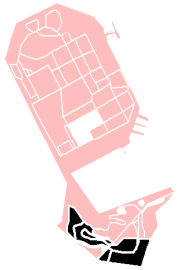
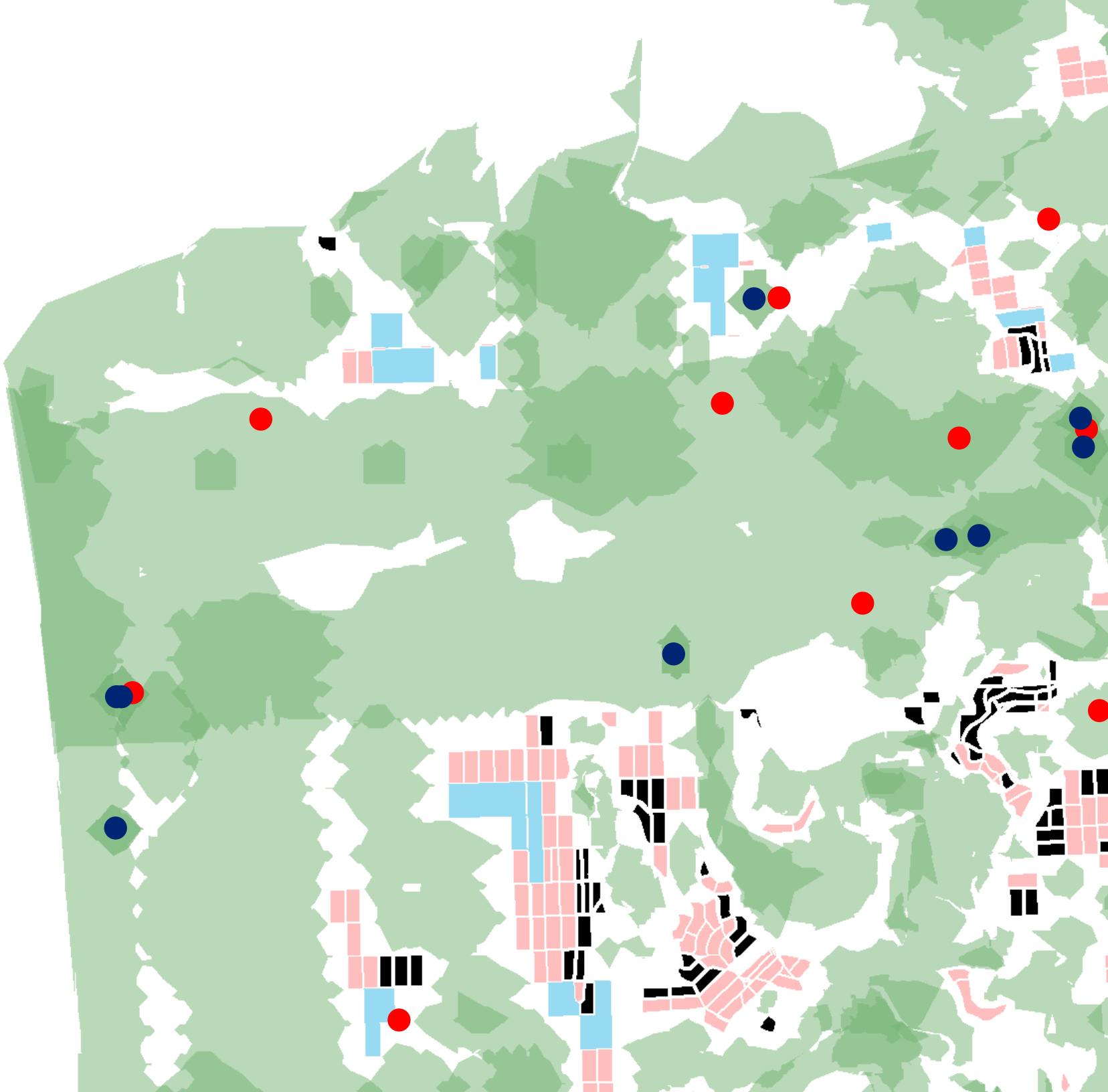
Gene Stroman, GIS Researcher
Pavement to Parks
Spring 2014

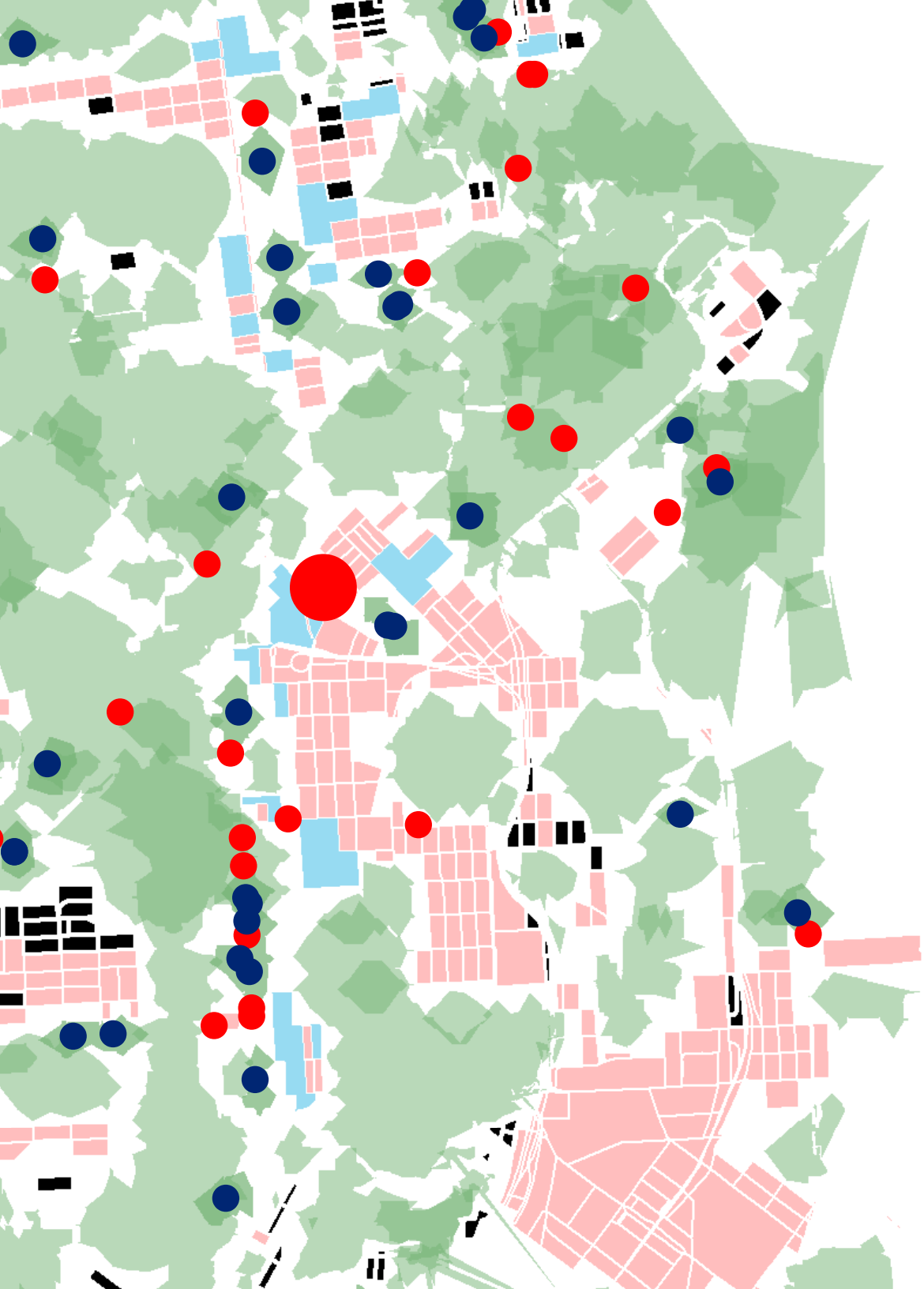


OPPORTUNITY MAPPING

SAN FRANCISCO

PARKLETS & PLAZAS





Opportunity Mapping
San Francisco's
Parklets & Plazas

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Introduction

Introduction

In the densely built City of San Francisco, which is home to over 800,000 people in just under 47 square miles, increasing access to Public Open Space (POS) is a top priority for the San Francisco Planning Department. However, undeveloped land is sparse, and funding for acquiring land for new open spaces can be difficult to secure. To provide the amenity of open space to underserved populations, the City looks to underutilized space that is already part of the public domain (the street) as an opportunity for testing quick and inexpensive solutions. This is where the Pavement to Parks Program steps in.

Pavement to Parks (P2P) is a program of the San Francisco Planning Department. The program is largely concerned with turning street space into pedestrian space, using temporary and cost-efficient interventions to test possibilities for future permanent infrastructure.

The program uses two main typologies, (1) parklets and (2) temporary plazas to implement its goal of creating new pedestrian space. According to the Parklet Manual v 1.0, parklets are "intended as aesthetic enhancements to the streetscape, providing an economical solution to the need for increased public open space. They provide amenities like seating, planting, bike parking, and art. While parklets are funded and maintained by neighboring businesses, residents, and community organizations, they are publicly accessible and open to all."

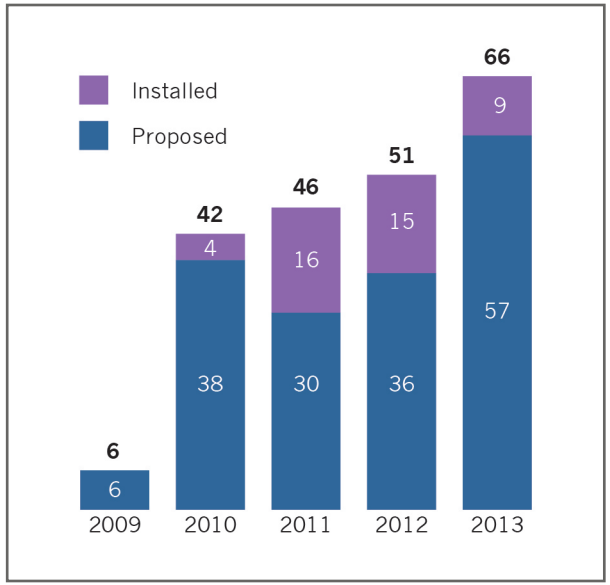
Temporary Plazas "typically begin with short week-long and low-cost demonstration closures in unused portions of the street. Successful experiments are then temporarily closed for a year or more. Embraced by the community, some plazas are now transitioning to permanent status and capital upgrades, and new plaza locations are being discussed for the future." [17]

San Francisco is credited with installing the first parklet, as an initiative of the landmark Pavement to Parks program. Parklets and Plazas are a part of an emerging practice in Urban Planning and Design that goes by many names, and is generally characterized by inexpensive, temporary, adaptive, and grassroots strategies. Blaine Merker of parklet-innovating firm Rebar has referred to the concept of "Generous Urbanism", or "the creation of public situations between strangers that produce new cultural value, without commercial transaction."[14] Mike Lydon of Street Plans Collaborative writes of "Tactical Urbanism", which he defines as "a deliberate, phased approach to instigating change (and) offering local solutions for local planning challenges". Tactical Urbanism boasts "short-term commitment and realistic expectations (with) low-risks, high reward, and the development of social capital between citizens and the building of organizational capacity between public-private institutions, non-profits, and their constituents." [11]

While the Pavement to Parks program is certainly a leading model for this newfound design paradigm, the network for innovative urban solutions is global and vast in its range. Pavement to Parks has influenced and given guidance to, while also learning from a vast network of innovative projects and programs in cities across the world. Examples of these projects include Living Innovation Zones in San Francisco and Dune Street Furniture System (Paris). Programs include the temporary activation of underutilized spaces by Lent Space (NYC) and Make Way for People (Chicago)[13], not to mention Parklet-specific programs in cities across the globe, including Phoenix, Philadelphia, Oakland, Los Angeles, San Jose, Dallas, Seattle, Vancouver, British Columbia, and most recently in Sao Paolo.

Why Study Parklets?

Pavement to Parks started in 2009 and is a relatively new program. Its projects are new concepts for cities, for which there are many basic unanswered questions. While there have already been great reports on parklets, for example the San Francisco Bicycle Coalition's Great Streets Parklet Studies (2010) or the Spring Street Parklet Impact Study (2013) in Los Angeles, none have focused on geospatial analysis (GIS) as a method of studying parklets. While qualitative surveys may be an effective way to study public life, a geospatial study can be an effective supplementary tool that can help clarify and answer questions related to geographic equity and access.



The datasets used for analysis in this report are dated March 1, 2014. As of this date, there were 44 parklets installed throughout San Francisco; with more parklets installed every quarter. Clearly, there is high demand for parklets, and the program RFP intake has grown exponentially since 2009. With limited time and resources, the Pavement to Parks Program must be selective in which pipeline projects to pursue. It is the hope of the author that the recommendations of this report and can be used to guide the selection of future proposals; and that the findings might have further implications in other urban site selection processes for which geographic equity is a priority.

In today's cities, with populations skyrocketing and space becoming ever-limited, public open space (POS) - or space that is easily and freely accessible to the public - is an increasingly sought after public good. Cities should prioritize access to open space for all its citizens. Adding to a well-researched body of work, this report examines the topic of access to open space, with a particular focus on parklets and plazas in San Francisco.

Access to Open Space

In reviewing the breadth of literature available on the subject of access to open space, it is evident that definitions of 'access' are more complex than mere geographic proximity to an amenity. Rather, there are many different types of access, many of which are often underexplored in the field of Urban Planning.

"Cities And Open Public Spaces Cultural Studies Essay"[6] highlights the importance of public spaces in the intermingling of different social and cultural groups. The writer presents three types of access, (1) social, (2) cultural, and (3) physical – and emphasizes the value of considering each of these barriers in providing open spaces for a diverse community.

In "Placemaking and the Politics of Belonging and Dis-belonging", Roberto Bedoya focuses on social access, framing the issue with two easy-to-understand terms: "belonging" and "dis-belonging". Bedoya asserts that in addition to physical and design-based features, placemakers should consider social factors that will help to include otherwise marginalized user groups.

In "Out & About in Penrith: Universal Design and Cultural Context: Accessibility, diversity and recreational space in Penrith", Zoe Sofoulis, et al further elaborate on social access. The study promotes cultural inclusiveness, and offers design-based solutions that could help to remove social and cultural barriers, and create accessible public open spaces for a diverse range of users.

While this report incorporates Socio-econonomic factors as an element in determining geographic equity, the focus is primarily on geographic factors like distance and slope that can be more suitably studied in the GIS spatial analysis of a population's access to Parklets and Plazas in San Francisco.

Equity

Because the research for this study is rooted in qualitative GIS spatial analysis, there is a limited framework for approaching social access. A number of sources were consulted to understand how others have managed to use GIS to ensure the geographic equity of open spaces for communities.

Sarah Nicholls and Scott Shafer's "Measuring Accessibility And Equity In A Local Park System: The Utility Of Geospatial Technologies To Park And Recreation Professionals" is one of the first studies to associate accessibility and geographic equity in a spatial analysis of public open spaces. By overlaying spatial data with census block

data, the researchers were able to demonstrate the usefulness of GIS in measuring geographic equity in the planning of local parks.

"Assessing The Locational Equity Of Community Parks Through The Application Of Geographic Information Systems" by Jonathan C. Comer, et al is a similar such study that uses GIS analysis to determine the distribution of open spaces based on accessibility. First, the report provides three ways of considering accessibility (minimum distance, travel cost, gravity potential) to determine areas of "no access" to open space. The author pairs these no access areas with zones of different socio-economic characteristics to provide a framework for identifying opportunity areas for open spaces.

Determining Walkshed

Prior studies demonstrate that geographic access to open space is always measured in terms of a defined walkshed, or manageable walking distance to an amenity from one's home. In order to perform a study of geographic equity and access in GIS, one must define a time/distance value, or the average amount of time it takes to walk a certain distance. Several sources were reviewed in order to choose an appropriate time/distance value for an analysis on parklets and plazas.

