

## #66

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### Q1

Define the problem: [Outline the challenge(s) your recommendation will address. Insert links to reports where appropriate.]

Parks and urban green space programs in California municipalities help serve the need for physical activity, social contacts, and psychological restoration, all of which promote public health. Seniors and disabled populations often have additional needs that must be met to allow them to independently travel to, within and from parks or along greenways safely and manageably—either on foot or by wheelchair. Therefore, it is necessary to identify and eliminate barriers to access and risks to safety, particularly in areas where many older and disabled people live.

### Q2

Pick your Master Plan for Aging goal(s): [Check the goal(s) your recommendation aims to fulfill. View MPA Framework document for reference]

**Goal 2: Livable Communities & Purpose. We will live in and be engaged in communities that are age-friendly, dementia-friendly, and disability-friendly.**

### Q3

Choose your MPA Framework objective: [Check the objective(s) your recommendation will accomplish. View MPA Framework document for reference.]

**Objective 2.1: California's neighborhoods will have the built environment to fully and meaningfully include older adults, people with disabilities, and people of all ages.**

**Objective 3.1: Californians will live in communities with policies and programs that promote well-being throughout our lifespans.**

### Q4

Outline your recommendation: [In one to two sentences, sketch out your idea for the Master Plan for Aging.]

The recommendation is to develop a model for municipalities to use to identify barriers to access and use of parks and green spaces by seniors and those with disabilities. This is particularly relevant for informing park and urban greenway programs in areas with larger senior and disabled populations. The underlying rationale is that the benefits of these programs should extend to all who pay for them through their taxes, and especially to those who could obtain particular benefits from them with added attention to circumstances around their use.

### Q5

Identify and quantify your target population: [Describe which groups of Californians will be impacted by this recommendation, with numbers if available.]

Older adults and those with disabilities.

### Q6

Share your recommendations for an age-friendly California: [Insert detailed bullet points describing your Master Plan for Aging ideas.]

- Locate necessary data for identifying potential areas of need (e.g., census data, GIS data on distances to local parks and greenways)
- Finalize model for data analysis
- Create user-friendly tools to conduct analysis
- Develop report template to be produced by the tool
- Implement the tool at the municipal level
- Evaluate the enhanced program

## Q7

Provide any supporting evidence for your recommendation: [Add links or summaries of research evidence that support your unique vision.]

Literature on the value of urban green spaces for health:

A growing body of empirical evidence is revealing the value of nature experience for mental health. With rapid urbanization and declines in human contact with nature globally, crucial decisions must be made about how to preserve and enhance opportunities for nature experience. Here, we first provide points of consensus across the natural, social, and health sciences on the impacts of nature experience on cognitive functioning, emotional well-being, and other dimensions of mental health. We then show how ecosystem service assessments can be expanded to include mental health, and provide a heuristic, conceptual model for doing so.

(Bratman, G.N., Anderson, C., Berman, M.G., Cochran, B., de Vries, S., Flanders, J., Folke, C., Frumkin, H., Gross, J.J., Hartig, T., Kahn, P.H., Kuo, M., Lawler, J.J., Levin, P.S., Lindahl, T., Meyer-Lindenberg, A., Mitchell, R., Ouyang, Z., Roe, J., Scarlett, L., Smith, J., van den Bosch, M., Wheeler, B.W., White, M.P., Zheng, H., Daily, G.C. 2019. Nature and mental health: An ecosystem service perspective. *Sci Adv.* 2019 Jul 24;5(7):eaax0903. doi: 10.1126/sciadv.aax0903. eCollection 2019 Jul.)

Three-quarters of park and recreation agencies offer one or more evidence-based programs for older adults in their communities, including those focused on chronic disease self-management, increasing physical activity and decreasing falls. These programs, however, are far less likely to be available from park and recreation agencies located in rural settings. Only 59 percent of rural park and recreation agencies offer one or more evidenced-based programs to older adults in their community. The equivalent percentages for suburban and urban agencies are 75 percent and 85 percent, respectively.

