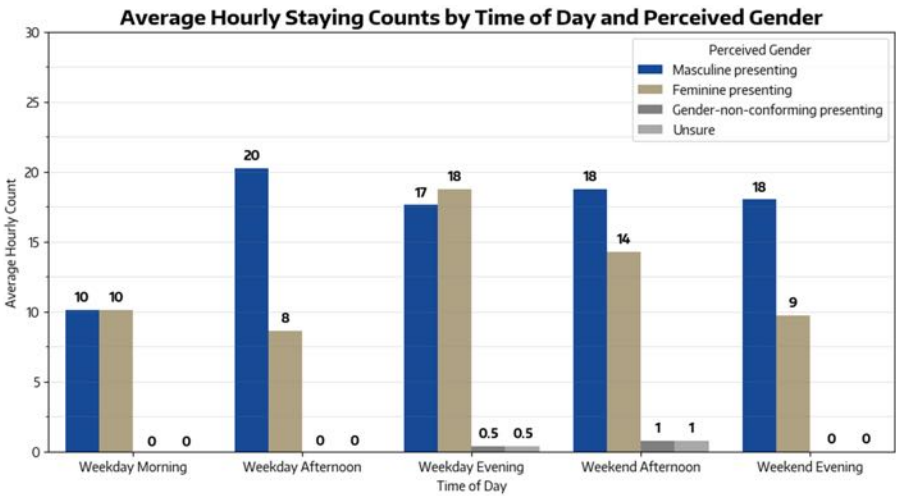


FIGURE 3-37: AVERAGE HOURLY STAYING COUNTS BY TIME OF DAY AND PERCEIVED GENDER.

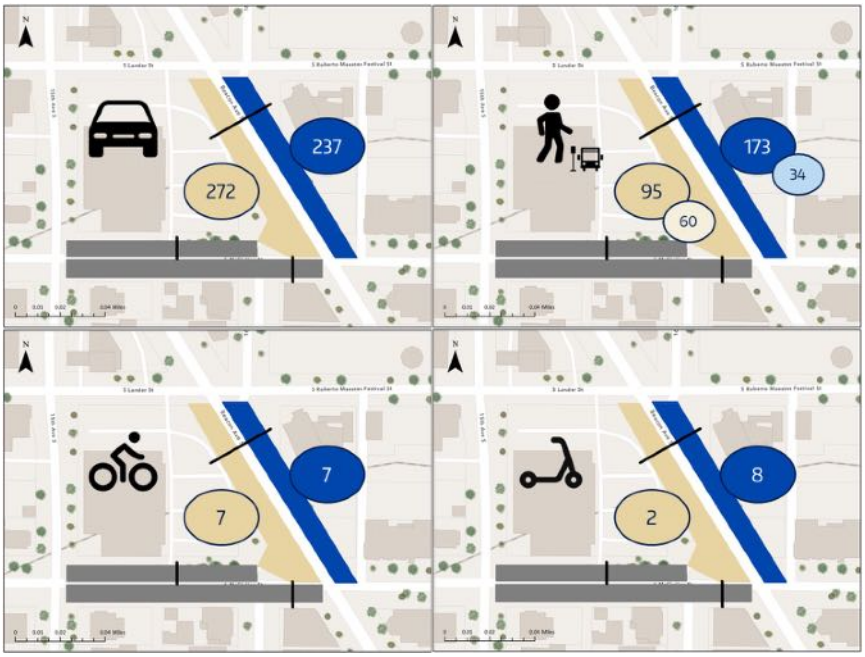


FIGURE 3-38: HOURLY MOVEMENT COUNTS ALONG 2700 BLOCK OF BEACON AVE S BY MODE OF TRANSPORTATION (AND "WAITING FOR PUBLIC TRANSPORTATION" COUNTS IN THE UPPER RIGHT QUADRANT).

Hourly Counts for Mode of Transportation, Aggregated Across All Observation Times: McClellan St

Overwhelmingly, motorized modes of transportation dominated all of the sites, outnumbering the next most common mode of transportation (pedestrian/walking) almost 2:1. This implies that the area, although near light rail, still sees significant traffic on its streets, especially during the week.

Mode of Transportation Time Trends without Motorized and Pedestrian Modes, Aggregated for All Block Faces

Excluding motorized and pedestrian modes, which made up an overwhelming majority of mode choice for these sites, the next most popular mode of transportation was a personal bicycle. Rates of using a mobility device, other micro mobility or shared mobility options, and supported modes were infrequent, with hourly counts of 1 or less aggregate across all sites.

FIGURE 3-39: HOURLY MOVEMENT COUNTS ALONG THE 1500 BLOCK OF S MCCLELLAN ST BY MODE OF TRANSPORTATION (AND "WAITING FOR PUBLIC TRANSPORTATION" COUNTS IN THE UPPER RIGHT QUADRANT).

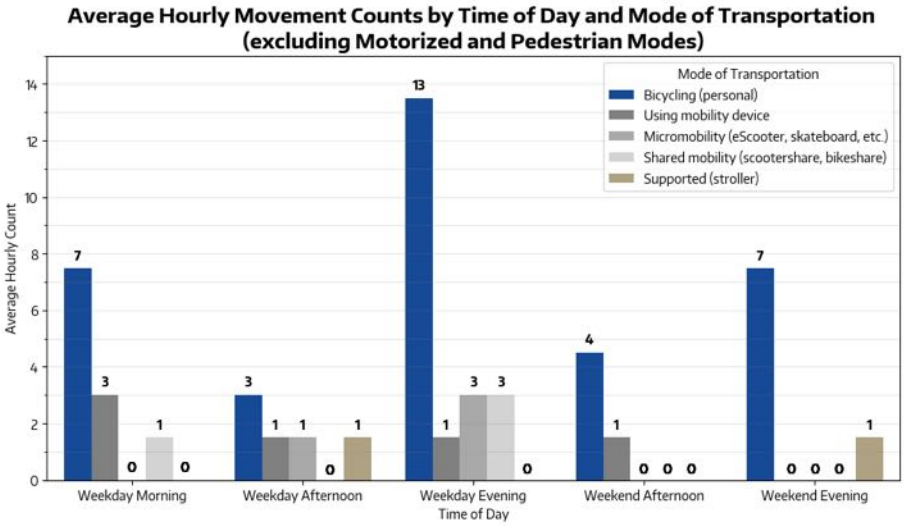


FIGURE 3-40: AVERAGE HOURLY MOVEMENT COUNTS BY TIME OF DAY AND MODE OF TRANSPORTATION (EXCLUDING MOTORIZED AND PEDESTRIAN MODES).

Conclusion

Overall, we ended with the following observations from our sites:

- The bus stops on the east and west sides of Beacon Ave offer covered benches at the bus stop, which we observed many people using. The east side of the street also has numerous individual benches that were in use periodically, potentially offering a more inviting space to linger.
- The business located at the S McClellan location brought a significant number of people

to stay at the site while open - but only while the weather was suitable for staying outdoors. Far lower rates of staying were observed on a different weekend when temperatures were cooler with intermittent rain.
- The N McClellan site, along the side of a grocery store, did not have many people staying other than a small number of employees, and also had no benches or bike parking. The large parking lot also resulted in many people cutting through to access the store directly rather than following the sidewalk to the sightline.

This leads us to several recommendations based on our observations:

- Well maintained pedestrian infrastructure like sidewalks, clearly painted crosswalks, ADA compliant curb cuts, and maintained vegetation can go a long way in supporting public life. We recommend the City gather data on these factors and advocate for allocating budget to maintenance of these vital amenities.
- Simply providing seating does not always result in people staying. For example, the seats on the southern portion of Beacon Ave East are new, clean, and yet rarely occupied. The presence of businesses, public art, shade, and more might encourage lingering. We recommend that the City consider creating seating that is inviting for individuals to use near bus stops, as well as consider installing tables and benches near the grocery store so that individuals can purchase a meal at the grocery store or Chinese restaurant inside Red Apple and eat outside. This also provides a space for individuals to gather at a table in the area that is not at the Perihelion Brewery.
- People frequently took the shortest route across Beacon Ave S from the light rail station to the bus stop or Red Apple, rather than using the crosswalk. We recommend that the City consider turning this into more of a pedestrian-style plaza or woonerf style design that prioritizes pedestrians while allowing cars to pass through when the light turns green. Or, the City could consider widening the existing crosswalk (that crosses from the east to west side of Beacon Ave) to formalize the area that people jaywalk in and make it safer for crossing.
- Similarly, many people cut through the parking lot of Red Apple instead of taking sidewalks to the entrance. We recommend that the City consider creating a throughway from the bus stop to the main entrance of the grocery store, creating a safe path directly through the parking lot.
- Finally, the City should design streets and spaces for the results they want to see. People driving south on Beacon Ave and turning right onto McClellan frequently take the turn very fast, creating a dangerous situation for people outside of vehicles. We recommend that the City prioritize traffic calming strategies such as removing or narrowing the slip turn lane to shorten the pedestrian crossing distance. The City could also add speed humps to slow down drivers.

Questions for Future Study

Based on our observations and recommendations, the following are some questions for future study:

- How does the presence of covered benches at bus stops impact the number of people using the stops?
- What are the specific features of bus stops that make them more inviting for people to use and linger?
- How does weather variation (e.g., temperature, precipitation) influence the number of people staying at outdoor public spaces? How does this vary between transit stops compared to other seating arrangements?
- How does the placement and design of individual benches affect their usage?
- How does the presence of a business (like the one at S McClellan) affect the number of people staying in the vicinity?
- What additional features (e.g., public art, shade, tables) can be integrated with seating to encourage more people to stay and use public spaces?
- How do different designs and placements of seating (e.g., benches, tables) impact their usage near bus stops and grocery stores?

Appendix: Data

Data Pre-processing

SDOT Public Life Assessment data for Teams 3 and 4 was split into two files:

- Movement - containing all records about movement (both mode and age/gender)
- Stationary - containing all records about staying (including activity, posture, demographics)

Each file had empty data columns removed, and all subsequent analysis is performed with the smallest levels of aggregation being:

Spatial: block face assigned to each team number

	Team 3-01	Team 3-02	Team 4-01	Team 4-02
Block	2700 Block of Beacon Ave S	2700 Block of Beacon Ave S	1500 Block of S McClellan St	1500 Block of S McClellan St
Face	East	West	North	South

Temporal: each time period that was requested by SDOT

Weekday	Morning	8am - 10am
	Afternoon	12pm - 2pm
	Evening	4pm - 6pm
Weekend	Afternoon	12pm - 2pm
	Evening	4pm - 6pm

No data was recorded for numbers of parked cars, since no parking is permitted in any of the study locations for Teams 3 and 4.

People Moving and Staying Counts

Average Hourly Counts

Data for movement by mode and age/gender were combined into a single dataframe, then the raw counts were converted into hourly movement counts by multiplying the raw count by a fraction (60/x), where x is the number of minutes that a particular site was observed for that time period over the entire set of team observations. No combination of datasets was required for the staying counts, but staying counts were also converted using the same multiplication method.

Example 1: Weekend afternoon counts were multiplied by (60/20), since each site's movements were observed for 10 minutes of movement mode plus 10 minutes of movement age/gender, for one weekend afternoon.

Example 2: Morning average counts were multiplied by (60/40), since each site's movements were observed for 10 minutes of movement mode plus 10 minutes of movement age/gender, for two mornings.

Linger Factor

Linger factor is defined as the percentage of people staying out of people moving:

$$\text{Linger Factor} = 100 \times \frac{\text{People Staying}}{\text{People Moving}}$$

Linger factor is calculated for all locations and times.

TABLE 3-19: AVERAGE HOURLY MOVING COUNTS FOR 2700 BLOCK OF BEACON AVE S AND 1500 BLOCK OF S MCCLELLAN ST

Site	Overall	Morning	Afternoon	Evening	Weekday	Weekend	Weekday Morning	Weekday Afternoon	Weekday Evening	Weekend Afternoon	Weekend Evening
E Beacon	317.625	303.0	259.0	386.0	338.5	255.0	303.0	270.0	442.5	237.0	273.0
W Beacon	274.125	189.0	209.0	396.0	273.0	277.5	189.0	214.5	415.5	198.0	357.0
N McClellan	189.000	124.5	198.0	223.0	202.0	150.0	124.5	232.5	249.0	129.0	171.0
S McClellan	139.875	84.0	131.0	186.0	123.5	189.0	84.0	121.5	165.0	150.0	228.0
Beacon	591.750	492.0	468.0	782.0	611.5	532.5	492.0	484.5	858.0	435.0	630.0
McClellan	328.875	208.5	329.0	409.0	325.5	339.0	208.5	354.0	414.0	279.0	399.0
Total	920.625	700.5	797.0	1191.0	937.0	871.5	700.5	838.5	1272.0	714.0	1029.0

TABLE 3-20: AVERAGE HOURLY STAYING COUNTS FOR 2700 BLOCK OF BEACON AVE S AND 1500 BLOCK OF S MCCLELLAN ST

Site	Overall	Morning	Afternoon	Evening	Weekday	Weekend	Weekday Morning	Weekday Afternoon	Weekday Evening	Weekend Afternoon	Weekend Evening
E Beacon	42.750	31.5	37.0	56.0	40.5	49.5	31.5	33.0	57.0	45.0	54.0
W Beacon	61.500	46.5	57.0	76.0	68.5	40.5	46.5	72.0	87.0	27.0	54.0
N McClellan	2.625	3.0	4.0	1.0	2.5	3.0	3.0	4.5	0.0	3.0	3.0
S McClellan	10.500	0.0	25.0	3.0	3.5	31.5	0.0	6.0	4.5	63.0	0.0
Beacon	104.250	78.0	94.0	132.0	109.0	90.0	78.0	105.0	144.0	72.0	108.0
McClellan	13.125	3.0	29.0	4.0	6.0	34.5	3.0	10.5	4.5	66.0	3.0
Total	117.375	81.0	123.0	136.0	115.0	124.5	81.0	115.5	148.5	138.0	111.0

TABLE 3-21: LINGER FACTOR FOR 2700 BLOCK OF BEACON AVE S AND 1500 BLOCK OF S MCCLELLAN ST

Site	Overall	Morning	Afternoon	Evening	Weekday	Weekend	Weekday Morning	Weekday Afternoon	Weekday Evening	Weekend Afternoon	Weekend Evening
E Beacon	13.46	10.40	14.29	14.51	11.96	19.41	10.40	12.22	12.88	18.99	19.78
W Beacon	22.44	24.60	27.27	19.19	25.09	14.59	24.60	33.57	20.94	13.64	15.13
N McClellan	1.39	2.41	2.02	0.45	1.24	2.00	2.41	1.94	0.00	2.33	1.75
S McClellan	7.51	0.00	19.08	1.61	2.83	16.67	0.00	4.94	2.73	42.00	0.00
Beacon	17.62	15.85	20.09	16.88	17.83	16.90	15.85	21.67	16.78	16.55	17.14
McClellan	3.99	1.44	8.81	0.98	1.84	10.18	1.44	2.97	1.09	23.66	0.75
Total	12.75	11.56	15.43	11.42	12.27	14.29	11.56	13.77	11.67	19.33	10.79

Postures, Activities, Demographics, Modes

The descriptive statistics presented in this section are derived from raw counts, not hourly averages.

Posture

TABLE 3-22: POSTURE COUNTS FOR 2700 BLOCK OF BEACON AVE S AND 1500 BLOCK OF S MCCLELLAN ST

Site	Standing	Sitting Public	Sitting Commercial	Sitting Informal	Leaning	Total	Percentage
E Beacon	80	29	0	0	5	114	36
W Beacon	121	34	0	4	5	164	52
N McClellan	6	0	0	0	1	7	2
S McClellan	5	0	22	1	0	28	9
Beacon	201	63	0	4	10	278	89
McClellan	11	0	22	1	1	35	11
Total	212	63	22	5	11	313	100
Percentage	68	20	7	2	4	100	

Activities

Activities were recorded as long as an activity was present in a response (e.g. if a staying individual was recorded as waiting for public transit and using an electronic device, then that individual would be counted once for each activity type).

The "other" activity type includes activities such as pet care or play, living in public, chance encounters, taking care of children, and tying shoes.

TABLE 3-23: ACTIVITY COUNTS FOR 2700 BLOCK OF BEACON AVE S AND 1500 BLOCK OF S MCCLELLAN ST

Site	Waiting for Public Transit	Using Electronic Device	Eating / Drinking	Talking to Others	Smoking	Other	Total	Percentage
E Beacon	90	29	5	24	5	5	158	32
W Beacon	159	44	14	43	3	2	265	54
N McClellan	0	3	0	2	5	0	10	2
S McClellan	0	7	22	23	0	3	55	11
Beacon	249	73	19	67	8	7	423	87
McClellan	0	10	22	25	5	3	65	13
Total	249	83	41	92	13	10	488	100
Percentage	51	17	8	19	3	2	100	

Mode

TABLE 3-24: MODE COUNTS FOR 2700 BLOCK OF BEACON AVE S AND 1500 BLOCK OF S MCCLELLAN ST

Site	Motorized	Pedestrian	Bicycling (personal)	Using mobility device	Micro-mobility	Shared mobility	Supported	Total	Percentage
E Beacon	316	231	9	2	3	3	2	566	36
W Beacon	363	126	9	3	0	0	0	501	32
N McClellan	248	39	2	0	0	0	0	289	19
S McClellan	146	56	4	0	0	0	0	206	13
Beacon	679	357	18	5	3	3	2	1067	68
McClellan	394	95	6	0	0	0	0	495	32
Total	1073	452	24	5	3	3	2	1562	100
Percentage	69	29	2	0	0	0	0	100	

Moving Demographics

TABLE 3-25: MOVING COUNTS BY AGE GROUP FOR 2700 BLOCK OF BEACON AVE S AND 1500 BLOCK OF S MCCLELLAN ST

Site	0-4	5-14	15-24	25-64	65+	Total	Percentage
E Beacon	5	32	58	166	20	281	31
W Beacon	7	16	41	139	27	230	26
N McClellan	2	5	13	154	41	215	2
S McClellan	1	7	8	128	23	167	19
Beacon	12	48	99	305	47	511	57
McClellan	3	12	21	282	64	382	43
Total	15	60	120	587	111	893	100
Percentage	2	7	13	66	12	100	

TABLE 3-26: MOVING COUNTS BY PERCEIVED GENDER FOR 2700 BLOCK OF BEACON AVE S AND 1500 BLOCK OF S MCCLELLAN ST

Site	Masculine presenting	Feminine presenting	Total	Percentage
E Beacon	163	118	281	31
W Beacon	134	96	230	26
N McClellan	124	91	215	24
S McClellan	91	76	167	19
Beacon	297	214	511	57
McClellan	215	167	382	43
Total	512	381	893	100
Percentage	57	43	100	

Staying Demographics

TABLE 3-27: STAYING COUNTS BY AGE GROUP FOR 2700 BLOCK OF BEACON AVE S AND 1500 BLOCK OF S MCCLELLAN ST

Site	0–4	5–14	15–24	25–64	65+	Total	Percentage
E Beacon	3	9	15	70	17	114	36
W Beacon	4	19	38	76	27	164	52
N McClellan	0	0	1	6	0	7	2
S McClellan	0	0	0	24	4	28	9
Beacon	7	28	53	146	44	278	89
McClellan	0	0	1	30	4	35	11
Total	7	28	54	176	48	313	100
Percentage	2	9	17	56	15	100	

TABLE 3-28: STAYING COUNTS BY PERCEIVED GENDER FOR 2700 BLOCK OF BEACON AVE S AND 1500 BLOCK OF S MCCLELLAN ST

Site	Masculine presenting	Feminine presenting	Gender-non-conforming presenting	Unsure	Total	Percentage
E Beacon	67	46	1	0	114	36
W Beacon	88	74	1	1	164	52
N McClellan	7	0	0	0	7	2
S McClellan	15	12	0	1	28	9
Beacon	155	120	2	1	278	89
McClellan	22	12	0	1	35	11
Total	177	132	2	2	313	100
Percentage	57	42	1	1	100	

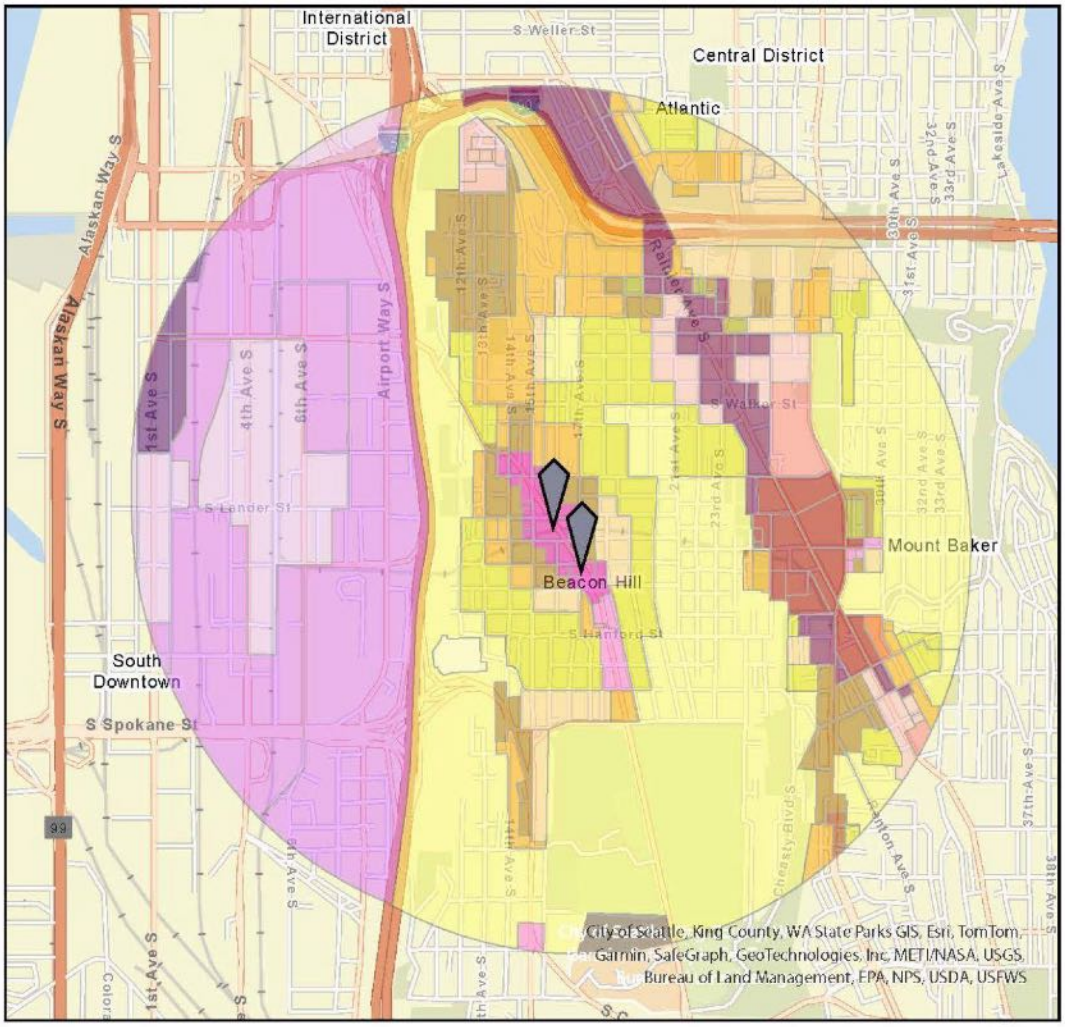
Bus & Freight Counts in 10 Minute Span

TABLE 3-29: BUS AND FREIGHT COUNTS FOR 2700 BLOCK OF BEACON AVE S AND 1500 BLOCK OF S MCCLELLAN ST

Site	Bus Counts	Freight Counts	Day of Week	Time of Day
UW Team 3-01	2	8	Weekday	Morning
UW Team 3-01	2	6	Weekday	Afternoon
UW Team 3-01	2	6	Weekday	Evening
UW Team 3-01	3	7	Weekday	Morning
UW Team 3-01	3	6	Weekday	Afternoon
UW Team 3-01	3	5	Weekday	Evening
UW Team 3-01	2	5	Weekend	Afternoon
UW Team 3-01	3	5	Weekend	Evening
UW Team 3-02	2	5	Weekday	Morning
UW Team 3-02	2	5	Weekday	Afternoon
UW Team 3-02	4	5	Weekday	Evening
UW Team 3-02	3	6	Weekday	Morning
UW Team 3-02	3	5	Weekday	Afternoon
UW Team 3-02	2	6	Weekday	Evening
UW Team 3-02	2	6	Weekend	Afternoon
UW Team 3-02	3	5	Weekend	Evening
UW Team 4-01	2	4	Weekday	Morning
UW Team 4-01	2	5	Weekday	Afternoon
UW Team 4-01	3	2	Weekday	Evening
UW Team 4-01	2	5	Weekday	Morning
UW Team 4-01	1	4	Weekday	Afternoon
UW Team 4-01	2	3	Weekday	Evening
UW Team 4-01	1	1	Weekend	Afternoon
UW Team 4-01	1	1	Weekend	Evening
UW Team 4-02	1	1	Weekday	Morning
UW Team 4-02	1	3	Weekday	Afternoon
UW Team 4-02	1	1	Weekday	Evening
UW Team 4-02	1	2	Weekday	Morning
UW Team 4-02	0	2	Weekday	Afternoon
UW Team 4-02	1	1	Weekday	Evening
UW Team 4-02	0	0	Weekend	Afternoon
UW Team 4-02	0	0	Weekend	Evening

Appendix: Zoning Maps

2024 Beacon Hill Zoning Map, 1-Mile Radius of Beacon Hill Station



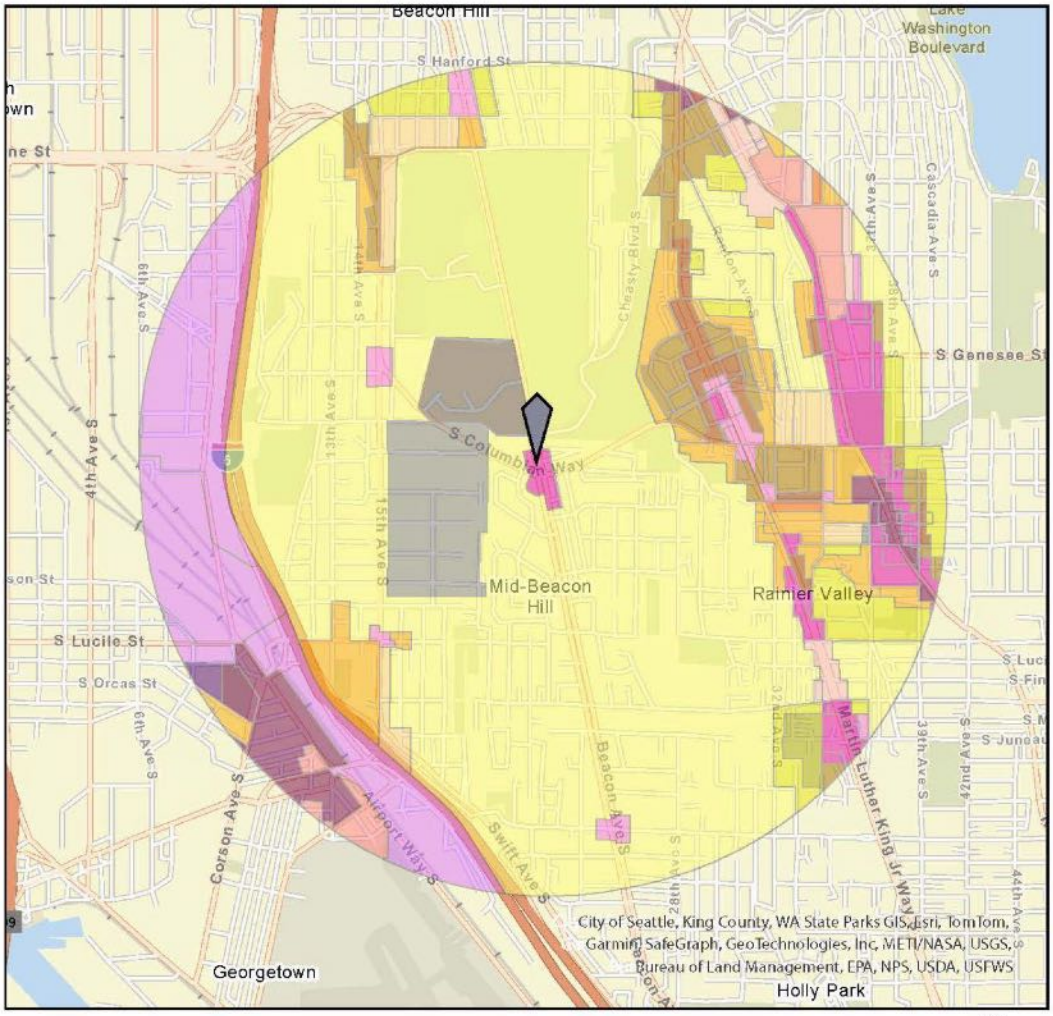
Legend

1-Mile Radius, Beacon Hill Station

- Reference Intersections
- C1, Commercial
- C2, Commercial
- II, Industrial
- LR1, Lowrise Multi-Family
- LR2, Lowrise Multi-Family
- LR2 RC, Lowrise Multi-Family
- LR3, Lowrise Multi-Family
- LR3 RC, Lowrise Multi-Family
- MIO, Major Institutions
- MML, Industrial
- MR, High-Density Multi-Family
- NC1, Neighborhood Commercial
- NC2, Neighborhood Commercial
- NC3, Neighborhood Commercial
- NR1, Neighborhood Residential
- NR3, Neighborhood Residential
- RSL, Residential Small Lot
- SMNR, Seattle Mixed
- UX, Industrial
- Other

FIGURE 3-41: 2024 BEACON HILL ZONING MAP, 1-MILE RADIUS OF BEACON HILL STATION

2024 Zoning Map, 1-Mile Radius of S Columbian Way & Beacon Ave S



0 0.75 1.5 3 Miles

N

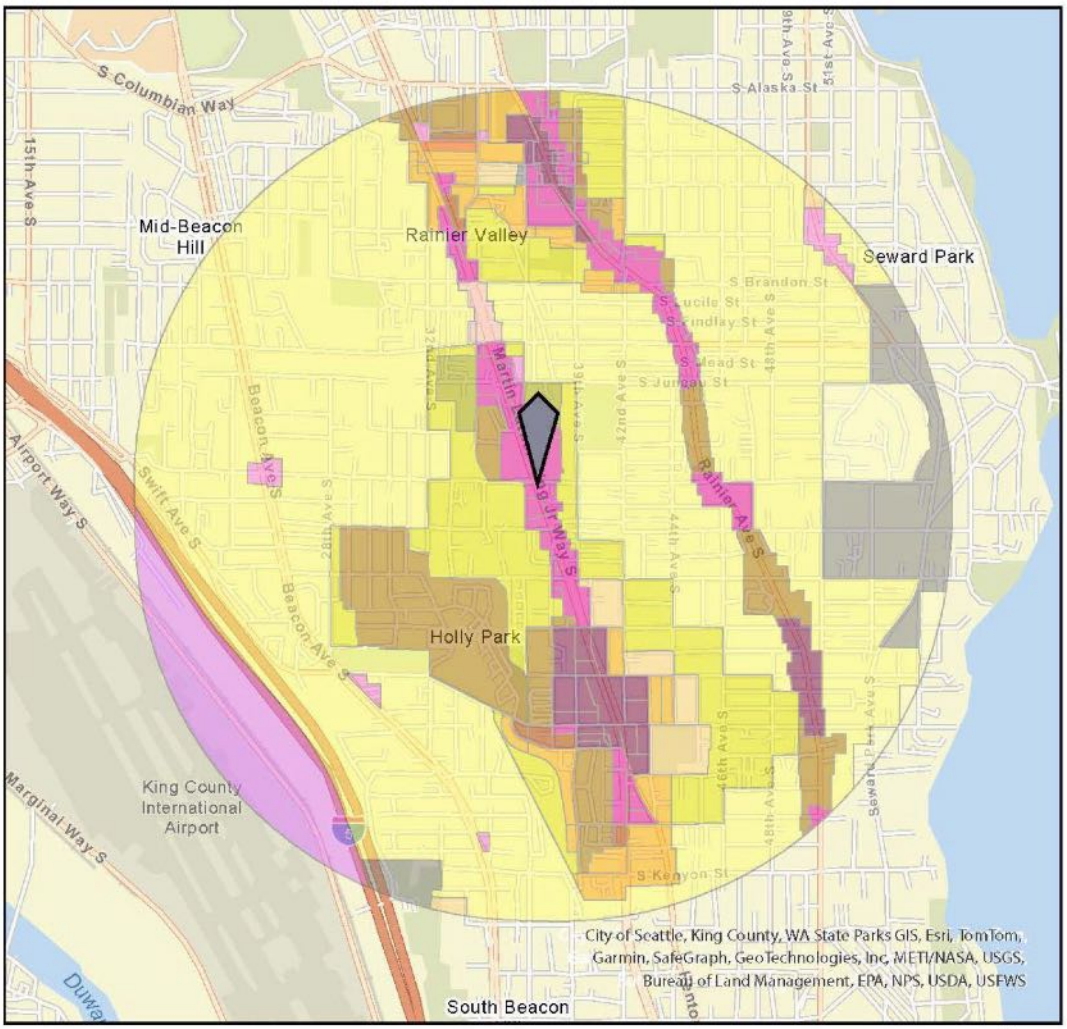
Legend

1-Mile Radius, S Columbian Way & Beacon Ave S

- Reference Intersection
- C1, Commercial
- C2, Commercial
- II, Industrial
- LR1, Lowrise Multi-Family
- LR2, Lowrise Multi-Family
- LR2 RC, Lowrise Multi-Family Commercial
- LR3, Lowrise Multi-Family
- LR3 RC, Lowrise Multi-Family Commercial
- MIO, Major Institutions
- MML, Industrial
- MR, High-Density Multi-Family
- NC1, Neighborhood Commercial
- NC2, Neighborhood Commercial
- NC3, Neighborhood Commercial
- NR1, Neighborhood Residential
- NR3, Neighborhood Residential
- RSL, Residential Small Lot
- SMNR, Seattle Mixed
- UX, Industrial
- Other