To address the equitable distribution of public open spaces, the "Recreation & Open Space Element" of the San Francisco General Plan classifies all open spaces into four different categories (citywide, district, neighborhood, and sub neighborhood-serving), each based on the extent of its service area. Each category is assigned a service area, or "the distance most prospective users from adjacent neighborhood areas are willing to walk to reach an open space The neighborhood service area varies by the size and type of open space and the nature of the surrounding topography." The City assigns a one-quarter of a mile walkshed (about a 5 minute walking distance) to neighborhood-serving spaces, and a one-eighth of a mile walkshed (about a 3 minute walking distance) to subneighborhood spaces. The city defines subneighborhood-serving open spaces as areas that "are less than one acre in size and are used primarily by people from the immediately adjacent area."

Given that the basis for this research (parklets) is contextually grounded in San Francisco, the analysis uses the terminology provided by the San Francisco Planning Department[20]. To confirm a time-distance walking standard, The Manhattan East Side Open Space Index[12] as well as the Congress for New Urbanism Charter[5] were utilized, both of which are leading pieces of literature in the field and agree that a quarter of a mile radius is indeed equivalent to a five-minute walk.

Buffer Analysis

The larger part of this study uses the network analyst tool in GIS to answer questions about access and geographic equity. A number of studies that utilize Buffer Analyses were reviewed to determine the proper methodologies and nuances in conducting a network analysis.

In “Assessing Open Space Provision Using Network Analysis”, Kenny Monteath discusses two methodologies of assessing access open space in GIS: (1) buffers using Euclidian distances and (2) buffers using network analyses. Monteath explores the complexity of network analysis, and how it can be employed to determine a more accurate representation of open space provision for a community.

The network analysis tool calculates a radiating geometry given the input of a point-based feature. But, parklets and plazas are more than just points on a map. Rather, they are a set of points, or polygons. In “Mapping Park Buffers: The Minnesota Method”, Joel Koepp, et al. provide a methodology for creating network buffers around non-point features, in the case of this study, parklets, plazas, and open spaces.

The network analyst tool considers the underlying street grid as well as other time factors like street slope, speed limit, and turns into its calculation of a complex polygon. Because this study is only concerned with a walking distance, a street speed limit was not factored into the network analyses.

In “Slopes, Sharp Turns, and Speed: Refining Emergency Response Networks to Accommodate Steep Slopes and Turn Rules”, Mike Price provides guidance for how to create and account for factors that affect walking speed, and more specifically a clear methodology for setting up Slope Adjustment Factors, an important element to consider in San Francisco, a city so famously known for building on its steep grades.

There is a whole body of research dedicated to design of the built environment and calculation of walking speed. One study that explores such factors is “Environmental Factors Influencing Pedestrian Walking Speed”, in which Marek Franek links walking speed with emotional and psychological stress levels based on surrounding urban environmental factors like greenery, traffic, noise, and density. In “How Important Is The Land Use Mix Measure In Understanding Walking Behaviour? Results From The RESIDE Study”, Hayley Christian offers Land Use Mix (LUM) as another deciding factor.

While the network analyses used in this research does consider certain environmental factors, further attempts at the material should include other factors so as to produce an even more exact service area and consequently a more accurate opportunity study for parklets and plazas in San Francisco.

Research Questions

Pavement to Parks receives countless common questions about its projects on a daily basis. While most of these questions may be simple to answer, the data has not yet been gathered into an accessible report for the public to access.

This report will help to answer a number of these questions, including:

1. How and where has Pavement to Parks grown since 2009?
2. How does parklet distribution throughout the City differ between Neighborhoods? By supervisor district?
3. What is the relationship between parklets and Neighborhood Commercial Districts?
4. Should the location of parklets be limited by street grade?
5. What are the different types of parklet sponsors and how does distribution vary amongst sponsor types?
6. Where do parklets serve best as a public seating space?
7. How does the bicycle network connect with the parklet network?

The 4 main questions this report will answer using GIS Analysis are as follows:

1. In what land use and zoning mixes have parklets emerged?
2. Which areas of the city are served by parklets or plazas? Which areas are not?
3. Which demographics do parklets and plazas serve in San Francisco?
4. Where are the best opportunities for future parklets and plazas?

Parklets & Plazas in San Francisco

Pavement to Parks has grown at a steady pace since its inception in 2009. As of March 2014, there were 44 parklets and 4 temporary plazas on the ground. In the next 24-36 months, the number of projects could double, with 38 parklets and 2 temporary plazas in the pipeline.

As the program continues to expand, P2P should be methodical and fair in its selection of future proposals to ensure geographic equity, or equal access for all citizens.

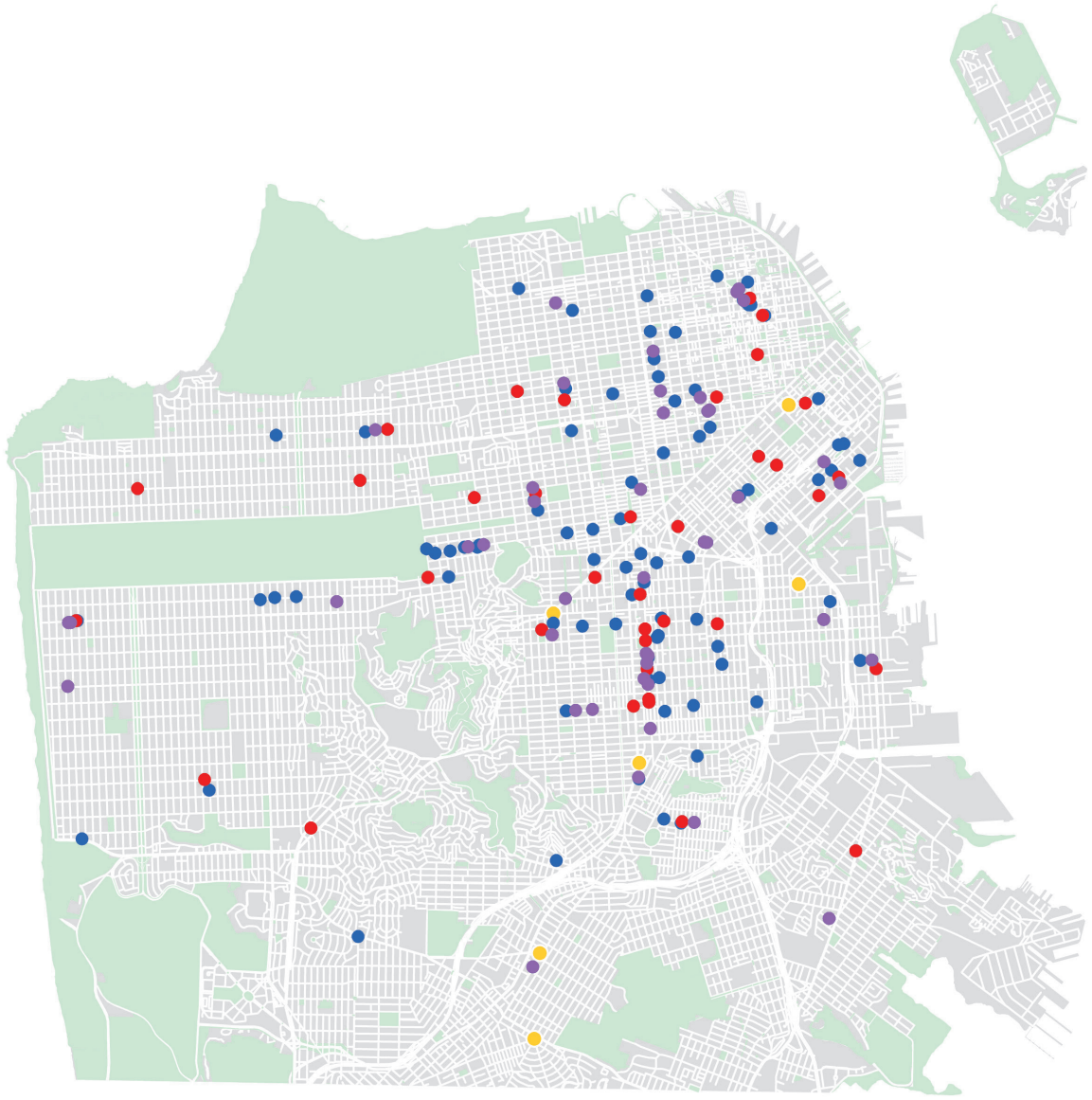
Total: 168

38 Pipeline Parklets

44 Installed Parklets

86 Proposed Parklets

5 Plazas



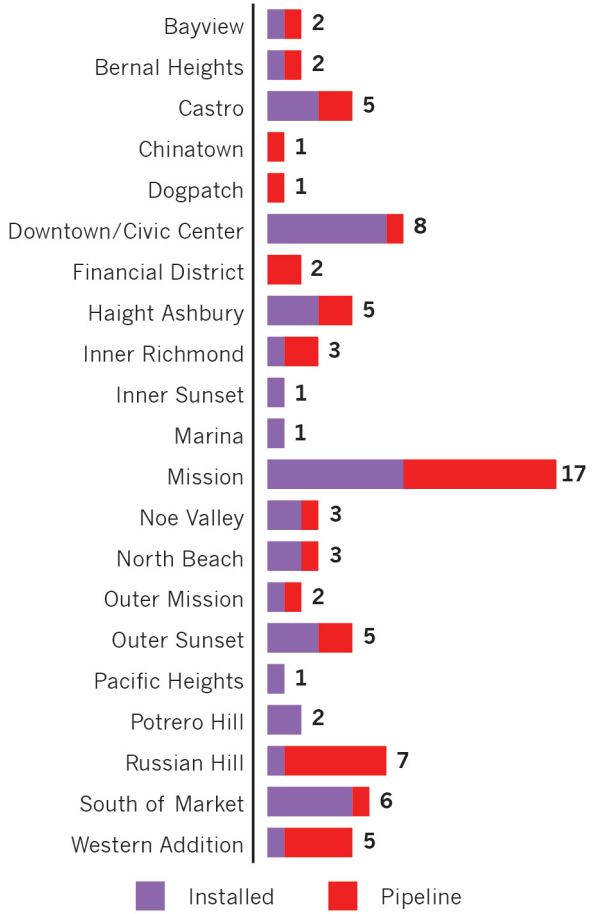
Installed: Project is currently in the ground or undergoing upgrades.
Pipeline: Project is in some stage of design or permitting (Expected installation between 12-24 months).
Proposed: All project proposals ever submitted (some of which were not permitted or have been removed).

