**Supplemental Digital Content Table S1: Description of Play Streets from systematic grey literature review resources using the RE-AIM framework.**

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| **Reference** | **Reach** | **Effectiveness** | **Adoption** | **Implementation** | **Maintenance** |
| 28 | Attendee Information: 73% live in San Francisco; represent a wide age range; represent the ethnic minority distribution of the city; (78% hold a bachelor’s degree); (79% engage in activity 3-7 days/week); travel an average of 3.25 miles round-trip to attend; 46% are first-time attendees and 54% are multiple-time attendees.  | Measurements: Activities: Biking (24%) and walking (21%) were most popular.Reception: A positive experience and safe environment. First time attendees said the social environment was another reason to return.  | NR\* | Length: 1-4 miles Activities Offered: Fun, free activities provided by local nonprofits, community groups and small businesses. Funding: From a mix of individual donations, grants, public and private sponsorships, and exhibitor fees | Upkeep: Ongoing events 2008-present (2017) |
| 29 | Where: In 2014, Hackney Play Streets supported parents to run 380 hours of play street and estate play sessions in 29 locationsAttendee Information: Around 1,600 children and nearly 800 familiesWho: Expanded beyond more affluent parts of Hackney to reach a broader demographic, including disadvantaged areas. | Measurements:Activities: In 2014, Hackney Play Streets enabled over 8,100 child-hours of physical activity – on par with 14 additional classes of weeklyterm-time PE lessonsTraffic: Residential road closures for PS† have a low impact on traffic movements.  | Locations: Fifty streets have taken part in the idea in Hackney.Partners: Schools, nurseries and other organizations are involved too. | Activities Offered: Bikes, balls and skipping ropes.Description: Every event is parent-run and different. Only low speed, guided traffic allowed. Staff: Neighbors volunteer to ‘steward’ road closures. Funding: From Hackney Council | Upkeep: Ongoing program 2014-present (2017). The Hackney Play Streets project offers free support to residents, schools and other community organizations that want to take part in the idea. |
| 30 | Attendee Information: At least 50 children, ranged in age from 1 - 12 years, with the majority 6-8. They did not all reside on the block and they came from many ethnic backgrounds. A large proportion from Hispanic families. | NR\* | Establishment: Had been authorized by the Mayor as a Play Street for three consecutive summers before 1967. Parents oversaw equipment checklist and preventing cars from parking on the street. Partners: In 1967, parents asked for assistance from Police Athletic League (PAL) | Activities Offered: PAL supplied ropes, bats, balls and other game equipment for daily useStaff: PAL sent one paid supervisor several days a week.  | Upkeep: Annual event every summer 1967-present (2017) |
| 31 | Attendee Information: Over 100 children; pupils from The Robert Fitzroy Academy and Davidson Primary, parents, residents and children from neighboring streets | NR\* | Establishment: Mentions a similar event in the neighborhood the previous year | Description: School-backed scheme to temporarily close the road. Game equipment provided by charity, London Play. | Upkeep: Follow-up is planned for September 15, 2016 and organizer hopes it will become a once a month event |
| 32 | Attendee Information: "Dozens of kids" at one particular eventWhere: about 800 Play Streets throughout the city | NR\* | Locations: 800 Play Streets across Philadelphia | Process: Neighborhoods can apply to city recreation department to close down streetsFunding: Neighbors bought five inflatable pools; recreation department provides free lunch through a state subsidy | Upkeep: Ongoing program 1960s-present (2017) |
| 33 | NR\* | Measurements: Turnout: Nearly 67,000 residents have participated in 422 events in over 35 communities since it began (2012). Reception: People feel safer during PS† than normally. Aims: Increase a sense of community and provide a safe space for kids to play | Establishment: Play Streets began in Chicago in 2012 Locations: Since 2012, some of the city’s local streets transform into temporary play areas under Chicago’s Play Streets program | Description: The city’s Department of Public Health partners with city-wide organizations that provide technical assistance, training, and operating funds to community based groups that host PS†. Funding: By the city’s Department of Public Health over the years, with extra funding from Blue Cross Blue Shield of Illinois and Partnership for a Healthier America | Upkeep: Ongoing programming 2012-present (2017) |
