Health Impact Evaluation Center
Better policies for healthy communities
County of Los Angeles Public Health

Potential Costs and Health Benefits of Parks After Dark

Rapid Health Impact Assessment

September 2014

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Table of Contents

Tables

Figures

Appendices

1.0 Introduction

In 2010, the Los Angeles County Gang Violence Reduction Initiative (GVRI) community planning process recommended summer park programming in communities with high rates of gang violence. GVRI was a comprehensive gang violence reduction strategy targeted to four demonstration site communities that incorporated prevention, intervention, reentry, and suppression strategies through 2013. The Los Angeles County Chief Executive Office (CEO) partnered with the Department of Parks and Recreation (DPR) to adopt a new program called Parks After Dark (PAD) that would increase the use of parks as social and community resources, allow residents to interact with neighbors, and provide opportunities for youth to decrease participation in at-risk behavior (CEO, 2010). PAD was modeled after the City of Los Angeles' Summer Night Lights (SNL) program and took the form of extending summer evening hours in parks, increasing law enforcement presence, and offering organized recreational activities, educational programs, and health and social service resource fairs.

Beginning with three parks in 2010, PAD programming was shaped by community input and cross-sector collaboration. The CEO and DPR partnered with the County Arts Commission, the Sheriff's Department, Probation, Public Library, Community and Senior Services, Public Defender, Human Relations Commission, District Attorney, Department of Public Health (DPH) and several community-based organizations that provided in-kind services. Initial success was demonstrated through high attendance, overall community satisfaction, and feedback from the Sheriff Deputies that there were few crimes during PAD (CEO, 2010). Through a funding partnership with the DPH Community Transformation Grant (CTG)[1] to build capacity and sustain PAD, its reach doubled in size to a total of six parks in 2012. However, due to federal budget cuts, funding for PAD is slated to end in fall 2014, two years earlier than the anticipated end date. During preparation of this report, County leadership rallied to provide ongoing funding to backfill the lost CTG funding which will provide Park and Sheriff personnel for five of the six parks in the summer of 2015. DPR is seeking additional funds to cover costs of services and supplies, fund the sixth park (Loma Alta), and provide long-term sustainability for PAD.

Many aspects of this summer program have the potential to impact community health and wellbeing through cross-sector collaboration. A better understanding of potential impacts is of particular interest given that the six PAD parks are located in communities disproportionately impacted by violence, obesity and economic hardship (Fischer and Teutsch, 2014). Therefore, the DPH Health Impact Evaluation Center (HIEC) initiated a Rapid Health Impact Assessment (HIA) process to evaluate the potential health impacts and costs of PAD. This work is funded in part by The California Endowment and the Health Impact Project, a collaboration of the Robert Wood Johnson Foundation and The Pew Charitable Trusts.[2]

Rapid HIA is an emerging public health tool that allows decision-makers and stakeholders to respond to urgent requests for information on projects and policies under active consideration. Typically conducted on a short timeframe, Rapid HIAs require use of existing data sources and a focused analytical plan that can benefit from systematic reviews and prediction models that have been previously developed and peer-reviewed. The

[1] Funded as part of the Affordable Care Act, the CTG Program is sponsored by the Centers for Disease Control to implement community-level programs that prevent chronic diseases.
[2] The views expressed are those of the author(s) and do not necessarily reflect the views of The Pew Charitable Trusts, the Robert Wood Johnson Foundation, or The California Endowment.

objective of this Rapid HIA is to consider public health consequences of the decision to provide long-term funding to sustain PAD at the current parks, expand PAD to additional parks, or discontinue PAD at some parks in the future. This report includes an assessment of three areas of focus – crime, physical activity and cross-sector collaboration; and provides recommendations regarding future implementation of PAD. Recommendations are intended to support strategies that would maximize health benefits and minimize associated costs, and will be used to inform a long-term strategic plan that was drafted by DPH and DPR in summer 2014 with an anticipated completion at end of 2014. While the focus of this HIA is on PAD, it is also intended to serve as a tool for other jurisdictions both within and outside Los Angeles County to determine the potential benefits and costs of Safe Summer Park (SSP) Programs.

2.0 Safe Summer Park Programs and Health

Safe Summer Park Programs

The origins of Safe Summer Park (SSP) programs are unclear and have not yet been comprehensively documented or evaluated. SSP programs are primarily designed as youth violence prevention initiatives, which use parks and other community sites as a center for free activities and resources in high risk/high need communities impacted by gangs (Fischer and Teutsch, 2014). It is likely that several initiatives throughout the nation may have contributed to the idea of SSP programs. This type of programming is similar to the concept of Midnight Basketball, a summer late-night violence prevention program that experienced nationwide popularity in the 1990s when sports and recreation programs were piloted as crime reduction tools (Hartmann and Depro, 2007). After-school programs that often incorporate sports and recreation continue to be popular violence reduction strategies. The City of Los Angeles was arguably the first jurisdiction to take SSP programs to scale, and the City of Los Angeles' Summer Night Lights (SNL) program has its roots in pilot initiatives that took place in city parks (Sulaiman, 2013). Jurisdictions around the state of California, as well as across the nation, have begun pursuing SSP programs, in some cases through technical assistance from SNL or PAD.[3]

There are currently four different SSP programs in Los Angeles County and each of these are overseen by separate jurisdictions. Los Angeles County, which would be the eighth largest state by population, has 88 cities that are led by separate mayors and city councils. Additionally, there are many unincorporated communities for which the County Board of Supervisors and various county departments are responsible for providing services. The County oversees PAD in county parks, which primarily include unincorporated communities, while local city governments provide jurisdiction for other local SSP programs. While the County may be in a position to facilitate a coordinating and support role for the other city SSP programs, they do not have jurisdiction over these programs.

PAD was modeled after the SNL program which started in 2008 as part of the mayor's Gang Reduction and Youth Development (GRYD) initiative, a comprehensive violence prevention strategy that includes prevention, intervention, and suppression strategies targeted to select communities with high rates of gang violence (City of Los Angeles, 2007; Sulaiman 2013). Two other jurisdictions in the county developed similar SSP programs (Table 1). In total, there are 44 parks with SSP programs in the county (Figure 1). While the four SSP programs in the county have some core common elements, local conditions have resulted in various managing structures, and unique program elements and trajectories. However, each of these programs has demonstrated local crime reduction, and opportunities to improve other social and health indicators (Dunworth et al., 2011; Carey & Associates, 2011). Table 1 below illustrates some interesting differences between the four programs, including various leadership and partnership roles, as well as activity types. Three of the four programs utilize gang intervention outreach workers, while PAD does not. Intervention workers are community members with past gang ties who have been trained to help mitigate and prevent violent disputes, and provide outreach to high risk community members to participate in programming. Gang intervention workers are regarded as a key element of SSP programs, and while they were incorporated at some PAD parks in 2012, they have not been consistently

[3] There is no comprehensive list of these park programs available. Based on conversations with SNL, they have provided technical assistance to jurisdictions including Sacramento and Chicago. The County PAD program has provided technical assistance to City of Pasadena as well as Santa Clara County, CA. A google search revealed similar programs in Tulare County, CA; Sacramento, CA; Clarksville, Memphis and Greensboro, TN; Fresno, CA; Jacksonville, FL.

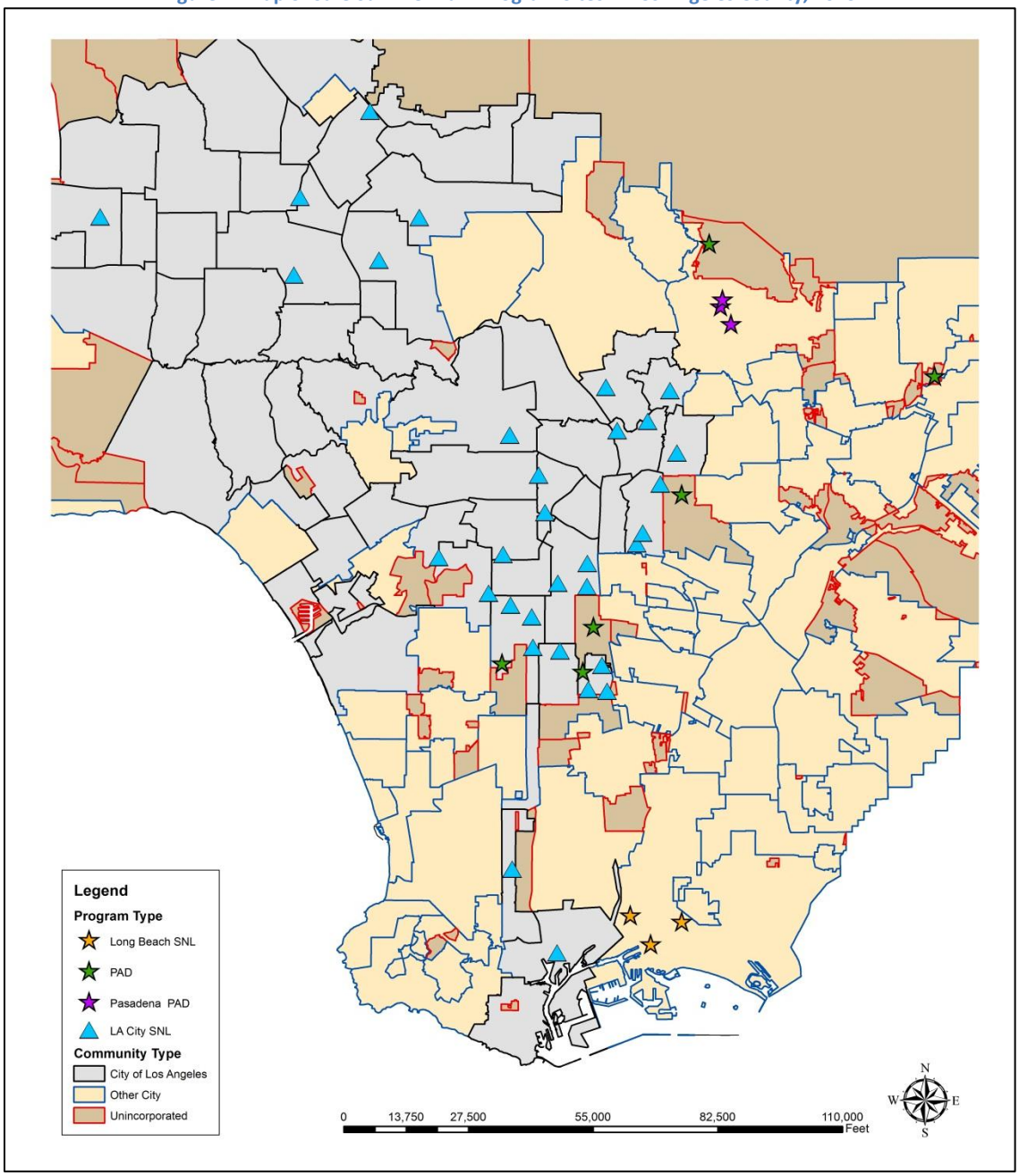
incorporated into PAD due to funding and resource barriers. Additionally, the three other SSP programs have a strong youth employment component. PAD also has incorporated youth volunteers and connected with summer youth employment as funding is available, however this has not been a strong or consistent component of PAD.

Table 1. Summary of Safe Summer Park Program Components in Los Angeles County

	City of Los Angeles Summer Night Lights	City of Pasadena PAD	City of Long Beach Be SAFE	County of Los Angeles PAD
Start year	2008 (8 parks)	2010 (2 parks)	2010 (3 parks)	2010 (3 parks)
Days during Summer	Wed – Sat / Thurs-Fri	Thurs - Sat	Mon- Fri	Thurs - Sat
Current number of Sites	32 parks	3 parks	3 parks	6 parks
Law enforcement	X	X	X	X
Recreation	X	X	X	X
Cultural Arts	X	X	X	X
Youth leadership	X	X	X	X
Health and Wellness Resources	X	X	X	X
Gang Intervention	X	X	X	X[1]
Meal Programs	X	X	X	X
Employment Opportunities	X	X	X	
Program Administration	City of LA Mayor's Office GRYD Program	City of Pasadena Department of Human Services and Recreation	Centro Community Hispanic Association, Inc.	LA County Department of Parks and Recreation
Public health department role	health programming	emerging partner	unknown	strategic planning, programming
Law enforcement role	partner	partner	partner	partner
Parks department role	partner	partner	facility use	lead
Funding Sources	public-private partnerships	City budget	In-kind support, City Council funds, Grant funding	Grant funding, Board funds, in-kind support

[1]Gang intervention workers were provided intermittently at select parks and years: Pamela Park in 2010 and all parks except City Terrace in 2012.

Figure 1. Map of Safe Summer Park Program Sites in Los Angeles County, 2013



Parks After Dark

This Rapid HIA examines the potential health impacts and costs associated with (1) continuing the current PAD programming at six unincorporated parks during the summer, (2) expanding PAD to additional parks in Los Angeles County, or (3) discontinuing PAD after the summer of 2015. PAD program details for each of these scenarios are described in the following sections.

Current Program

As previously described, PAD was originally designed to target underserved communities with high rates of gang violence. Therefore, the locations of the three original PAD parks were determined by the demonstration site communities selected for GVRI. Additional criteria for selection of the demonstration sites included ensuring representation among County Supervisorial Districts, and identifying sites that bordered other jurisdictions to promote cross-jurisdiction collaboration. Two of the three original PAD parks, Roosevelt and Watkins, were located in the demonstration site community of Florence-Firestone in unincorporated Florence-Graham in South Los Angeles. This community ranks highest in economic hardship indicators in Los Angeles County, and has among the highest rates of violence and obesity. The third, Pamela Park, was located in the unincorporated Duarte community of the Monrovia/Duarte demonstration site. This site is uniquely situated in a pocket of violence and gang crime in an unincorporated community, and surrounded by cities with higher than average income. As DPH became more involved in the development of PAD through CTG funding beginning in 2012, high rates of obesity were included in criteria for park selection, resulting in the selection of three additional parks that were outside of the GVRI sites. This included an additional South Los Angeles park, Jesse Owens, and a park in East Los Angeles, City Terrace. DPR was able to add an additional park in 2012 by leveraging other funds and working in partnership with the City of Pasadena that started its own PAD program at two parks in 2012. The County provided technical assistance to the City of Pasadena to help them develop their program, and also included Loma Alta Park, an unincorporated county park in neighboring Altadena to demonstrate cross-jurisdiction collaboration. CTG funding helped sustain Loma Alta PAD in 2013, and leftover GVRI funds will sustain the program in 2014.

PAD was specifically designed for summer evening hours, when crime rates are highest and youth have fewer social and recreational opportunities. Safety is a core element of PAD, with a focus on community policing. Deputy Sheriffs patrol the events and participate in activities along with community members. Local law enforcement also provides community safety education and self-defense classes. Their involvement sends a message that crime and violence are not tolerated and provides opportunities for youth, community members, and law enforcement to interact positively. Gang-involved community members are encouraged to attend as long as they do so with family members and participate in activities.

What is PAD?

A summer evening program with:

- Increased local law enforcement presence
- Organized recreational activities
- Cultural programs and classes
- Movies and concerts
- Health and social service resource fairs
- Youth leadership development opportunities

PAD provides a wide range of programming during extended summer evening hours, providing residents of all ages with access to a range of free programming. PAD provides opportunities to participate in recreational activities, such as basketball, baseball, swimming, soccer, golf and tennis lessons,

martial arts, dance classes, walking clubs, Zumba®, bike rides, and to access community pools and gym facilities. PAD also offers entertainment programming including movies, talent shows, and concerts, and incorporates a variety of educational programs addressing topics such as healthy cooking, literacy, parenting, arts and crafts, the juvenile justice system, and computer skills. Moreover, in communities that may lack such access, PAD connects people with health and wellness, economic, legal, and social services through resource fairs and other events. These resource fairs engage a wide range of sectors, including library, law enforcement, public defense, public works, public health, probation, arts commission, fire department, radio stations, community- and faith-based organizations, local businesses, elected officials, and professional sports, to provide community outreach. PAD leadership recently identified existing Teen Clubs to develop into Youth Councils, which will engage local youth in identifying a health issue to address in their community. DPH and DPR are providing support to research, develop and implement this youth engagement strategy.

DPH has been a partner for the county PAD program since the planning phase of GVRI, providing in-kind staff support to assist with program development and evaluation and provide health outreach, and its role in PAD has evolved over the years. The Division of Chronic Disease and Injury Prevention, Injury & Violence Prevention Program (IVPP) has been the principal partner for PAD, assisting with coordinating public health outreach, program evaluation, and strategic planning. Several DPH programs and divisions participate in PAD resource fairs each summer, providing free information and services that address women's health, environmental health, nutrition, childhood lead poisoning prevention, bike safety education, physical activity, veterinary health, immunization, tobacco prevention, and HIV/STD prevention. Division of Community Health Services' Area Health Office staff participate every week in park activities, coordinate public health outreach at resource fairs, and conduct weekly walking clubs. Community liaison public health nurses working in South Los Angeles developed innovative and successful walking clubs that incorporated health education during PAD beginning in 2010, one of the most popular PAD activities. While PAD was CTG funded from 2012 to 2014, IVPP's role has expanded to:

- Build the evidence base for PAD,
- Engage partners both within DPH and with other sectors,
- Promote the success of the PAD via media events and professional conferences, and
- Work closely with DPR to develop a strategic plan to sustain and expand PAD.

Additionally, IVPP collaborated with the Health Impact Evaluation Center to complete this Rapid HIA.

Proposed Expanded Strategy

The success and popularity of PAD has left stakeholders wondering if it should be expanded to more communities. Every year on the satisfaction survey, participants request that it be expanded to more parks, and discussions with key partners indicate support for expanding PAD to more communities.

When the Rapid HIA process was initiated, DPH worked with DPR to identify the number and location of additional parks, based on the following criteria: 1) unincorporated county-run park; 2) community with high rates of non-fatal assault hospitalizations and high prevalence of childhood obesity; and 3) DPR review of the park features to ensure there are adequate facilities and space to host PAD programming. A comprehensive list of County parks was compiled and each park was ranked according to obesity prevalence and non-fatal assault hospitalization rates of the surrounding communities (Appendix A). Non-fatal assault hospitalization rates were

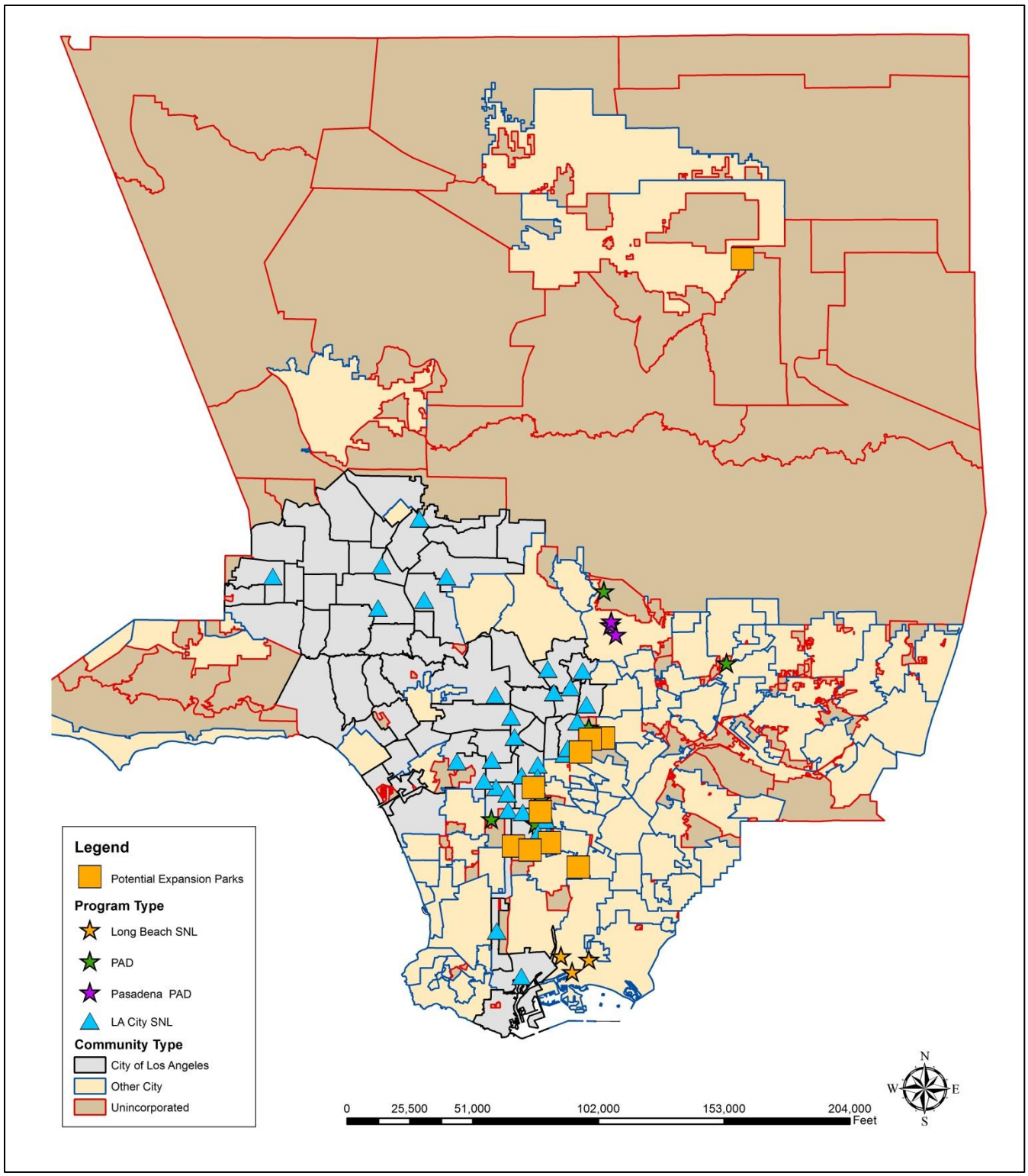
used rather than crime rates to reflect health disparities in the communities and since countywide crime statistics are not available at the community level. Parks with obesity prevalence and non-fatal assault hospitalization rates in the top 25 percentile were prioritized as possible parks for PAD expansion. DPR reviewed the list of high-priority sites to determine the feasibility of PAD programs, and proposed PAD at the 10 parks shown in Figure 2. The expanded program includes potential parks in communities with highest need and best capacity. However additional considerations, such as representation among political and geographic jurisdictions, may also be considered if PAD expansion were adopted.

Discontinued Program

As described in Section 1, federal grant funding for PAD is slated to end in the fall of 2014, which is two years earlier than the anticipated end date. During preparation of this report, County leadership rallied to provide ongoing funding to backfill the lost CTG funding which will provide Park and Sheriff personnel for five of the six parks beginning in the summer of 2015. DPR is seeking additional funds to cover costs of services and supplies, fund staff resources for the sixth park (Loma Alta), and provide long-term sustainability for PAD. Additionally, the PAD Strategic Planning Committee will be seeking additional funds to enhance the PAD program model and infrastructure, and expand to more parks.

Due to the uncertainty of PAD funding in the future, especially for staff resources and supplies beyond the summer of 2015, the Rapid HIA considers the possible alternative of PAD being discontinued at some parks. This alternative scenario is also used to highlight the potential impact of PAD.

Figure 2. Map of PAD Expansion Sites and SSP Programs, Los Angeles County



Partners

A wide range of agencies and stakeholders were involved in the genesis and implementation of PAD, and are critical for shaping the future of SSP programming throughout the County (Table 2). This includes community members, whose lives don't follow jurisdiction boundaries; law enforcement agencies, who serve contract cities and must also work together to address the fluidity of crime; and county agencies and community organizations who serve many of the same communities. The list of stakeholders also includes entities that are responsible for SSP programs other than PAD.

Table 2. Safe Summer Park Program List of Stakeholders

Organization	Role
PAD Stakeholders	
County of Los Angeles Board of Supervisors	PAD Decision-maker
County of Los Angeles Chief Executive Office	PAD Decision-maker
County of Los Angeles DPR	PAD Administration
County of Los Angeles Sheriff's Department	PAD Partner
Community Based Organizations	PAD Partner
County of Los Angeles Department of Public Health	PAD Partner
Community Members	PAD Community
Other SSP Program Stakeholders	
City of Los Angeles GRYD Office	SNL Administration
City of Long Beach, Centro CHA	Be SAFE Administration
City of Pasadena, Department of Human Services and Recreation	Pasadena PAD Administration
Local mayors and city council members	SSP Program Decision-maker
Local law enforcement agencies	SSP Program Partner
Local parks and recreation departments	SSP Program Partner
Cities of Long Beach and Pasadena Public Health Departments	SSP Program Partner

Program Costs

Park and Recreation provided the average cost of PAD programming per park during the summertime for the 2013 to 2014 fiscal year. Table 3 below shows an average cost of approximately $75,000 per park. These costs do not include in-kind support from PAD partner agencies. PAD was funded through the County budget from 2010 to 2011, and funded primarily by CDC-CTG from 2012 through 2014, with additional funding from the LA84 Foundation that funds youth sports in Southern California, and local Board of Supervisors discretionary funds.