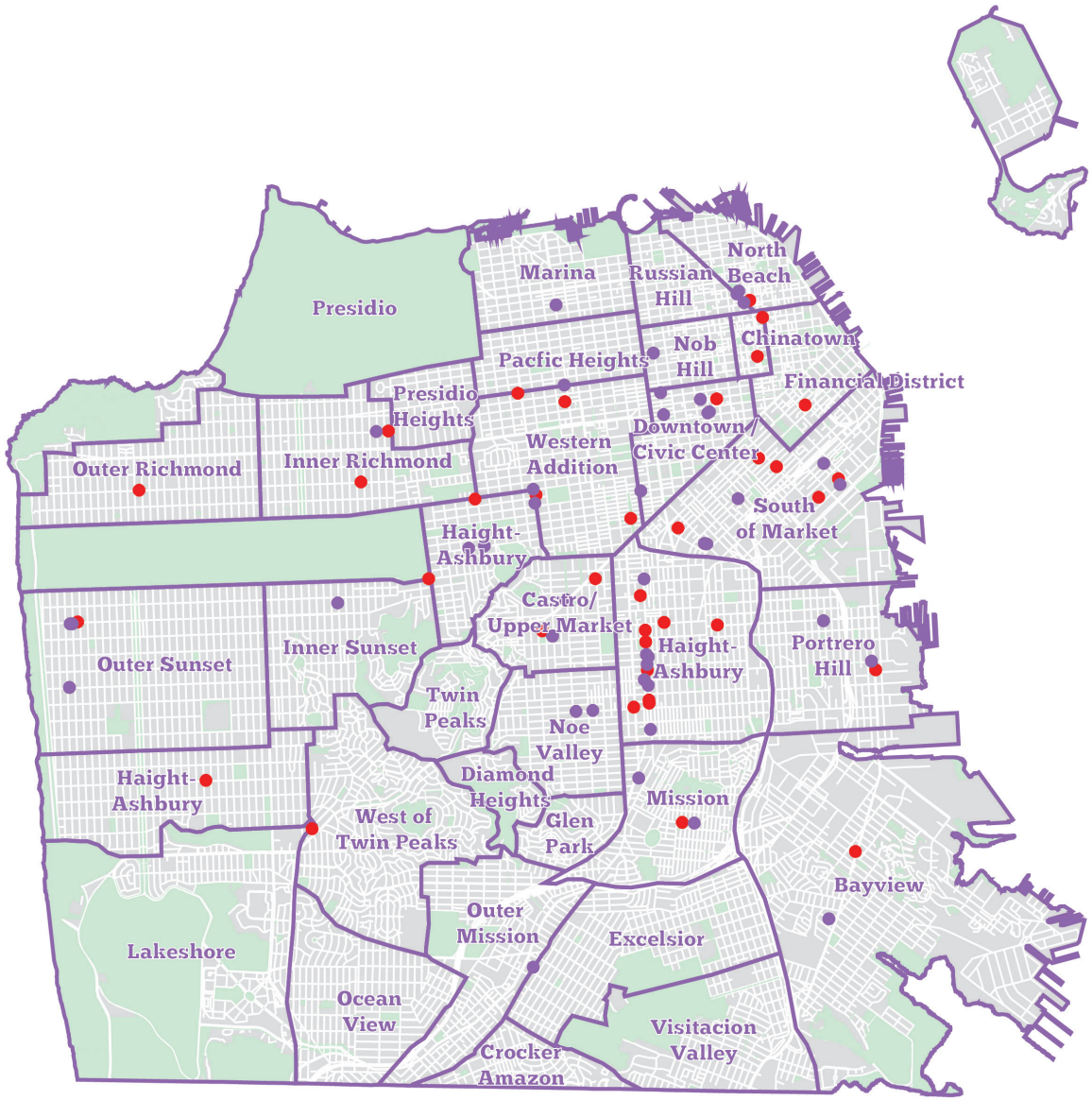
Preliminary Findings

Geographic Distribution of Parklets

Neighborhoods

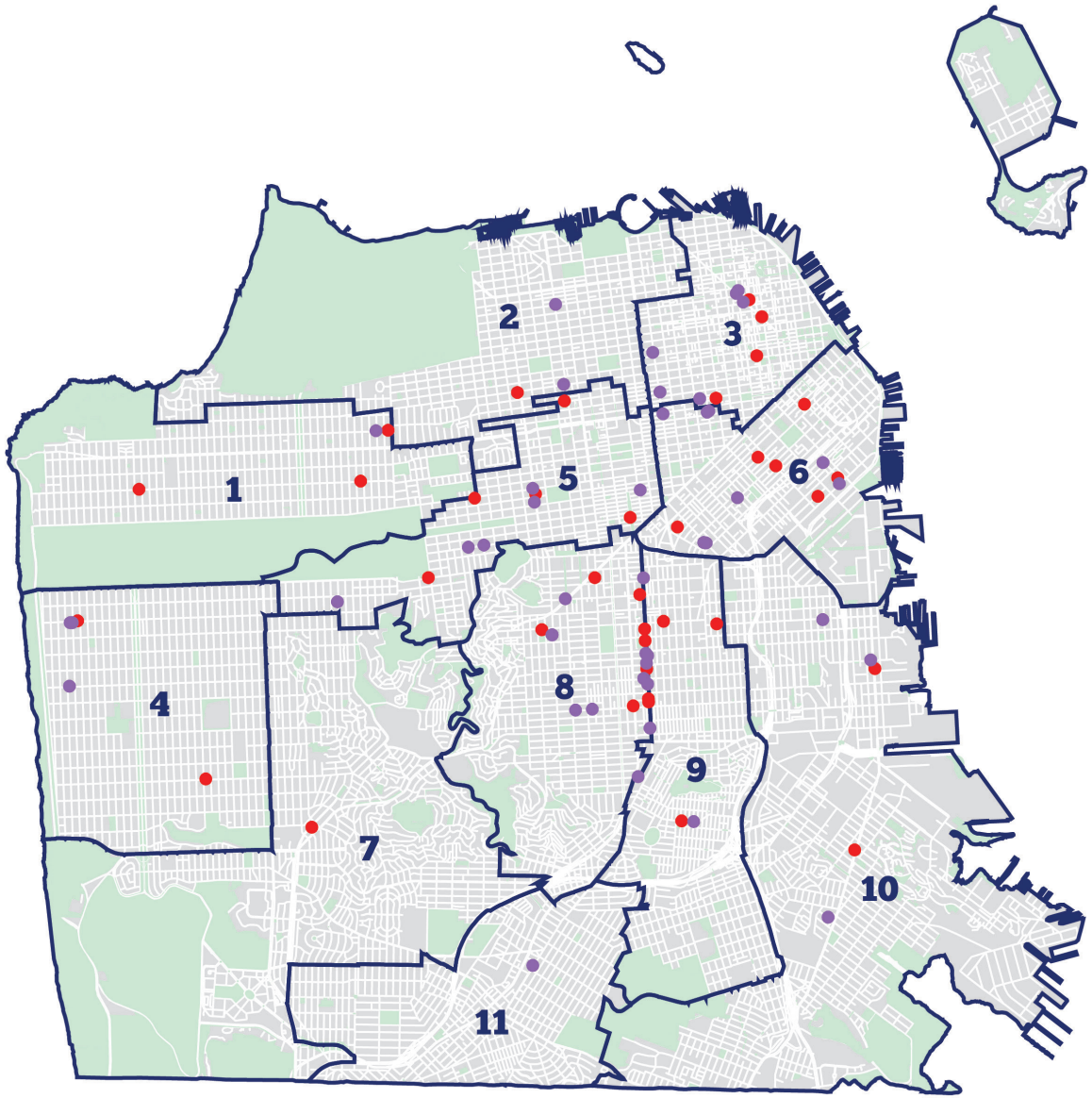
The distribution of parklets is clearly uneven across Neighborhood boundaries. Some neighborhoods like the Mission have a high number of parklets, while others are under-represented. Parklets have yet to be built in some neighborhoods, for example Chinatown and the Outer Richmond. P2P should coordinate more closely with the Neighborhoods with lowest parklet counts to ensure geographic equity.



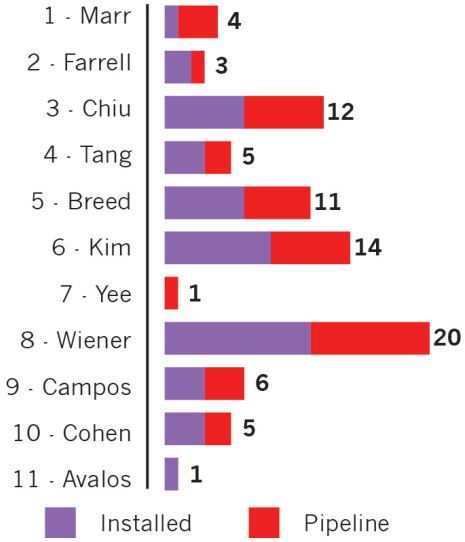


Geographic Distribution of Parklets

Supervisor Districts



A number of Supervisors have shown interest in encouraging parklets in their districts through partial funding. In 2014, District 1 Supervisor Mar established a Parklet Completion Grant that provides some funding to help projects with the final expenses associated with implementation. The San Francisco Parks Alliance also acts as a fiscal sponsor to these projects, which include Cumaica on Clement Street and Simple Pleasures Cafe on Balboa. Through Participatory

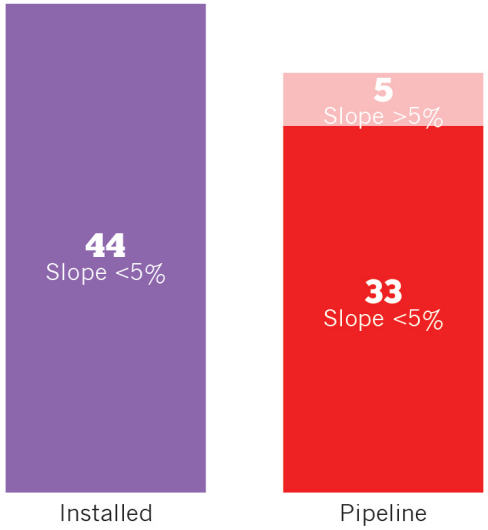


Budgeting in 2014, District 7 Supervisor Yee was able to provide some funding to the parklet at Greenhouse Cafe in West Portal.

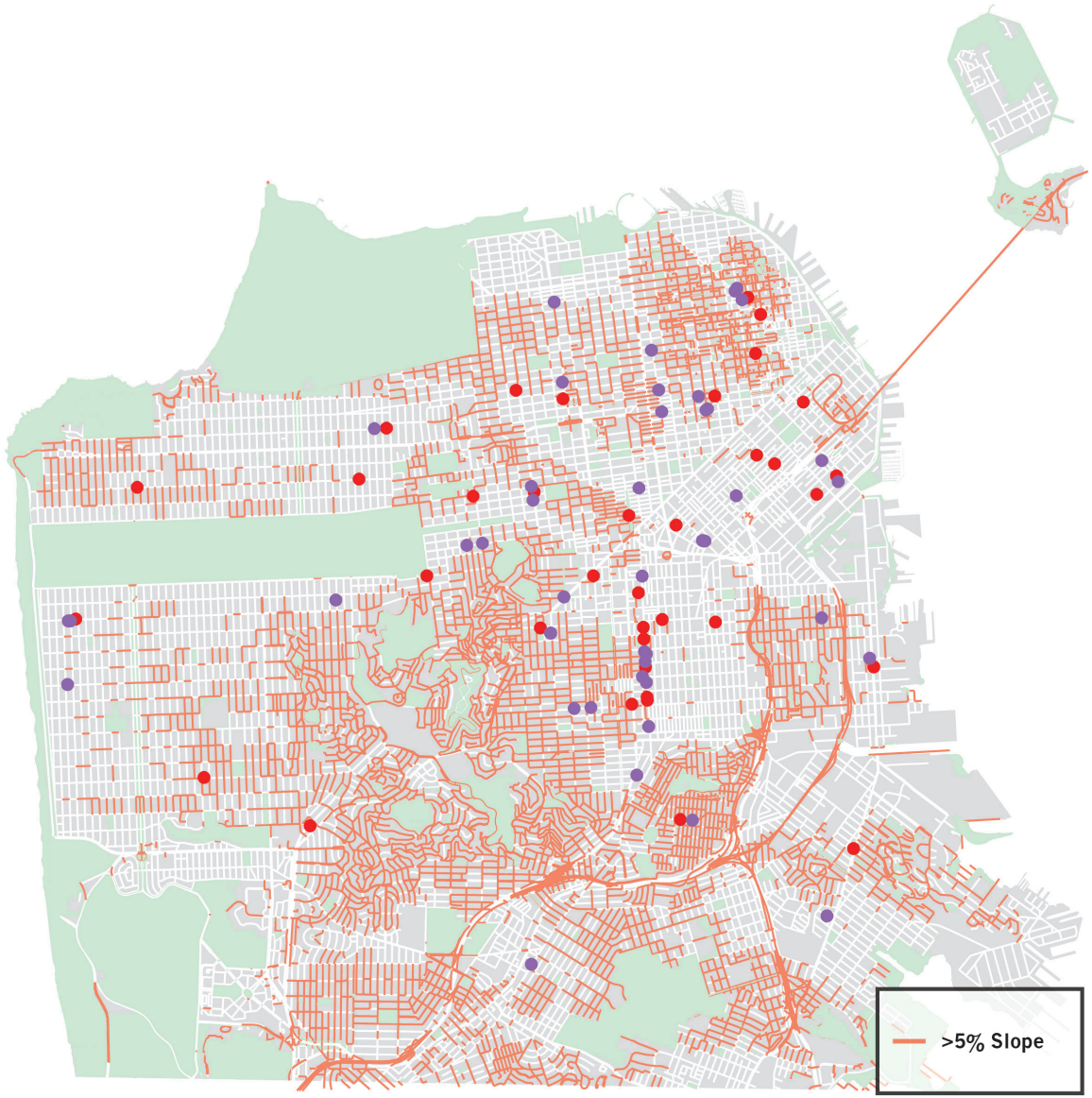
The distribution of parklets is uneven across Supervisor Districts. If a constituent in those districts and/or the supervisor desires more parklets, P2P should coordinate more closely with the districts with lowest parklet counts to ensure equity between districts.

Parklets & Street Grade

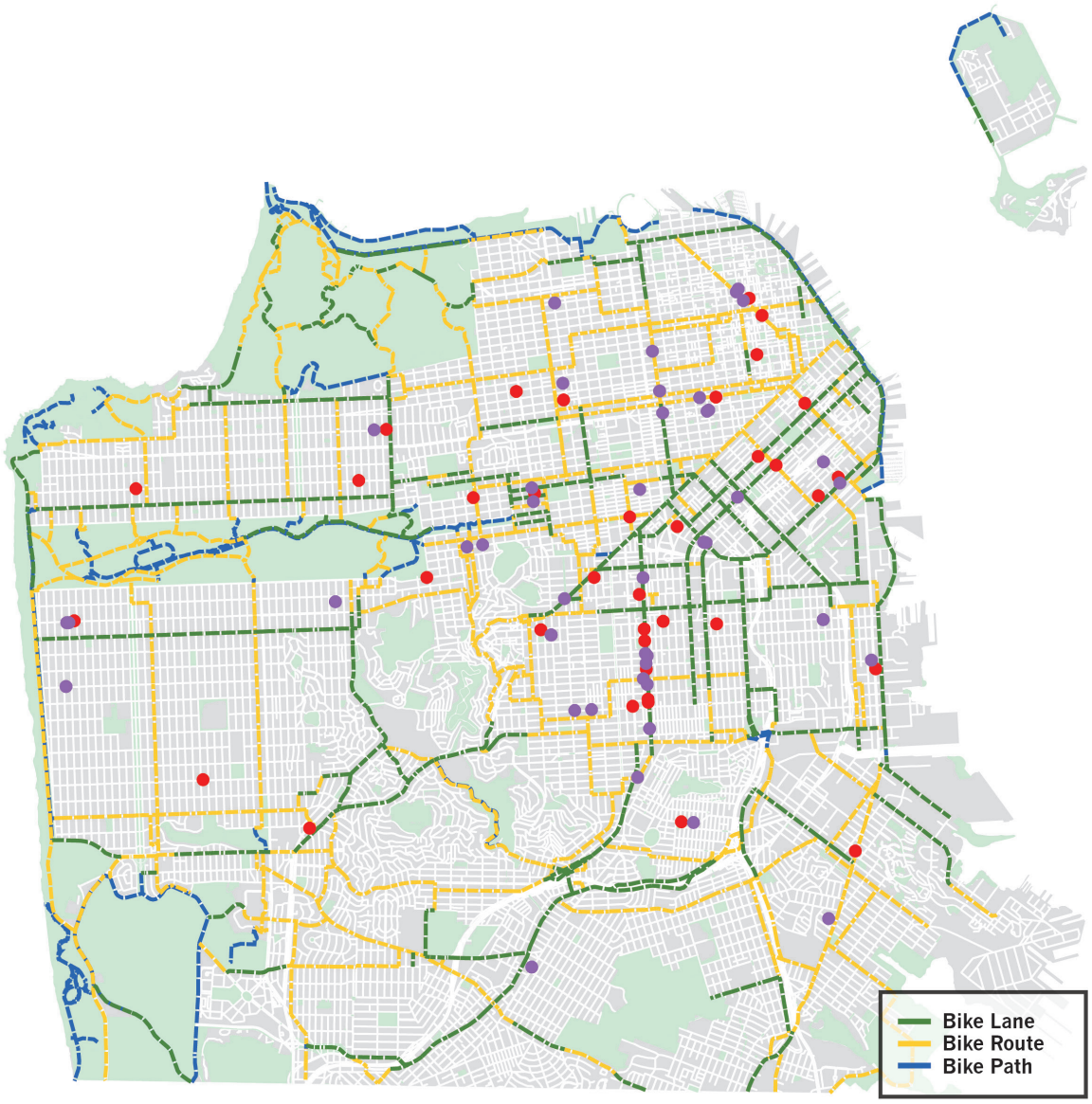
The San Francisco Parklet Manual[21] recommends that parklets be built on streets with a grade of less than 5% to maximize accessibility for disabled users and to minimize design challenges. While all parklets installed to date heed this recommendation, Pavement to Parks has selected a handful of pipeline parklets that will experiment on grades over 5%.



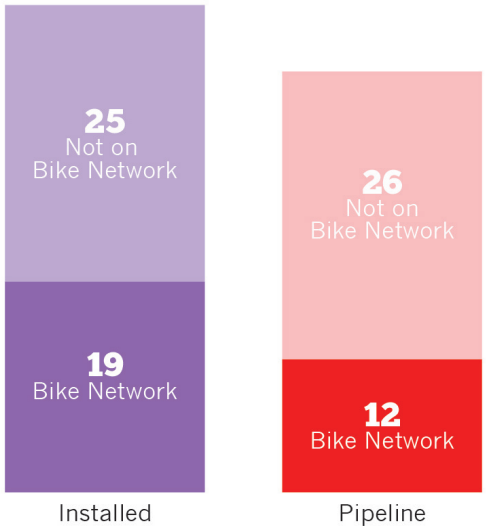
Until parklets designers can prove a worthwhile solution for steep slopes, P2P should prioritize sites on street grades of less than 5% to maximize accessibility for all users.



Parklets & Bicycle Access



Although the SFMTA has an extensive network (250+ miles)[22] of bike lanes, paths, and routes throughout the city, less than half of all parklets fall along San Francisco's bike network. Although no direct correlation has yet been made between bicycle infrastructure and successful parklets, P2P should prioritize parklets that fall along bicycle routes to emphasize its goals of encouraging non-motorized transportation and enhancing pedestrian safety.



Bike Lane: striped, marked, and signed lanes for bicycle travel

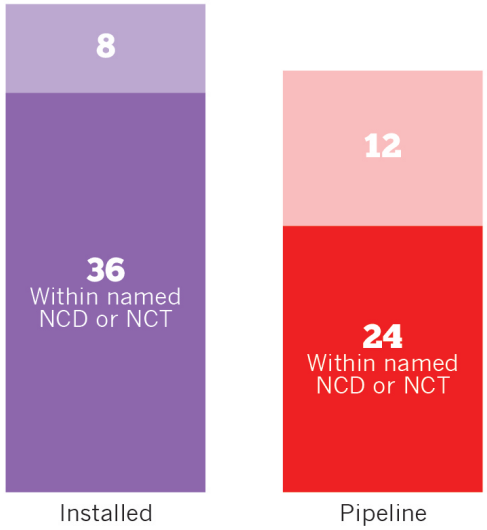
Bike Route: shared travel lane marked and signed for shared use.