FIGURE 3-42: 2024 ZONING MAP, 1-MILE RADIUS OF S COLUMBIAN WAY & BEACON AVE S

2024 Zoning Map, 1-Mile Radius of S Graham St & MLK Jr Way S



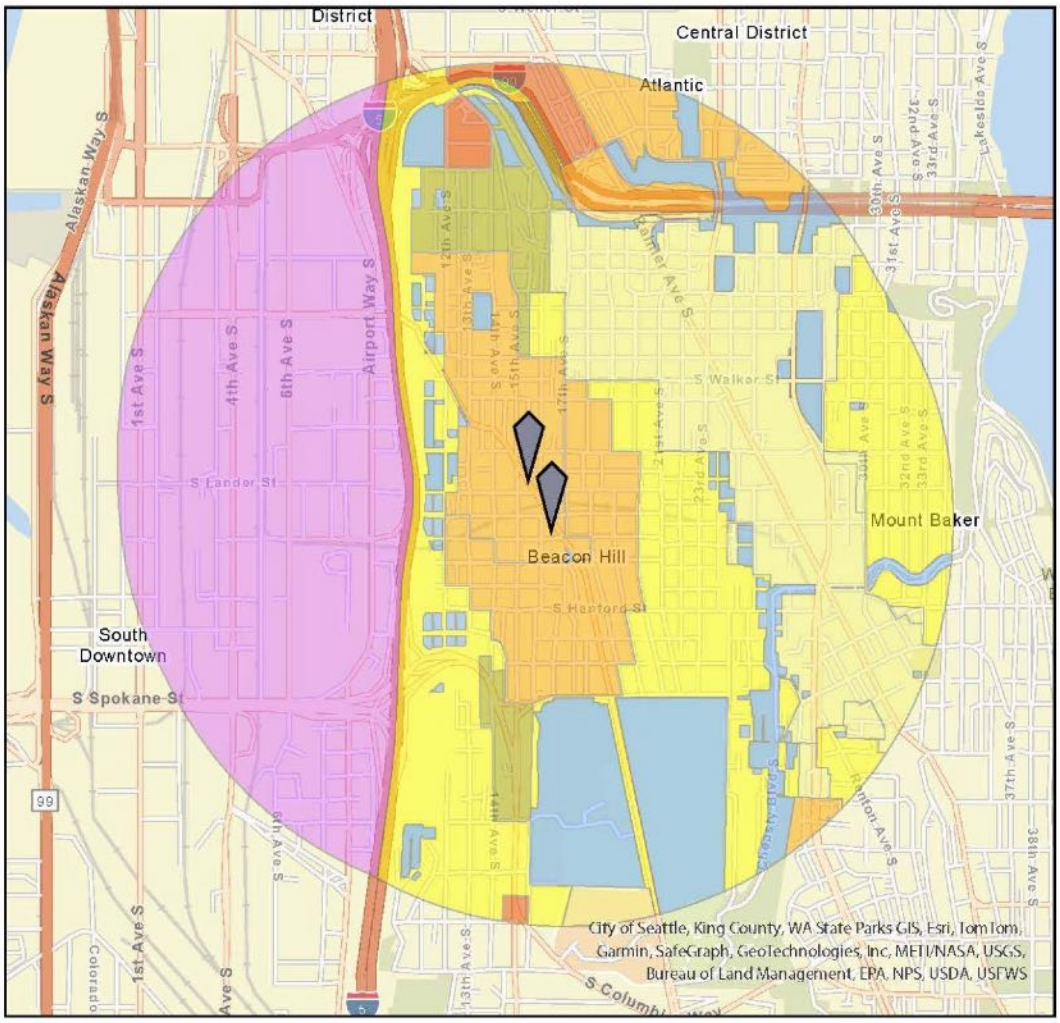
Legend

1-Mile Radius, S Graham St & MLK Jr Way S

- Reference Intersection
- C1, Commercial
- C2, Commercial
- Il, Industrial
- LR1, Lowrise Multi-Family
- LR2, Lowrise Multi-Family
- LR2 RC, Lowrise Multi-Family Commercial
- LR3, Lowrise Multi-Family
- LR3 RC, Lowrise Multi-Family Commercial
- MIO, Major Institutions
- MML, Industrial
- MR, High-Density Multi-Family
- NC1, Neighborhood Commercial
- NC2, Neighborhood Commercial
- NC3, Neighborhood Commercial
- NR1, Neighborhood Residential
- NR3, Neighborhood Residential
- RSL, Residential Small Lot
- SMNR, Seattle Mixed
- UX, Industrial
- Other

FIGURE 3-43: 2024 ZONING MAP, 1-MILE RADIUS OF S GRAHAM ST & MLK JR WAY S

2035 Beacon Hill Zoning Map, 1-Mile Radius of Beacon Hill Station



0 0.75 1.5 3 Miles

N

Legend

1-Mile Radius, Beacon Hill Station

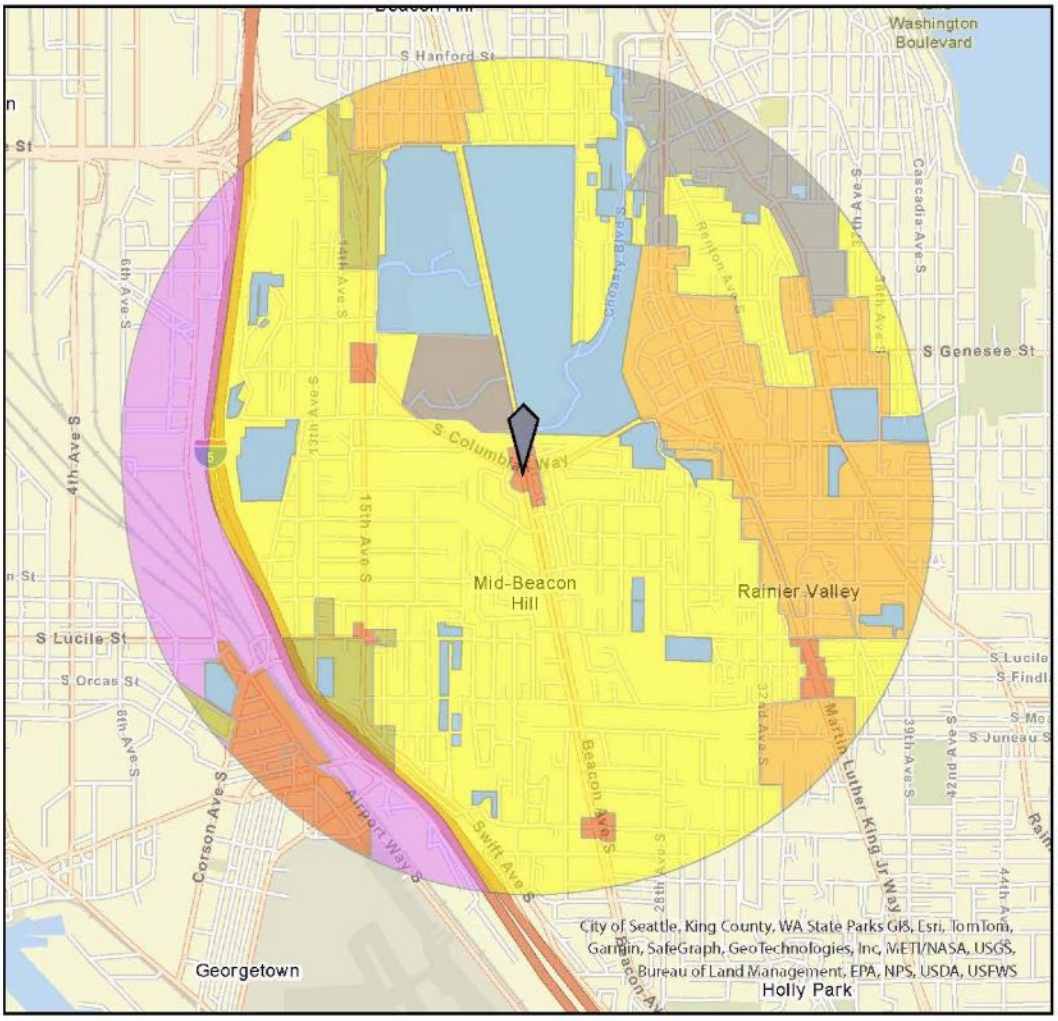
Future Land Use, 2035 Comprehensive Plan

- City-Owned Open Space
- Commercial / Mixed Use Areas
- Manufacturing Industrial Center
- Multi-Family Residential Areas
- Neighborhood Residential Areas
- Residential Urban Village
- Other

Reference Intersections

FIGURE 3-44: 2035 BEACON HILL LAND USE MAP, 1-MILE RADIUS OF BEACON HILL STATION

2035 Zoning Map, 1-Mile Radius of S Columbian Way & Beacon Ave S



0 0.75 1.5 3 Miles

N

Legend

1-Mile Radius, S Columbian Way & Beacon Ave S

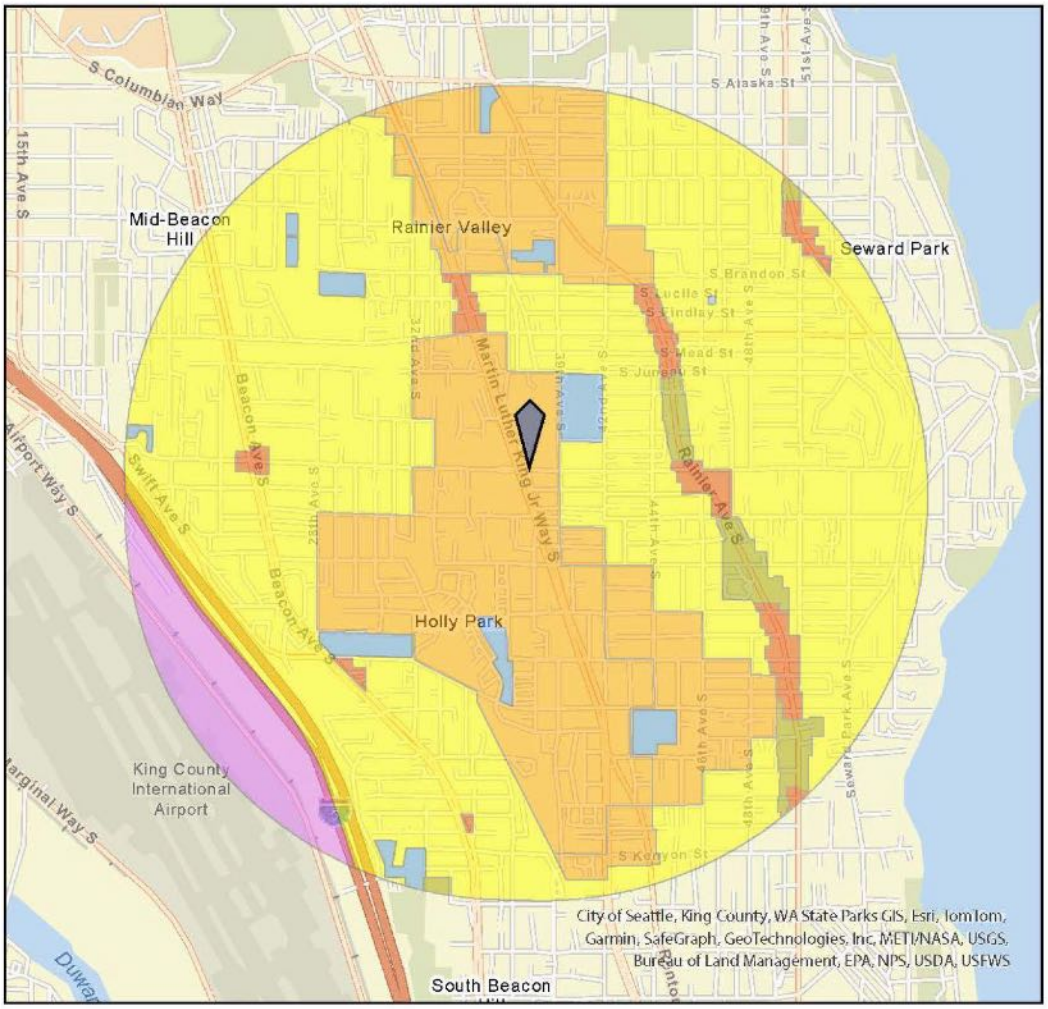
Future Land Use, 2035 Comprehensive Plan

- City-Owned Open Space
- Commercial / Mixed Use Areas
- Manufacturing Industrial Center
- Multi-Family Residential Areas
- Neighborhood Residential Areas
- Residential Urban Village
- Other

Reference Intersection

FIGURE 3-45: 2035 LAND USE MAP, 1-MILE RADIUS OF S COLUMBIAN WAY & BEACON AVE S

2024 Zoning Map, 1-Mile Radius of S Graham St & MLK Jr Way S



Legend

1-Mile Radius, S Graham St & MLK Jr Way S

Future Land Use, 2035 Comprehensive Plan

- City-Owned Open Space
- Commercial / Mixed Use Areas
- Manufacturing Industrial Center
- Multi-Family Residential Areas
- Neighborhood Residential Areas
- Residential Urban Village
- Other
- Reference Intersection

FIGURE 3-46: 2035 LAND USE MAP, 1-MILE RADIUS OF S GRAHAM ST & MLK JR WAY S

S Lander/S McClellan

Beacon Ave S

Beacon Ave S runs along the north and south leg of the intersection with S McClellan St. Along the south leg of the intersection Beacon Ave S consists of a two-lane, two-way roadway and a center turning lane. Sidewalks of six feet in width are provided along both sides of the street with a planted buffer featuring intermittent trees and a parking lane separating the travel lanes from the sidewalk. The west side of Beacon Ave S features several commercial uses as well as the Beacon Hill Library while the east side consists of a bank. A parklet is provided on the west side of the street for Milk Drunk customers, and smaller commercial seating and bike parking areas are provided by other businesses. Additionally, a two-way driveway is located on the east side of the street serving the bank's parking lot.

There was usually an uneven split between the number of people moving through Site 1 (west side) and Site 2 (east side). Site 1 saw higher afternoon numbers due to commute flows, while Site 2 saw higher morning numbers for a similar reason. However, Site 2 was slightly busier on average throughout the day than Site 1. The number of people moving through the site is summarized in Figure 3-47 below.

On Beacon Avenue S, the split between the two presenting genders (male and female) was nearly even, with each category at approximately 50%. Age makeup was skewed older, with the largest age gap at 25-64, but with the second-largest being 65+. There was a small handful of young adults aged 15-24, but very few children under 15.

In terms of mode, the largest category observed was motorized, making up around 83% of the mode share. However, as public transit was included in this count, it may be skewed, as most cars held between one and two people, while each bus held between 20-30, as this portion of Beacon Avenue

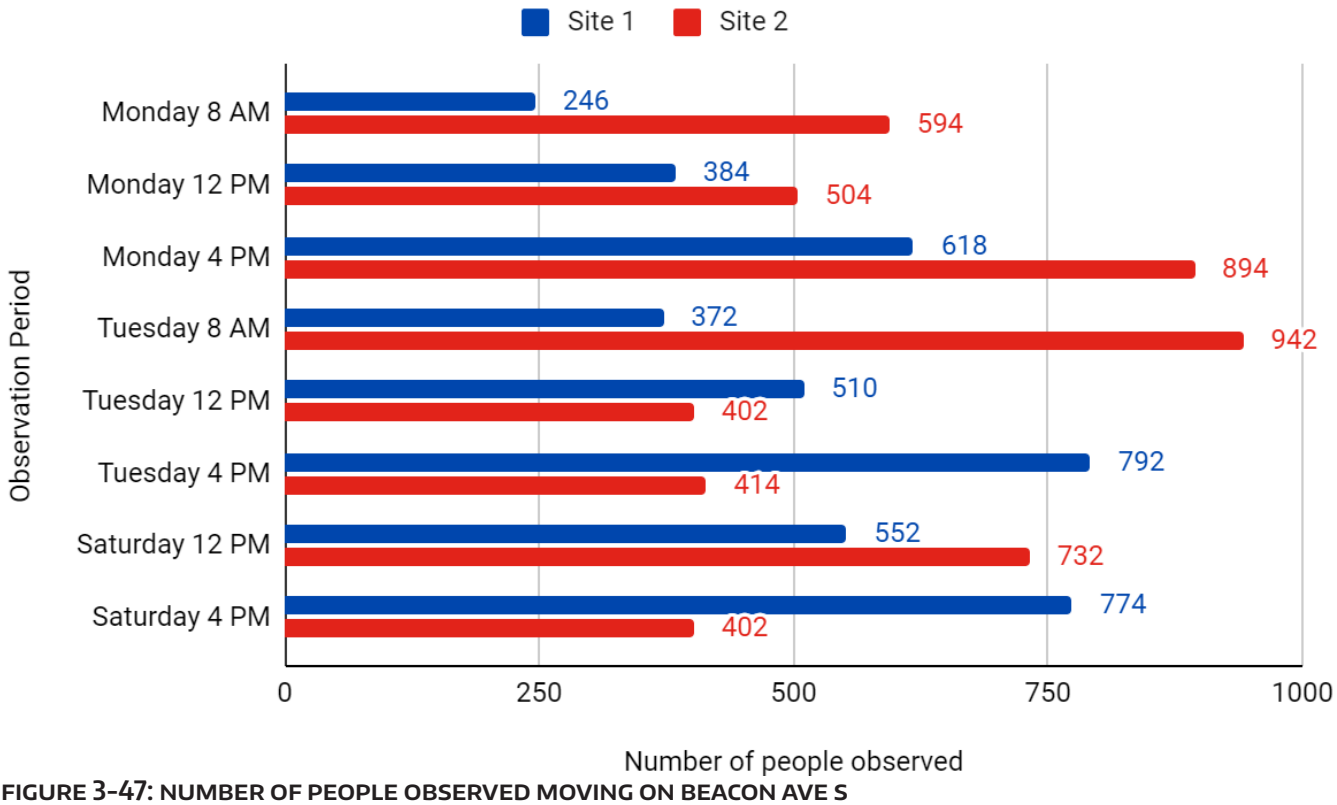


FIGURE 3-47: NUMBER OF PEOPLE OBSERVED MOVING ON BEACON AVE S

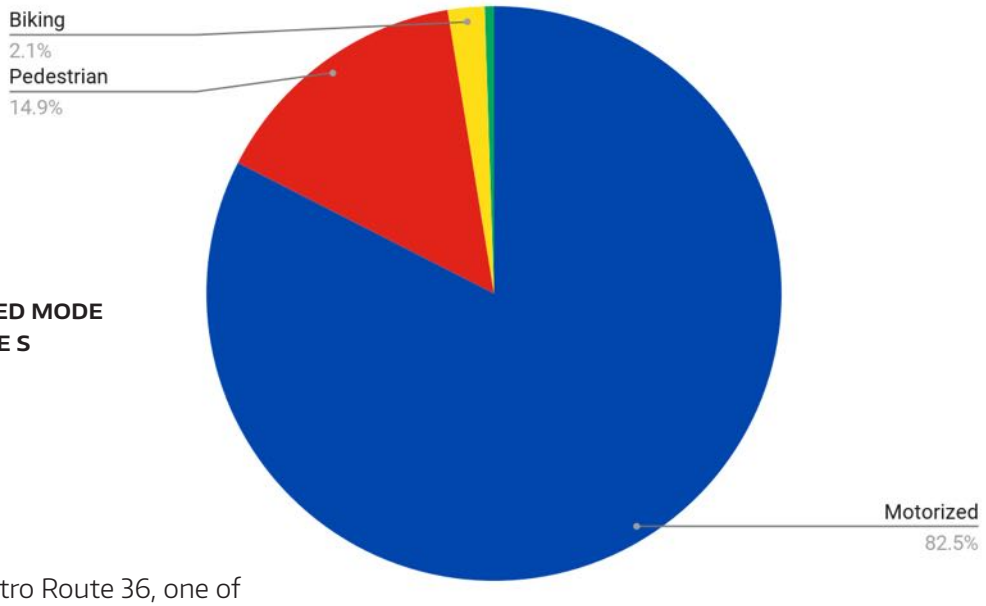


FIGURE 3-48: OBSERVED MODE SHARE ON BEACON AVE S

S is served by King County Metro Route 36, one of the busiest and most frequent bus routes in the City of Seattle. Pedestrians also made up a large portion of the mode share, and the proportion of pedestrians traveling was noticeably higher during sunnier conditions and when the businesses on the west side of the street, such as Milk Drunk, were open. We noticed that bicycles and other modes were a very small portion of the overall mode share, which may have been impacted by the lack of bicycle infrastructure along the corridor. A detailed mode share chart is available as Figure 3-48.

Lingering on Beacon Avenue S was noticed on both sites, however, the only lingering on Site 2 was during a construction project, where construction workers stood in their construction site for long periods of time. Otherwise, the only lingering on Site 1 was when Milk Drunk was open, as customers sat in the business' outdoor seating while eating and drinking. There was no lingering in Site 1 during other times. See Table 3-30 for more details on the linger factor for Beacon Avenue S.

During observations, we noticed other miscellaneous

TABLE 3-30: LINGERING FACTOR ON BEACON AVE S

Date	Time	Linger Factor
Monday	Morning	0.010
	Afternoon	0
	Evening	0
Tuesday	Morning	0.006
	Afternoon	0.257
	Evening	0.075
Saturday	Afternoon	0.038
	Evening	0

information. The Milk Drunk commercial seating was extremely well-used when the business was open while the commercial seating for the other businesses was not used at all. There was a fair amount of bike parking available on Site 1, but it was underutilized at all times, likely due to a lack of protected bike infrastructure forcing cyclists to share the road with the large volume of vehicles on Beacon Avenue S. We also observed many riders on the majority of Route 36 buses passing through the sites, with each bus carrying an average of 20-30 riders, showing the corridor's importance as a transit corridor.

S McClellan St

S McClellan St forms the west and east legs of the intersections. The east leg of the S McClellan St is predominantly a two-lane, two-way roadway. Standard sized sidewalks are provided along both sides of the street with wide planted buffers separating the sidewalks from the roadway. The north side of S McClellan St consists of a mixed-use development with commercial and residential uses, while the south side consists of a bank. The commercial uses along the north side of the street feature outdoor seating areas for their customers to use. It should be noted an alley is located on the north side of the street near the intersection of Beacon Ave S and S McClellan St. Additionally, an exit-only driveway that serves the bank's drive-thru is located near the intersection of S McClellan St and 17th Ave S on the south side of the street.

There was a significant difference between the number of people moving along Site 1 (north side) and Site 2 (south side), with Site 1 typically seeing double the number of people than Site 2 on certain times. In addition, the morning (AM) and evening (PM) hours saw more people moving than the noon observation period. The number of people moving are summarized in Figure 3-49 below.

Those who were observed tended to be adults in

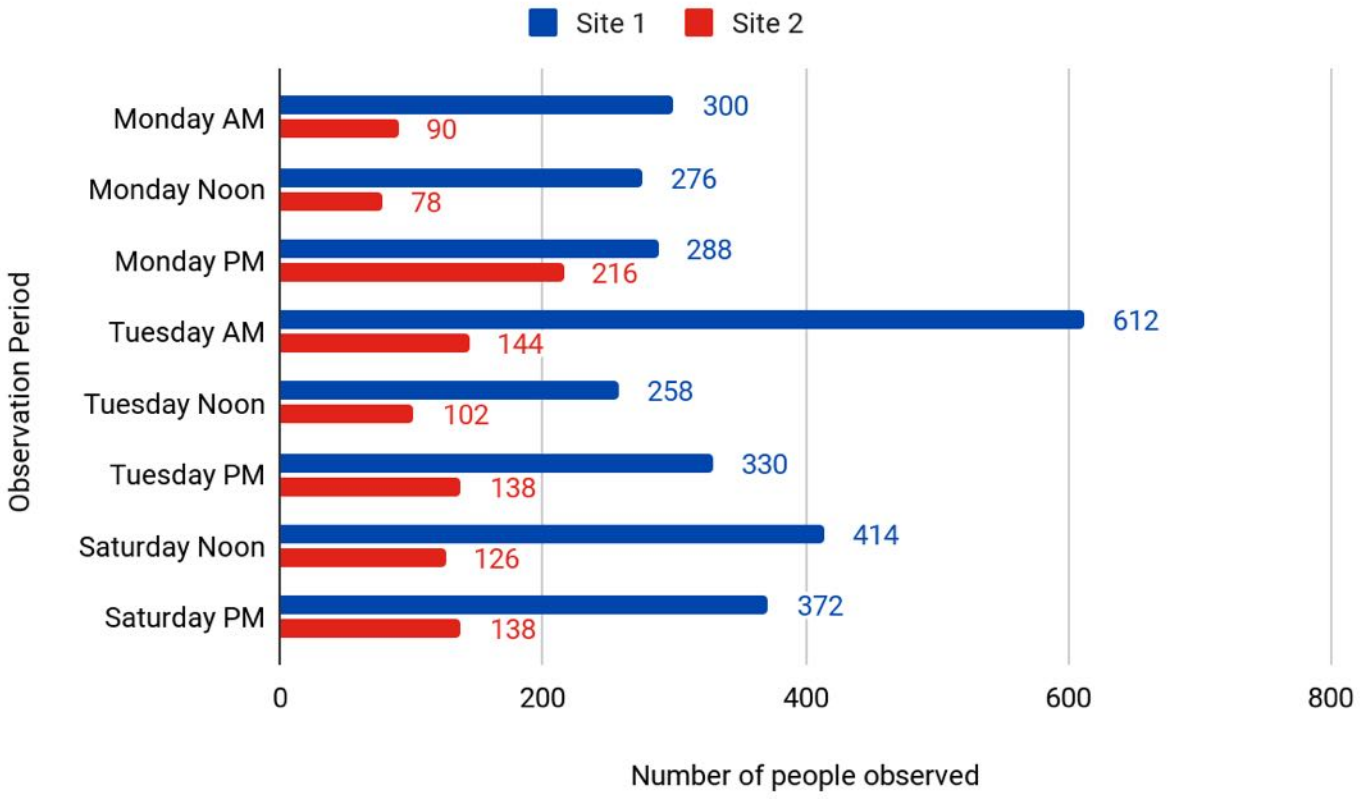


FIGURE 3-49: NUMBER OF PEOPLE OBSERVED MOVING ON S MCCLELLAN STREET

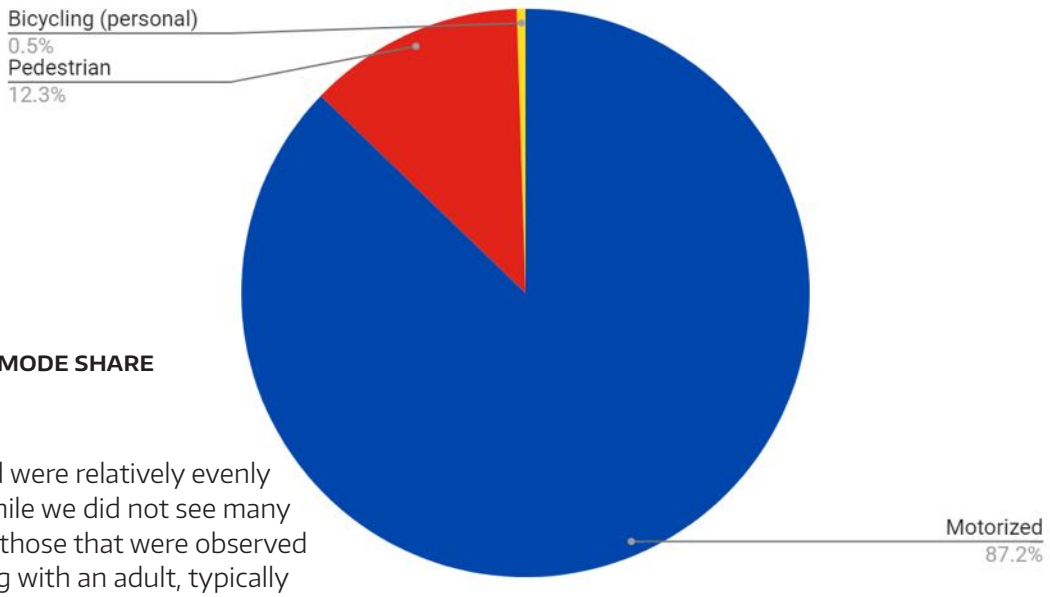


FIGURE 3-50: OBSERVED MODE SHARE ON S MCCLELLAN STREET

the 25-64 age range, and were relatively evenly split between gender. While we did not see many younger age individuals, those that were observed were most often traveling with an adult, typically during the morning and evening. While there were commercial and residential uses along this stretch of roadway, the vast majority of trips were done by vehicles, which include passenger vehicles, work trucks, and delivery vans. Pedestrians, mostly on Site 1, make up just over 12% of overall trips. There were very few trips done via bike, and only along Site 1. A summary of the modal breakdown of the intersection is shown.

Lingering on S McClellan St was only observed along Site 1 which had people lingering on all days, but not all times. Those observed lingering were mostly at the tables and seating outside of the commercial uses. Monday afternoon had the highest lingering factor (number of people lingering / number of people moving) despite the lower number of people moving at the same time. Clearer weather during this time could be a factor. Generally, the lingering factor was highest during the afternoon across all observation days. A summary of lingering factors for Site 1 is shown in Table 3-31. It should be noted that no lingering factor was calculated for Site 2 as there was no observed lingering along that site during all observation periods. A potential reason for this is the lack of covering and places to linger along the south side of the street.

Some other miscellaneous observations will be noted

TABLE 3-31: LINGERING FACTOR ON S MCCLELLAN ST

Date	Time	Linger Factor
Monday	Morning	0.030
	Afternoon	0.076
	Evening	0.063
Tuesday	Morning	0.010
	Afternoon	0.047
	Evening	0.018
Saturday	Afternoon	0.029
	Evening	0.016

here. An Amazon delivery vehicle was observed staging on the wide Bank exit driveway apron on the south side of the street where it is assumed loading is prohibited. In addition, cars going westbound (northside) were observed to queue all the way back to the intersection at 17th Ave S during the AM and PM peak hours while waiting for the light to cross Beacon Ave S. Kids were also observed in cars during the weekday morning and evening hours, which is likely because of school drop-off and pick-ups.

Conclusions

No bike parking was observed outside the businesses on the north side of S McClellan St despite bikes being observed. One bike parking spot exists on the southern side of S McClellan St and was used once to access the northern side. Therefore, we recommend installing bike parking along the north side of McClellan for more ease of access for bikes coming from the adjacent neighborhoods. As for Beacon Avenue S, we noticed that the bicycle mode-share was fairly low despite an abundance of bike parking, so we recommend that SDOT consider adding protected bike lanes to combat the higher-traffic street and make this arterial corridor more accessible to those using bicycles.

IMAGE CREDITS: AUTHORS

BEACON AVE S X S COLUMBIAN WAY

CHAPTER 4

Beacon Ave S (South of McClellanx S Forest St) & S Columbian Way (East of Beacon Ave S)

Introductions

This report is part of a larger public life study on non-motorized transportation for the Seattle Department of Transportation (SDOT). Using public life data captured on SDOT's Public Life App derived from Gehl Architects, this report focuses on travel modes and observations along the intersection of Beacon Ave S and S Columbian Way in Beacon Hill, Seattle. The other intersections studied by the University of Washington class, "User and Design Considerations for Pedestrian and Rolling Mobility," are Beacon Ave S and S Lander/S McClellan and Martin Luther King Jr. Way S and S Graham Street.

Methods

This study used the Public Life App to observe motorists, pedestrians, and people using non-motorized transit in the survey area.

Two teams collaborated on this report, Team 7 and Team 8. Team 7 observed on Beacon Ave S north of the intersection, and Team 8 observed on S Columbian Way east of the intersection. Two other teams observed west and south of the intersection.

TABLE 4-1. DESCRIPTIVE TABLE OF TEAMS MAKING OBSERVATIONS IN THE SURVEY AREA.

Team	Location	Sub-Team	Traffic
7	Beacon Ave S, north of the intersection	7-01	Southbound
		7-02	Northbound
8	S Columbian Way, east of the intersection	8-01	Westbound
		8-02	Eastbound

The first stage of observation was for a ten-minute duration. In this stage, we noted people moving during a ten minute period. A person or vehicle was counted if they crossed a sightline predetermined by the SDOT team for each study location. Figure 4-1 shows the sightlines as dotted blue lines. Counts were categorized into pedestrians, bicyclists, micromobility, shared mobility, using mobility device, supported, and motorized.

The second stage was also for a ten-minute duration. In this stage, we noted pedestrians who crossed the sightline and categorized counts into perceived age and gender categories. Genders were masculine-presenting or feminine-presenting, and age categories were 0-4, 5-14, 15-24, 25-64, and 65 or older.

The third stage was for a twenty-minute duration. In this stage, we noted people staying, whether they were grouped together, what postures they were in, their perceived gender, and what activities they were participating in.

Finally, we noted the following details in the post-task questionnaire: weather, temperature, maintenance level, noise level, and events happening. We also counted the capacity and occupancy of public benches, public tables and chairs, commercial seating, parking, and loading zones.

Throughout the study period, the app also allowed observers to take notes and photos.

Survey Area

The survey area is the intersection of Beacon Ave S and S Columbian Way. This is a major intersection located in the Beacon Hill neighborhood in Seattle. This report focuses on the section of Beacon Ave S north of the intersection and the section of S Columbian Way west of the intersection. See Figure 4-1 for a map of the intersection and survey area.

Both Beacon Ave S and S Columbian Way are urban center connectors. Urban center connectors are outside Urban Villages or Centers and serve as transit and/or freight networks (City of Seattle, n.d.). Posted street speed limits are 25 miles per hour for both streets.

Much of Beacon Ave S has a road median that divides the northbound and southbound lanes of traffic. At this intersection, the median contains parking spaces rather than green space or a pedestrian pathway. There are two sidewalks on the west side of the street, on either side of southbound traffic. On the southbound side of the street, there is only one sidewalk. During the entire study period, there was also ongoing construction on the westernmost end of Beacon Ave S which caused a closure of the sidewalk on that side.

