



Report on Pre-Construction Usage at the Viaduct Rail Park

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I. PROJECT INTRODUCTION

The Fairmount Park Conservancy (FPC) retained PennPraxis to assist in the design and implementation of data collection and baseline monitoring of current public usage patterns at four Philadelphia parks due to undergo renovation or expansion. This series of renovations and expansions is related to the Reimagining Civic Commons Initiative (RCC). In order to document the impacts of the Initiative, PennPraxis designed surveys and monitoring protocols that could both measure current conditions and be implemented again in the future to compare pre-project and post-project public usage. This comparison will allow FPC to identify changes in use, behavior, and opinions associated with the Civic Commons interventions. This documentation initiative is supported by the Knight Foundation and William Penn Foundation.

This document contains the results of PennPraxis' research and surveying related to the Viaduct Rail Park. Herein are also presented the tools developed for use in this research, and the details related to their development. This document also makes recommendations for additional or more detailed research. Corresponding documents report research on Bartram's Mile, the Lovett Memorial Library and Park, and Discovery Center projects.

PennPraxis conducted preliminary research to discern the priority questions/hypotheses. PennPraxis then determined what activities were important to measure and what was reasonably measurable given time and resources. Subsequently, several survey instruments were developed. These tools took the form of in-person questionnaires and a protocol for mapping behavior in public spaces. The survey questionnaire was designed to be compatible with research conducted by Pennsylvania State University on behalf of FPC on the fifth Civic Commons site in West Fairmount Park—Centennial Commons. These surveys were also tailored to collect some information specific and appropriate to the individual parks.

PennPraxis' survey instruments are designed to test the following hypotheses:

Hypothesis 1. The Civic Commons interventions will be associated with an increase in use of civic assets.

Hypothesis 2. Interventions will be associated with increased diversification of park usership and broader socio-economic integration and distribution of the benefits of park use.

These are "alternative hypotheses" to be tested against the "null hypotheses" that there is no change in activity, benefit or distribution of benefit associated with the interventions.

The data collected using the instruments developed by PennPraxis should adequately provide a description of changes associated with the development of the Civic Commons projects. PennPraxis determined that the resources are not available to conduct a survey of the scope necessary to assign causality to the relationship between the Civic Commons interventions and changes in usership or behavior at or around the sites.

BASELINE SURVEY RESULTS: *SELECTED FINDINGS*

- The Rail Park site was closed during the study period. Behavioral observations were primarily traffic counts of commuters. Walking was the most common activity observed at the future Rail Park site.
- Subjects thought the future park was valuable to the neighborhood and important to the community and also identified a slightly positive degree of personal ownership.
- A sub-population of survey respondents who identified their race or ethnic group as “Asian” had lower degrees of attachment and ownership to the Rail Park than others reported.
- Almost all survey respondents were familiar with the plan to turn the abandoned railroad infrastructure into a park. Most said they would use the finished park on the weekends or after work.
- Respondents noted a strong desire for nature-oriented programming, music and art-related events and programming, and food and drink at the future Rail Park.
- Visitation to the Rail Park area increased during the PHS Pop Up Garden, which was located at 10th and Hamilton for the summer of 2016.
- People surveyed at the Rail Park saw experiencing nature and stress relief as top reasons for visiting the future park.
- Survey participants reported valuing “history”, “people”, “access”, and “affordability” above other neighborhood characteristics.

II. STUDY SITES

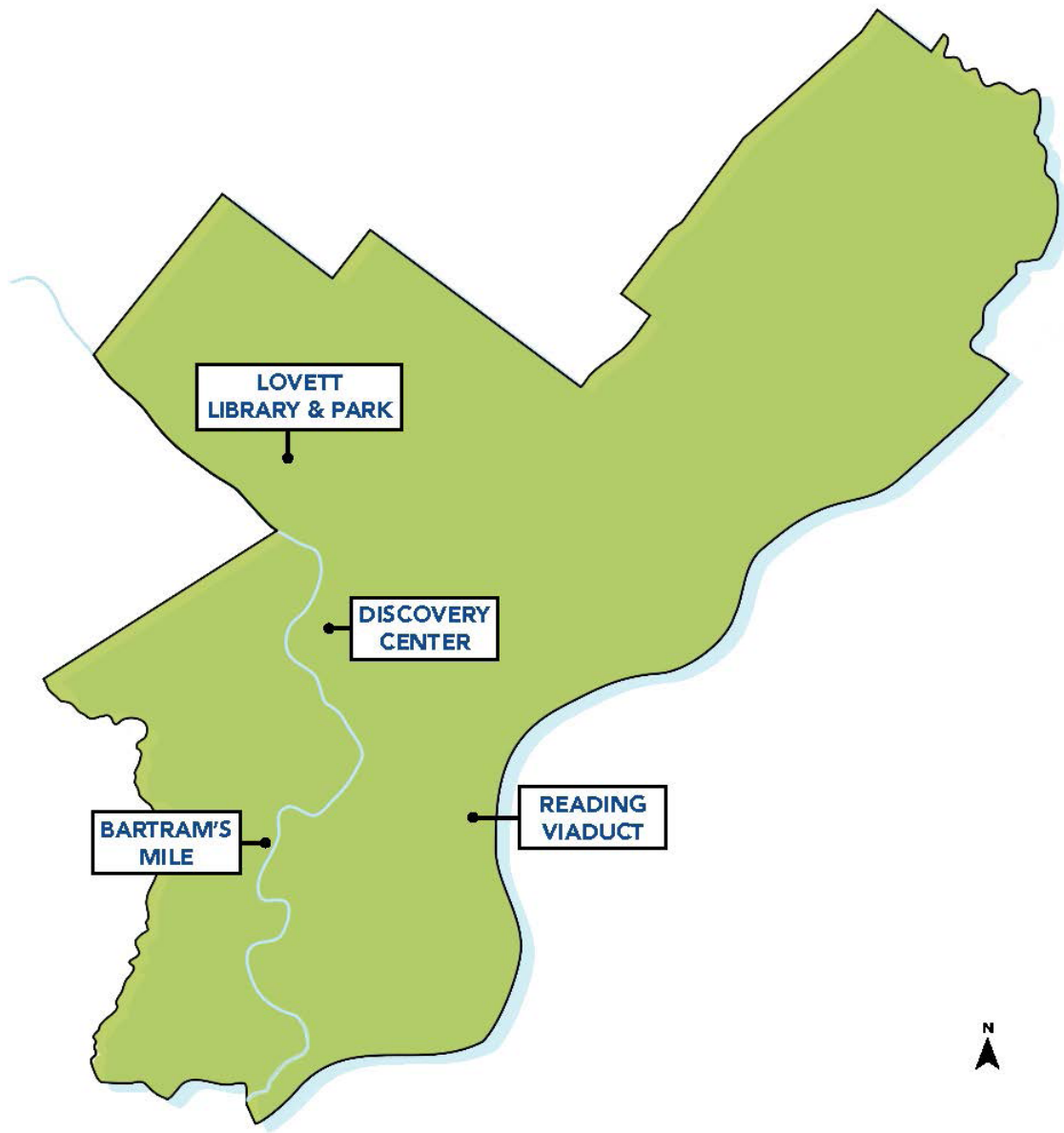


Figure 1. Four Civic Commons sites in Philadelphia studied by PennPraxis

Penn Praxis surveyed near the future site the Viaduct Rail Park (also known as the Reading Viaduct or just the Viaduct) sites (Figure 1). PennPraxis considered the site's idiosyncrasies in order to develop specialized measurement instruments for each site, in addition to generalizable tools.

The Rail Park is a long-anticipated project to convert abandoned segments of the Reading Railroad into recreational parkland. The “Viaduct” section of the Rail Park is an elevated stretch of track which arches in a “V” shape from the 1100 block of Vine Street, northwestward towards Broad and Noble Streets, and northeastward towards 9th and Spring Garden Streets. The majority of these elevated sections are fenced off and closed to the public, with the exception of a block-long segment beginning at-grade at 13th and Noble, and extending eastward towards 12th Street (Figure 2). As of October 2016, the first piece of the project has been fully funded, and construction is expected to take 15-18 months, with a budget of over \$9 million (Adelman, 2016).

The “Viaduct” area of the Rail Park is set in the Callowhill neighborhood immediately north of Chinatown and Center City. The Chinatown community has a long history in the neighborhood and the area has a high number of immigrants and Chinese-run businesses, restaurants and community services. The surrounding area is mixed use – with residential lofts sitting among warehousing and manufacturing concerns, vacant land, power stations, schools, auto repair shops, office blocks and more. According to research done by City Observatory on behalf of the Fairmount Park Conservancy, the census tract immediately adjacent to the Viaduct is one of the most diverse in the city. However, it is one tenth as densely populated (~1000 persons/mi²) as the area bordering East Fairmount Park (~10,000 persons/mi²) (City Observatory, 2016).



Figure 2. Map of Viaduct Rail Park site

III. METHODOLOGY

Preliminary Research

Prior to creating surveying instruments and methods, PennPraxis surveyed existing research, conducted site visits and administered a series of interviews in order to determine how best practices in survey delivery and site observation could be applied.

PennPraxis deployed two types of survey instruments: an in-person intercept survey and a “participant observation” (PO) behavioral survey. The intercept survey is designed to determine the demographic profile of park users, elucidate information about park usage and relate this information to various visitor attitudes and opinions. The PO surveys are designed to measure the intensity, nature and pattern of usage at each site in space and time. Ultimately, this information can be related to programming and design interventions which are designed to understand the way in which the space is used, leading to potential programming interventions. Each survey type is addressed separately in this section.

Participant Observation Survey Instrument

The (PO) survey instrument was designed to test Hypothesis 1 and discern whether the interventions will be associated with increased usage at the sites. Furthermore, the PO instrument will allow one to determine whether the type, diversity and spatial arrangement of usage changes in association with the intervention. This additional information can be related to some elements of Hypothesis 2: different types of park usage behavior are associated with different types of user benefits and different user groups.

Description

The PO instrument is a detailed map of the study site upon which a researcher logs observations of park users using a set of coded keys which indicate the type of behavior a subject is exhibiting and basic demographic information about them. For a half-hour period, an observer logs each individual subject they observe once during a circuit of a site. The subject is coded on the map as being male, female or child. The subject is also coded as exhibiting one of sixteen behaviors—a list which includes Standing, Sitting, Bicycling, Using Electronic Device, Reading, Drinking/Eating, Observing Nature and more.

These observations can then be associated with the time-of-day, temperature, weather and day of the week. They can be mapped and spatial-temporal patterns can be detected.

The PO survey instrument is included in Appendix I.

Development

PennPraxis’ development of this instrument was inspired by the rich tradition of observational research by design scholars in public spaces. The modern successor to the work of William H. Whyte and Jane Jacobs is the Danish architect Jan Gehl. Gehl’s work (and the work of his Gehl Institute) inspired the creation of the PO survey. The Gehl “toolkit” (Gehl Studio San Francisco, 2015) for assessing diversity and vibrancy in public space includes methodology for logging the location, time, nature and circumstance of an individual’s behavior in the space.

PennDesign Associate Professor Stefan Al and Ph.D student Jae-Min Lee lent their expertise in the creation of the PO survey instrument. Mr. Lee created an extremely detailed mapping and coding

methodology for the purpose of his doctoral research and permitted PennPraxis to adapt his tools for use in this study. By combining the types of behaviors and information used for Mr. Lee's maps with observed types of behaviors gathered during site visits, PennPraxis researchers developed the final instrument. Dr. Al provided general guidance and direction for the development of the instrument.

Deployment

PennPraxis observers deployed PO survey instruments during the hours of 7:30-9:30AM (morning), 11:30AM-1:30PM (mid-day) and 4:30-6:30PM (late afternoon/evening), recording each of these time periods on seven separate occasions. These seven occasions consisted of three weekend or holiday observations and four weekday observations for each time period). Each two-hour time period was further subdivided into four half-hour observation periods. Sampling took place during July, August, and September 2016.

For each thirty-minute observation window, the observer would survey the entire site by foot or bicycle, recording each person's behavior the first time that person was encountered by the observer. Regardless of that individual's movement about the site or potentially changing behavior, they were not logged again during that period. The observer recorded whether that person was a male, female or child. The observer also recorded the weather, temperature and date of the observation. These observations were recorded using paper and pen.

The areas which PennPraxis surveyed near the Rail Park were on-street areas adjacent to the proposed entrances and gateways to the future site. Surveyors moved from Broad and Noble to 11th and Callowhill to 10th and Hamilton in a half-hour loop. Since none of the Rail Park observations took place in a park setting, save a few on the at-grade intersection of the viaduct with Noble Street, these observations are similar to pedestrian traffic count snapshots, augmented by some behavioral information.

Data Processing and Analysis

The data were converted into a digital format by manual entry using the open-source geocoding website geojson.io. Geojson.io is a site which allows one to manually draw points on a map and assign them attributes in a table. The data can then be exported as comma-separated values data (CSV) where each datum is joined with the latitude and longitude of the associated point or as a geodatabase (shp or geojson). A sample of the data can be seen in Figure 3. PennPraxis designed a protocol for coding data using geojson.io which will be available for use by the client and partners.

Male	Female	Child	Day	Month	Year	Hour	Min.	Weekday	Code	Activity	Temp.	Longitude	Latitude
0	1	0	4	6	2016	13	30	Saturday	T	Sitting	83	-75.188	40.0568
1	0	0	4	6	2016	13	30	Saturday	S	Standing	83	-75.187	40.0568
1	0	0	4	6	2016	13	30	Saturday	O	Sports	83	-75.188	40.0571
1	0	0	4	6	2016	13	30	Saturday	O	Sports	83	-75.188	40.0571
1	0	0	4	6	2016	13	30	Saturday	O	Sports	83	-75.188	40.0571

Figure 3. Sample of Raw Data

Subsequent to coding the data, all of the individual observation data sets were coalesced into a master dataset, which was then cleaned and manipulated using the statistical software language

R. The data can also be manipulated in this fashion using Microsoft Excel but such manipulation cannot be automated. The ggplot package (Grammar of Graphics) in R allows for highly customizable informational graphics. PennPraxis's R programs will be available for use by the client and partners.

The coalesced data sets, consisting of all observations at each site, were then mapped and analyzed using ArcGIS to determine the density of use and the spatial patterns of usage.

Intercept Survey Instrument

PennPraxis developed an intercept survey instrument in order to test Hypothesis 2 and explore whether future interventions will be associated with increased diversification of park usership and broader socio-economic integration and distribution of the benefits of park use. To test this hypothesis, these surveys were designed to document the socio-economic and locational characteristics of park users and associate that information with their level of park usage and stated attitudes about ownership, safety and attachment related to the park. These surveys also represented an opportunity for PennPraxis to collect additional information on behalf of various stakeholders and solicit feedback about park quality.

Description

The intercept survey instrument consists of thirty-four questions which were administered in person to visitors of each park in the study, and a varying number of questions which were park-specific.¹ These questions are divided into the following categories: General Usage, Quality, Experiences, Community, Personal Ownership and Demographics. The question formats vary. Surveys took between five and ten minutes to complete. The survey instruments are included in Appendix II.

The surveys were administered using pen-and-paper and also using iPads running the iSurvey application. The iSurvey application is a product of Harvest Your Data, which provides a back-end data visualization suite and data collection apparatus on a subscription basis. Since the Viaduct was not yet open to the public during the survey period, nor was it adjacent to existing park land, some surveys were conducted online by PennPraxis and coded into iSurvey afterwards. More information regarding this methodology is included under the "Deployment."