| 34 | Where: Streets used for play streets were targeted in an attempt to reduce traffic accidents involving children playing in the street. | Measurements: Study included data obtained through observation and interviews conducted on the streets of New York City during the summer of 1974. Methods: Study involved surveys of the following: The PS†, PS† users, PS† residents and merchants, & PS† "workers.” PAL conducted 39 play streets during July and August 1974. The study randomly assessed 20 of the PS†. Data: The most popular time for the average play street was 5:00; At 5 p.m., the average PS† had 112 people on the street. 90% of those under 20 were involved in PS† activities. 35% of those over 19 were involved in PS† activities. | Establishment: Play Streets in NYC and Philadelphia were already established and they exist for an eight-week period during the summer. This reference is a study by BioTechnology, Inc. for the Federal Highway Administration of PS† that ran from summer 1973 to spring 1975. | Activities Offered: Games and sports present at play streets.Description: PS† in NYC were run either by the PAL or the Mayor's Task Force. PS† in Philadelphia were run either by the City Recreation Department or the Model Cities Program for the Recreation Department. Staff: Of the 550 summer play streets in New York and Philadelphia, 50 in New York and 30 in Philadelphia have paid recreation directors.Costs: $4,000-$5,000 per street per summer to operate for street worker salaries, administration expenses, equipment, and street markings.  | Upkeep: PAL run play streets have been on-going 1914-present (2017) |
| 35 | Who: Low-income neighborhoods with a high prevalence of overweight or obese children who have a shortage of affordable summer day camp programs. Advertisement: Word-of-mouth and just walking by were the strongest forms of advertisement.  | Measurements: Turn out: More than 1,200 kids and teens attended the Play Streets. *East Harlem*: 850+. *South Bronx*: 350+ Reception: 133 people ages 10+ were surveyed. *Survey results*: 64% would be engaged in sedentary activity if they weren't at the PS†. 82% reported it was “important" or "very important" to have a PS† near their home. 92% would recommend PS†. 84% felt PS† increased neighborhood safety. 77% heard about PS† from someone they knew. | Establishment: PS† organized by Transportation Alternatives, Strategic Alliance for Health (part of the CDC), and Harvest Home Farmer's Market. The New York Academy of Medicine evaluated outcomes of the PS†. | Activities Offered: Jump roping, hula hooping, pick-up soccer, hopscotch, yoga, crafts, relay races, and karate.Description: Two blocks closed to traffic at the Harvest Home Farmer's Markets in East Harlem and the South Bronx. Activities and supervision offered by 17 local and city-wide organizations in East Harlem and 8 in South Bronx.  | Upkeep: On-going programs. Occur every July and August annually 2010-present (2017) |
| 36 | Where: PAL PLAYSTREETS focus on low-income neighborhoods. School Play Streets are held for schools. Advertisement: The three programs have some social media presence.  | NR\* | Establishment: PS† programs in NYC began with the PAL. Now there are Summer Play Streets, School Play Streets, and PAL PLAYSTREETS.  | Activities offered: Jump roping, pick-up soccer, and chalk drawing. Description/Process:*Summer Play Streets:* Community groups can apply thru Mayor's Street Activity Permit Office with a petition for community support. *School Play Streets*: Public and private schools apply for the program and they operate during the school year.*PAL PLAYSTREETS*: Administered and funded through PAL. Provides games and sports and address learning loss during summer. Funding: PAL funds about 55 PS† through sponsorships, grants, and contracts. Costs $30,000 to cover salaries for a single PS†. Mayor's Office of Criminal Justice Corps funds 45 PS†, others funded by individual donors or corporate sponsors.  | Upkeep: All 3 programs are on-going 1914-present (2017). In 2015 NYC had 13 PAL PLAYSTREETS & 10 Summer Play Streets (they don't track the School Play Streets).  |