S Columbian Way has fewer street trees than Beacon Ave S. The sole street piece of street furniture at this site is a bus

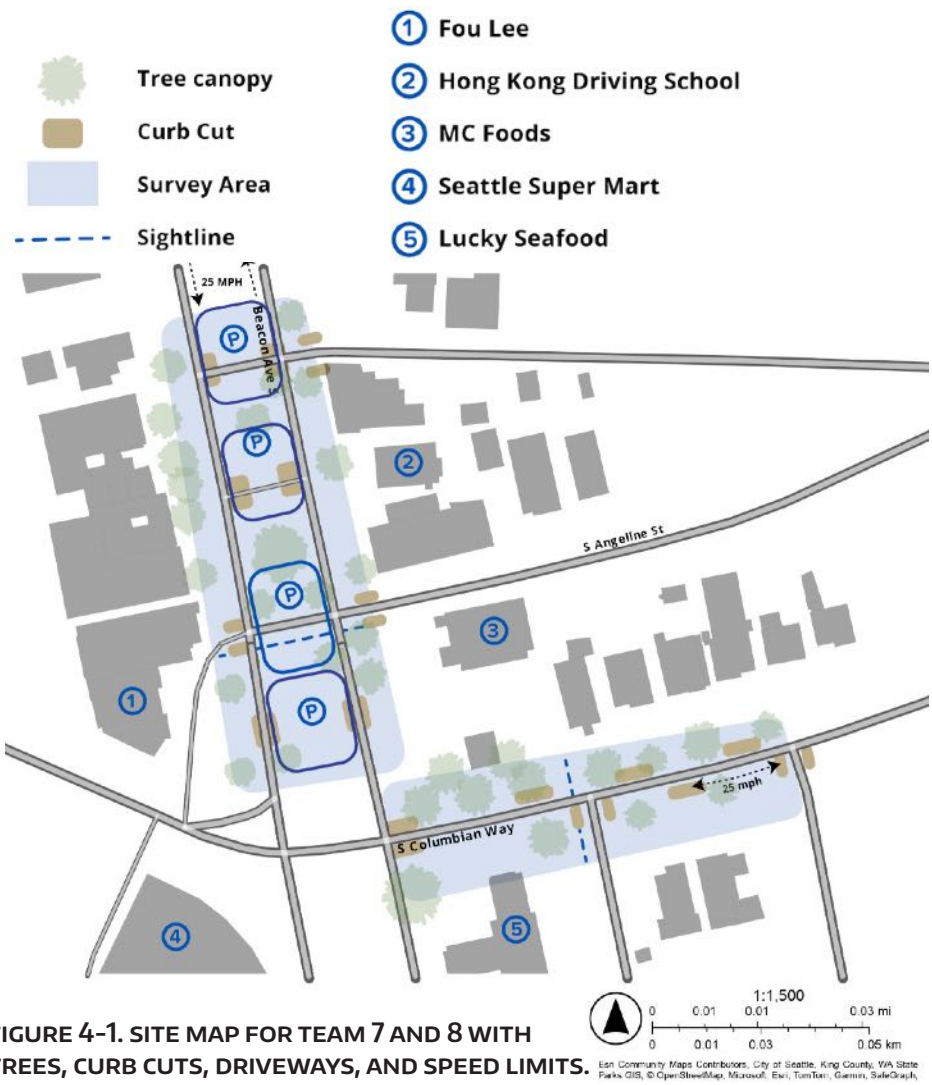


FIGURE 4-1. SITE MAP FOR TEAM 7 AND 8 WITH TREES, CURB CUTS, DRIVEWAYS, AND SPEED LIMITS.

bench on the eastbound side of S Columbian Way. This bench does not have a shelter. Vehicles on S Columbian Way were also consistently going faster than posted speed limit of 25 miles per hour.

There are several notable businesses on the intersection of Beacon Ave S and S Columbian Way. They include:

- Fou Lee Market & Deli, a grocery store located on the northwest corner
- MC Foods, a convenience store located on the northeast corner
- Dim Sum House, a restaurant located on the southeast corner
- Clock-out Lounge, a bar and restaurant located on the southeast corner
- Lucky Seafood, a grocery store located on the southeast corner
- Seattle Super Market, a grocery store located on the southwest corner
- Mimi's Bakery and Floral Shop, located on the southwest corner

Observations were conducted on three days and at three different times. The following table provides more information about the conditions on each day.

TABLE 4-2. OBSERVATION DATES, TIMES, AND CONDITIONS

Day	Date	Times	Weather	Temperature
Tuesday	April 23rd, 2024	8-10am, 12-2pm, and 4-6pm	Sunny and partly cloudy	Mid 60s Fahrenheit
Saturday	April 27th, 2024	12-2pm and 4-6pm	Cloudy and rainy	Low 50s Fahrenheit
Monday	April 29th, 2024	8-10am, 12-2pm, and 4-6pm	Cloudy and rainy	Low 50s Fahrenheit

Beacon Ave S

Please see Figure 4-2 for reference.

TABLE 4-3. CHARACTERISTICS OF BEACON AVE S AT THE STUDY AREA

	West side of the street	East side of the street
Sidewalk width	6 ft (Fou Lee), 5 ft (parking lot)	8 ft
Presence of trees	15	14
Presence of planter strip	Yes, both sidewalks	Yes
Street type	Urban center connector	Urban center connector
Posted street speed	25	25
Number of curb cuts/driveways	1 curb cut, 4 driveways	4 driveways, 2 curb cuts

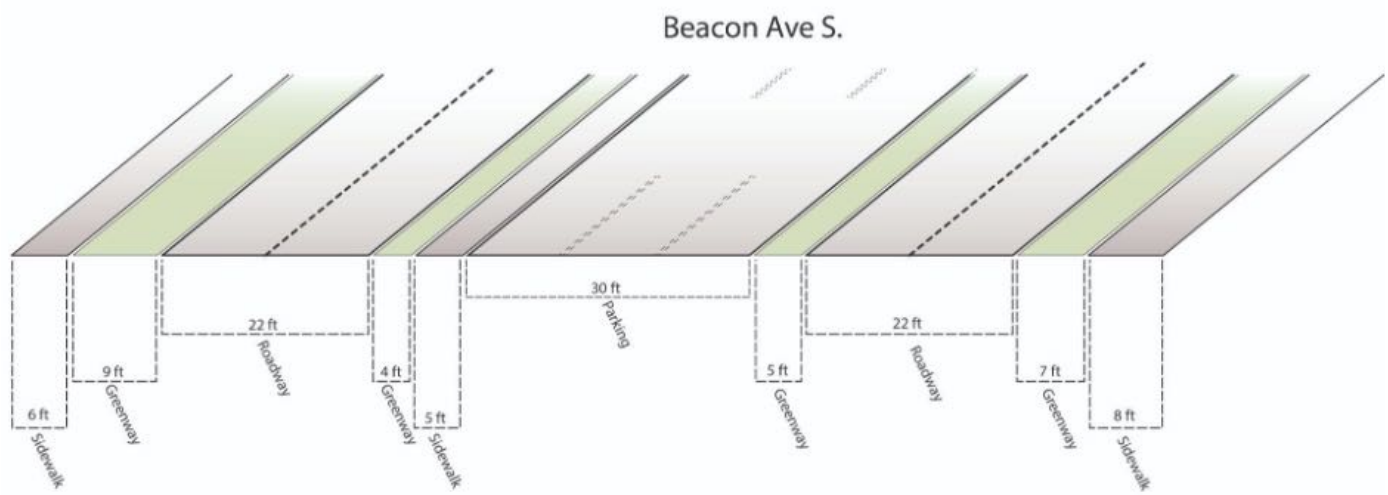


FIGURE 4-2. SECTION SHOWING SIDEWALK, GREENWAY, ROADWAY, AND PARKING ON BEACON AVE S.

S Columbian Way

Please see Figure 4-3 for reference.

TABLE 4-4. CHARACTERISTICS OF S COLUMBIAN WAY AT THE STUDY AREA

	North side of the street	South side of the street
Sidewalk width	6 ft	5 ft
Presence of trees	9	5
Presence of planter strip	Yes	Yes
Street type	Urban center connector	Urban center connector
Posted street speed	25	25
Number of curb cuts/driveways	4 curb cuts, 3 driveways	3 curb cuts, 4 driveways

Findings

Beacon Ave S

People moving and staying

Our data shows that people overwhelmingly use motorized vehicles to travel on this roadway. Those that use nonmotorized transportation are typically pedestrians. Peak road use by motor vehicles typically occurs going northbound on weekdays in the 8-10 AM time block and southbound on weekdays in the 4-6 PM time block.

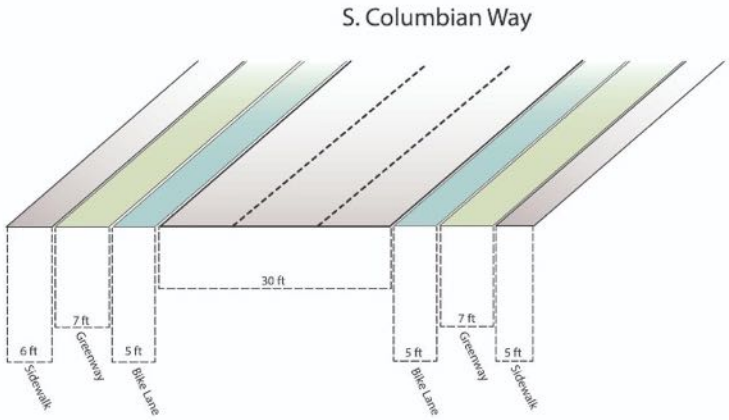


FIGURE 4-3. SECTION SHOWING SIDEWALK, GREENWAY, BIKE LANE, AND ROADWAY ON S. COLUMBIAN WAY.

TABLE 4-5. PEOPLE MOVING PER HOUR ON BEACON AVE S: NMT VS MOTORIZED

		Team 7-01 (southbound)		Team 7-02 (northbound)		Average # of people moving	
Day, Date	Time	NMT	Motorized	NMT	Motorized	NMT	Motorized
Monday, 4/29/24	8:00 AM	2	35	4	110	3	90
	12:00 PM	2	57	4	56	3	56.5
	4:00 PM	4	79	6	50	5	64.5
Tuesday, 4/23/24	8:00 AM	5	53	4	113	4.5	83
	12:00 PM	4	58	2	39	3	30.5
	4:00 PM	6	116	6	77	6	96.5
Saturday, 4/27/24	12:00 PM	3	77	6	58	4.5	67.5
	4:00 PM	4	79	6	50	5	64.5
Average # people moving		3.75	69.25	4.75	69.1		

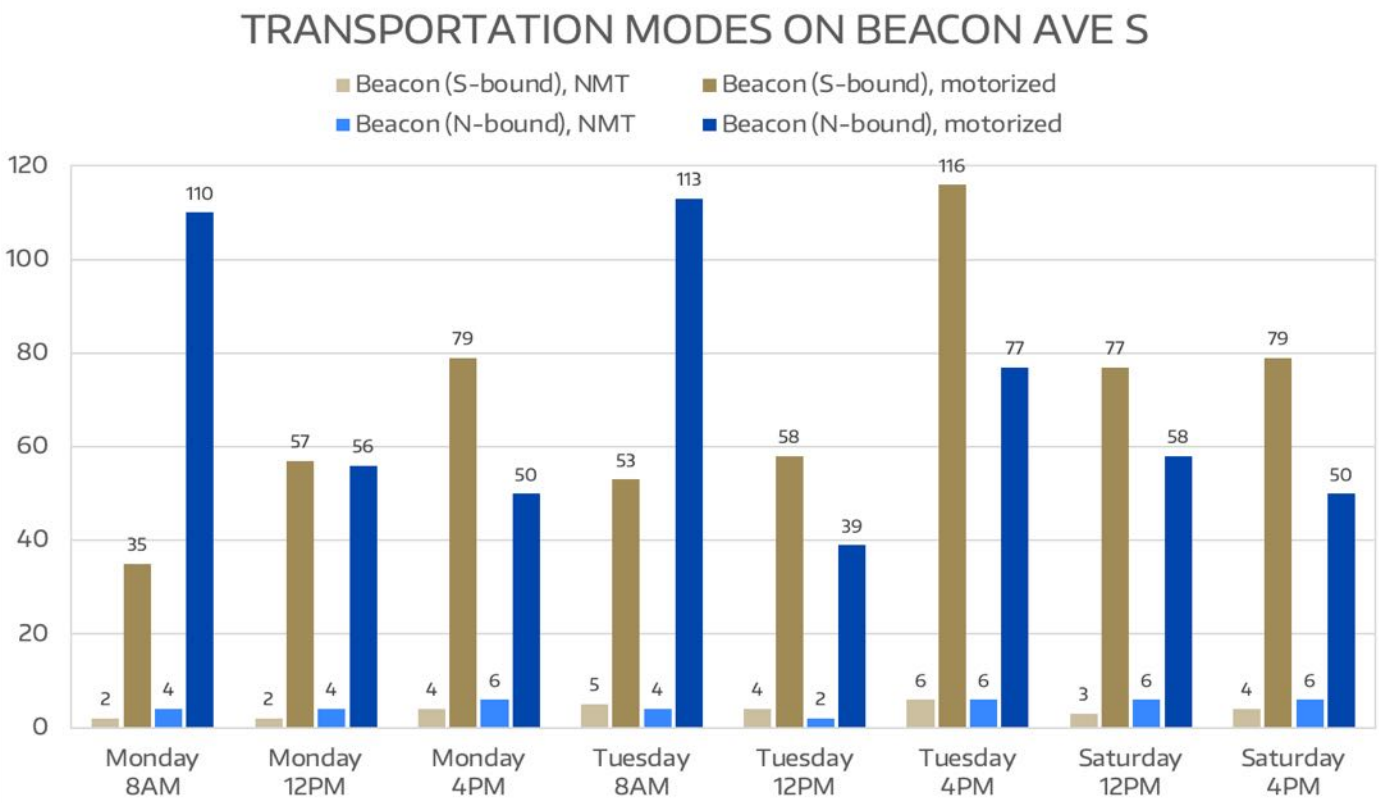


FIGURE 4-4. PEOPLE MOVING USING MOTORIZED AND NON-MOTORIZED TRANSPORT ON BEACON AVE S

People moving per hour: Types of NMT

Team 7-01 (southbound)

TABLE 4-6: PEOPLE MOVING PER HOUR ON THE SOUTHBOUND SIDE OF BEACON AVE S: NMT VS MOTORIZED (TEAM 7-01)

Day, Date	Time	Bicycling (personal)	Pedestrian	Supported (Stroller)	Micro-mobility	Shared Mobility
Monday, 4/29/24	8:00 AM	-	2	-	-	-
	12:00 PM	-	2	-	-	-
	4:00 PM	-	5	-	-	-
Tuesday, 4/23/24	8:00 AM	-	5	-	-	-
	12:00 PM	2	2	-	-	-
	4:00 PM	1	4	1	-	-
Saturday, 4/27/24	12:00 PM	-	3	-	-	-
	4:00 PM	4	-	-	-	-
Average # people moving		.75	2.88	.13	0	0

Team 7-02 (northbound)

TABLE 4-7: PEOPLE MOVING PER HOUR ON THE NORTHBOUND SIDE OF BEACON AVE S: NMT VS MOTORIZED (TEAM 7-02)

Day, Date	Time	Bicycling (personal)	Pedestrian	Supported (Stroller)	Micro-mobility	Shared Mobility
Monday, 4/29/24	8:00 AM	3	1	-	-	-
	12:00 PM	1	3	-	-	-
	4:00 PM	1	8	-	-	-
Tuesday, 4/23/24	8:00 AM	3	1	-	-	-
	12:00 PM	1	1	-	-	-
	4:00 PM	3	3	-	-	-
Saturday, 4/27/24	12:00 PM	-	5	1	-	-
	4:00 PM	1	5	-	-	-
Average # people moving		1.62	3.38	.13	0	0

People moving per hour: Age and Gender

Team 7-01 (southbound)

TABLE 4-8: PEOPLE MOVING PER HOUR ON THE SOUTHBOUND SIDE OF BEACON AVE S: AGE AND GENDER (TEAM 7-01)

		Feminine Presenting				Masculine Presenting				Total
Day, Date	Time	5-14	15-24	25-64	65+	5-14	15-24	25-64	65+	
Monday, 4/29/24	8:00 AM	-	-	-	-	-	-	2	-	2
	12:00 PM	-	1	1	-	1	-	2	1	6
	4:00 PM	-	-	1	-	1	-	1	-	3
Tuesday, 4/23/24	8:00 AM	1	-	-	-	-	-	-	1	2
	12:00 PM	-	-	-	-	-	-	1	-	1
	4:00 PM	-	-	1	-	-	-	-	-	1
Saturday, 4/27/24	12:00 PM	-	-	1	-	-	-	2	-	3
	4:00 PM	-	1	-	1	-	-	2	-	4
Total # of people moving		1	2	4	1	2	0	10	2	22
Average # people moving		.13	.25	.5	.13	.25	0	1.25	.25	2.75

Team 7-02 (northbound)

TABLE 4-9: PEOPLE MOVING PER HOUR ON THE NORTHBOUND SIDE OF BEACON AVE S: AGE AND GENDER (TEAM 7-02)

		Feminine Presenting				Masculine Presenting				Total
Day, Date	Time	5-14	15-24	25-64	65+	5-14	15-24	25-64	65+	
Monday, 4/29/24	8:00 AM	-	-	-	-	-	-	5	-	5
	12:00 PM	-	-	3	1	0	1	1	-	6
	4:00 PM	-	-	5	-	1	-	6	-	12
Tuesday, 4/23/24	8:00 AM	-	-	1	-	-	2	1	2	6
	12:00 PM	-	-	-	-	-	-	-	-	0
	4:00 PM	-	-	3	-	-	0	1	2	6
Saturday, 4/27/24	12:00 PM	-	-	-	-	-	1	-	-	1
	4:00 PM	-	1	-	-	-	-	4	-	5
Total # of people moving		0	1	12	1	1	4	18	4	41
Average # people moving		0	.13	1.5	.13	.13	.5	2.25	.5	5.125

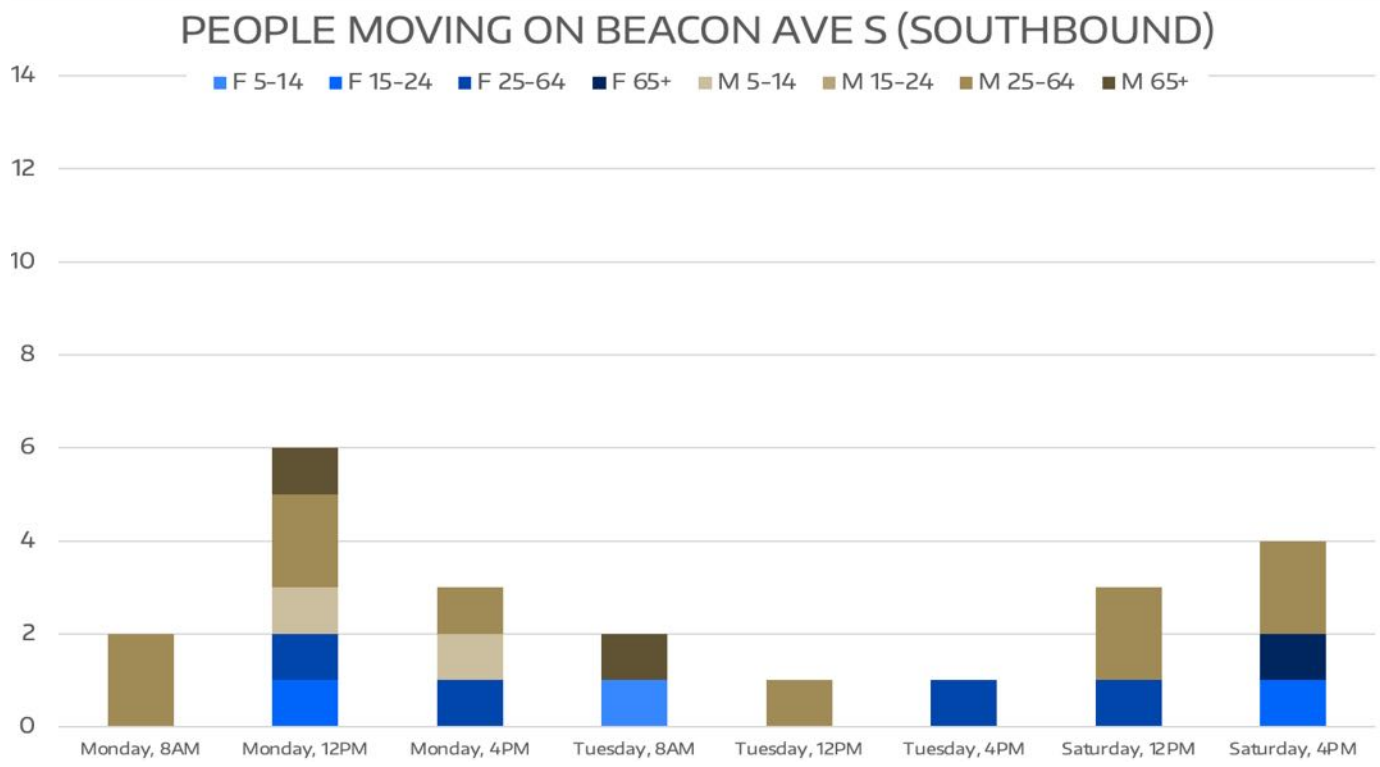


FIGURE 4-5. AGE AND GENDER OF PEDESTRIANS MOVING ON THE SOUTHBOUND SIDE OF BEACON AVE S

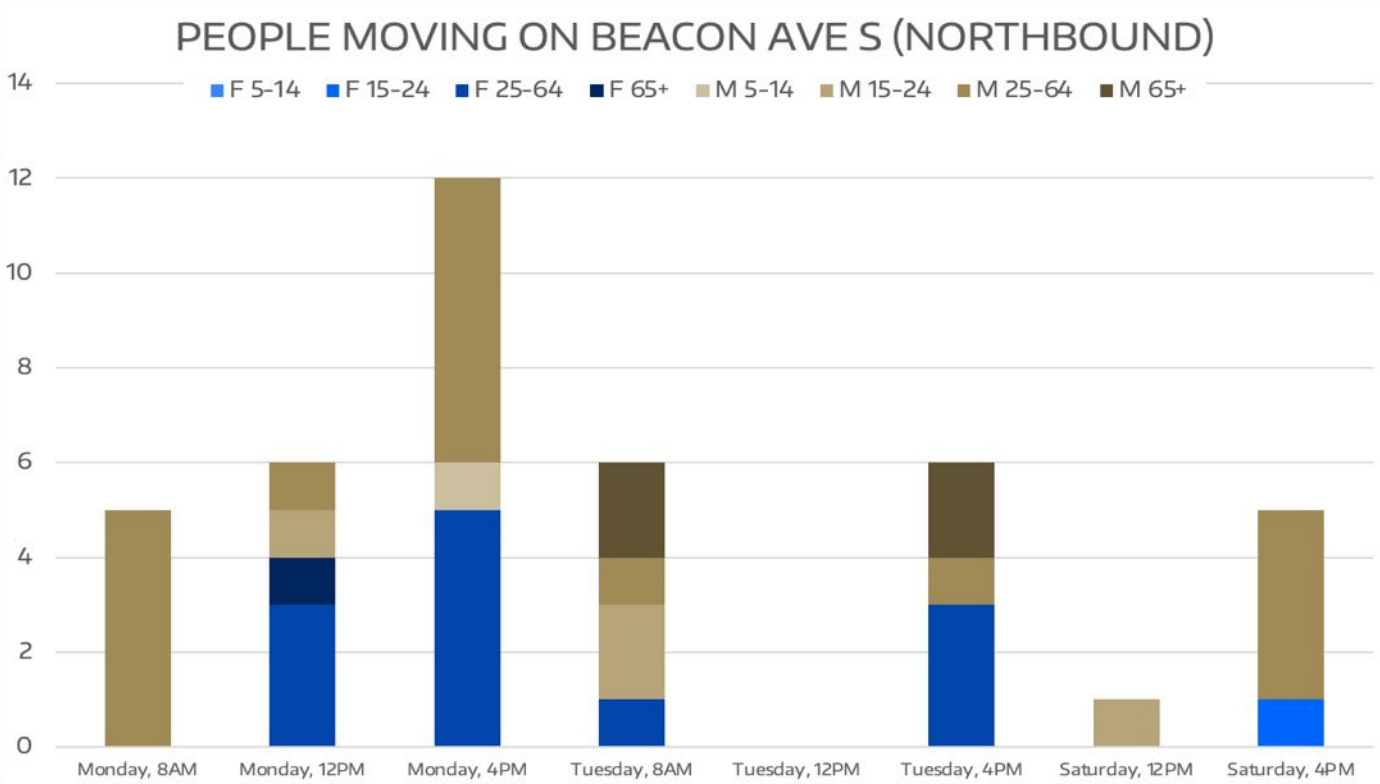


FIGURE 4-6. AGE AND GENDER OF PEDESTRIANS MOVING ON THE NORTHBOUND SIDE OF BEACON AVE S

People staying per hour

The majority of people staying are masculine-presenting and between the ages of 25 and 64. The northbound side saw more variety in the demographics of people present, while the southbound side only saw masculine presenting people between 25 and 64.

TABLE 4-10: PEOPLE STAYING PER HOUR ON THE SOUTHBOUND SIDE OF BEACON AVE S (TEAM 7-01)

		Feminine Presenting				Masculine Presenting				Total	Activity/ Posture
Day, date	Time	5-14	15-24	25-64	65+	5-14	15-24	25-64	65+		
Monday, 4/29/24	8:00 AM	-	-	-	-	-	-	-	-	0	
	12:00 PM	-	-	-	-	-	-	-	-	0	
	4:00 PM	-	-	-	-	-	-	2	-	2	Sitting - Talking to others
Tuesday, 4/23/24	8:00 AM	-	-	-	-	-	-		-	0	
	12:00 PM	-	-	-	-	-	-	1	-	1	Sitting
	4:00 PM	-	-	-	-	-	-		-	0	
Saturday, 4/27/24	12:00 PM	-	-	-	-	-	-	1	-	1	Standing - Commerce
	4:00 PM	-	-	-	-	-	-	-	-	0	
Total # of people staying		0	0	0	0	0	0	4	0	4	
Average # people staying		0	0	0	0	0	0	.5	0	.5	

TABLE 4-11: PEOPLE STAYING PER HOUR ON THE NORTHBOUND SIDE OF BEACON AVE S (TEAM 7-02)

		Feminine Presenting				Masculine Presenting				Total	Activity/Posture
Day date	Time	5-14	15-24	25-64	65+	5-14	15-24	25-64	65+		
Monday, 4/29/24	8:00 AM	-	-	-	-	-	-	-	-	0	
	12:00 PM	-	-	-	-	-	-	-	-	0	
	4:00 PM	-	-	1	-	1	-	-	-	2	Standing informally - talking to others
Tuesday, 4/23/24	8:00 AM	-	-	-	-	-	-	-	-	0	
	12:00 PM	-	-	-	-	-	-	1	-	1	Sitting
	4:00 PM	-	-	-	-	-	-	-	1	1	Sitting in their car using electronic device
Saturday, 4/27/24	12:00 PM	-	-	-	-	-	-	-	-	0	
	4:00 PM	-	-	-	-	-	-	1	-	1	Standing - Picking up furniture from side of street
Total # of people staying		0	0	1	0	1	0	2	1	5	
Average # people staying		0	0	.13	0	.13	0	.38	.13	.63	

Linger factor

TABLE 4-12: LINGER FACTORS ON BEACON AVE S (LINGER FACTOR IS AS PEOPLE STAYING DIVIDED BY PEOPLE MOVING)

Day, Date	Time	Team 7-01 (southbound) Linger Factor	Team 7-02 (northbound) Linger Factor
Monday, 4/29/24	8:00 AM	-	-
	12:00 PM	-	-
	4:00 PM	.66	.17
Tuesday, 4/23/24	8:00 AM	-	-
	12:00 PM	1	Divide by 0
	4:00 PM	-	.5
Saturday, 4/27/24	12:00 PM	.33	-
	4:00 PM	-	.2

Parked cars

In this segment of the intersection, there are a number of parking lots between the northbound and southbound sides of Beacon Ave S. The site areas for teams 7-01 and 7-02 overlap in the middle such that both sites include the same parking facilities. There are four small lots, each with six parking spaces. However, only three of the spaces in the northernmost lot are part of the survey area. Overall, there are 21 parking spaces in the survey area. Because the parking lots for the two sites are identical, any variations in data are due to slight differences in what time the data was collected.

The southernmost parking lot is timed as 2-hour parking from 7am to 6pm and is only accessible by southbound traffic. All other parking spaces have no restrictions and are accessible from either side of the road. This southernmost parking lot had the lowest average number of parking spots in use. On average across all data collected, 15.25 of the 21 parking spaces were occupied.

TABLE 4-13. PARKED CARS ON BEACON AVE S

Day, Date	Time	Team 7-01 (southbound)	Team 7-02 (northbound)	Average # of cars parked	Average # of cars parked (each day)
Monday, 4/29/24	9:00 AM	18	17	17.5	16.8
	1:00 PM	17	18	17.5	
	5:00 PM	15	16	15.5	
Tuesday, 4/23/24	9:00 AM	10	12	11	11.8
	1:00 PM	10	11	10.5	
	5:00 PM	14	14	14	
Saturday, 4/27/24	1:00 PM	18	19	18.5	18
	5:00 PM	18	17	17.5	
Average # of cars parked		15	15.5	15.25	

Buses and commercial/freight vehicles

Route 36 is a frequent bus service that runs north and south through this intersection. Its headways at the following times are below. A few (less than five) freight trucks stopped at the southbound lane by the Fou Lee grocery store in the mornings to make deliveries.

TABLE 4-14. ROUTE 36 HEADWAYS ALONG BEACON AVE S

Day, Date	Time	Route 36 headways
Mondays	8-10 AM	10 minutes
	12-2 PM	10 minutes
	4-6 PM	6-8 minutes
Tuesdays	8-10 AM	10 minutes
	12-2 PM	10 minutes
	4-6 PM	6-8 minutes
Saturdays	12-2 PM	10 minutes
	4-6 PM	10 minutes

S Columbian Way

People moving and staying

The data shows that people overwhelmingly use motorized vehicles to travel along this roadway. Those who use nonmotorized transportation are typically pedestrians, followed by bicyclists. Both directions see heavy vehicle traffic regardless of the time of day or day of the week.

People moving per hour: NMT vs Motorized

TABLE 4-15. PEOPLE MOVING PER HOUR ON S COLUMBIAN WAY: NMT VS MOTORIZED

Day, Date	Time	Team 8-01 (westbound)		Team 8-02 (eastbound)		Average # of people moving	
		NMT	Motorized	NMT	Motorized	NMT	Motorized
Monday, 4/29/24	8:00 AM	2	55	2	73	2	64
	12:00 PM	3	54	2	73	2.5	63.5
	4:00 PM	2	73	3	88	2.5	80.5
Tuesday, 4/23/24	8:00 AM	3	92	1	67	2	79.5
	12:00 PM	3	71	3	80	3	75.5
	4:00 PM	4	87	4	89	4	88
Saturday, 4/27/24	12:00 PM	1	69	2	67	1.4	68
	4:00 PM	2	77	1	69	1.5	73
Total # people moving		20	578	18	606	18.9	592
Average # people moving		2.5	72.25	2.25	75.75	2.36	74

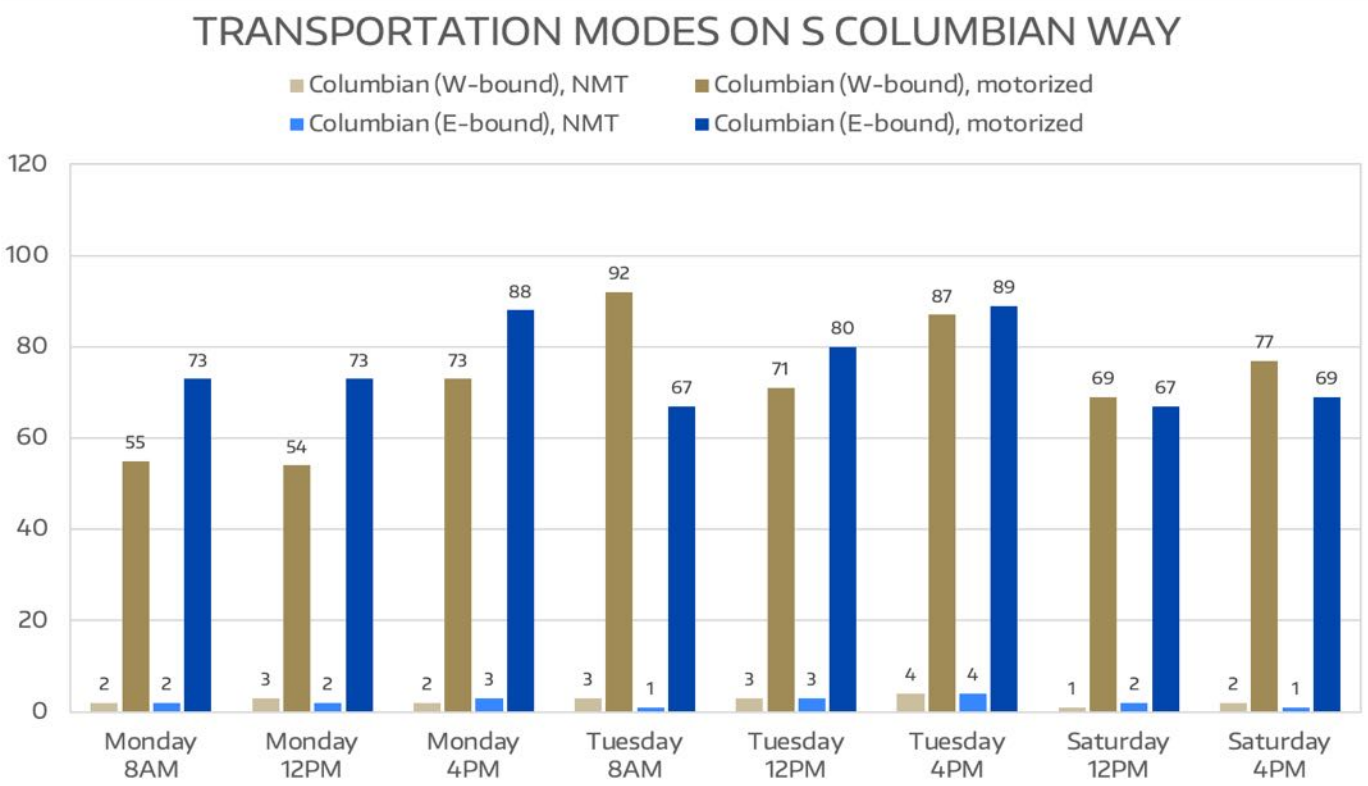


FIGURE 4-7. PEOPLE MOVING USING MOTORIZED AND NON-MOTORIZED TRANSPORT ON S COLUMBIAN WAY

People moving per hour: Types of NMT

TABLE 4-16: PEOPLE MOVING PER HOUR ON THE WESTBOUND SIDE OF S COLUMBIAN WAY: NMT VS MOTORIZED (TEAM 8-01)

Day, Date	Time	Bicycling (personal)	Pedestrian	Supported (Stroller)	Micro-mobility	Shared Mobility
Monday, 4/29/24	8:00 AM	1	1	-	-	0
	12:00 PM	-	2	-	1	0
	4:00 PM	-	2	-	-	0
Tuesday, 4/23/24	8:00 AM	2	-	-	-	1
	12:00 PM	1	2	-	-	0
	4:00 PM	1	3	-	-	0
Saturday, 4/27/24	12:00 PM	-	1	-	-	0
	4:00 PM	-	2	-	-	0
Total # people moving		5	13	0	1	1
Average # people moving		0.625	1.625	0	0.125	0.125

TABLE 4-17: PEOPLE MOVING PER HOUR ON THE EASTBOUND SIDE OF S COLUMBIAN WAY: NMT VS MOTORIZED (TEAM 8-02)

Day, Date	Time	Bicycling (personal)	Pedestrian	Supported (Stroller)	Micro-mobility	Shared Mobility
Monday, 4/29/24	8:00 AM	-	1	-	-	1
	12:00 PM	-	2	-	-	-
	4:00 PM	1	2	-	-	-
Tuesday, 4/23/24	8:00 AM	-	1	-	-	-
	12:00 PM	1	2	-	-	-
	4:00 PM	1	3	-	-	-
Saturday, 4/27/24	12:00 PM	1	1	-	-	-
	4:00 PM	-	1	-	-	-
Total # people moving		4	13	0	0	1
Average # people moving		0.5	1.625	0	0	0.125