PennPraxis designed the survey to be generally compatible with a survey administered at the "Centennial Commons" site in West Fairmount Park by a team of researchers from PSU in 2015. This team was led by Principal Investigator Andrew Mowen. This compatibility will allow for a widened analysis which can compare parks to one another (cross-sectional analysis) and compare individual parks or aggregated data over time (longitudinal analysis). This desire for compatibility is reflected in both the form and content of the questionnaire but also in the use of iSurvey and Harvest Your Data, which were both employed by PSU. It is notable that the types of activities which PennPraxis asked respondents to report are different from those measured during participant observation. This difference owes both to the desire for congruity with the PSU study but also because observed behavior is different from a person's stated intent and reason for visiting, which may not be outwardly observable.

Unfortunately, time and resources did not allow for a replication of PSU's "matched control" research model. The PSU researchers were able to assign statistical significance to survey results

¹ Surveys at the Viaduct contained fewer questions than surveys at the other three parks surveyed by PennPraxis. Details regarding the shortened Viaduct survey are provided under the "Deployment" header in this section of the report.

from Centennial Commons relative to a control group (Mowen, Hickerson, Benfield, Pitas, & Kim, 2015), PennPraxis will attempt to make no such claims.

Development

PennPraxis developed the in-person survey instrument after a series of interviews with stakeholders and scholars. First, PennPraxis interviewed relevant site staff and partners (Figure 4). Professor Andrew Mowen, a member of the PSU study team, reviewed draft questionnaires and provided insight into the functionality of the Harvest Your Data platform. PennDesign Assistant Professor Erick Guerra, an expert in “revealed preference” survey methodology, reviewed draft questionnaires and advised PennPraxis regarding survey length and technique, and hypothesis development. PennPraxis also conducted site visits to inform the crafting of site-specific questions. The questions and format were refined after field trials.

Name of Interviewee	Organization
Maitreyi Roy	Bartram’s Garden
Zoe Axelrod	Schuylkill River Development Corporation
Danielle Gray	Schuylkill River Development Corporation
Amy Weidensaul	Audubon Pennsylvania
Sharon Barr	Discovery Center
Nancy Goldenberg	Center City District
Joel Nichols	Free Library of Philadelphia
Michael Barsanti	Free Library of Philadelphia
Brad Copeland	Mt. Airy USA
Kim Massare	Mt. Airy USA
Scott Brady	Delaware Valley Regional Planning Commission
Sean McGill	Delaware Valley Regional Planning Commission
Melissa Kim	Friends of the Rail Park
Sunanda Ghosh	Friends of the Rail Park

Figure 4. Interviewees

Deployment

Surveys were conducted in-person, on site using both pen-and-paper and iPad survey methods during the months of July, August, and September 2016. PennPraxis created a calendar of events expected to generate large crowds and sampled some of these days in order to maximize efficiency and increase sample size. Since the Rail Park was yet open for use, some of the questions regarding park ownership or usership were of no utility. For example, the question “Including today, please estimate how many times over the last 30 days you visited this park?” was useful at Bartram’s Mile and Lovett Library, but was not relevant at the Rail Park, which is not yet open. Questions about current or past usage were stripped from the Rail Park survey.

The survey conducted at and near the Rail Park consisted of fewer questions, and did not measure usership metrics. Instead, subjects were asked a subset of the general survey questions to ascertain demographic information, residency information and about their attitudes toward nature, open space, and community. Furthermore, subjects were asked about their familiarity with the Rail Park project, and about the types of programming and use they would expect to or would like to participate in at the future site. Lastly, the subjects were asked for their opinion about neighborhood characteristics to compare present attitudes to future attitudes.

By early August, it became clear that intercept surveys were generating exceptionally low returns. In comparison to previous survey efforts at Bartram's Mile and Lovett Memorial Library, surveyors were only capturing about one quarter as many surveys per hour. Subjects were difficult to find, and few agreed to be surveyed, either because of their stated unfamiliarity with the Rail Park concept or because of a language barrier. This pace would have led to an unacceptably small sample size of as few as 20 individuals. Furthermore, PennPraxis developed a concern that language barriers were contributing to a bias in sampling. Given these circumstances, PennPraxis decided to target specific gatherings of stakeholders or other interested parties and gather as much information as possible during the stated survey period. However, this sample is less experimentally consistent than those taken at the other sites in the Civic Commons research project.

PennPraxis conducted survey research in several key ways:

1. Online surveys disseminated by the Asian Arts Initiative, Callowhill Neighborhood Association, Asian Americans United, the Asian American Women's Coalition, Philadelphia Chinatown Development Corporation and the Old Shoe Factory apartments residents group.
2. In-person surveys conducted in the Chinatown neighborhood.
3. In-person surveys conducted at special tour events conducted by Young Friends of the Preservation Alliance in the restricted areas of the future Rail Park.
4. In-person surveys conducted at a pop-up beer garden hosted by the Pennsylvania Horticultural Society adjacent to the future Rail Park site.

Survey research conducted by PennPraxis at the Rail Park is not completely cross-sectionally compatible with surveys conducted at the other sites. Furthermore, the Rail Park survey research should not be considered completely longitudinally compatible in all circumstances. For example in future years, if an intercept survey is conducted at the Rail Park, this sample of users should not be compared to the 2016 sample. If one would want to compare the sub-sample from Young Friends of the Preservation Alliance in 2016 to a similar sample from that organization in future years, that would be appropriate. Likewise, it would be appropriate to compare a future sample of people intercepted on the street near the Rail Park to the sub-sample collected in 2016. It should also be noted that there is sampling bias associated with online surveys because of varying levels of computer literacy and language proficiency.

Data Processing

Most surveys were inputted using iPads in the field, and pen-and-paper surveys were coded using the iPads into iSurvey and timestamped with the original survey date. Bulk data sets were downloaded directly from Harvest My Data in SPSS file formats and manipulating using the statistical software language R. Data visualizations were done using the ggplot package in R and mapping was done using both ArcGIS and R.

IV. RESULTS

Participant Observation

In sum, over 36 hours of observation, a total of 4,004 users were observed in the on-street areas adjacent to the approaches of the future Rail Park. Because the observations were made on-street, these are, in effect, traffic counts. Observations at the Rail Park yielded much more morning volume than any other site studied by PennPraxis during the course of this research. This is likely due to commuting traffic related to the proximity of the survey area to Philadelphia's Central Business District. Weekday morning usage exceeded weekend morning usage, and weekday usage was relatively even throughout all times of day (Figure 5). Weekday usage was in excess of 300 persons per hour during the midday and afternoon/evening periods. On the weekends, midday and afternoon/evening usage was roughly 500 persons per hour on site.

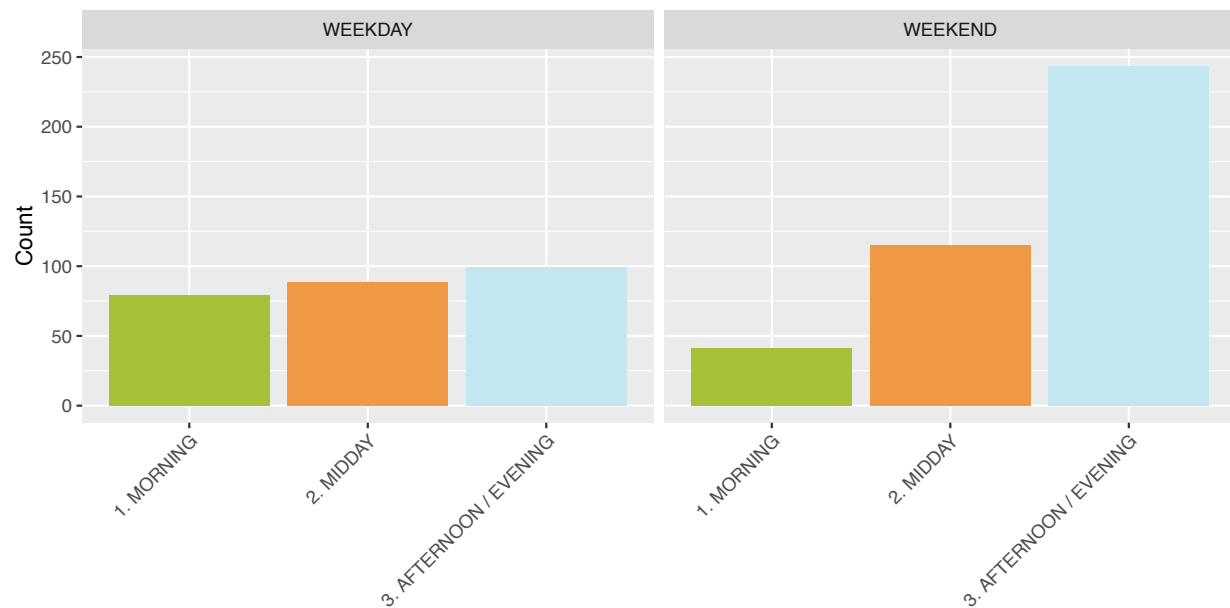


Figure 5. Persons observed per hour at areas adjacent to the future Rail Park on weekends and weekdays by time of day

Walking was, by far, the most common behavior observed (Figure 6). This observation is consistent with the aforementioned assumption that the area sees a large amount of commuting traffic. The second and third most commonly observed behaviors, standing and bicycling, are also associated (though not necessarily indicative of) commuting behavior. Notable areas of where non-transit related behaviors were observed in the survey area included the bus stop at 11th and Callowhill, the PHS pop-up beer garden at 10th and Hamilton and the lunch cart at Broad and Noble.

The seasonal Pop Up Garden operated by the Pennsylvania Horticultural Society (PHS) was open from June to September 2016, situated at the site to raise awareness for the future Rail Park. This installation was correlated with a significant increase in visitors to the area.

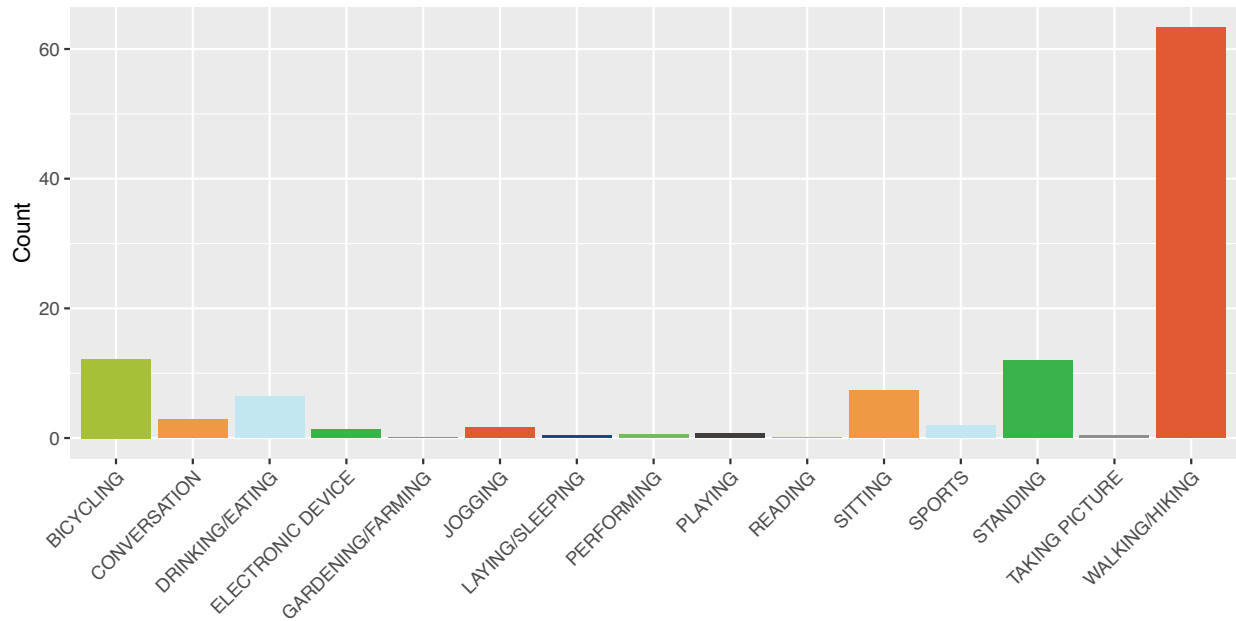


Figure 6. Hourly usage rates at areas adjacent to the future Rail Park by activity

A map which shows the complete data set of usage gives one an idea of the density of observations at areas near the future park (Figure 7). It is interesting to note that foot traffic in the area tends to be on the north-south streets, with the exception of the stretch of Noble Street between Broad and 12th Streets and the residential block of Hamilton Street west of 10th. This is notable because the 1000 block of Hamilton and the 1200 block of Noble are the locations of the only residential parcels on the survey route.

Figures 8, 9, and 10 show usage during selected sample periods. In the morning, the primary activities were walking, standing, and bicycling, with primary areas of concentration at Broad and Noble, on 11th Street near Callowhill, and on 10th Street between Buttonwood and Hamilton Streets. This activity suggests commuting patterns. At midday, the activities were similar, but less frequent. Bicycle activity was observed mostly on Broad Street, while 11th, 12th and 13th saw mostly individuals walking and standing. In the evening, the most common activities remained walking, standing, and bicycling, concentrated on key corridors, with a significant agglomeration of individuals drinking and eating at the PHS Pop Up Garden. This pattern is not surprising due to the purposely installation of the Garden to draw visitors to the site. It may be inferred that this activity would not have been occurring, in this place, without this intervention.

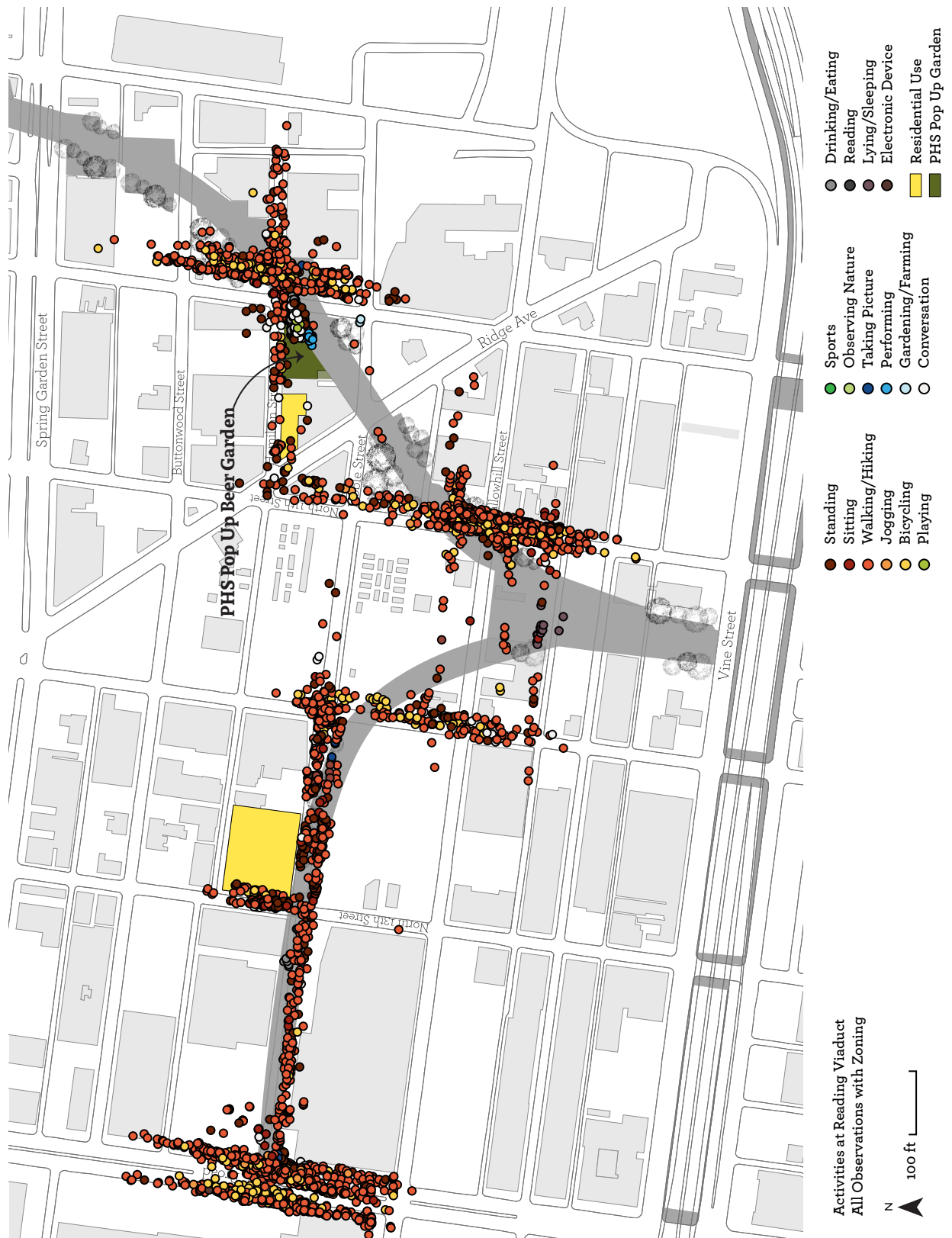


Figure 7. All observations adjacent to the Rail park during the survey period
(Note the lack of east-west traffic except adjacent to residential uses)

