


TRANSPORT FINDINGS

People Protected Bike Lanes: Global Expansion of an Emergent Cycling Demonstration

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Findings

Starting in 2017, a new public demonstration called “People Protected Bike Lanes” (PPBL) took place in San Francisco, in which participants stand on the street in a line between cyclists and car traffic to demonstrate the inadequacy of existing bicycle infrastructure. Between 2017-2023, there were at least 55 PPBL demonstrations in 25 different cities in 11 countries. At more than half of the streets in which PPBL were held, protected bike lanes were later installed. PPBL’s straightforward arrangement, legibility to news media, and participants’ use of online social networks have likely contributed to its considerable global spread, and influence on bike-lane upgrades.

1. Questions

Frustrated with the state of bicycle infrastructure in San Francisco, residents Maureen Persico and Matt Brezina developed a demonstration tactic they named “People Protected Bike Lanes.” PPBL functions by participants meeting at a set time and place (in the vicinity of a painted bike lane), and standing in a line along the painted lane, such that they form a human barrier of protection for passing cyclists from automobile traffic. This study attempts to answer the questions of (i) how has PPBL spread in number and geographic extent since its first instantiation, and (ii) how many of the streets on which PPBL occurred subsequently had their bike lanes protected.

PPBL first took place in 2017 on San Francisco’s Golden Gate Avenue, where Persico and Brezina were joined by thirteen other participants (Rudick 2017). As PPBL demonstrations grew in number, so too did their size and notoriety; media outlets in the Bay Area began covering them (Cabanatuan 2018), and local politicians even appeared as part of those ‘on the line,’ including members of the Board of Supervisors, and a state senator (Entwistle 2018). These early iterations also began to include participants wearing matching yellow shirts, which read ‘Protected Lanes Save Lives!’ and/or carry signs with similar pro-safety and pro-protected bike lane messages (see [Figure 1](#)). Within only a few months, the first PPBL took place outside of San Francisco, including internationally (Annear 2017).

PPBL represents one of the latest forms of bicycle demonstrations, joining a long history of activism that stretches back decades in both Europe and the United States. For example, Amsterdam’s transition to one of the world’s



Figure 1. Photograph of a PPBL demonstration in San Francisco, CA (Majzoub 2019).

most bike-friendly cities, including expansive bicycle infrastructure and restrictions on cars, was significantly influenced by consistent protests (Feddes and de Lange 2019). Indeed, Dutch cycling activists employed numerous approaches, including group rides, as well as physically obstructing cars with their bodies and mass ‘die ins’ (Feddes, Lange, and Brömmelstroet 2020; Gielen 2022).

In 1992, a cycling demonstration now known as “Critical Mass” took place for the first time (also) on the streets of San Francisco, originally under the name “Commute Clot,” which originated as an attempt for local cyclists to gather before their ride home in order collectively increase their safety (Levin 2012). As Critical Mass evolved, its basic format settled into that on the last Friday evening of each month, cyclists assemble at an appointed time and place within a city to begin a group ride along a route agreed upon by the participants, no longer serving primarily as a functional means of traveling to any specific destination (Furness 2007). As one of the first participants recounts it: “The ride began with a simple goal: to fill the streets with bikes so completely that they would displace cars, and in so doing would create a new kind of mobile, temporary public space” (Carlsson 2011). In the decades since, Critical Mass has become a fixture of cycling activists around the world (Carlsson 2002).

2. Methods

First, queries for PPBL-related news articles were made across several search engines, including Google, Bing, and a newspaper-specific aggregator (*Access World News*), as well as posts within large social-media networks (Facebook, Instagram, and X, formerly Twitter). The goal of this step was to document

every PPBL demonstration that has occurred since its origination in 2017 through the end of 2023. These queries often led to multiple articles or social media posts about the same PPBL, which required sifting the results to avoid duplicates. PPBL instances were only included if there was photographic or video evidence of it occurring. “People Protected Bike Lanes” is the name its founders gave to the demonstration tactic, and used in this study. However, PPBL that were called something else either in the media or by participants were also included, such as “human chain” or “human bike lane,” if they are comprised of individuals standing along a painted bike lane to convey its inadequacy. This approach draws on scholarship which tracks the spread of other specific protest types, such as those tied to the Black Lives Matter movement, or in response to COVID-19 restrictions (Dunivin et al. 2022; Zavarella et al. 2022). During the review of photographs and videos, the number of participants at each demonstration was estimated as well.