Table 3. PAD average program costs per park, Fiscal Year 2013-2014

Cost Category	Avg Cost Per Park (FY 2011-2014)
Park Personnel	$20,000
Sheriff Deputies	$25,000
Services and Supplies	$30,000
Total	**$75,000**

Source: DPR

Key Health Issues

Communities of low socio-economic status are disproportionately impacted by a range of health issues, including obesity, chronic disease, and violence (Shih et al., 2013; Prevention Institute, 2010). A growing body of research regarding social determinants of health indicates that where you live, more than any other factor determines how well and how long you will live (Senterfitt et al., 2013; University of Wisconsin, 2014). This underscores the need for targeting populations and communities at greatest risk, and coordinating resources across sectors to more efficiently and effectively improve population health. Safety in itself is a social determinant of health, a significant hurdle to health promotion that must be addressed before other strategies can be successful. Research demonstrates that violence is a contagion that has significant negative long-term impacts on health and wellbeing across the lifespan, including brain development, risk-taking behavior, post-traumatic stress disorder, and physiological stress that puts individuals at greater risk for chronic disease (IOM, 2012; Reingle et al., 2012).

Public health is increasingly recognizing the link between violence and chronic disease. People who have high exposure to neighborhood violence or who perceive their neighborhood to be unsafe are more likely to be physically inactive and overweight (Prevention Institute, 2010). According to a 2010 report from the Prevention Institute, violence and activity-related chronic diseases "are most pervasive in disenfranchised communities, where they occur more frequently and with greater severity, making them fundamental equality issues." This is the case in Los Angeles County, where we see an overlap between obesity prevalence, rates of assault injuries, and economic hardship affecting many of the same communities. Moreover, in DPH's work with underserved communities to increase physical activity and healthy eating, one of the key issues brought to our attention by local residents is violence. If people are afraid to go outside, this limits their ability to be active, and can result in social isolation and decreased civic engagement (Prevention Institute, 2010; Roman et al., 2008). Social cohesion is a critical protective factor for building community resilience to reduce violence and promote health (Sampson, 1997; Losel et al., 2012).

While park space is critically lacking in many communities throughout Los Angeles, parks often are the primary resource that provide recreational opportunities for residents in underserved communities (Cohen et al., 2012; Loukaitou-Sideris et al., 2002). Access to green space has also been shown to have a range of positive health benefits (Loukaitou-Sideris et al., 2002; Bowler et al., 2010). However, parks are often underutilized due to fear of violence and high levels of crime and gang involvement (The California Endowment, 2010; Broyles et al., 2011). Parks are a tremendous resource to advance public health, and a natural place to provide outreach to communities with the potential to serve as activity centers for underserved communities, provide a convenient and neutral space to access a range of health and social services, build community networks, and deliver free and low-cost opportunities for recreation, education, and outreach.

3.0 Rapid Health Impact Assessment Process

What is a Rapid Health Impact Assessment?

The purpose of a Rapid HIA is to respond to an urgent request for information on projects and policies under active consideration. Rapid HIAs are typically conducted in a short timeframe, therefore requiring existing data sources and a focused analytical plan. Rapid HIAs contain the common components of an HIA, as outlined by the National Research Council Committee Report (2011):

Screening	*Determine the need and value of a Rapid HIA, and whether the assessment will provide useful information to stakeholders.*
Scoping	*Identify which health impacts to evaluate, populations potentially impacted, methods for analysis and sources of data.*
Assessment	*A two-fold step to provide an evaluation of current health conditions, and then evaluate potential health impacts.*
Recommendations	*Suggest alternative strategies to manage identified adverse health impacts and maximize benefits to health.*
Reporting	*Document and present the Rapid HIA findings and recommendations to stakeholders and decision-makers.*
Monitoring	*Track impacts on decision-making processes and the decision, and subsequently track impacts of the decision on health determinants.*

To inform the decision-making process for PAD, this Rapid HIA tailors the HIA components to provide the greatest value within the available time and resource constraints. The screening process focuses on identifying the decision, available data and audience for the HIA. During the scoping process, the research questions were focused as much as possible to be both feasible and meaningful to the decision-makers and stakeholders. While Rapid HIAs should have a very limited number of research questions, partnering programs and organizations may be able to provide additional resources that allow a broader scope. For Rapid HIAs, stakeholder involvement is critical at the scoping step to ensure that the HIA will accomplish its goals in an efficient and effective manner. Stakeholders may be re-engaged later in the process, only if necessary. The assessment step relies on existing information and studies that are readily available because there is limited time to conduct exhaustive literature reviews or synthesize primary data sources. Recommendations focus on ways to enhance the decision being evaluated, based on the information provided in the assessment. One time-saving method that Rapid HIAs can use to formulate recommendations is to review the assessment results with subject-matter experts. Rapid HIA findings are best disseminated in brief summary form, along with a technical report to provide more detailed information on methods. Rapid HIA guidelines are in the process of being developed at DPH to use for future assessments.

Screening

> *What is Screening?*
>
> This first step in the Rapid HIA process identifies the value and feasibility of an assessment. The decision is evaluated through the lens of public health and Rapid HIA objectives are determined.

The DPH Health Impact Evaluation Center (HIEC) reviewed the initial Rapid HIA proposal, in order to determine if a Rapid HIA would add value to the process of deciding to continue or expand PAD in communities of Los Angeles County that experience high rates of crime and obesity. As part of the screening process, the considerations in Table 4 below were examined independently by four members of the project team and used to gather feedback on the feasibility, capacity and benefit of conducting a Rapid HIA. Table 4 was used as a 10-point scorecard to assess the advantages of conducting a Rapid HIA for PAD. Based on four scores, PAD received an average score of 7.5 out of 10. Each of the HIEC staff responded to the questions with "Yes," "No," or "Not sure." Each "Yes" response was scored as one point, "No" was scored as zero points, and "Not sure" indicated that additional background research may have been necessary. The majority of feedback from the HIEC consisted of requests for additional clarity on the decision.

As a result of this screening process, the decision was further defined as three clear alternatives: (1) sustain funding for PAD programming in the current six parks, (2) implement PAD programming in an additional 10 parks, which would expand PAD into 16 parks total, or (3) discontinued PAD programming at some parks due to uncertainty in funding. The project team concluded the Rapid HIA will provide essential information on potential health impacts and costs to decision-makers. The findings and recommendations of this Rapid HIA were used in development of the PAD Strategic Plan that was drafted in the summer of 2014 to inform Los Angeles County budget recommendations by November 2014, to provide data for grant applications, and to engage potential partners to expand PAD program offerings. It will also be shared with other jurisdictions that are considering starting or expanding SSP programming. Based on previous program success for PAD and similar efforts in other jurisdictions, the project team agreed that there are a multitude of potential health benefits that would be possible for the Rapid HIA to examine more closely.

Table 4. Rapid HIA Screening Considerations

Timing and Influence
1. Is the decision clearly defined?
2. Can a Rapid HIA be conducted before the policy decision is made?
3. Are decision-makers and stakeholders open to considering health impacts of the proposed intervention?
Supporting Evidence
4. Is there scientific evidence that establishes the link between the intervention and health impacts?
5. Are the health impacts not widely acknowledged and understood by decision-makers and stakeholders?
Reach
6. Does the intervention target health conditions that are widely experienced in Los Angeles County?
7. Does the intervention have the potential to alleviate severe health conditions (e.g. disabling, life-threatening, or harm future generations)?
8. Does the intervention have the potential to reverse or undo existing inequitable health conditions/disparities?
Opportunity
9. Are there no other similar interventions of the same scale in Los Angeles County?
10. Is there potential to leverage strengths and resources through partnerships with departments across DPH?

Scoping

Policy Decision and Decision Alternatives

The primary decision to be evaluated by this Rapid HIA is whether to continue PAD at the current six parks or expand the program to a total of 16 parks. The possible alternative is that PAD will be discontinued in the future, because the current grant funding will no longer be available. Secondary decisions that will be addressed in the report conclusion (Section 8) include the potential to expand programming to a year-round schedule. Community members and local leadership have expressed interest to continue this type of programming in the County, as well as in other jurisdictions including the City of LA, Pasadena, and Long Beach.

> *What is Scoping?*
>
> Initial considerations raised in the screening step are further defined in the scoping process. In this step, the decision, stakeholder involvement, priority health impacts, research questions and methods are concisely described.

Stakeholder Engagement

Stakeholder participation occurred at critical points in the development of this Rapid HIA, including: 1) being informed regarding the HIA process, 2) providing information for the assessment through key informant surveys, 3) review of the draft report, and 4) communication of findings. The timeline for stakeholder engagement related to this Rapid HIA is as follows:

February 2014: DPR, Sheriff's Department, and CEO representatives assigned to PAD were advised of the HIA process during a PAD strategic planning meeting.

March 2014: Other stakeholders, including community members, other DPH staff, GVRI demonstration site coordinators, agencies that provided services during PAD, representatives from the LA City, Long Beach, and Pasadena SSP programs, and Park Deputies in the LA County Board of Supervisors office were informed of the HIA while being requested to complete key informant surveys.

Fall 2014: Stakeholders, particularly leadership within DPH, DPR, Sheriff's Department, and CEO, will have had the opportunity to review a draft of the report before it is finalized. DPH will coordinate with DPR to strategize dissemination of HIA findings as part of their cross-sector PAD strategic planning process. Technical assistance providers funded through CDC CTG will also have an opportunity to review and provide feedback. Dissemination strategies may include: sharing the report with partner agencies, presenting findings during 2014 CTG Leadership Team Meetings, presenting findings during the June 2014 PAD strategic planning meeting, presenting findings during PAD debrief meetings in fall 2014, using findings in grant applications, collaborating on a press release, using findings in a memo to the Board of Supervisors, and publishing findings on listservs and in journal articles.

Priority Health Impacts

The decision of whether to continue or expand PAD can impact a wide range of health outcomes in local communities. This type of programming presents opportunities to improve access to safe parks, free recreational and educational programming, physical activity, and social service and health outreach, as well as opportunities for youth to take a leadership role in improving community health. In the short term, these programs may decrease crime and gang violence, improve the perception of safety, increase physical activity,

improve access to health services, increase youth leadership development, and improve community involvement and cohesion. Potential long-term health outcomes include sustained reductions in crime and related injury and death, gang involvement, improved physical and mental health and decreases in obesity. Moreover, this type of programming has the potential to create sustainable cross-sector and cross-jurisdiction collaboration. The first step to identifying priority health impacts to carry forward for assessment in the Rapid HIA was to compile a comprehensive list of project impacts, health determinants and health outcomes.

While there are many important health impacts to evaluate, the feasibility and value of the Rapid HIA is highly dependent on available data and measures to conduct the assessment. Original data collection, comprehensive systematic reviews, and time-intensive stakeholder engagement are beyond the scope of a Rapid HIA. In order to narrow the focus of this Rapid HIA, several factors were taken into consideration to identify two to three priority areas to assess:

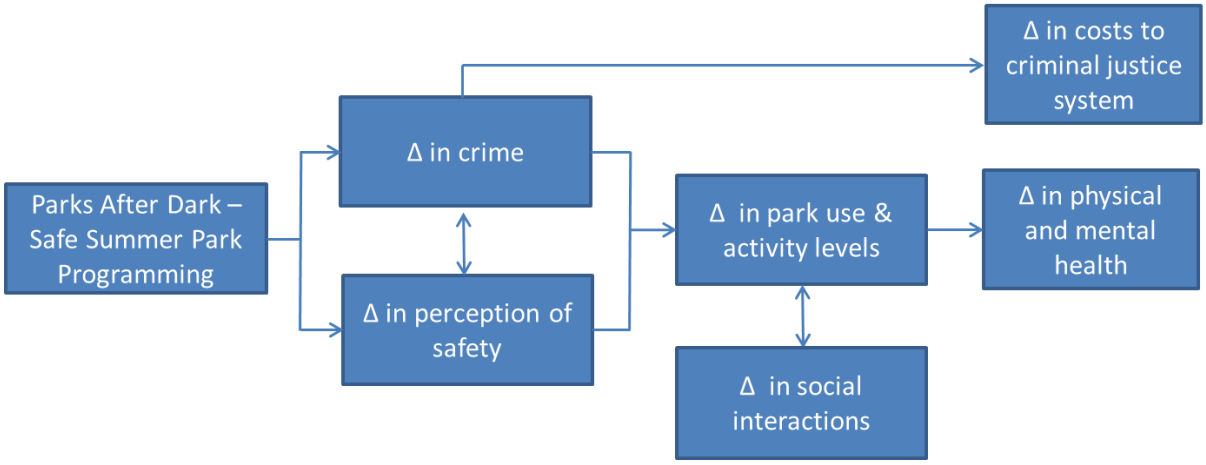
1. Magnitude and/or immediacy of potential health impacts,
2. Availability of data to assess baseline conditions and program impacts, and
3. Availability and strength of evidence in systematic reviews to evaluate potential health outcomes.

Three areas of focus were prioritized and assessed in this Rapid HIA: crime, physical activity and cross-sector collaboration. These areas were selected based on the availability of data, program information and discussions with stakeholders. Research questions for each of these three areas of focus were developed to assess impacts of the PAD continuation and expansion. There are limited data available to evaluate other potential health impacts related to decreased youth gang involvement, it was excluded from this assessment as a focus area.

Crime

Research Questions: Does PAD change the level of crime and perception of safety among participating communities? How do changes in crime and perception of safety impact individual/community health and costs to the criminal justice system?

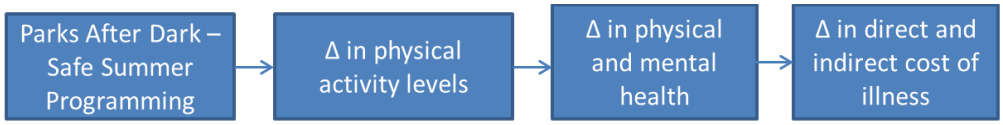
Figure 3. Crime Assessment Pathways



Physical Activity

Research Questions: Does PAD change physical activity levels among participating communities? What is the resulting change in physical and mental health among program participants, specifically changes in rates of cardiovascular disease, depression, cancer, diabetes and dementia? What is the resulting change in associated direct and indirect cost of illness?

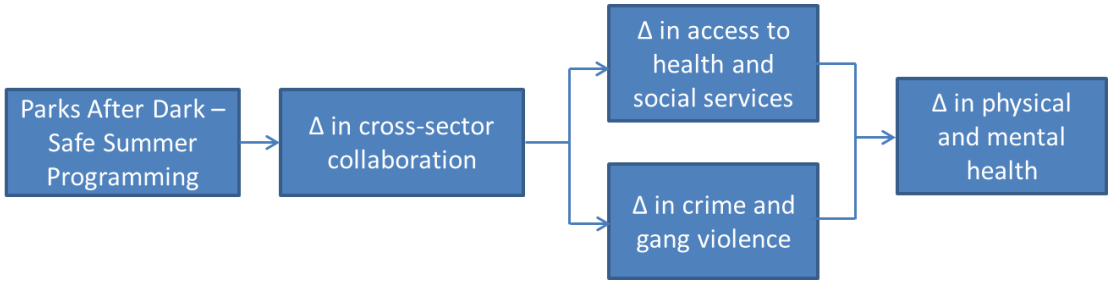
Figure 4. Physical Assessment Pathways



Cross-sector Collaboration:

Research Questions: Does PAD improve cross-sector collaboration? Does multi-sector collaboration have the potential to improve physical and mental health outcomes by changing access to services and facilitating crime reduction?

Figure 5. Cross-sector Collaboration Pathways



For expansion of PAD, 10 parks in communities with high rates of non-fatal assault hospitalizations and obesity prevalence, and high economic hardship are identified in the Assessment Section. Therefore, the assessment evaluates potential health impacts for these 10 parks, in addition to the existing six park sites.

Data Sources

To meet the time constraints of a Rapid HIA, the assessment was designed to utilize data that were readily available through PAD stakeholders and did not involve additional data collection, with the exception of key informant surveys developed for the purpose of the HIA. Additionally, a rapid review of public health literature was carried out. The multiple data sources include:

- **Literature Review**: We searched the public health literature using PubMed and Google Scholar to identify available evidence to describe the relationship between health determinants and health outcomes of interest. Each health determinant and health outcome combination was searched separately, and titles and abstracts were screened to determine relevancy of publication to PAD

programming. The literature search was limited to systematic reviews where possible, and keywords were searched in article titles only.

- **Park Program Data:** DPR provided attendance and activity counts for each park during summer programming activities in 2013, activity schedules, participating agencies and organizations, and budget. Additionally, program data from other SSP programs in the Cities of Los Angeles, Long Beach, and Pasadena were gathered.
- **Community Data:** A variety of sources were used to describe the PAD communities, potential expansion parks, and comparison parks. These include demographic data compiled from the U.S. Census, non-fatal assault hospitalization rates, childhood obesity prevalence, and economic hardship indicators.
- **Participant Survey Data:** PAD staff administers a survey to participants every year and the 2013 survey results were used in this Rapid HIA assessment. The survey includes questions about participant characteristics and health behavior, such as typical park usage, safety perceptions and physical activity levels. Survey questions also are designed to measure participant satisfaction and solicit recommendations for program improvements (see Appendix B). The 2013 survey was administered by program staff on select days during PAD programming. There was not a randomized selection process for volunteers to complete the survey; therefore selection bias may have occurred. Survey responses were entered into an Access database where data were cleaned, descriptive statistics calculated, and comments were themed to provide additional context regarding the impact of PAD.
- **Crime Data:** We compiled data on all crimes that occurred from 2009 (the year prior to PAD) through 2013 in Los Angeles County Sheriff's Department (LASD) jurisdictions where PAD programs are located (LASD, 2014). The Los Angeles Police Department (LAPD) provided crime data for Jesse Owens, a PAD park located in the City of LA.
- **Key Informant Survey:** A written survey (see Appendix C) was sent to agencies that participate in PAD or similar SSP programming in other jurisdictions, as shown in Table 5 below. Community members and PAD partner agencies were identified by DPR park supervisors at each of the PAD parks. The survey was conducted on a two-week timeline from March 17 to March 28, 2014. Key informant survey responses were entered in an Access database where comments were themed to determine common perceptions of PAD, recommendations, and potential additional areas of research.

Table 5. Key Informant Survey List

Key Informant	N	# Sent	Response Rate
Department of Public Health	6	9	67%
Department of Parks and Recreation	9	10	90%
Sheriff's Department	6	13	46%
Community members (parents, youth)	17	24	71%
PAD Partner Agencies	6	12	50%
Chief Executive Office / Board of Supervisors	5	6	83%
Other Park Programs	1	3	33%
TOTAL	50	77	65%

4.0 Parks After Dark Communities

A baseline assessment was conducted to describe characteristics of communities where current and proposed PAD parks are located. This includes a brief description of the demographics, current non-fatal assault hospitalization rates, childhood obesity prevalence and economic hardship in each community surrounding current and proposed PAD parks, as well as comparison parks used in the crime analysis. To understand how PAD participants might be similar or might differ from residents in surrounding communities, PAD participant survey results were compared to Los Angeles County Health Survey data and U.S. Census demographic data.

Methods

A total of 2,693 PAD participant surveys were collected during the summer of 2013. Data entry and descriptive statistics were completed in an Access database. Demographic data from the 2010 U.S. Census were compiled for Zip Code Tabulation Areas that correspond to the PAD and expansion park communities and compared with Los Angeles County overall. DPR also provided data on the number of PAD visits which are estimated based on attendance in structured programming and observational counts of participants in less structured activities like concerts and movies. Estimated PAD reach within each zip code was calculated by dividing PAD visits by zip code tabulation area population reported for the 2010 US Census; this assumes the number of visits represents the number of unique participants, which may overestimate reach if visitors attend PAD multiple times per week/month.

Three variables were used to assess community need including non-fatal assault hospitalization rates, childhood obesity prevalence, and economic hardship. Non-fatal assault hospitalization data were compiled from hospital discharge data for 2000 -2011 from the Office of Statewide Health Planning and Development. Assault hospitalization rates by zip code were calculated using an annual population averaged from the 2000 and 2010 US Census.[4] The childhood obesity prevalence is based on 2010 California Department of Education Physical Fitness Testing Program data.[5] The economic hardship index (EHI) consists of six indicators of social and economic conditions, including crowded housing, poverty, unemployment, education, dependency (percentage of children and elderly), and income. The ranking reflects the relative economic hardship compared to 120 other communities in Los Angeles (Shih et al. 2012). While zip-code level and community-level data may not reflect the local social and economic conditions in the immediate vicinity of each park, they provide some context for each park setting.

Demographics

For the six current program sites, PAD participant survey data indicate location of participants' residence by zip code. Based on the most common zip code reported for each park, Table 6 shows census data to describe demographics for each park and potential reach. There are several limitations to this approach, with the primary concern being that zip codes are large boundaries and can cross different communities. Therefore, the

[4] Several zip codes had only 2010 Census data available, which was used as the annual population for the entire time period. It should be noted that zip codes change over time and may not have been consistent over time, and zip code data from the US Census is based on Zip Code Tabulation Areas, which do not have the same boundaries as actual zip codes.

[5] Includes students from grades 5, 7, and 9 enrolled in California public school located in Los Angeles County at which the body mass index (BMI) measurement for body composition was administered. Cities and communities are defined according to the 2000 Census Incorporated Place and Census-Designated Place (CDP). Prepared by the Office of Health Assessment and Epidemiology, Los Angeles County Department of Public Health.

demographics summarized by zip code-level data instead of neighborhood-level may not be representative of populations that attend PAD.

When compared to Los Angeles County residents, communities near current and expansion PAD parks tend to have a higher percentage of children under age 18. The majority of the 16 current or expansion park areas have a higher percentage of Blacks and Hispanics than the Los Angeles County average. With the exception of Pamela, the park areas have a lower percentage of Asians than the Los Angeles County average. While the majority of park areas have a lower percentage of Whites, Loma Alta and Robinson have a higher percentage of Whites than the Los Angeles County average.

Table 6. Population, Sex, Age and Race/Ethnicity for Current and Expansion Park Areas by Zip Code

Park	Zip Code*	Total Pop	Male	Under age 18	Ages 18-25	Over age 25	White	Black	Hispanic	Asian/PI
Current Parks										
Roosevelt	90001	57,110	50%	35%	14%	51%	0.6%	10%	89%	0.2%
Watkins	90002	51,223	49%	36%	15%	49%	0.6%	25%	73%	0.2%
Pamela	91010	26,074	48%	24%	11%	66%	23%	7.4%	54%	13.3%
Jesse Owens	90047	48,606	46%	26%	12%	62%	0.9%	65%	32%	0.6%
City Terrace	90063	55,758	50%	32%	14%	55%	1%	0.3%	97%	1%
Loma Alta	91001	36,126	48%	23%	9%	68%	35%	26%	29%	4.8%
Proposed Parks										
Athens	90061	26,872	49%	32%	9%	55%	1%	37%	61%	1%
Belvedere	90022	67,179	49%	31%	8%	57%	2%	1%	97%	2%
Bethune	90001	57,110	50%	35%	9%	53%	1%	11%	89%	1%
E Rancho Dom	90221	53,704	49%	34%	9%	53%	1%	22%	75%	2%
Enterprise	90059	40,952	48%	36%	9%	51%	1%	34%	64%	1%
Robinson	93543	13,033	51%	30%	7%	59%	31%	6%	60%	3%
Mona	90059	40,952	48%	36%	9%	51%	1%	34%	64%	1%
Obregon	90063	55,758	50%	32%	8%	56%	1%	1%	97%	3%
Salazar	90023	45,903	50%	32%	9%	55%	1%	1%	98%	1%
Washington	90001	57,110	50%	35%	14%	51%	0.6%	10%	89%	0.2%
LA County	--	**9,818,605**	**49%**	**24%**	**12 %**	**63%**	**28%**	**8%**	**48%**	**14%**

*Zip Code Tabulation Areas (ZCTA) – Data compiled by zip code using census block data.

Additionally, PAD participant survey data illustrate the demographics of participants, allowing for comparison with the surrounding community. Table 7 describes the estimated reach of PAD parks, comparing PAD visits data with the surrounding community population, as well as the proportion of respondents that were male and by age group.

Figure 6 shows that PAD parks overall had a much younger population and fewer males than the surrounding community population. Other than Jesse Owens Park, the PAD participants are more commonly female as compared to the general population of the zip code represented. Roosevelt and Watkins parks had a lower

representation of youth under age 18 than the general population. All three South Los Angeles Parks, Roosevelt, Watkins, and Jesse Owens, had a higher representation of young adults 18-25 than the general population. Participation of adults age 26 and over at Roosevelt and Watkins approximated the general population, while at other parks, adults were underrepresented. The survey does not include race/ethnicity; therefore it is uncertain whether or not race/ethnicity of PAD participants is comparable to the general population of the surrounding community. The PAD program records provided by DPR indicate the number of visits to PAD parks in 2013. While it is difficult to estimate unique participants, visits were used to estimate of the reach of PAD compared to the population living in surrounding zip codes. As shown in Table 7, approximately 22% of people living in the surrounding zip codes of each park are estimated to attend PAD. However, this estimate is likely overestimated if people visit PAD more than once during the summer.