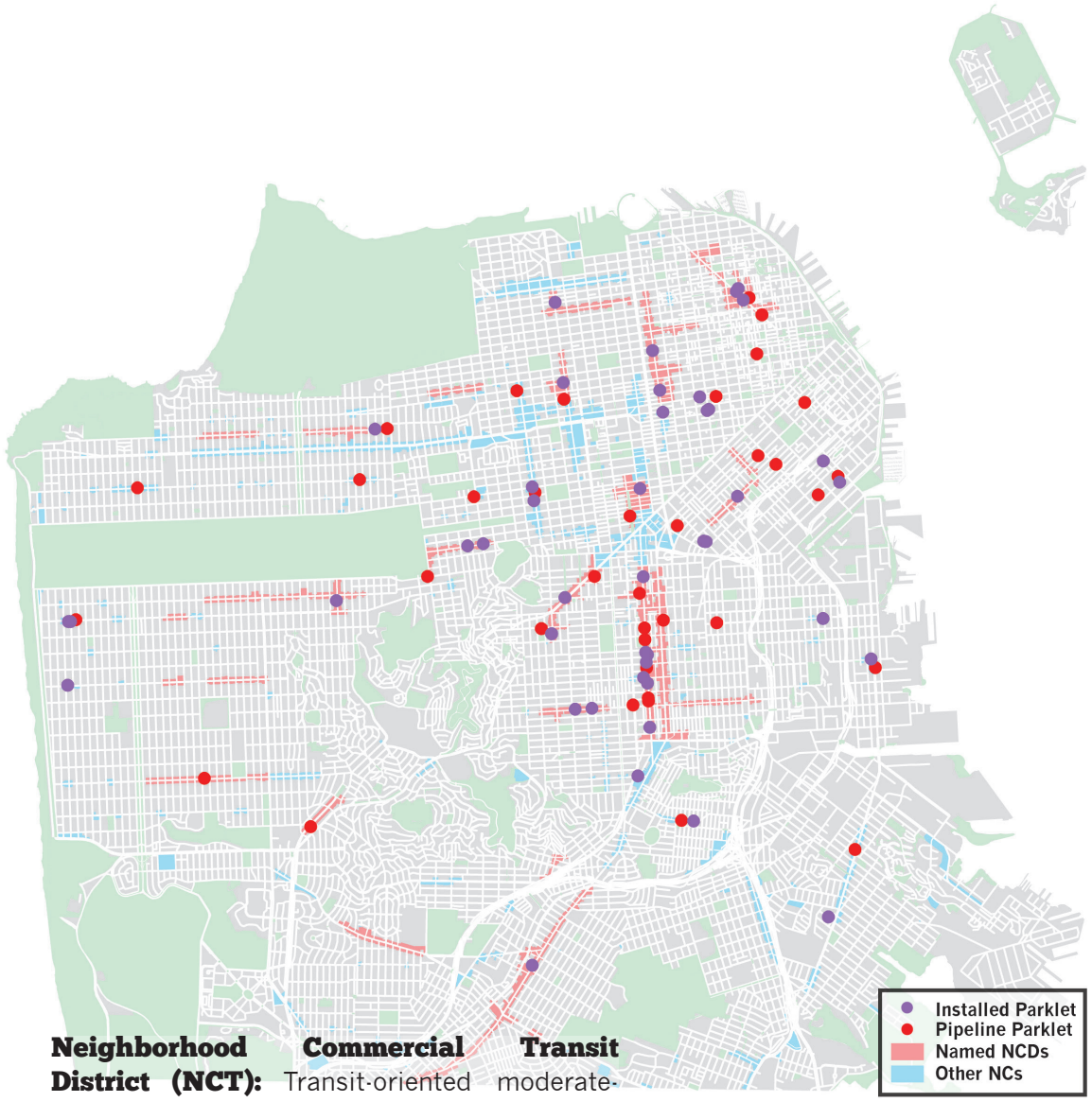
Bike Path: Off-street paved bikeways separated from vehicle traffic, but almost always shared with pedestrians.

Parklets & NCDs

Because parklets are mostly sponsored by commercial businesses, the majority of parklets fall within a named NCD or NCT. The outliers are also normally found in commercial hubs that have not been officially designated by the OEWD . [9]

Generally located in the high pedestrian traffic centers of neighborhoods, NCDs are optimal locations for parklets to perform their function as nodes for community interaction. To most efficiently serve a high amount of pedestrian traffic, P2P should prioritize parklets that fall within NCDs or NCTs.

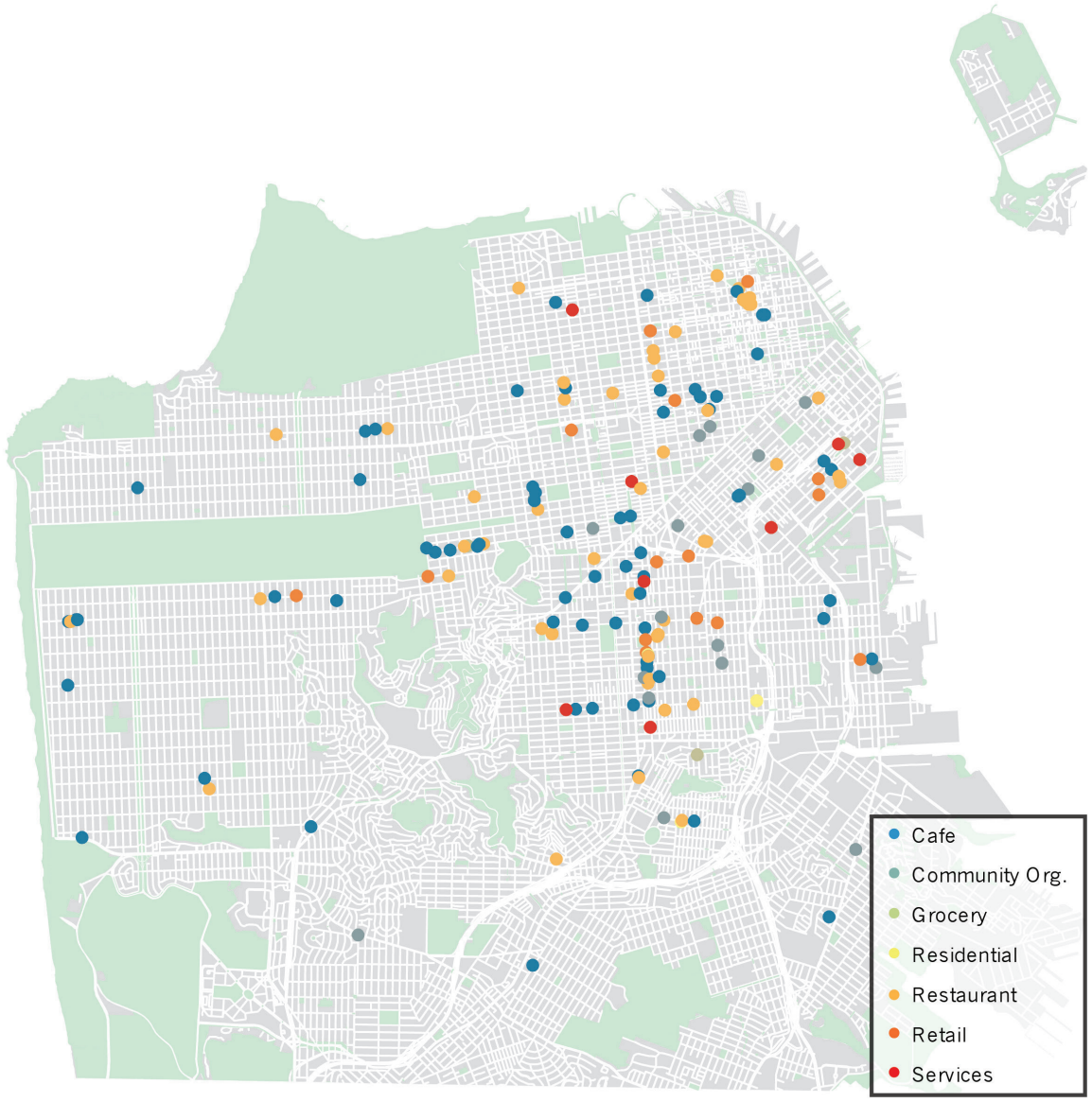




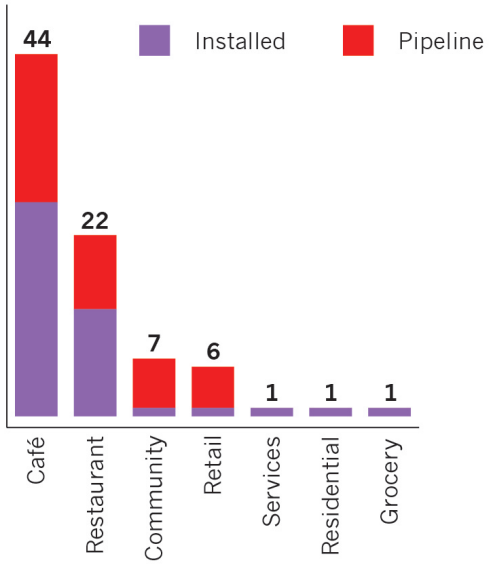
Neighborhood Commercial District (NCD): Neighborhood-serving clusters of commercial activity, normally mixed-use in nature characterized by specific zoning codes

Neighborhood Commercial Transit District (NCT): Transit-oriented moderate- to high-density mixed-use neighborhoods of varying scale concentrated near transit services

Parklets & Sponsor Type



To date, most parklet sponsors are either cafés or restaurants. Because most parklets are sponsored by these private businesses, many user groups develop the misconception that they must purchase something from the adjacent business in order to enjoy the parklet.



To encourage use by different social and economic groups, P2P should diversify sponsor type in future RFP selection. Parklets at community institutions like museums, galleries, and community centers will help to break down these social barriers.

Parklets & Table and Chair Permits

Tables and Chairs provide customer-only seating along the frontage of a business, while parklets provide seating for the public in 1-3 parking spaces fronting the business.

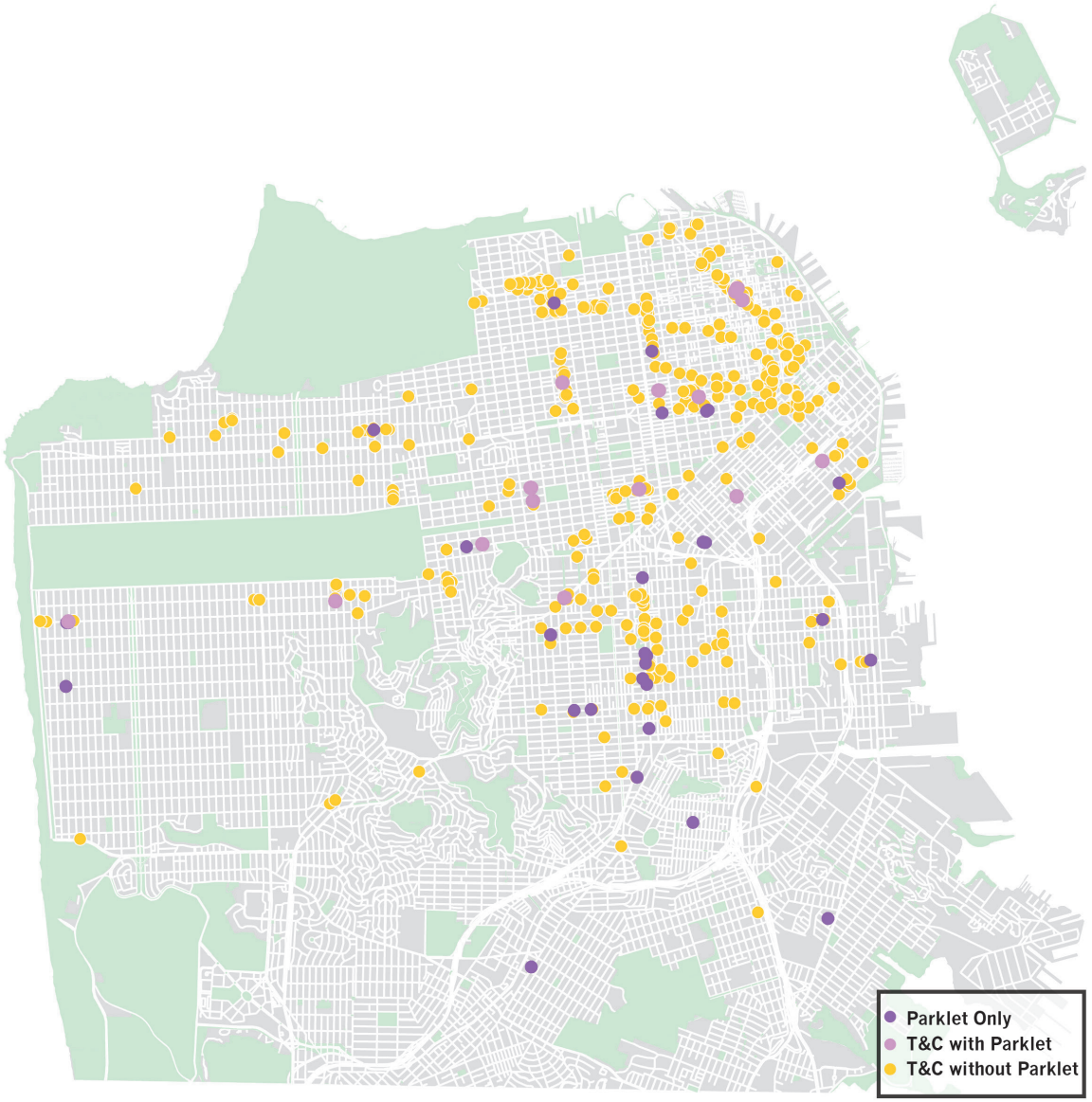
While some businesses apply for both permits, the majority of parklet sponsors do not have table and chair permits.

15
Parklet + T&C

29
Parklet Only

Installed

To help clarify the public nature of parklets, future parklets should be prioritized in locations that do not already have tables and chairs.

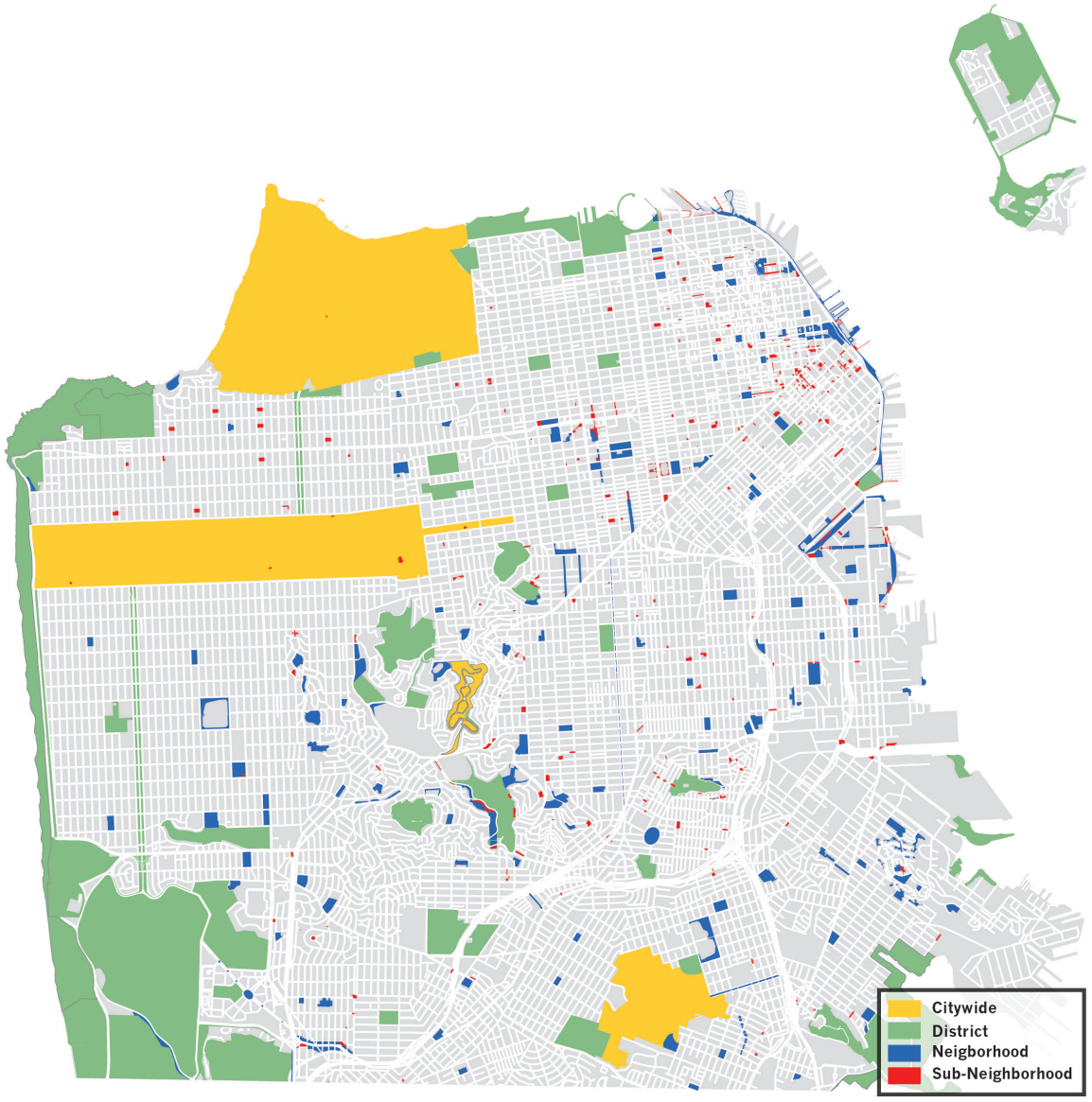


Methodology

For the purposes of this study, "Open Space" refers to a wide variety of land that falls within the public realm, including Natural Areas, Parks, Plazas, Mini-Parks, Playgrounds, Green Strips, Street Parks, Community Gardens, Privately Owned Public Open Spaces (POPOs), Piers, and Wharfs.