Second, for each identified PPBL, ‘Street View’ images from Google Maps were reviewed in order to determine the road layout of the street segments both before and after the demonstrations occurred. This step catalogs if streets where PPBL demonstrations took place have since been redesigned to include protected bike lanes, meaning with some form of physical barrier such as a set of posts (in technical planning terms, a ‘vertical element’). This is modeled off of studies which similarly leverage historical street imagery to evaluate changes to road layouts (Li et al. 2023; Moran 2022). Though such an approach does not indicate direct causality on the part of PPBL for bike-lane improvements (discussed further, below), it does consider to what extent the explicit goals of these demonstrations – bike lanes being protected – have been achieved.

3. Findings

1. Tracking PPBL Demonstrations, 2017-2023

Multiple queries within online search engines and social media platforms identified 55 distinct PPBL demonstrations taking place between 2017 and 2023, beginning in San Francisco and spreading throughout the United States, as well as in Australia, Belgium, Canada, France, England, Germany, Ireland, Mexico, New Zealand, and Scotland (see [Figure 2](#)). San Francisco has had the largest number of PPBL demonstrations by far (17), though it still accounts for less than a third of the total at the close of 2023.

Cataloging PPBL demonstrations from news articles and social media posts, and reviewing photos and videos captures significant variety within this form of cycling activism. Most clearly, PPBL vary in size, from some with as few as five people, to others with over 100 participants stretching multiple blocks, such as in New York City and Philadelphia (Sasko 2017; Whitford 2017). The average number of participants across these 55 PPBL demonstrations was 34, and 28 when the 350-participant PPBL that took place in Midtown

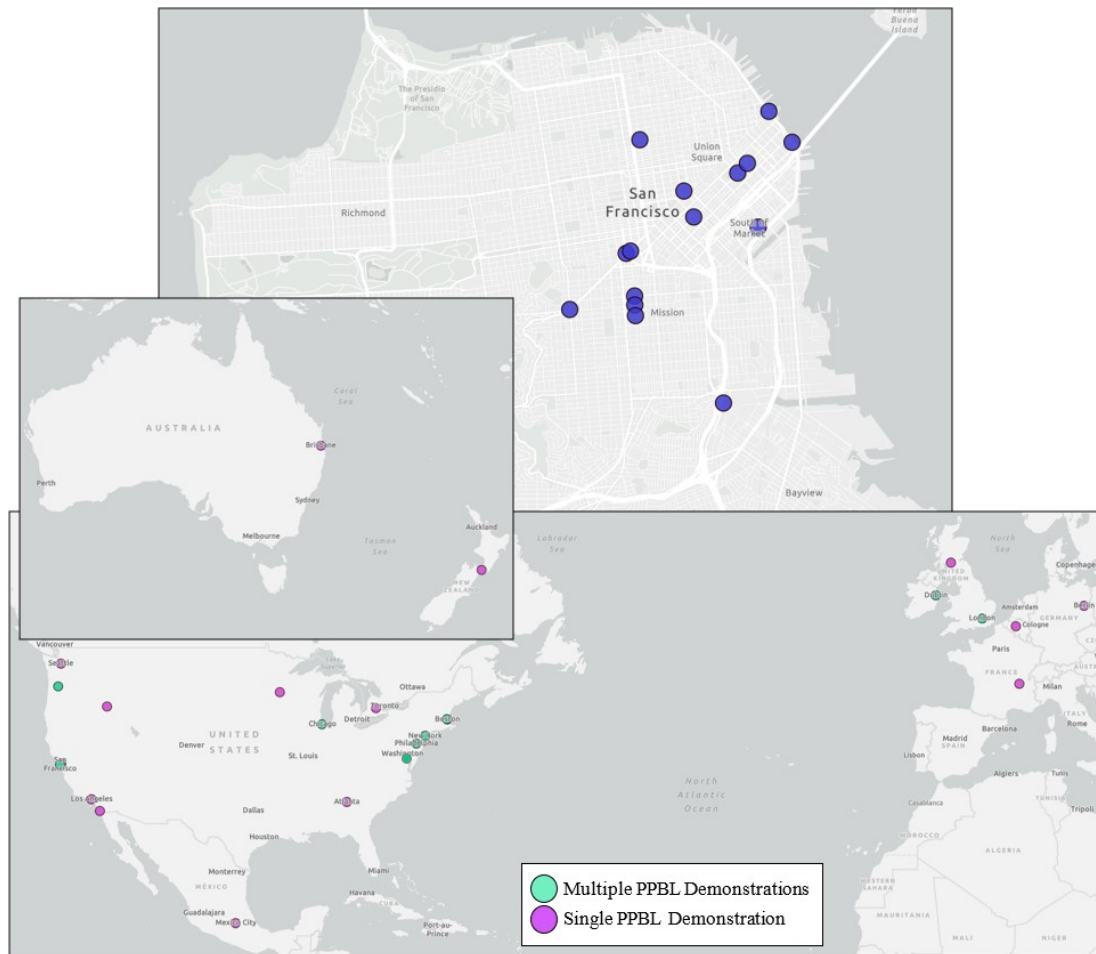


Figure 2. Map of PPBL in San Francisco (top), Australia and New Zealand (middle), and North America and Europe (bottom).