Table 7. Number of Visits and Demographics of PAD Survey Respondents during 2013 by Park

Park	PAD Visits	Estimated Reach	PAD Survey Respondents			
			Males	Children (< age 18)	Young Adults (ages 18-25)	Adults (> age 26)
Roosevelt	12,953	23%	25%	26%	17%	54%
Watkins	13,659	27%	27%	30%	18%	50%
Jesse Owens	5,688	12%	47%	51%	22%	24%
Pamela	6,670	26%	27%	46%	13%	39%
City Terrace	12,615	23%	30%	44%	8%	47%
Loma Alta	9,922	27%	36%	42%	11%	46%
All PAD Parks	61,507	22%	30%	39%	13%	45%

Figure 6. Percent Male Population among 2013 PAD Survey Respondents Compared to Zip Codes Surrounding PAD Parks

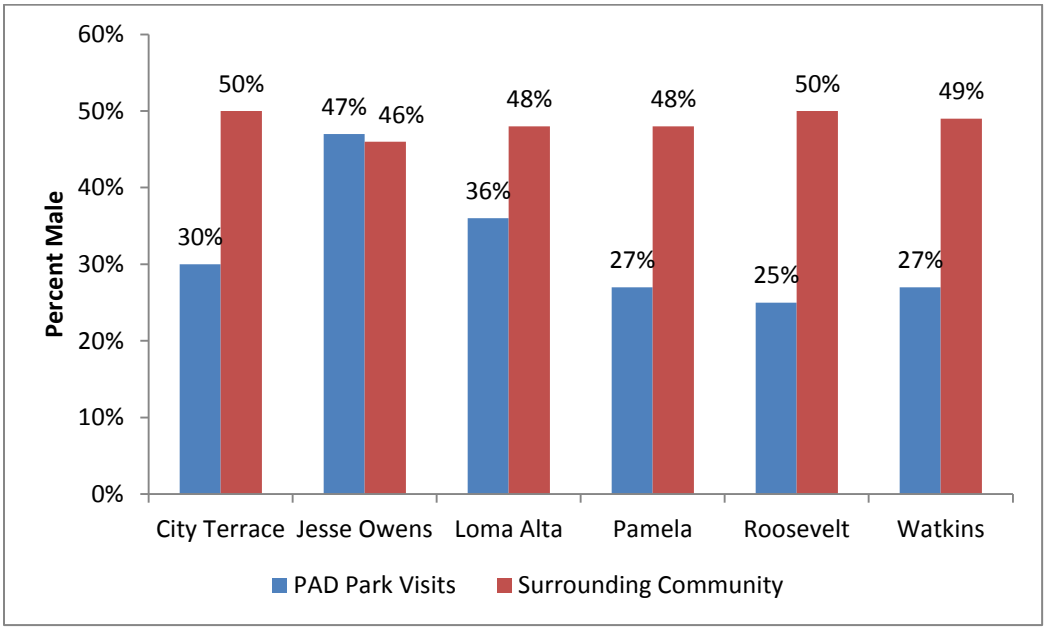


Figure 7. Percent Child (<18 years) Population among 2013 PAD Survey Respondents Compared to Zip Codes Surrounding PAD Parks

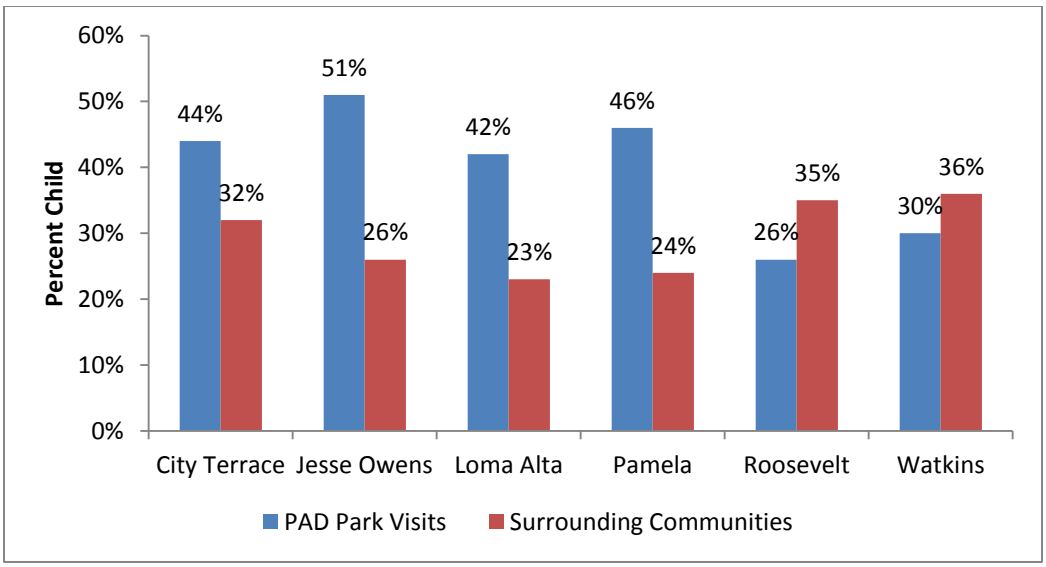


Figure 8. Percent Young Adult (18-25) Population among 2013 PAD Survey Respondents Compared to Zip Codes Surrounding PAD Parks

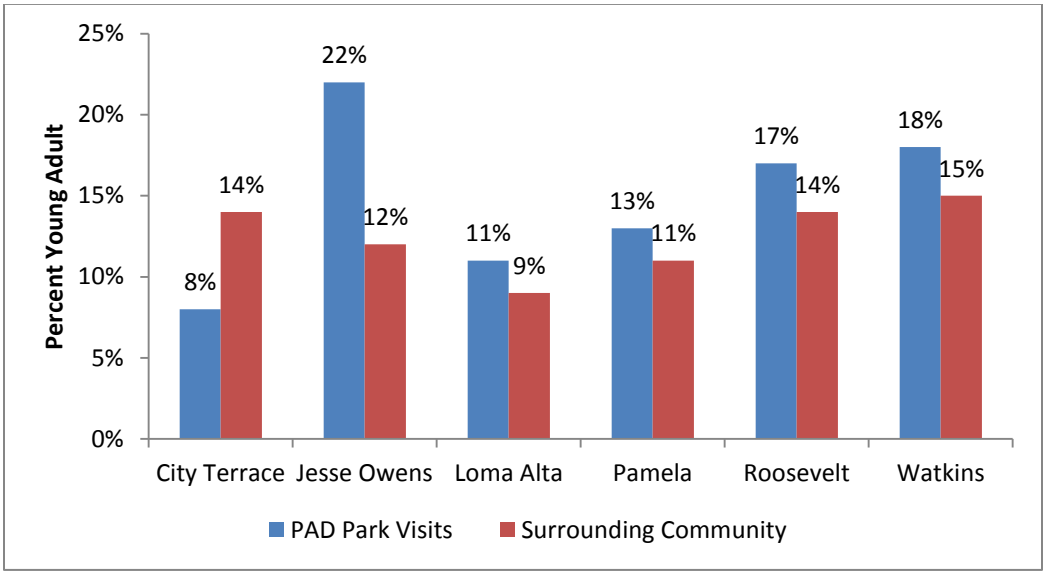
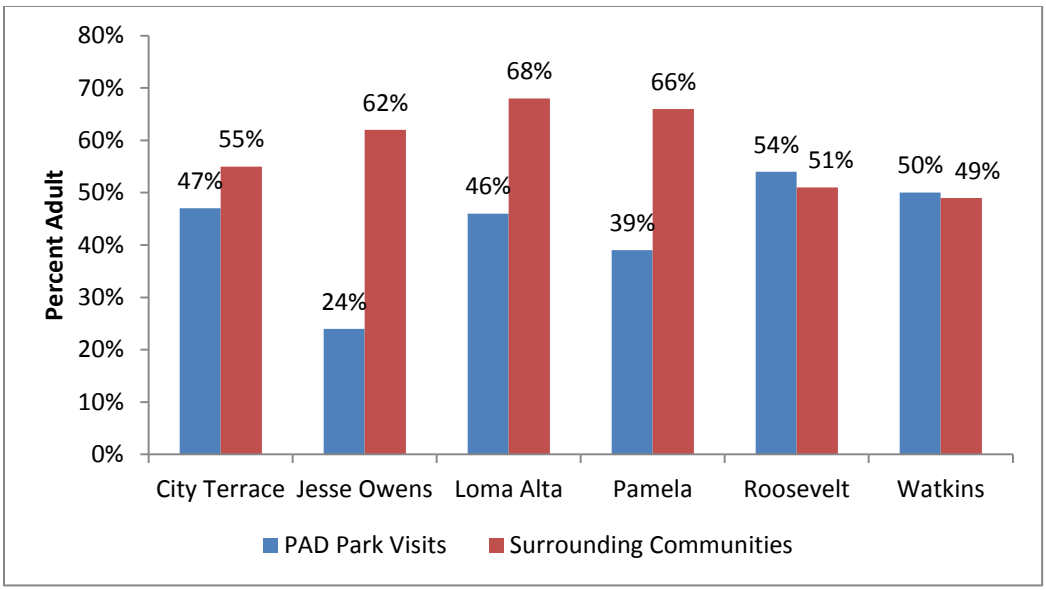


Figure 9. Percent Adult (26+ years) Population among 2013 PAD Survey Respondents Compared to Zip Codes Surrounding PAD Parks



Social and Economic Determinants

Table 8 shows the non-fatal assault hospitalization rate, childhood obesity prevalence, and economic hardship index (EHI) ranking for the area surrounding current and proposed PAD parks. Three of the parks (Roosevelt, Watkins and Jesse Owens) have non-fatal assault hospitalization rates that are three times higher than the average rate for Los Angeles County. With the exception of Pamela Park, PAD parks are located in communities with high prevalence of childhood obesity. The immediate community of Pamela Park is known by PAD staff and the Sheriff's Department to be impacted by crime and obesity; however, zip-code level and community-level data do not reflect the local social and economic conditions which are more apparent at the census tract level.

Table 8. Nonfatal Assault Hospitalization Rate, Childhood Obesity Prevalence, and EHI Rank, Current PAD Parks and Expansion Parks

Park	Community	Non-fatal Assault Hospitalization Rate (2000-2011)	Childhood Obesity Prevalence (2010)	EHI rank* (of 120)
Current PAD Parks				
Roosevelt	Florence-Graham	157.9 per 100,000	31.1%	116
Watkins	Florence-Graham	193.4 per 100,000	31.1%	116
Pamela	Duarte	39.6 per 100,000	19.9%	37
Jesse Owens	South Vermont	167 per 100,000	29.3%	98
City Terrace	East Los Angeles	68.7 per 100,000	31.1%	109
Loma Alta	Altadena	54.4 per 100,000	37.3%	44
Proposed Parks				
Athens	Willowbrook	171.3 per 100,000	26.9%	115
Belvedere	Monterey Park	61.1 per 100,000	31.1%	109
Bethune	Florence-Graham	157.9 per 100,000	31.1%	116
E Rancho Dom	Compton	146.4 per 100,000	28.8%	107
Enterprise	Willowbrook	213.5 per 100,000	28.8%	115
Robinson	Palmdale	54.4 per 100,000	27.2%	83
Mona	Willowbrook	213.5 per 100,000	26.9%	115
Obregon	East Los Angeles	68.7 per 100,000	31.1%	109
Salazar	East Los Angeles	72.1 per 100,000	31.1%	109
Washington	Florence-Graham	193.4 per 100,000	31.1%	116
LA County		**48.6 per 100,000**	**22.4**	**NA**

*EHI= Environmental Hardship Index is a relative ranking of six indicators of social and economic conditions, including crowded housing, poverty, unemployment, education, dependency (percentage of children and elderly), and income. Each community ranking is relative to 120 other communities in Los Angeles, with 1 having the lowest level of hardship and 120 having the highest level of hardship.
NA = Not applicable.

Comparison Parks

The assessment in this report focuses largely on the three original PAD parks since they have had programming since 2010, providing a five-year time period for analysis. Three comparison parks were identified that were similar to the three original PAD parks but did not have SSP programming. Unincorporated county communities make up a patchwork between neighboring incorporated cities, making it difficult to find more precise matches for comparison park analyses. Two of the comparison parks, Athens (matched with Watkins) and Washington (matched with Roosevelt), are also listed as proposed expansion parks. The third park, Farnsworth (matched with Pamela), has not been assessed as a proposed expansion park site for this report.

The comparison parks are located near the PAD parks and are demographically similar; however, there are some differences (Table 9). Roosevelt and its comparison park are located within the same zip code. Watkins and its comparison park are in different zip codes. Athens Park has a higher adult population than Watkins, a higher percentage of Black residents, and a lower percentage of Hispanic residents. Pamela Park had similar age breakdowns as its comparison park; however, Pamela Park had a much higher percentage of Hispanic and Asian

residents, while Farnsworth Park had a much higher percentage of Black residents. Pamela Park is also located much farther away from its comparison park (12 miles) than the other two original PAD parks (1-2 miles from their comparison parks); in the San Gabriel Valley, where there are very few unincorporated county parks located in disadvantaged communities.

Table 9.Population, Sex, Age and Race/Ethnicity for Original PAD and Comparison Park Areas by Zip Code

Park	Zip Code	Total Pop	Male	Under age 18	Ages 18-25	Over age 25	White	Black	Hispanic	Asian/PI
Original PAD Parks (in bold) and Comparison Parks										
Roosevelt	90001	57,110	50%	35%	14%	51%	0.6%	10%	89%	0.2%
Washington	90001	57,110	50%	35%	14%	51%	0.6%	10%	89%	0.2%
Watkins	90002	51,223	49%	36%	15%	49%	0.6%	25%	73%	0.2%
Athens	90061	26,872	49%	32%	9%	55%	1%	37%	61%	1%
Pamela	91010	26,074	48%	24%	11%	66%	23%	7%	54%	13%
Farnsworth	91001	36,126	48%	23%	9%	68%	35%	26%	29%	5%

Table 10 below shows that the comparison parks have similarly high levels of non-fatal assault hospitalization rates, childhood obesity prevalence, and economic hardship, in relation to the original PAD parks. Roosevelt Park's comparison park has a higher non-fatal assault hospitalization rate, while Watkins and Pamela Parks both have lower non-fatal assault hospitalization rates than their comparisons. Watkins Park's childhood obesity prevalence is slighlty higher than its comparison park, while Pamela Park has a much lower childhood obesity prevalence than its comparison park. Economic hardship levels were similar among PAD and comparison parks for all sets.

Table 10. Non-fatal Assault Hospitalization Rate, Childhood Obesity Prevalence, and EHI Rank, Current PAD Parks and Comparison Parks

Park	Community	Nonfatal Assault Hospitalization Rate (2000-2011)	Childhood Obesity Prevalence (2010)	EHI rank
Original PAD Parks and Comparison Parks				
Roosevelt	Florence-Graham	157.9 per 100,000	31.1%	116
Washington	Florence-Graham	193.4 per 100,000	31.1%	116
Watkins	Florence-Graham	193.4 per 100,000	31.1%	116
Athens	Willowbrook	171.3 per 100,000	26.9%	115
Pamela	Duarte	39.6 per 100,000	19.9%	37
Farnsworth	Altadena	54.4 per 100,000	37.3%	44

5.0 Crime and Perception of Safety

Literature Review

Violence has been well established as a serious public health problem. Although homicide rates have steadily decreased nationwide since a peak in the early 1990s, disadvantaged populations and communities remain at disproportionately high risk for injury and death resulting from violence (McDowall et al., 2009; CDC, 2013; U.S. DOJ, 2013). In Los Angeles County, youth ages 15-24 and Hispanic and African American males in particular are at increased risk for injury and death from homicides and assault (DPH, 2013a and b).

Violent crime has public health consequences beyond physical injury and death – it affects brain development, mental illnesses and chronic diseases (IOM, 2012; Reingle, 2013). As described in Section 2, people who are exposed to violence or who feel unsafe in their neighborhood are more likely to be physically inactive and overweight (Prevention Institute, 2010). Safety issues have been found to be a barrier to outdoor physical activity, especially for women (Loukaitou-Sideris, 2007). However, with respect to outdoor activities in parks, it is important to recognize that safety perception alone has not been shown to increase park use. There are many other factors that contribute to park use, and the availability of supervised programming has been shown to be the strongest predictor of park use and physical activity in a study of Los Angeles parks (Cohen, 2012). For youth in particular, the availability of quality out-of-school-time programming is a critical protective factor for violence and gang involvement (Fight Crime Invest in Kids, 2004).

Additionally, crime and safety issues can result in social isolation and decreased civic engagement (Prevention Institute, 2010; Roman et al., 2008). Social interactions are key to building community resilience, which in turn reduces violence and promotes physical and mental health (Sampson, 1997; Losel et al., 2012).

Evidence from Similar SSP Programs

Existing evidence on SSP programming and similar recreation-based violence prevention efforts was also reviewed. While similar SSP programs have been found throughout the country (See Section 2.0), formal evaluations are not available in the peer-reviewed literature, with the exception of one study on midnight basketball programs. An evaluation of Midnight Basketball programs that were popular in the 1990s provides some context for the potential impact of SSP programs, because of similar characteristics including a recreational focus, high risk youth population in urban disadvantaged communities, and summer evening hours. These programs were re-conceptualized to include a greater focus on outreach and intervention programming dependent on intensive collaboration. Hartmann and Depro (2006) studied the impacts of Midnight Basketball by comparing crime rates in cities with and without these programs, and found their impact on violent crime was subtle, but the impact on property crimes was significant. This study also indicated that impacts on crime may be due to the programs being a part of larger violence reduction initiatives. Additionally, public attention to these kinds of programs may influence crime rates by helping to generate “a diffuse sense of community solidarity and trust” that result in the community feeling more connected to each other and positively served by law enforcement and social services.

To date there are no peer-reviewed publications evaluating the outcomes of the collective SSP programs in Los Angeles County. However, the Cities of Los Angeles and Long Beach have both produced evaluation reports. While each jurisdiction used different methods and tracked different indicators of success, both reports suggest

these programs immediately improve the perception of safety, and after several years of implementation, show potential to reduce crime.

The SNL program operates at 32 locations across the City of Los Angeles in areas with high rates of crime and gang activity. The SNL program is part of a larger, year-round strategy to prevent and reduce violence and relies on professional gang violence intervention specialists and community-based policing (Advancement Project, 2012). In a 2012 press release for a report posted on their website, the Advancement Project reported an 18% reduction in violent crime in areas near parks with SNL from 2006 to 2010, compared to a 10% decrease in park areas without SNL. Additionally, 29% fewer aggravated assaults occurred near SNL parks, compared to 17% near non-SNL parks. This analysis was based on data from LAPD and LASD for reporting districts within a quarter mile buffer zone around each park. The report summarized two important characteristics of the SNL program:

1. SNL is one component of a comprehensive strategy implemented by the Gang Reduction and Youth Development Office that focuses on gang violence hot zones, and
2. SNL is largely dependent on having gang violence interventionists and trained law enforcement present to monitor gang activity.

The report was also the first known report to compare different SSP programs. The report compared SNL crime statistics with PAD crime statistics, and claims a much greater decrease in crime compared with PAD; however, the report uses the timeframe of 2006-2010, while PAD did not start until 2010 (Advancement Project, 2012).

A comprehensive two-year evaluation of the City of Los Angeles Gang Reduction strategies, including SNL, reported Part I and Part II crimes in SNL areas as well as stakeholder perception of positive effects of SNL. Part I and Part II crimes[6] steeply declined over three years following program implementation in 2008; however, decreases were similar to those of non-SNL areas. Gang-related crime decreased slightly more for SNL areas (37.2%) than for non-SNL areas (33.6%). The evaluation concluded there are many factors that contribute to regional crime trends.

In addition to an analysis of crime statistics, the Urban Institute conducted surveys of stakeholders, including community members. A large majority of community members surveyed felt SNL programs had “high” or “very high” (68%) effects on safety in parks during the summer of 2010. The majority of respondents (60%) responded positively that SNL programs had a “high” or “very high” impact on quality of life. With respect to impact on reducing tensions/conflicts and improving engagement across gangs, approximately half of stakeholders responded there were “high” or “very high” impacts on improving peacemaking opportunities during SNL program in 2010, and only 22% responded positively about these effects after the 2010 program ended (The Urban Institute, 2011).

This early evaluation of the SNL program reported that while it may have had an effect on community perception of safety and other qualitative factors, impacts on crime are unclear. Additional evaluations of SNL have been conducted but are not publicly available to describe impact beyond 2010. An article in the Los Angeles Daily News published in fall 2013 indicates a 73% drop in gang-related crimes around SNL parks; no gang

[6] Part I crimes are serious and violent crimes that include homicide, aggravated assault, rape, larceny theft, robbery, grand theft auto and arson. Part II crimes include non-violent and low-level offenses such as narcotics, disorderly conduct, non-aggravated assaults, vandalism, among others.

homicides and about an 85% reduction in shots fired and aggravated assaults since the program began in 2008 (Orlov, 2013).

The City of Long Beach Be SAFE program was modeled after SNL and began in 2010. A case study on Be SAFE (formerly known as Long Beach SNL) evaluated Long Beach Police Department crime data, which show a downward trend for violent crimes across Long Beach over a five-year period beginning in 2009. The study focused on violent crimes among juveniles and young adults (ages 10 to 24), and found that the crime rates near Be SAFE parks were not significantly different than those for the entire City in 2010 after one year of program implementation (Carey & Associates 2011). A followup evaluation of Be SAFE program activities and impacts over recent summers (2010 -2013) reported crime had been reduced, specifically:

- Aggravated assaults reduced by 20% between 2011 and 2013.
- No homicides were reported at Be SAFE sites during the summer months in 2012 (compared with 10 homicides reported city-wide).
- Violent crime reduced by 64% compared to city-wide violent crime in 2012, with a 46% reduction in the Be Safe Drake Park neighborhood.

Crime statistics data were evaluated from the reporting districts identified in close proximity of each park site, and compared to city-wide levels. Although impacts on crime reduction were not apparent following the first year of Be SAFE, the followup evaluation suggests the Long Beach Be SAFE program has reduced violent crimes and introduced youth services through partnerships with law enforcement, community-based organizations, and intervention specialists.

County Park Crime Data

To assess the impact of PAD on violence in its communities, we examined crime data provided by the Los Angeles County Sheriff's Department (LASD). We obtained data on all crimes occurring in LASD jurisdictions from 2009 (the year prior to PAD start) through 2013 (latest year of PAD data available) that are publicly posted on LASD's website. The study area for crime is defined as the LASD reporting district (RD) that surrounds each park. For parks located on the border of a RD, the adjacent RD crime data was also used. While PAD usually ran for 9 weekends (Thursday – Saturday) annually at each park, the start dates and number of weekends of programming varied. Therefore, to allow comparisons across years and parks, the number of crimes per week was calculated by dividing the total number of crimes during PAD by the number of program weeks.

PAD started in three parks in 2010, and three other parks adopted the programming in 2012, so analyses are presented separately for these two groups. Crime trends for Part I and Part II crimes in the RD(s) surrounding PAD parks were compared to those of comparison parks. Part I crimes are serious and violent crimes as classified by LASD and include homicide, aggravated assault, rape, larceny theft, robbery, grand theft auto and arson. Part II crimes include non-violent and low-level offenses. The percent of crimes that were gang-related according to LASD were also evaluated, however smaller sample sizes of gang-related crimes limited this analysis and are not presented in this report. While Part II crimes are presented here for completeness, Part I crimes are more generally used for trends and comparisons of crime data because they are most likely to be reported and occur frequently enough to make such comparisons (FBI, 2014).

To evaluate the potential effect of PAD on crime, a simple differences in differences approach was used to compare the change in crime in PAD park areas to the change in crime in comparison park areas. The difference in difference estimator is defined as the difference in average outcome in the treatment group before and after treatment minus the difference in average outcome in control group before and after treatment:

$$\hat{\delta}_{DD} = \bar{Y}_1^T - \bar{Y}_0^T - \left(\bar{Y}_1^C - \bar{Y}_0^C\right)$$

The key assumption in this approach is that the crime in PAD parks would follow the same crime trend as the comparison park areas. This is a difficult assumption to verify; however, it can be examined using crime data for time periods before and after PAD implementation. To do this, we compared crimes between PAD and comparison parks during the four quarters leading up to when PAD began in summer of 2010. Post-PAD crime rates were also examined to determine if PAD had a residual impact on crime rates after the program ended.