People moving per hour: Age and Gender

TABLE 4-18: PEOPLE MOVING PER HOUR ON THE WESTBOUND SIDE OF S COLUMBIAN WAY: AGE AND GENDER (TEAM 8-01)

		Feminine Presenting					Masculine Presenting				Total
Day, Date	Time	0-4	5-14	15-24	25-64	65+	5-14	15-24	25-64	65+	
Monday, 4/29/24	8:00 AM	-	-	-	-	-	-	-	-	-	0
	12:00 PM	-	-	-	-	-	-	1	-	-	1
	4:00 PM	-	-	-	-	-	-	-	2	-	2
Tuesday, 4/23/24	8:00 AM	-	-	-	6	1	-	-	7	-	14
	12:00 PM	-	-	-	1	-	-	-	1	-	2
	4:00 PM	1	-	-	-	-	-	-	1	-	2
Saturday, 4/27/24	12:00 PM	-	-	-	-	-	-	-	-	-	0
	4:00 PM	-	-	-	-	-	-	-	-	-	0
Total # of people moving		1	0	0	7	1	0	0	9	0	
Average # people moving		0.2	0	0	1.4	0.2	0	0	1.8	0	

TABLE 4-19: PEOPLE MOVING PER HOUR ON THE EASTBOUND SIDE OF S COLUMBIAN WAY: AGE AND GENDER (TEAM 8-02)

		Feminine Presenting				Masculine Presenting				Total
Day, Date	Time	5-14	15-24	25-64	65+	5-14	15-24	25-64	65+	
Monday, 4/29/24	8:00 AM	-	-	1	-	-	-	-	1	2
	12:00 PM	-	-	-	-	-	-	4	-	4
	4:00 PM	-	-	2	-	-	-	-	1	3
Tuesday, 4/23/24	8:00 AM	-	-	-	-	-	-	-	-	0
	12:00 PM	-	-	-	-	-	-	-	-	0
	4:00 PM	-	2	-	-	-	-	1	-	3
Saturday, 4/27/24	12:00 PM	-	-	-	-	-	-	-	-	0
	4:00 PM	-	-	-	-	-	-	-	1	1
Total # of people moving		0	2	3	0	0	0	5	3	
Average # people moving		0	0.25	0.375	0	0	0	0.62	0.375	

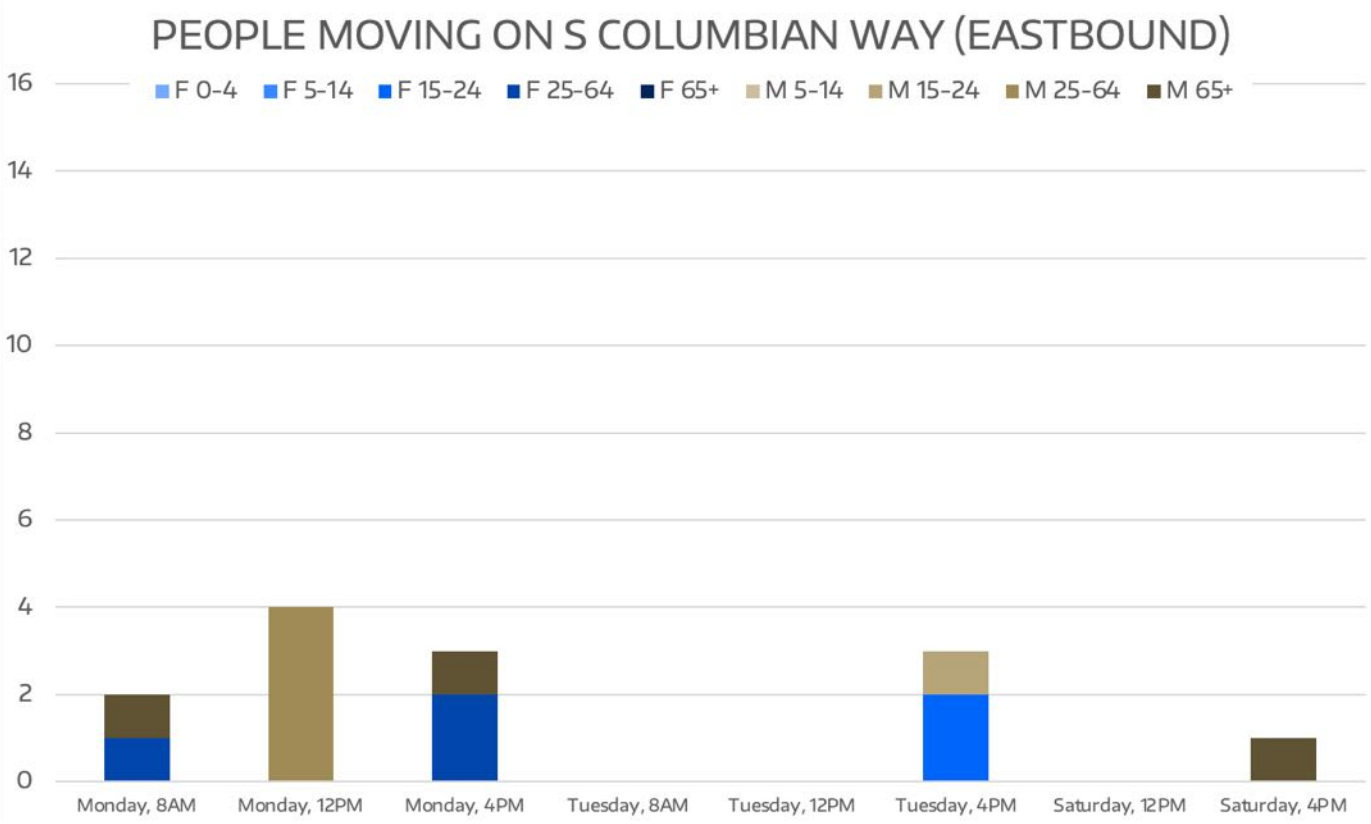


FIGURE 4-8. AGE AND GENDER OF PEDESTRIANS MOVING ON THE EASTBOUND SIDE OF S COLUMBIAN WAY

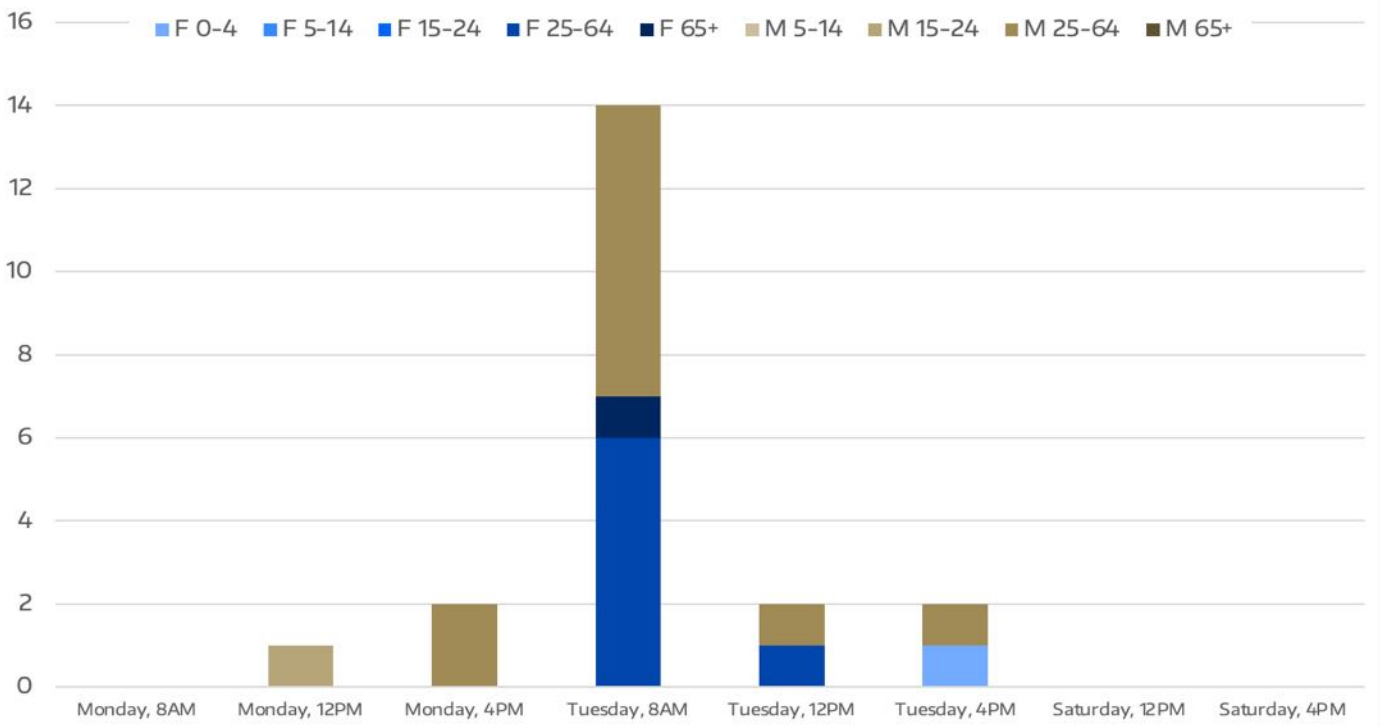


FIGURE 4-9. AGE AND GENDER OF PEDESTRIANS MOVING ON THE WESTBOUND SIDE OF S COLUMBIAN WAY

People staying per hour

While both sides saw both feminine and masculine presenting people staying, the majority were masculine presenting. All people staying had a perceived age of over 25, with the majority being between 25 and 64. On the eastbound side, most people staying were waiting for the bus.

TABLE 4-20: PEOPLE STAYING PER HOUR ON THE WESTBOUND SIDE OF S COLUMBIAN WAY (TEAM 8-01)

		Feminine Presenting				Masculine Presenting				Total	Activity/ Posture
Day, Date	Time	5-14	15-24	25-64	65+	5-14	15-24	25-64	65+		
Monday, 4/29/24	8:00 AM	-	-	-	-	-	-	-	-	0	
	12:00 PM	-	-	-	-	-	-	-	-	0	
	4:00 PM	-	-	-	-	-	-	-	-	0	
Tuesday, 4/23/24	8:00 AM	-	-	-	-	-	-	-	-	0	
	12:00 PM	-	-	1	-	-	-	2	-	3	Watching others do yard work; Yard work
	4:00 PM	-	-	-	-	-	-	-	-	0	
Saturday, 4/27/24	12:00 PM	-	-	-	-	-	-	-	-	0	
	4:00 PM	-	-	-	-	-	-	-	-	0	
Total # of people staying		0	0	1	0	0	0	2	0	3	
Average # people staying		0	0	0.125	0	0	0	0.25	0	0.375	

TABLE 4-21: PEOPLE STAYING PER HOUR ON THE EASTBOUND SIDE OF S COLUMBIAN WAY (TEAM 8-02)

		Feminine Presenting				Masculine Presenting				Total	Activity/ Posture
Day, Date	Time	5-14	15-24	25-64	65+	5-14	15-24	25-64	65+		
Monday, 4/29/24	8:00 AM	-	-	-	-	-	-	-	-	0	
	12:00 PM	-	-	-	-	-	-	-	-	1	Waiting for bus
	4:00 PM	-	-	-	-	-	-	1	1	2	Waiting for bus
Tuesday, 4/23/24	8:00 AM	-	-	-	1	-	-	-	-	1	
	12:00 PM	-	-	-	-	-	-	1	-	1	Smoking
	4:00 PM	-	-	-	-	-	-	-	-	-	
Saturday, 4/27/24	12:00 PM	-	-	1	-	-	-	1	-	2	Waiting for bus
	4:00 PM	-	-	-	-	-	-	1	-	1	Loading car from fish market
Total # of people staying		0	0	1	2	0	0	4	1	8	
Average # people staying		0	0	0.222	0.444	0	0	0.889	0.222	1	

Linger factor

Linger factor is calculated as people staying divided by people moving.

At this site, the only seating on the site was one bench, with the capacity for two people, by the bus stop going eastbound. From the observations, the bench was not often in use.

TABLE 4-22: LINGER FACTORS ON S COLUMBIAN WAY

Day, Date	Time	Team 8-01 (westbound) Linger Factor	Team 8-02 (eastbound) Linger Factor
Monday, 4/29/24	8:00 AM	Divide by 0	0
	12:00 PM	0	0.25
	4:00 PM	0	0.667
Tuesday, 4/23/24	8:00 AM	0	Divide by 0
	12:00 PM	1.5	Divide by 0
	4:00 PM	0	0
Saturday, 4/27/24	12:00 PM	Divide by 0	Divide by 0
	4:00 PM	Divide by 0	1

Parked cars

There are no available parking spaces in this site, and therefore no parked cars.

Buses and commercial/freight vehicles

Route 50 is an infrequent bus service that runs east-west through this intersection. Its headways at the following times are:

TABLE 4-23. ROUTE 50 HEADWAYS ALONG S COLUMBIAN WAY

Day, Date	Time	Route 50 headways
Mondays	8-10 AM	15-20 minutes
	12-2 PM	20 minutes
	4-6 PM	20-22 minutes
Tuesdays	8-10 AM	15-20 minutes
	12-2 PM	20 minutes
	4-6 PM	20-22 minutes
Saturdays	12-2 PM	30 minutes
	4-6 PM	30 minutes

S Columbian Way is a minor truck route (Seattle Roadway Classification Map). There were 1-2 freight vehicles passing by during each observation time.

Analysis

Overall, data for both S Columbian Way and Beacon Ave S highlight a lack of pedestrian presence in the area, especially with a lack of lingering factors contributing to a lack of pedestrian use. Some of this may be affected by conditions in the area, including the construction on the west side of Beacon Ave S in front of apartments that may limit their use of the street. Most pedestrian activity was related to Fou Lee and MC markets, with people generally coming and going from both businesses for short trips. Although we see peaks of pedestrian traffic in the afternoon and evenings, noon on Tuesday and 4 pm on Saturday, generally, these numbers remained below 10 people observed. Along Columbia, similar low numbers of pedestrians were present, with a peak of 14 on Tuesday morning. Generally, this intersection was observed to be much more auto-oriented in numbers, even with the newer pedestrian infrastructure.

It also should be noted that along Beacon Ave S that there were many dedicated parking spaces, with cars noted as private spaces to sit in since there were no public spaces. (These numbers were not counted because we did not want to invade people's privacy.) Because most spaces had no time limit, some cars would be there throughout the day or over multiple observation days. Generally, the two observed areas had too little pedestrian traffic to draw considerable conclusions from the information. The lack of pedestrians shows that more can be done to encourage the use of the space, especially to enhance safety and quality of human-centered spatial design.

Recommendations

Beacon Ave S

Reduce parking to make more pedestrian-oriented spaces, similar to other parts of Beacon Ave S. From our observations, the parking space near the businesses, particularly Fou Lee, were highly utilized. However, some of the other median parking can be reduced and replaced with parklets or other gathering spaces to improve the pedestrian experience.

Include benches near the intersection, where there has been school bus pick up, and by Fou Lee. Seating options are needed by the school bus stop and by Fou Lee to accommodate more people in these busier areas. Increasing seating may also lead to more people staying or gathering on the site, rather than solely moving through.

Include seating choices in green space between parking spaces. Integrating seating into the available green space between parking will give people more options to stay on the site. A few employees from the local businesses were observed sitting in their cars during work breaks, and outdoor benches can give them an alternative place to sit.

Replace Sharrows with dedicated bike lanes for safety. Beacon Ave S is a busy street dominated by motorized transportation. Sharrows do not provide those traveling in non-motorized transportation modes the needed safety and separation from vehicles. Adding dedicated protected bike lanes will improve safety and comfort for cyclists and micromobility users.

Include public trash receptacles and identify needed maintenance for sidewalks and landscaping. Adding trash receptacles and more maintenance where needed will contribute to a cleaner environment. These efforts can help improve the pedestrian experience with more ideal conditions.

S Columbian Way

Add a bus shelter to the stop and increase bus headway times for Route 50. Both of these changes will encourage more usage of the bus stop that is currently observed to be underutilized. A bus shelter will especially help people during rainy days and may invite more people to use the existing bench at the bus stop. Increasing the bus headway times, which are currently between 15 and 30 minutes, will make taking the bus more convenient and reliable.

Add bike lane protection. While the bike lanes are a great added feature to S Columbian Way, the amount of vehicles traveling at high speeds makes the cycling experience feel less safe. Adding protected bike lane infrastructure will create more separation between drivers and cyclists, making the road safer for both.

Add bike lanes along Beacon Ave S to accommodate travelers turning onto S Columbian Way. Replacing the Sharrows on Beacon Ave S with dedicated bike lanes will better integrate the cyclists who are turning onto S Columbian Way and help create a more complete bicycle network through the site. People may be more willing to bike if there are bike lanes on Beacon Ave S as well as on S Columbian Way so there are more bike lanes along their route.

Plant additional trees along the sidewalk. The addition of more tree coverage can reduce pedestrian exposure to elements and make the sidewalk more visually appealing for those traveling outside of vehicles.

Add a load/unload zone or marked crosswalk near 24th Street. We observed many people crossing at 24th Street or stopping for loading/unloading. A marked crosswalk will improve pedestrian visibility and safety along S Columbian Way.

Conclusion

Limitations & Future Research

The scope of the observations was limited by the Seattle Department of Transportation's Public Life App system and protocol, as well as student capacity and schedules. With eight observation times, the

data cannot be generalized to reflect transportation patterns that fully represent the site. Since the data collection occurred over only three days during the same month, further data collection at different times of the day, week, and seasons can help create a more robust understanding of non-motorized transportation usage along the site. Future research can also include on-the-ground interviews with pedestrians, residents, or local businesses about their experience traveling through the site.

Overall, the study shows how motorized transportation dominates Beacon Ave S and S Columbian Way, even where there are dedicated bike lanes on S Columbian Way. Enhancing the pedestrian experience and safety can encourage more non-motorized transportation modes along this intersection, along with broader efforts to make driving less convenient and walking or biking easier.

Beacon Ave S (North of S Columbian Way) & S Columbian Way (West of Beacon Ave S)

Public Life Data Analysis

Our two sites are located in Beacon Hill in which the zoning is Neighborhood Residential and Commercial/ Mixed Use within and around the core intersection of S Columbian Way and Beacon Ave S. A City Parks and Major Institutions zone are located North of our sites. Site 9, South Beacon Ave S & S Columbian Way, and Site 10 West S Columbian Way & Beacon Ave S are both a 12-13-minute walk from the Columbia City Light Rail station and a 3-minute bike ride. Our sites allow for a lot of pedestrian activity but a lot of motorized modes of travel were observed. The site also lends itself to walking, biking, and use of the main bus lines that run North/South and East/ West. In terms of the character of our sites, many people were observed visiting local businesses like food businesses, markets, and local shops in various modes of motorized and non-motorized transportation like personal vehicles, cycling, walking, or using public transportation.

FIGURE 4-10. SITE MAP OF INTERSECTION OF S COLUMBIAN WAY AND BEACON AVE S

For site 10, we are looking west on S Columbian Way in the above graphic. The sidewalk at site 02 is six feet wide with a larger planting median. On the other side of the road at site 01, the sidewalk is larger at approximately eighteen feet.

For site 9, we are looking south on Beacon Ave S in the above graphic. Unique to this segment is the large center median that has a combination of street trees, median planting, and vehicle parking. Unlike Columbian Way, there is no separate bike facility. Buses, bicycles, and cars all share the right lane. Sidewalk widths are approximately six feet, and the sidewalk along the median is approximately eight to nine feet.

Observing Movement

Overwhelmingly, our analysis observed a greater number of people moving compared to those staying. For Team 9, 75.8% of the individuals were moving, while 24.2% were staying. Team 10 exhibited an even higher movement rate, with 86.0% of people moving and only 14.0% staying. Overall, 78.4% of the people across both teams were moving, leaving 21.6% staying. These results indicate a significant trend towards movement in both teams, with Team 10 showing a particularly high proportion of people moving.

FIGURE 4-11. SEGMENT OF S COLUMBIAN WAY

FIGURE 4-12. SEGMENT OF BEACON AVE S

	People Moving	People Staying
Team 9	207	66
Team 10	80	13
Total	287	79

FIGURE 4-13. PEOPLE MOVING VS. PEOPLE STAYING

Overwhelmingly, our analysis observed a greater number of people moving compared to those staying across all times of the day. In the morning, 67.2% of the individuals were moving, while 32.8% were staying. The afternoon exhibited the highest movement rate, with 85.8% of people moving and only 14.2% staying. During the evening, 74.1% of people were moving, and 25.9% were staying. Overall, 78.4% of the people were moving, leaving 21.6% staying. These results indicate a significant trend towards movement throughout the day, with the afternoon showing the highest proportion of people moving.

	People Moving	People Staying	Total
Morning	39	19	58
Afternoon	145	24	169
Evening	103	36	139
Total	287	79	366

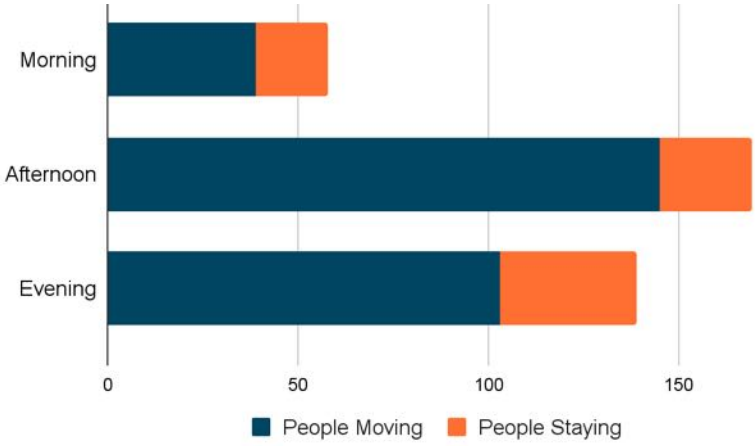


FIGURE 4-14. PEOPLE MOVING VS. PEOPLE STAYING - TIME OF DAY

Observing Demographics

Our analysis revealed distinct demographic patterns across Team 9 and Team 10 based on age and gender presentation. The largest age group is 25-64 years, accounting for 67.8% of the total, while the smallest group is 0-4 years, making up just 1.6%. In terms of gender presentation, 47.0% of individuals are feminine presenting, and 53.0% are masculine presenting. Team 9 has a larger population across all age groups, particularly in the 25-64 years category, while Team 10 has a higher proportion of individuals in the 5-14 years age group. Both teams exhibit a fairly balanced gender presentation, with Team 9 slightly favoring masculine presenting individuals and Team 10 slightly favoring feminine presenting individuals.

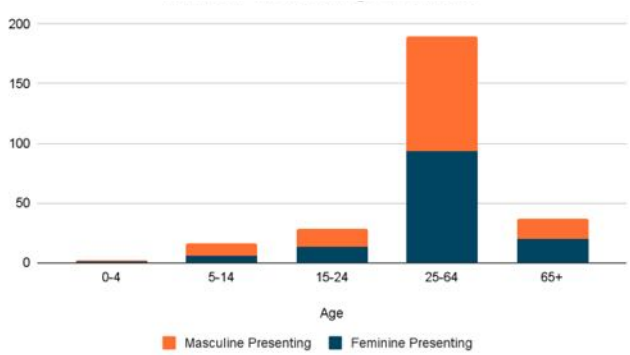


FIGURE 4-15. TEAM 9 PERCEIVED AGE & GENDER

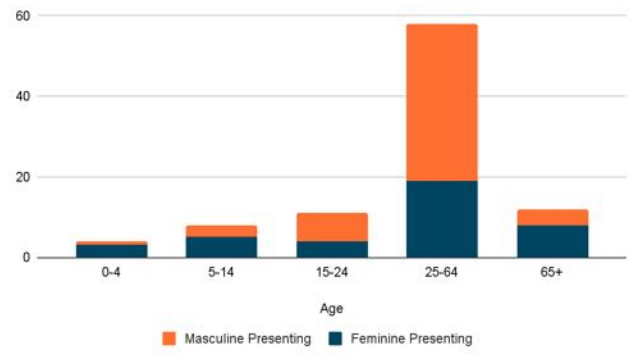


FIGURE 4-16. TEAM10 PERCEIVED AGE & GENDER

	Team 9		Team 10		
Age	Feminine Presenting	Masculine Presenting	Feminine Presenting	Masculine Presenting	Total
0-4	1	1	3	1	6
5-14	6	10	5	3	24
15-24	13	15	4	7	39
25-64	93	97	19	39	248
65+	20	17	8	4	49
Total	133	140	39	54	366

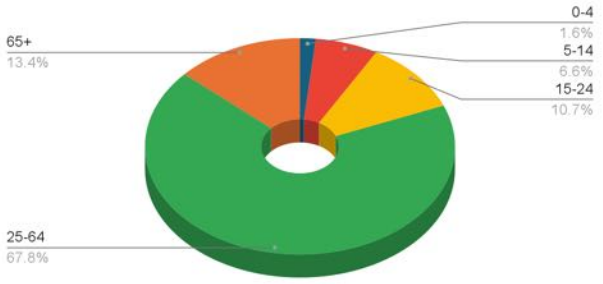


FIGURE 4-17. PERCENTAGE OF TOTAL PERCEIVED AGE

FIGURE 4-18. PERCENTAGE OF TOTAL PERCEIVED GENDER

Observing Modes of Transportation

The analysis of transportation mode usage reveals a significant disparity between the utilization of motorized and non-motorized options across both teams (Team 9 and Team 10). Non-motorized transportation modes, including pedestrian, micromobility, and bicycling, are utilized by a total of 287 individuals, accounting for only 7.8% of the total transportation usage. In contrast, motorized transportation, with a combined total of 2,546 individuals, is overwhelmingly preferred, constituting 69.8% of the total transportation usage. Both Team 9 and Team 10 exhibit a strong preference for motorized transportation, with motorized modes accounting for 41.0% and 37.2% of their total transportation usage, respectively.

	Using Mobility Device	Supported (stroller)	Shared Mobility	Pedestrian	Motorized	Micromobility	Bicycling
Team 9	0	2	0	192	1,184	0	13
Team 10	1	0	1	65	1,362	3	14
Total	1	2	1	257	2,546	3	27

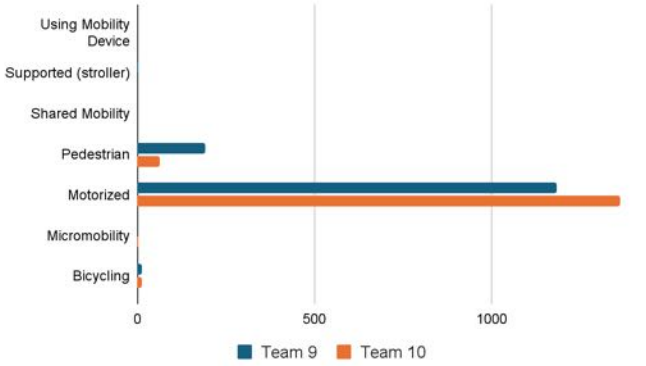


FIGURE 4-19. OBSERVED MODES OF TRANSPORTATION

Time of Day Trends - Mode

We coupled time of day and days of the week to analyze modes. We did this to quantify the exacerbation of vehicles moving through our sites versus the amount of foot traffic observed.

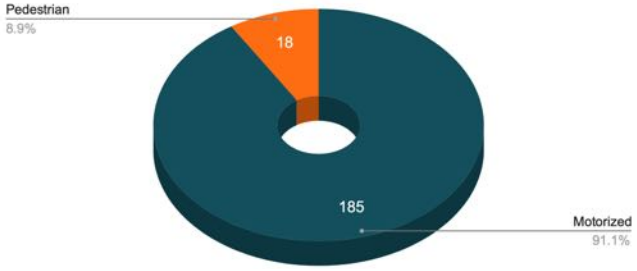


FIGURE 4-20. SITE 09-01 WEEKDAY + EVENING MODE

We analyzed mode trends by time of day and for each blockface, we extracted a sample of trends based on time of day. For SIte 09-01, we observed more motorized versus pedestrian modes on a weekday, in the evening.

For Site 09-02, we observed a larger portion of pedestrians but the dominant mode again was motorized modes of transportation on a weekend in the afternoon.

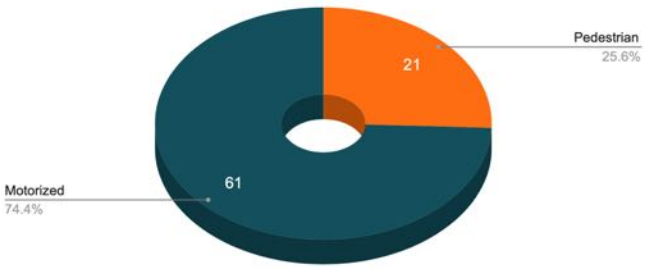


FIGURE 4-21. SITE 09-02 WEEKDAY + AFTERNOON MODE

For Site 10-01, we observed a wider range of modes including micro mobility, bicycling, pedestrians, and motorized modes of transportation. In the afternoon on a weekend, we still observed more motorized modes than non-motorized.

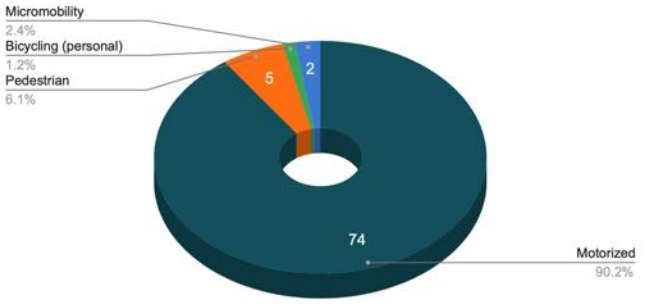


FIGURE 4-22. SITE 10-01 WEEKDAY + AFTERNOON MODE

For Site 10-02, we observed a slim percentage of pedestrians in comparison to motorized modes of transportation on a weekday morning.

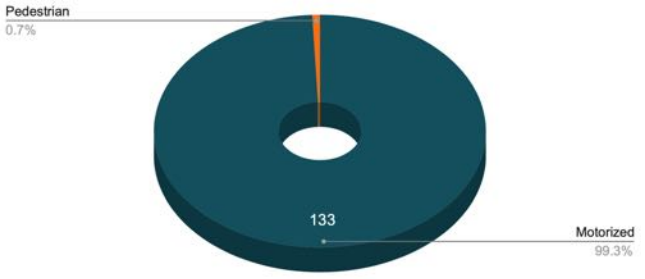


FIGURE 4-23. SITE 10-02 WEEKDAY + MORNING MODE

Observing Pedestrian Activity

Each location featured a bus stop, so it is unsurprising that waiting for public transportation was a primary activity at both sites, especially Team 9. Many individuals waiting for their buses were also seen using electronic devices. Additionally, the Team 9 site included a garden shop with outdoor plant displays, which attracted numerous pedestrians.

Activity	Team 9	Team 10	Total
Waiting for public transportation	46	8	54
Eating / Drinking	0	4	4
Using electronic device	15	6	21
Smoking	4	1	5
Pet care or play	0	1	1
Engaged with commerce (selling / buying)	14	1	15
Talking to others	10	3	13
Passive recreation / People watching	3	1	4
Other	3	2	5

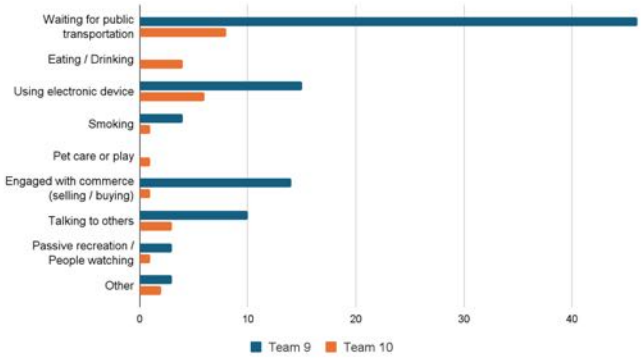


FIGURE 4-24. OBSERVED ACTIVITIES SUMMARY

Both locations lacked public seating, apart from a few small benches located inside the transit shelters. As a result, many pedestrians who were spending time in these areas were seen standing rather than sitting. The scarcity of seating options likely contributed to this situation, making it uncomfortable for people to linger for extended periods.

	Standing	Sitting Public	Sitting Informal	Leaning
Team 9	61	3	1	1
Team 10	9	4	0	0
Total	70	7	1	1

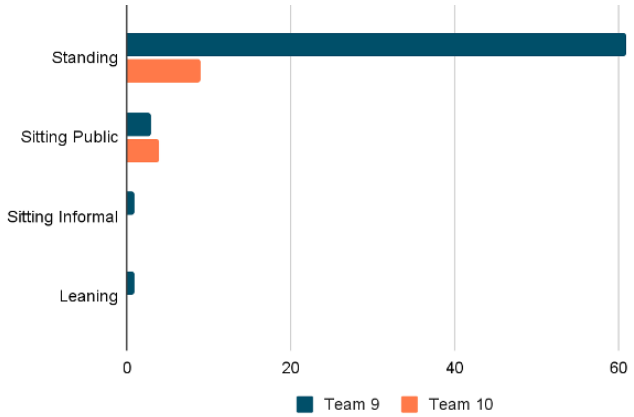


FIGURE 4-25. OBSERVED POSTURES SUMMARY

Parked Cars and Capacity

There was no vehicle street parking for Team 10 on Columbian Way. On the other hand, Beacon Ave S had a large median with multiple small lots. Most of the lots had the capacity of eight cars each. The boundary of our block faces ended, separating our last parking lot to a capacity of four cars. In total, the available parking was 28 car spaces. The highest number of cars parked observed were in the afternoon and evening. Only about a fourth of spaces were occupied by vehicles in the morning.

For Team 9, there was a bike rack on each block face. During our observation periods, there was never a bike parked at either rack along Beacon Ave S. For Team 9, there was a bike rack on side 01 near the Route 50 bus stop and Fou Lee market. We observed a bike parked at this rack in the afternoon, but otherwise the rack was empty for most of the observation periods. Additionally, each location had a bus shelter, and our teams frequently observed people sitting and waiting for the bus, especially when the weather was rainy.