Manhattan (a massive outlier) is removed from the calculation. The level of coordination in terms of matching t-shirts and signage also varies. Some PPBL participants have held hands, though most simply stand in a staggered line. Most participants stand without bicycles, though some stand with their bicycles at their sides, which further creates a physical barrier between bike and automobile traffic.

PPBL primarily occurs on commercial corridors, though some have been located next to schools and public buildings, such as a demonstration staged directly adjacent to Seattle City Hall. PPBL often is timed to significant local events, such as climate-themed or transportation-planning conferences, or municipal hearings during which new bike infrastructure is up for approval (Linton 2018; Fitzgerald Rodriguez 2018), as well as immediately following the death of cyclists on the streets in question (Hughes 2019). PPBL participants are mostly adults, although some have included children. All but one PPBL featured protestors lined up on a single side of the street; one iteration in San Francisco included demonstrators along painted bike lanes on both sides of the street. Three of the PPBL demonstrations occurred on blocks without any bike lanes at all (painted or otherwise), in Atlanta, Boston,



Figure 3. 4th Avenue in Seattle in 2016 (left), during a PPBL demonstration in 2018 (center), and with a protected bike lane in 2021 (right). The first and third images are drawn from Google Maps, the middle photograph was taken by Scott Bonjukian.

and New York City. Demonstrations appear fairly equally balanced in terms of gender and are not exclusively young adults, though participants thus far have been overwhelmingly white.

Overall, this scan demonstrates that PPBL grew significantly, both in number and geographic extent, from its origination in San Francisco in 2017. Amidst the growth, its occurrences have hewed to its original format, in that it is both a primarily *stationary* demonstration type focused on specific streets (compared to group rides which are inherently *mobile*), and that it communicates a concrete, unified demand regarding the inadequacy of existing bicycle infrastructure, compared to conveying a generalized right to the street of some previous bicycle demonstration types.

II. Evaluation of Street Changes Following PPBL

At the close of 2023, 32 of the 55 locations (58%) where PPBL took place have had protected bike lanes installed. For example, street imagery of 4th Avenue in Seattle was reviewed prior to the 2018 PPBL, and thereafter (see [Figure 3](#)).

Deploying historical street imagery to track if the streets where PPBL demonstrations occurred later received infrastructure upgrades raises a number of thorny questions in terms of causality, which serve as ripe areas of focus for future research. First, for many of these streets which did see bike lanes protected following PPBL, plans for these upgrades may have already been in development prior to demonstrations. Though, these cases could also have entailed that the staging of PPBL led to existing plans being expedited and/or expanded (e.g. from one block to an entire corridor). Indeed, well-intentioned plans for bicycle networks can be thwarted for years by city councils, opposition from local merchants, or simply lack of funding (Wild et al. 2018; Arancibia et al. 2019). Given that, for the more than half of all PPBL locations which later saw the addition of protected bike lanes,

there is likely much to learn in terms of if and how these demonstrations influenced the planning process. Interviews with the activists, local news media, planners, and policymakers in these cities could shed light on what PPBL meant regarding these street outcomes.

Second, for the 42% of cases where protected bike lanes have not (yet) been installed, this may not capture the fact that future upgrades are being planned, particularly given the oft-protracted nature of bike-network implementation. In addition, focusing only on the bike-lane status of streets directly where PPBL take place could obscure the broader effect these demonstrations have on urban-transportation debates; such social movements may lead to increased support of bike lanes generally, which could result in new installations elsewhere. Third, there are of course a number of other factors which contribute to the outcomes of bicycle-planning decisions, including local political alignments, resident opinions, media coverage, and the consistency and size of local activism. Additional analysis of these factors – both for specific cities and across these assembled cases – will greatly benefit the understanding of the role that PPBL plays in multi-dimensional planning debates.