Original PAD Parks

Table 11 shows the Part I crimes per week for PAD and comparison park areas by year. Over the 5-year period from 2009 to 2013, average Part I crimes per week in the original three PAD park areas decreased 32%, while those in comparison park areas increased 18%. Figure 10 displays the crimes per week by park over time. In 2009, the year prior to PAD implementation, PAD parks (solid lines) experienced similar levels of crime as their comparison parks (dotted lines). By 2011, there were fewer crimes per week occurring in all three PAD park areas than in comparison park areas. Crimes per week in PAD park areas continued to remain lower than comparison park areas while PAD was operating through 2013, with the largest difference observed for Roosevelt and its comparison park, Washington.

Table 11. Total Part 1 Crimes per Week per Year, During PAD

Park	2009	2010	2011	2012	2013	Percent Change 2009-2013
Original PAD Parks	**9.9**	**8.7**	**8.2**	**6.4**	**6.7**	**-32%**
Pamela	2.4	0.2	1.0	0.8	0.8	-65%
Roosevelt	4.1	4.7	5.1	3.3	3.7	-9%
Ted Watkins	3.4	3.7	2.2	2.3	2.2	-36%
Comparison Parks	**9.6**	**12.7**	**11.9**	**11.8**	**11.3**	**18%**
Farnsworth	1.7	2.2	1.4	1.2	1.4	-14%
Washington*	4.8	7.1	6.4	7.4	7.0	45%
Athens	3.1	3.4	4.1	3.2	2.9	-8%

* Washington Park had two adjacent RDs, but one of them was the RD used for Ted Watkins Park. The numbers here only reflect the other RD.

Figure 10. Average Number of Part I Crimes per Week during PAD Period, for each of the Original PAD Parks (Solid Lines) and Comparison Parks (Dotted Lines)

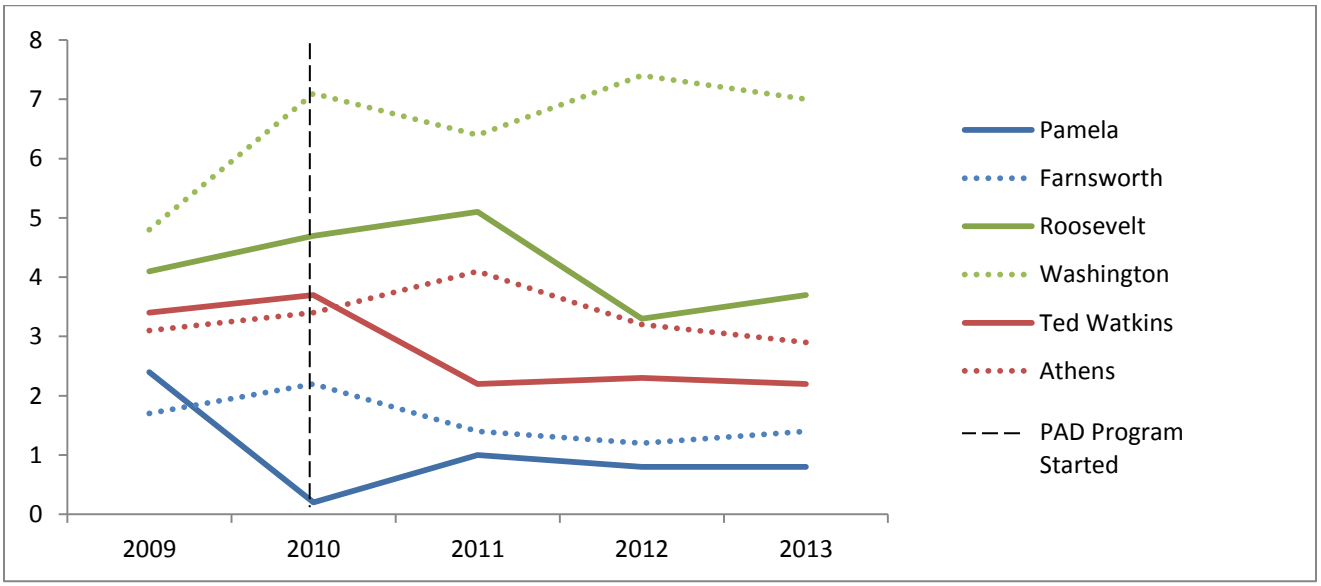


Figure 11 compares the average number of weekly Part I crimes observed in original PAD park areas to the average number of weekly Part I crimes in comparison park areas. Table 12 below shows that one fewer Part I crime per week occurred in PAD park areas from 2009-2013, while an increase of 0.6 crimes per week occurred in comparison parks. The difference in difference estimator indicates 1.6 fewer Part I crimes occurred per week in park areas where PAD was implemented for four years. For the typical 9-week PAD program, this equates to a total of 14.5 fewer Part I crimes per park during the summer.

Figure 11. Average Part I Crimes per Week during PAD Period, for Original PAD Parks and Comparison Parks

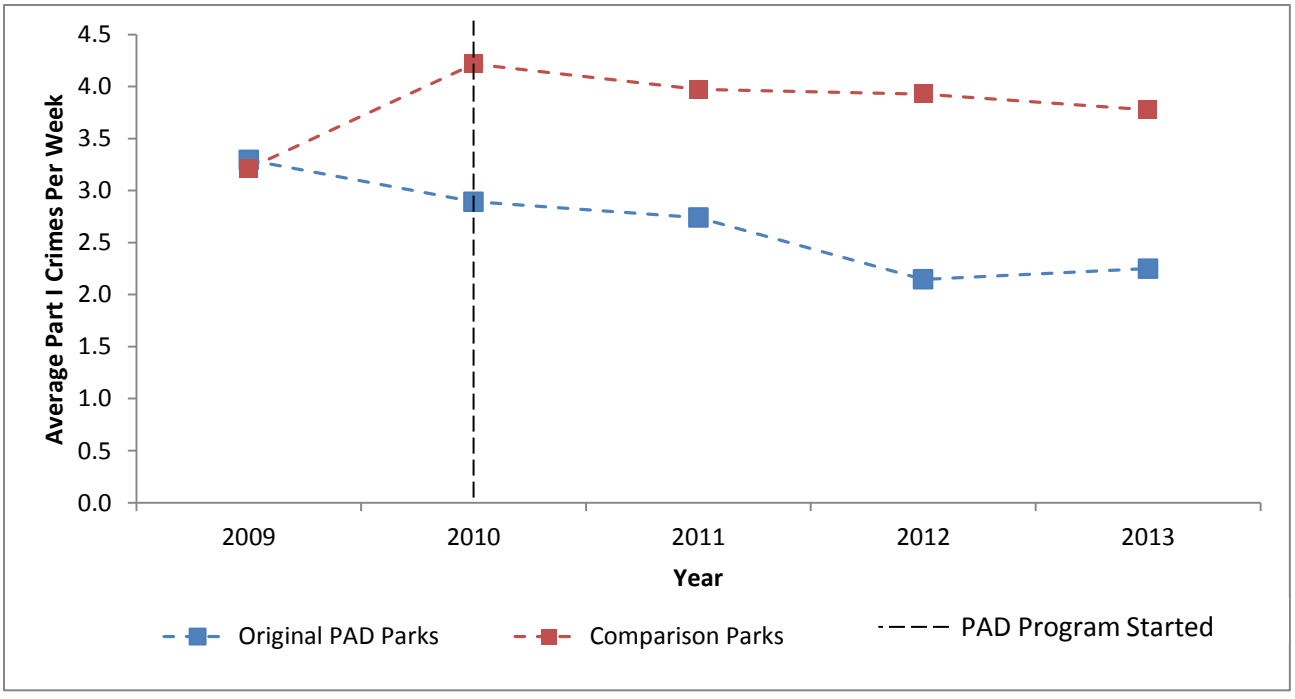
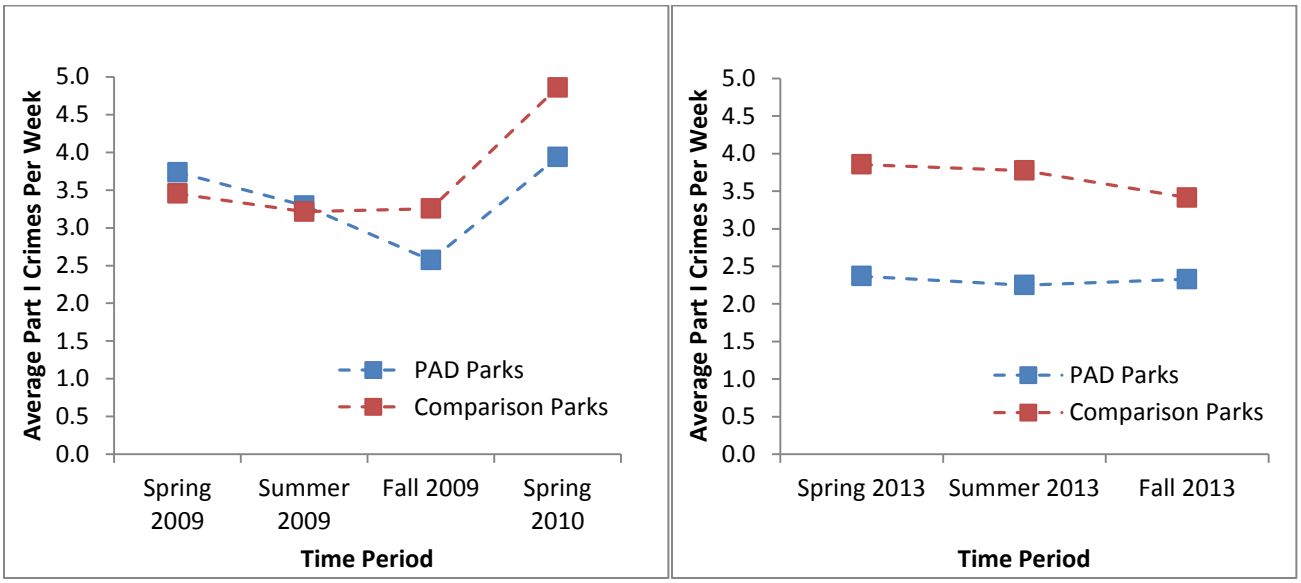


Table 12. Difference in Weekly Crimes between Original PAD Parks and Control Parks During PAD

	Average Part I Crimes per Week		
	Original PAD Parks	**Comparison Parks**	**Difference**
Pre (2009)	3.3	3.2	0.1
Post (2013)	2.2	3.8	-1.6
Difference	-1.0	0.6	**-1.6**

Figure 12 compares crime trends between PAD parks and comparison parks during 2009 (the year prior to program implementation) for four quarters leading up to when PAD began in summer of 2010. The similarity in average crimes in 2009 verifies that Part I crimes in PAD parks would likely have followed the same trend as the comparison parks if PAD and the GVRI were not implemented in 2010, and not have resulted in sustained differences in average crimes observed in 2013 (Figure 12, right).

Figure 12. Average Part I Crimes per Week: Spring, Summer, and Fall in 2009 (left) and 2013 (right)



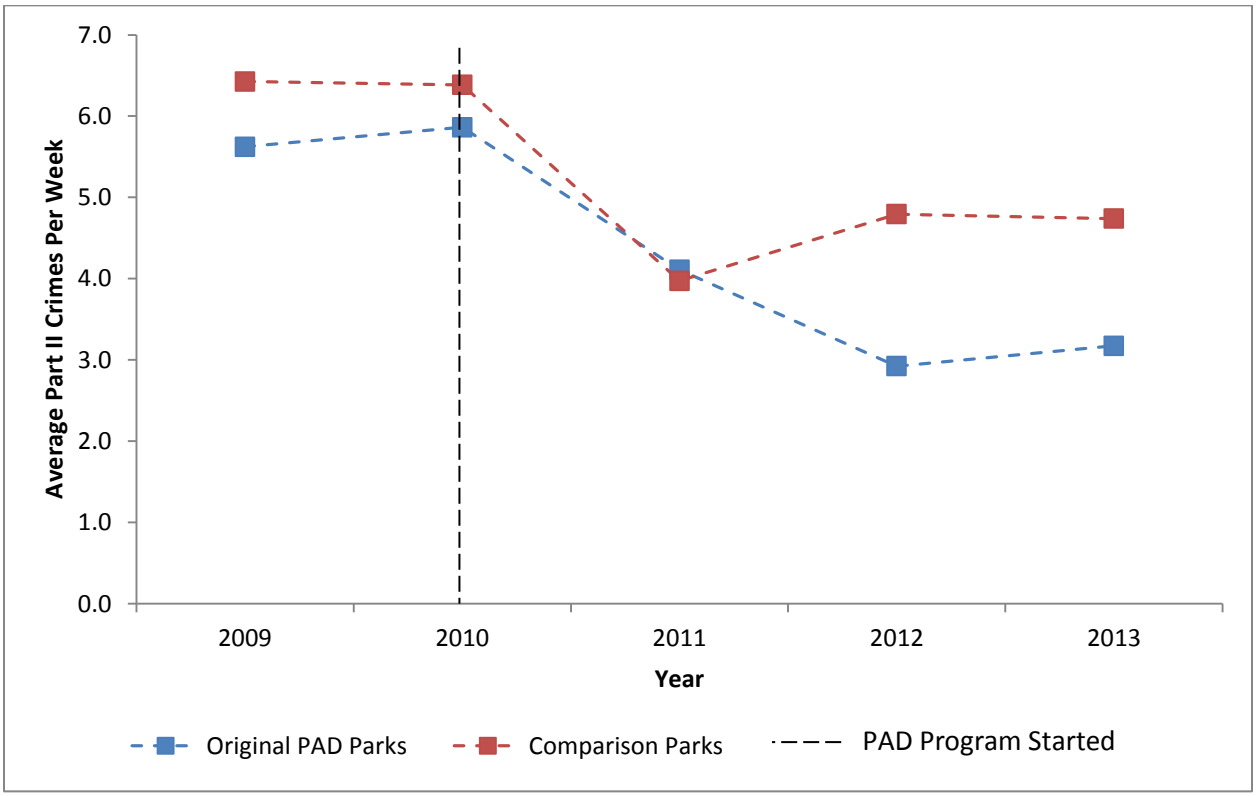
Analyses of Part II crime trends (Table 13) indicated an overall decline in crimes per week during the summer in PAD parks from 2009 to 2013 in both the original PAD parks and comparison parks, with a sharper decline in the PAD parks (44% versus 26%). Trends varied from park to park. For both groups, Figure 13 shows the decrease in Part II crimes per week between 2009 and 2013.

Table 13. Total Part II Crimes and Average Crimes per Week, During PAD, Original Parks and Control Parks, 2009-2013

Park	2009	2010	2011	2012	2013	Percent Change 2009 to 2013
Original PAD Parks	**16.9**	**17.6**	**12.3**	**8.8**	**9.5**	**-44%**
Pamela	2.7	3.6	3.3	2.3	3.1	18%
Roosevelt	5.2	5.4	4.8	2.3	3.6	-30%
Ted Watkins	9.0	8.6	4.2	4.1	2.8	-69%
Comparison Parks	**19.3**	**19.2**	**11.9**	**14.4**	**14.2**	**-26%**
Farnsworth	2.2	3.9	2.1	1.4	1.2	-44%
Washington*	10.7	9.3	6.0	8.1	7.8	-27%
Athens	6.4	6.0	3.8	4.9	5.2	-19%

*Washington Park is located within two adjacent RDs, but one of them was the RD used for Ted Watkins Park. The numbers here only reflect the other RD.

Figure 13. Average Number of Part I Crimes per Week during PAD Period, for Original PAD Parks and Comparison Parks



New PAD Parks

Three parks were added to PAD in summer 2012 in communities identified as having high rates of crime and obesity; however, PAD in these new parks were not a part of the county-wide GVRI. There is not a consistent trend in the change in crime from 2011 to 2013 across the three new PAD parks. Overall there was a 2% decrease in Part I crime per week from 2011 (the year prior to program start) to 2013. This is largely driven by a decrease in crime at Jesse Owens Park, while Part I crime per week at the other two parks increased. As discussed in Section 4, Jesse Owens Park had the highest percentage of male participants and participants under

age 18 relative to the other PAD parks, which may suggest the importance of getting young men involved in park programming.

Table 14. Total Part I Crimes and Average Crimes per Week, during PAD, New PAD Parks, 2011-2013

Park	2011	2012	2013	Percent Change 2011 to 2013
City Terrace	5.2	4.5	5.3	**2%**
Loma Alta	2.1	1.6	2.3	**11%**
Jesse Owens*	6.4	6.0	5.8	**-10%**
Total New PAD Parks	**13.7**	**12.1**	**13.4**	**-2%**

*Jesse Owens is located in city of LA, and data for this park was provided by the LAPD; data were not available for 2009 or for pre/post PAD periods.

Among the new PAD parks, Part II crimes decreased steadily for Loma Alta, and increased sharply for City Terrace Park. Part II crime data were not available for Jesse Owens in 2011 or during pre-/post-PAD time periods. Therefore, the differences in differences estimate was not assessed for the new PAD parks.

Table 15. Total Part II Crimes and Average Crimes per Week, During PAD, New PAD Parks, 2011-2013

Park	2011	2012	2013	Percent Change 2011 to 2013
City Terrace	6.4	10.1	9.3	44%
Loma Alta*	4.9	3.3	3.0	-39%
Jesse Owens**	--	2.1	1.7	--

* Loma Alta park dates for 2012 were 7/12-8/25, a period of 6 weeks and 2 days, this is reflected in the crimes/week calculations.
**Jesse Owens is located in city of LA, and data for this park was provided by the LAPD; data were not available for 2011 or for pre/post PAD periods.

Participant Surveys

A participant satisfaction survey is conducted every summer on select days during PAD. This survey includes questions regarding perception of neighborhood safety, safety during PAD, satisfaction with law enforcement, and additionally open-ended comments that reflected PAD's impact on safety. The 2013 survey results are presented below and include responses from a convenience sample of 2,693 participants from the 6 parks. The question regarding perception of neighborhood safety was drawn from the Los Angeles County Health Survey (LACHS), enabling comparisons with the county overall and local health districts surrounding the PAD parks. While results are tracked by park site, the percent of participants who agreed to fill out the survey is not known, and comparisons may be biased if certain groups/parks were more or less likely to fill out a survey.

Perception of Neighborhood Safety

Overall, the majority of survey respondents felt their neighborhoods were safe from crime. Perceptions of safety did not differ according to gender, however youth were more likely than adults to report that their neighborhood was safe. In general, the proportion of respondents at each park that reported their neighborhood was safe was similar to the health district level reports of neighborhood safety seen in the 2011 LACHS.

Perception of Safety during PAD

Table 16 shows the vast majority of participants who responded to the survey reported that they felt safe while attending PAD. There was some variation among parks. Jesse Owens was the only park in which less than 80% of respondents reported feeling safe, while Watkins was the only park in which more than 90% of respondents felt safe. Jesse Owens had fewer survey respondents than any other park, and had the highest percentage of respondents who did not answer the question about feeling safe during PAD (17%). Across all parks, similar proportions of both youth and adults reported they felt safe during PAD; however there were differences by gender. The proportion of females who felt safe (89.3%) was significantly higher than the proportion of males (85.2%).

Of the respondents who did not feel safe in their neighborhood, more than three-quarters reported feeling safe during PAD (Table 17).

Table 16. Perception of Safety during PAD, 2013 Participant Satisfaction Survey, by Park and Demographics

Did you feel safe attending PAD?	**%**	**CI**
Overall		
Yes	87.2%	(85.9-88.4)
No	3.2%	(2.5-3.8)
By Park		
City Terrace, % Yes	89.3%	(87.1-91.6)
Loma Alta, % Yes	89.3%	(86.4-92.2)
Owens, % Yes	78.4%	(73.1-83.8)
Pamela, % Yes	87.8%	(84.7-90.9)
Roosevelt, % Yes	82.8%	(79.6-86.0)
Watkins, % Yes	91.5%	(88.6-94.5)
Males		
Yes	85.2%	(82.7-87.6)
No	3.4%	(2.2-4.7)
Females		
Yes	89.3%	(87.8-90.7)
No	2.7	(1.9-3.5)
Youth under age 18		
Yes	88.1%	(86.1-90.1)
No	3.0%	(1.9-4.0)
Adults age 18+		
Yes	87.2%	(85.5-88.8)
No	3.3%	(2.4-4.2)

Note: Gender was missing from 6% of surveys, age was missing from 2% of surveys, and there was no response to the question about feeling safe attending PAD for 10% of the surveys during 2013.

Table 17. PAD Participant Satisfaction Survey Respondents who Felt Unsafe in their Neighborhood, by Perception of Safety during PAD, 2013

Unsafe in Neighborhood	%	CI
% Yes, safe at PAD	79.6%	(75.2-84.0)
% No, not safe at PAD	11.0%	(7.5-14.4)
Note: Gender was missing from 6% of surveys, age was missing from 2% of surveys, and there was no response to the question about feeling safe attending PAD for 10% of the surveys during 2013.		

Respondent comments related to law enforcement varied widely. Examples are:

- "Don't like the uniformed officers at the park. Don't seem friendly or part of the community.
- Would prefer if they dressed casually and tried to fit in more. Also no African-American officers are ever present."
- "Police need to walk around more."
- "Law enforcement presence needs to be known."
- "I feel safe with the police there."

Other survey respondents discussed general safety of the parks during PAD. Comments regarding PAD's impact on bringing the community together were interwoven with comments on safety, illustrating the importance of communities taking ownership of the park to improve safety. Comments solely focusing on PAD's impact on improved social cohesion are also included.

- "Program that truly brings our community together and provides a fun yet safe haven for youth and adults."
- "The park is very safe for my children to play at."
- "Community involvement is very important to parks and vice versa. It truly takes a village to raise a child."
- "Good for the community and the kids and so we can meet new people to make a change for once."
- "We really enjoyed PAD very positive for the family and community."

Key Informant Surveys

Key informant surveys were conducted as part of the Rapid HIA process and provided comments regarding PAD's impact on safety and violence. Key informant survey methods are described in Section 3.

Perception of Safety during PAD

Fifteen of 17 community members surveyed, including parents and youth, provided feedback regarding whether they felt safe during PAD, and if they thought that PAD made the community safer. All of the respondents indicated that they felt safe during PAD (one did not respond), and 82% indicated that they thought PAD made the community safer (the other 18% did not respond). They attributed this to the presence of law enforcement and park staff nearby. When asked why PAD affected safety, they attributed it to different factors: "We have fun at night," "I think we made new friends... So in a way we look out for each other," "Gave teens activities to do,"

"Because I feel like it made our community a big family," "It keeps kids out of trouble," "It provided services that kept the community active."

All other key informant respondents, including representatives from DPH, DPR, LASD, Chief Executive Office, Board of Supervisors, and PAD Partner Agencies, were asked what impact PAD has had on the community: 13 of 50 respondents talked about decreased crime and gang activity, 12 discussed improved perception of safety, and four discussed the impact of law enforcement on improved safety and community relations:

- "It transforms parks that were once overrun by gang-related violence into vibrant community centers." (DPR staff)
- "The community also felt more comfortable communicating with the deputies because we participated in the community events during the PAD programs… I was told by many community members that they felt safe in the summer, and they came to the park more often to participate in the activities." (Deputy Sheriff)
- "It provides a safe environment for families to recreate, bond with other families and access services. By having families from diverse backgrounds together the likelihood of interracial violence diminishes slightly." (Partnering Agency)
- "The community as a whole feels more connected. People often approach staff and express how the atmosphere has changed from one of fear, to one of joy and hope. People who remember when the parks were run by gangs and gang activity cannot believe the change." (DPR staff)
- "The PAD program provides a positive environment and safe venue for children and teenagers to interact vs. being on the street late at night and interacting/influenced by the many negative influences." (Deputy Sheriff)

Community members were asked, *Do you think PAD helped improve relationships between neighbors?* Sixty-nine percent of respondents indicated that it did:

- "I was actually able to meet neighbors I normally would not have spoken to, but when they brought their kids to the park to enjoy the activities I was able to speak to them and learn we had some of the same interests and the same concerns about having a better community."
- "It made our community proud and brought everyone together."

Half of key informant survey respondents talked about *improved sense of community* when asked, *How does PAD impact its communities?* Like the participant surveys, these surveys also reflect how social cohesion is related to improved safety*:*

- "PAD provides a safe environment where community members of all ages can enjoy various physical activities, learn about healthy lifestyles, build family relationships, and build community rapport and empowerment." (DPH staff)
- "Over the last two years we've noticed a positive change in the immediate community and from our park patrons. They feel safe at the park and during their walk home from the park during the extended summer hours." (BOS Park Deputy)
- "PAD was created to impact violence and gangs in communities by breaking down social isolation and using the parks as a community focus point. Community members who did not frequent the parks came

out to partake in the activities. PAD also provided an outlet for youth in underserved communities." (CEO staff)

- "Some of the parks were negatively impacted by gang violence in the past, and the park attendance was reducing. With the PAD programs, it has encouraged more participation from the community and the image and reputation of the park." (DPR staff)
- "PAD gives children the opportunity to gather in a fun and safe setting. Communication between the kids, their parents, and other community members is evident in the program. Building relationships within the community definitely impacts community involvement in a positive way." (Deputy Sheriff)
- "PAD program is one of the best programs in the summer for the community. I have observed how it has brought community together, provided safe programming for families." (PAD partner agency)

Cost of Crime

Fourteen fewer crimes occurred around original PAD park areas compared to nearby parks without PAD; however, there was not a consistent pattern of crime trends around the new PAD park areas. The focus of this section is to measure the value of crime reduction by estimating the costs to the Los Angeles County criminal justice system that are avoided during PAD programming at the original PAD parks. The estimated crime reduction by crime type was calculated by multiplying 14.5 crimes by the average percent of crime type observed in PAD park areas from 2009 to 2013. The total number of crimes and total costs by crime type for law enforcement, legal and adjudication, and custody and supervision were reported in a previous assessment on the costs for methamphetamine use in 2006 (see Appendix D), and used in this assessment. The cost per crime for each of these categories was calculated by dividing the total cost by the total number of crimes, thus providing an average per crime cost for Los Angeles County. Costs are not specific to individual reporting districts. Table 18 shows the resulting cost of crime for each crime type, based on the observed reduction of 14.5 crimes in original PAD parks.