The most widely offered evidence-based programs for older adults include:

- Diabetes: Diabetes Prevention Program
- Falls Prevention: Tai Chi: Moving for Better Balance; A Matter of Balance
- Arthritis: Enhance Fitness; Walk With Ease; Arthritis Foundation Exercise Program; Arthritis Foundation Aquatics Program; Tai Chi for Arthritis

(National Recreation and Park Association (NRPA). 2017. Healthy Aging in Parks Survey. <https://www.nrpa.org/contentassets/79223ed861564c3c9bd386a60fac473c/healthy-aging-survey-report.pdf>)

Spending time in natural environments can benefit health and well-being, but exposure-response relationships are under-researched. We examined associations between recreational nature contact in the last seven days and self-reported health and well-being. Participants (n = 19,806) were drawn from the Monitor of Engagement with the Natural Environment Survey (2014/15-2015/16); weighted to be nationally representative. Weekly contact was categorised using 60 min blocks. Analyses controlled for residential greenspace and other neighbourhood and individual factors. Compared to no nature contact last week, the likelihood of reporting good health or high well-being became significantly greater with contact  $\geq 120$  mins (e.g. 120-179 mins: ORs [95% CIs]: Health = 1.59 [1.31-1.92]; Well-being = 1.23 [1.08-1.40]). Positive associations peaked between 200-300 mins per week with no further gain. The pattern was consistent across key groups including older adults and those with long-term health issues. It did not matter how 120 mins of contact a week was achieved (e.g. one long vs. several shorter visits/week). Prospective longitudinal and intervention studies are a critical next step in developing possible weekly nature exposure guidelines comparable to those for physical activity.

(White, M.P., Alcock, I., Grellier, J., Wheeler, B.W., Hartig, T., Warber, S.L., Bone, A., Depledge, M.H., & Fleming, L. 2019. Spending at least 120 minutes a week in nature is associated with good health and wellbeing.

*Sci Rep.* 2019 Jun 13;9(1):7730. doi: 10.1038/s41598-019-44097-3.)

Engagement with nature is an important part of many people's lives, and the health and wellbeing benefits of nature-based activities are becoming increasingly recognised across disciplines from city planning to medicine. Despite this, urbanisation, challenges of modern life and environmental degradation are leading to a reduction in both the quantity and the quality of nature experiences. Nature-based health interventions (NBIs) can facilitate behavioural change through a somewhat structured promotion of nature-based experiences and, in doing so, promote improved physical, mental and social health and wellbeing. We conducted a Delphi expert elicitation process with 19 experts from seven countries (all named authors on this paper) to identify the different forms that such interventions take, the potential health outcomes and the target beneficiaries. In total, 27 NBIs were identified, aiming to prevent illness, promote wellbeing and treat specific physical, mental or social health and wellbeing conditions. These interventions were broadly

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categorized into those that change the environment in which people live, work, learn, recreate or heal (for example, the provision of gardens in hospitals or parks in cities) and those that change behaviour (for example, engaging people through organized programmes or other activities). We also noted the range of factors (such as socioeconomic variation) that will inevitably influence the extent to which these interventions succeed. We conclude with a call for research to identify the drivers influencing the effectiveness of NBIs in enhancing health and wellbeing.

(Shanahan, D., Astell-Burt, T., Barber, E., Brymer, E., Cox, D., Dean, J., Depledge, M., Fuller, R., Hartig, T., Irvine, K., Jones, A., Kikilus, H., Lovell, R., Mitchell, R., Niemelä, J., Nieuwenhuijsen, M., Pretty, J., Townsend, M., van Heezik, Y., Warber, S., Gaston, K. 2019. Nature-based interventions for improving health and wellbeing: The purpose, the people and the outcomes. *Sports*, 7(6), 1-20. Switzerland: M D P I AG. Retrieved from <https://doi.org/10.3390/sports7060141>)

In a rapidly urbanizing world, many people have little contact with natural environments, which may affect health and well-being. Existing reviews generally conclude that residential greenspace is beneficial to health. However, the processes generating these benefits and how they can be best promoted remain unclear.