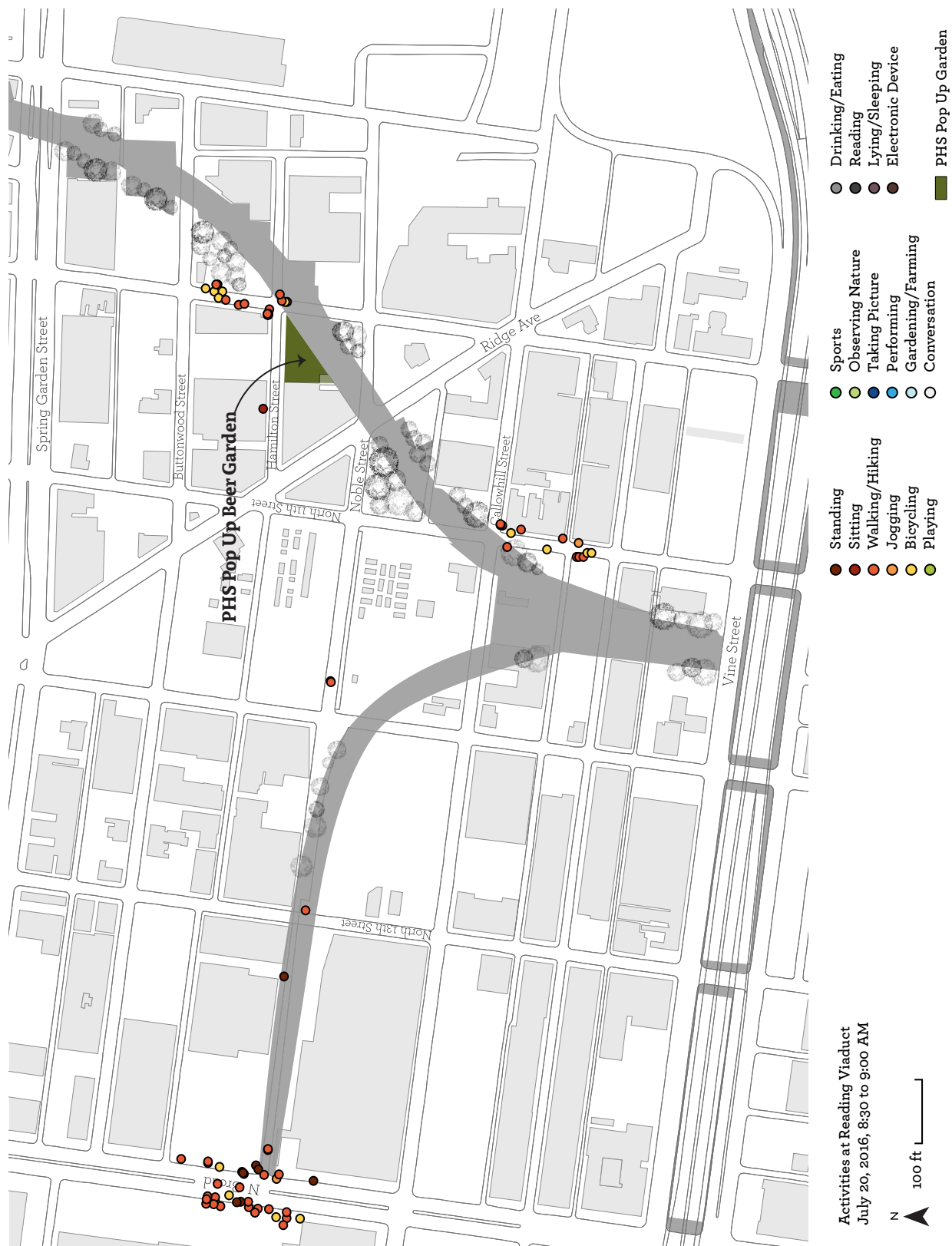


Figure 8. Sample usage period - July 20, 2016, 8:30 AM to 9:00 AM

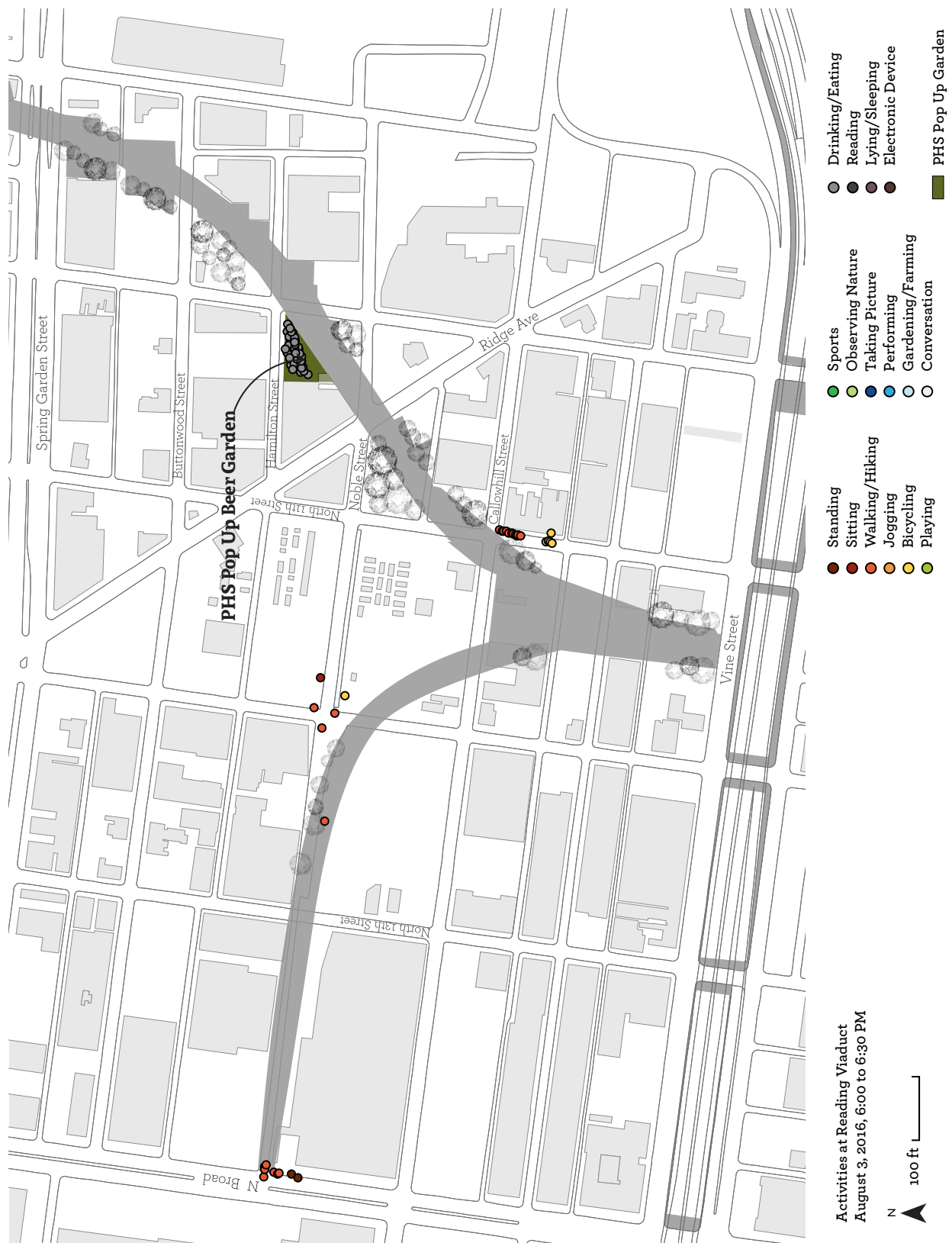


Figure 9. Sample usage period - September 3, 2016, 11:30 AM to 12:00 PM

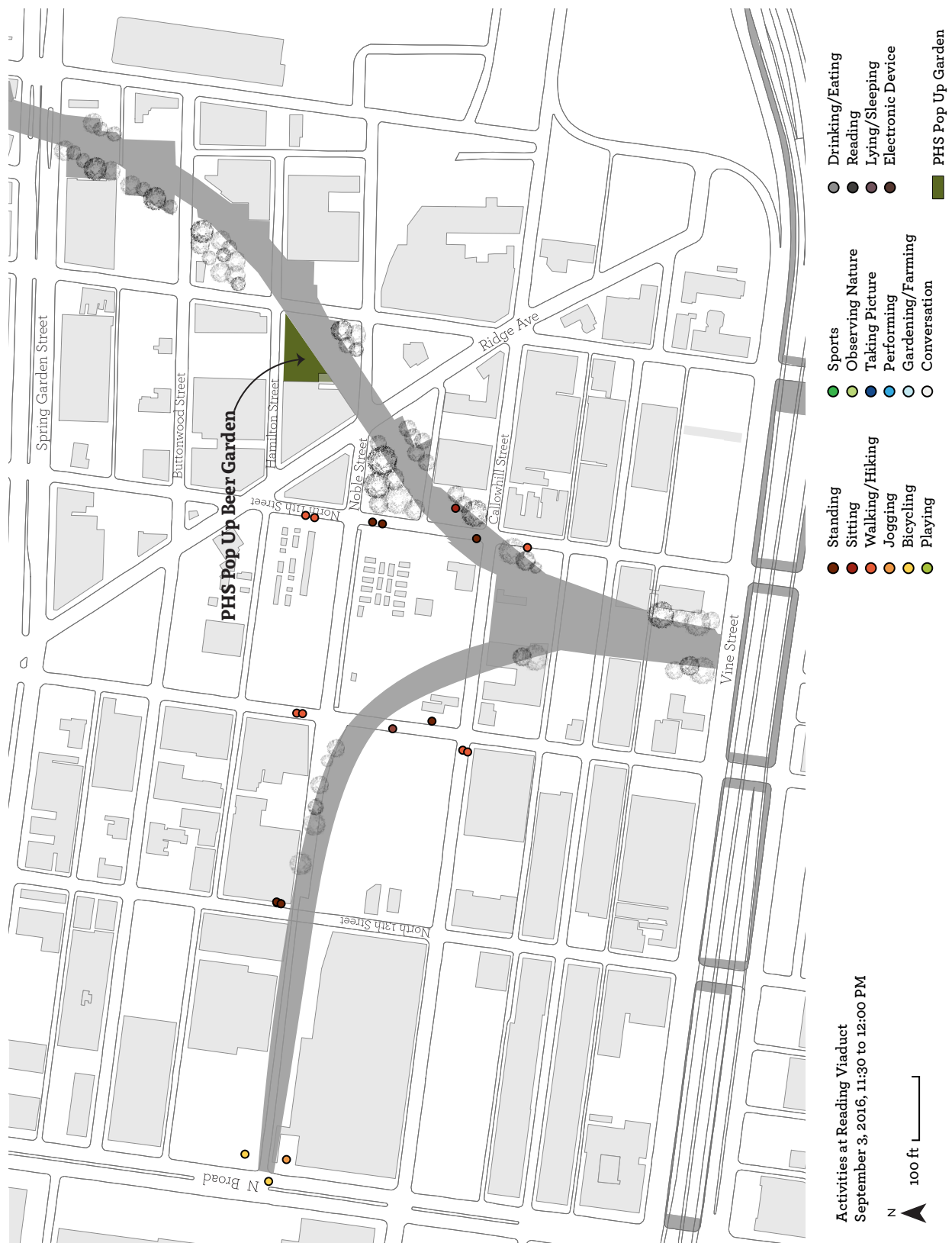


Figure 10. Sample usage period - August 3, 2016, 6:00 PM to 6:30 PM

Survey

By late August, 2016, PennPraxis had collected 147 of surveys for the Rail Park site: 59 in 17 hours of canvassing near the site or at community events and 88 online surveys. *PennPraxis believes that intercept survey information related to the Rail Park should be treated differently than that collected at the other three sites analyzed during the summer of 2016.* Because the park is not in any form of sanctioned use, and there is no park on the site, numerous questions needed to be stripped from the questionnaire. Furthermore, PennPraxis was forced to travel further afield because of very low participation rates in intercept survey encounters. The fact that online surveys were used means that *a selection bias exists in the creation of the survey sample that makes it incompatible with the other parks, or likely future years' research at the Rail Park.* More information about survey methodology at the Rail Park is contained in the "Methodology" section of this report.

However, given these constraints, PennPraxis thought it useful to gauge the opinions of various sub-groups and stakeholders about the Rail Park, specifically on behalf of the Friends of the Rail Park group, to gather what information could be reasonably gathered about local attitudes towards park usage in this pre-construction year. This section contains a general description of findings and some charts and tables of particular interest. A complete set of charts and tables describing all survey findings can be found in Appendix III.

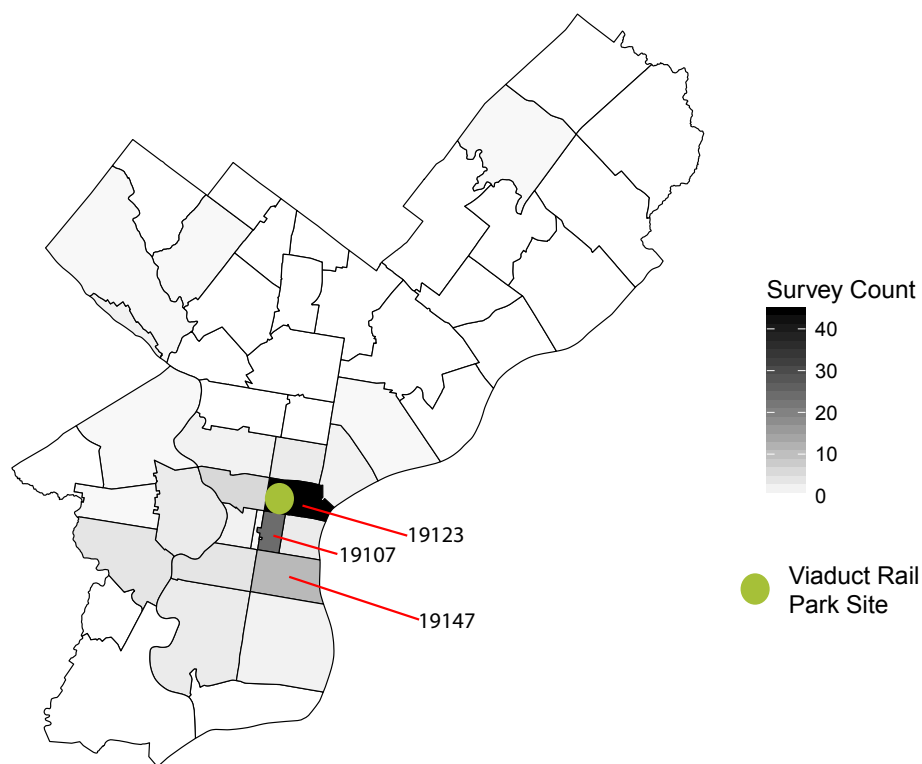


Figure 11. Total number of interviewees by zip code

The statistically average interviewee in the Rail Park survey is resident of Center City or Lower North Philadelphia east of Broad Street, an area often called Spring Garden or Callowhill (Figure 11). This average interviewee is white, between 18 and 50 years of age and holds a bachelors or graduate degree (Figures 12, 13). Subjects interviewed by PennPraxis about the Rail Park had a higher average level of educational attainment than the average Philadelphia resident.² Respondents to the Rail Park survey reported shorter average tenure at their current addresses than did those for other parks in the study, suggesting a more transient population. A higher proportion of interviewees were employed in Philadelphia county.