Compared to before PAD was implemented in 2009, the crime reduction observed in 2013 in original PAD park areas is estimated to reduce county expenditures on crime by $155,000 for law enforcement, $153,000 for legal and adjudication costs, and $152,000 for custody and supervision costs; this totals $460,000 of avoided costs of crime to county government per park per summer. These figures are likely an underestimate as they do not account for potential additional cost savings such as emergency transport, healthcare costs, lost wages, and quality of life that are typically accounted for in cost of crime analyses.

Table 18. Cost of Crime Avoided in Original PAD Park Areas

Crime Type	Average No. of Crimes (per park/ summer)	Percent Crime Type	Estimated Crime Reduction (per park/ summer)	Law Enforcement		Legal and Adjudication Costs		Custody and Supervision Costs	
				Cost per Crime	Cost during PAD	Cost per Crime	Cost during PAD	Cost per Crime	Cost during PAD
Murder	0	0%	0.0	$10,951.91	$0.00	$2,632.49	$0.00	$2,616.27	$0.00
Rape	2	1%	0.1	$9,351.23	$855.48	$2,247.77	$205.63	$2,233.92	$204.37
Robbery	40	13%	1.8	$10,967.71	$20,067.11	$2,636.58	$4,824.03	$2,620.04	$4,793.77
Aggravated assault	54	17%	2.5	$10,740.78	$26,530.08	$2,582.03	$6,377.70	$2,565.83	$6,337.69
Burglary	62	20%	2.8	$10,745.70	$30,474.41	$2,583.21	$7,325.90	$2,567.01	$7,279.94
Larceny-theft	76	24%	3.5	$10,586.75	$36,803.15	$35,759.44	$124,311.99	$35,539.16	$123,546.22
Motor-vehicle theft	81	26%	3.7	$10,854.12	$40,215.03	$2,609.28	$9,667.49	$2,592.91	$9,606.85
Arson	2	1%	0.1	NR		NR		NR	
Aggregate Costs of Crime Avoided (per park/summer):					**$155,000**		**$153,000**		**$152,000**

Note: Cost of crimes for law enforcement, legal and adjudication costs, and custody and supervision costs are from the 2006 LA County Budget.
NR = Not reported.

Uncertainties

The crime assessment illustrates the opportunity for SSP programming to decrease crime, however there are data limitations and uncertainties associated with the 1) lack of data from neighboring jurisdictions, and 2) the influence of other factors on crime trends, such as other violence reduction initiatives.

With respect to data adequacy, the crime assessment relied on publically available data reported by the LASD for the reporting district where each PAD park is located. If adjacent reporting districts were city jurisdictions, the data were not available and could not be incorporated into this assessment. This data limitation may have underestimated the total crime counts for areas nearby the park sites. This is unlikely to cause significant bias since the undercounts were likely comparable in the pre-PAD periods. Additionally, if the reductions in neighboring city jurisdiction reporting districts were comparable to LASD data, then the crime assessment may underestimate the PAD crime reduction. To reduce this uncertainty, law enforcement agencies should establish a central repository for crime data. This would assist with analyses of SSP and other violence reduction initiatives in the County, however a significant barrier is the large number of law enforcement agencies that would need to coordinate (46 municipal police departments and the Sheriff's Department) and the differing protocols and definitions for crime reporting.

As discussed, PAD originated as part of a larger gang reduction effort in 2010 to reduce gang violence in four communities of Los Angeles County – Florence Firestone, Harbor Gateway, Monrovia Duarte, and Pacoima. Therefore, the neighborhoods surrounding the three original PAD sites have also benefited from other prevention and intervention efforts, such as resource and employment fairs, youth mentoring programs, juvenile reentry programs, and drug counseling (LAC CEO, 2010). While the comparison parks have similar demographics and health outcomes as the original PAD parks, the adequacy of comparison park selection, and resulting inferences made from the crime assessment, largely depends on the presence of any other violence reduction strategies. An assessment of the impact of other violence reduction initiatives in the surrounding PAD and comparison park communities was beyond the scope of this HIA.

Gang violence is a critical issue in these communities, however changes in gang-related crime during PAD were not closely examined. Some exploratory analyses were conducted to evaluate changes in gang-related Part I crimes during PAD, however there was insufficient information to assess the relationship between PAD and gang-related crime. Future assessments of PAD should examine the impact of the program on gang membership, activity, and gang-related crime in the park communities.

Discussion

The crime analysis focused on Part I crime in reporting districts surrounding the original PAD park areas, as compared to comparison park areas. On average, Part I crimes in the original three PAD park areas decreased 32%, while those in comparison park areas increased 18%. Overall crime reduction was also observed in evaluations of similar SSP program activities in Los Angeles County, however, definitions of crime and statistical methods varied slightly so that it is difficult to make an accurate comparison. The Advancement Project reported 18% less violent crimes in and near Summer Night Light parks over four years (2006-2010), while there were 10% less violent crimes in comparison parks. The City of Long Beach reported 64% less violent crimes in Be SAFE neighborhoods over three years (2010-2013) compared to average crime reported in 2012 for all other

neighborhoods. Similar to the original PAD sites, SNL and Be SAFE programs are part of larger, comprehensive strategies to reduce violence.

The crime analysis indicates 1.6 fewer crimes occurred per week in three original PAD park areas where PAD was implemented for four consecutive summers (2010 to 2013) relative to comparison parks. For each 9-week program, this equates to a total of 14.5 fewer crimes per park during the summer. This decrease in crime was used to estimate the law enforcement and judicial system expenditures if PAD ended and crime returned to the level observed before summer programming began (in 2009). The decreased crime observed was estimated to reduce county expenditures on crime by a total of $460,000 of avoided costs of crime to Los Angeles County per park per summer.

However, new PAD park areas did not see this same reduction in crime, therefore it is important to examine the factors that may differentiate original and new PAD parks. One key distinguishing feature of the original three PAD parks is that they were part of a larger gang violence reduction initiative whose affects may still be felt in the demonstration sites that surround these parks. This may indicate the need to evaluate whether coordinated violence reduction initiatives should be reinstated in current park areas and/or implemented in proposed expansion park areas. Additionally, PAD parks had low male participation. Of the new PAD parks, only Jesse Owens Park, which had a high male and youth population, showed a decrease in crime. While this is not sufficient evidence to establish a link between higher rates of male participation and lower rates of crime, this relationship could be further evaluated using SSP programming data across multiple jurisdictions in the County. It is nonetheless important for PAD programming to engage young men, since they are most often targeted for gang involvement. A key component of SSP programs is gang intervention workers; however this element has been missing from PAD programming due to funding and resource issues.

In addition to LASD crime data, PAD's impact on crime and safety were evaluated using participant survey and key informant survey responses. The majority of PAD participants and key informants reported an improvement in their perception of safety during PAD. This was not only attributed to the physical presence of law enforcement, but also to greater opportunities to participate in fun outdoor activities and social networking with neighbors. Both surveys indicated that participants and stakeholders viewed social cohesion – improved relations among neighbors, community building – as a key outcome of PAD and associated with improved safety at the parks. Key informants suggested additional opportunities for community building, such as partnering with local community organizers to enhance civic engagement and community organizing, and establishing teen clubs or youth councils at the parks. A recent study of 24 parks in Los Angeles found organized activities to be the strongest predictor of park use, as well as physical activity (Cohen 2012). Therefore, the wide variety of organized activities carried out by SSP programming is likely attracting friends, families and spectators. In turn, this expands the number of avid park users, who will tend to regard their parks as safe. Increased park usage results in increased social cohesion, which is a critical protective factor for violence reduction and other health issues.

Recommendations

- DPH and the Sheriff's Department should work closely with city law enforcement agencies to obtain crime data for areas immediately adjacent to PAD parks regardless of jurisdiction; this would improve

the ability to track and monitor impacts of PAD programs, as well as other SSP programs across the County.

- Program leadership should continue to engage law enforcement in SSP programs to ensure safety and improve relationships with community members. The Sheriff's Department should schedule the same deputies to PAD parks to develop relationships with the community, and participate in recreational activities (e.g. basketball) with local residents.
- Program leadership should contract gang intervention workers, develop teen clubs into youth councils, and form partnerships with community organizations that provide other violence reduction services (e.g. drug counseling, mentoring programs). Additionally, the County should evaluate whether there is a need to reinstate a coordinated county gang violence reduction initiative in targeted areas.
- DPR should encourage youth to remain involved with other park activities that occur on a year-round basis during other out-of-school-time periods. This may be accomplished by creating additional programs at parks that lack afterschool activities, and/or linking PAD participants to existing park and community-based programs.

6.0 Physical Activity and Health

Literature Review

Physical activity can prevent and reduce obesity and obesity-related diseases and improve cardiovascular fitness. Sedentary lifestyle and obesity may increase the risk of many health conditions, including (CDC 2011):

- Coronary heart disease, stroke, and high blood pressure,
- Type 2 diabetes,
- Cancer,
- Elevated total cholesterol or triglyceride levels,
- Liver and gall bladder disease,
- Sleep apnea,
- Respiratory diseases,
- Alzheimer's and dementia,
- Bone health (osteoporosis),
- Reproductive health, and
- Mental health.

While many of these obesity-related diseases are linked to a sedentary lifestyle, this assessment is limited to evidence from high-quality systematic reviews showing increased physical activity reduces the risk of the following five health outcomes (Woodcock, 2009):

1. *Cardiovascular disease:* The evidence linking physical activity and cardiovascular diseases is strong (Reiner, 2013): weekly walking is linearly related to coronary heart disease (Zheng, 2009).
2. *Depression:* Woodcock et al. (2009) carefully evaluated the effects of physical activity among individuals with doctor-diagnosed depression. The duration and severity of existing and new cases of depression decreased among individuals who began regular physical activity.
3. *Diabetes:* Physical activity and body weight are known to play an important role in the incidence of type 2 diabetes (Reiner 2013). Specifically, people who regularly participated in moderate physical activity or regular walking had a 30% lower risk of type 2 diabetes (Jeon, 2007).
4. *Cancer:* More recent findings from epidemiological studies suggest physical activity may also prevent certain cancers. The American Cancer Society, the World Cancer Research Fund and the American Institute for Cancer Research all recommend minimum levels of daily or weekly physical activity to prevent cancer. Most studies focus on evaluating associations between physical activity and site-specific cancers, and the strongest evidence exists for colon, breast and endometrial cancer (Woodcock, 2008; Bassuk, 2014). However, the mechanism for the protective effect of physical activity is not well understood and more research is needed to clarify the biological pathways.
5. *Dementia:* Evidence for potential effects of physical activity on neurodegenerative diseases, such as dementia, is more limited. In a meta-analysis of 16 studies, high levels of physical activity were associated with lower risk of dementia (Hamer, 2009).

More generally, there is a strong relationship between physical activity and all-cause mortality (Reiner, 2013). The largest benefit is observed when individuals with no activity increase to low levels of activity, however even individuals with high levels of activity benefit from incremental increases (Woodcock, 2011).

Neighborhood social, economic, and environmental factors are related to participation in physical activity, as well as the risk of obesity (Cohen, 2006a). In Los Angeles County, childhood obesity is strongly associated with community-level social and economic conditions. Racial/ethnic disparities in obesity prevalence were observed, with Hispanic children reporting the highest obesity prevalence (26.9%), followed by non-Hispanic Black students (20.7%) (Shih et al., 2012).

Female participation in physical activity is lower than for males (Young, 2013). Males are also more likely than females to engage in moderate-to-vigorous physical activity. Females are more frequently observed to be seen sitting in the park (22%), walking (15%) or on the playground (14%). Children and teens use parks more than adults and seniors, especially in parks in Los Angeles with facilities that promote active sports such as basketball and soccer. Cohen et al. (2006) concluded that since parks do not serve everyone in the community equally, programming that is attractive to different groups needs to be provided.

Participant Surveys

The participant satisfaction survey included questions regarding weekly physical activity levels, park usage, and participation in physical activity during PAD. When surveyed about their physical activity level during summer 2013 (Table 19), 37% of PAD participants from six parks indicated they engage in moderate physical activity for at least 30 minutes per day for 5 days per week. On the other hand, 5% of participants do not participate in any weekly physical activity. Children are more active than young adults and adults, and more females than males indicate no weekly physical activity. PAD participants also indicated they frequently visit the park – approximately half of 2013 PAD participants indicated they use the park daily on a regular basis.

Table 19. Weekly Frequency of at least 30 Minutes of Moderate Physical Activity among Park After Dark Participants, 2013

Group		N	None	1-2 days	3-4 days	5 or more days
Sex						
	Female	1693	5%	26%	35%	34%
	Male	803	4%	20%	33%	44%
Age						
	Adult (age 26+)	1201	5%	27%	37%	30%
	Young Adult (age 18-25)	355	4%	30%	34%	31%
	Children (under age 18)	1039	4%	19%	31%	47%
All		2595	5%	24%	34%	37%

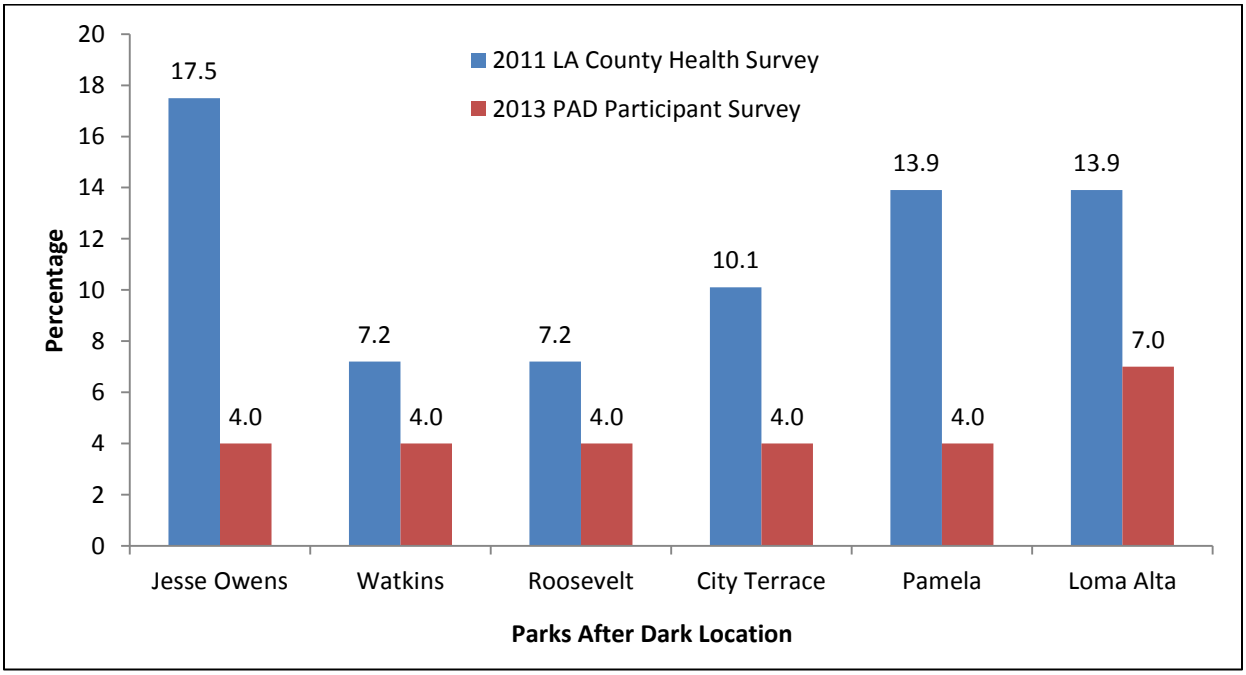
As shown in Table 20, 78% of participants engaged in some type of physical activity during PAD, with the majority participating in team sports or swimming. Many of those indicating "other" physical activity participated in an organized dancing program. Of 125 participants who have sedentary lifestyles on a weekly basis, 53% participated in physical activity during PAD. To estimate the amount of time PAD participants spent in each type of physical activity each week, we reviewed the park-specific program schedules provided by DPR.

Table 20. Physical Activity Participation by Activity Type, Time and Intensity, PAD Participant Survey 2013

Physical Activity	Percentage	Activity Time (hours/week)	METs (kcal/kg/h)
Team Sports	25%	2.1	8.0
Swimming	28%	1.7	4.0
Walking Club	19%	1.4	3.8
Exercise Class	19%	1.0	6.5
Other	10%	1.7	4.5
Total	**78%**		

Figure 14 compares the percentage of adults not engaged in weekly physical activity between PAD visitors and community members. The percent of sedentary adults who visit PAD (4.0-7.0%) is lower than the percent of sedentary adults in surrounding communities (7.0-17.5%), suggesting PAD is likely to attract more active adults.

Figure 14. Percentage of Adults not Engaged in Weekly Physical Activity, PAD Participants and LA County Health Survey Respondents



Impact Prediction

The health gains and attributable costs from increased physical activity were estimated using the Integrated Transport and Health Impacts Model (ITHIM) developed by the California Department of Public Health for Southern California. Although ITHIM is based on various active transport scenarios (e.g. walking and bicycling), (Woodcock et al., 2009) it was adapted to incorporate information on baseline and alternative physical activity levels, as reported by the PAD participant surveys and DPR program schedules.

Change in Burden of Disease

In brief, the model uses comparative risk assessment to calculate the percent of disease and disability attributable to a shift in physical activity from a baseline to an alternative scenario. The baseline distribution of physical activity was based on the quintiles of a normal distribution of PAD participants surveyed (Figure 14 above)[7]. The type of baseline physical activity is not known; therefore the level typical of general gym exercise was used, as reported in Ainsworth et al., 2000. Physical activity is described in the model as units of energy (calories) expended per kilogram of body weight per hour of activity (kcal/kg/h) on a weekly basis –this is referred to as a metabolic equivalent task (MET). The number of weekly METs for a sample of PAD participants was estimated for baseline and PAD activities. In order to evaluate change in physical activity using the ITHIM model, it was necessary to assume PAD would be implemented and used year-round.

As described by CDPH (2012a), the data sources of the ITHIM model include:

- Years of life lost (YLL) based on life expectancy tables and actual ages at death from death certificates.
- Years living with disability (YLD) based on the incidence of the disease or injury, its duration and a standardized severity weight.
- Disability adjusted life years (DALYs) compiled from the Global Burden of Disease database, published by the World Health Organization.

The projected deaths, YLLs and YLDs for 2010 were scaled to the population in the Southern California region (includes Imperial, Los Angeles, Orange, Riverside, San Bernardino and Ventura counties). The model output was indirectly standardized to the size of the PAD population using the estimated number of recreational participants in 2013 and assuming these participants attend PAD once per week. As shown in Table 21, 6 parks potentially reach a total of 5,300 individuals who participate in physical activity, and 16 parks could potentially reach 14,200 individuals.

Table 21. Estimated PAD Participants who Engage in Physical Activity

Item	Population	6 Parks	16 parks	Data Source/Assumption
1	Number of visits per summer	61,507	-	Visitor counts from DPR during PAD in 2013
2	Number of weeks in PAD per summer	9	-	DPR program schedule
3	Number of visitors per summer	6,834	-	Items 1 and 2, assuming visitors attend PAD once per week
4	Percentage of PAD participants who reported they participated physical activity during PAD	78%	-	PAD Participant Survey, Question 10 (see Appendix B)
5	Number of individuals estimated to be physically active during PAD	**5,300**	**14,200**	Items 3 and 4 (approx. 880 participants per park per summer)

ITHIM model parameters are derived from an exhaustive review of the dose-response relationship of physical activity and chronic diseases; in other words, the relationship between the amount of physical activity and the

[7] Weekly activity times were calculated for each individual who completed a survey. It was assumed that the individual exercises 30 minutes per day for as many days per week indicated in Survey Question #5. Activity times for weekly exercise were estimated by age and sex categories.

amount of benefit gained in terms of preventing chronic diseases. (Woodcock et al., 2009)[8]. Since the shape of the dose-response functions were not well described in the review articles, the model uses a conservative square root linear relationship for the risk reduction at moderate levels of physical exercise and decreases to marginal (even smaller) risk reduction at high levels. This means that people who do not regularly exercise receive a larger health benefit from a small increment in physical activity than people who frequently exercise. Relative risks for cardiovascular disease and diabetes were based on studies of walking alone and on a broader range of physical activities for the other diseases. To account for the general observation that residents in Southern California tend to have better health outcomes than the US population, the burden of disease measures were adjusted by the ratio of mortality rates in Southern California to the U.S. population for each age and sex group. Results assume the program has been in place long enough for benefits to have reached a steady state. **Table 22** shows the estimated changes in health burden for weekly participation in PAD, assuming year-round implementation of organized physical activity programs.

[8] Medical literature databases were searched through March 2009 for diseases and illnesses whose risk factors were assessed in the study of the global burden of disease. Systematic reviews were identified for all health outcomes, except depression, which was reviewed by Woodcock et al. (2009).

Table 22. Annual Change in Burden of Disease from Physical Activity at Current and Proposed PAD Sites

	Rate (per Million Population)	Disease Burden*	Current PAD Sites* (N=6)	Proposed PAD Sites (N=16)
Ischemic Heart Disease				
Premature deaths	-57	5%	0	-1
YLL	-593	5%	-3	-8
YLD	-50	5%	0	-1
DALYs	-642	5%	-3	-9
Hypertensive Heart Disease				
Premature deaths	-10	5%	0	0
YLL	-129	5%	-1	-2
YLD	-18	5%	0	0
DALYs	-147	5%	-1	-2
Stroke				
Premature deaths	-104	5%	-1	-1
YLL	-1137	5%	-6	-16
YLD	0	5%	0	0
DALYs	-1137	5%	-6	-16
Depression				
Premature deaths	0	3%	0	0
YLL	-1	3%	0	0
YLD	-192	2%	-1	-3
DALYs	-192	2%	-1	-3
Diabetes				
Premature deaths	-9	5%	0	0
YLL	-130	5%	-1	-2
YLD	-151	5%	-1	-2
DALYs	-281	5%	-2	-4
Breast Cancer				
Premature deaths	-2	0%	0	0
YLL	-35	2%	0	0
YLD	-9	1%	0	0
DALYs	-44	2%	0	-1
Colon Cancer				
Premature deaths	-2	2%	0	0
YLL	-30	2%	0	0
YLD	-7	2%	0	0
DALYs	-37	2%	0	-1
Dementia				
Premature deaths	-19	5%	0	0
YLL	-108	4%	-1	-2
YLD	-278	4%	-1	-4
DALYs	-387	4%	-2	-5
All Causes				
Premature deaths	-104	2%	-1	-1
YLL	-1137	1%	-6	-16
YLD	0	0%	0	0
DALYs	-1137	1%	-6	-16

Notes: Negative numbers indicate reduction in disease burden. YLL = years of life lost, YLD- years of health life lost as a result of a disability, DALYS=disability-adjusted life years.

*Disease burden shown is the attributable fraction (AF), representing the fraction of cases or deaths from each condition that would be avoided if people increase exercise by participating in PAD activities once per week for an entire year.

If the current six PAD sites operated year-round or influenced long-term physical activity behavior, physical activity would save one premature death from cardiovascular disease, and 15 DALYs. If PAD continues at the current six park locations and expands to 10 additional sites annually, physical activity would save three premature deaths from cardiovascular disease, and 41 DALYs. The largest gains come from heart disease (5% of heart disease burden), dementia (4-5% of dementia burden), and diabetes (5% of diabetes burden).

Cost of Illness

The ITHIM model estimates monetized costs of the change in the burden of disease using the Cost of Illness (COI) method. This method calculates direct and indirect costs of illness, based on estimates from literature (CDPH, 2012b). The national costs of illness were inflation-adjusted to 2010 U.S. dollars and costs projected for the PAD participant population. The model assumes that total costs changed in direct proportion to the change in disease burden due to physical activity.