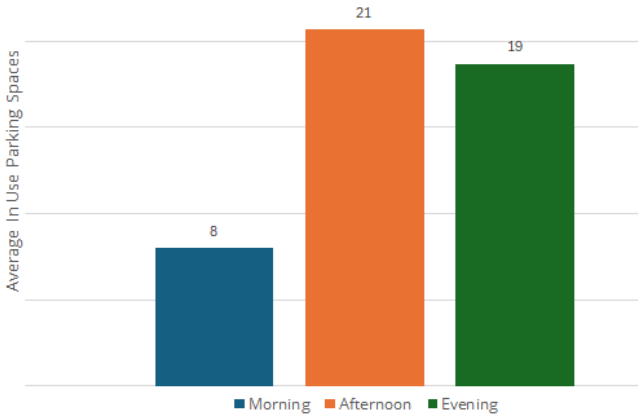


FIGURE 4-26. PARKING SPACE USAGE - 01

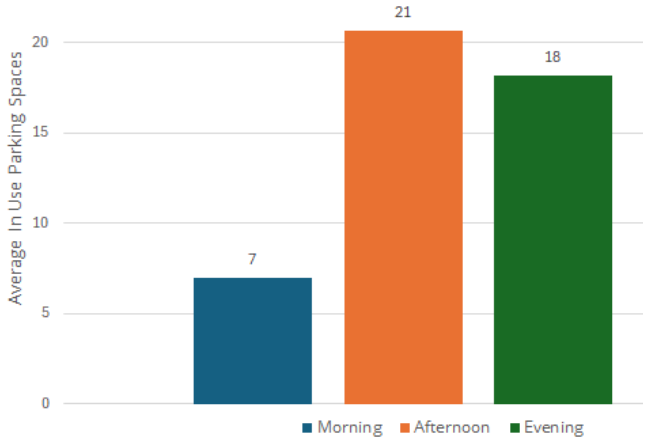


FIGURE 4-27. PARKING SPACE USAGE - 02

Curb Cuts and Driveways - Mapped

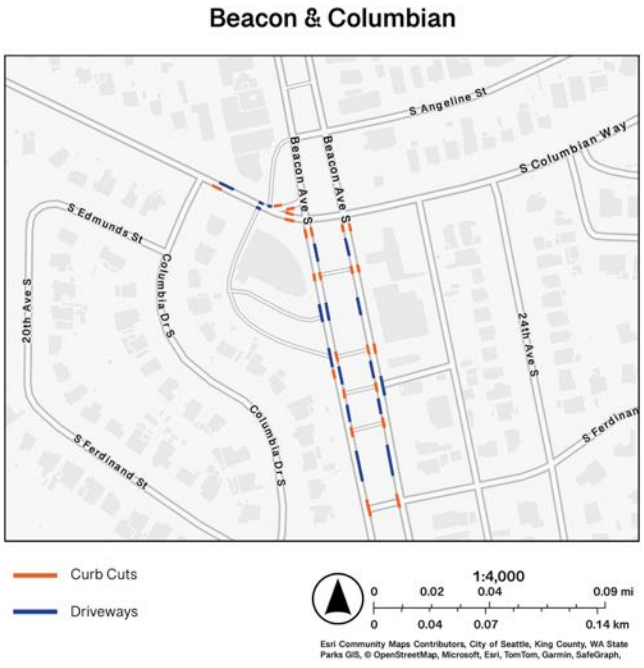


FIGURE 4-28. CURB CUTS AND DRIVEWAYS MAP

Commercial and Freight Vehicles

Overall, there were limited freight and commercial vehicles, on average fewer than 5 per day. The occasional truck would make deliveries to the grocery stores at the intersection such as Fou Lee Market. From the map above developed by the City of Seattle, Columbian Way is considered a road for Minor freight.

FIGURE 4-29. SEATTLE FREIGHT SYSTEM MAP

Bus Frequency

During our observations, we saw several buses pass through the intersection. This intersection is serviced by two bus routes: King County Metro Route 50 and King County Metro Route 36. Route 50 travels east-west along Columbian Way. This route services Othello Station, Seward Park, Columbia City, Beacon Hill, SODO, and West Seattle. During peak hours, it has headways of approximately twenty minutes. In off hours, it has headways of approximately 30 minutes. Route 36 travels north-south along Beacon Ave. It also services Othello Station and travels much of Beacon Ave from south to north Beacon Hill all the way to downtown Seattle through the Chinatown-International District. At peak hours, it has headways of approximately 10 minutes; off hours see headways of approximately 15 minutes.

FIGURE 4-30. A BUS STOP WITHIN STUDY AREA

Tree Canopy

Both locations had street trees, but there was a greater number of street trees for location 9. The trees along Beacon Ave also were much older and taller than the ones along Columbian Way (team 10). In the photo above, you can see the trees along Columbian Way are young and don't provide a lot of shade.

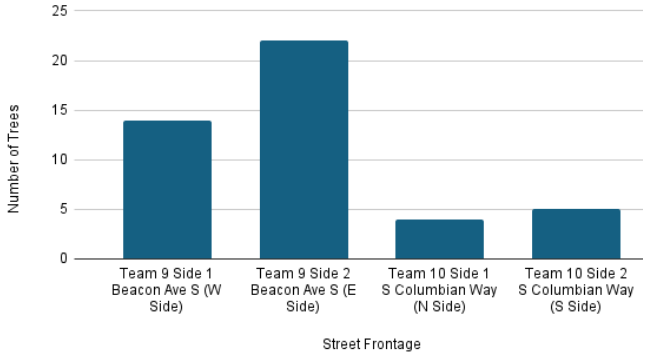


FIGURE 4-31. NUMBER OF STREET TREES

FIGURE 4-32. STREET TREES MAP

Speed Limit and Street Type

The posted speed limit for both Columbian Way and Beacon Ave is 25 mph. They are both considered Urban Center connectors.

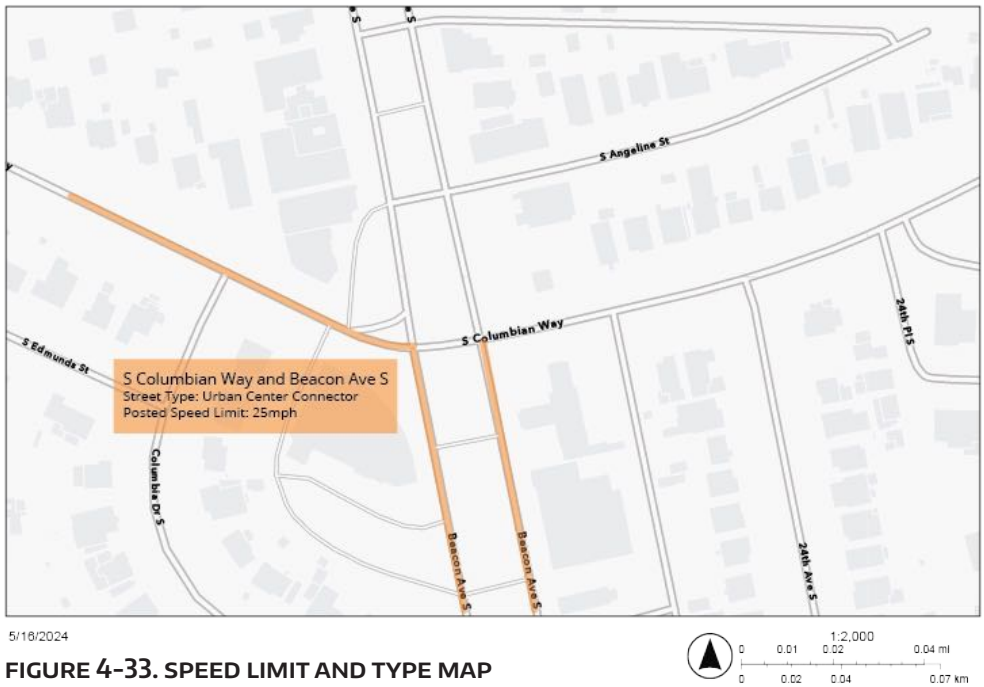


FIGURE 4-33. SPEED LIMIT AND TYPE MAP

Conclusion

Our public life study findings reflect a notable imbalance between the high presence of vehicle traffic and the lack of vibrant public life or people lingering in the space. Despite the neighborhood's diverse mix of residential and commercial zones, pedestrian activity is hindered by the dominance of motorized transportation modes, creating a disconnect between the built environment and the community it serves. This imbalance highlights the need to reevaluate urban design strategies and prioritize pedestrian-friendly initiatives to enhance the overall pedestrian experience in the study area.

Addressing the challenge of excessive vehicle traffic requires a multifaceted approach that focuses on reducing reliance on motorized transportation and reclaiming public space for pedestrian use. Implementing traffic calming measures such as traffic calming bump-outs, and dedicated pedestrian zones can help create safer and more inviting streetscapes that are move inviting to pedestrians. Additionally, promoting alternative modes of transportation such as cycling, walking, and public transit through improved infrastructure can help alleviate traffic congestion.

To improve the pedestrian experience in the study area, it is essential to prioritize the creation of vibrant and welcoming public spaces that encourage social interaction and community engagement. This can be achieved through strategic placemaking initiatives that activate underutilized areas with public art installations, green spaces, seating areas, and recreational amenities. Furthermore, enhancing pedestrian infrastructure such as widened sidewalks, pedestrian crossings, and accessible pathways can improve pedestrian mobility and safety, making it easier for residents to navigate the neighborhood on foot. Incorporating additional shade-providing trees, street furniture, and lighting elements can create a more comfortable and inviting pedestrian environment, encouraging people to linger and interact with their surroundings.

Assumptions & Limitations

Assumptions

Pre-observations, many of us had anticipated that there would be a significant amount of foot traffic given the general character of the neighborhood. Our sites consisted of many shops, small businesses, and specifically food businesses. With that in mind, we expected many people moving through the site to arrive via vehicle but others (perhaps less than half) to arrive by foot. Our research quickly showed that the number of motorized modes of transportation overwhelmed the NMT rates in our observations. Specifically, we observed that in many cases, motorized modes of transportation accounted for about 80-90% of our observations.

Limitations

In terms of limitations, more observations in general could have been conducted and the results would more accurately represent the reality of needs and behaviors in the area. We were limited by the days of the week and time of day we were observing. We were also limited in the manner we were collecting and inputting data and think that if we would have had more time to do an initial scan and mapping of the area, we could have supported unique observations and behaviors based on these conditions (e.g., there was construction on a sidewalk and so the foot traffic naturally increased around/ near the parking lots). It would have been nice for us to conduct an existing conditions report before going out to conduct our site observations.

Takeaways

SDOT's main concern is safety. Creating better networks for people to walk or roll through may contribute to more staying, however the activities associated with specific capital improvements projects are focused on movement and protection from vehicles.

If we look to align recommendations with citywide priorities, we could find sources of funding that support our efforts. There are multiple plans for Seattle whether they be modal, safety, or

transportation plans, that have overlapping strategies and approaches to improving transportation systems for all.

For the intersection at Beacon Ave S and S Columbian Way, motor vehicles are a large percentage of people moving through the intersection, but it is important to note that the number of people who are pedestrians and bicyclists moving through the area is not insignificant. During most of the observation times, there were people waiting for the bus, there were older individuals using both transit and mobility devices to access the grocery stores on the corners, and there were families walking to and from retail along the south leg of Beacon Ave S. As aforementioned, something that our team did not observe with high frequency was people staying, stopping, or lingering beyond those who were waiting for the bus. This could be due to the fact that some of the observation days were either rainy or overcast, but this absence of staying indicates there is room for more public seating or covered areas that encourage people to stay. These observations indicate clear opportunities for improvements to the built environment that can make this intersection safer and more enjoyable for those walking and rolling.

Recommendations

Beacon Ave S and S Columbian Way has undergone many changes and iterations in the past several years that have increased the safety of this intersection, but there is always room for improvements. One recommendation is to focus projects on staying activities and reallocation of space away from vehicles, not just barriers between people and cars. For example, there is a sizable median on Beacon Ave that is dedicated to almost thirty parking spaces for vehicles. We recommend that parking in the median is reduced, change the parking to paid parking, and to reduce U-turn movements through these parking medians. In addition to reducing curb cuts in the parking median, the Department of Transportation should work with local businesses to see if there is the potential to eliminate or shorten the widths of their driveways to improve the safety of people on the sidewalk. For example, on the southwest corner of Columbian Way, there is an alley where people at the supermarket can exit relatively quickly though the visibility is limited due to foliage and other barriers.

Another recommendation we have from our observations is to improve tree canopy cover along S Columbian Way. We noticed fewer people walking and rolling on Columbian Way in comparison to Beacon Ave S. On warm and sunny spring days, there was limited shade from the sun while on overcast days, there was no tree foliage to reduce that amount of rain falling on walkers and rollers.

The addition of the median on Beacon Ave can increase the complexity of wayfinding. We recommend that better signage is installed to indicate the continuation of the bike network, other nodes to access public transportation, and major points of interest such as the nearby public library branch. This will improve the navigation of those traveling through the intersection.

One potential that should be further explored is the implementation of a protected bike lane on Beacon Ave S. Currently, the road is configured for two vehicle travel lanes in each direction. King County Metro Route 36 regularly uses the right-most lane for travel and passenger pick-up and drop-off. The Department of Transportation should explore what it would look like to reduce vehicle travel lanes down to one lane while reserving the right lane for bicycle and bus travel.

Overall, our team recommends that the Department of Transportation continues to make an effort to understand the existing conditions specific to each site and implement current and future recommendations accordingly. Our site does lend itself to improving bike infrastructure because we made particular observations that support this as a compelling demand. However, considering how significant this would be to the neighborhood would require more site observations.

MARTIN LUTHER KING JR WAY S X S GRAHAM STREET

CHAPTER 5

Martin Luther King Jr. Way S (North) and S Graham St (West)

Study Area

The public life study for Team 11 and Team 12 was located at the intersection of S Graham St., east and west, and Martin Luther King Jr. Way S., north and south (Figure 5-1, red box). Sound Transit's Link Light Rail Line 1 runs directly through the intersection along MLK Jr. Way S. (outlined by the dotted blue line, Figure 5-1) with two major light rail stations along the route, the Columbia City Station located directly north of the study area, and the Othello Station located south of the study area.Methods

FIGURE 5-1. PUBLIC LIFE STUDY LOCATION

Figure 5-2 shows the sub-location study area. Teams 11 and 12 were tasked to study the locations north and south of the intersection. Team 11 study site consisted of collected data south of S. Graham St. along MLK Jr. Way S. The site was divided east, Team 11-01, and Team 11-02 of MLK Jr. Way S, using the light rail route as the dividing line. The screen line for each location is shown by the orange line. Team 12 study site consisted of collected data north of S. Graham St. along MLK Jr. Way S. The site was divided east, Team 12-01, and Team 12-02 of MLK Jr. Way S, using the light rail route as the dividing line. The screen lines are also shown in orange.

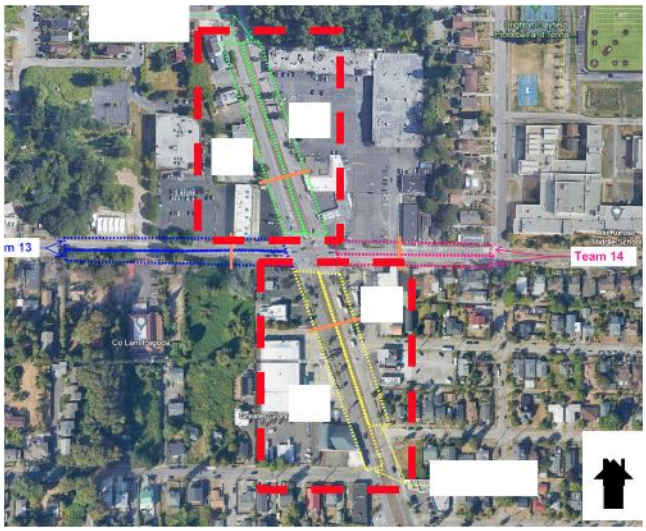


FIGURE 5-2. PUBLIC LIFE STUDY SUB LOCATIONS

Public Life Observation Days, Time, and Weather

Team 11 and Team 12 collected data on three different days of the week: Monday, Tuesday, and Saturday. Observations were conducted at three different times: morning 8-10am, mid-day 12-2pm, and evening 4-6pm. On Mondays and Tuesdays observations were made for all three time periods, while on Saturday observations were made for only midday and evenings. Not all observations were conducted in sequence for the same day of the week, some observations were moved to the following

week. The weather for observations on Monday was rain at a temperature of 54F. The weather on Tuesday was partly sunny at a temperature of 59F. The weather on Saturdays were rainy/heavy clouds, with temperatures sitting around 55 degrees.

Gehl Assessment: Martin Luther King Jr. Way S and S Graham St

The team was also assigned to conduct a Ghel quality assessment of the intersection which examined people's perception of the space for protection, comfort, and enjoyment (Figure 5-3). Each element was rated on a scale of 1-5, where 1 represented the lowest quality and 5 represented the highest quality. The overall score for protection on all four sublocation was 1.4. The overall score for comfort was 1.5. The overall score for enjoyment was 1.25.

Public Life Observation: Team 11-01

At location 11-01, there were a total of 5 trees, represented by the light green circles in Figure 5-3. There were 4' planting strips, represented by the dark green squares; these were located somewhat randomly but served as a buffer between the street and sidewalk in some areas. There were 4 main driveways, represented by the purple diamonds;

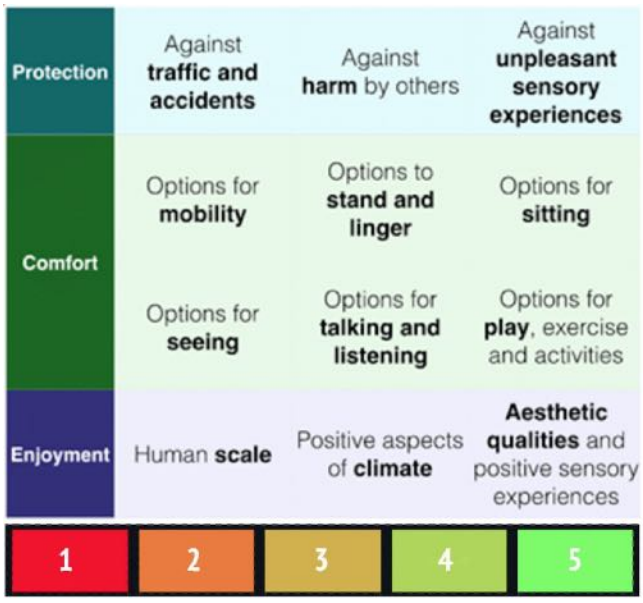


FIGURE 5-3. GHEL ASSESSMENT CRITERIA (HESPANHOL, 2018)

these were placed as entrances for vehicles to the businesses along the street. There was also a covered bus station, shown in blue. The posted drive speed on the street was 25mph. Typical sidewalk widths were 5'; however, towards the main intersection and at the bus stop, the sidewalks measured 10 feet.

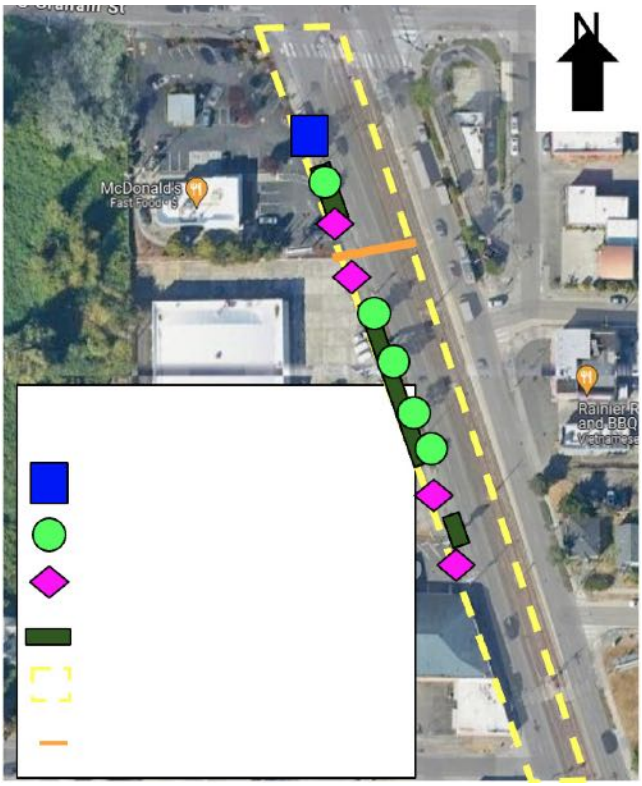


FIGURE 5-4. TEAM 11-01 TREE CANOPY, DRIVEWAYS, BUS STOPS, PLANTING STRIPS

Travel Modes: Team 11-01

The mode splits from our observations show that the area is heavily car dependent with the majority of the weekday trips occurring by car with the highest volume occurring in the evening rush hour. The area has limited infrastructure for bikes and the effects of that are clear as there were only one observed biker in these timeframes. Though there were only a few pedestrians the majority of those observed in morning weekday hours were children likely on their way to school. Near the bus stop there is a McDonalds that many of the children would buy from before waiting at the bus stop.

The mode split for the weekend shows significant changes from that of the weekday times. It is important to note that overall volume does decrease on average on the weekend due to the absence of observed hours in the morning. The data shows there are more than triple the amount of motorized vehicles on the weekday evening compared to weekends. This is most likely due to people coming home from work. The data also indicates that there are slightly more pedestrians in the afternoon to evenings on the weekend. There is also higher traffic on the weekend afternoon.

Weekday	Motorized	Pedestrian	Bike
Morning	106	2	1
Afternoon	100	1	2
Evening	341	5	0

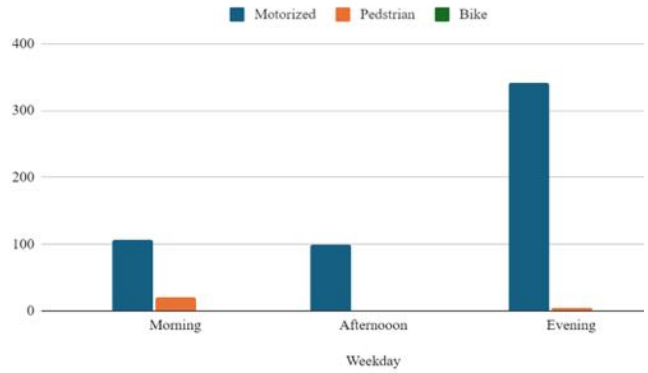


FIGURE 5-5. TEAM 11-01 WEEKDAY MODE SPLITS

Weekend	Motorized	Pedestrian	Bike
Afternoon	140	2	1
Evening	103	6	2

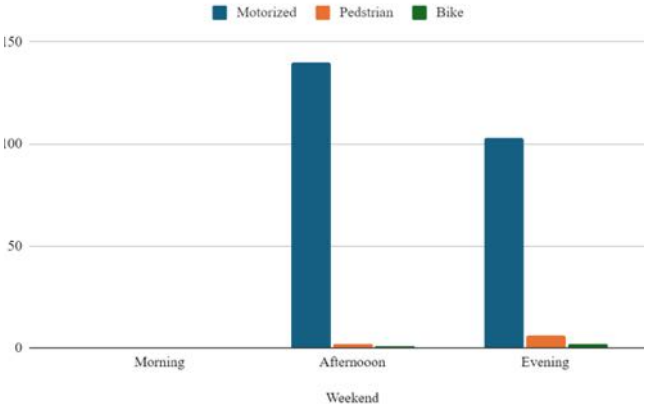


FIGURE 5-6. TEAM 11-01 WEEKEND MODE SPLITS

Pedestrian Demographics: Team 11-01

Given the limited number of pedestrians in commuting through the area the results may leave room to be desired. The gender splits skew heavily towards this being a masculine space with splits favoring male presenting commutes without exception.

Weekday	Masculine	Feminine
Morning	10	4
Afternoon	2	0
Evening	1	2

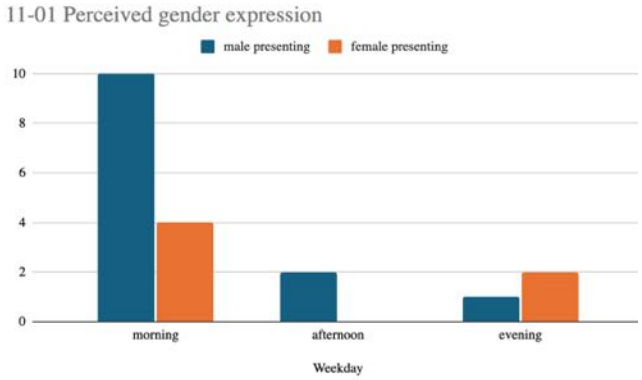


FIGURE 5-7. TEAM 11-01 WEEKDAY PERCEIVED GENDER

Weekend	Masculine	Feminine
Afternoon	2	0
Evening	2	1

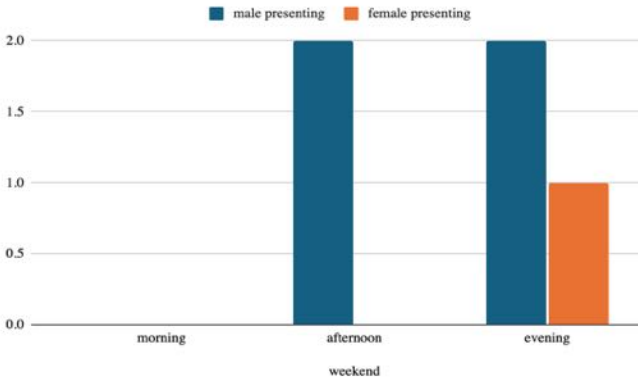


FIGURE 5-8. TEAM 11-01 WEEKEND PERCEIVED GENDER

The commuters on weekday mornings however were younger on average, with only 2 observed 65+ individuals walking through the area. Many pedestrians tended to be under 24 or even under 15 in groups of fellow students as many school age kids commute via bus to their schools. Many of this younger crowd would go to the Mcdonalds on the intersection meaning there was significant (for the area) foot traffic between the bus stop and the McDonalds.

Weekday	0-14	15-24	25-64	65+
Morning	0	1	2	0
Afternoon	0	1	0	2
Evening	0	2	4	1

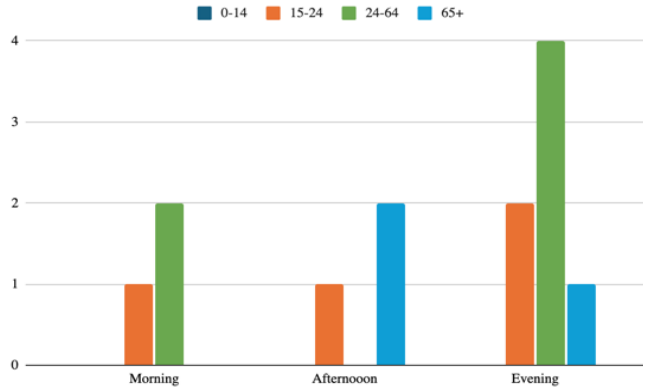


FIGURE 5-9. TEAM 11-01 WEEKDAY PEDESTRIAN AGE

Weekend	0-14	15-24	25-64	65+
Afternoon	0	2	0	0
Evening	0	0	2	0

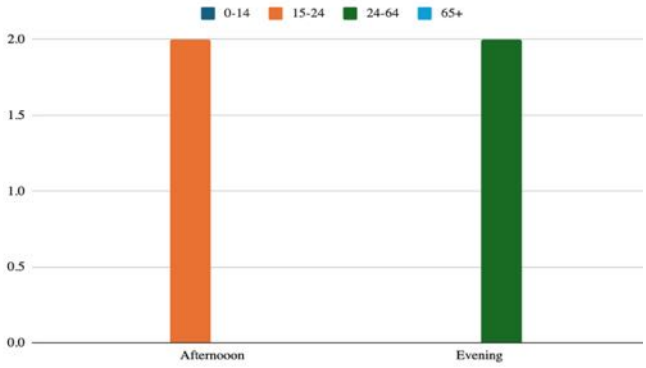


FIGURE 5-10. TEAM 11-01 WEEKEND PEDESTRIAN AGE

Ghel Assessment: Team 11-01

The overall Ghel assessment score for this site, an average of the matrix, is 1.41. Similar to the other three blockfaces, the site overall had a low score across the board. However, it did score slightly higher than two of the four blockfaces, which

Protection: This site scored low in all of the categories in this section with there being minimal protection given to NMT users. This leaves users feeling highly exposed when traveling through the right-of-way. The area included a block of trees and planters in front of the McDonalds at the north end towards the intersection. This area sat directly behind a bus stop which sat directly on the side of the busy highway with no protection for transit users.

Comfort: The user experience for this section was generally uncomfortable and did not support an environment in which users could move in comfort or enjoy the space. The assignment of two "2" ratings is due mostly to their being a bus stop which provided multiple modes of transit throughout the section.

Enjoyment: The auto-centric design of this section created an environment removed from human scale with limited options for public life. The high exposure of users to automobiles and unpleasant stimuli creates a series of experiences that limit enjoyment in the area for all non driving users.

FIGURE 5-11. TEAM 11-01 GHEL ASSESSMENT RESULTS

FIGURE 5-12. PLANTERS AND TREES ALONG 11-01

FIGURE 5-13. BUS STOP AT 11-01

Public Life Observation: Team 11-02

At location 11-02, there were a total of 5 trees, represented by the light green circles. These were spread out, as 3 were located near the Starbucks, and the 2 others were located further south adjacent to the houses. There were 4' planting strips, represented by the dark green squares. These were again located near the Starbucks and next to the residential homes, and served as a buffer between the street and sidewalk. There were 2 driveways, represented by the purple diamonds, these were placed as entrances to parking areas further inside the property. The posted drive speed of the street was 25mph. Typical sidewalk widths were 5', however where sidewalks entered crosswalks, they were wider and measured at 10'. This was for both the cases of sidewalk widths at S Graham and MLK, and S Eddy and MLK intersections.

Travel Modes: Team 11-02

Observations of this pathway found it to be significantly busier for both pedestrians and motorized vehicles. Peak times did not change but it appears given the data that the flow of people is more significant from this direction.

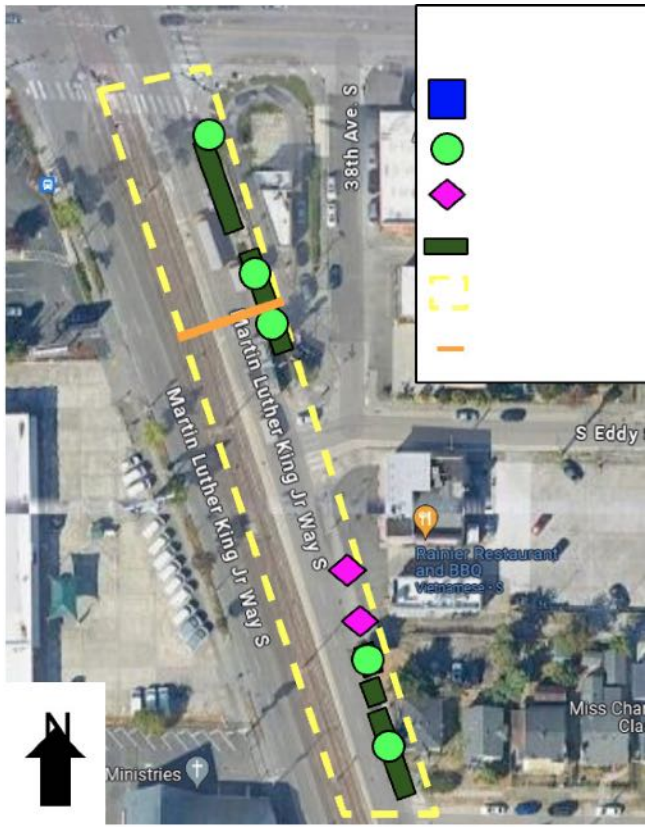


FIGURE 5-14. TEAM 11-02 TREE CANOPY, DRIVEWAYS, BUS STOPS, PLANTING STRIPS

Weekday	motorized	pedestrian	Bike
Morning	187	10	0
Afternoon	110	0	1
Evening	299	12	0

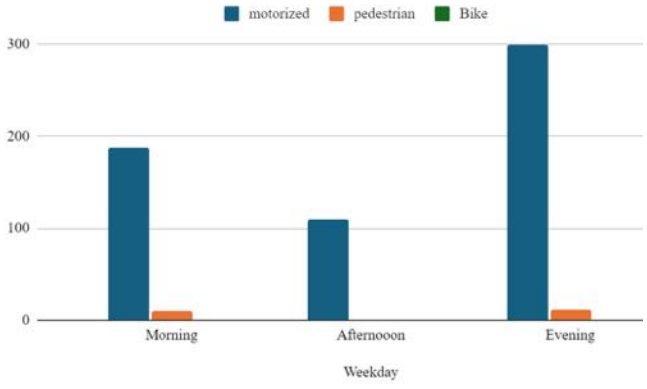


FIGURE 5-15. TEAM 11-02 WEEKDAY MODE SPLITS

Weekend	motorized	pedestrian	Bike
Afternoon	156	3	1
Evening	96	4	1

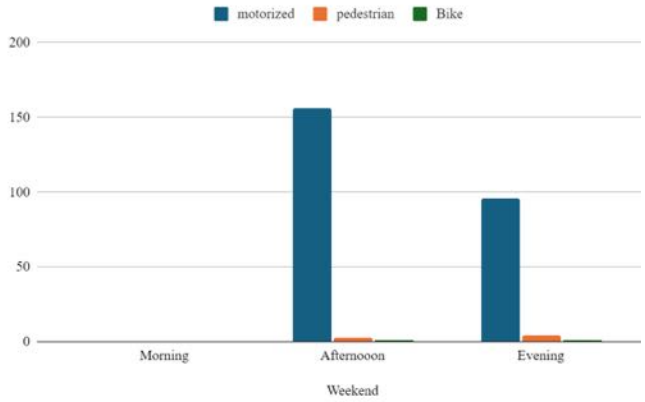


FIGURE 5-16. TEAM 11-02 WEEKEND MODE SPLITS

Pedestrian Demographics: Team 11-02

The gender and age splits are similar with the notable exception being that weekend events saw a reverse perceived gender expectation with more female presenting pedestrians than male presenting. There was also an overall lower pedestrian count on the weekends.