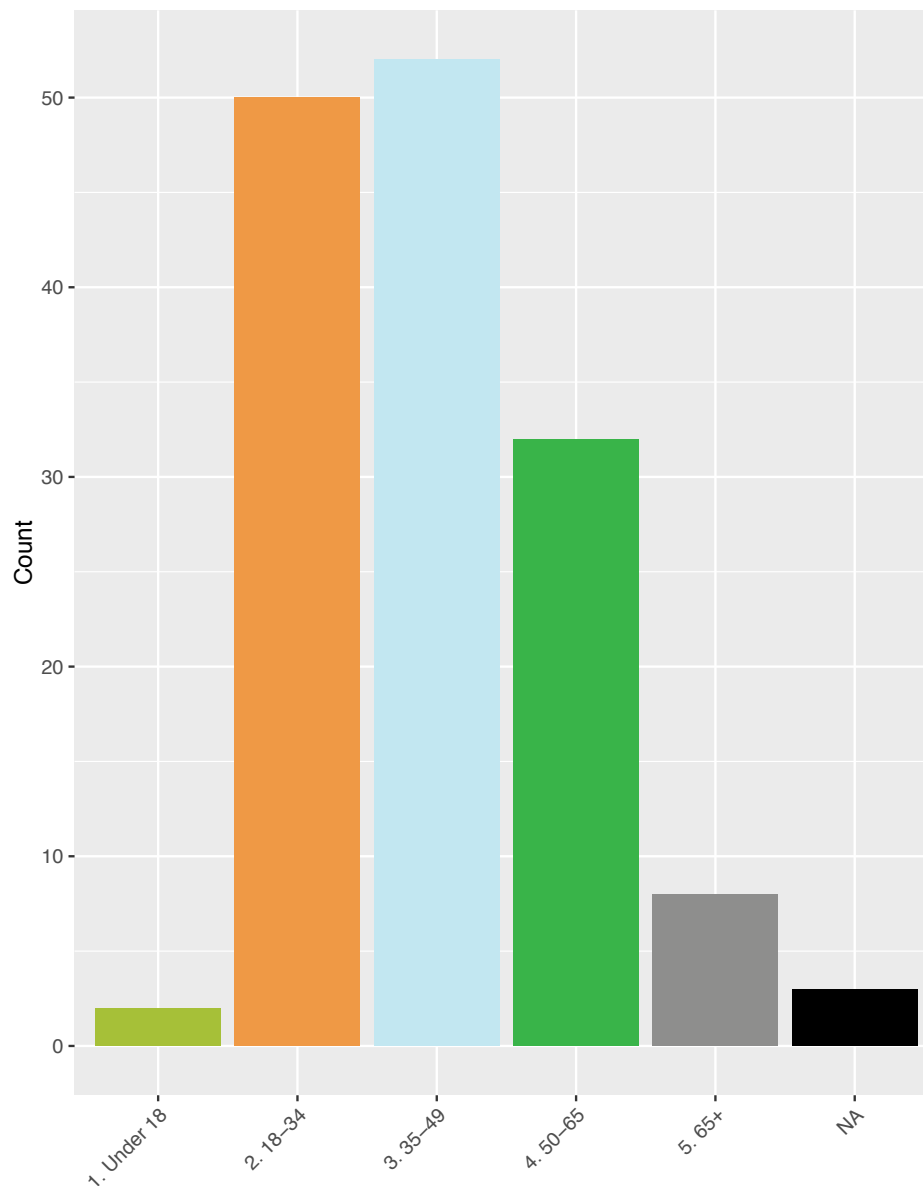


Figure 12. Reported age

² 25% of Philadelphia residents report having a Bachelors Degree according to the US Census 2014 ACS 5-year estimates.

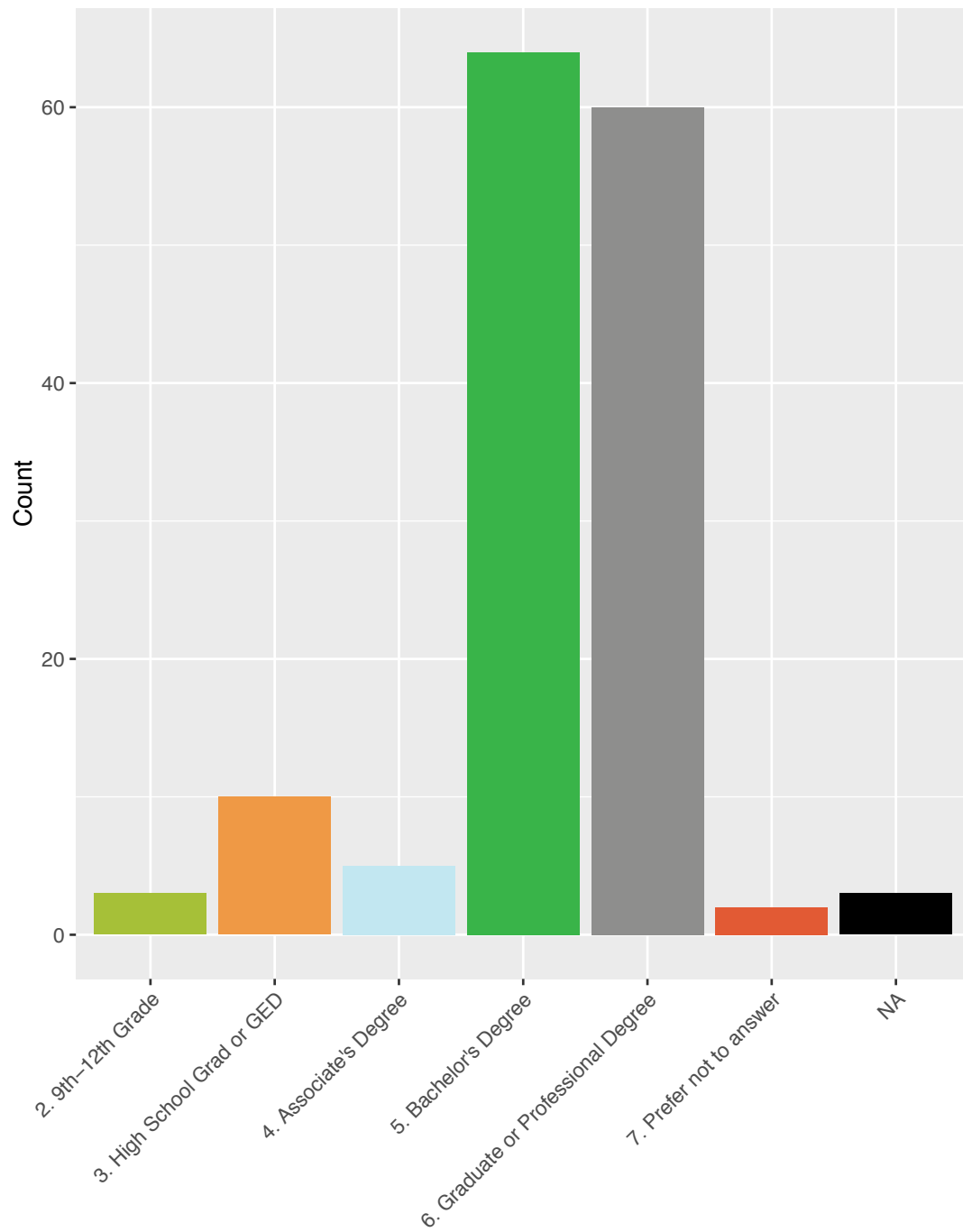


Figure 13. Highest level of education completed

When asked about the importance of different reasons for park usership, survey subjects users expressed the opinion that physical exercise and socializing, stress relief were important to them but felt that stress relief and “experiencing nature” were very important. Users were asked about the degree to which they found various reasons for visiting to be important using a five-point scale, with one being “Not at all important” and five being “Extremely important.” A summary of responses regarding reasons for usership can be seen in Figure 14.

Overall, how important are the following reasons for your visit?	Mean Score (out of 5)
15. Experiencing nature (sights, sounds, smells)	4.2
16. Exercising or doing physical activity	3.7
17. Socializing (friends, family, colleagues)	4.1
18. Relieving stress	4.2

Figure 14. Attitudes regarding reasons for usership

When asked about their feelings of ownership or attachment to the Rail Park project, subjects were asked to describe their level of agreement with a set of statements using a five-point scale, with one being “Strongly disagree” and five being “Strongly agree.” Subjects tended to express a strong belief that the park was valuable to the neighborhood and was important to the community. They also expressed a slightly positive degree of personal ownership of the park. (Figure 15).

A sub-population of 17 survey subjects who identified their racial or ethnic group as “Asian” had markedly lower degrees of attachment and ownership to the Rail Park. Notably, the distribution of the responses was wide ranging, with some subjects “strongly agreeing” to certain prompts while others “strongly disagreed.” Very few subjects identifying themselves as white “strongly disagreed” with any of the prompts.

To what degree do you agree or disagree with the following statement...	Mean Score (out of 5)	Asian Subjects Only
8. “This park/site is an important part of the neighborhood/ community.”	4.7	4.3
9. “This section of the park benefits all residents from the surrounding neighborhood.”	4.5	3.6
10. “I believe this parks helps put this neighborhood in the right direction.”	4.7	4.0
11. “This park is important to me and my family.”	4.3	3.4
12. “I feel a very high degree of personal ownership of this park.”	3.7	3.2

Figure 15. Attitudes regarding ownership and community

More detail regarding the distribution of responses to these value-driven questions can be found in Appendix III.

Survey subjects were asked a few questions specific to the future use of the Rail Park, as well as some questions about their perception of the surrounding neighborhood. These questions had been requested by representatives of the Friends of the Rail Park and/or Center City District.

The overwhelming majority of subjects reported being familiar with the plans to make the rail trestle into a park. Subjects believed they would be most likely to use the park on weekends or in the afternoons after work (Figure 16). They reported interest in activities or programming including food and drink amenities, dog park features, music, art and nature programming (Figure 17).