Open Spaces vary so drastically in size, character, and use. Therefore the same walkshed value should not be applied universally to all types of spaces. Instead, this study utilizes the classifications and accompanying service areas established in San Francisco's General Plan. The classifications are based on characteristics like size (area) and use (active or passive):

Citywide Serving: 1/2 mi. (10 min. walk)
District Serving: 3/8 mi. (8 min. walk)
Neighborhood Serving: 1/4 mi. (5 min. walk)
Sub-neighborhood Serving: 1/8 mi. (3 min. walk)



Geographic Information Systems (GIS) can be a very powerful tool in finding geospatial relationships between different features on a map. The program has an extensive toolkit for analyzing the way geographies interact.

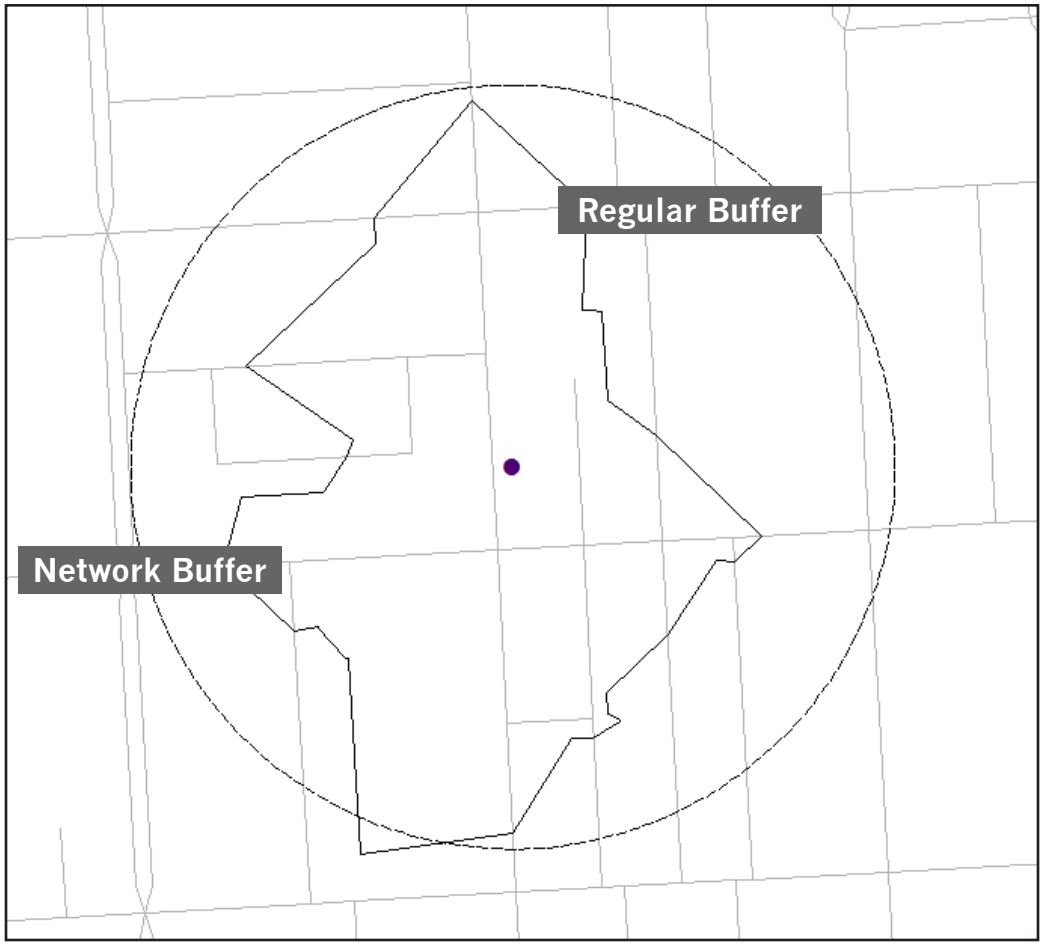
The two primary tools used in the study of geographic access of parklets, plazas, and open spaces are the (1) Regular Buffer and (2) Network Buffer:

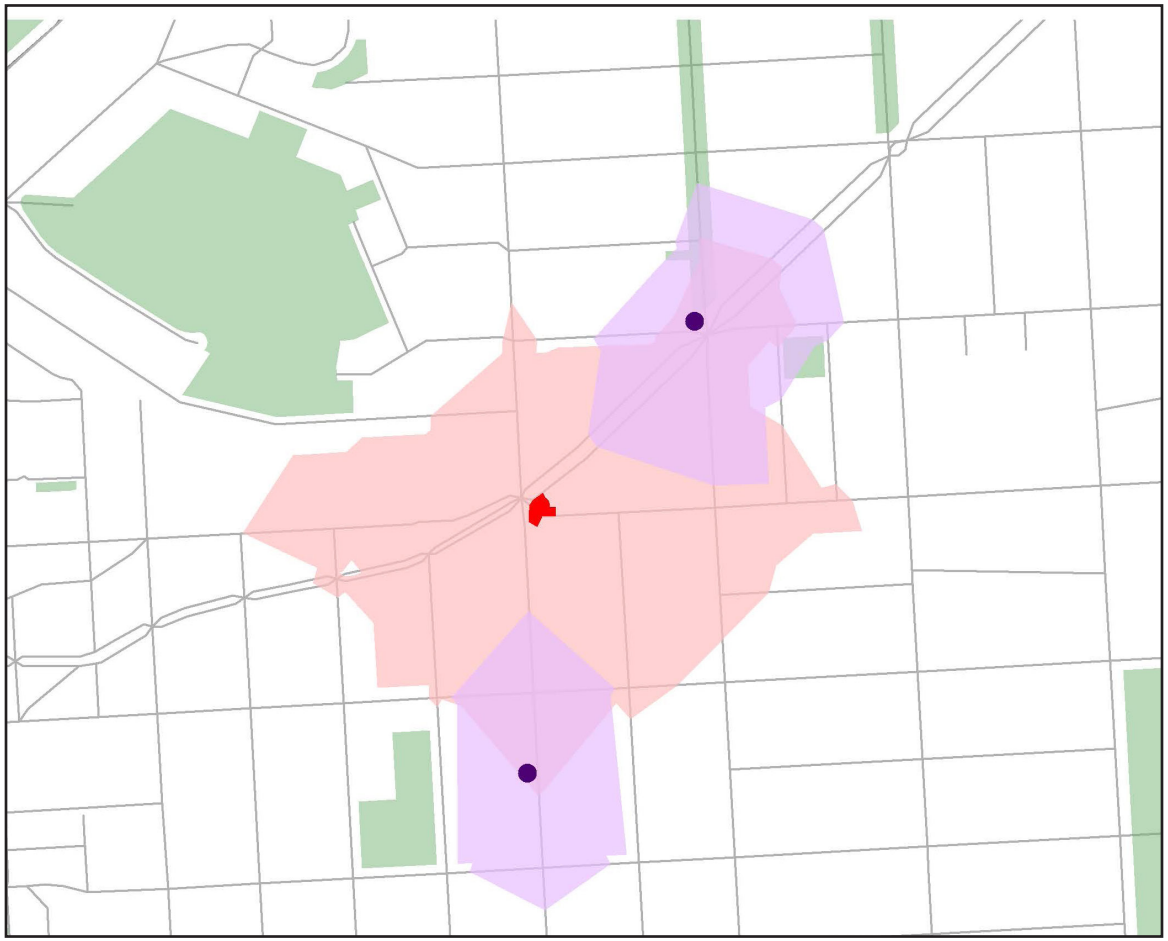
Regular Buffer uses a straight radius in its calculation of a walking distance; end result is a circle around a point.

Network Buffer uses the existing street network and incorporates turns, inclines, and other factors in its calculation of walking distance; end result is a complex polygon around a point.

The tools are similar in that they both produce a new shape layer (a walkshed or service area) around a given point (a parklet, plaza, or open space).

A Network Buffer accounts for a number of variables, producing a more precise and realistic set of distances away from a certain point. While the research experimented with both buffer types, a Network Buffer was chosen for its nuances to carry out the majority of the analysis in this report, and particularly in the Opportunity Study, itself.





Walkshed: the distance one feels comfortable walking to an amenity; in the case of this study, a parklet, plaza, or other open space.

After reviewing the classifications set out in the San Francisco General Plan's Recreation & Open Space Element, Parklets most closely resemble sub-neighborhood serving spaces in terms of size and use, for example pocket parks. For this reason, this study assigns a 1/8 mi. (3 min.) walkshed for parklets. While this service area may seem very small, it draws on the common assumption that people will only use a parklet if it is within a very short walk of a business they are supporting. Further qualitative surveys could help to prove or disprove this notion.

Likewise, plazas were found to most closely resemble neighborhood serving spaces, for example the Privately Owned Public Open Spaces (POPOs) and other comparable, hardscape plazas found around the San Francisco's downtown area. A 1/4 mi. (5 min.) walkshed is used for plazas.

Buffer

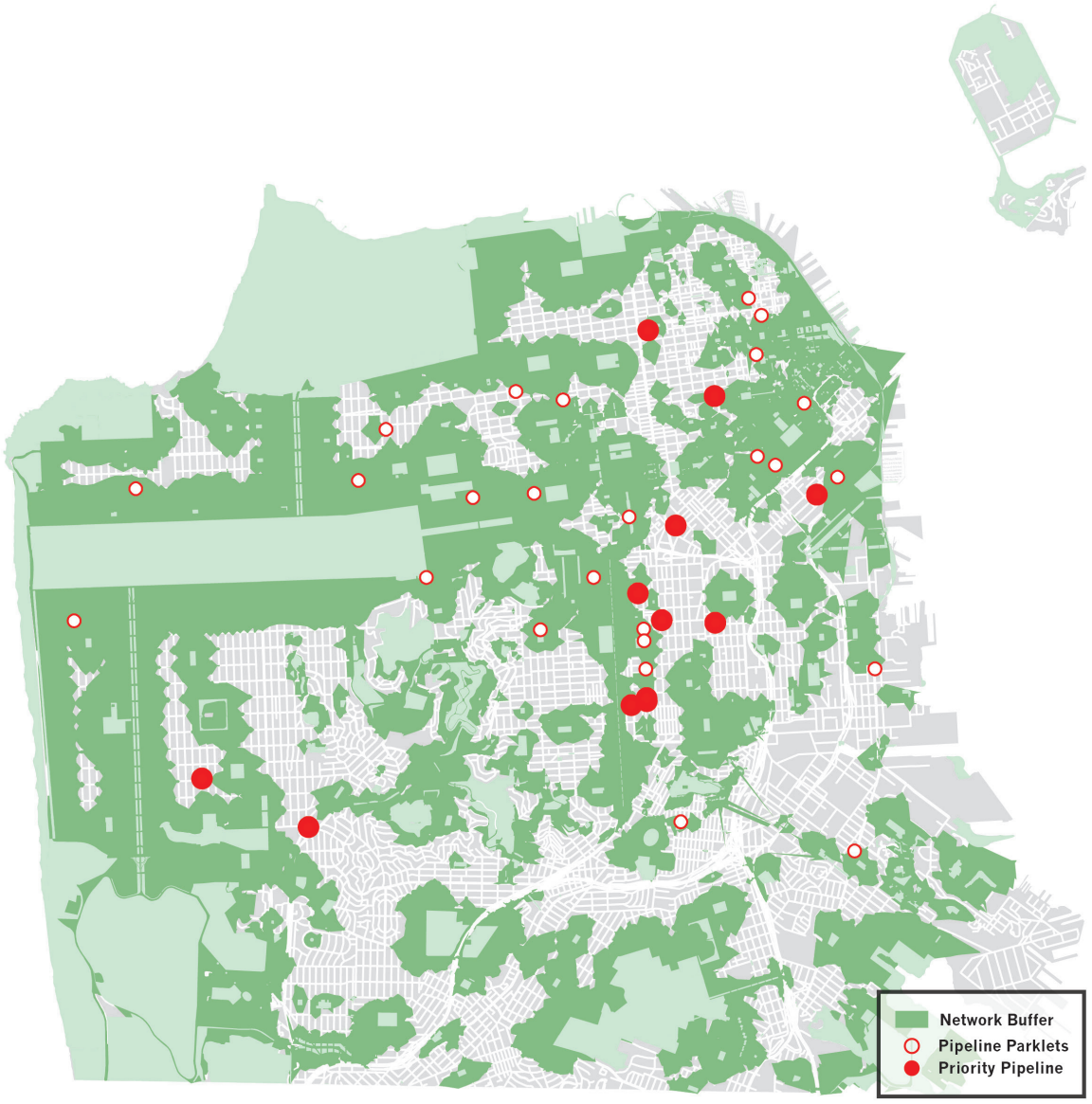
After running a **Simple Buffer** (1/8 mi. on installed parklets, 1/4 mi. on plazas, and the aforementioned four values on open spaces), the resulting figure ground shows only a few remaining areas that do not have access to parklets, plazas, or open spaces.

The simple buffer takes over most of city, leaving far too small of an opportunity area for pipeline parklets (shown as red points on the accompanying map). To produce a more realistic catchment area and a larger opportunity area for pipeline parklets, one must turn to a Network Buffer.

Network Buffer

The **Network Buffer** shown here utilizes the same values for service areas around installed parklets, plazas, and other open spaces as discussed in the simple buffer.

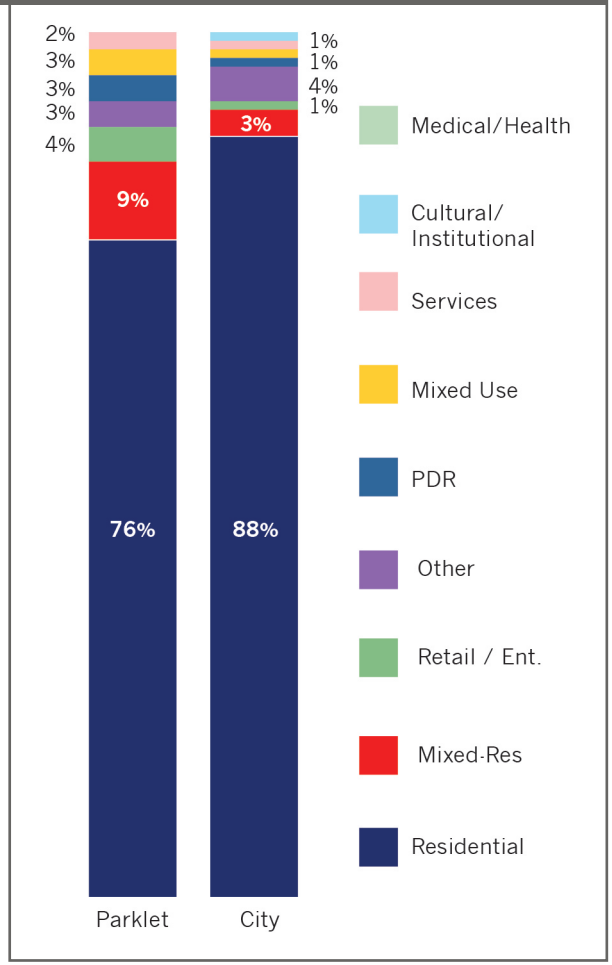
As network buffers account for the existing street network, slopes, and turns, the resulting figure ground leaves a greater percentage of white area, or areas without access to parklets, plazas, or other open space. Many more pipeline parklets are captured with this method. The pipeline parklets positioned outside of the open space network may be classified as the priority pipeline parklets.