| 36 | Who: Communities with limited or no access to safe places to play outside. Where: Areas with high risk-factors for obesity such as areas of low-income, non-White majorities, and lower education. | Measurements:Turn out: Since the program began, more than 65,000 people have participated in 425 events. | Establishment: Initiative of the Chicago Department of Public Health (CDPH). Pilot program began in 2012. Partners: Active Transportation Alliance, Chicago Local Initiatives Support Corporation, World Sport Chicago, and Gads Hill Center. | Activities offered: Relay races, hopscotch, sports, & Zumba. Description: Community Based Organizations (CBOs) implement PS†.Process: CBOs apply for free PS† permits. Funding: Partners distribute grant funds from the city to CBOs. The City of Chicago provides $255,000 every year to implement 150 events. Grants to the CBOs are up to $5,000 and CBOs can request up to $1,000 to buy equipment.  | Upkeep: On-going program 2012-present (2017). In 2015, there were over 150 events in 36 communities. From June 27, 2015 - September 7, 2015 each CBO held 7-8 events.  |
| 36 | Where: Residents request program visits Advertisement: Flyers, posters, and the internet.  | Measurements:Turn out: Attendance has grown since 2013. In 2014, 4,992 people attended the program's deployments, in 2015, 5,392 people attended. | Establishment: City Council of Bellflower approved the Bellflower Recreation in Motion program (BRIM) in 1995.  | Activities offered: Board games, football, tetherball, whiffle ball, crafts, etcDescription: BRIM consists of a van that carries equipment to different parts of the city and temporarily closes streets to traffic to create recreational areas for kids. Process: Residents can schedule a visit from BRIM after informing neighbors of the program and potential visit.Funding: From the General Fund by the City of Bellflower to the Department of Parks and Recreation. Costs: Cost of the program has increased since 2013. In 2016/2017 it cost $60,131. | Upkeep: On-going program 1995-present (2017). BRIM operates 36 weeks on Saturday and Sunday during the school year, and Tuesdays, Wednesdays, and Thursdays in the summer. BRIM also runs during special events on holidays. 102 events in 2013, 102 in 2014, and 101 in 2015.  |
| 37 | Who: Low-income familiesAdvertisement: Street supervisor for the East Silver Street PS† advertises online | Measurements:Turnout: 30 kids participated in 2016; 20-25 kids participated in 2017 | Establishment: PS† started by The City of Philadelphia and Philadelphia Parks and Recreation | Description: PS† have a street supervisor; they serve free lunchesProcess: Street supervisor obtains permit to shut down streetActivities offered: Water games, sports, arts and crafts | Upkeep: Summer program every year 1960s-present (2017) |
| 38 | Where: 150 PS† events across 23 neighborhoods in Chicago: Chicago Auburn Gresham, Austin, Belmont Cragin, Brighton Park, Chicago Lawn, East and West Garfield Park, Englewood, Gage Park, Grand Boulevard, Humboltd Park, Kenwood, Logan Square, Lower West Side, Near North Side, Near West Side, North Lawndale, Rogers Park, Roseland, South Chicago, South Shore, Uptown, Washington Park, and Woodlawn | Measurements:Turnout: In 2016, more than 24,000 residents participated in the 150 PS† | Establishment: Started in 2012 by the Chicago Department of Public Health (CDPH)Partners: Gads Hill Center and World Sport Chicago coordinated the 2017 PS† on behalf of CDPH and worked with 29 grassroots community partners | Activities offered: sports, games, fitness classes, bounce houses | Upkeep: Summer program every year since 2012 - present (2017) |
| 39 | NR\* | NR\* | Establishment: *NYC*: Police Commissioner began in 1909, added 25 by 1921 and another 50 later*Bristol*: In 2011 parents petitioned to have streets closed for neighborhood parties, spread to 40 streets within a year and now across England*Queens*: Neighborhood advocacy group began in 2008 with Sunday Play Streets. | Process: In Bristol, City Council authorized street closures up to 3 hours per week. | Upkeep:Bristol ongoing 2011-present (2017). NYC ongoing 1909-present (2017). Event in Queens became a permanent play space after 2012. |