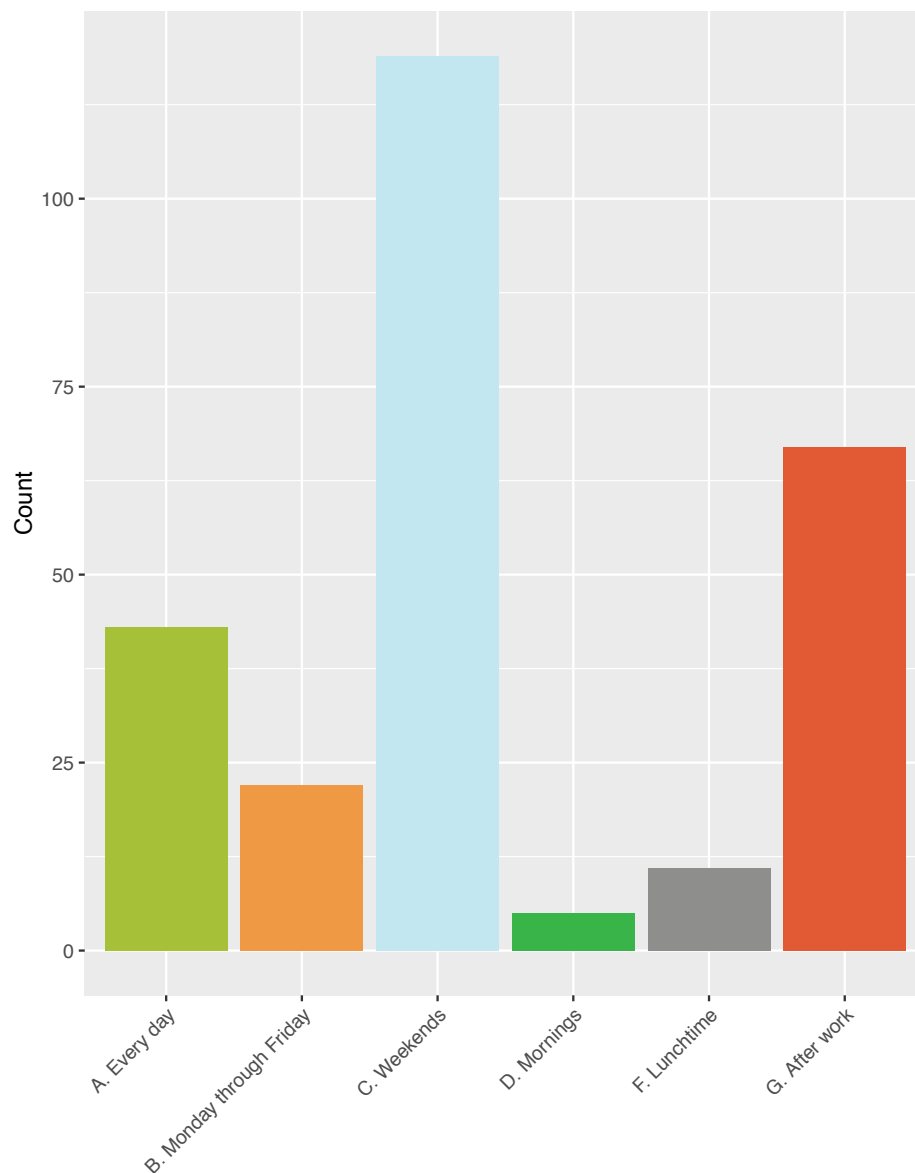


Figure 16. Frequency and times of future visitorship to Viaduct Rail Park

V. DISCUSSION

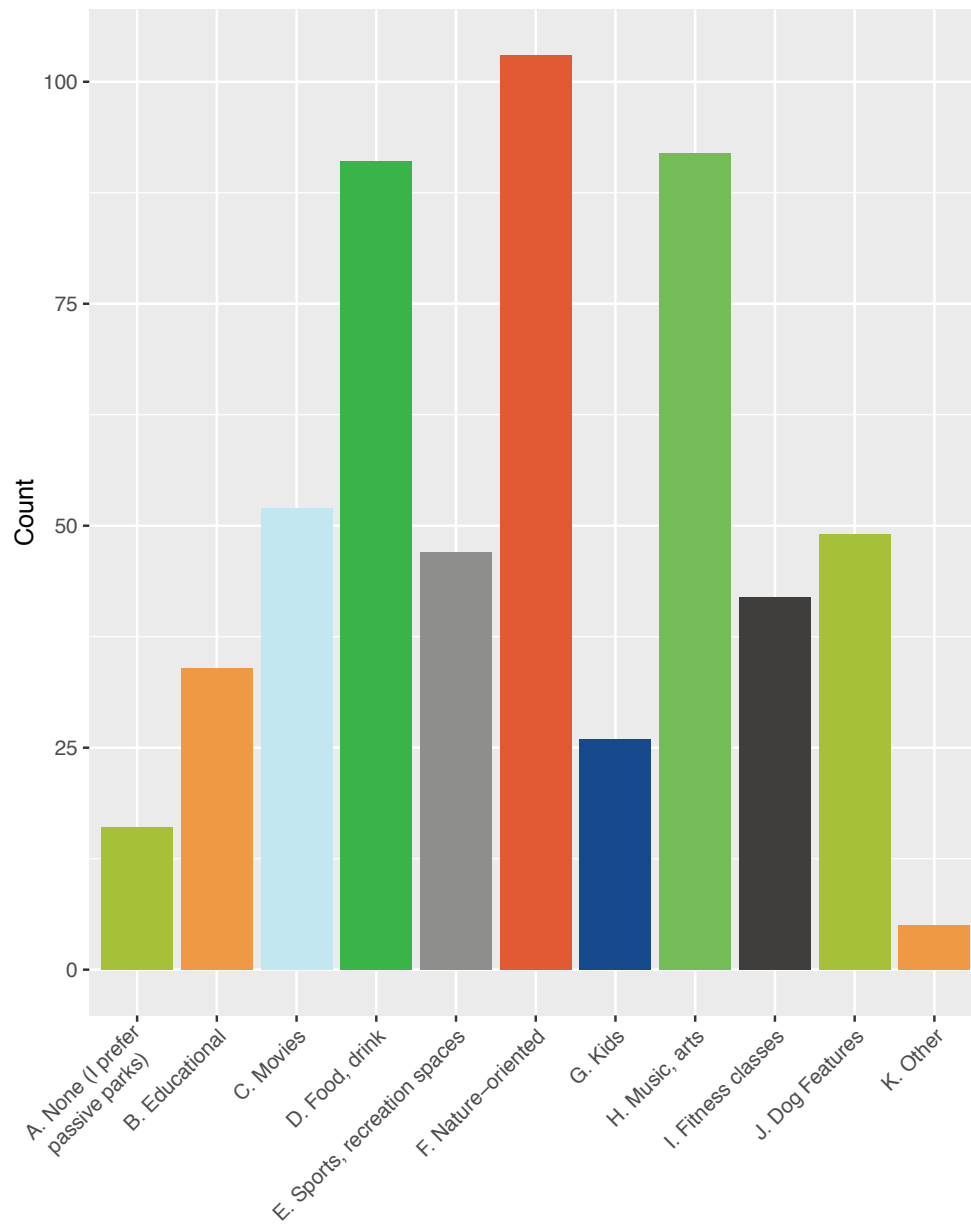


Figure 17. Desired amenities and programming for future Viaduct Rail Park

These surveys establish a baseline which will allow the Fairmount Park Conservancy and the Civic Commons Partners to determine the magnitude and nature of changes in usage and attitudes associated with the Civic Commons interventions. Much of the surveying done by PennPraxis is designed to be descriptive in nature, with the possibility that analytically interesting trends will emerge in a longitudinal analysis. However, there are several interesting observations about the baseline data that are worth noting.

For reasons discussed in the methods section of this document, one can only glean a limited amount of information from the Rail Park surveys. Relative to the surveys undertaken at other sites by PennPraxis in 2016, the Rail Park's non-contiguity with existing park space provides no true user base to be surveyed. However, there are some interesting insights that come from cross-group comparisons within the intercept survey sample pool. The PO surveys made clear some general pedestrian density information that will provide a good guide for design and program decision-making at the edges of the Rail Park in the future.

The most interesting inference to be drawn from the PO survey mapping is that people do not tend to stop in the area near the Rail Park, but rather traverse it walking north and south. There is very little residential land in the area. Where such land exists, people walk east to west to reach those sites. With the exception of people observed eating, drinking and socializing at the seasonal PHS pop-up beer garden or standing to wait for public transportation, or outside a few eating establishments, the vast majority of observations were of people walking through the neighborhood. It will be interesting to see how pedestrian usage intensifies or changes in future years given new development. Furthermore, it will be interesting to see how the Rail Park captures or drives this traffic.

Because much of the Rail Park intercept survey sample was self-selected (online users identified by specific partners) or drawn from groups assembled for tours or at the PHS pop-up garden, the survey users do not represent a comparable cross section of those who were logged as PO survey observations, or of future park users. Two useful types of information can be drawn from the intercept survey data: inter-group comparison of opinions and crowd-sourced suggestions for programming and design features.

There were notable differences between the sentiments expressed by Asian-American survey subjects and those of subjects identifying their racial group as white. Whereas white subjects had strong positive views of the park and strong feelings of ownership of the park, Asian-American subjects reported generally ambivalent feelings of ownership and ambivalent feelings about the importance of the project, on average. The actual range of responses from Asian-American subjects included some strong negative opinions. White subjects had far fewer negative opinions.

The majority of those surveyed by PennPraxis live in the zip codes immediately adjacent to the Rail Park, but respondents to the Rail Park survey reported shorter average tenure at their current addresses than did those for other parks in the study – an indicator that this is a neighborhood undergoing rapid change. This statistic is likely to continue and may even see an increase after the opening of the Rail Park.

VI. FUTURE RESEARCH

In future years, these site-specific studies can be replicated to generate a year-over-year comparison of usage after the interventions in the Civic Commons spaces are complete. Building toward this longitudinal data analysis is critical to address the two basic hypothesis most directly. For these future iterations, PennPraxis has developed custom computer programs in R for quickly visualizing data outputs from digitally administered surveys. Data visualizations can also be viewed and downloaded from the Harvest My Data dashboard, though they are difficult to manipulate.

At present, the Viaduct survey does not have a sample size quite equal to that of the PSU study, but margins of error are roughly similar. Despite the fact that sample capture rates were relatively good, additional hours of surveying or additional online surveys could increase the baseline sample, should the client choose to increase the sample size. Online surveys would be a low-cost option. However, there are some problems inherent in giving these surveys outside of the context in which they make intuitive sense—when the user is in or adjacent to the park and when a survey administrator can provide clarification or help upon request. Some questions will not make sense to online users. For example, “how did you travel to the park today?” is a question that can be used to accurately assess travel behavior in person, but makes little sense elsewhere, especially if the interviewee has to attempt to abstract some kind of average visit in his mind in order to answer. This may lead to some unreliable data. Therefore, it is highly desirable to replicate the on-site surveys.

There are several additional data sources which can be used to create a richer picture of the impact of the Civic Commons interventions. Depending on the granularity and sample sizes of some available third party data, it may be possible to construct some causal econometric models. These data sources are detailed in Figure 18.

Data	Source	Application
Indigo Bike Share Usage	opendataphilly	Determine intervention impact on travel patterns
Licenses & Inspections permit data	Azavea “License to Inspect”	Monitor residential development and code enforcement
Social Media Traffic	Twitter, Instagram, etc.	Assess popularity of Commons sites
Pedestrian, Bike Counts	Delaware Valley Regional Planning Commission	Assess impacts on visitation and commuting

Figure 18 Additional Data Sources for Greater Depth on RCC Projects

PennPraxis and Locus have both identified sites for potential remote monitoring at all the Civic Commons sites. **Note: All illustrations of Electronic Sensors on maps contained in Appendix I indicated potential future locations identified by PennPraxis, having reviewed the sites, spoken to site staff, and reviewed Locus Partners’ report.**

Lastly, future research should be accompanied by a more granular, more comprehensive demographic analysis of the areas adjacent to study sites.

VII. REFERENCES

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Mowen, A., Hickerson B., Benfield, J., Pitas, N., & Kim, J. (2015). A Systematic Evaluation of Centennial Commons: Pre-Renovation Study Results. Report Prepared for the William Penn Foundation.

APPENDIX I. Participant Observation (PO) - Survey Instrument

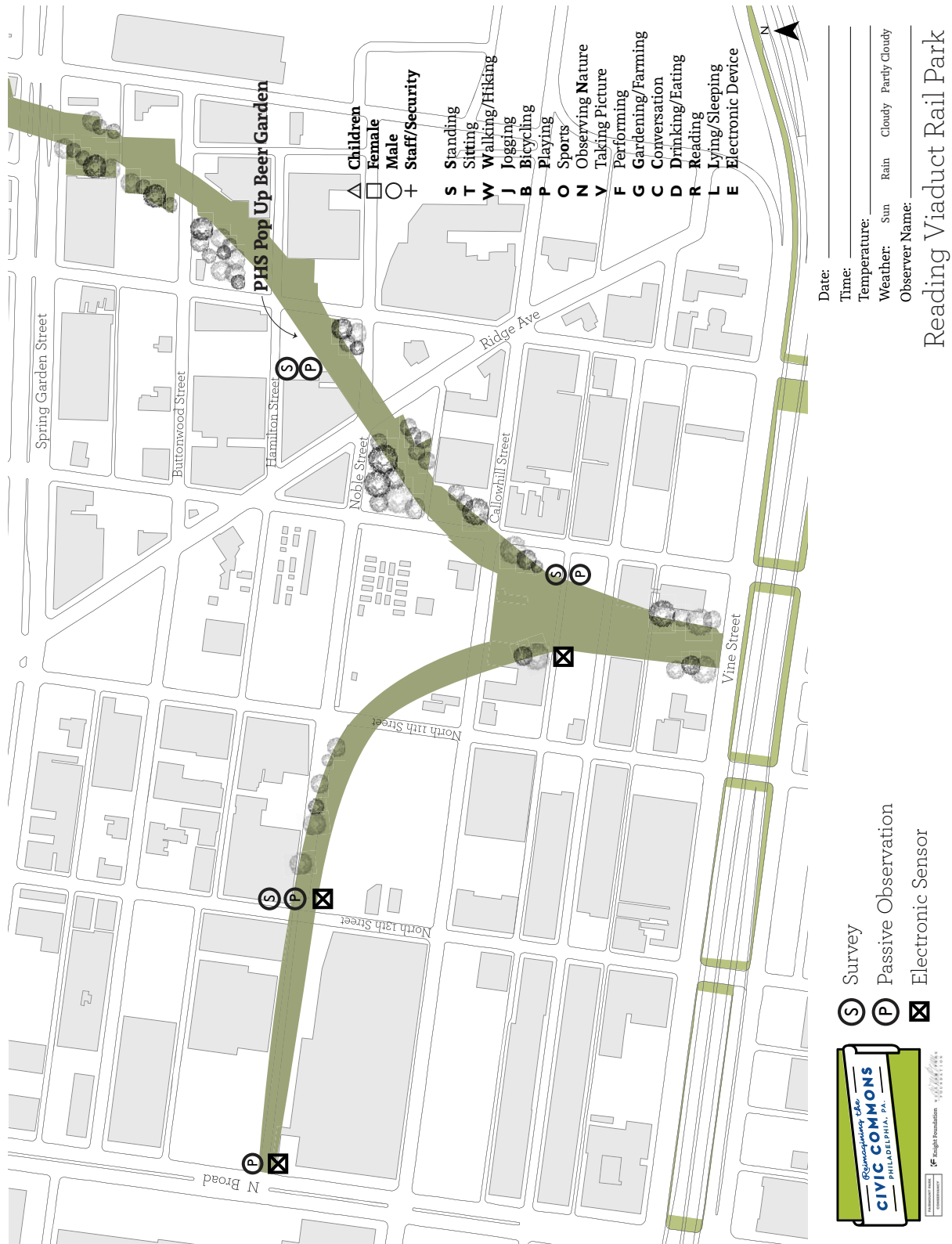


Figure 1. Participant Observation Map of the Viaduct Rail Park

APPENDIX II. In Person Survey Instruments

2016 Reimagining the Civic Commons Visitor Survey

Date: _____
Time: _____
Interviewer Name: _____
Location: _____



GENERAL USAGE

"The first set of questions is about your use of the park and the activities you do here."

1. Is this your first visit to this site/park?

☐ Yes ☐ No

2. How did you travel to the park today?

☐ Walk ☐ Bicycle ☐ Public transit ☐ Automobile ☐ Other

3. Would you say that you visit this area more, less, or about the same as in the past?

☐ More ☐ Less ☐ About the same

EXPERIENCES

"Now I'm going to ask you about different activities and you can tell me how important they are as reasons for your visit. These questions are on a scale of 1 to 5 - with 1 being a rating of 'Not At All Important,' and 5 being 'Extremely Important.'"

4. Experiencing nature (sights, sounds, smells)

Not at all important		Neutral		Extremely Important
1	2	3	4	5

5. Exercising or doing physical activity

Not at all important		Neutral		Extremely Important
1	2	3	4	5

6. Socializing (friends, family, colleagues)

Not at all important		Neutral		Extremely Important
1	2	3	4	5

7. Relieving stress

Not at all important		Neutral		Extremely Important
1	2	3	4	5

COMMUNITY

"Now I'm going to make a few statements about the users of this park and the park's importance to the community. Tell me if you agree or disagree with these statements using a scale of 1 to 5 - with 1 being a rating of 'Strongly Disagree,' and 5 being 'Strongly Agree.'"

8. "This park/site is an important part of the neighborhood/community."

Strongly Disagree		Neutral		Strongly Agree
1	2	3	4	5

Figure 1. Intercept Survey for Viaduct Rail Park - RCC 2016

9. "This section of the park benefits all residents from the surrounding neighborhood."

Strongly Disagree Neutral Strongly Agree
1 2 3 4 5

10. "I believe this parks helps put this neighborhood in the right direction."

Strongly Disagree Neutral Strongly Agree
1 2 3 4 5

PERSONAL OWNERSHIP

11. "This park is important to me and my family."

Strongly Disagree Neutral Strongly Agree
1 2 3 4 5

12. "I feel a very high degree of personal ownership of this park."

Strongly Disagree Neutral Strongly Agree
1 2 3 4 5

DEMOGRAPHICS

13. What is your age?

☐ Under 18 ☐ 18 - 34 ☐ 35 - 49 ☐ 50 - 65 ☐ 65 +

14. In what zip code do you live? _____

15. How long have you lived there? _____

16. How would you describe your employment status?

☐ Employed ☐ Unemployed ☐ Retired ☐ Student
☐ Other _____ ☐ Prefer not to answer

17. If you are employed, in what zip code do you work? _____

18. What is the highest degree or level of education you have completed?

☐ < than 9th grade ☐ 9th-12th grade ☐ High school Graduate or GED
☐ Associate's Degree ☐ Bachelor's Degree ☐ Graduate or Professional Degree
☐ Prefer not to answer

19. Which of the following would you use to describe your race or ethnic background?

☐ White ☐ Black or African American
☐ Hispanic or Latino ☐ Asian
☐ American Indian or Alaskan Native ☐ Hawaiian or Pacific Islander
☐ Other _____ ☐ Prefer not to answer/ Don't know

20. Please identify your gender.

☐ Male ☐ Female ☐ Other ☐ Prefer not to answer

21. Have you ever visited any of the following sites?

☐ Bartram's Mile
☐ West Fairmount Park Near the Please Touch Museum
☐ East Fairmount Park
☐ Lovett Library & Park
☐ Reading Viaduct

2016 Reimagining the Civic Commons Visitor Survey –Viaduct Rail Park

Date: _____
 Time: _____
 Interviewer Name: _____
 Location: _____



READING VIADUCT (ONLY)

35. Are you aware of the plans to make the viaduct a park?

☐ Yes ☐ No ☐ Not sure

Explanation: _____

36. After these changes are implemented, how often do you think you would use the park?

☐ Every day ☐ Monday through Friday ☐ Weekends ☐ After work
☐ Mornings ☐ Lunchtime

37. What activities or programming would be of the highest interest to you?

☐ Nature-oriented ☐ Dog features ☐ None (I prefer passive parks)
☐ Educational ☐ Kids
☐ Movies ☐ Music, arts
☐ Food, drink ☐ Fitness classes
☐ Sports, recreation spaces ☐ Other _____

38. What types of businesses would you like to see in this neighborhood?

39. Have you seen changes in this community?

☐ Yes ☐ No ☐ Not sure

Explain: _____

40. What characteristics do you like most about this neighborhood?

☐ History ☐ People
☐ Affordability ☐ Access
☐ Business ☐ Scale
☐ Other

41. What characteristics do you like least about this neighborhood?

☐ Lack of accessibility/transit ☐ Lack of parks/green space
☐ Lack of family activities ☐ General cleanliness
☐ Scale ☐ Distance from Center City/ other neighborhoods
☐ Other

APPENDIX III. Full Report of Survey Findings – Viaduct Rail Park

The following lists responses to the questions which originally appeared on the in-person surveys. It includes responses from both online and in-person surveys. Some questions were rendered non-applicable after low capture rates forced the adoption of online surveys. Some questions are not reasonable to ask off site.