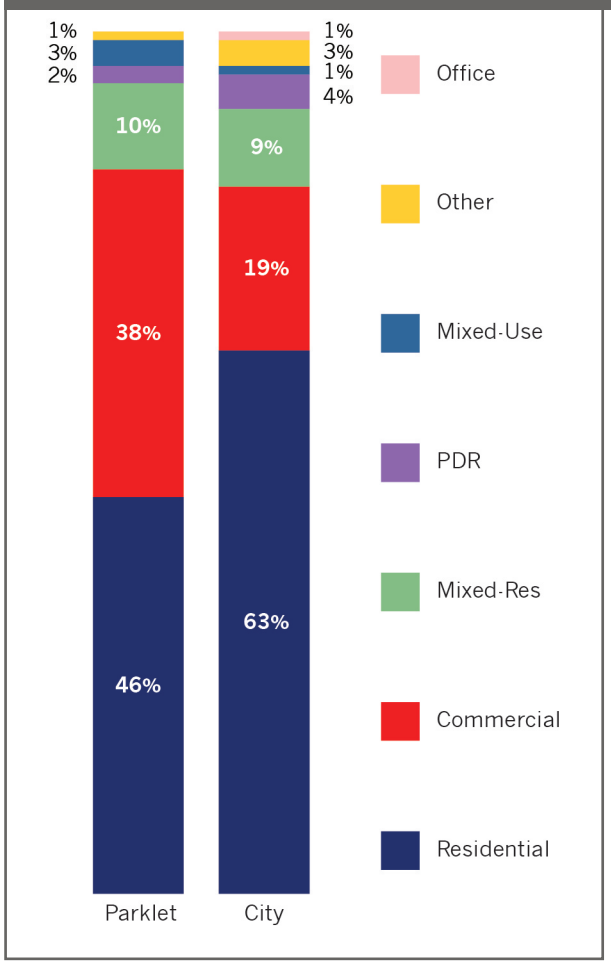

Analysis

Q1: In what land uses and zoning mixes have parklets emerged?

Parklets & Land Use



Parklets & Zoning



After running a network buffer on all parklets and plazas, one is able to extract data on Land Use and Zoning (provided by SF Planning) from these walksheds to determine the mixes in which parklets emerge. Results showed that compared to the city as a whole,

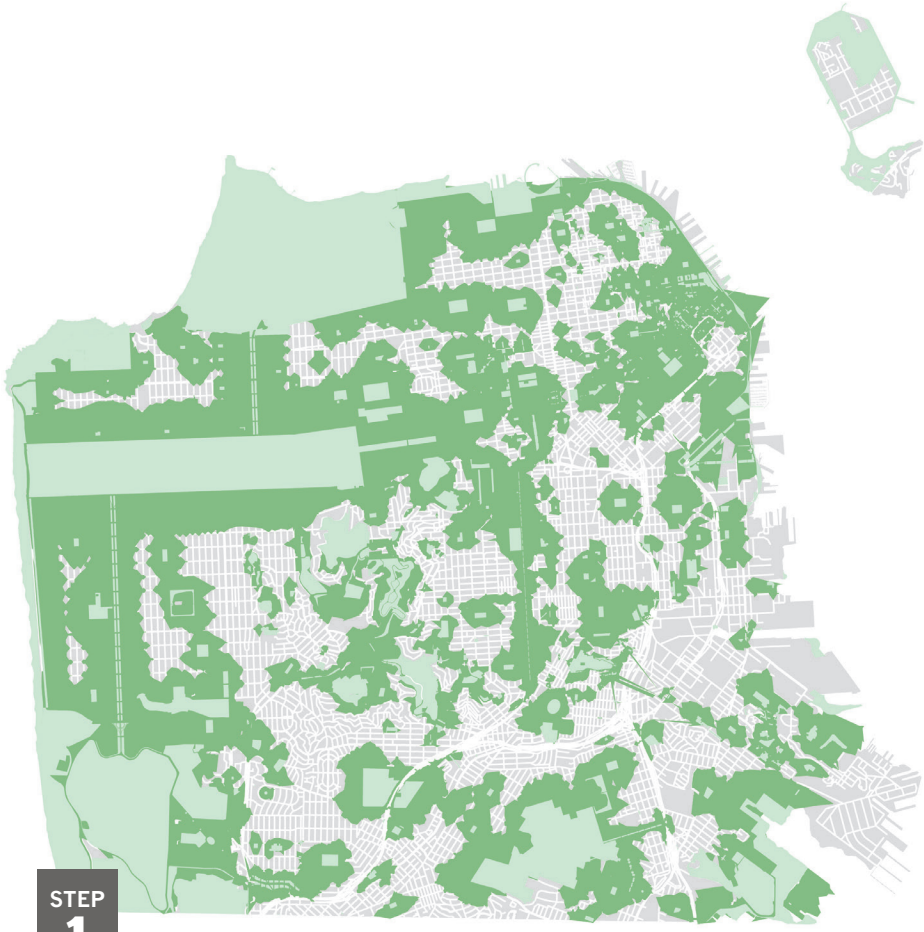
(1) The service area for parklets includes a greater percentage of Residential Mixed Use or Retail / Entertainment Land Use,

and

(2) The service area for parklets includes a greater percentage of Commercial Zoning Districts.

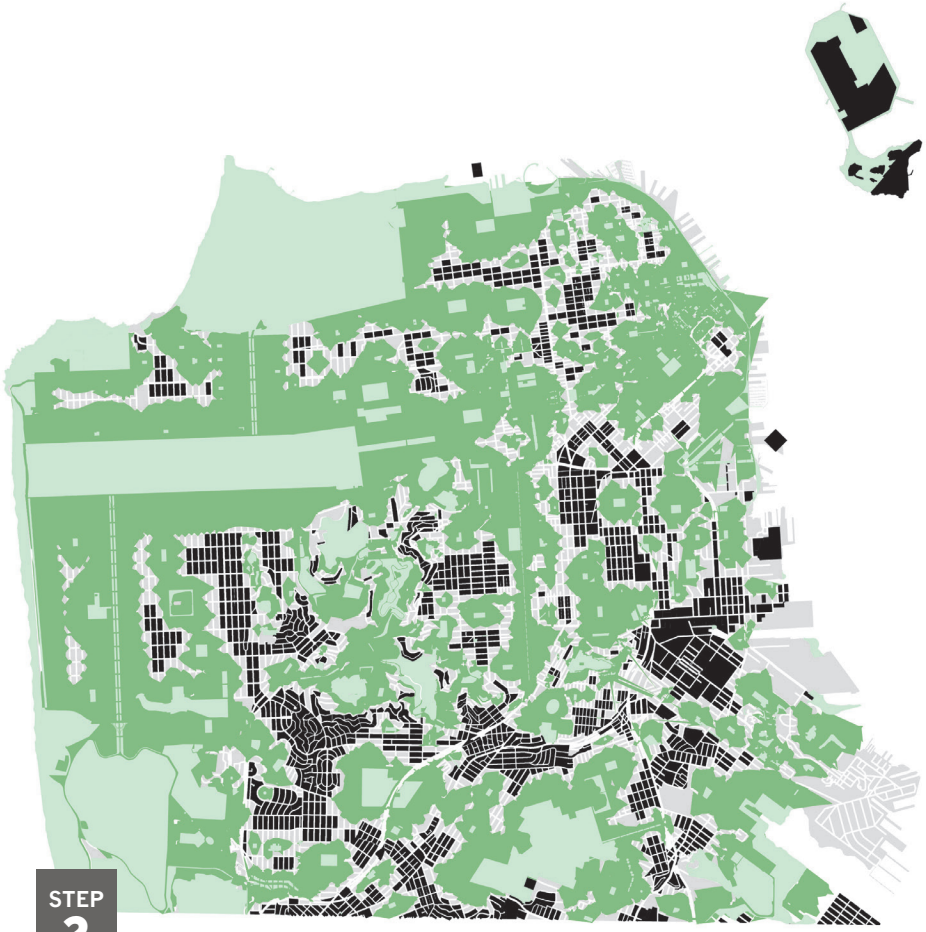
This higher percentage of Commercial uses comes as no surprise. In fact, this conclusion is supported by a finding, presented earlier in this study, that majority of parklets fall within named NCDs and NCTs - areas characterized by their Mixed-Residential land use and zoning mixes.

Q2: Which areas of the city are served by parklets or plazas? Which areas are not?



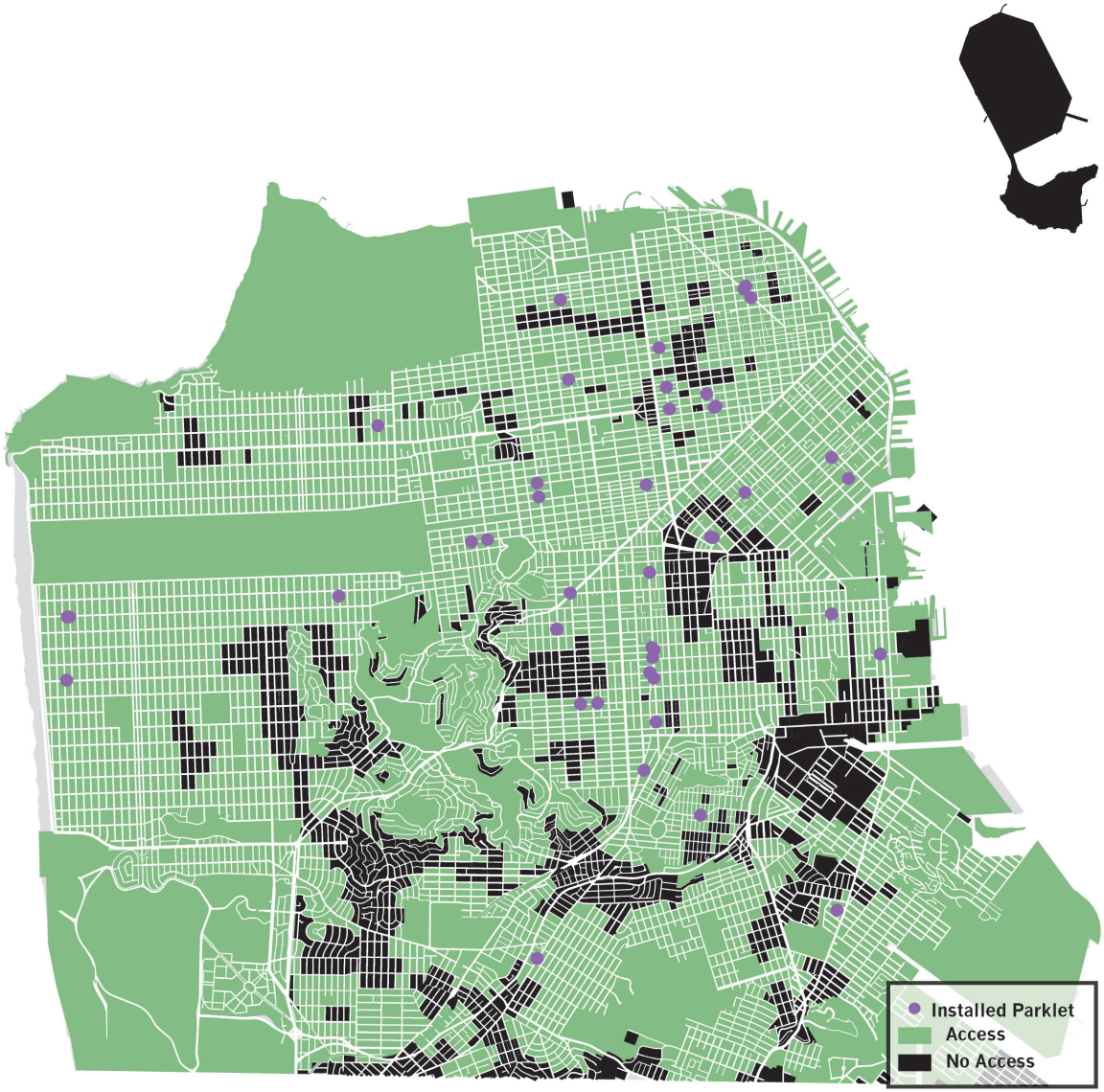
STEP 1

Final Network Buffer



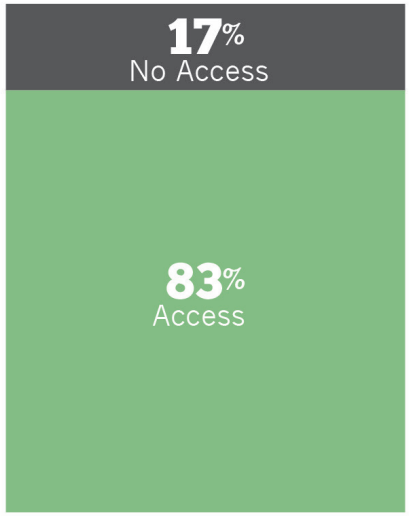
STEP 2

Final Network Buffer + No Access Census Blocks



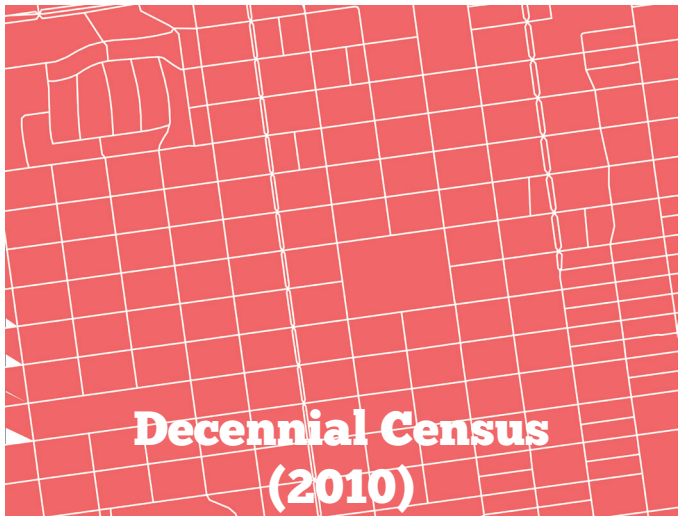
The San Francisco General Plan's Recreation and Open Space Element maintains that "Every San Franciscan should be served by a park within walking distance of their home." For the purposes of this study, access can be defined as being within the associated service area of an installed parklet, plaza, or open space.

By overlaying the network buffers of parklets, plazas, and open space, one is able to see the gaps in access.



This map shows that 83% of San Francisco has access to open space, parklets, and plazas. The remaining 17% is where Pavement to Parks should focus future parklet development in order to maximize the recreational value of all citizens.

Q3: Which demographics do parklets and plazas serve in San Francisco?