| 40 | Where: 80 Play Streets across England and Wales | NR\* | Locations: It is estimated there are now more than 80 designated play streets in England and Wales; initiated by area residentsEstablishment: First modern event was held by parents in Bristol in 2011; it has spread since.  | Description: Usually streets are closed for a couple of hours a week or month, with residents acting as stewards at either end to divert traffic. | Growth: Many more events expected to follow suit; national nonprofit to help support communities interested in creating their own play street  |
| 41 | Event information: 19 community Play Streets were permitted in NYC during the summer of 2012; 14 in 2013 | NR\* | Partners: City of New York/Health & Mental Hygiene, Transportation, Parks & Recreation, and Education, Transportation Alternatives, local schools and community-based organizations | Activities Offered: Running groups, dance classes, yoga, and soccer workshops, and simple equipment like jump ropes and hula hoops for unstructured play | NR\* |
| 42 | NR\* | Measurements:Reception: "the street becomes friendlier and safer; more sociable, happier and healthier." | Establishment: People from fourteen streets in Palmers Green, Southgate and Winchmore went to a meeting to learn from the experience of Devonshire Road residents and find out how to make their own streets Play Streets. | Description: A dozen streets have already started the process of consulting their residents about a Play Streets scheme. Nonprofit London Play provides free support. Funding: London Play can provide £400 per street.  | NR\* |
| 43 | Where: Public areas in NYC neighborhoods suffering from high rates of crime and poverty Who: Create supervised and fun-filled places for children to play in safety. | NR\*  | Establishment: In 1914, the PAL created Play Streets. The program is held annually during the summer. | Activities Offered: Sports and board games; also day camps and childcare programs. Description: PAL is a non-profit youth organization that provides recreational and educational activities to NYC kids. PAL PS† program lasted seven weeks and gave kids a safe place to play. Staff: Volunteers involved included police and firefighters.  | Upkeep: On-going annual summer program 1914-present (2017). |
| 44 | Advertisement: Playing Out has some social media presence.  | Measurements:Impact: Thousands of children have participated. Number of locations: Over 500 street communities have ‘played out’ across the UK. Number of events: Most of these streets are having at least 12 sessions a year.People Involved: Around 15,000 children and 7,500 adults have been directly involved on their street. | Establishment: Play Streets re-emerged in 2009 in Bristol, England. Locations: As of 2017, there are play street events happening in over 37 separate local authorities.  | Description: Street closures and traffic diversions that enable children to play safely in the street and give neighbors a chance to meet. Process: Requires council permission and support from others; Playing Out CIC does provide hands-on support.Costs: Relatively little  | Growth: Tring PS† is now a permanent play street with monthly PS† starting in 2013-present (2017) |
| 45 | Where: Park poor, under resourced neighborhoods prone to violence and gang activity. Street closures in each neighborhood suggested by community members/residents. Boyle Heights’ street closure selected by residents to reclaim street known for gang activity and speeding car traffic. Advertisement: Advertisements in English, Korean, & Spanish. Banners, posters, flyers posted to street posts, signs, and fences.  | Measurements: Turnout: Over 700 attendees. 92% lived within 10 blocks of PS†. Average number of attendees: South LA = 60, Boyle Heights = 152, Watts = 91, Pacoima = 55, Koreatown = 68. Reception: Survey results from 157 respondents: 91% wanted at least a monthly PS†. 80% preferred events on Saturdays or Sundays; 77% preferred afternoon street closures. 92% were interested in another event, 7% possibly interested, 0.7% not interested. 59.1% had access to a safe park, but 59.4% visit the park less than one time a week. 77% stayed two hours or more. Transportation: 84% of people walked to event.  | Establishment: LADOT partnered with Mayor Eric Garcetti's Great Streets Initiative and Kounkey Design Initiative (KDI) to create a one-year Play Streets Pilot Program. Model: Mentions of other Play Streets programs in Los Angeles that already exist including: Great Streets Initiative, LADOT's People St., & CicLAvia. | Activities offered: Zumba, music, healthy food demonstration, art, and cultural education. Kit-of-Parts containing items such as hula hoops and street chalk were available at all events. Description: KDI hosted 7 Play Streets. Each neighborhood had local community partners. Furniture and canopies provided at each event. Costs: Each event required a Block Party Permit, base price is $312. Actual costs of permits $607 - $1500.Process: To obtain a permit, applicants must have a signed resident petition by 51% of households on the street and proof of $1,000,000 in general liability insurance.  | Growth: Resource recommended a second phase of the pilot program and eventually a permanent city-wide Play Streets Program. Unable to find if there was a second phase of the program.  |