1. Is this your first visit to this site/park?

QUESTION NON-APPLICABLE

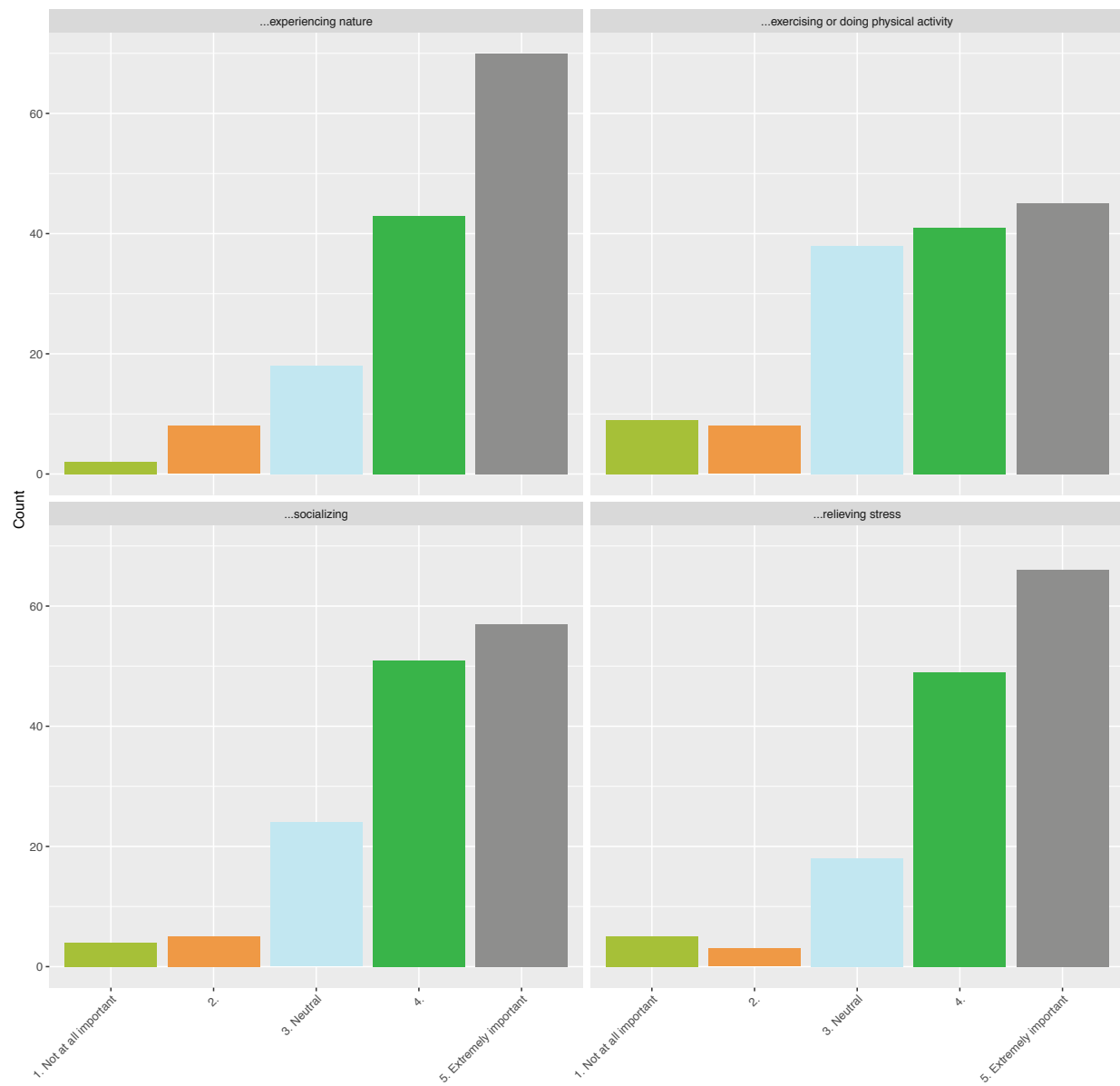
2. How did you travel to the park today?

QUESTION NON-APPLICABLE

3. Would you say that you visit this area more, less, or about the same as in the past?

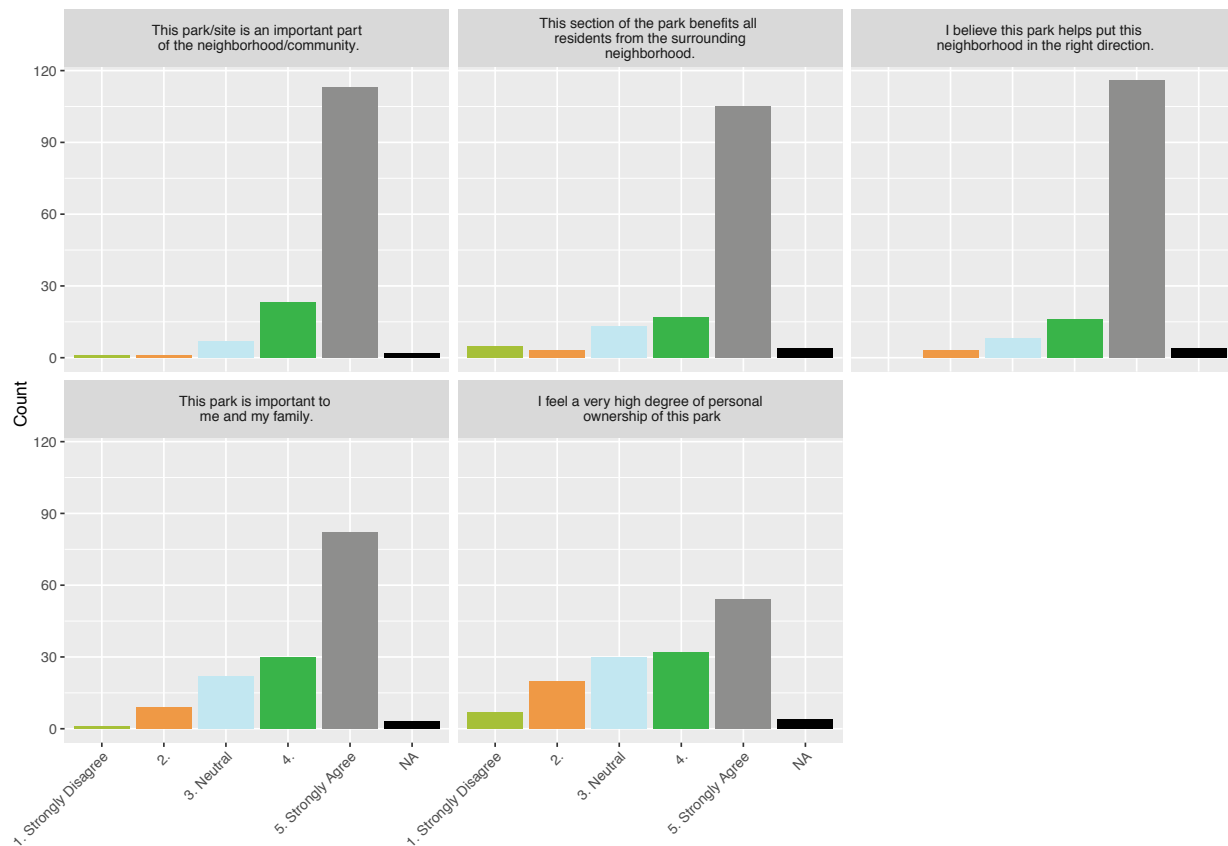
QUESTION NON-APPLICABLE

4-7. Overall, how important are the following reasons for your visit?



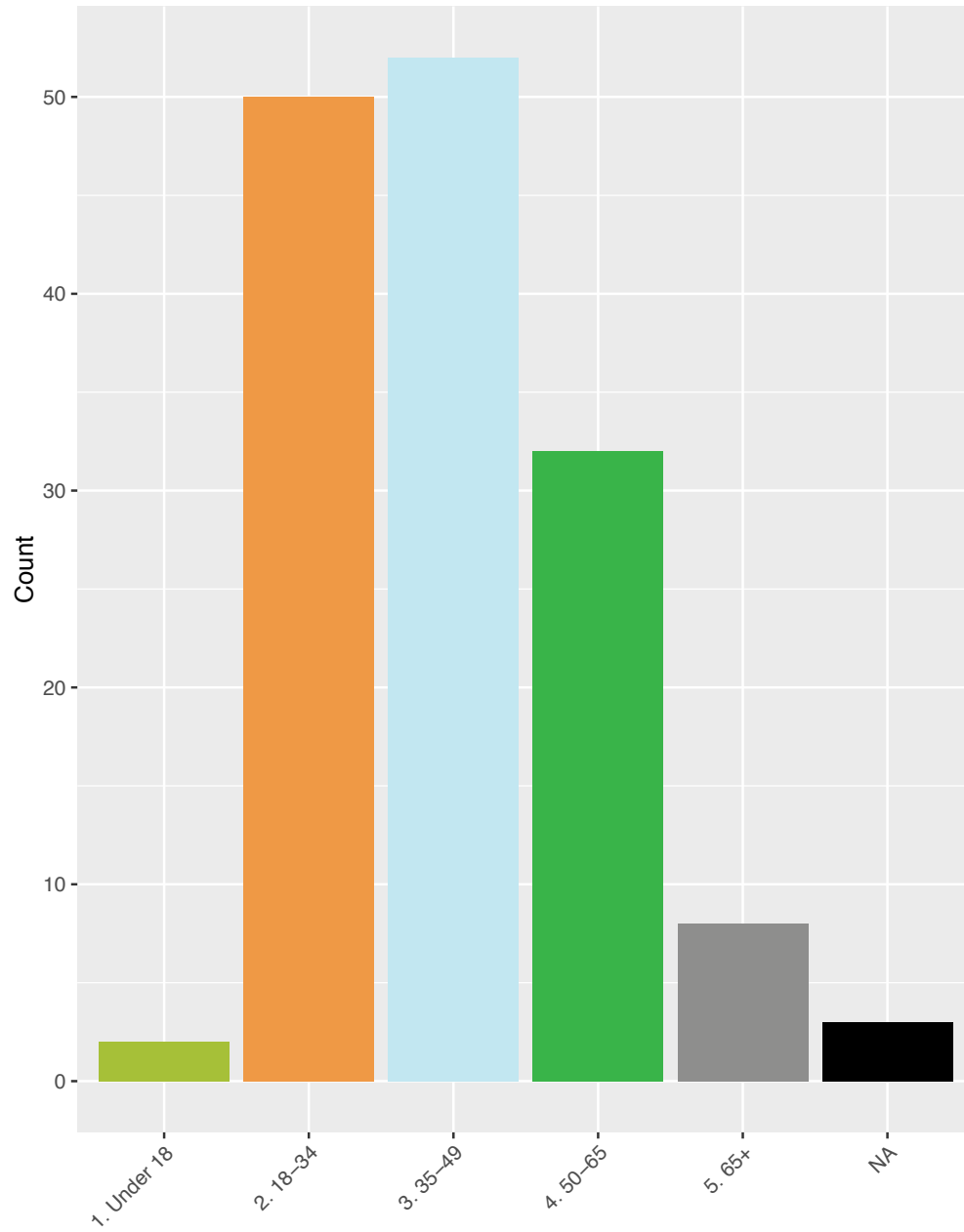
Question	Mean Score (out of 5)
15. Experiencing nature (sights, sounds, smells)	4.2
16. Exercising or doing physical activity	3.7
17. Socializing (friends, family, colleagues)	4.1
18. Relieving stress	4.2

8.-12. To what degree do you agree or disagree with the following statement...

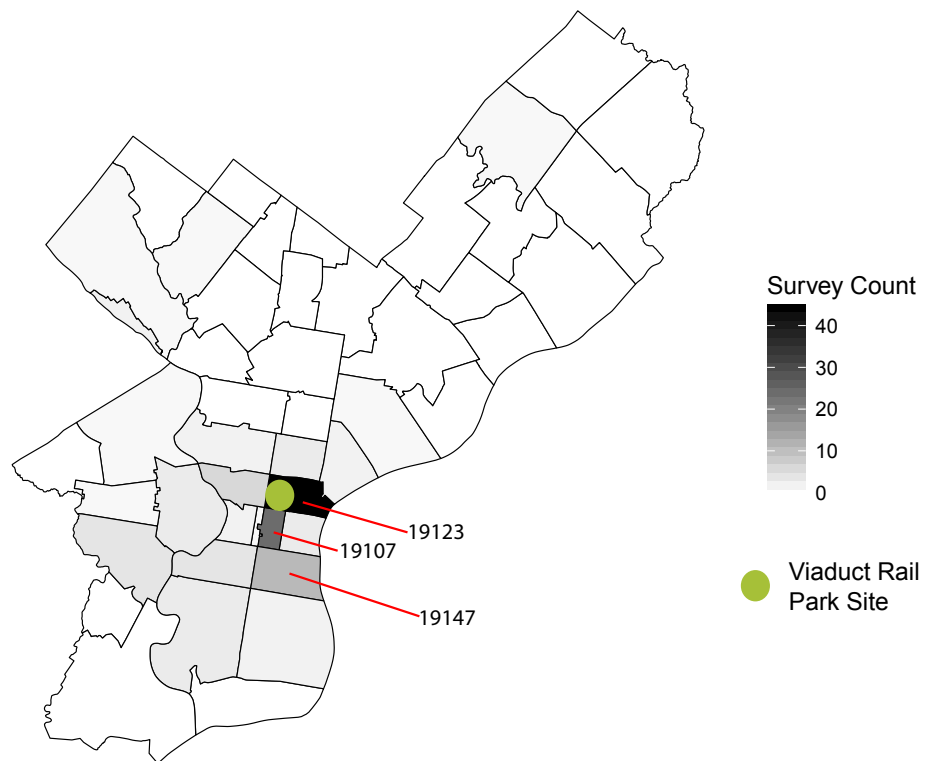


To what degree do you agree or disagree with the following statement...	Mean Score (out of 5)	Asian Subjects Only
8. "This park/site is an important part of the neighborhood/community."	4.7	4.3
9. "This section of the park benefits all residents from the surrounding neighborhood."	4.5	3.6
10. "I believe this parks helps put this neighborhood in the right direction."	4.7	4.0
11. "This park is important to me and my family."	4.3	3.4
12. "I feel a very high degree of personal ownership of this park."	3.7	3.2