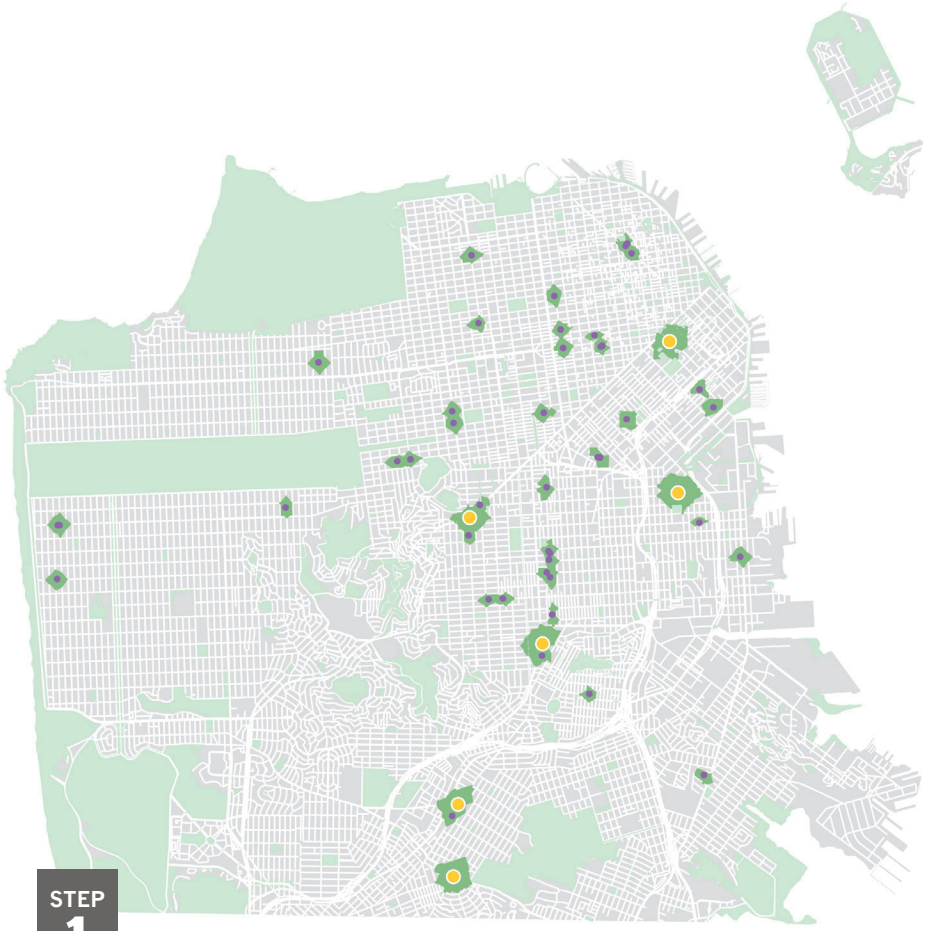


- Data used: Race, Age
- Short survey (fewer categories)
- Samples entire population every 10 years (less frequent)
- Larger population sample
- Smaller geographic unit: blocks and block groups

- Data used: Income, Education, Transportation
- Long survey
- Samples small percentage of population every year
- Less accurate (data is an estimate, includes margin of errora)
- Larger geographic unit: Census Tracts

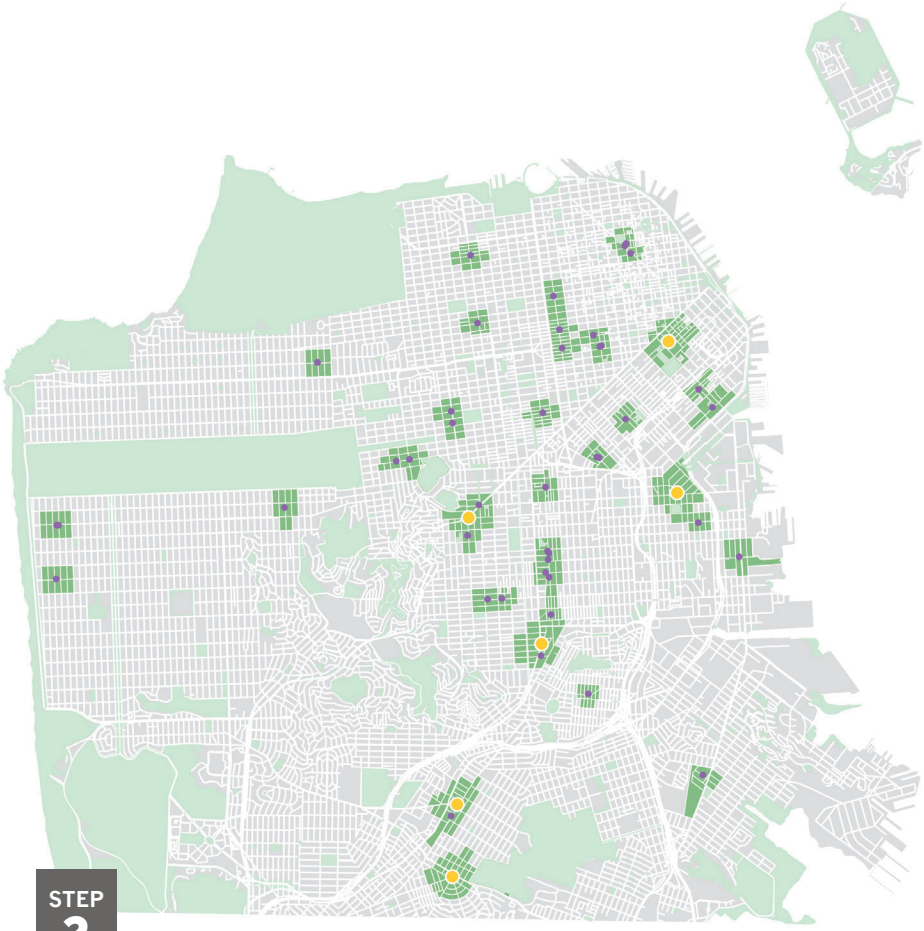
While it would have been ideal to collect all data from one census survey, this study required the use of two different census datasets. On the one hand, the data from the Decennial Census is more thorough in that it surveys a larger part of the population and uses a smaller geographic unit. However the Decennial Census is limited in the types of questions it asks. Whereas the Decennial Census provides data for general demographic information, The American Community Survey provides more in-depth socioeconomic questions.

Decennial Data



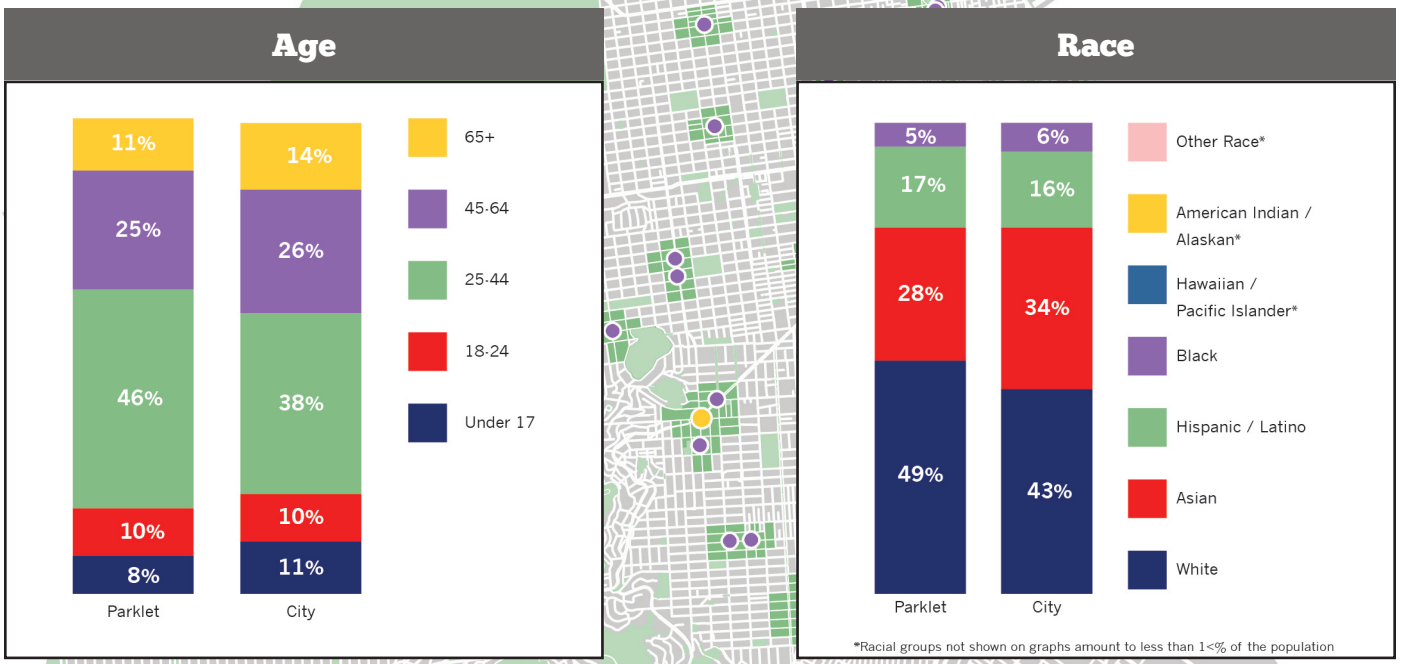
STEP 1

Network Buffer on Installed Parklets + Plazas



STEP 2

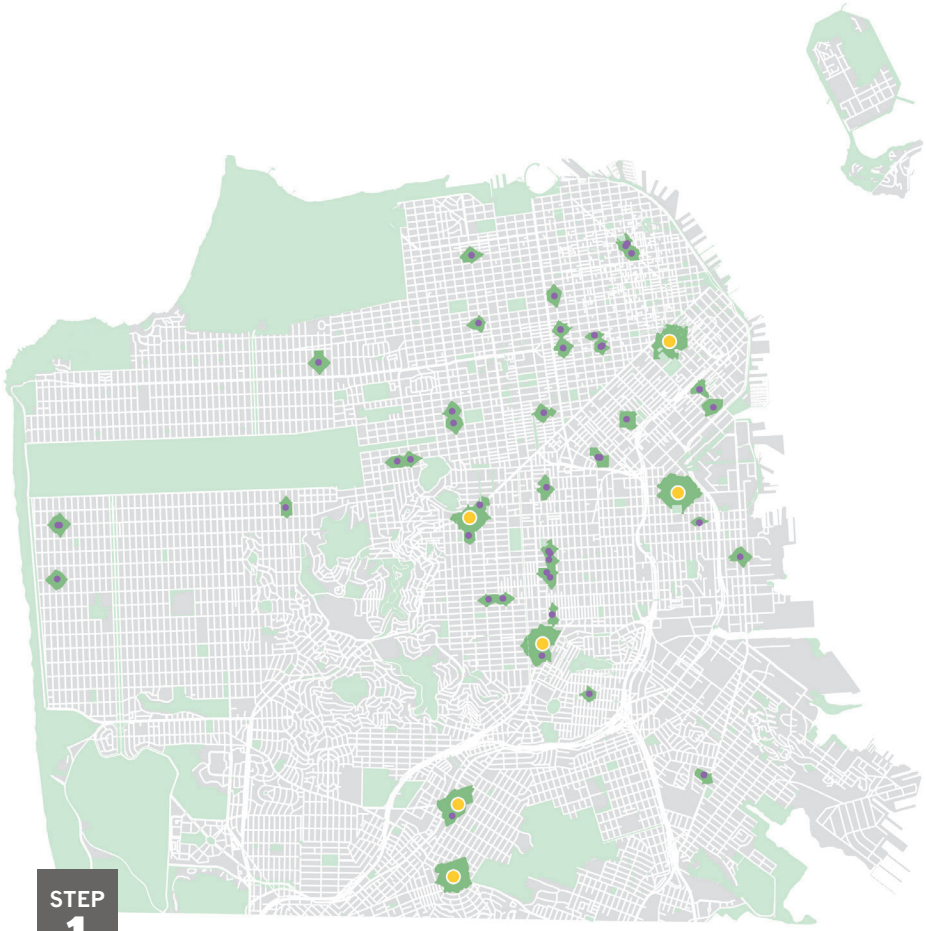
Selection of all Decennial Census Blocks that touch network walksheds



Race and Age demographics are extracted from census blocks, which overlap with the Parklet and Plaza service area generated from a Network Buffer. The results show that in general, populations served by parklets and plazas reflect that of the city as a whole. Accordingly, all citywide demographic groups are represented within a parklet or plaza service area.

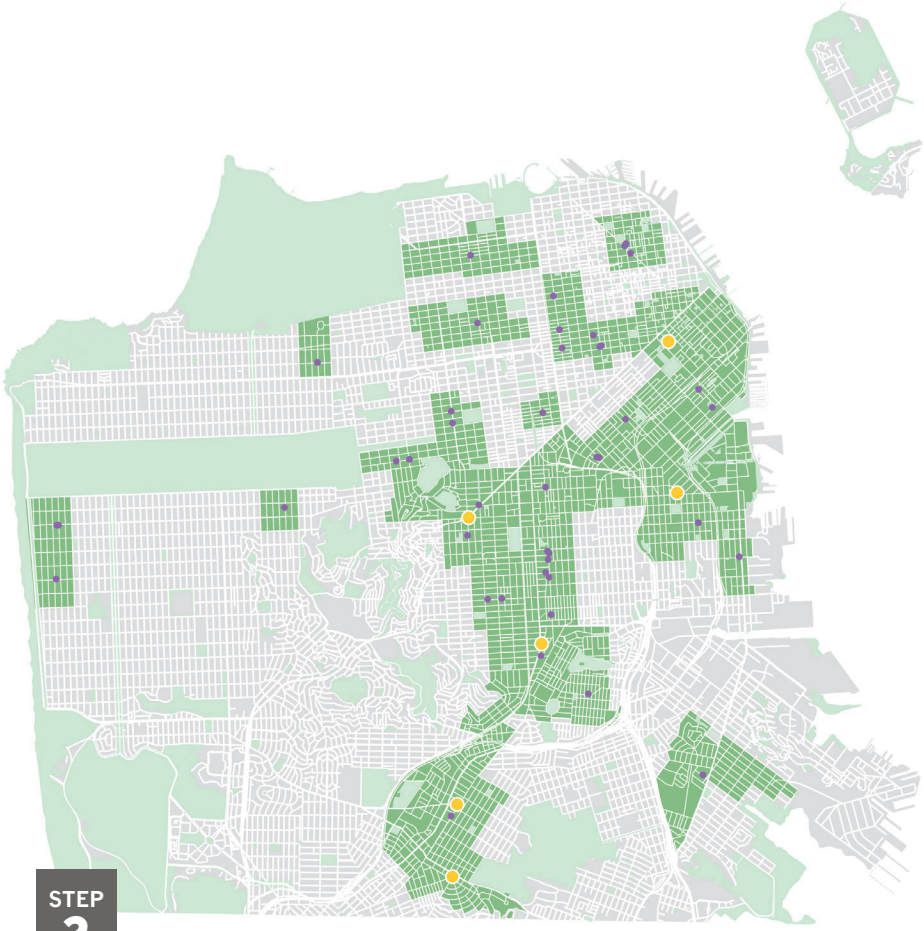
Thus, in seeking future opportunity areas for parklets, Race and Age demographics are, at this time, factors that can be weighted less than geographic access.