| 46 | Where: Over 500 streets in Philadelphia | Measurements: PS†, served more than 2 million meals to Philadelphia kids in 2016; PS† make up half of the sites for the Summer Meals Program | Establishment: PS† program run by the Philadelphia Parks and Recreation department since the 1960s | Description: One-way streets are eligible for closure; A community leader runs the PS† & serves free lunchesProcess: At least 75% of neighbors must sign a petition for approval of street shut down. | Upkeep: Annual program every summer since the 1960s-present (2017) |
| 47 | Where: Low income neighborhoods in New York City. For example: One location is on the block 151st Street between Broadway and Amsterdam. | NR\* | Establishment: PAL PS† started in 1914Locations: 15 locations in city parks or on the grounds of housing projects | Activities offered: basketball, bikes, roller skates, math games, Funding: PAL received $355,000 for Summer 2017 PS† down from $680,000 in 2016. | Upkeep: Annual program 1914-present (2017). The 15 locations in 2017 are a decrease from 40 in 2016 and 150 locations 20 years ago. Intention to have more resources in a smaller number of PS†.  |
| 48 | Where: All socioeconomic neighborhoods in Philadelphia; over 500 streetsAdvertisement: word-of-mouth | NR\* | Establishment: Philadelphia Parks and Recreation began the program over 50 years ago | Description: One-way streets eligible for closure; Each PS† has a resident street supervisor who completes training by the Parks and Recreation department; Free lunches servedActivities offered: Bike riding, jump ropes | Upkeep: Summer program every year since the 1960s-present (2017) |
| 49 | Where: One location is Redding Elementary School | NR\* | Establishment: Pilot program launched by the Municipal Transportation Agency, Planning Department, and Department of Public Health Partners: Liveable City, local organizations | Process: PS† application must be completed, neighbors must sign a petition to show support, a statement of requirements must be agreed toActivities offered: Basketball, bike rides, jump ropes | Upkeep: After the pilot phase in 2017, community members will be encouraged to complete PS† applications; Liveable City will run and coordinate PS† |
| 50 | Where: Croydon town centre | NR\* | Establishment: PS† have been held in other parts of Croydon, but PS† in Croydon town centre are new | Description: Croydon Council officers and volunteer marshals oversee PS†Process: Residents apply for temporary road closuresActivities offered: games, bike riding | Growth: Eight other PS† have been organized across Croydon |
| 51 | Where: In neighborhoods across the city; recently expanded to 10 NYCHA housing developments | NR\* | Establishment: Several decades-long programLocations: PAL recently expanded to 10 NYCHA housing developments | Description: Available to youth aged 6-16. Funding: Funded using narcotics trafficking proceeds | Upkeep: Annual event 1914-present (2017); PS† occurs M-F 9AM-5PM all summer |
| 52 | Who: Targeting children and adolescents. Advertisement: Haringey Play Streets has some social media presence. | Measurements:Reception: Positive feedback from organizers and children involved.  | Model: Concept adopted from Playing Out in Bristol. Mentions PS† operation in surrounding areas such as Hackney that are more established.Establishment: Haringey Play Streets allows local residents to apply to the local authority for a Temporary PS† Order  | Description: Closure of a street for up to 3 hours per week, fortnight or month during the daylight hours. Haringey Council provides resources such as traffic signs and promotes the events. Costs: Applying for and operating the PS† is free of charge. Minimal cost to the local authority for managing the PS†. | Growth: Haringey Council hoped to have as many as 15 active PS† by early 2015. Unsure how many PS† are currently in operation in Haringey (2017).  |