13. What is your age?



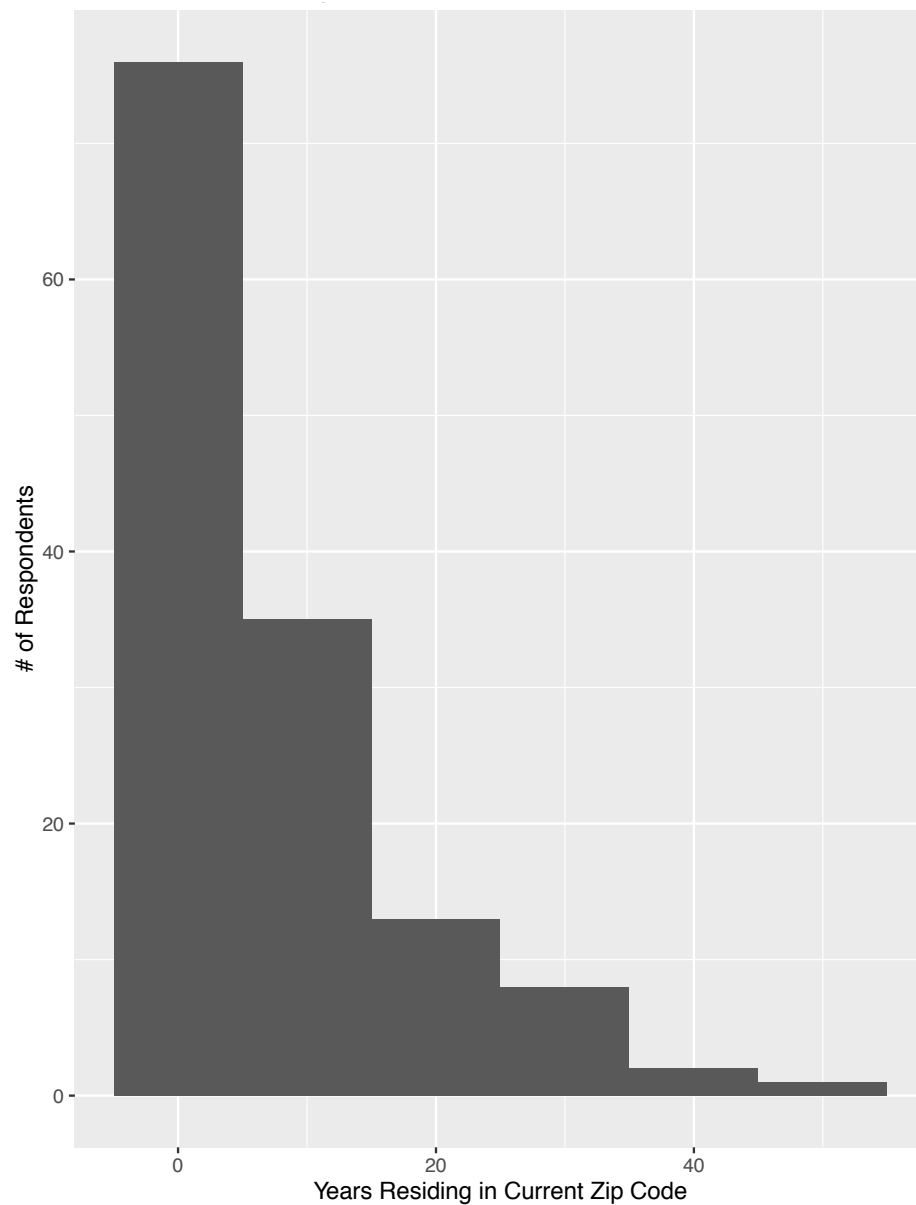
14. In what zip code do you live?



Zip Code	Total Number of Survey Respondents
19123	44
19107	24
19147	11
19130	6
19143	4
19146	4
19127	3
19027	3
19172	3
19104	3
19106	3
19145	3

15. How long have you lived there?

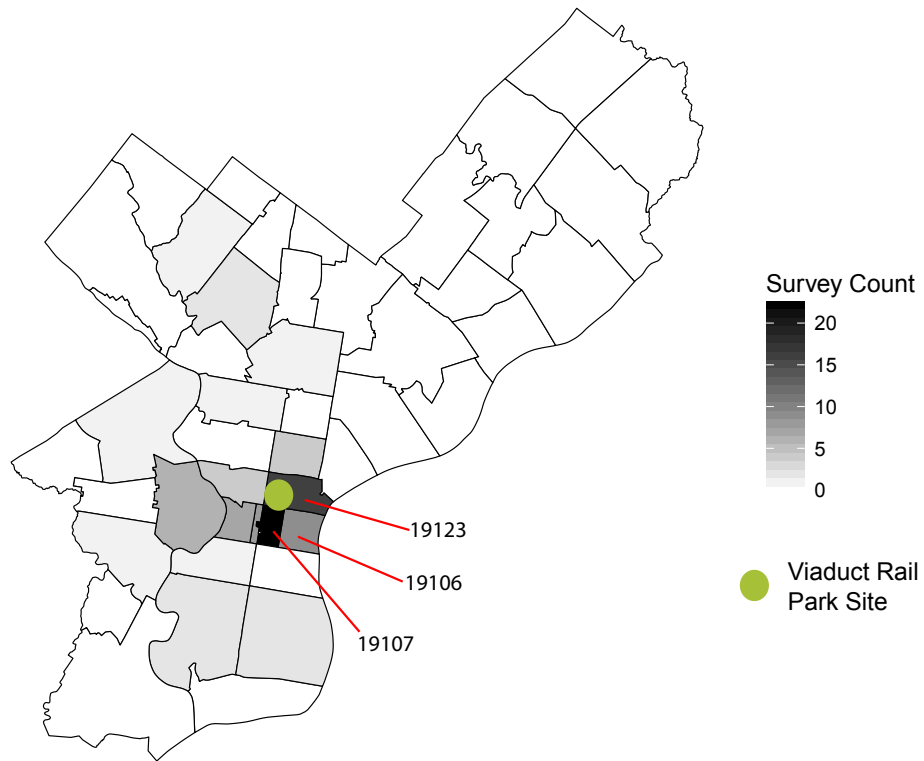
Mean value = 9 years



16. How would you describe your employment status?

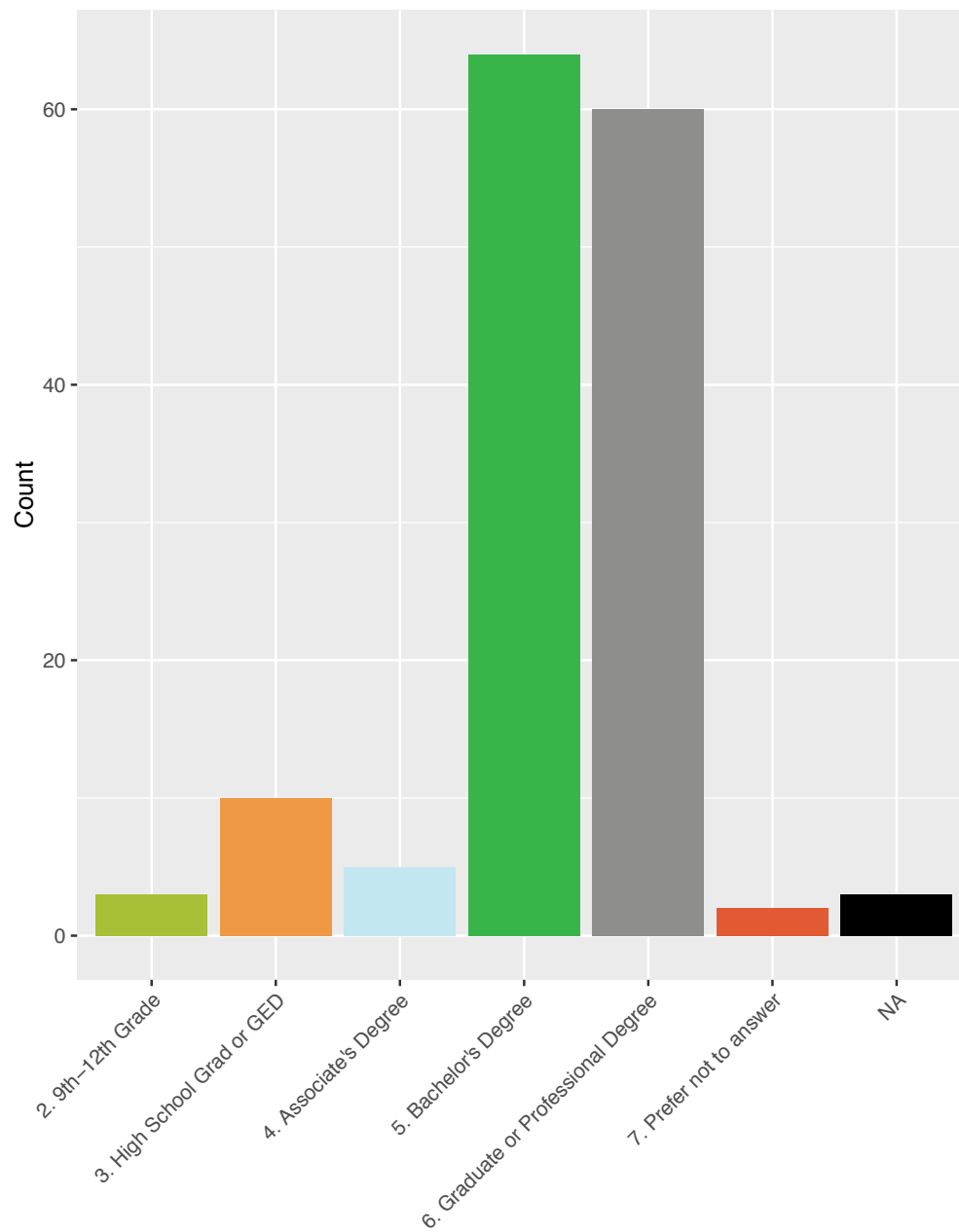
Employed	Unemployed	Retired	Student	Other	Prefer not to answer	NA
112	4	9	5	1	3	3

17. If you are employed, in what zip code do you work?
(60 report working in zip codes outside Philadelphia)

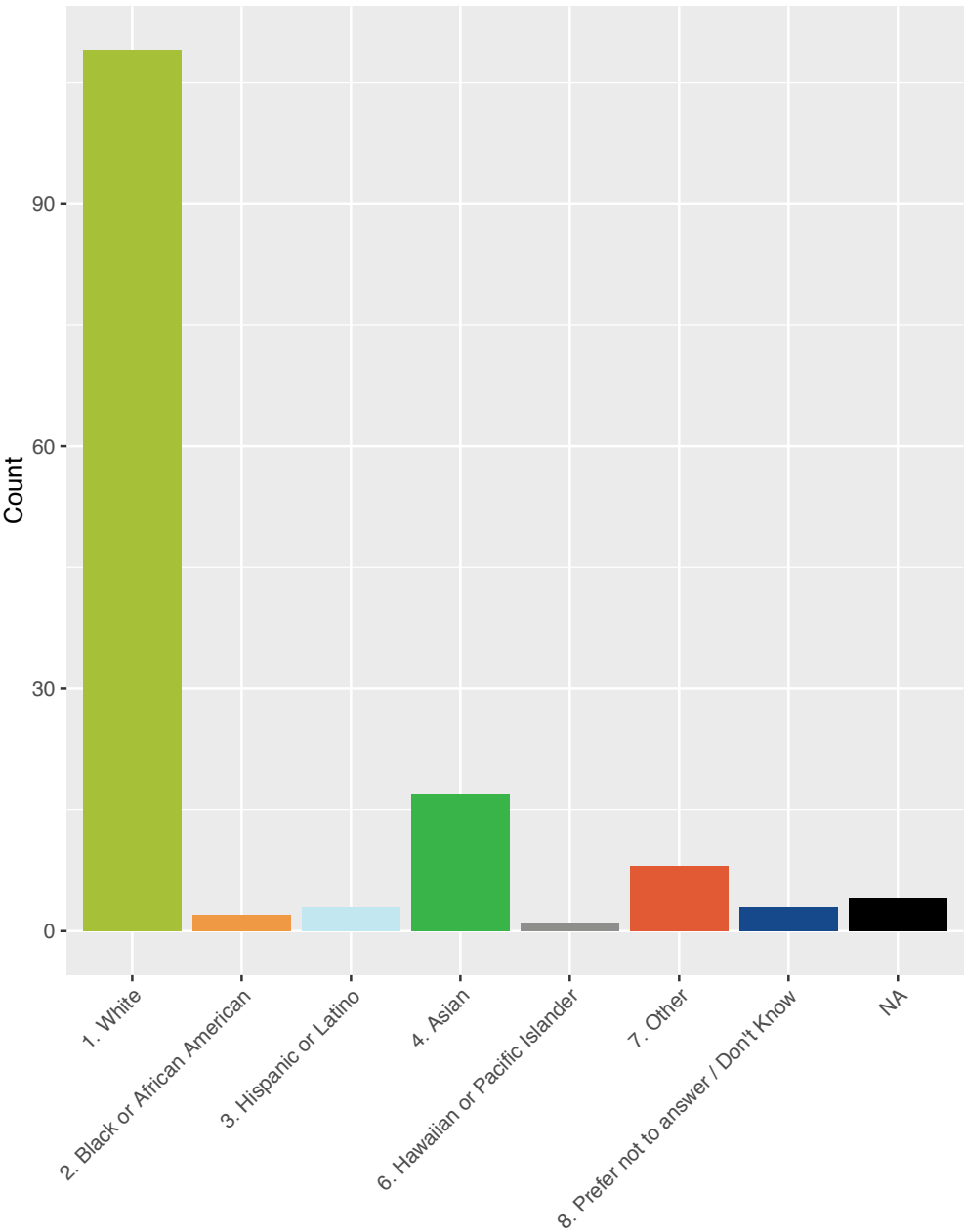


Zip Code	Total Number of Survey Respondents
19107	22
19123	16
19106	9
19102	8
19103	7
19104	6
19122	4
19130	4
19145	2
19148	2
19355	2
19144	2

18. What is the highest degree or level of education you have completed?



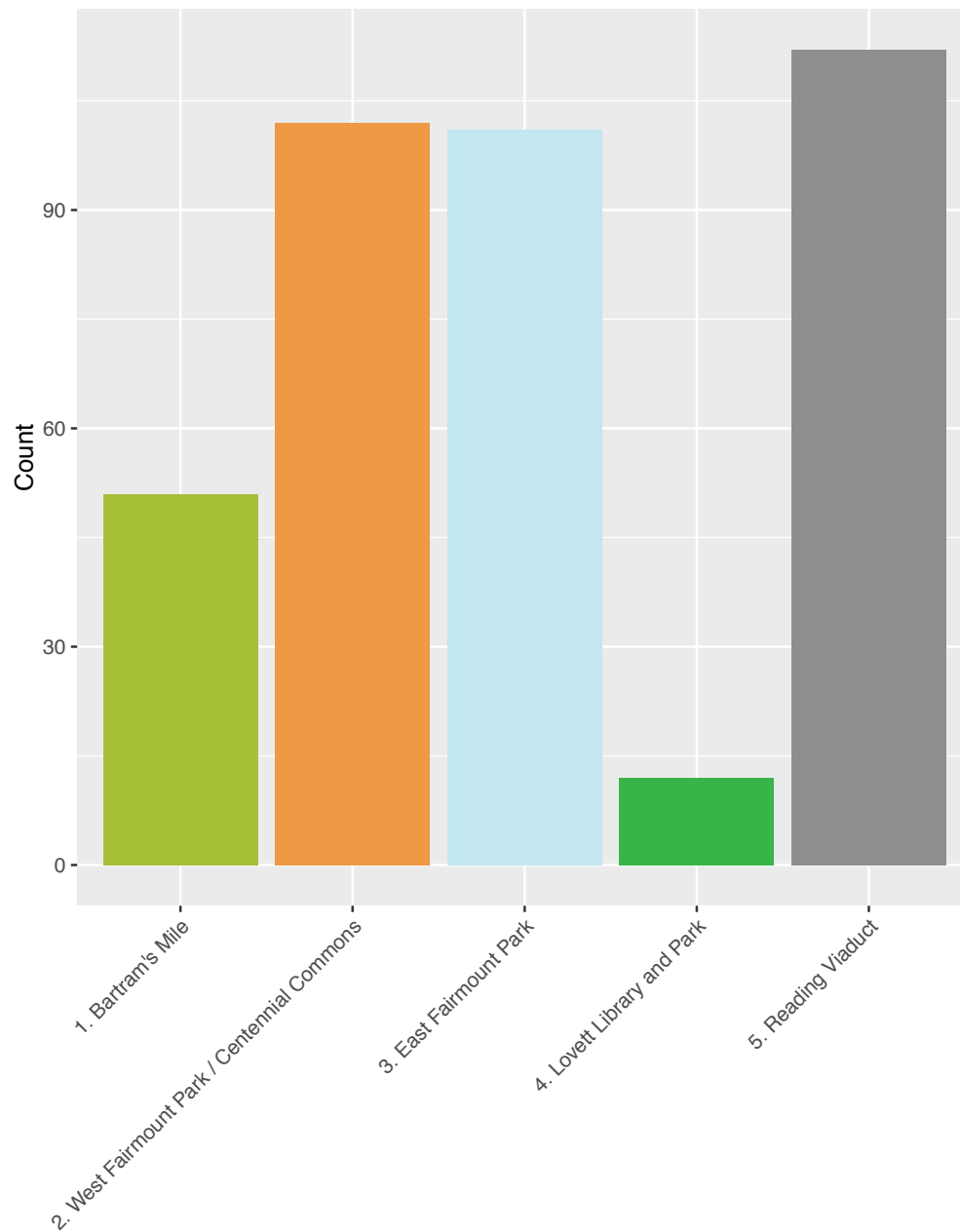
19. Which of the following would you use to describe your race or ethnic background?