Weekday	Masculine	Feminine
Morning	2	1
Afternoon	1	1
Evening	5	1

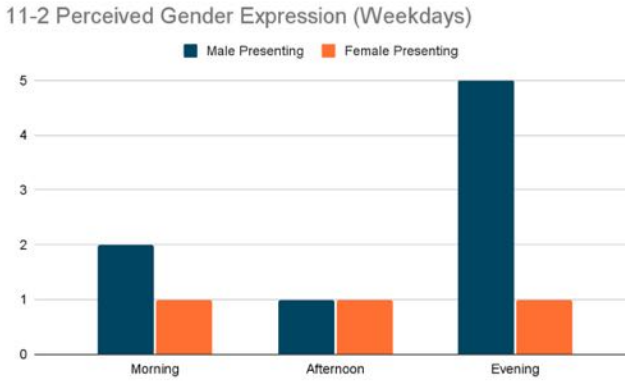


FIGURE 5-17. TEAM 11-02 WEEKDAY PERCEIVED GENDER

Weekend	Masculine	Feminine
Afternoon	1	0
Evening	2	0

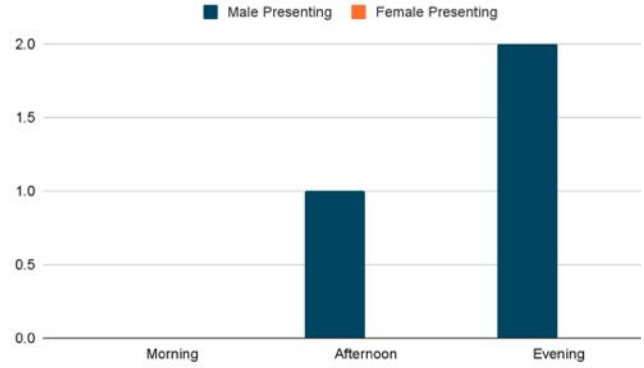


FIGURE 5-18. TEAM 11-02 WEEKEND PERCEIVED GENDER

Weekday	0-4	5-14	15-24	25-64	65+
Morning	0	0	1	2	0
Afternoon	0	0	0	0	2
Evening	0	0	3	2	1

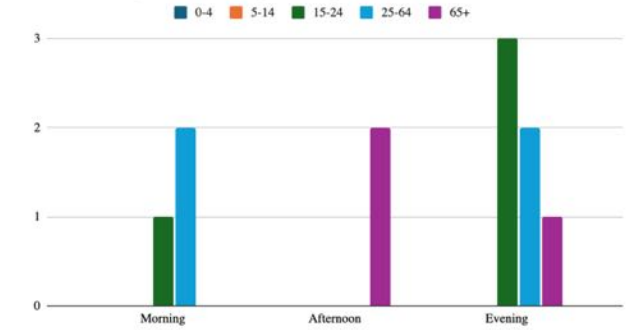


FIGURE 5-19. TEAM 11-02 WEEKDAY PEDESTRIAN AGE

Ghel Assessment: Team 11-02

Protection	2	1	1
Comfort	2	2	1
	2	2	1
Enjoyment	2	2	1

FIGURE 5-20. TEAM 11-02 GHEL ASSESSMENT RESULTS

The Ghel assessment on this section revealed many of the same shortcomings apparent in 11-01 but created an image of a slightly more amenable space for nmt users. This section had an overall rating of 1.58 which is similar to the other scores albeit slightly higher than all of them.

Protection: This section had poor protection for nmt users along the entire stretch but the area further north towards the intersection benefited from some planter that acted as a buffer against the large flow of vehicles in the road. The analysis also noted that there was an intersecting side street that had a well painted crosswalk. This section could leave NMT users feeling exposed.

Comfort: The planting and well maintained sidewalks provided were a benefit to an area that was generally uncomfortable for nmt users and those who wish to enjoy the space. There were no places to sit nor was there enough space for more than one pedestrian each way.

Enjoyment: The area was generally a poor experience for individuals outside of cars. This area was mostly developed at a scale for automobiles and there was very little concern for human users in this area. The large flow of traffic and high exposure leads to an overwhelming sensory experience that many will find unpleasant.

FIGURE 5-21. 11-02 IMAGE IN FRONT OF STARBUCKS

Team 11 Recommendations

These sections along the southern part of MLK Avenue should prioritize enhancing the pedestrian experience, focusing on space for foot commuters and bicycle users.

Increase Pedestrian & Non-Motorized Space: Widen sidewalks and add bicycle lanes to improve comfort for walkers and cyclists.

Create Spaces to Stop/Idle: Install street furniture or benches to provide resting areas, as the only current comfortable spots are bus stops or indoor private spaces.

Limit NMT user exposure: Currently NMT users are highly vulnerable to car conflicts in this region with major crossings and limited protection. Increasing barriers and protected spaces would mitigate this.

Create Pedestrian Safe Crossings: Improve the safety of crossings by adding secure refuges and clear crosswalk markings to ensure pedestrian safety.

Many of the sections of this intersection share similar concerns and are nearly identical with small differences between. Generally expanding protections for pedestrians and cyclists would be beneficial in an area in need. To further enhance pedestrian and non-motorized spaces, initiatives should include widening sidewalks, adding bicycle lanes, creating stopping and idling areas, and installing street furniture like benches to improve comfort and usability.

Public Life Observation: Team 12-01

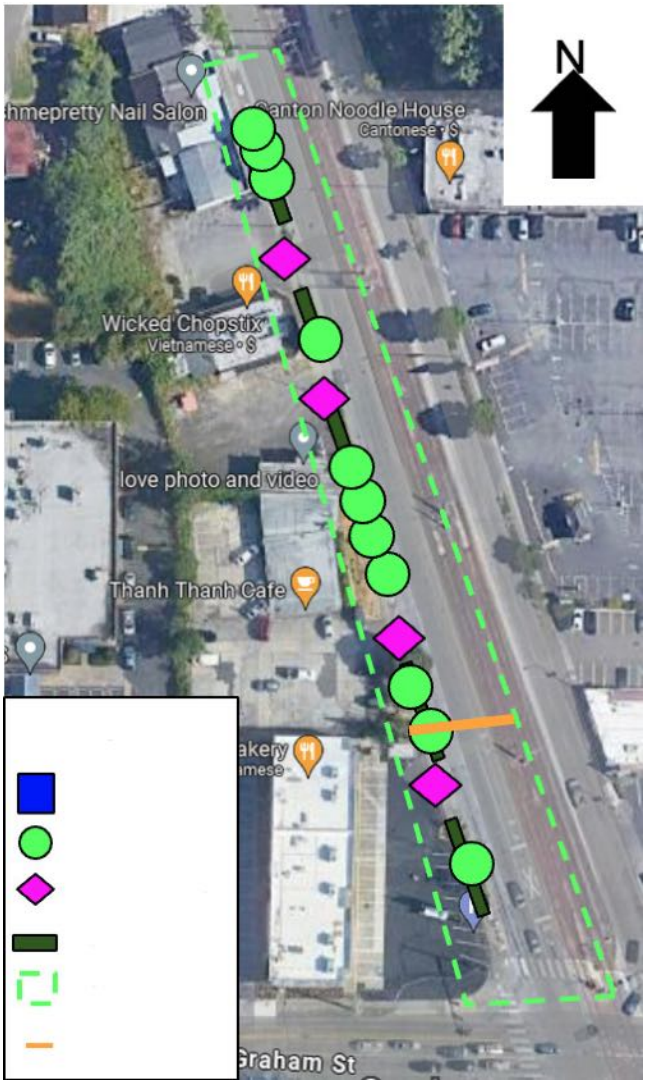


FIGURE 5-22. TEAM 12-01 TREE CANOPY, DRIVEWAYS, BUS STOPS, PLANTING STRIPS

At site 12-01, there were a total of 11 trees, as can be seen by the green circles. There were 3 planting strips located to the North of the site, as presented by the dark green boxes on the map. These were placed between the 4 curb cuts along this blockface, shown as magenta diamonds. The 3.5' planter strips provided a degree of separation between the sidewalk and the roadway. The 4 curb cuts along the blockface provided in/out for several businesses. The posted speed limit for this stretch of roadway is 25 mph. The sidewalk is relatively narrow at approximately 5 feet, and it is buffered by the discontinuous planter strips and parking lots.

Travel Modes: Team 12-01

Section 12-01 saw the same pattern of car dependency with a significant peak time on weekday evenings and weekend afternoons. The total numbers were overall fairly similar to those of sections 11-01 and 11-02 with section 11 - 01 inky having a significantly higher volume of traffic during weekday evenings. There are a number of cafes and restaurants along this strip that appear to be fairly popular. Many of these establishments had patrons that would cross the street in order to park or walk to nearby establishments. The outlier with pedestrians here being the 14 pedestrians recorded on weekday mornings. If this is compared against team 11's data it becomes clear that the morning is a much busier time for pedestrians than any other time of the week as only a few pedestrians were observed along this pathway at other times.

Weekday	motorized	bike	pedestrian
Morning	143	0	14
Afternoon	116	1	2
Evening	298	2	3

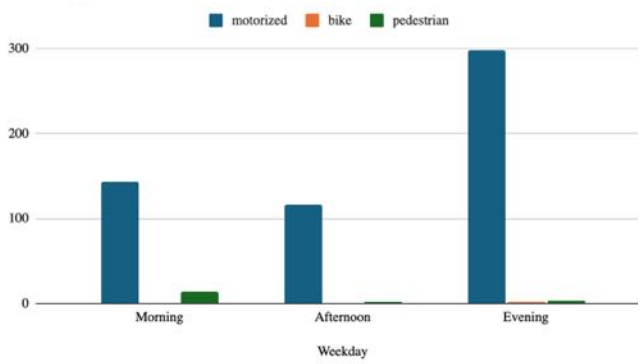


FIGURE 5-23. TEAM 12-01 WEEKDAY MODE SPLITS

Weekend	motorized	bike	pedestrian
Morning	0	0	0
Afternoon	141	0	2
Evening	93	0	3

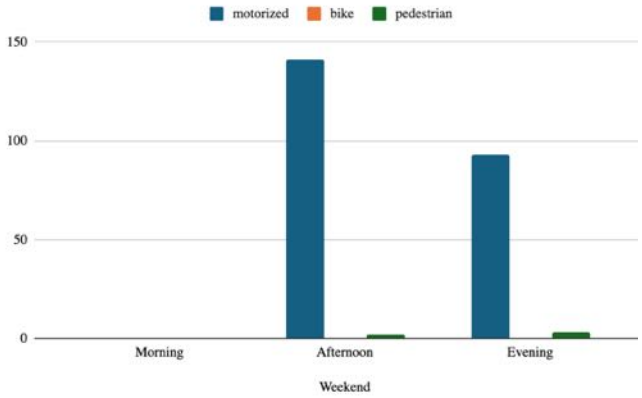


FIGURE 5-24. TEAM 12-01 WEEKEND MODE SPLITS

Pedestrian Demographics: Team 12-01

The pedestrian demographics showed that there were more masculine presenting pedestrians vs feminine presenting during both the weekday and weekend observations. There was also a larger range of age groups among the pedestrians during the weekdays. On the weekend there were more 65+ individuals.

Weekday	Masculine	Feminine
Morning	9	2
Afternoon	5	3
Evening	6	2

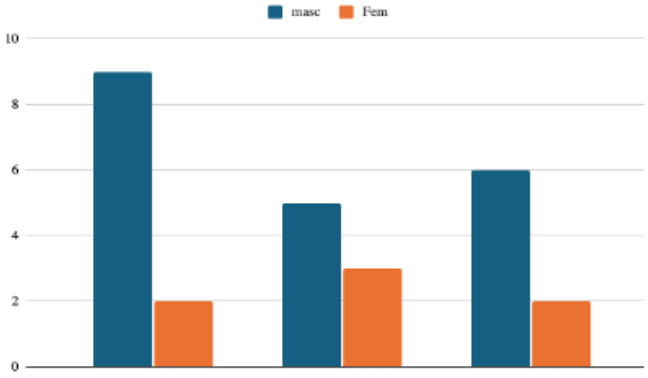


FIGURE 5-25. TEAM 12-01 WEEKDAY PERCEIVED GENDER

Weekend	Masculine	Feminine
Afternoon	4	1
Evening	6	1

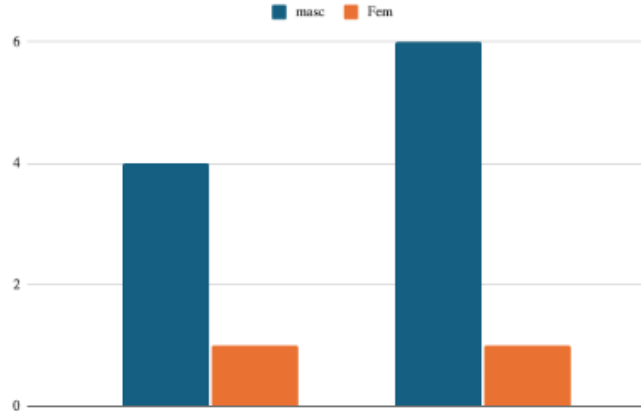


FIGURE 5-26. TEAM 12-01 WEEKEND PERCEIVED GENDER

Weekday	0-4	5-14	15-24	25-64	65+
Morning	2	2	3	4	0
Afternoon	0	0	2	6	0
Evening	0	0	4	3	1

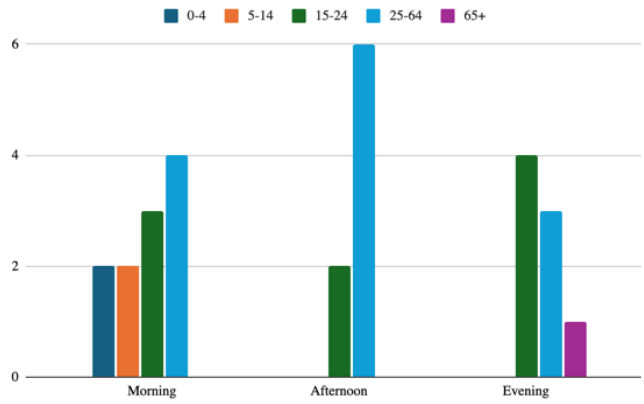


FIGURE 5-27. TEAM 12-01 WEEKDAY PEDESTRIAN AGE

Weekend	0-4	5-14	15-24	25-64	65+
Afternoon	0	0	1	1	3
Evening	1	0	0	3	3

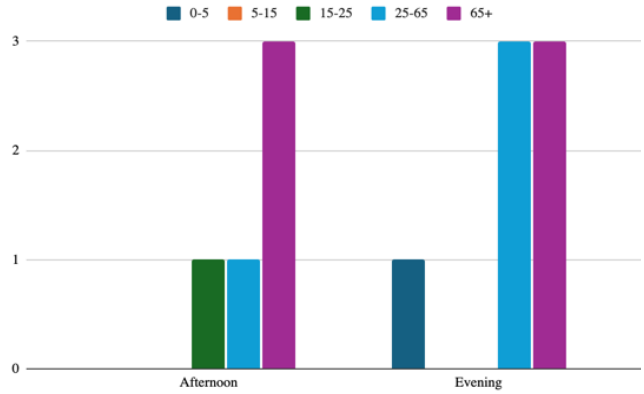


FIGURE 5-28. TEAM 12-01 WEEKEND PEDESTRIAN AGE

Ghel Assessment: Team 12-01

FIGURE 5-29. TEAM 12-01 GHEL ASSESSMENT RESULTS

The overall Gehl assessment score for the area, which averaged the scores for pedestrian protection, comfort, and enjoyment was 1.25. This is in line with the other three blockfaces, and suggests that the site currently is not adequate in providing protection, comfort, and enjoyment.

Protection: The area had minimal protection for pedestrians. The 3.5' planting strip between the sidewalk and MLK Jr. Way offered some separation, however the short planting and thin trees did not give a good perception of protection from the cars on the street. Additionally, there were many driveways/curb cuts into business, making it difficult for pedestrians to walk through without interruptions as people arrive and leave the businesses in their cars. The continuous and large flow of vehicles along the MLK make the pedestrian experience very unpleasant.

Comfort: The location provided minimal comfort for pedestrians, with little options for sitting and seeing. The constant flow of vehicles and noise coming from them leave little options for people to talk and listen or stay in the space. The area feels more as a pass through area, which seems reasonable since it is an intersection. There's not a bus stop on this blockface, and there are little reasons for people to stop and idle.

Enjoyment: The location was limited in enjoyment. There are no amenities for people, and the overall sensory experience is poor due to the immediate roadway. There's nothing that draws people along the sidewalk aside from the businesses, and there's no public art or any form of positive aesthetic, aside from a few trees.

FIGURE 5-30. TEAM 12-01 SIDEWALK AND STREET CONDITIONS

FIGURE 5-31. TEAM 12-01 SIDEWALK AND TRAFFIC FLOW

Public Life Observation: Team 12-02

At location 12-02, there were a total of 8 trees, shown in figure 5-32 as the light green circles. These were located mainly on the north side of the site, where there was a strip mall and large parking area. The planting strips, represented in dark green, were around 3.5', and did provide a buffer between the sidewalk and street. These again were primarily located at the location of the strip mall. There were a total of 6 driveways, represented by the purple diamonds. Two of the driveways led to the main parking lot of the strip mall, with one of the driveways leading to the back area of the strip mall. There was also a driveway into a smaller business center, and two into the gas station. The posted street speed was 25mph. Sidewalk widths were typically 5.5', and increased to 10' closer to the intersection. In addition there was also a covered bus stop at the south end of the sub location.

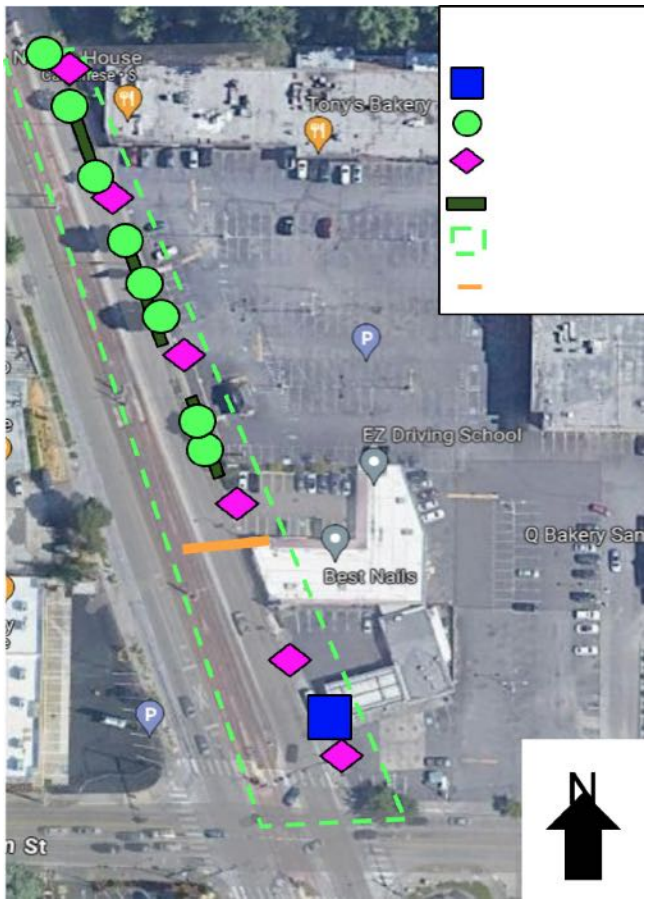


FIGURE 5-32. TEAM 12-02 TREE CANOPY, DRIVEWAYS, BUS STOPS, PLANTING STRIPS

Travel Modes: Team 12-02

Overall peak time trends remain consistent with this section with weekend afternoons and weekday evenings being the busiest times respectively; however, weekday afternoons on this section were significantly busier than the other sections observed relative to the morning traffic volume. One explanation for this trend could be the number of sandwich shops and bakeries located in this plaza, many of which offer popular lunch specials, potentially driving demand. That may also explain the unusual peak for pedestrians on weekend afternoons and a greater than expected pedestrian presence in weekday afternoons.

Weekday	motorized	bike	pedestrian
Morning	115	1	4
Afternoon	136	0	4
Evening	237	0	0

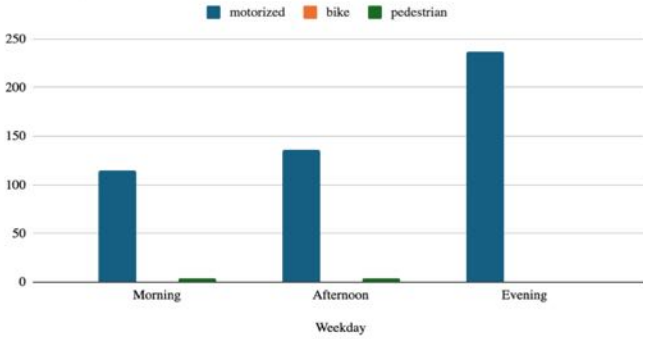


FIGURE 5-33. TEAM 12-02 WEEKDAY MODE SPLITS

Weekend	motorized	bike	pedestrian
Morning	0	0	0
Afternoon	134	0	7
Evening	89	1	2

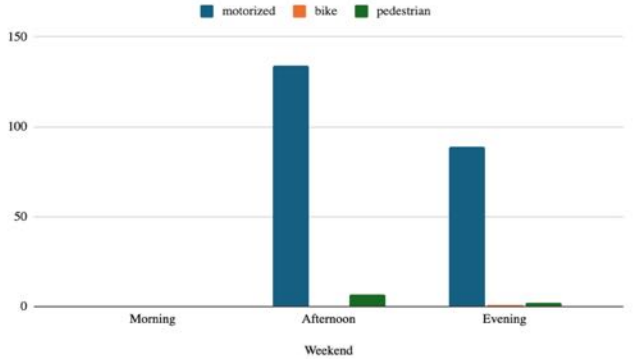


FIGURE 5-34. TEAM 12-02 WEEKEND MODE SPLITS

Pedestrian Demographics: Team 12-02

Overall the more pedestrian presented as masculine than feminine. There is also a slightly younger crowd observed here with the driving school being located directly on the road, many young people and what appeared to be parents could be seen standing around the buisness.

Weekday	Masculine	Feminine
Morning	6	0
Afternoon	1	2
Evening	3	1

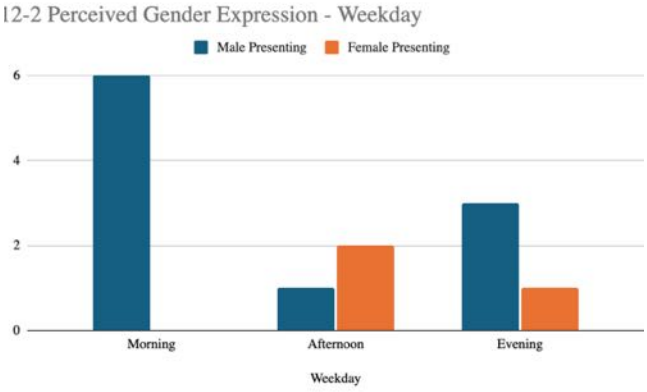


FIGURE 5-35. TEAM 12-02 WEEKDAY PERCEIVED GENDER

Weekend	Masculine	Feminine
Afternoon	2	0
Evening	2	1

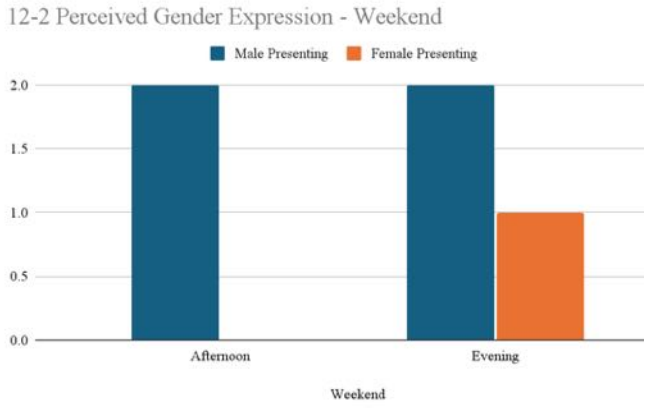


FIGURE 5-36. TEAM 12-02 WEEKEND PERCEIVED GENDER

Weekday	0-4	5-14	15-24	25-64	65+
Morning	1	2	3	0	0
Afternoon	0	0	1	2	0
Evening	0	0	2	1	1

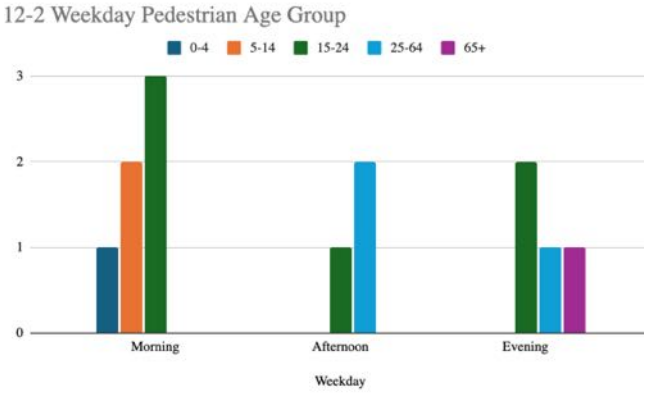


FIGURE 5-37. TEAM 12-02 WEEKDAY PEDESTRIAN AGE

Weekend	0-4	5-14	15-24	25-64	65+
Morning	1	2	3	0	0
Afternoon	0	0	0	1	1
Evening	1	0	0	2	0

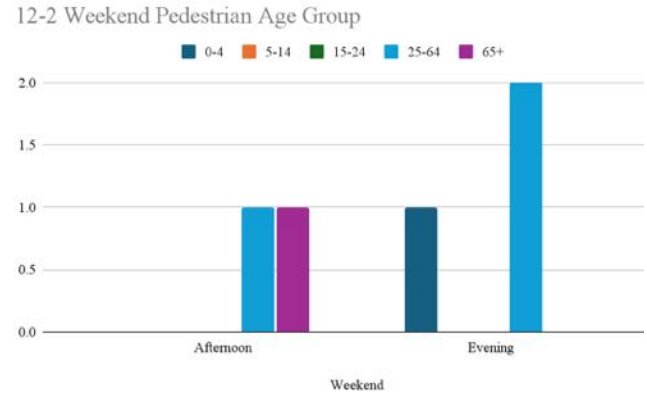


FIGURE 5-38. TEAM 12-02 WEEKEND PEDESTRIAN AGE

Ghel Assessment: Team 12-02

Protection	2	2	1
Comfort	3	2	2
	1	1	1
Enjoyment	1	1	1

FIGURE 5-39. TEAM 12-02 GEHL ASSESSMENT RESULTS

This section of the intersection follows a similar pattern to that of the other section with relatively low rating across all categories. This section has a higher rating than 12-01 with a 1.5 rating mostly due to increased comfort provided by the planter strip and the bus stop providing seating.

Protection: The area had minimal protections for pedestrians with slightly more protections relative to other sections in the The area still has ample parking lots taking up a majority of the space. These parking lots by the busy road result in their being numeros curb cuts leading to cars crossing the pedestrian right of way often. The large flow of cars in this section made the minimal protections more notecable.

Comfort: While the area suffers many of the same issues as 12-01 in regards to comfort the area offers seating at the protected bus stop creating some space that provides comfort to those walking. The sidewalks were particularly narrow with there being hardly enough room to accommodate more than one person each way.

Enjoyment: Low ratings were again awarded for enjoyment as the area does not make effort to prioritize pedestrians resulting in an unpleasant experience for those not in automobiles.

FIGURE 5-40. 12-02 SIDEWALK AND STREET CONDITIONS

FIGURE 5-41. 12-02 BUS SHELTER AND DRIVEWAYS

Team 12 Recommendations

These sections along the north part of MLK Ave need to prioritize the pedestrian experience with greater concern given to the space that could be taken up by those who seek to commute by foot.

Increase pedestrian & non-motorized space: Widening sidewalks and creating more areas for bicyclists to commute through would aid in creating a more comfortable experience.

Create spaces to stop/idle: The only space comfortable for pedestrians is the bus stop or indoor private space. To increase the pedestrian comfortability provide some furniture or benches to allow for waiting.

Create pedestrian safe crossings: The crossing across MLK is unsafe and offers little refuge in the

middle of the crossing. Providing more secure refuge and clear markings of the cross walk could improve pedestrian safety.

To enhance pedestrian and non-motorized spaces, initiatives include widening sidewalks and adding bicycle lanes, along with creating areas for stopping and idling. Installing street furniture, such as benches, will improve the comfort and usability of these spaces. Future light rail recommendations emphasize the importance of making the MLK crossing safer and easier, addressing the current issues of long cycle times and lack of refuge in the center

Conclusions and Takeaways

The intersection of MLK and S Graham street is soon to be the location of a light rail station bringing many more pedestrians and demand for nmt in the area. This will also bring increased demand for buses and connections to other parts of the neighborhood. The area has a number of shortcomings in its ability to support pedestrians, bicyclists, and non automobile commuters. The area lacks pedestrian protections with the sidewalks being narrow and exposed for the majority of the stretch of road. This exposure results in an unpleasant experience that would discourage those who walk and roll to not travel on this road. The many parking lots also add a number of curb cuts that interrupt the sidewalk and thus put pedestrians in harm's way of vehicles crossing their right of way.

The narrow sidewalks and high exposure to cars is also felt by those who wish to use the bus routes located on either side of the road. The protected bus stop offers little protection from the large flow of vehicles that flows at all times of day across the area. The lack of other locations to sit or linger means that if more than three or four people wish to wait at the stop they have to stand on the sidewalk and be exposed to the unpleasant stimuli present in the intersection.

The popular business located along this stretch of road can provide a challenge for the redesigning of this area as there is still going to be a high demand for what is offered at these establishments and many of the customers drive to visit these places. While mitigation of parking space may be helpful it could be challenging and upsetting to the well established businesses in the area.

A specific concern of the analysis was the dangerous crossing of MLK at the intersection. This crosswalk is long and does not offer safe refuge at any point in the crossing leading to potentially dangerous situations for those who walk slower. There were also a high number of children in this area that crossed the intersection and some would walk when the signal was not light. This was partly due to the very long wait time on the pedestrian light, but regardless this situation put the health and safety of the children and drivers at risk.

Overall, the MLK stretch of the MLK and Graham is a car dependant stretch of road that needs to do significant work in order to provide a more welcoming space for nmt users.

Martin Luther King Jr. Way S (South) and S Graham St (East)

Team 13 | West Block Face

The site for Team 13 consists of a two lane minor arterial which slopes up towards a plateau to the west. The site has sidewalks on both sides and several curb cuts for various institutions and

FIGURE 5-42. TEAM 13 SITE MAP - WEST BLOCK

properties along its length. No delineated bike lane is present. This street sees a fair amount of traffic as it connects the busy Martin Luther King Jr. corridor to Interstate 5 to the west.

The site was analyzed using the Gehl Quality Criteria which determines how sites are experienced by their users (Gehl et. al., 2013). The criteria shown below is graded on a one to five point scale where five means users have a maximum enjoyment of the site and one meaning that the site is deficient in most major categories of safety, quality, or interest.

Protection	Against **traffic & accidents**	Against **harm** by others	Against **unpleasant sensory experiences**
Comfort	Options for **mobility**	Options to **stand & linger**	Options for **sitting**
	Options for **seeing**	Options for **talking & listening**	Options for **play**, exercise, & activities
Enjoyment	Human **scale**	Positive aspects of **climate**	**Aesthetic qualities** & positive sensory experiences

TABLE 5-1. GEHL QUALITY CRITERIA

13 – 01 | Northwest Block Face

The area of study for location 13 - 01 is the North block face of S Graham St in the Rainier Valley from its intersection with Martin Luther King Jr Way S to approximately 620 ft West towards the Chief Sealth trail. The block face is dominated by the parking lots for a commercial parcel home to Vietnamese restaurants and the adjacent Department of Social and Health Services (DSHS) parking lot. Street furniture and vegetation is scarce on this blockface and long driveways elevate risk of interaction between vulnerable road users and motor vehicles. Two mature trees partially screen the sidewalk from the DSHS parking lot. As one progresses West on the block face, the pedestrian space transitions from traditional commercial arterial to a neighborhood arterial with a collection of new rowhouses and sapling street trees. S Graham St in this area has a posted speed limit of 25 mph and is designated a neighborhood arterial in the Seattle Street Type index.

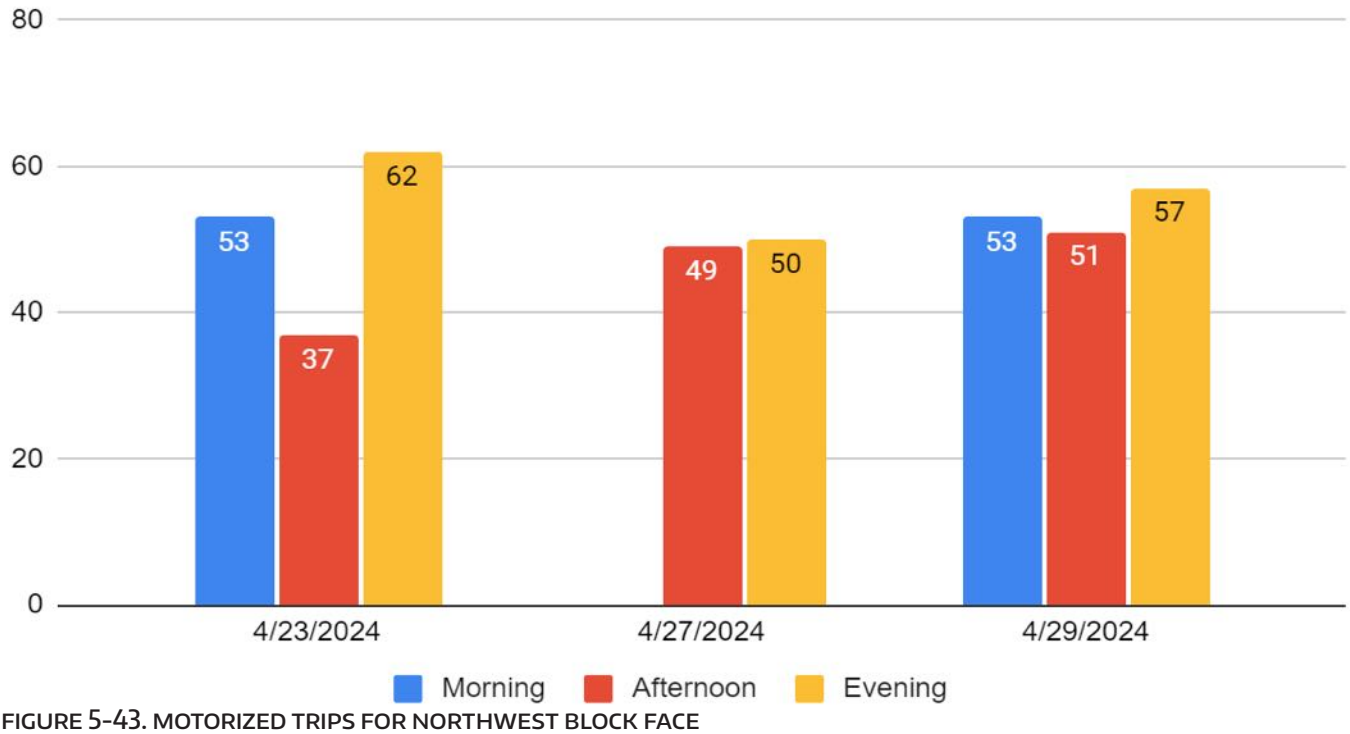


FIGURE 5-43. MOTORIZED TRIPS FOR NORTHWEST BLOCK FACE

The following charts summarize movement counts for different modes on the three days of observation by time of day. Note that April 23rd was a Tuesday, April 27th was a Saturday, and April 29th was a Monday. Weather during all observation periods for this site was cloudy with light rain or interspersed periods of light rain with temperatures around 50°F. Only one micromobility user (on an e-scooter) was observed during the observance period (on the afternoon of April 29th). Similarly, only one person was observed using a mobility device (on the evening of April 23rd). This area does not have infrastructure supportive for non-motorized travel. Data was not collected at this site during the morning of Saturday April 27th and so is not listed in the following charts. For each day, motor vehicle volumes are fairly consistent. Pedestrian travel volumes generally increase throughout the day with the exception of the high count outlier observed on the afternoon of April 23rd - more data collection at this location would be needed to determine if this a true outlier or reflective of pedestrian travel at this time of day.