American Community Survey Data



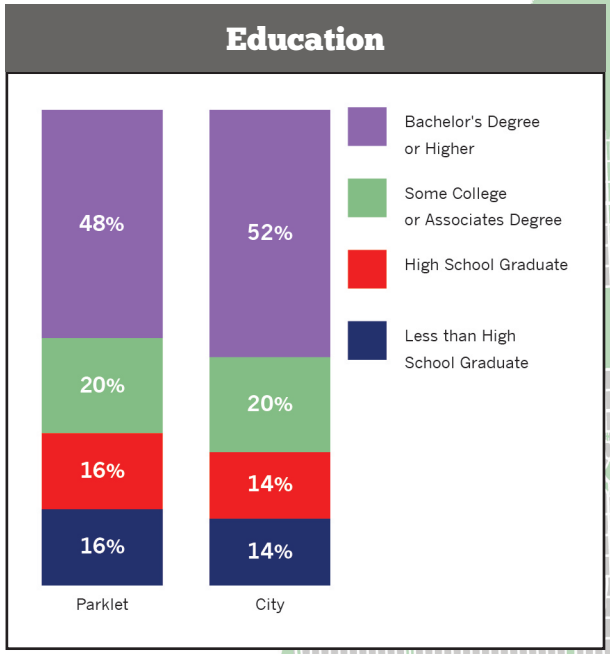
STEP 1

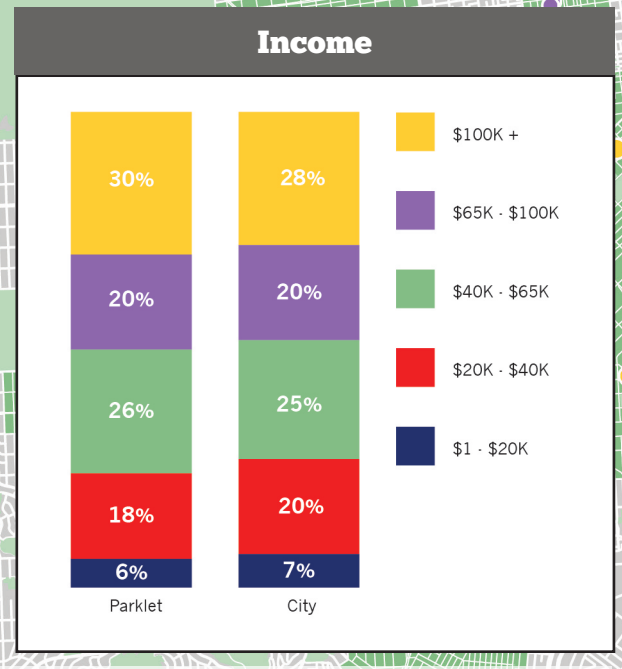
Network Buffer on Installed Parklets + Plazas

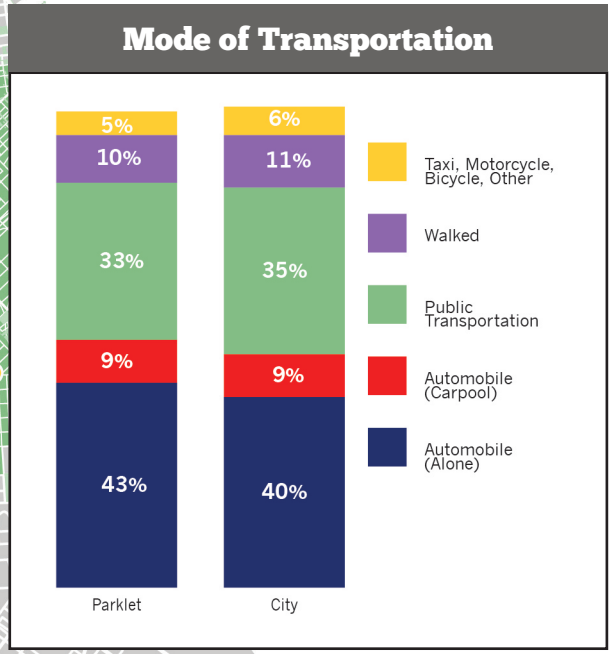


STEP 2

Selection of all ACS Census Tracts that touch network walksheds





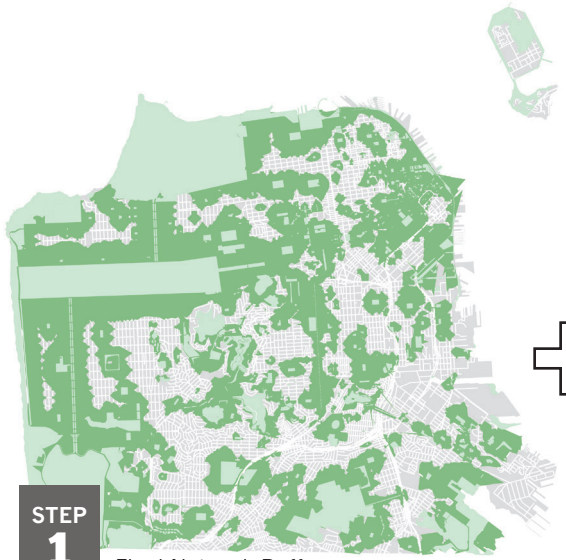


Since the American Community Survey (ACS) uses a larger geographic unit, the Census Tract, one must again select all Census Tracts that overlap with the parklet / plaza service area to extract the data on Income, Education, and Transportation.

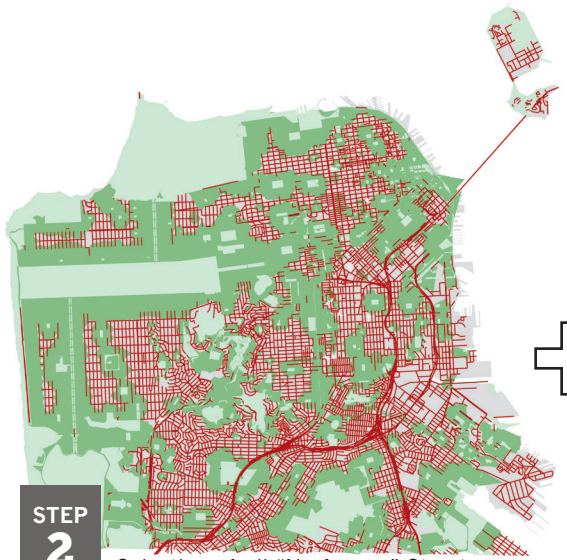
As with the Age and Race demographics, the ACS data shows that populations served by parklets and plazas reflect that of the city as a whole for Education, Income, and Transportation.

Thus, in seeking future opportunity areas for parklets, Education, Income, and Transportation demographics are, at this time, factors that can be weighted less than geographic access.

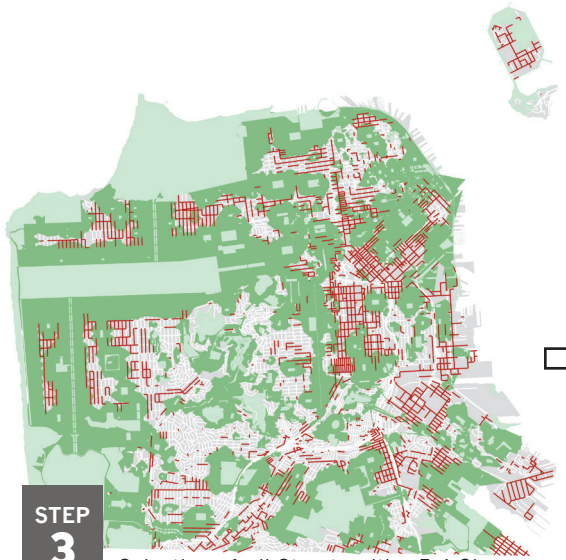
Q4: Where are the best opportunities for future parklets and plazas?



STEP 1 Final Network Buffer



STEP 2 Selection of all "No Access" Streets



STEP 3 Selection of all Streets with <5% Slope

Not Within Access Area

✚

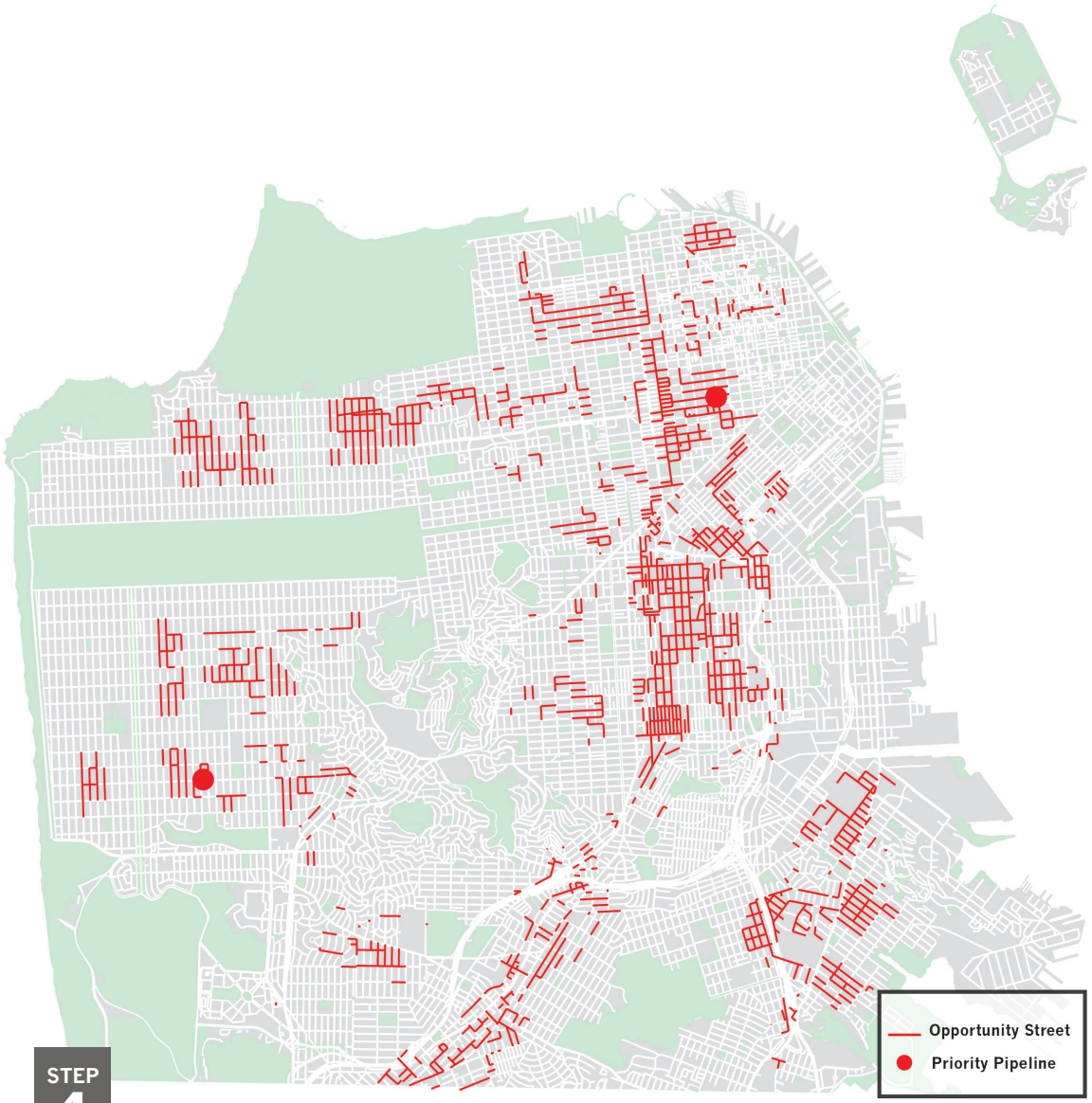
Street Slope Under 5%

✚

Within a NCD or NCT

⊟

Opportunity Street Segment



STEP 4

Selection of all Streets within a NCD or NCT = Opportunity Street Segments

In conducting an opportunity study for San Francisco's parklets and plazas, one must first make a list of geographic characteristics that best suit parklets and plazas. The Preliminary Findings section of this report draws conclusions about the geographic distribution of parklets and suggests that parklets should be built (1) within an NCD or NCT and (2) on street grades of less than 5%.

Question #2 of the Analysis, "Which areas of the city are served by parklets or plazas? Which areas are not?" reveals the areas of San Francisco that fall outside of the final network buffer, or do not already have access to these open spaces.

Knowing these three things, finding the opportunity streets is easy:

NCDs + Street Slope Under 5% + Outside of Access Areas = Priority Street Segment

Conclusions

C: The parklet program is growing every year.
R: P2P should ensure geographic equity in its selection of future proposals.

C: The distribution of parklets is uneven across Supervisor Districts and Neighborhoods.
R: P2P should coordinate more closely with the jurisdictions with lowest parklet counts to ensure geographic equity.

C: Most parklets are within an NCD or NCT and are on streets with grades of less than 5%.
R: To most efficiently serve a high amount of pedestrian traffic, P2P should prioritize parklets that fall within NCDs or NCTs and are on grades of less than 5%.

C: Only a small number of parklets fall along San Francisco's bike network.
R: Though there is no clear link between bicycle routes and parklets, P2P should prioritize parklets that fall along bicycle routes to uphold its goals of encouraging non-motorized transportation and enhancing pedestrian safety.

C: Most parklet sponsors are either cafes or restaurants.
R: P2P should diversify sponsor type in future RFP selection.

C: While some businesses apply for both permits, the majority of parklet sponsors do not have table and chair permits.
R: To help clarify the public nature of parklets, future parklets should be prioritized at locations that do not already have table and chair permits on the sidewalk.

C: Compared to city as a whole, the service area for parklets includes a greater percentage of Residential Mixed Use or Retail / Entertainment Land Use and is largely within a Commercial Zoning District. This is in keeping with the fact that the majority of parklets fall within named NCDs and NCTs

C: Of the land in San Francisco that is not comprised of open spaces, 83% has easy geographic access to open space, parklets, and plazas.
R: The other 17% is where P2P should build future parklets.

C: Despite criticism about parklets serving only specific populations, populations surrounding parklets reflect that of the city as a whole, meaning that all populations are served by parklets.
R: Pavement to Parks should continue to monitor the relationship between the demographics surrounding parklets and those of the City as a whole

C: The best opportunity areas for parklets and plazas are along streets that:
(1) Are within areas of the city that do not currently have access to parklets, plazas, or other types of open space.
(2) Have a street grade of less than 5%.
(3) Are within a NCD or NCT.

Further Questions

While GIS can be a very important tool in studying Parklets and Plazas, empirical data is limited and can be strengthened with supplementary qualitative data. Pavement to Parks will be conducting public life surveys for parklets over the Summer of 2014 - the findings should help support the conclusions presented here as well as bring light to further questions associated with the research.

The analysis presented in this report should be used as a foundational methodology upon which one could add more advanced factors. Because neighborhood units and Supervisor districts are different geographic sizes, have different populations, land use mixes, and demographics, future studies should normalize the data in order to enhance the accuracy of each service area.

The findings in this report sparked a number of questions that might be answered in future studies:

Q: How does population density affect the opportunity study for parklets and plazas?

Q: What makes a successful parklet? (Design, accessibility, side of street, sponsor type?)

Q: At what locations can a parklet most benefit a neighborhood?

Q: How do people arrive at parklets? Further explore the link between parklets and (1) bicycle infrastructure and (2) SF Planning's Green Connections network8.

Q: Prove / disprove the assumption that people will only walk a few blocks to use a parklet

Q: Does street slope affect the popularity / effectiveness of a parklet?

Credits

p. 6. 1331 9th Avenue Parklet (Hosted by Arizmendi Bakery) Photo by: Jack Verdoni Architecture

p. 8 World Map of Parklets <http://pavementtoparks.sfplanning.org/map-globe.htm>

p. 15 432 Columbus Parklet (Hosted by Cafe Greco) Photo by: Great Streets

p. 23 3868 24th Street Parklet (Hosted by Martha Brothers) Photo by: San Francisco Planning Department

p. 29 375 Valencia Street Parklet (Hosted by Four Barrel Coffee) Photo by: Great Streets

p. 42 1530 Haight Street (Hosted by Haight Street Market) Photo By: SF Planning (AG)

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Robin Abad and Ilaria Salvadori for their dedication, guidance, and oversight with this research; Sahiti Karempudi and SF Parks Alliance for making this research possible and facilitating work of other project sponsors; Mike Webster for his assistance with GIS and Census Data; Teresa Ojeda for her general enthusiasm and support of this project; Diana Sokolove and Teresa Oropeza for arranging lunch at the Brown Bag Presentation of this study at SF Planning; Friends of City Planning for funding lunch; Sabrina Barekzai for her enthusiasm and support.

Gene Stroman
July 2014

Gene Stroman received his Bachelors of Science in Urban & Regional Studies (Planning & Policy) from Virginia Commonwealth University. Having a background in GIS, Gene recently moved to San Francisco to pursue an interest in Urban Design. His research was made possible through an agreement between the San Francisco Planning Department and the Parks Alliance.