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Table 1. Table of People Protected Bike Lane Demonstrations, 2017-2023

Date	City	Street	Size	Bike Lane as of '23
2017_05_01	San Francisco, CA	Golden Gate Ave at Jones St	15	Painted
2017_05_12	San Francisco, CA	Valencia St at 16th St	20	Protected
2017_05_25	San Francisco, CA	Valencia St at 17th St	11	Protected
2017_06_27	Dublin, Ireland	St. Andrews St at Trinity St	9	Protected
2017_07_25	Dublin, Ireland	O'Connell St at Abbey St	10	Protected
2017_07_26	San Francisco, CA	Howard St at 7th St	13	Protected
2017_08_15	Dublin, Ireland	Custom House Quay	10	Protected
2017_08_22	New York City, NY	2nd Ave Between 45th and 44th St	15	Painted
2017_08_30	Boise, ID	8th St, Downtown	12	Pedestrianized
2017_09_01	Brisbane, Australia	Hardgrave Rd at West End State School	17	Painted
2017_09_14	San Francisco, CA	Valencia St at 18th St	15	Protected
2017_09_19	Ixelles, Belgium	N4 at Rue Francart	9	Protected
2017_09_22	Lyon, France	Cours Gambetta at Rue Mortier	19	Painted
2017_09_28	Portland, OR	Naito Parkway	50	Protected
2017_10_10	New York City, NY	5th Ave at W 50th St	350	No Lane
2017_10_10	Dublin, Ireland	Kildare St at Molesworth St	14	Painted
2017_11_01	San Francisco, CA	Embarcadero at Ferry Building	20	Protected
2017_11_29	Philadelphia, PA	13th St at Spruce St	55	Protected
2017_12_02	Boston, MA	Congress St Bridge	43	Protected
2017_12_04	San Francisco, CA	Market St at Octavia St	23	Protected
2018_01_07	Mexico City, Mexico	Avenida Division del Norte	26	Painted
2018_02_11	Glasgow, Scotland	University Ave at University Gardens	15	Painted
2018_03_22	San Francisco, CA	Market St at Castro St	26	Protected
2018_04_27	Cambridge, MA	Somerville Ave at Mass Ave	24	Protected
2018_05_02	San Francisco, CA	Howard St at 7th St	31	Protected
2018_05_09	San Francisco, CA	Market St at Valencia St	28	Protected
2018_05_17	Washington, D.C.	14th St at U St, NW	9	Painted
2018_05_18	Seattle, WA	4th St, Outside City Hall	20	Protected
2018_07_10	Philadelphia, PA	22nd St at South St	11	Protected
2018_07_10	San Francisco, CA	Townsend at 5th St	43	Protected
2018_09_06	Waterloo, Canada	King St at Princess St	5	Protected
2018_09_13	San Francisco, CA	Howard St at 3rd St	26	Protected
2018_09_28	Berkeley, CA	Milvia St at Durant Ave	9	Protected
2018_10_02	Los Angeles, CA	Figueroa St at 7th St	9	Painted
2019_03_08	San Francisco, CA	Howard St at 2nd St	22	Protected
2019_03_15	San Francisco, CA	Howard St at 1st St, 2nd St, 3rd St	100	Protected
2019_03_20	London, England	Old St at Central St	19	Painted
2019_03_26	Cambridge, MA	Somerville Ave at White St	13	Painted
2019_03_28	San Francisco, CA	Bayshore Blvd at Marin St	10	Protected
2019_04_10	Wellington, New Zealand	Featherston St at Whitmore St	15	Painted
2019_05_29	Dublin, Ireland	Westland Row at Pearse St	10	Protected
2019_07_11	Boston, MA	Brookline Ave at Fenway	100	Painted
2019_07_24	Atlanta, GA	West Peachtree at 15th	27	No Lane
2019_08_01	San Diego, CA	30th St, North Park	40	Protected
2019_10_22	Berlin, Germany	Oberbaumbrücke	20	Protected

Date	City	Street	Size	Bike Lane as of '23
2019_10_29	Dublin, Ireland	Westland Row at Pearse St	9	Protected
2019_11_06	Chicago, IL	N. Milwaukee Ave at N. Kilbourn Ave	10	Painted
2019_11_23	Minneapolis, MN	N. 12 th St at Linden Ave	48	Painted
2020_02_10	San Francisco, CA	Embarcadero at Folsom St	24	Protected
2021_09_09	Chicago, IL	Logan Blvd at Western Ave	12	Protected
2022_04_14	San Francisco, CA	Polk St at California St	15	Painted
2022_08_02	Boston, MA	Charles St at Mt. Vernon St	100	No Lane
2022_09_22	London, England	Old St at Goswell Rd	18	Painted
2022_10_13	Portland, OR	SE 26 th Ave at Powell Blvd	180	Painted
2023_10_08	Chicago, IL	Halstead at W. Armitage Ave	69	Painted



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