There were no parked cars within this study area as there are no on-street parking stalls. Freight vehicles were considered to be any vehicle that appeared to be used for commercial activity. This included large tractor-trailers as well as smaller cargo vans and similar goods vehicles bearing the name of their associated companies. The following chart shows vehicle counts during the same observance periods. Generally, freight volumes were higher in the afternoon than the morning but nonexistent during the evening after-work hours. Additional data collection at this location would be needed to determine if the high weekend afternoon count observed is a true outlier or reflective of freight volumes at this time of day. Additionally, standardization on what vehicles are considered freight would be needed.

No emergency vehicles were observed moving through the study area during the April 23rd, 27th, or 29th observance periods.

Apparent demographic information of pedestrians was also collected during observations. All

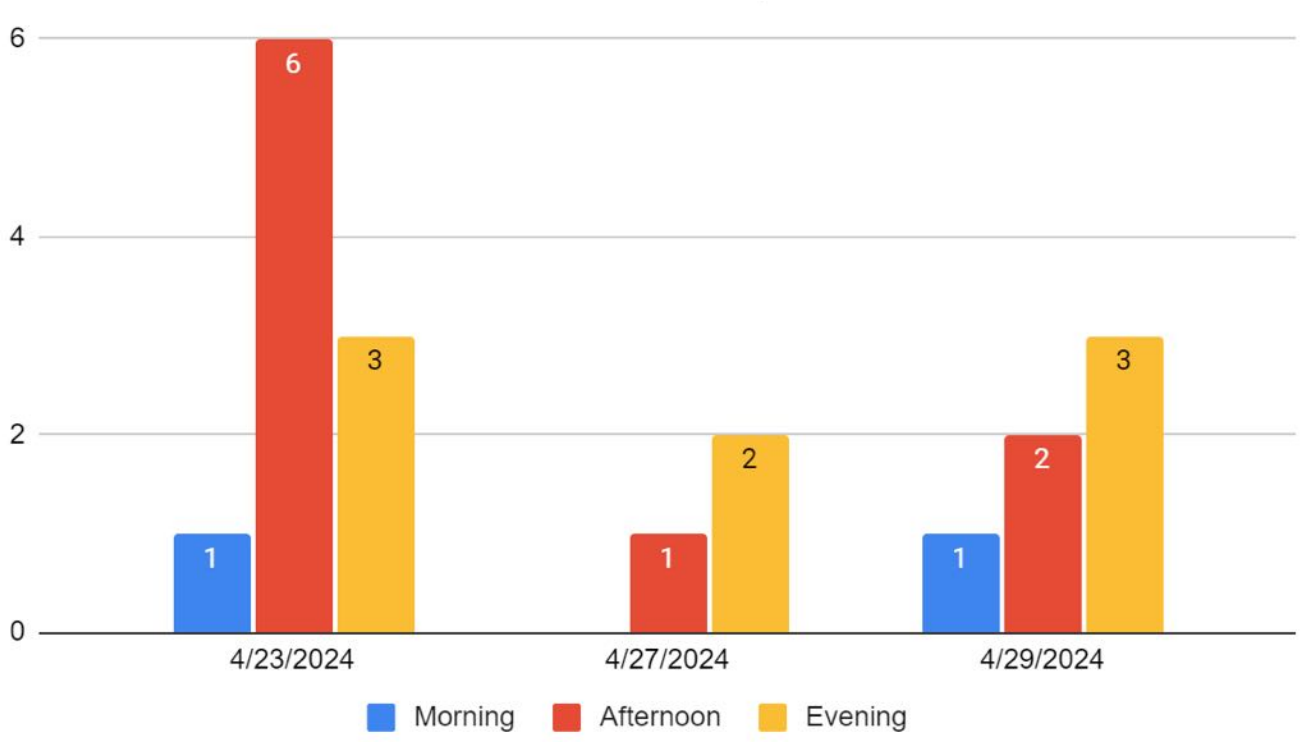


FIGURE 5-44. PEDESTRIAN TRIPS FOR NORTHWEST BLOCK FACE

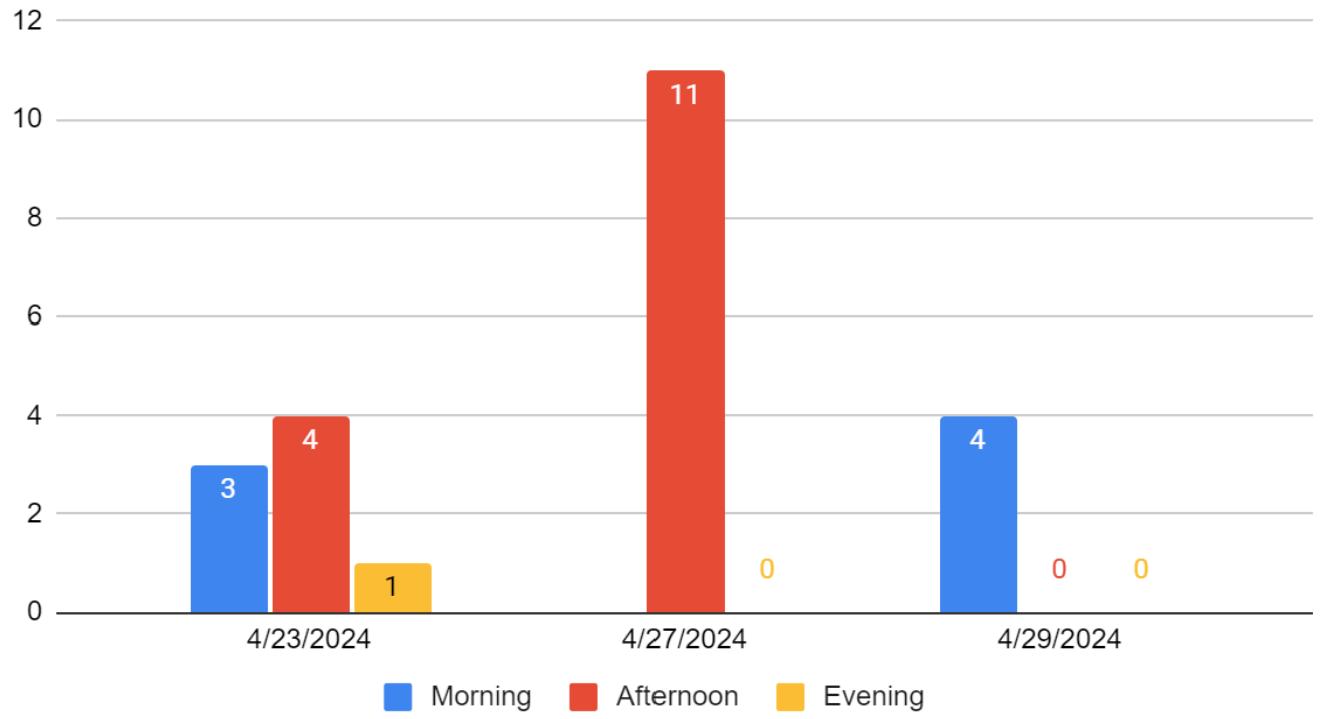


FIGURE 5-45. FREIGHT VEHICLES FOR NORTHWEST BLOCK FACE

information was based on appearance by the observer in the moment and may not reflect the actual gender identity or age of pedestrians observed. A future survey or census where information is collected directly from individuals would provide greater accuracy to the presented information. Pedestrians walking along the Northwest block face were nearly evenly split by gender presentation (53% masculine-presenting, 47% feminine-presenting). Most pedestrians appeared to be in the 25-64 year-old age cohort (n = 10), with pedestrians in the 15-24 year-old age cohort representing the second-largest group (n = 7); these are summarized in the below chart. As pedestrian counts were generally low for this study area, the information presented should not be construed as representative of the area population or of road users during typical conditions. Few children and adolescents on their own or with families were observed in this area during the study periods; most pedestrians appeared to be adults accessing the restaurants and government services building in the area.

With regard to the element of protection, the Northwest block face scores poorly. There is a sidewalk raised from the road and good visibility at driveways so drivers are easily able to see pedestrians and cyclists on the sidewalk. There are very few places of refuge and the little foot traffic in the area leaves no "eyes on the street" to provide collective safety. There is no weather protection - either natural or artificial along the block face. In terms of comfort, the sidewalk is wide enough for most on foot or rolling with minimal plant encroachment. There are restaurants at the East end of the block face to linger in but the public ROW has nothing to invite lingering; street furniture is not present and there are no features to allow for improvised furniture. There is easy visibility during the day with straight line views East and West down S Graham St, though there is minimal lightning at night and there are no aesthetic views of the natural landscape as the interaction is in a small valley. Rolling and engine noise from vehicles and frequent conflicts with pedestrians crossing the road make the area quite noisy and unpleasant to

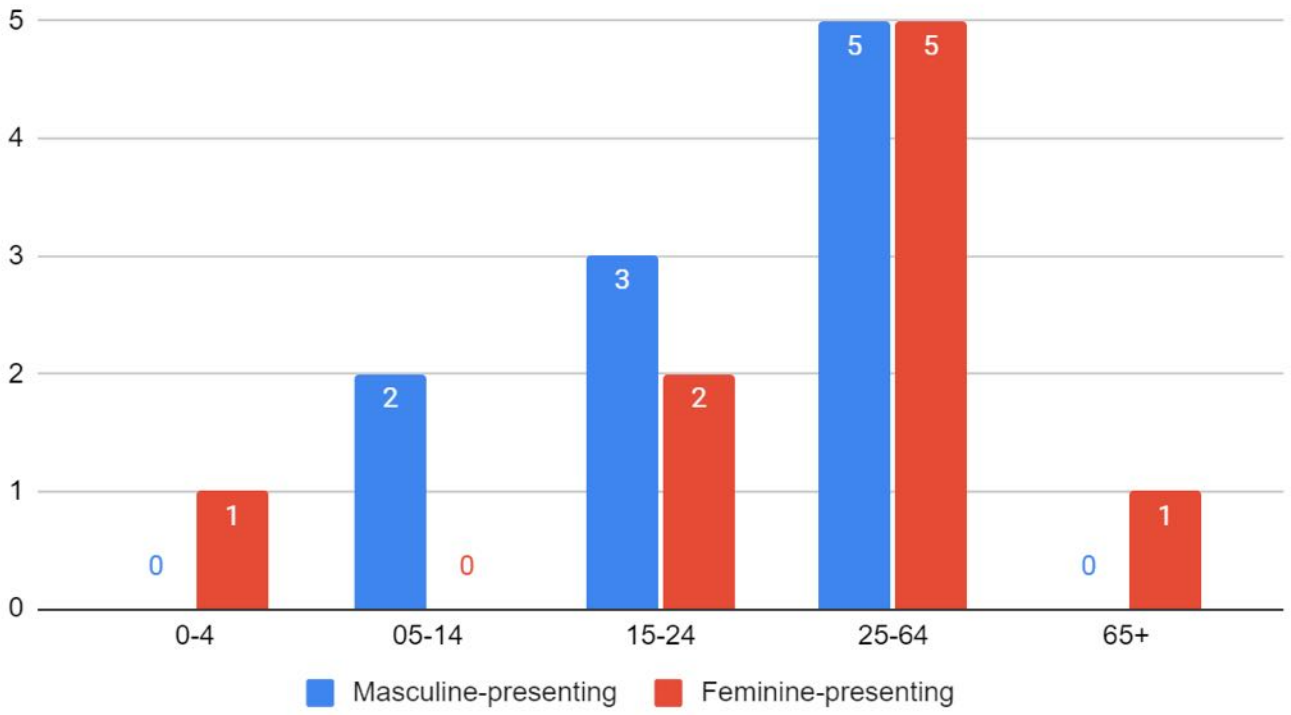


FIGURE 5-46. COUNT BY AGE GROUP OF ALL PEDESTRIANS DURING STUDY PERIODS

stay in beyond visiting the businesses or services in the area. There are no dedicated play areas or opportunities for improvised play with vehicle circulation so heavy in the area as well. Treating each category of the Gehl criteria equally, this blockface nets an aggregate score of 1.42 out of a possible five.

Protection	2	1	1
Comfort	2	2	1
	2	1	1
Enjoyment	2	1	1

FIGURE 5-47. GEHL RATING MATRIX FOR NORTHWEST BLOCK FACE OF S GRAHAM ST

FIGURE 5-48. POSITIVE ELEMENTS OF THE NORTHWEST BLOCK FACE ON S GRAHAM ST (PLANTER AND TREE CANOPY)

13 – 02 | Southwest Block Face

Section 2 of the study area is located on the south side of Graham St. This portion of the road has a partially protected sidewalk on the western quarter of the site with no buffer for pedestrians past the curb cut for the pagoda. Shown in the Gehl Quality Criteria below, the pedestrian experience degrades the closer one gets to Martin Luther King Jr. Way. Sections of the sidewalk are overgrown or were covered in litter when the site was visited.

Consistent volumes of traffic were seen on passing through the site with a peak in the evening with individuals coming from Interstate 5. Freight traffic was also common. A number of buses, mostly for the nearby middle school, traveled through the site on each of the weekday morning visits.

The majority of pedestrian activity is in the afternoon. Due to the sloping nature of the site, there was minimal bicyclist or multimodal activity and only one instance of an individual using a mobility device was documented. As noted in the Gehl Quality Criteria, the site is not pedestrian-friendly. Cars drive and often speed

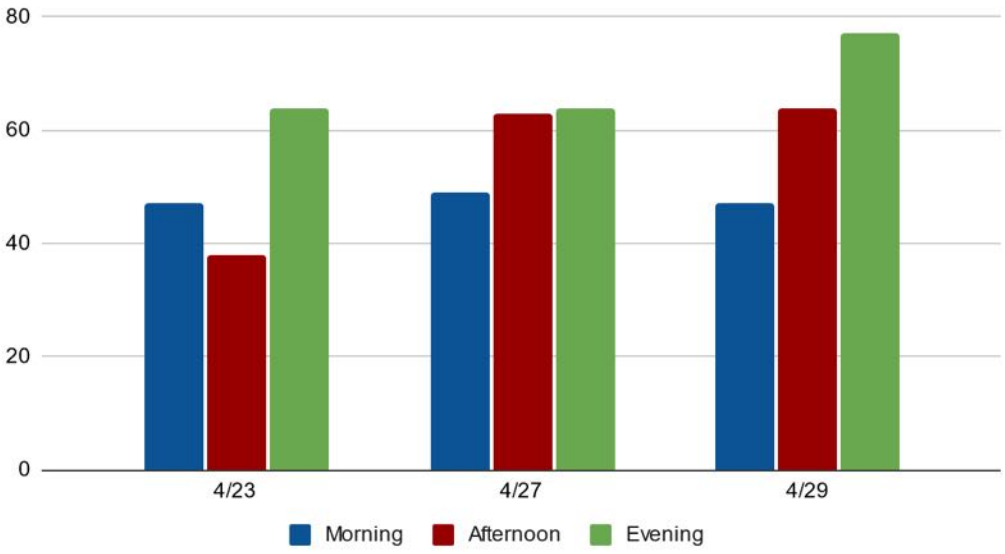


FIGURE 5-49. MOTORIZED TRIPS FOR SOUTHWEST BLOCK FACE

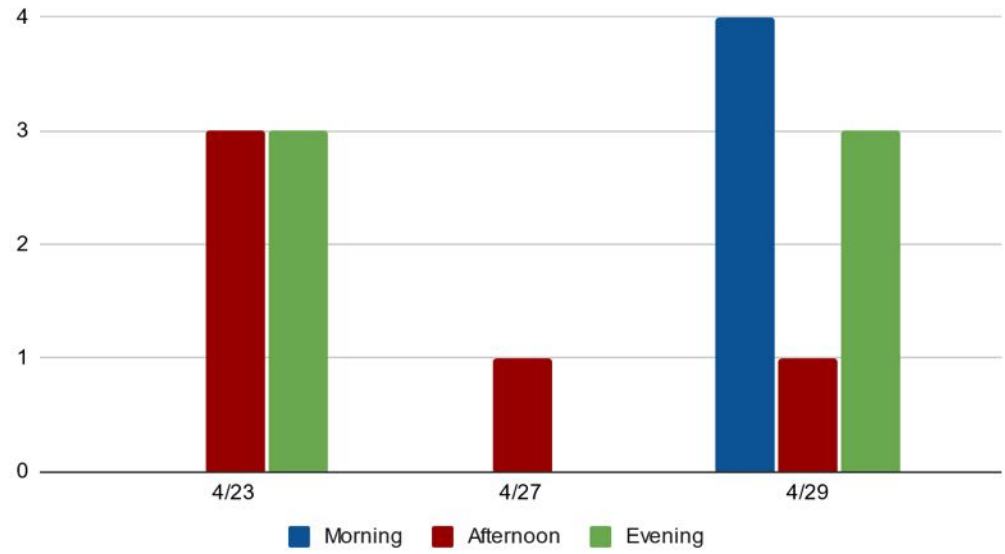


FIGURE 5-50. PEDESTRIAN TRIPS FOR SOUTHWEST BLOCK FACE

by well above the posted speed limit with no buffer between the sidewalk and the right of way. There is a section of the sidewalk that is somewhat protected from the elements and from traffic by a five foot wide planter with trees on it though this ends at the curb cuts for the pagoda.

Along the section of the protected sidewalk is unmarked on-street parking. Depending on the amount of vehicles present there would be space for about six regular sized cars in total, however, the maximum number of cars noted being parked there was five. No activity was noted of people parking and leaving; once people park, they stay away until the evening. It is assumed that the users for the parking are nearby residents.

The only bright spots for pedestrians is the western section of the site that is protected from the elements and traffic by the tree planter. There is no opportunity for individuals to stand, linger, or sit. Space for activities and play is nonexistent. As the site is located along a busy street, it is loud and would be difficult to have a conversation with another person.

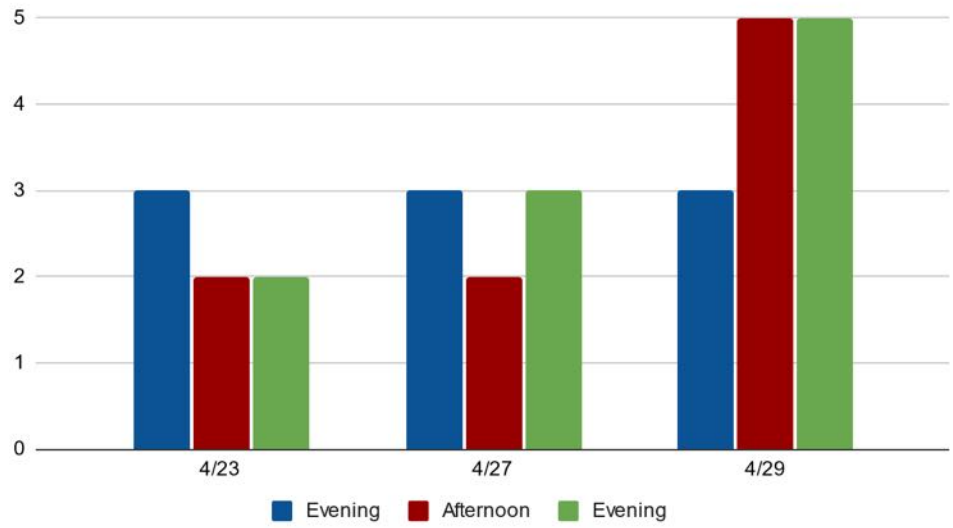


FIGURE 5-51. CARS PARKED FOR SOUTHWEST BLOCK FACE

Team 14 | East Block Face

The site for Team 14 consists of a two-lane minor arterial road which is generally flat, and has a slight upward slope heading east on S Graham ST. Sidewalks span both sides of the street, including several curb cuts which provide access to businesses and residences. There is no designated bicycle lane, and many cyclists opt to use the street. Additionally, there is a significant amount of traffic heading west on S Graham ST which intersects with Martin Luther King Jr. Way S. Zone 01 stretches across the north side of the site, from MLK Jr. Way (west boundary) to 39th Avenue S (east boundary). It includes one west bound lane which diverges into two lanes roughly 90 feet west of the screen line, a 93" sidewalk, two trees, four curb cuts,

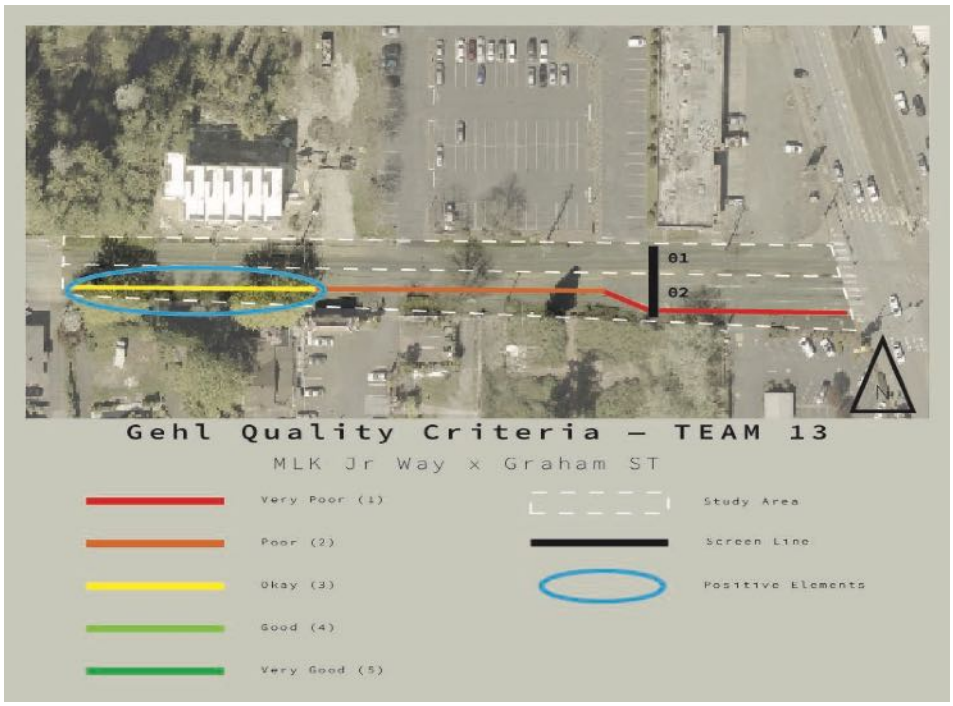


FIGURE 5-52. GEHL QUALITY CRITERIA MAP FOR SOUTHWEST BLOCK FACE OF S GRAHAM ST

and two planting strips. Zone 02 stretches across the south side of the site, also from MLK Jr. Way (west boundary) to 39th Avenue S (east boundary). It includes one east bound lane, a 78" sidewalk, four curb cuts, and six planting strips. The posted speed limit for the street is 25 MPH.

Protection	2	1	1
Comfort	2	2	1
	2	1	1
Enjoyment	2	1	1

FIGURE 5-53. GEHL RATING MATRIX FOR SOUTHWEST BLOCK FACE OF S GRAHAM ST

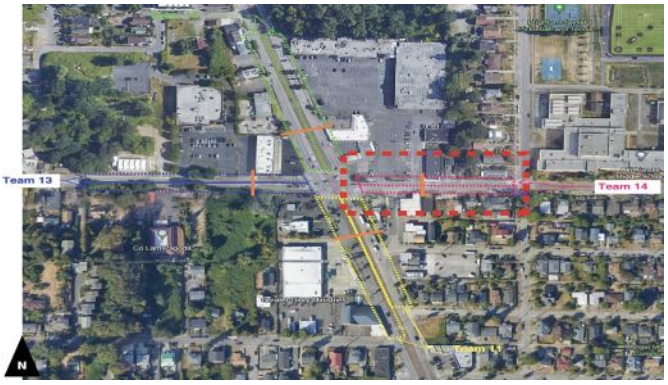


FIGURE 5-54. TEAM 14 SITE MAP - EAST BLOCK

Data Analysis

Data was collected using the Seattle Department of Transportation Public Life app. The data collection covered three different categories which assess the various modes of transportation, user demographics, and overall public space use. Below are descriptions of each category, which explain how the data was collected and how it has been accounted for within our data analysis.

Transportation Mode

This category measures the variety of transportation modes observed and assesses the occurrence of each across the screen line. The data was collected within two ten minute windows occurring in the afternoon and the evening for the weekend observations, and three ten minute windows occurring in the morning, afternoon, and evening for the weekday observations. The weekday data was averaged between the two days on which observations were made.

Pedestrian Demographics

This category represents the occurrence of pedestrians, organized by their perceived gender expression and age group. The data was collected within two ten minute windows occurring in the afternoon and the evening for the weekend observations, and three ten minute windows occurring in the morning, afternoon, and evening for the weekday observations. The weekday data was averaged between the two days on which observations were made.

People Staying

This category measures the amount of individuals staying in place at any given point within the site boundary. It assesses the activity they are engaged in and whether they are alone or in a group. Additionally, it assesses the conditions of the site (i.e. maintenance & cleaning, noise, etc). This data was collected within two twenty minute windows occurring in the afternoon and the evening for the weekend observations, and three twenty minute windows occurring in the morning, afternoon, and evening for the weekday observations. The weekday data was averaged between the two days on which observations were made.

Site Analysis

The site was analyzed using the Gehl Quality Criteria which determines how sites are experienced by their users. The criteria shown below is graded on a one to five point scale where five means users have a maximum enjoyment of the site and one meaning that the site is deficient in most major categories of safety, quality, or interest.

Protection	Against **traffic & accidents**	Against **harm** by others	Against **unpleasant sensory experiences**
Comfort	Options for **mobility**	Options to **stand & linger**	Options for **sitting**
	Options for **seeing**	Options for **talking & listening**	Options for **play**, exercise, & activities
Enjoyment	Human **scale**	Positive aspects of **climate**	**Aesthetic qualities** & positive sensory experiences

FIGURE 5-55. GEHL QUALITY CRITERIA

14 – 01 | Northeast Block Face

Transportation Mode

Motorized transportation was the most commonly observed form of transportation, with 29 cars being counted in the afternoon data collection window and 41 in the evening. There was a very slim occurrence of pedestrians, with 5 in the afternoon and 3 in the evening. Other modes of NMT were also infrequent, with only 1 cyclist recorded in the afternoon.

During the weekday, pedestrian activity was much more prevalent. 15 pedestrians were observed in the morning, 3 in the afternoon, and 6 in the evening. Motorized transportation was still the most commonly observed form of transportation, with 40 cars being counted in the morning data collection window, 48 in the afternoon, and 39 in the evening. Other modes of NMT that were observed included 1 micromobility user in the morning, 2 shared mobility users (1 in the morning and 1 in the evening), and 1 supported user in the evening. There was 1 bus observed in the evening, 6 freight trucks (3 in the morning, 1 in the afternoon, and 2 in the evening), and 8 parked cars (3 in the morning, 4 in the afternoon, and 1 in the evening).

Pedestrian Demographics

During the weekend, the most commonly recorded group were masculine presenting individuals with 17 total observed. There were only 7 feminine presenting individuals observed on the weekend data collection.

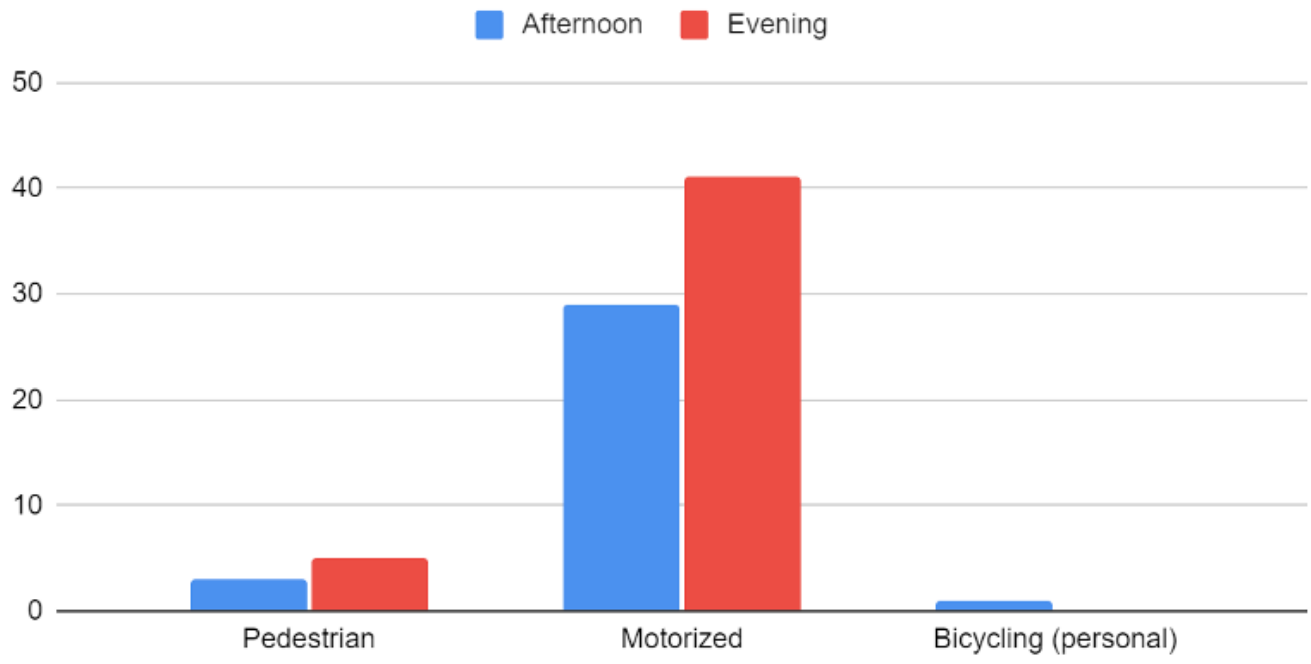


FIGURE 5-56. WEEKEND TRANSPORTATION MODE FOR NORTHEAST BLOCK FACE

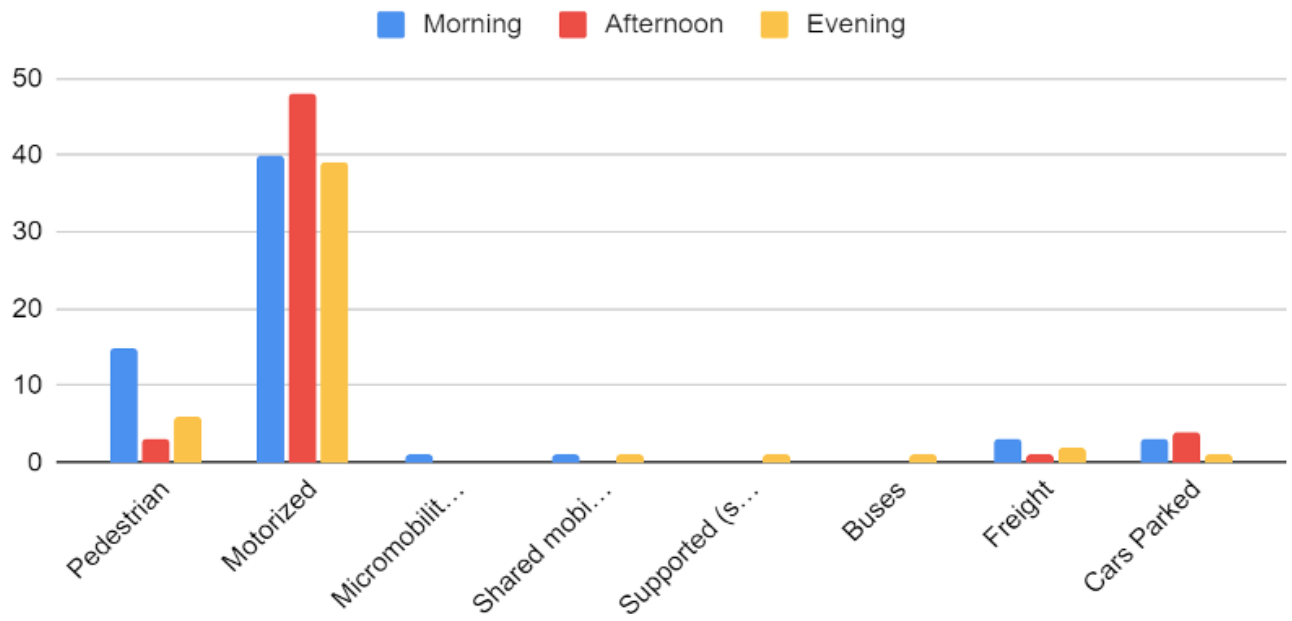


FIGURE 5-57. WEEKDAY TRANSPORTATION MODE FOR NORTHEAST BLOCK FACE

During the weekdays, the most commonly recorded group were feminine presenting individuals with 37 total observed. Due to the nearby school, the 15-24 year old age group was commonly observed in the morning and afternoon.