| 53 | NR\* | NR\* | Establishment: KDI will analyze city data to locate five neighborhoods to host pilot play streets, prioritizing those that are park poor, have high concentrations of low-income residents, and have potential for programmatic collaborations. Partners: LADOT and other City agencies  | Description: Play Streets is a new pilot program created by Mayor Eric Garcetti’s Great Streets Initiative and the Los Angeles Department of Transportation (LADOT), in partnership with Kounkuey Design Initiative (KDI), a local, non-profit community development and design office.  | Growth: One year pilot project with hopes to officially launch in the future |
| 54 | Advertisement: Play Streets Australia has a Facebook page.  | NR\* | Establishment: Founded by CoDesign Studio in 2014.  | Description: The City of Melbourne hosted and supported pilot PS†.Funding: From VicHealth through its inaugural Physical Activity Innovation Challenge.  | Upkeep: There was a PS† on April 17th, 2016. Unsure if there have been any more recent events.  |
| 55 | Advertisement: One of the sponsors of the event, Bike Easy, advertised on social media.  | NR\* | Establishment: City of New Orleans Health Department and Blue Cross and Blue Shield of Louisiana were awarded a $50,000 Play Streets Grant Locations: Grant used in 4 locations in New Orleans.  | Activities offered: Skateboarding demo, Pilates, roller derby push cart races, youth soccer drills, free health screenings, and cooking demos.  | NR\* |
| 56 | NR\* | NR\* | Establishment: Long, hard-fought battle by residents and elected officials to get the street designated a summer play street, and now a permanent play street. | Description: Considering street closures that function year-round, and collaboration between park and school on either side of street. | Upkeep A temporary play street was held for two whole months in the summers of 2010-2012Growth: After 2012, space is being made into a permanent, year-round plaza |
| 57 | NR\* | NR\* | NR\* | Description: Play streets can be hosted on a residential street. Streets can be closed for up to three hours in the winter months and two hours in the summer. Process: Must get neighbors to sign their support and apply to city council. | NR\* |
| 58 | Where: Most of the Play Streets are in North Seattle | NR\* | Model: Mentions there have been similar programs in at least a dozen other U.S. cities. | Process: Residents apply to close the street to the Seattle Department of Transportation (SDOT) | Growth: SDOT says it will report to the City Council in spring 2016 about how well the pilot project went. If the council likes what they see, PS† could become permanent.  |
| 59 | NR\* | NR\* | Establishment: Ward already has one Play Street and is creating anotherLocations: Schemes running in over 30 local authority areas in London | Description: London Play is supporting neighborhoods to create Play Streets by providing free support going with residents to meetings, answering questions, offering advice, supplying materials, and helping approach council.Funding: London Play can provide £400 per street.  | NR\* |
| 60 | NR\* | NR\* | Model: Mentions Play Streets in NYC and support from Michelle Obama's "Let's Move" campaign | Description: Pilot program of Seattle Department of Transportation’s Public Space Management Program for school-organized and community-led play streetsProcess: communities submit applications | Growth: Pilot program, no mention of future plans |
| 61 | NR\* | NR\* | NR\* | Process: Residents apply to hold a PS† on their street; London Play provides advice and support; Local Council provides street closure signsFunding: London Play can help fund PS† or help residents access funds  | Upkeep: On-going PS† 2008-present (2017) in 26 of the 33 London boroughs |

­­\*NR = not reported, †PS = play streets, ‡MVPA = moderate to vigorous physical activity, §SOPARC = System for Observing Play and Recreation in Communities

+Recurring or episodic closures of a street or area to traffic to provide the public with a safe space to play and/or be physically active that was accessible at no cost, lasted for a specific time, designed primarily for youth, and may include marked play areas, loose equipment, and/or group activities.

^Broader events (i.e. Open Streets or Ciclovías) with specific areas blocked off for safe, free play as a part of the larger event.