Table 23 summarizes the attributable costs due to physical activity during PAD programming, for both the current six sites and the proposed 16 sites assuming year-round programming. If PAD programming can have an impact on year-round physical activity, the annual discounted value of monetized health benefits is estimated to be $85,000 in direct and indirect costs of illness; this amounts to $510,000 for the current six parks and $1,360,000 for proposed 16 parks. The largest cost savings come from reductions in the attributable risk of cardiovascular diseases (38%), diabetes (29%) and dementia (24%).

Table 23. Attributable Costs Due to Physical Activity During Current and Proposed PAD Programming, Per Year, Year-Round

Condition	Current 6 PAD Sites	Proposed 16 PAD Sites	Sources
Cancer			
Breast	$ (7,200)	$ (19,000)	Angela B. Mariotto et al, 2011
Colon cancer	$ (8,400)	$ (22,400)	Angela B. Mariotto et al, 2011
Lung	$ -		Angela B. Mariotto et al, 2011
Cardiovascular			
Stroke	$ (36,800)	$ (98,200)	Roger, 2011
Heart disease	$ (156,900)	$ (418,500)	Roger, 2011
Mental Illness			
Dementia	$ (124,200)	$ (331,200)	Wimo, 2010
Depression	$ (30,200)	$ (80,500)	Greenberg et al., 2003
Other			
Diabetes	$ (146,300)	$ (390,200)	ADA,2011
Total	**$ (510,000)**	**$ (1,360,000)**	

Note: Costs may not add up to the total due to rounding to nearest 100.

Uncertainties

There are many potential sources of uncertainty associated with this model. Several of the exposure parameters were assessed one at a time through an abbreviated sensitivity analysis. The frequency of visits per week or per month by each individual is not known. While PAD occurs three nights per week during the summer, it was assumed that participants visit PAD programming once per week year-round. This assumption directly

impacts the estimate in the increase in weekly physical activity that can be attributed to PAD. If participants visit PAD more than one time per week, there would be additional health benefits. It was not possible to adjust the model for summer programming, as opposed to year-round programming, because many of the health outcomes are chronic diseases that rely on chronic changes in exposure. Therefore, the most significant limitation of this assessment is that it is based on year-round programming and overestimates health benefits attributable to summertime PAD activities. However, PAD may provide a springboard to get participants, particularly those who are not meeting recommended levels of physical activity, involved in in other physical activity programming offered at the parks throughout the year.

Several harms of physical activity have been identified in the literature, including musculoskeletal injury and acute cardiac events, and the model does not include these potential risks. People who engage in moderate physical activity during organized events are generally at low risk for injury and sudden cardiac events, and the benefits of physical activity far outweigh the potential injury risks (Bassuk 2014). However, there is a significant association between episodic physical activity and increased risk of acute cardiac events among older adults (≥60 years of age). Specifically, one hour of additional physical activity per week is associated with an estimated increased risk of 2 to 3 heart attacks per 10,000 people per year. Exercising on a more regular basis was shown to reduce this risk among older adults (Dahabreh 2011).

Discussion

Assuming previous participation rates and activities, and the potential for PAD to influence year-round physical activity levels, and changes in disease burden were predicted for the PAD population across current and proposed program sites in Los Angeles County. The largest health benefits predicted from increased physical activity during PAD are a decrease in cardiovascular disease, diabetes and dementia (up to 5% of the disease burden each). This suggests that even a small increase in weekly exercise frequency (ranging from one to two additional hours per week) and a wide variety of activity types can substantially improve health outcomes. To maximize physical activity for all participants in PAD and other similar SSP programs, it is important to include a wide variety of activity options, especially those that attract groups of people less likely to be engaged in physical activity in parks – women and older adults (Cohen 2012). When compared to surrounding communities, PAD appears to attract a larger proportion of women in all current PAD sites, except Jesse Owens. The percentage of adults participating in PAD is either similar to or less than in the surrounding communities. PAD appears to attract residents who are already using the park; 86% of PAD survey respondents indicated daily or weekly park usage. Additional outreach efforts are needed to improve participation among adults age 26 and older. Further, adjusting the participant survey to capture more detailed demographics such as age will enable more concrete recommendations to tailor programming and outreach to the local community.

The health benefits translate to a cost savings in the disease burden change of $510,000 per year for the current 6 PAD sites and $1,360,000 for the proposed 16 PAD sites; or $85,000 per park. The majority of the cost savings can be attributed to decreases in cardiovascular diseases, diabetes, and dementia. The increase in worker productivity resulting from improved health is an indirect cost saving to businesses, which could benefit local business economies around PAD parks. The cost of illness estimates are based on national costs from the government (e.g. Centers for Disease Control, National Cancer Institute) as well as non-profit organizations (Alzheimer's Association). These organizations use somewhat different methods, so estimates should be seen as only approximations. More refined estimates specific to LA County could provide additional insights.

Recommendations

- To address a significant limitation of the physical activity assessment, PAD participant surveys should assess typical weekly and/or monthly frequency of visits to PAD during the summer, in order for affected population estimates to be more accurate in future studies. Also, further evaluation is needed to understand potential long-term changes in exercise behavior among PAD participants.
- DPR and PAD partners should explore ways to link PAD participants with recreational programs throughout the year (beyond summer); year-round influence on physical activity behavior is required to have favorable implications for downstream health consequences. This may be accomplished through securing funding for more PAD events throughout the year once summer programming is sustained. Alternatively, find ways to leverage other local physical activity initiatives or use PAD summer activities to engage participants in other year-round park programming.
- DPR should continue PAD programming that attracts women, and expand outreach to increase demand among young adults and older adults. Additionally, identify ways to engage residents not currently using the park into PAD activities, and engage residents using the park for sedentary purposes into physical activity programming.

7.0 Cross-sector Collaboration

PAD and similar SSP programs are strongly rooted in cross-sector collaboration, which has implications for how public health serves communities. Cross-sector collaboration improves the efficiency and effectiveness of service delivery, as well as enhancing community resilience, which is vital for a range of public health priorities, including violence prevention and emergency preparedness. Adverse health conditions overwhelmingly affect the same populations because they are rooted in social determinants of health. Particularly in disadvantaged communities, there are opportunities for synergy among typically disparate efforts to address different health and social issues, which may be most efficiently and effectively addressed through multi-component interventions. Additionally, high risk community members often must deal with fragmented and poorly coordinated public sector agencies, such as public health, health services, social services, child and family services, and the criminal justice system.

Literature Review

CDC's National Public Health Performance Standards developed in the 1990s and updated in 2013 focused on the public health system as a whole, including community-based strategies and the critical role of systems partners (Bakes-Martin, 2005). A systematic review by Varda et al. (2012) examined evidence for the benefits of collaboration found in public affairs literature and the implications for public health. The authors found that while interorganizational collaboration within public health, as well as with other sectors can be very challenging, collaboration can improve population outcomes. However, collaboration itself is rarely measured.

In the criminal justice literature, a comprehensive cross-sector approach is a best practice to reduce gang and community violence (National Gang Center, 2010, Advancement Project 2007). This approach includes prevention strategies targeting the general population, intervention strategies targeting high risk individuals and communities, reentry strategies that engage youth and adults returning to communities from incarceration, and suppression strategies, including targeted suppression and community policing strategies. Public health has a critical role in these efforts. It can coordinate community and partners across sectors, provide evaluation and surveillance support, and provide services to high risk individuals and families, including victims and offenders. Moreover, public health can partner with criminal justice agencies to help ensure that prevention strategies are not overlooked in comprehensive crime and violence reduction initiatives, and that they do not take a backseat to suppression strategies which are far more costly.

Cross-Sector Collaboration at PAD

PAD is led by DPR in close collaboration with DPH, Sheriff, and CEO. Each year, DPR convenes PAD community planning meetings at each of the participating parks to engage local partners and ask the community what kind of programming they would like to see. DPR also reaches out to other county departments and community organizations to participate in PAD. DPH works closely with DPR to increase public health outreach, such as nutrition education, HIV/STD testing, emergency preparedness, walking clubs, and women's health outreach, at the parks. In addition, the County CEO organizes resource fairs at each of the parks, connecting people with health and wellness, economic, legal, and social services. These resource fairs engage a wide range of sectors to provide outreach to community, including library, law enforcement, public defender, public works, public health, probation, arts commission, fire department, radio stations, community and faith based organizations, local businesses, elected officials, and professional sports. In 2014, existing park Teen Clubs will be developed into

Youth Councils, which will engage local youth in identifying a health issue to address in their community, with support from DPH and DPR to research, develop and implement a project. Finally, DPH and DPR are coordinating a long-term strategic planning process that will include engaging key partners, identifying and engaging new partners to provide services at the parks, enhancing community engagement, and coordinating with other local SSP programs.

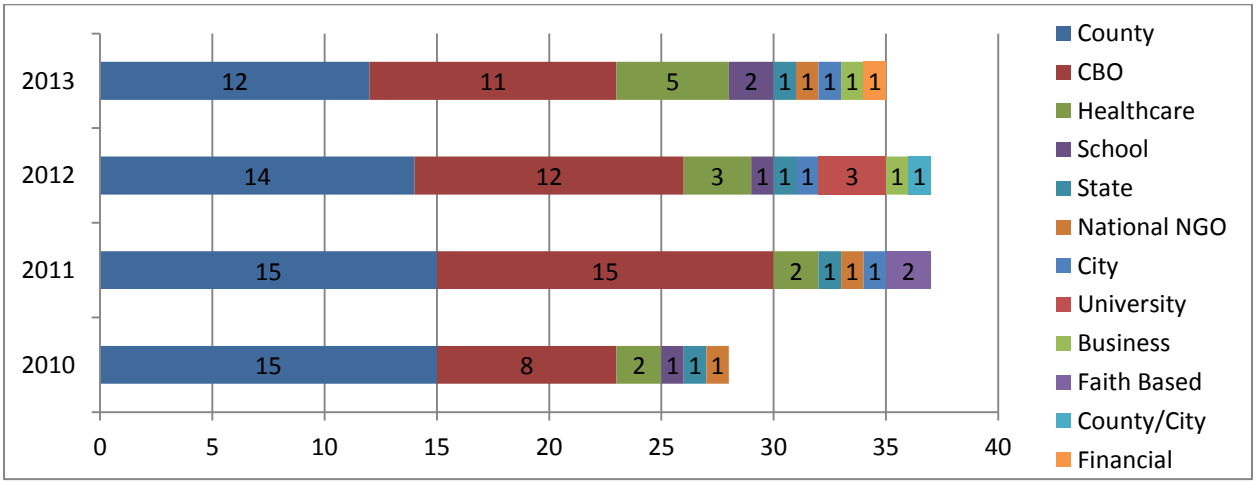
Methods

Two different data sources were used to assess cross-sector collaboration during PAD: 1) DPR program data, including resource fair participants, and programming providers, and 2) key informant surveys. General information regarding key informant survey methods are discussed in Section 3. Resource fair data were provided each year of PAD for the six parks in an Excel spreadsheet. Data were cleaned to ensure that participating organizations were not duplicated. Many organizations participated in multiple parks each year; for simplicity of analysis, unique organizations were examined each year. To illustrate the increase in the number of organizations between 2010 and 2011 (three parks) and 2012 and 2013 (six parks), average number of organizations per park was also calculated. Data were then themed to group organizations by organization type, service type, and capacity, and services provided were also grouped by type of outreach. DPR also provided a programming spreadsheet that included data on organizations that provided other kinds of support during PAD from 2010-2013, including organization name, service provided, and park; however, year was not provided. These data provided information about organizations that provided programming in addition to participating in the resource fairs. We cross-referenced PAD schedules with the programming spreadsheet and included only those that matched in this analysis.

Park Program Data

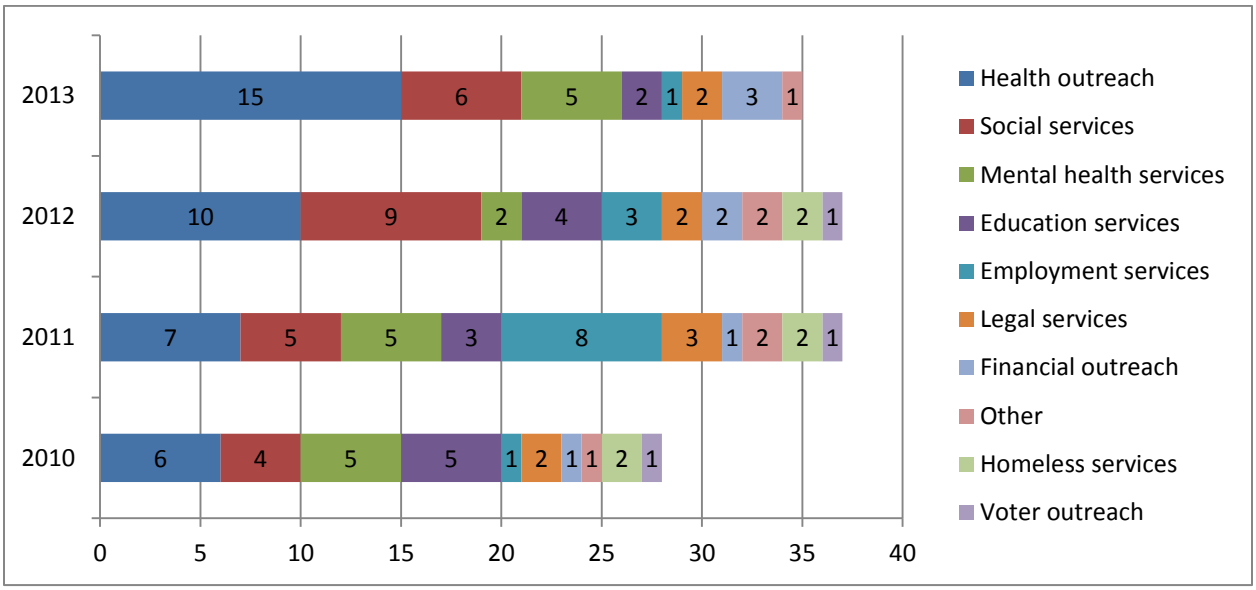
In 2010, a total of 28 different organizations participated in resource fairs across 3 parks (average of 9.3 per park), and in 2011 this increased to 37 organizations (average of 12.3 per park). In 2012 and 2013, there were similar numbers of organizations participating in the resource fairs across the six parks. Community-based organizations and county departments were the most common organization types, and there was an expansion of healthcare organization participation in 2012 and 2013 (Figure 15).

Figure 15. Parks After Dark Resource Fair Participation by Organization Type, 2010 - 2013



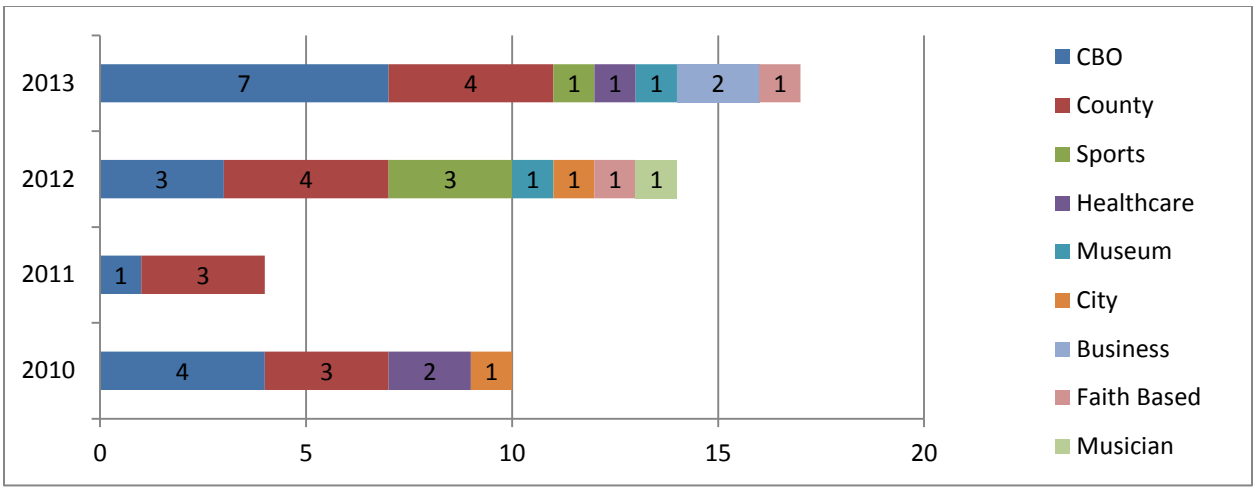
A variety of services were provided during PAD resource fairs from 2010-2013, including education, employment, financial, health, homeless services, legal services, mental health, social services, and voter outreach (Figure 16). From 2010 to 2013, there was a striking increase in the proportion of health outreach during the resource fairs, largely driven by increased participation by programs within DPH. Employment services were most common in 2011 but have been relatively low since then. Social service outreach was highest in 2012 but varied each year. Mental health service outreach has been fairly consistent year to year. Education outreach varied year to year. Homeless services and voter outreach were present each year except 2013.

Figure 16. Parks After Dark Resource Fair Participation, by Service Type, 2010-2013



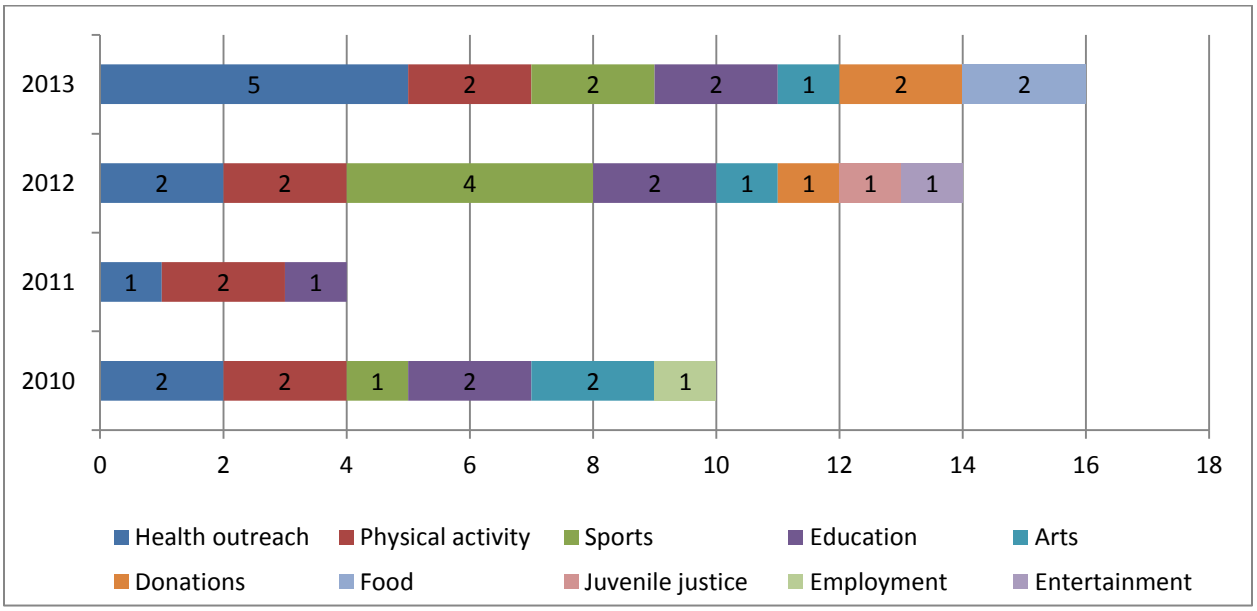
The number of organizations providing programming and other services during PAD (excluding resource fairs) increased from 2010 to 2013. DPR was responsible for providing most of the programming and services that took place each year. A variety of other organizations provided services, including community based organizations, county departments, businesses, healthcare agencies, cities, faith-based organizations, musicians, and professional sports. As shown in Figure 17 below, 2013 saw the greatest diversity of organization types participating in PAD.

Figure 17. Organizations Providing Other Services During PAD, by Sector, 2010-2013



A wide variety of programs were provided during PAD, including arts, employment services, food, dance, entertainment, health outreach, exercise, juvenile justice, sports, education, financial literacy, physical activity, and swimming (Figure 18). Organizations also provided promotion for PAD, donations, and volunteer staff. The most common services provided by organizations other than DPR included health outreach, sports, and education programming. 2013 saw a great increase in health outreach.

Figure 18. Organizations Providing Other Services during PAD, by Service Type, 2010-2013



DPR program data included an additional 80 organizations, such as schools, chambers of commerce, and radio stations, which participated in PAD without a year designation (Figure 19). While a majority of these organizations (69%) provided programming, these organizations also provided donations, employment and volunteers, food, funding, promotion for PAD, public safety, and overall implementation (Figure 20). These data broaden the range of organization types indicated in the per year figures above. These organizations also broaden the range of services, including financial literacy, senior services, and housing services.

Figure 19. Organizations Participating in PAD by Organization Type, Unknown Year

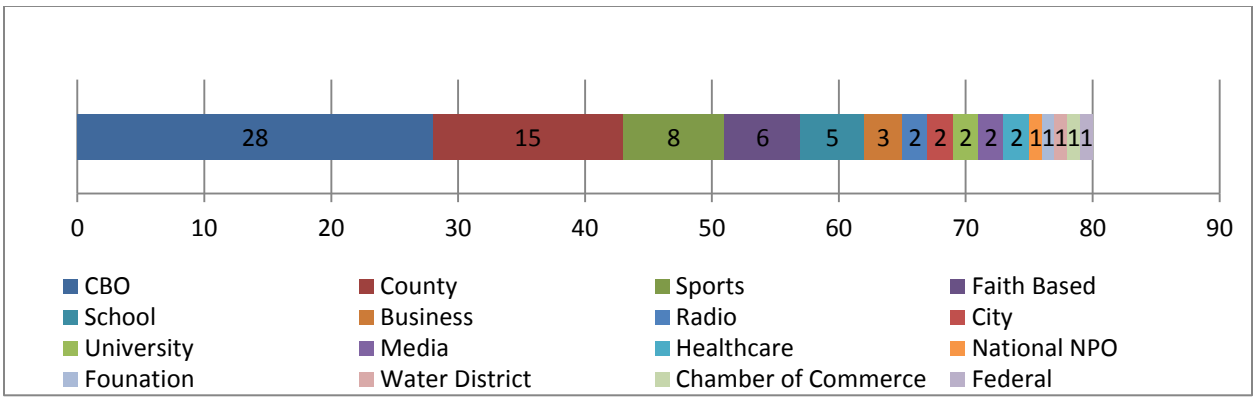
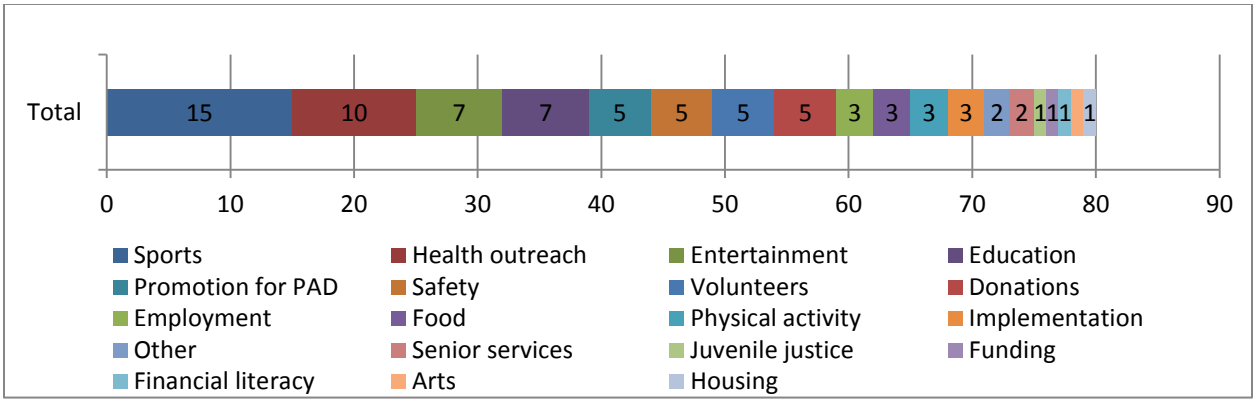


Figure 20. Organizations Participating in PAD by Service Type, Unknown Year



Key Informant Surveys

General key informant survey methods are described in Section 3. Respondents (excluding community members, N=29), including stakeholders from DPH, DPR, Sheriff's Department, PAD Partner Agencies, CEO and Board of Supervisors were asked to *describe how programs like PAD impact or have the potential to impact systems change.* Comments were themed to determine the proportion of respondents who felt that PAD impacted systems change and common elements of systems change, or examples of systems change that may warrant further analysis.

Access to Health and Social Services

Nearly all respondents indicated that PAD had an impact on systems change (93%). The most common responses related to *increased access to resources for residents, improved collaboration among government agencies, increased safety and relations between law enforcement and the community,* and *engaging the community and making them feel valued.* In addition, respondents reflected on how PAD impacted not only safety but health.

Respondents reflected on how collaboration helped improve access to resources for local residents, and identified how PAD impacted some change in protocols, resulting in agencies viewing parks as a resource.