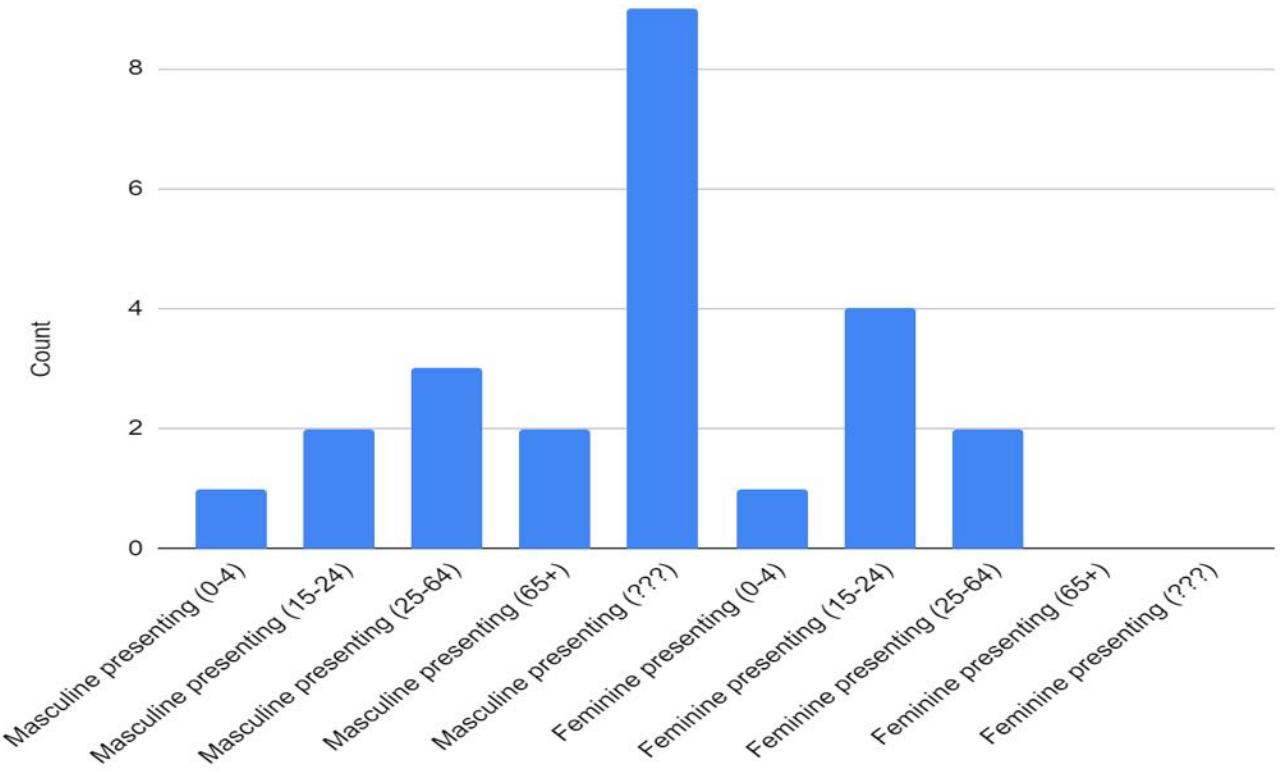


FIGURE 5-58. WEEKEND OBSERVATION BY AGE AND PERCEIVE GENDER

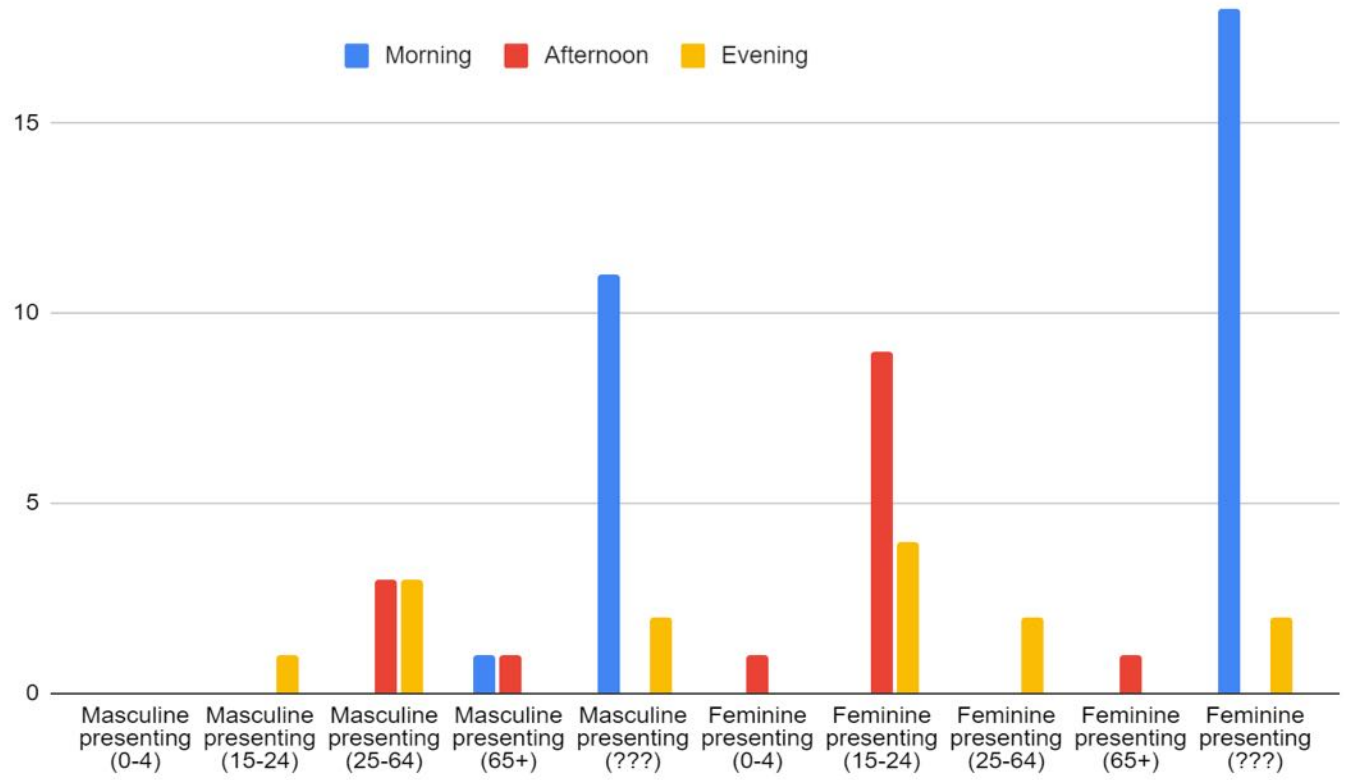


FIGURE 5-59. WEEKDAY OBSERVATION BY AGE AND PERCEIVE GENDER

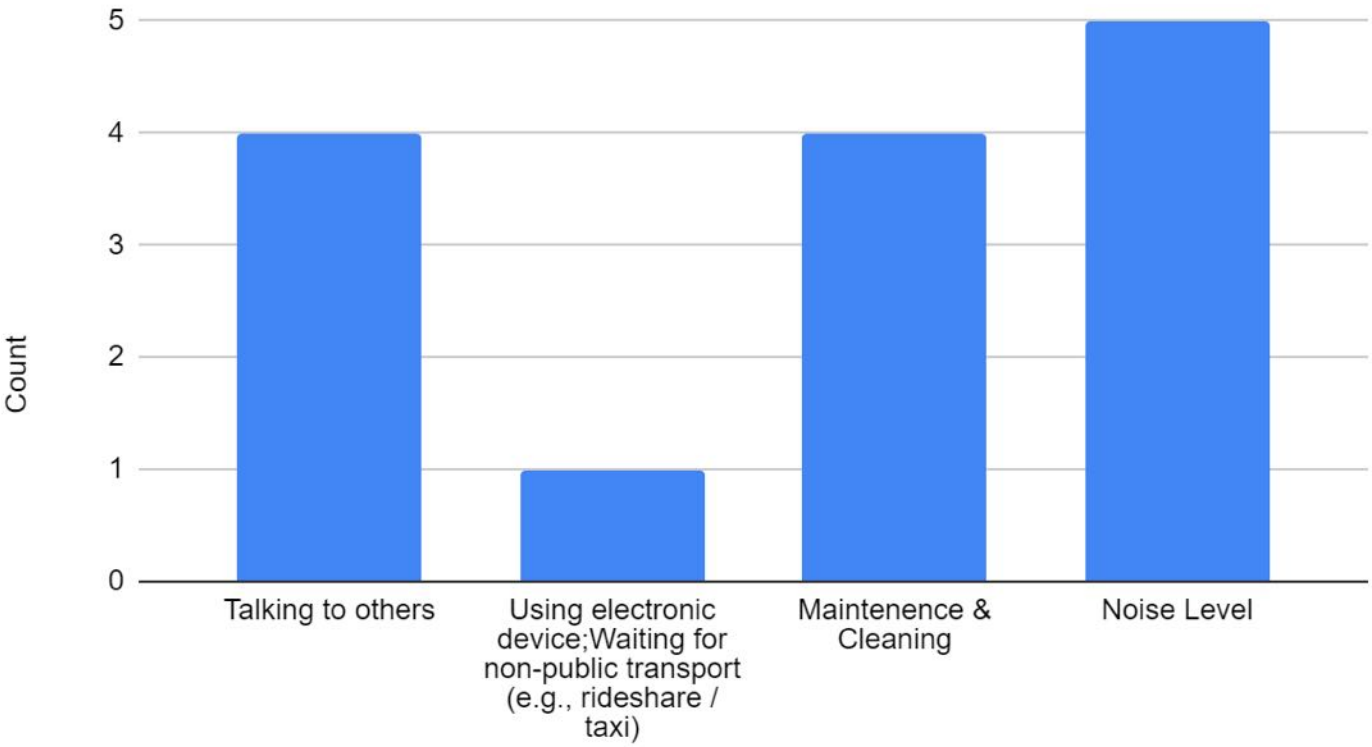


FIGURE 5-60. WEEKEND OBSERVATION BY STAYING ACTIVITIES

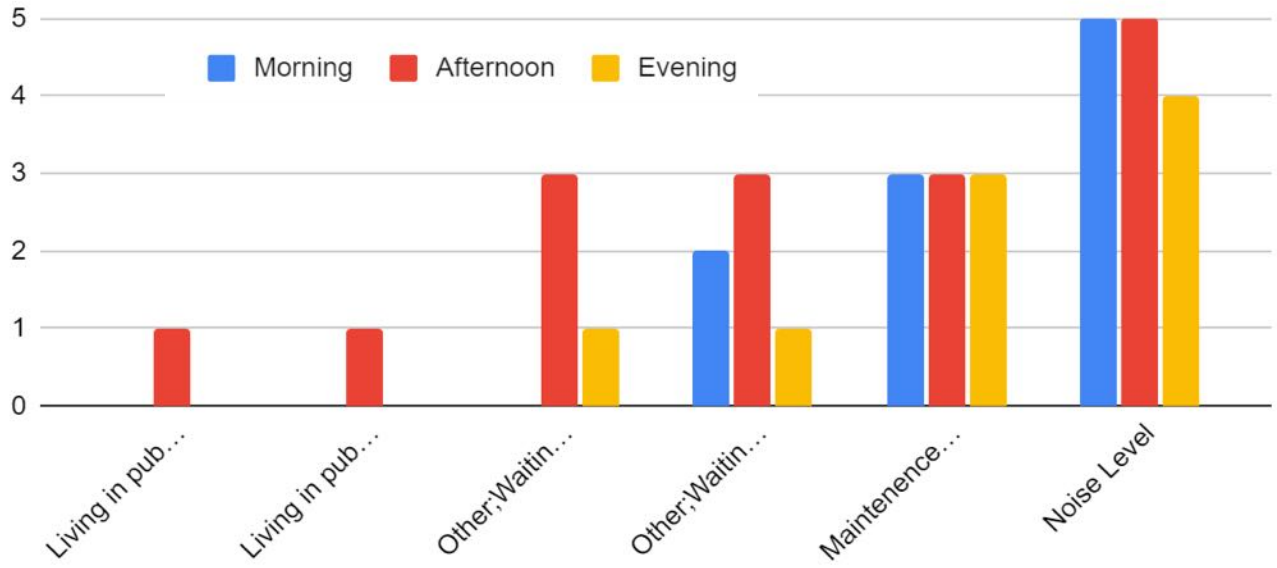


FIGURE 5-61. WEEKDAY OBSERVATION BY STAYING ACTIVITIES

People Staying

During the weekend, there were 4 individuals observed talking to others, in the afternoon. One individual was observed using an electronic device. The maintenance & cleaning of the zone was rated at a 4 out of 5 & the noise level was rated at a 5 out of 5.

During the weekdays, there were 2 individuals observed living in public, in the afternoon. Four individuals (3 in the afternoon and 1 in the evening) observed waiting to cross the intersection/talking to others. Two individuals were observed waiting to cross the street in the morning, 3 in the afternoon, and 1 in the evening. The maintenance and cleaning of the zone was rated at a 3 out of 5, and the noise level was rated at a 5 out of 5 in the morning/ afternoon and a 4 out of 5 in the evening.

Gehl Quality Criteria

Overall, Zone 01 rated very low on the Gehl Quality criteria, with most categories receiving a score of 1. The west end of the zone faces more dangers and less protection, while overall the zone lacks any real comfort. There are curb ramps on the ends of the block, which provide some protection while entering the zone. However, with a lack of anything other than sidewalk, the zone does not have any further amenities.

Protection	2	1	1
Comfort	1	1	1
	1	1	1
Enjoyment	2	2	1

FIGURE 5-62. GEHL RATING MATRIX FOR NORTHEAST BLOCK FACE OF S GRAHAM ST

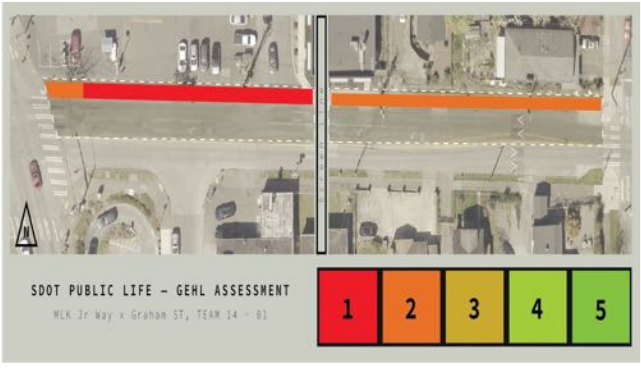


FIGURE 5-63. GEHL QUALITY CRITERIA MAP FOR NORTH-EAST BLOCK FACE OF S GRAHAM ST

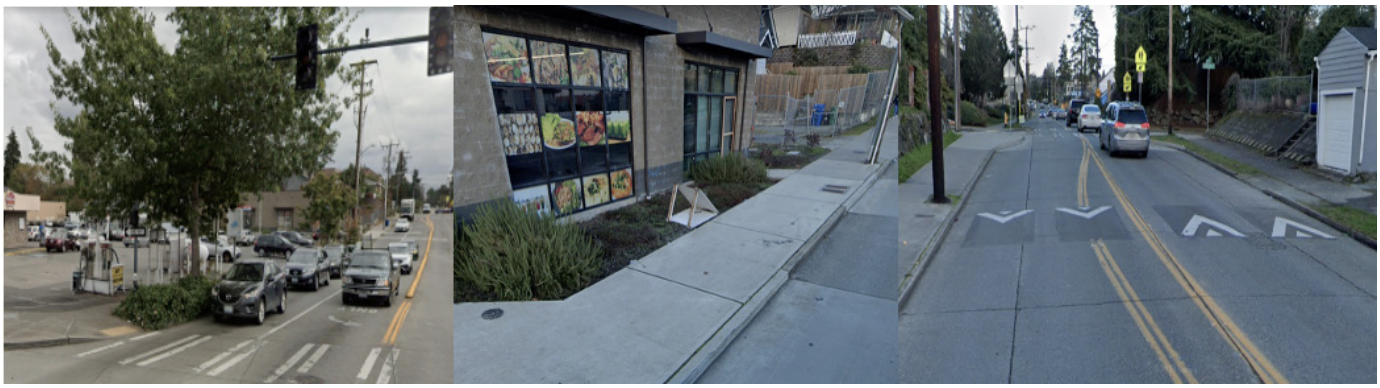


FIGURE 5-64. TREE COVERAGE / NEW SIDEWALKS / SPEED BUMPS

14 – 02 | Southeast Block Face

Transportation Mode

During the weekend, motorized transportation was the most commonly observed form of transportation, with 26 cars recorded in the afternoon and 15 in the evening. There was a very slim occurrence of pedestrians, with 3 recorded in the afternoon and none observed in the evening. No additional NMT users were observed. There were 3 freight trucks recorded in the afternoon and 2 in the evening. As well as, 3 cars parked in the afternoon and 2 in the evening.

During the weekday, pedestrian activity was much more prevalent, as 6 pedestrians were observed in the morning, 1 in the afternoon, and 6 in the evening. Motorized transportation was still the most commonly observed form of transportation, with 27 cars recorded in the morning, 41 in the afternoon, and 39 in the evening. There were 4 buses observed (3 in the morning and 1 in the evening), 1 cyclist observed in the evening, and 4 freight trucks in the afternoon. Other NMT modes were not observed except 1 supported user (stroller) in the morning.

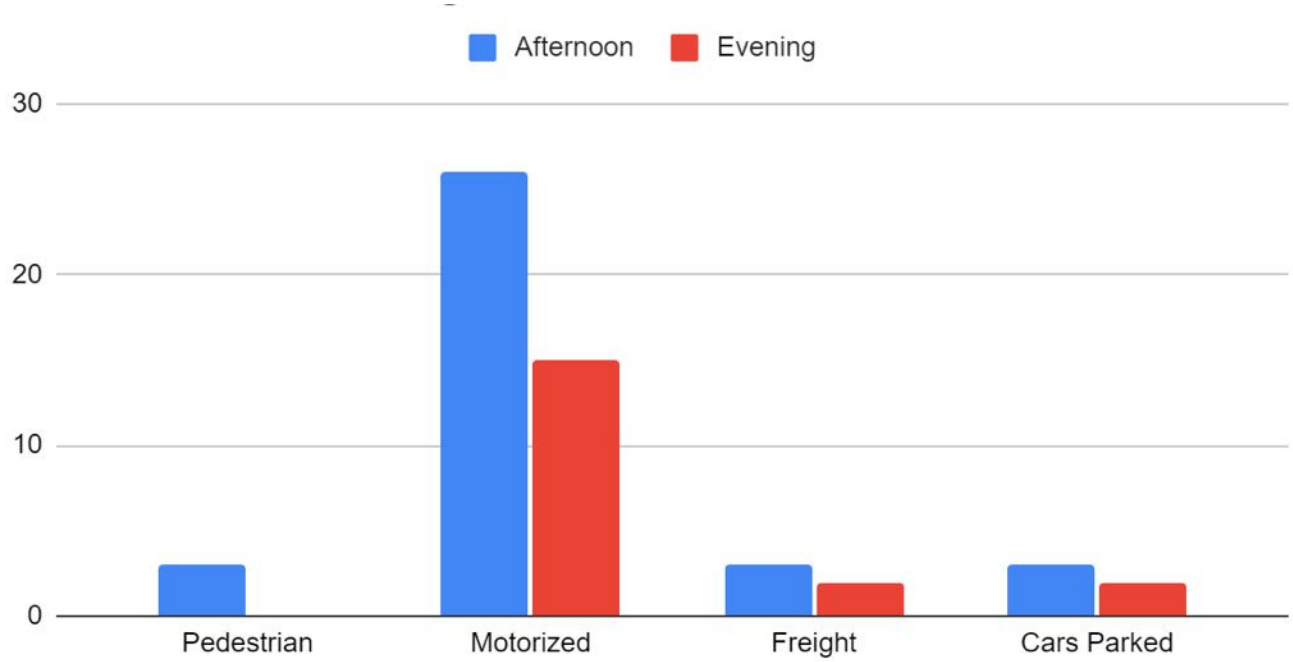


FIGURE 5-65. WEEKEND TRANSPORTATION MODE

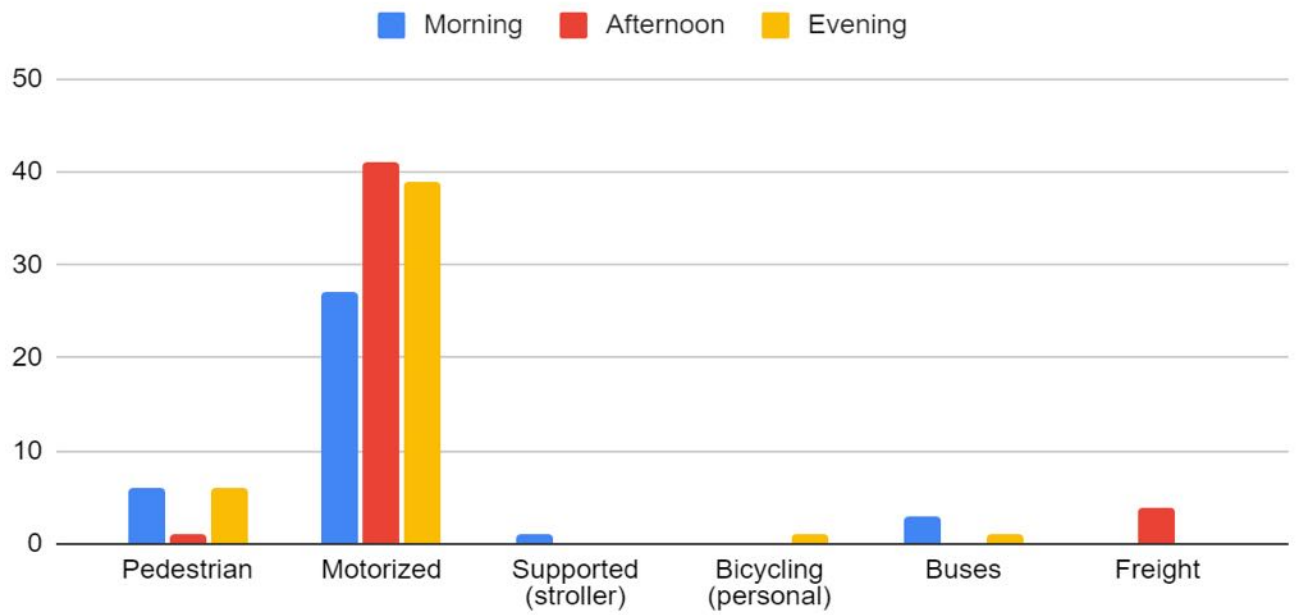


FIGURE 5-66. WEEKDAY TRANSPORTATION MODE

Pedestrian Demographics

During the weekend, the most commonly recorded group were feminine presenting individuals with 8 total observed. Additionally, there were 7 masculine presenting individuals observed.

During the weekday, the most commonly recorded group were masculine presenting individuals with 13 total observed. Additionally, there were 5 feminine presenting individuals observed. The sidewalk in Zone 02 seems to be utilized much less than in Zone 01, particularly by the 15-24 year old age group. This may be due to a number of factors: size and condition of the sidewalk, accessibility to the middle school, and proximity to commercial/retail areas.

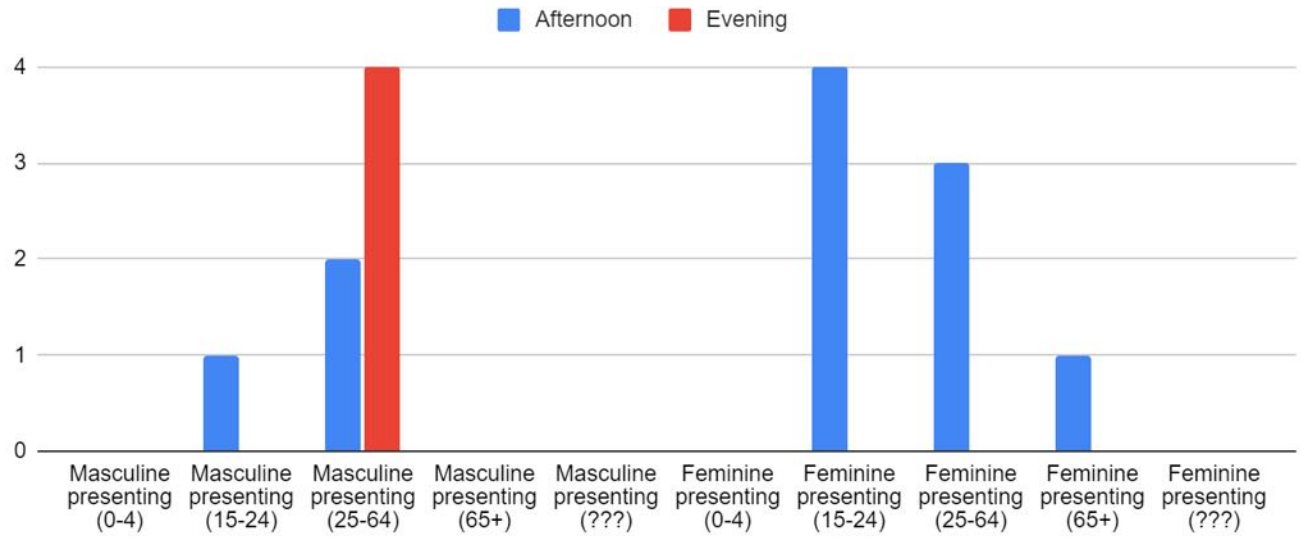


FIGURE 5-67. WEEKEND OBSERVATION BY AGE AND PERCEIVE GENDER

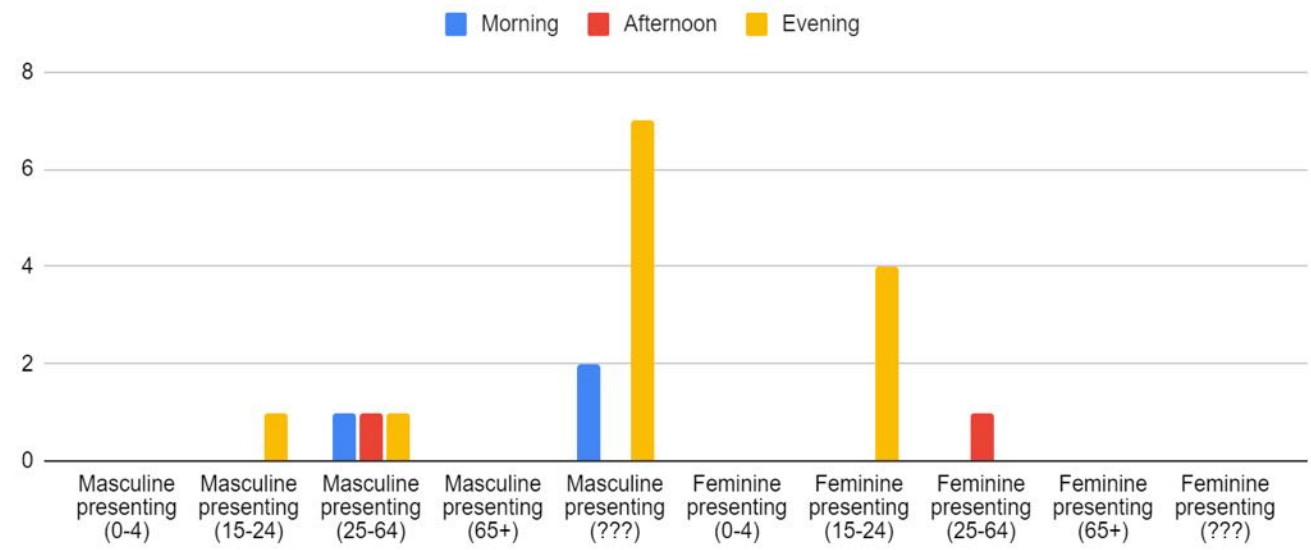


FIGURE 5-68. WEEKDAY OBSERVATION BY AGE AND PERCEIVE GENDER

People Staying

During the weekend, there was 1 individual observed using an electronic device, 3 waiting to cross the intersection, 1 partaking in pet care/play, and 1 living in public. The maintenance and cleaning of the zone were rated at a 2 out of 5 and the noise level was rated at a 5 out of 5.

During the weekdays, there was 1 individual observed living in public in the afternoon, 1 individual waiting to cross the intersection in the evening, 3 waiting to cross the street (1 in the morning, afternoon, and evening), and 6 individuals standing outside of a car in the evening. The maintenance and cleaning of the zone were rated at a 3 out of 5 and the noise level was rated at a 5 out of 5.

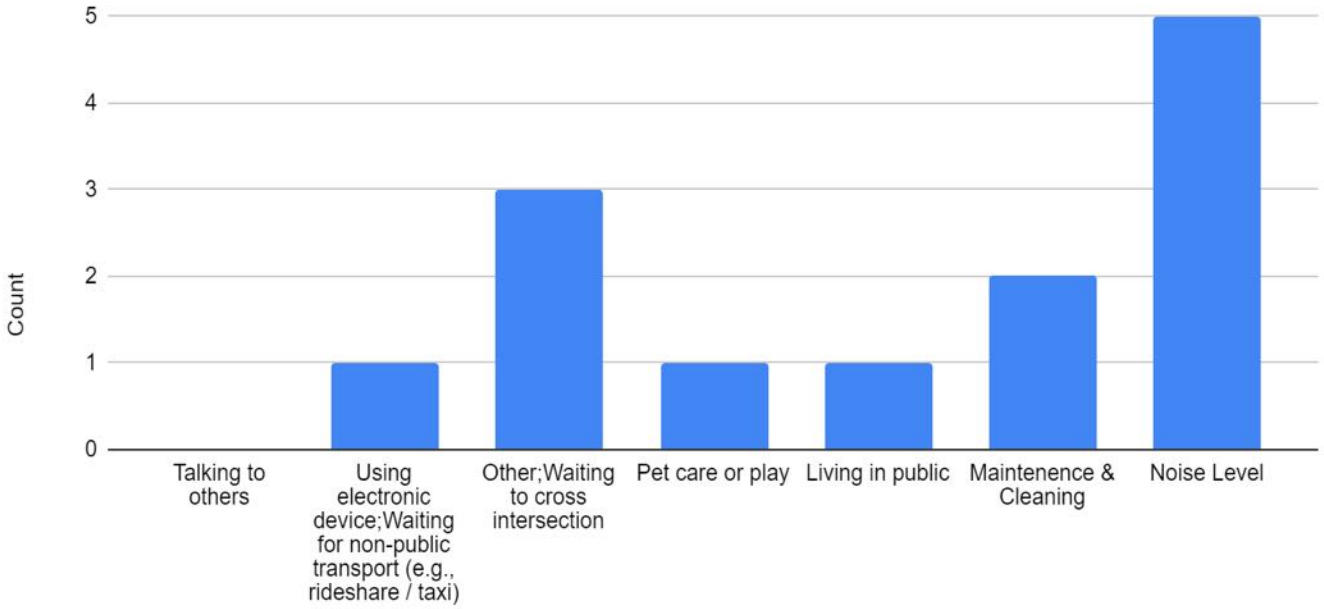


FIGURE 5-69. WEEKEND OBSERVATION BY STAYING ACTIVITIES

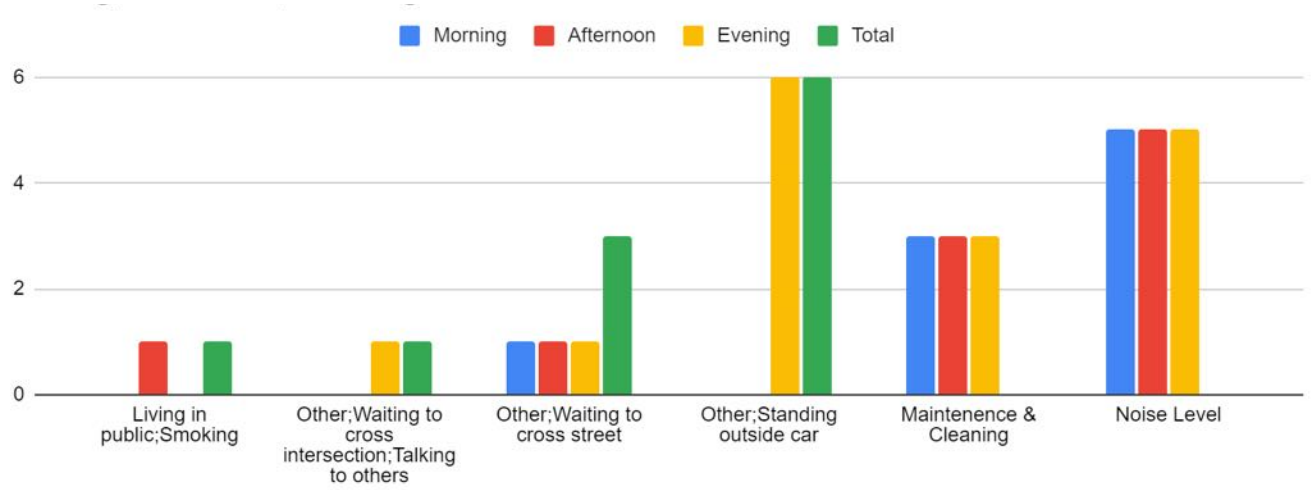


FIGURE 5-70. WEEKDAY OBSERVATION BY STAYING ACTIVITIES

Gehl Quality Criteria

Similar to Zone 01, Zone 02 rated very low on the Gehl Quality criteria, with most categories receiving a score of 1. The western-most end of the zone includes the least protections due its proximity to MLK Jr. Way S, as well as, the interruption to the sidewalk at the intersection of 38th Ave S & S Graham St. Additionally, the size & condition of the sidewalk in Zone 02 is significantly poorer than that of Zone 01 (see Gehl Map).

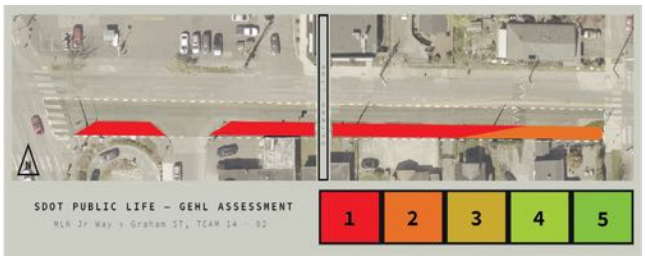


FIGURE 5-71. GEHL QUALITY CRITERIA MAP FOR SOUTHEAST BLOCK FACE OF S GRAHAM ST

Protection	2	1	1
Comfort	1	1	2
	2	1	1
Enjoyment	2	2	1

FIGURE 5-72. GEHL RATING MATRIX FOR SOUTHEAST BLOCK FACE OF S GRAHAM ST

FIGURE 5-73. POOR LANDSCAPING / SIDEWALK INTERRUPTION / UNEVEN PAVEMENT

CONCLUSION

CHAPTER 6

This project provides a valuable snapshot of how people move through and experience public life in South Seattle, a part of the city that has historically received less attention and investment in local transportation planning and improvements. By observing everyday activities on streets, sidewalks, and gathering spaces, the teams were able to see both the opportunities and challenges of creating safe, welcoming, and lively places for neighbors and visitors. These observations highlight patterns and behaviors that can guide planning not only for daily routines and larger events.

Our findings show who is using these spaces, how design features shape their movement, and where gaps in accessibility and comfort make it harder for people to fully participate in public life. Looking ahead, pairing physical design changes with strong data collection will be important. When improvements to sidewalks, crossings, or gathering areas are combined with ongoing information about how people actually use them, the city will be better prepared to invest in ways that support equity, access, and belonging. For example, surveys can provide insights into the perspectives and needs of different community members, while more flexible observation tools can capture the unique ways people use spaces that standard categories might overlook.

Continued data collection across different seasons and over multiple years will add depth to this picture. Tracking changes in movement and staying patterns, user demographics, and feelings of safety will help show how public spaces are evolving over time. This kind of ongoing monitoring creates a feedback loop, allowing city leaders and community partners to respond to real experiences on the ground rather than relying on assumptions.

At the same time, it is important to recognize the limitations of this study. Observations were conducted over a short period in the spring, which means seasonal variation is not reflected in the results. Coding of age and gender involved some subjectivity, and nearby development projects may shift patterns of movement in the near future. The addition of a Link light rail station at Martin Luther King, Jr. Way South and S Graham Street is expected to shift mobility patterns significantly. These realities remind us that public life is dynamic and underscore the need for continuous observation and adaptation.

Finally, we encourage readers to review the specific conclusions and recommendations from each student team, which offer more detailed and location-specific insights. Together, these findings provide a fuller understanding of South Seattle's public life and can help inform planning and design choices that matter to residents. By combining careful observation, community input, and thoughtful design strategies, Seattle can ensure that its public spaces reflect the diversity of the people who use them. With sustained attention and collaborative effort, South Seattle's public realm can grow into an even more vibrant, inclusive, and resilient part of the city.

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SEPTEMBER 2025