20. Please identify your gender.

Male	Female	Other	Prefer not to answer	NA
77	61	5	1	3

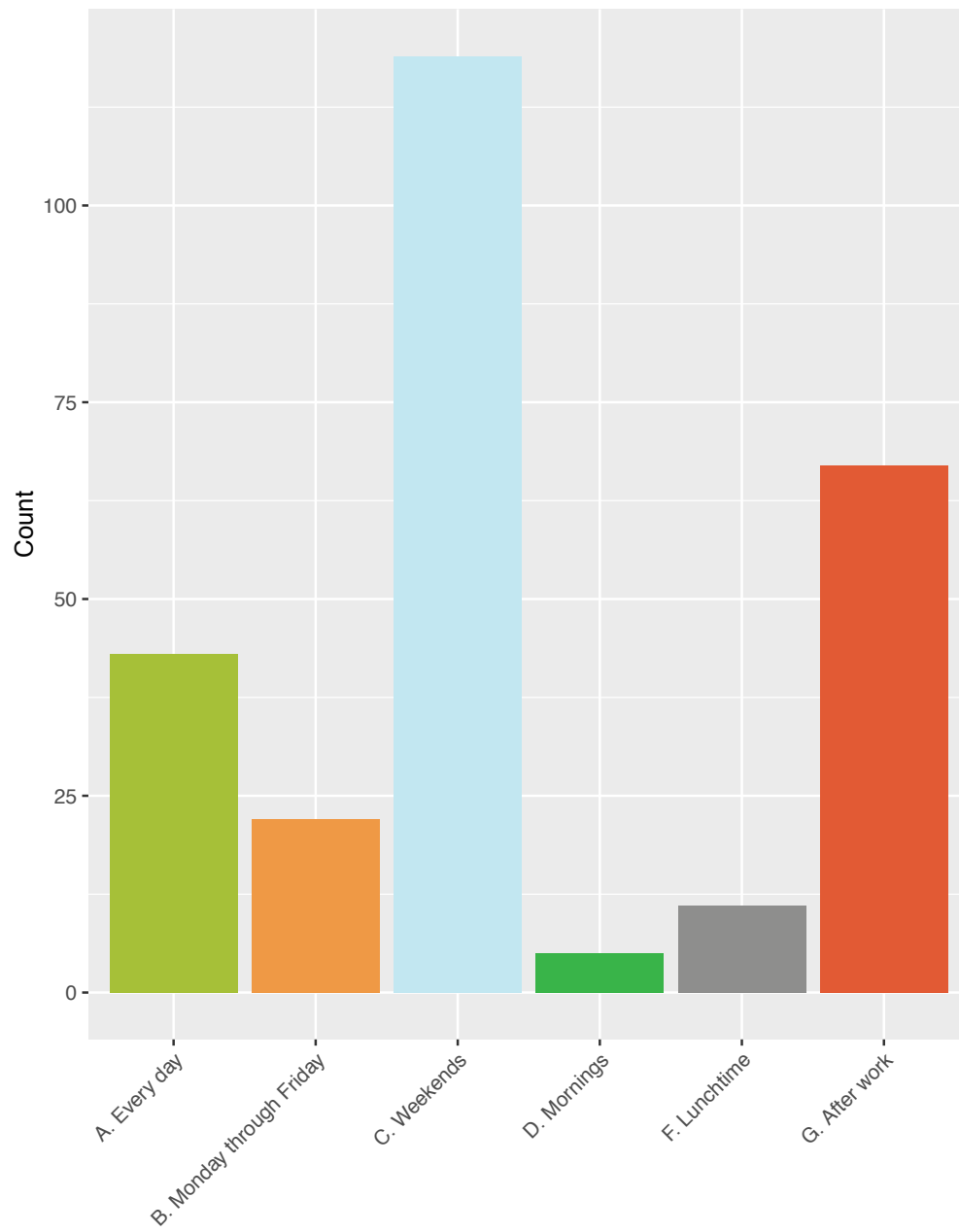
34. Have you ever visited any of the following sites?



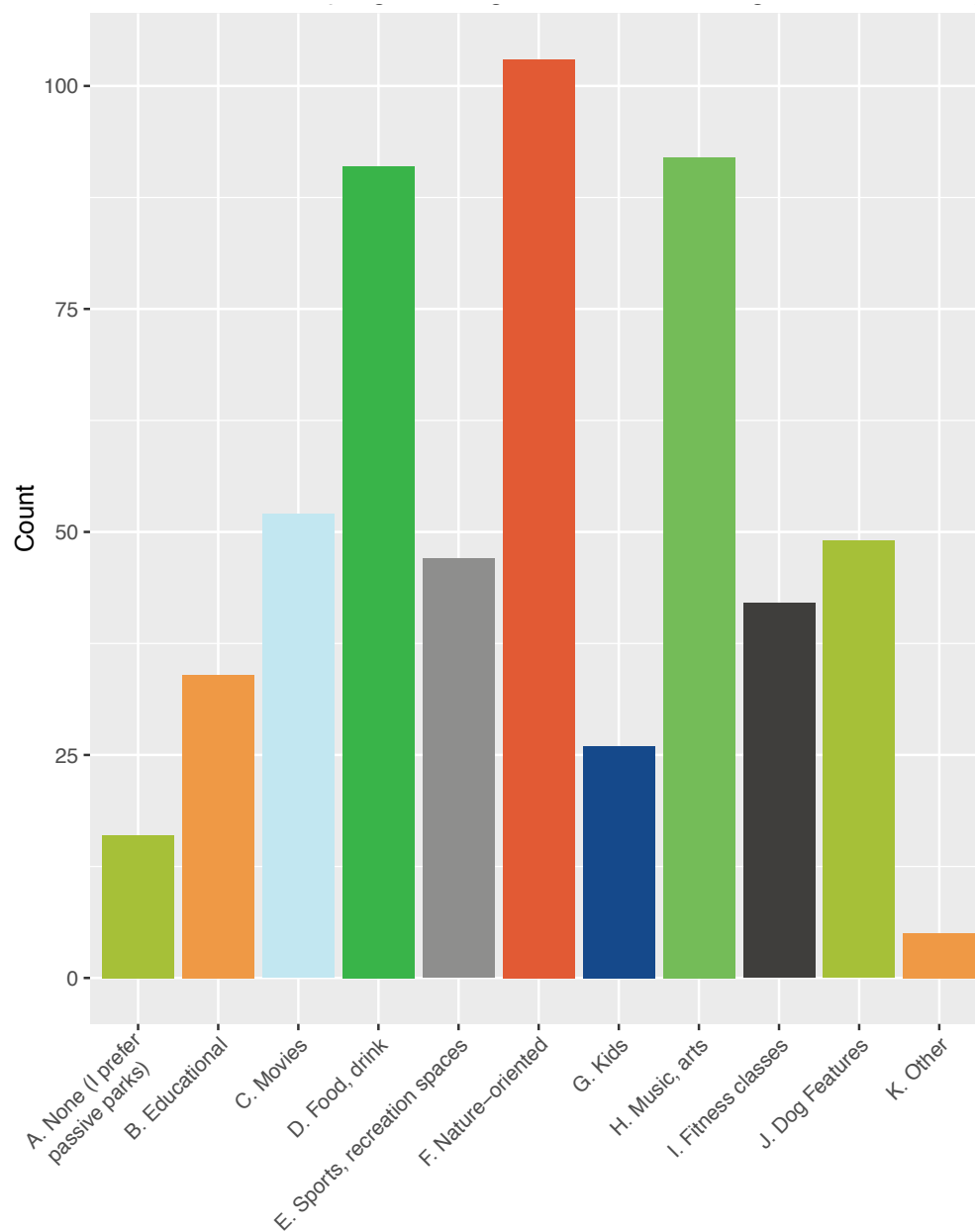
35. Are you aware of the plans to make the Viaduct a park?

Yes	No	Not sure
138	6	2

36. After these changes are implemented, how often do you think you would use the park?



37. What activities or programming would be of the highest interest to you?



Free responses to the “other” category:

- Leisure
- Public exercise equipment like near some beaches
- I also just love greenery, trees and spaces
- Preservation, history interpretation!
- Community center for language classes

38. What types of businesses would you like to see in this neighborhood?

Type of Retail	Number of Responses
• Restaurants and Bars	64
• Cafes, Coffee Shops	26
• Eclectic Food	1
• Food Trucks	2
• Healthy, fast food options	1
• Ice Cream Shop	3
• Lunch places	3
• Outdoor Bars, Dining	3
• Vegetarian	1
• Wine Bars	1
• Retail	34
• Co-ops	1
• Small Designers	1
• Dog Friendly Stores	1
• Record Stores	1
• Bike Shops, Rental	4
• Specialty Foods, Food Outlets, Grocery	17
• Affordable, Accessible Shops	2
• Dry Cleaners	9
• Drug/Convenience Store, WAWA	12
• Liquor Store	2
• Dog Grooming, Pet Store	3
• Bookstores	2
• Car Share Location	1
• Electric Vehicle Recharge Station	1
• Boutiques	1
• Fitness/Spa	6
• Entertainment	2
• Movie Theatre	1
• Music Venue	1
• Arts	22
• Organizations	4
• Galleries, Non-profit Galleries	4
• Arts and Crafts businesses	4
• Maker	1
• Creative Business	4
• Local, Community-owned businesses, Mom & Pop	9

(contd.) 38. What types of businesses would you like to see in this neighborhood?

Type of Retail	Number of Responses
• Mixed business, diversity, what can be successful	5
• Post Office	1
• Consumer Services	1
• Community Organizations	1
• General Businesses	1
• Office Buildings	2
• Tech	4
• Corporate	1
• Chinatown	1
• Non-business Responses	
• Gathering spaces, parks with shade	2
• Lunchtime activities	1
• Outdoor socializing	1
• More bike racks	1

39. Have you seen changes in this community?

Yes	No	Not sure	NA
6	121	17	3

Please describe:

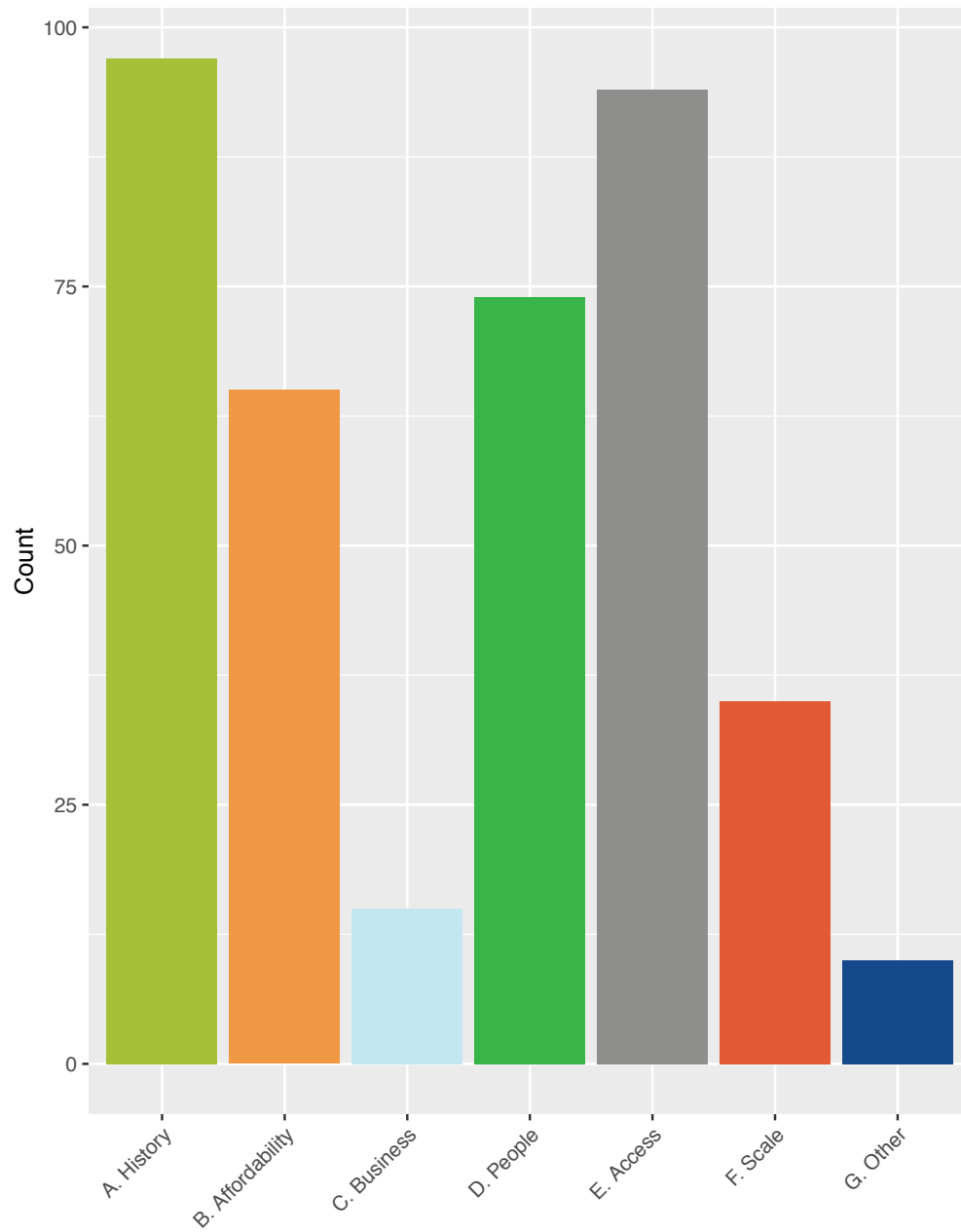
For those who responded Yes:

- “Bars and restaurants opening”
- “Completely different than ten years ago”
- “Concern of how this is a sign of gentrification if not led & invested by community locally and long time residents”
- Gentrification, condos
- “I avoid this neighborhood”
- “I’ve seen the decline and rebuild”
- Lots more private businesses
- More commerce
- More residents
- More restaurants and businesses
- New houses, apartments, restaurants
- New residential developments
- Philly is expanding everywhere
- PHS beer garden is a change, lots of new construction
- Slow gentrification
- “Working as an artist since 2009, very different”
- Younger crowd

For those who resonded No:

- “I have not lived in Philadelphia long enough to comment”
- “New here”
- “Relatively new in Philadelphia”

40. What characteristics do you like most about this neighborhood?



41. What characteristics do you like least about this neighborhood?