- "Agencies become more dependent on each other, breaking down silos, thus increasing access to resources." (GVRI Site Coordinator)

- "Through its multi-sectoral approach, it improves collaboration and coordination among multiple disciplines that might not ordinarily interface, it changes protocols in terms of how services are provided."(DPH staff)
- "The PAD program has allowed our department to be more in touch with the other organizations, businesses and services in our community. Now, when planning other programs and events, we are able to utilize these other entities to get the best out of our parks. In turn they are able to count on us when organizing their programs, and together everyone benefits!" (DPR staff)
- "PAD showcased the county's ability to use parks to impact communities and increase collaboration among county departments. While PAD was led by the Parks Department, there were significant contributions from County Libraries, Sheriff, Public Health, Public Defender, as well as other County departments who participated in the resource fairs. PAD has assisted many departments in seeing parks as a great opportunity to engage with community residents."(CEO staff)
- "PAD has been an excellent platform to create collaborative opportunities with other county departments, non-profit organizations, and community groups. PAD has encouraged the Department to create a great network surrounding the park and community." (DPR staff)

Respondents also indicated that PAD helped improve relationships between law enforcement and community members, with the most striking feedback coming from the Sheriff's Department respondents. They indicate that community members feel safer, deputies are more approachable, and that PAD has improved protocols to better serve the community.

- "The relationships built between LASD and the community due to the PAD program cannot be overstated. It has been a tremendous tool to help us become closer with the community." (Deputy Sheriff)
- "Since the Sheriff's department has been participating in the PAD for the past few summers, I believe the various interactions with the community did improve. I believe the communities including children are not afraid of the deputies, they feel a bit more comfortable asking questions and participating in the various activities that include the deputies." (Deputy Sheriff)
- "The deployment of Parks Bureau has changed due to information received from the PAD program. The relationships that were built allowed better communication and better information to be received by the LASD, allowing us to properly adjust deployment to fit the needs of the community." (Deputy Sheriff)

Community Engagement

Respondents also discussed how PAD has helped improve not only community perception and usage of the parks and resources, but also increased community engagement within the DPR and helped staff better tailor programming to the community.

- "Doing surveys each year has helped us to understand what their specific needs are. We are more in touch with the demographics of the community and what interests them. This has definitely helped us with other programs and events that the park offers." (DPR staff)
- "It supports community members in reclaiming spaces in their neighborhoods that may have previously been abandoned because of fear of violence." (DPH staff)

- "Due to the change in the image and reputation of the park, on a local level there has been a noticeable change in the attitude of the staff. They are more engaged with the community and with a willingness and optimism to create more diverse park programs. On a greater agency level, the management has observed the success of PAD and are approaching programming at other County parks with similar strategies of networking and community building." (DPR staff)
- "PAD has assisted many departments in seeing parks as a great opportunity to engage with community residents." (CEO staff)

Community Health and Safety

Finally, respondents also discussed the impact that PAD has had on community health in relation to safety, and the potential to see greater impacts.

- "PAD may also serve as a model for community prevention that could be embraced by the health care community in the era of healthcare reform, potentially improving population health and reducing healthcare costs." (DPH staff)
- "The community sees that government, whether Los Angeles County Parks, Public Health, or even Sheriff, do care about their health and safety."(DPH staff)
- "It serves to address the interplay between the perception of safety and levels of physical activity, which impacts obesity rates and other health disparities." (DPH staff)

Uncertainties

Assessment of cross-sector collaboration is a relatively new field. Qualitative feedback obtained from key informant surveys provides valuable contextual information; however, quantitative measures of change in collaboration will help evaluate progress. Data on partner organizations providing services during PAD have provided rich information. However, due to inconsistencies in collection of these data year to year it is likely that this report has underestimated the range of organizations and services provided during PAD.

Discussion

DPR program records demonstrate that over the years, PAD has been a vehicle for a wide range of organizations to provide a variety of services for local communities. Health outreach in particular has shown a marked increase, while there is an opportunity to increase the presence of employment and juvenile justice services. Additionally, key informant survey respondents overwhelmingly indicate the impact that PAD has had on improving collaboration within the county and across sectors, resulting in improved access to services, greater efficiency, improved community outreach, and the potential to impact the health, safety, and wellbeing of the surrounding communities. If PAD continues on this track, continuing to focus on partner and community engagement, and assessing lessons learned, cross-sector collaboration will likely continue and grow. Cross-sector collaboration is critical for building community resilience, particularly in disadvantaged communities that are disproportionately impacted by a range of health issues. Program data indicate that cross-sector collaboration is a core part of PAD, and stakeholder feedback clearly shows that this collaboration is critical for PAD's success, sustainability, ability to reach a large and diverse number of community members, and ability to impact health and safety.

Recommendations

- PAD leadership should identify and involve more organizations that can offer employment and juvenile justice services.
- DPH and Department of Health Services should continue and improve health outreach and target policies and initiatives in the PAD communities.
- The County should determine how to incorporate and institutionalize PAD into county systems, and work with agencies to target outreach via local parks to address additional health and socio-economic disparities in communities. To accomplish this, the County could dedicate at least one full-time staff position to focus on building partnerships with community organizations and county agencies to provide additional services to at-risk youth and their families at PAD parks.
- DPH and DPR should continue to assess change in cross-sector collaboration and identify new methodologies to track this outcome. Standardize tracking of organizations providing services during PAD.
- The County, the City of LA, Long Beach and Pasadena should work together to share data sources to augment evaluations and promote best practices. Agencies can collaborate to develop a regional approach that guides future program decision-making.

8.0 Conclusion

Rapid HIA is a tool for evaluating the potential health implications of policy decisions under urgent consideration. Policy changes across different sectors have important public health consequences that should be integrated into decision-making processes in order to maximize health benefits and minimize any adverse health effects. The Rapid HIA assessments for the three areas of focus – crime and perception of safety, physical activity, and cross-sector collaboration – indicate that proposed continuation of the PAD program and expansion to a total of 16 sites in Los Angeles County would have positive impacts on the health and wellbeing of residents who live in areas disproportionately impacted by crime, obesity, and economic hardship. The decrease in crime, increase in physical activity and improved cross-sector collaboration are predicted to benefit health and result in cost savings exceeding the cost of PAD implementation. These predictions support the decision to continue PAD and expand to additional communities, as capacity and funding become available. This Rapid HIA is the first of its kind to: 1) examine the health impacts of SSP programming, and contributes to the limited body of literature on these programs; 2) incorporate cross-sector collaboration analysis; and 3) contribute to HIA literature that examines the impact of violence reduction strategies in connection with health outcomes.

Health Impacts

Crime and Perception of Safety: The crime analysis estimated a reduction of 14.5 serious and violent crimes per park per week from 2009 to 2013 in the original PAD park areas, when compared to non-PAD park areas. However, crime in newer PAD park areas where the program was established in 2011 has not changed. Crime data from PAD and similar programs in other jurisdictions suggest that (1) it may take several years for SSP programming to become rooted in the community and decrease crime, and (2) it is important that SSP programming is incorporated as part of a larger gang violence reduction initiative. While some of the SSP programs have been linked to lower crime, additional evaluation is needed to further monitor and track potential program impacts on crime over time.

There is strong evidence from literature and program surveys that community policing and supervised recreational activities are key mechanisms for PAD to increase perception of safety and park usage. Overall, the crime assessment indicates that sustaining and expanding PAD as a part of a comprehensive county violence reduction initiative could reduce crime and promote better social cohesion. Favorable downstream health benefits, such as decreased mental illness and chronic disease, could be realized through these efforts.

Physical Activity and Health: There is strong evidence that increased physical activity reduces the risk of cardiovascular disease, depression, diabetes, breast cancer, colon cancer, and dementia. The largest health benefits predicted from physical activity during PAD are a decrease in cardiovascular disease, dementia and diabetes (up to 5% of disease burden). This shows that even a small increase in weekly exercise frequency (based on activity intensities reported by PAD participants) can substantially improve health outcomes if PAD is able to influence year-round changes in physical activity behavior. However, a significant limitation of the predicted health benefits associated with increased physical activity is the assumption of year-round PAD programming. Additional data collection is needed to more completely understand how PAD programming may influence long-term active living behavior among participants.

Cross-Sector Collaboration: Public health literature indicates that cross-sector collaboration is critical for health promotion, and criminal justice literature suggests that a comprehensive preventative approach is a best practice to reduce gang and community violence. Program data and key informant surveys support the conclusion that PAD has provided a vehicle for a wide range of organizations to deliver a variety of services to local communities. Health outreach in particular has shown a marked increase, which has strong potential to positively impact the health, safety, and wellbeing of the surrounding communities.

Year-Round Programming

Findings from the assessment of PAD's impact on both crime and physical activity indicate that PAD would have a greater impact if programming were available year-round. When asked whether PAD should be offered more times throughout the year, key informant responses were mixed (Table 24. Participants in Support of Year-Round PAD ProgrammingTable 24 below). Reasons for expanding to more times throughout the year included the following: need to address weekend crime, the community desire for more free programming, sustained impacts on health and social cohesion, and potential to improve school attendance. Suggestions for year-round programming included targeting school breaks like spring and winter recess, having a modified version throughout the year, while others indicated it would be a better use of limited funds to expand to more parks during the summer instead of year-round programming. Reasons for not expanding to year-round programming included: concerns that it would conflict with school activities, it gives the community something to look forward to, and concerns that interest would fade after summer.

Table 24. Participants in Support of Year-Round PAD Programming

Survey type	N	Yes
Community members	17	59%
Parks and Recreation	9	44%
Public Health	6	67%
Sheriff	6	17%
PAD Partner Agencies	6	33%
CEO / BOS	5	40%
Other park programs	1	100%
TOTAL	**50**	**48%**

While year-round programming may provide additional health and safety benefits, it is unclear whether this would be cost-prohibitive and how year-round programming should be implemented. To better understand potential benefits and costs of year-round programming, PAD could be piloted and evaluated at a park without any existing afterschool activities. Alternatively, DPR could link PAD participants to other recreation programs available during other times of the year to encourage continued park use.

Costs

Criminal Justice System Cost Savings: Compared to before PAD was implemented in 2009, the crime reduction observed in 2013 in original PAD park areas is estimated to reduce county expenditures on crime by $155,000 for law enforcement, $153,000 for legal and adjudication costs, and $152,000 for custody and supervision costs; this totals $460,000 of avoided costs of crime to county government per park in 2013 compared to before PAD began in 2009. These cost savings reflect county expenditures related to the 14.5 fewer crimes observed in PAD

park areas when compared to nearby parks without PAD. These estimates do not include costs to individuals or businesses, such as property loss, medical treatment, lost productivity for victims; therefore, the total cost of crime would be much higher.

Cost of Illness Savings: Based on the predicted change in physical activity and nationwide costs of illness from literature, the estimated health benefits from the reduction in disease burden translate to a cost savings of $510,000 per year for the current 6 PAD sites and $1,360,000 for the expanded 16 PAD sites, or approximately $85,000 per park. The majority of the cost savings can be attributed to decreases in cardiovascular diseases, diabetes, and dementia. These cost savings include direct costs such as hospital care and medications, as well as indirect costs such as lost work productivity.

PAD Program Costs: DPR provided the average cost of PAD programming per park during the summertime for the 2013 to 2014 fiscal year. Based on the recommendations of this HIA, we incorporated the estimated cost to include community outreach intervention workers, formal evaluation, and a dedicated full-time coordinator position (Table 25).

Table 25. PAD estimated costs per park, including HIA recommendations

Cost Category	Avg Cost Per Park	6 Parks	16 Parks
Existing PAD Program Costs			
Park Personnel	$20,000	$120,000	$320,000
Sheriff Deputies	$25,000	$150,000	$400,000
Services and Supplies	$30,000	$180,000	$480,000
TOTAL	*$75,000*	*$450,000*	*$1,200,000*
HIA Recommendations			
Intervention workers	$10,000	$60,000	$160,000
Program Coordinator	$75,000	$75,000	$150,000
Subtotal	*$160,000*	*$585,000*	*$1,510,000*
Formal evaluation (10%)	$16,000	$58,500	$151,000
Administrative Costs (25%)	$40,000	$146,250	$377,500
TOTAL	**$216,000**	**$790,000**	**$2,038,000**
*Per park cost**	*$216,000*	*$132,000*	*$127,000*

Note: Total cost estimates are rounded.
*Per park costs indicate there are cost savings associated with expanding the program to additional locations.

For summer programming, including HIA recommendations, it would cost $790,000 per year to sustain PAD at the existing 6 parks, and $2 million per year to expand the program into a total of 16 parks. The proposed PAD cost per park is approximately $132,000 for 6 parks and $127,000 for 16 parks. As the program expands, there are some cost savings related to the full-time coordinator staff.

The estimated cost savings related to county law enforcement expenditures are greater than the cost of PAD, even including the additional strategies recommended by the HIA. These cost savings exclude healthcare, mental health, lost wages, quality of life, lost tax revenue, and cost savings to families receiving free recreation and services.

Summary of Recommendations

In order to maximize potential health benefits and avoid costs of crime to county law enforcement and judicial systems, the findings of this Rapid HIA indicate that PAD should be sustained and expanded as capacity and funding are available. This report identifies recommendations to maximize the health benefits of continued or expanded PAD model.

PAD Infrastructure and Sustainability

- **The County should sustain existing PAD parks and prioritize expansion to parks in communities with high rates of crime and obesity prevalence that lack evening summer activities for youth and families.** PAD can provide the largest benefit in communities facing crime and obesity. Supervised recreational activities were found to be one of the most important factors to increasing park usage, which can lead to healthier outdoor lifestyles and better social cohesion.
- **The County should identify and fund dedicated staffing to oversee PAD planning, implementation, and expansion and sustainability.** One full-time staff person to serve as PAD Coordinator, potentially co-funded by DPR and DPH to demonstrate systems change, and one full-time support staff to assist with clerical duties, research, and outreach. The Coordinator would enhance partnerships with community organizations and county agencies to provide additional services to at-risk youth and their families at PAD parks, oversee strategic planning, identify and standardize best practices, secure funding, and oversee evaluation activities.
- **PAD leadership should develop a community organizing strategy to increase program reach.** Continue to build awareness about the program in surrounding communities and engage residents not currently using the parks or using the parks for sedentary purposes. It is especially important to reach male youth, who are most susceptible to gang recruitment and activity. Enhance youth engagement by providing summer jobs and leadership opportunities through Youth Councils. Explore opportunities for adult civic engagement opportunities at the parks.
- **DPH and DPR should conduct additional evaluation and tracking to address data limitations in this report.** Evaluate and track the costs and benefits of PAD in coordination with other SSP programs through collection of additional program and crime data. Future studies should follow-up with participants to measure potential changes in behavior and health after attending Safe Summer Parks programs. Additionally, encourage law enforcement across jurisdictions to coordinate and standardize crime data collection to allow for regional studies.
- **The County, the City of LA, Long Beach and Pasadena should collaborate to develop a regional strategy for SSP programs.** The County should work with other SSP programs to strengthen evaluations, and promote best practices.

Enhanced PAD Programming

- **Improve targeted violence reduction efforts during PAD to reduce crime and increase social cohesion.** Fourteen fewer crimes occurred in areas around the original PAD programs that were rooted in the county's Gang Violence Reduction Initiative, and crime did not change around the newer PAD programs that were not a part of this initiative. This difference observed and data from other SSP programs show the need for all PAD programs to be rooted in a comprehensive violence reduction strategy. PAD leadership should incorporate gang intervention workers and youth councils into programming, and explore restarting a comprehensive violence reduction initiative in the county to bolster PAD impacts.

- **PAD leadership should strategize how to sustain benefits on a year-round basis.** Many of the potential health benefits and cost of illness savings identified in this report are attributed to year-round improvement of physical activity levels, which is only possible through expanding PAD to other times of the year. Additional critical out-of-school-time periods could help to sustain reductions in crime and improved social cohesion and perception of safety. For example, a pilot program during spring or winter break periods would be a step towards exploring year-round implementation. The most efficient way to sustain park use beyond summer months is to link PAD participants to existing recreational programs.
- **PAD leadership should expand partnerships with county health and social service agencies to co-locate services at the parks.** PAD has demonstrated that parks are an ideal location to provide accessible health and social service outreach at the parks. DPH and Department of Health Services should continue and improve health outreach and target policies and initiatives in the PAD communities. Additionally, PAD leadership should develop partnerships with other county agencies and community partners to explore how to co-locate health and social services at the parks. Specifically, there is an opportunity to involve more organizations that offer employment and juvenile justice services.
- **Sheriff's Department should continue community policing efforts, which are critical to success of PAD.** Through engagement with law enforcement in PAD, program leadership can promote safety and improve relationships with community members. The Sheriff's Department should ensure that the same deputies are assigned to the park each night to develop relationships with the community and identify special activities for deputies to participate in with community members.

9.0 References

Advancement Project, 2007. A Call to Action: A Case for a Comprehensive Solution to L.A.'s Gang Violence Epidemic.

ABC7 News. "LA's 'Park After After Dark' kicks off in Watts.'" Video file. http://abclocal.go.com/kabc/video?id=9148161&pid=null&syndicate=syndicate&section

Bakes-Martin R, Corso L, Landrum L, Fisher V, Halverson P. 2005. Developing National Performance Standards for Local Public Health Systems. Journal of Public Health Management & Practice; 11(5):418-421.

Bassuk S, Manson J. 2014. Physical activity and health in women: a review of the epidemiologic evidence. American Journal of Lifestyle Medicine:8(3):144-158.

California Department of Education, Physical Fitness Testing Program 2009-2010. Includes 5th, 7th, and 9th graders attending Los Angeles County public schools. Prepared by the Office of Health Assessment and Epidemiology, Los Angeles County Department of Public Health.

California Department of Public Health (CDPH). 2012a. Health Co-Benefits and Transportation-Reduced Reductions in Greenhouse Gas Emissions in the Bay Area.

California Department of Public Health (CDPH).2012b. Monetizing Health Co-Benefits of Strategies to Reduce Transportation-Related Greenhouse Gas Emissions in the Bay Area.

Carey and Associates, 2010. Summer Night Lights in Long Beach, A Case Study, March.

Center for Disease Control and Prevention (CDC). 2011.Obesity: Halting the Epidemic by Making Health Easier. National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition, Physical Activity and Obesity. Accessible via: http://www.cdc.gov/chronicdisease/resources/publications/aag/pdf/2011/obesity_aag_web_508.pdf.

Centers for Disease Control and Prevention. 2013. Homicide rates among persons aged 10-24 years, United States, 1981-2010. Morbidity and Mortality Weekly Report 62(27).

Cohen D, Finch B, Bower A, and Sastry N. 2006. Collective Efficacy and Obesity: The Potential Influence of Social Factors on Health, Social Science & Medicine, 62(3):769–778.

Cohen D, Sehgal A, Williamson S, Sturm R, Thomas L, McKenzie, Lara R, and Lurie N. 2006. Park Use and Physical Activity in a Sample of Public Parks in the City of Los Angeles, Santa Monica, Calif.: RAND Corporation, TR-357-HLTH, 103 pp., available at http://www.rand.org/pubs/technical_reports/TR357

Cohen D, Golinelli D, Williamson S, Sehgal A, Marsh T, McKenzie T. 2009. Effects of park Improvements on park use and physical activity: policy and programming implications. Amer J of Prev Med; 37(6):475-480.

Dahabreh IJ, Paulus JK. Association of Episodic Physical and Sexual Activity With Triggering of Acute Cardiac Events: Systematic Review and Meta-analysis. JAMA. 2011;305(12):1225-1233.

Department of Public Health, Los Angeles County (DPH). 2013a. Number and rate per 100,000 of homicides among LA County residents by year, 2006-2010 [online data table]. Injury & Violence Prevention Program. Accessible online via: www.ph.lacounty.gov/ivpp.

Department of Public Health, Los Angeles County, (DPH). 2013b. Number and rate per 100,000 of assault hospitalizations among LA County residents by year, 2006-2010 [online data table]. Injury & Violence Prevention Program. Accessible online via: www.ph.lacounty.gov/ivpp.

Dunworth et al.,2000. Evaluation of the Los Angeles Gang Reduction and Youth Development Program: Final Y1 Report. Urban Institute Justice Policy Center, October.

Federal Bureau of Investigation. 2014. Uniform Crime Reporting FAQ. Available online: http://www.fbi.gov/about-us/cjis/ucr/frequently-asked-questions/ucr_faqs

Fight Crime Invest in Kids California. 2004. California's next after-school challenge: Keeping high school teens off the street and on the right track. Washington, DC.

Fischer and Teutsch, 2014. Safe Summer Parks Programs Reduce Violence and Improve Health in Los Angeles County. Institute of Medicine, April.

Hamer M, Chida Y. 2009. Physical activity and risk of neurodegenerative disease: a systematic review of prospective evidence. Psychol Med;39(1):3-11.

Hartmann D and Depro B. 2006. Rethinking Sports-based Community Crime Prevention: A Preliminary Analysis of Relationship between Midnight Basketball and Urban Crime Rates. Journal of Sport & Social Issues; 30(2): 180-196.

IOM (Institute of Medicine) and NRC (National Research Council),2012. Contagion of violence: Workshop summary. Washington, DC: The National Academies Press.

Jeon CY, Lokken RP, Hu FB, van Dam RM. 2007. Physical activity of moderate intensity and risk of Type 2 diabetes. Diabetes Care 30:744-752.

Los Angeles County Sheriff's Department. LASD Data available online: http://www.lasdhq.org/sites/CAASS/desc.html Accessed April 2014.

Loukaitou-Sideris A & Eck JE, 2007. Crime prevention and active living. American Journal of Health Promotion; 21(4):380-387.

Losel F, Farrington D. 2012. Direct protective and buffering protective factors in the development of youth violence. Am J Prev Med;43(2S1):S8-S23.

McDowall D and Loftin C. 2009. Do U.S. city crime rates follow a national trend? The influence of nationwide conditions on local crime patterns. Journal of Quantitative Criminology. 25:307-324.

National Gang Center. 2010. Best Practices to Address Community Gang Problems: OJJDP's Comprehensive Gang Model.

Prevention Institute, 2010. Addressing the intersection: Preventing violence and promoting healthy eating and active living. Oakland, CA.

Reiner M, Niermann C, Jekauc D, Woll A. Long-term health benefits of physical activity – a systematic review of longitudinal studies. BMC Public Health 2013; 13: 813.

Reingle et al., 2013. Is Violence Bad for Your Health? An Assessment of Chronic Disease Outcomes in a Nationally Representative Sample. Justice Quarterly.

Sampson RJ, Raudenbush SW, Earls F. 1997. Neighborhoods and violent crime: a multilevel study of collective efficacy. Science;277(5328:918-24.

U.S. Department of Justice, 2010. Reducing Fear of Crime: Strategies for Police. http://www.popcenter.org/library/reading/pdfs/ReducingFearGuide.pdf.

U.S. Department of Justice, Office of Justice Programs. 2013. Homicide in the U.S. known to law enforcement, 2011. Patterns and trends.

Wakim, M. PAD: Using Public Spaces to Reduce Violent Crime." Los Angeles Magazine, July 8, 2013. http://www.lamag.com/citythink/citythinkblog/2013/07/08/parks-after-dark-using-public-spaces-to-reduce-violent-crime, accessed March 17, 2014.

Woodcock J, Edwards P, Tonne C, et al. 2009. Public health benefits of strategies to reduce greenhouse-gas emissions: urban land transport. Lancet; 374: 1930-43.

Woodcock J, Franco O, Orsini N, Roberts I. 2011. Non-vigorous physical activity and all-cause mortality: systematic review and meta-analysis of cohort studies. Int J of Epidemiol; 40: 121-138.

Woodcock et al., 2013. Health Impact Modelling of Active Travel Visions for England and Wales Using an Integrated Transport and Health Impact Modelling Tool (ITHIM). PLoS One;8(1):e51462.

Varda et al., 2012. A systematic review of collaboration and network research in the public affairs literature: implications for public health practice and research. Am J Public Health, 102(3): 564-571.

Zheng H, Orsini N, Amin J, Wolk A, Nguyen VT, Ehrlich F. Quantifying the dose-response of walking in reducing coronary heart disease risk: meta-analysis. Eur J Epidemiol 2009; 24: 181–92.

APPENDIX A

List of County Parks Indexed by Crime and Obesity

Park Name	Address	City	Zip Codes	Sup Districts	SPAs	Assault Rate	High Assault	Obesity Rate	High Obesity
ATLANTIC BOULEVARD COUNTY PARK	570 S ATLANTIC BLVD	COUNTY	90022	DISTRICT 1	SPA 7	61.1	Top 25%	31.1	Top 25%
BELVEDERE COUNTY PARK	4914 CESAR E CHAVEZ AV	MONTEREY PARK	90022 91754	DISTRICT 1	SPA 7	61.1	Top 25%	31.1	Top 25%
BETHUNE, MARY MCCLEOD COUNTY PARK	1244 E 61ST ST	COUNTY	90001	DISTRICT 2	SPA 6	157.9	Top 25%	31.1	Top 25%
CITY TERRACE COUNTY PARK	1126 N HAZARD AV	COUNTY	90063	DISTRICT 1	SPA 7	68.7	Top 25%	31.1	Top 25%
DEBS, ERNEST E REGIONAL PARK	4235 MONTEREY RD	LOS ANGELES	90031 90032 90042	LA City Council District 01, LA City Council District 14	SPA 4	80.2	Top 25%	27.9	Top 25%
EAST RANCHO DOMINGUEZ CO PARK	S ATLANTIC AV & E COMPTON BL	COUNTY	90221	DISTRICT 2	SPA 6	146.4	Top 25%	28.8	Top 25%
ENTERPRISE COUNTY PARK	13055 CLOVIS AV	COUNTY	90059	DISTRICT 2	SPA 6	213.5	Top 25%	28.8	Top 25%
OBREGON COUNTY PARK	4021 E 1ST ST	COUNTY	90063	DISTRICT 1	SPA 7	68.7	Top 25%	31.1	Top 25%
OWENS, JESSE COUNTY PARK	9637 S WESTERN AV	COUNTY	90047	LA City Council District 08	SPA 6	167	Top 25%	29.3	Top 25%
ROOSEVELT COUNTY PARK	7600 GRAHAM AV	COUNTY	90001	DISTRICT 2	SPA 6	157.9	Top 25%	31.1	Top 25%
SALAZAR COUNTY PARK	3864 WHITTIER BLVD	COUNTY	90023	DISTRICT 1	SPA 7	72.1	Top 25%	31.1	Top 25%
SAYBROOK COUNTY PARK	E OLYMPIC BL & S WESTSIDE DR	COUNTY	90022	DISTRICT 1	SPA 7	61.1	Top 25%	31.1	Top 25%
WASHINGTON, COL LEON H COUNTY PRK	MAIE AV & FIRESTONE BL	COUNTY	90001 90002	DISTRICT 2	SPA 6	193.4	Top 25%	31.1	Top 25%

WATKINS, TED COUNTY PARK	1333 E 103RD ST	COUNTY	90002	DISTRICT 2	SPA 6	193.4	Top 25%	31.1	Top 25%
WOODS AVENUE PARK	WOODS AV & VERONA ST	COUNTY	90022	DISTRICT 1	SPA 7	61.1	Top 25%	31.1	Top 25%
ATHENS COUNTY PARK	12603 S BROADWAY	COUNTY	90061	DISTRICT 2	SPA 6	171.3	Top 25%	26.9	Top 33%
AVENUE T PARK	AVE T & 96TH ST E	CITY?	93543	DISTRICT 5	SPA 1	54.4	Top 33%	27.2	Top 33%
BONELLI, FRANK G REGIONAL COUNT	120 PARK RD	SAN DIMAS	91750 91768 91773	DISTRICT 1, DISTRICT 5	SPA 3	48.2	Top 33%	29.8	Top 25%
CARVER, GEORGE W COUNTY PARK	1400 E 118TH ST	COUNTY	90059	DISTRICT 2	SPA 6	213.5	Top 25%	26.9	Top 33%
EATON CANYON COUNTY PARK	1750 N ALTADENA DR	PASADENA	91001 91107	DISTRICT 5	SPA 3	54.4	Top 33%	37.3	Top 25%
EL CARISO REGIONAL COUNTY PARK	13100 HUBBARD ST	LOS ANGELES	91342	LA City Council District 07	SPA 2	49.9	Top 33%	29.1	Top 25%
FORD, JOHN ANSON PARK	8000 PARK LN	BELL GARDENS	90201	DISTRICT 1, DISTRICT 4	SPA 7	57.5	Top 33%	37.5	Top 25%
GANESHA PARK	E MARIPOSA ST & GANESHA AV	COUNTY	91001	DISTRICT 5	SPA 3	54.4	Top 33%	37.3	Top 25%
GENERAL FARNSWORTH COUNTY PARK	568 E MT CURVE AV	COUNTY	91001	DISTRICT 5	SPA 3	54.4	Top 33%	37.3	Top 25%
JOHNSON, EARVIN MAGIC COUNTY RECREATION AREA	E EL SEGUNDO BL & AVALON BL	COUNTY	90059 90061	DISTRICT 2	SPA 6	213.5	Top 25%	26.9	Top 33%
KELLER, HELEN COUNTY PARK	1045 W 126TH ST	COUNTY	90044 90247	DISTRICT 2	SPA 8	172.4	Top 25%	26.9	Top 33%
LOMA ALTA COUNTY PARK	3330 N LINCOLN AV	COUNTY	91001	DISTRICT 5	SPA 3	54.4	Top 33%	37.3	Top 25%

MARTIN, EVERETT COUNTY PARK	92ND ST E & AVE U	COUNTY	93543	DISTRICT 5	SPA 1	54.4	Top 33%	27.2	Top 33%
MONA COUNTY PARK	2291 E 121ST ST	COUNTY	90059 90222	DISTRICT 2	SPA 6	213.5	Top 25%	26.9	Top 33%
MOUNT LOWE PARK	MT LOWE DR & MT CURVE AV	CITY?	91001	DISTRICT 5	SPA 3	54.4	Top 33%	37.3	Top 25%
PARK	E ALTADENA DR & LAKE AV	COUNTY	91001	DISTRICT 5	SPA 3	54.4	Top 33%	37.3	Top 25%
ROBINSON, JACKIE COUNTY PARK	88TH ST E & AVE R	COUNTY	93543	DISTRICT 5	SPA 1	54.4	Top 33%	27.2	Top 33%
WALNUT NATURE COUNTY PARK	PACIFIC BLVD & HILL ST	COUNTY	90255	DISTRICT 1	SPA 7	50.7	Top 33%	35	Top 25%
WHITE, CHARLES COUNTY PARK	N FAIR OAKS AV & VENTURA ST	COUNTY	91001	DISTRICT 5	SPA 3	54.4	Top 33%	37.3	Top 25%

APPENDIX B

2013 PAD Participant Survey

Los Angeles County PARKS AFTER DARK Survey 2013

PARK NAME _____

We would sincerely appreciate your opinion about today's PARKS AFTER DARK program to help us improve services. Your responses are confidential.

1. Please check the box that best describes you (choose one):
   ☐ Youth (Under Age 18) ☐ Young Adult (Age 18-25) ☐ Adult (Age 26+)

2. Please identify yourself: ☐ Male ☐ Female

3. What zip code do you live in? _____

4. How often do you visit this park? ☐ Daily ☐ Weekly ☐ Monthly ☐ Yearly ☐ First Time

5. How many days per week are you moderately physically active for 30 minutes or more (for example, brisk walking, biking, lawn mowing, jogging, playing sports)?
   ☐ None ☐ 1-2 days ☐ 3-4 days ☐ 5 or more days

6. How safe from crime do you consider your neighborhood to be?
   ☐ Very safe ☐ Somewhat safe ☐ Somewhat unsafe ☐ Not at all safe

7. How did you find out about PARKS AFTER DARK (Check all that apply)?
   ☐ Somebody told me (who or what organization told you?): _____
   ☐ In the area/ walking by ☐ Flyer ☐ Internet ☐ Other: _____

8. What specific PARKS AFTER DARK event or activity were you most interested in?
   _____ Did you enjoy it? ☐ Yes ☐ No

9. Did you attend the County Department Resource Fair? ☐ Yes ☐ No

10. Did you participate in physical activity during PARKS AFTER DARK? (check all that apply)
    ☐ Team Sports ☐ Walking club ☐ Exercise class ☐ Swimming ☐ Other _____

11. Did you feel safe attending PARKS AFTER DARK? ☐ Yes ☐ No

12. Please indicate how **SATISFIED** you are with the following items by **circling** your response:

The level of law enforcement present	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied
Relations between law enforcement and community members	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied
The variety of activities offered	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied
The hours of the activities	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied
The location of the activities	Very Dissatisfied	Dissatisfied	Satisfied	Very Satisfied

13. Are there activities, events, or services you would like to see in future PARKS AFTER DARK?
    _____

14. Would you participate in PARKS AFTER DARK again? ☐ Yes ☐ No

15. Would you recommend PARKS AFTER DARK to a friend? ☐ Yes ☐ No

16. Please share any specific comments or suggestions for improvement:

APPENDIX C

Key Informant Surveys

Parks After Dark Rapid Health Impact Assessment
Key Informant Survey – Community Members

First Name		☐ Parent ☐ Youth (Age: _____)
1. What years have you participated in Parks After Dark?		
2. Which parks did you participate in Parks After Dark?		
3. Do you live close to the park? Is it easy for you to get there?		
4. Do you walk, bike, take public transit, or drive to the park?		
5. What kinds of activities did you participate in at Parks After Dark? Did you enjoy them?		
6. Did you feel safe attending Parks After Dark? Why or why not?		
7. Do you think that Parks After Dark made your community safer? Why or why not?		
8. Would you like to see more services available through programs like Parks After Dark? Which kinds (health, social services, employment, other)?		
9. Do you think Parks After Dark helped improve relationships between neighbors? Why or why not?		
10. What did you like best about Parks After Dark?		
11. Do you have any suggestions to improve Parks After Dark?		
12. Do you think Parks After Dark should be offered in more communities? Why/why not?		
13. Do you think Parks After Dark should be offered more times throughout the year? Why/why not?		
14. Additional comments		

You have my permission to use quotes word for word (anonymously), to illustrate findings from the key informant surveys: (initials) _____

Parks After Dark Rapid Health Impact Assessment
Key Informant Survey – Other Park Programs

Name	
Title	
Organization	
SNL/PAD Program	

1. What is your involvement with your jurisdiction's SNL/PAD program?
2. How does SNL/PAD impact its communities (health, violence, wellbeing, community involvement and social support systems)?
3. Describe how programs like SNL/PAD impact or have the potential to impact systems change (improving collaboration across sectors/jurisdictions, changing protocols):
4. What are the most successful aspects of your program?
5. What aspects of your program have been most challenging?
6. What are your long-term plans for your program?
7. Do you think programs like SNL/PAD should be offered in more communities throughout the county? Why/why not?
8. Do you think programs like SNL/PAD should be offered more times throughout the year? Why/why not?
9. Additional comments

You have my permission to use quotes word for word (anonymously), to illustrate findings from the key informant surveys: (initials) _____

Parks After Dark Rapid Health Impact Assessment
Key Informant Survey – PAD Partner Agencies

Name	
Title	
Organization	

1. What kinds of services does your organization provide for the community?
2. What services did you provide for Parks After Dark? Include parks and years participated.
3. How does Parks After Dark impact its communities (health, violence, wellbeing, community involvement and social support systems)?
4. How has participating in Parks After Dark helped you achieve your organization's mission?
5. Do you think Parks After Dark should be offered in more communities? Why/why not?
6. Do you think Parks After Dark should be offered more times throughout the year? Why/why not?
7. Do you have recommendations for improving Parks After Dark?
8. Would you participate in Parks After Dark again? Would you recommend to other organizations?
9. Additional comments

You have my permission to use quotes word for word (anonymously), to illustrate findings from the key informant surveys: (initials) _____

Parks After Dark Rapid Health Impact Assessment
Key Informant Survey – Park Deputies / CEO

Name	
Title	
Organization	

1. What is your involvement with Parks After Dark?
2. How does Parks After Dark impact its communities (health, violence, wellbeing, community involvement and social support systems)?
3. Describe how programs like Parks After Dark impact or have the potential to impact systems change (improving collaboration across sectors/jurisdictions, changing protocols):
4. Do you think Parks After Dark should be offered in more communities? Why/why not?
5. Do you think Parks After Dark should be offered more times throughout the year? Why/why not?
6. Do you have recommendations for improving Parks After Dark?
7. What do you envisions as the county's role in supporting programs like Parks After Dark?
8. Additional comments

You have my permission to use quotes word for word (anonymously), to illustrate findings from the key informant surveys: (initials) _____

Parks After Dark Rapid Health Impact Assessment
Key Informant Survey – Parks and Recreation

Name	
Title	
PAD Parks	

1. What is your involvement with Parks After Dark?
2. How does Parks After Dark impact its communities (health, violence, wellbeing, community involvement and social support systems)?
3. Has Parks After Dark impacted how Parks and Recreation interacts with other county departments and community organizations?
4. Has Parks After Dark influenced any changes to Parks and Recreation strategies or protocols for serving the community?
5. Do you think Parks After Dark should be offered in more communities? Why/why not?
6. Do you think Parks After Dark should be offered more times throughout the year? Why/why not?
7. What are the most successful aspects of Parks After Dark?
8. What aspects of Parks After Dark have been the most challenging?
9. What do you envision as the Parks Department's long-term role in Parks After Dark?
10. Additional comments

You have my permission to use quotes word for word (anonymously), to illustrate findings from the key informant surveys: (initials) _____

Parks After Dark Rapid Health Impact Assessment
Key Informant Survey – Public Health

Name	
Title	
Div/Program	

1. What is your involvement with Parks After Dark?
2. How does Parks After Dark impact its communities (health, violence, wellbeing, community involvement and social support systems)?
3. Describe how programs like Parks After Dark impact or have the potential to impact systems change (improving collaboration across sectors/jurisdictions, changing protocols):
4. Do you think Parks After Dark should be offered in more communities? Why/why not?
5. Do you think Parks After Dark should be offered more times throughout the year? Why/why not?
6. Do you have recommendations for improving Parks After Dark?
7. What do you envision as public health's long-term role in programs like Parks After Dark?
8. Additional comments

You have my permission to use quotes word for word (anonymously), to illustrate findings from the key informant surveys: (initials) _____

Parks After Dark Rapid Health Impact Assessment
Key Informant Survey – Sheriff's Department

Name	
Title	
PAD Parks	

1. What is your involvement with Parks After Dark?
2. How does Parks After Dark impact violence in its communities?
3. How does Parks After Dark impact its communities in other ways (health, wellbeing, community involvement and social support systems)?
4. Has Parks After Dark had an impact on how the Sheriff's Department interacts with communities? How?
5. Has Parks After Dark influenced any changes to Sheriff's Department strategies or protocols for ensuring community safety?
6. Do you think Parks After Dark should be offered in more communities? Why/why not?
7. Do you think Parks After Dark should be offered more times throughout the year? Why/why not?
8. Do you have recommendations for improving Parks After Dark?
9. What do you envision as the Sheriff's Department's long-term role in Parks After Dark?
10. Additional comments

You have my permission to use quotes word for word (anonymously), to illustrate findings from the key informant surveys: (initials) _____

APPENDIX D

Los Angeles County Total Crime Number and Costs by Type, 2006

Worksheet on the Costs of Los Angeles County Law Enforcement (LE)

for Methamphetamine Attributable Crimes, 2006

Methamphetamine Violations	LAC Total Number of Dangerous Drugs (F)	35,627
	and Other Drugs (M)	X 0.169
	Multiplied by 0.169 (Meth %)	6,021
	Percent of total arrests	1.6% (6,021/375,250)
	LAC LE Budget	$4,052,205,000
	LE Meth Cost (Multiply by 0.016)	$ 64,835,280
Aggravated Assault	Total LAC Aggravated Assault Arrests	40,684
	Multiplied by 5.1% (Causal Factor)	x 0.051
	Equals number of meth assault arrests	2,075 meth assault arrests
	Percent of total arrests	0.55% (2,075/375,250)
	LAC LE Budget	$4,052,205,000
	LE Meth Cost (Multiply 0.55%)	$22,287,128
Burglary	LAC Total Burglary Arrests	12,570
	Multiplied by 30.0% (Causal Factor)	X 0.30
	Equals number of meth burglary arrests	3,771 meth burglary arrests
	Percent of total arrests	1.0% (3,771/375,250)
	LAC LE Budget	$4,052,205,000
	LE Meth Cost (Multiply 1.0%)	$ 40,522,050
Forcible Rape	LAC Total Forcible Rape Arrests	555
	Multiplied by 2.4% (Causal Factor)	X 0.24%
	Equals # of forcible rape meth arrests	13 meth forcible rape arrests
	Percent of total arrests	0.003% (13/375,250)
	LAC LE Budget	$4,052,205,000
	LE Meth Cost (Multiply 0.003%)	$121,566
Homicide	LAC Total Homicide Arrests	704
	Multiplied by 15.8% (Causal Factor)	x.158
	Equals number of homicide meth arrests	111 meth homicide arrests
	Percent of total arrests	0.03% (111/375,250)
	LAC LE Budget	$4,052,205,000
	LE Meth Cost (Multiply 0.03%)	$1,215,662
Larceny/Theft	LAC Total Larceny Cases	27,154
	Multiplied by 29.6% (Causal Factor)	X 0.296%
	Equals number of meth arrests	8,038 meth larceny arrests
	Percent of total arrests	2.1% (8,038/375,250)
	LAC LE Budget	$4,052,205,000
	LE Meth Cost (Multiply 2.1%)	$ 85,096,305
Motor Vehicle Theft	LAC Total Motor Vehicle Theft	8,240
	Multiplied by 6.8% (Causal Factor)	X 0.068
	Equals # of motor vehicle theft meth arrests	560 motor vehicle theft
	Percent of total arrests	meth arrests
	LAC LE Budget	0.15% (560/375,250)
	LE Meth Cost (Multiply 0.15%)	$4,052,205,000
		$ 6,078,308
Robbery	LAC Total Robbery Cases	20,376
	Multiplied by 27.2% (Causal Factor)	X 0.272
	Equals number of robbery meth arrests	5,542 robbery meth arrests
	Percent of total arrests	1.5% (5,542/375,250)
	LAC LE Budget	$4,052,250,000
	LE Meth Cost (Multiply 1.5%)	$ 60,783,075
SUBTOTAL		$ 280,939,374

Sources: The website of the California Department of Justice, Criminal Justice Statistics Center. The proportion of meth arrests (16.9%) was obtained from LACPRS data on 2005-06 admissions with criminal justice record. For each offense listed in the above Table, the percentages attributed to drug (methamphetamine) were obtained from The Office of National Drug Control Policy, The Economic Costs of Drug Abuse in the United States, 1992-2002, December, 2004, B-14.

Worksheet on Los Angeles County Custody and Supervision (C&S) Costs For Methamphetamine Attributable Crimes, 2006

Methamphetamine Violations	LAC Total Number of Dangerous Drugs (F) and Other Drugs (M)	35,627
	Multiplied by 0.169 (Meth %)	X0.169
	Percent of total arrests	6,021
	LAC C&S Budget	1.6% (6,021/375,250)
	C&S Meth Cost (Multiply by 1.6%)	$ 968,019,000
		$ 15,488,304
Aggravated Assault	Total LAC Aggravated Assault Arrests	40,684
	Multiplied by 5.1% (Causal Factor)	x 0.051
	Equals number of assault meth arrests	2,075 meth assault arrests
	Percent of total arrests	0.55% (2,075/375,250)
	LAC LE Budget	$968,019,000
	LE Meth Cost (Multiply 0.55%)	$5,324,105
Burglary	LAC Total Burglary Arrests	12,570
	Multiplied by 30.0% (Causal Factor)	X 0.30
	Equals # of burglary meth arrests	3,771 burglary meth arrests
	Percent of total arrests	1.0% (3,771/375,250)
	LAC C&S Budget	$ 968,019,000
	C&S Meth Cost (Multiply 1.0%)	$ 9,680,190
Forcible Rape	LAC Total Forcible Rape Arrests	555
	Multiplied by 2.4% (Causal Factor)	X 0.24%
	Equals # of forcible rape meth arrests	13 meth forcible rape arrests
	Percent of total arrests	0.003% (13/375,250)
	LAC LE Budget	$968,019,000
	LE Meth Cost (Multiply 0.003%)	$29,041
Homicide	LAC Total Homicide Arrests	704
	Multiplied by 15.8% (Causal Factor)	x.158
	Equals # of homicide meth arrests	111 meth homicide arrests
	Percent of total arrests	0.03% (111/375,250)
	LAC LE Budget	$ 968,019,000
	LE Meth Cost (Multiply 0.03%)	$ 290,406
Larceny/Theft	LAC Total Larceny Cases	27,154
	Multiplied by 29.6% (Causal Factor)	X 0.296%
	Equals # of larceny meth arrests	8,038 larceny meth arrests
	Percent of total arrests	2.1% (8,038/375,250)
	LAC LE Budget	$968,019,000
	LE Meth Cost (Multiply 2.1%)	$ 20,328,399
Motor Vehicle Theft	LAC Total Motor Vehicle Theft	8,240
	Multiplied by 6.8% (Causal Factor)	X 0.068
	Equals # of vehicle theft meth arrests	560 vehicle theft meth arrests
	Percent of total arrests	0.15% (560/375,250)
	LAC C&S Budget	$ 968,019,000
	C&S Meth Cost (Multiply 0.15%)	$ 1,452,029
Robbery	LAC Total Robbery Cases	20,376
	Multiplied by 27.2% (Causal Factor)	X 0.272
	Equals number of robbery meth arrests	5,542 robbery meth arrests
	Percent of total arrests	1.5% (5,542/375,250)
	LAC C&S Budget	$ 968,019,000
	C&S Meth Cost (Multiply 1.5%)	$ 14,520,285
SUBTOTAL		$ 67,112,759

Sources: The website of the California Department of Justice, Criminal Justice Statistics Center. The proportion of meth arrests (16.9%) was obtained from LACPRS data on 2005-06 admissions with criminal justice record. For each offense listed in the above Table, the percentages attributed to drug (methamphetamine) were obtained from The Office of National Drug Control Policy, The Economic Costs of Drug Abuse in the United States, 1992-2002, December, 2004, B-14.

Worksheet on the Costs of Los Angeles County Legal and Adjudication (L&A) For Methamphetamine Attributable Crimes, 2006

Methamphetamine Violations	LAC Total Number of Dangerous Drugs (F)	35,627
	and Other Drugs (M)	X 0.169
	Multiplied by 0.169 (%Meth)	6,021
	Percent of total arrests	1.6% (6,021/375,250)
	LAC L&A Budget	$ 974,130,000
	L&A Meth Cost (Multiply by 1.6%)	$ 15,586,080
Aggravated Assault	Total LAC Aggravated Assault Arrests	40,684
	Multiplied by 5.1% (Causal Factor)	x 0.051
	Equals number of assault meth arrests	2,075 meth assault arrests
	Percent of total arrests	0.55% (2,075/375,250)
	LAC LE Budget	$ 974,130,000
	LE Meth Cost (Multiply 0.55%)	$ 5,357,715
Burglary	LAC Total Burglary Arrests	12,570
	Multiplied by 30.0% (Causal Factor)	X 0.30
	Equals number of meth arrests	3,771 meth arrests
	Percent of total arrests	1.0% (3,771/375,250)
	LAC L&A Budget	$ 974,130,000
	L&A Meth Cost (Multiply 1.0%)	$ 9,741,300
Forcible Rape	LAC Total Forcible Rape Arrests	555
	Multiplied by 2.4% (Causal Factor)	X 0.24%
	Equals # of forcible rape meth arrests	13 meth forcible rape arrests
	Percent of total arrests	0.003% (13/375,250)
	LAC LE Budget	$ 974,019,000
	LE Meth Cost (Multiply 0.003%)	$ 29,221
Homicide	LAC Total Homicide Arrests	704
	Multiplied by 15.8% (Causal Factor)	x.158
	Equals # of homicide meth arrests	111 meth homicide arrests
	Percent of total arrests	0.03% (111/375,250)
	LAC LE Budget	$ 974,019,000
	LE Meth Cost (Multiply 0.03%)	$ 292,206
Larceny/Theft	LAC Total Larceny Cases	27,154
	Multiplied by 29.6% (Causal Factor)	X 0.296%
	Equals # of larceny meth arrests	8,038 meth larceny arrests
	Percent of total arrests	2.1% (8,038/375,250)
	LAC LE Budget	$974,019,000
	LE Meth Cost (Multiply 2.1%)	$ 20,454,399
Motor Vehicle Theft	LAC Total Motor Vehicle Theft	8,240
	Multiplied by 6.8% (Causal Factor)	X 0.068
	Equals # of vehicle theft meth arrests	560 vehicle theft meth arrests
	Percent of total arrests	0.15 (560/375,250)
	LAC L&A Budget	$ 974,130,000
	L&A Meth Cost (Multiply 0.15%)	$ 1,461,195
Robbery	LAC Total Robbery Cases	20,376
	Multiplied by 27.2% (Causal Factor)	X 0.272
	Equals # of robbery meth arrests	5,542 robbery meth arrests
	Percent of total arrests	1.5% (5,542/375,250)
	LAC L&A Budget	$ 974,130,000
	L&A Meth Cost (Multiply 1.5%)	$ 14,611,950
SUBTOTAL		$ 67,534,066

Sources: The website of the California Department of Justice, Criminal Justice Statistics Center. The proportion of meth arrests (16.9%) was obtained from LACPRS data on 2005-06 admissions with criminal justice record. For each offense listed in the above Table, the percentages attributed to drug (methamphetamine) were obtained from The Office of National Drug Control Policy, The Economic Costs of Drug Abuse in the United States, 1992-2002, December, 2004, B-14.