Evidence linking greenspace and health was reviewed from a transdisciplinary standpoint, with a particular focus on potential underlying biopsychosocial pathways and how these can be explored and organized to support policy-relevant population health research. Potential pathways linking greenspace to health are here presented in three domains, which emphasize three general functions of greenspace:

- Reducing harm (e.g. reducing exposure to air pollution, noise and heat),
- Restoring capacities (e.g. attention restoration and physiological stress recovery)
- Building capacities (e.g. encouraging physical activity and facilitating social cohesion).

Interrelations between and among the three domains are also noted. Among several recommendations, future studies should:

- Use greenspace and behavioural measures that are relevant to hypothesized pathways
- Include assessment of presence, access and use of greenspace
- use longitudinal, interventional and (quasi)experimental study designs to assess causation
- Include low- and middle-income countries given their absence in the existing literature.
- Cultural, climatic, geographic and other contextual factors also need further consideration.

While the existing evidence affirms beneficial impacts of greenspace on health, much remains to be learned about the specific pathways and functional form of such relationships, and how these may vary by context, population groups and health outcomes.

(Markevych, I., Schoierer, J., Hartig, T., Chudnovsky, A., Hystad, P., Dzhambov, A.M., de Vries, S., Triguero-Mas, M., Brauer, M., Nieuwenhuijsen, M.J., Lupp, G., Richardson, E.A., Astell-Burt, T., Dimitrova, D., Feng, X., Sadeh, M., Standl, M., Heinrich, J., & Fuertes, E. 2017. Exploring pathways linking greenspace to health: Theoretical and methodological guidance. *Environ Res.* 2017 Oct;158:301-317. doi: 10.1016/j.envres.2017.06.028. Epub 2017 Jun 30.)

Urbanization, resource exploitation, and lifestyle changes have diminished possibilities for human contact with nature in many societies. Concern about the loss has helped motivate research on the health benefits of contact with nature. Reviewing that research here, we focus on nature as represented by aspects of the physical environment relevant to planning, design, and policy measures that serve broad segments of urbanized societies. We discuss difficulties in defining “nature” and reasons for the current expansion of the research field, and we assess available reviews. We then consider research on pathways between nature and health involving air quality, physical activity, social cohesion, and stress reduction. Finally, we discuss methodological issues and priorities for future research. The extant research does describe an array of benefits of contact with nature, and evidence regarding some benefits is strong; however, some findings indicate caution is needed in applying beliefs about those benefits, and substantial gaps in knowledge remain.

(Hartig, T., Mitchell, R., de Vries, S., & Frumkin, H. 2014. Nature and health. *Annual Review of Public Health*, 35, 207-228. doi.org/10.1146/annurev-publhealth-032013-182443)

**Q8**

Give examples of local, state or national initiatives that can be used as an example of best practices: [Provide any available links and sources.] Local: State: National: Other:

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Local: San Francisco's Pavement to Parks program is a collaboration between the city planning department and a number of other municipal agencies, including the mayor's office. The program converts squares of pavement into plazas and postage-stamp-sized parks, called parklets. It started four years ago as a kind of experiment and has since become a fixture of civic life in San Francisco. The first parklets to win the city's stamp of approval showed up in 2010 when Pavement to Parks launched a pilot program. Elevated platforms took the place of parking spaces and city planners added an assortment of tables, chairs, benches, and potted plants. The response was overwhelmingly positive. "Right away, people liked the idea," says Ilaria Salvadori, the current director of the program. "Parklets provide so many benefits to city residents. It's a way to get more open space into the city and create places where people can spend time outside and sit and meet and talk and it's all right at your doorstep."

(How San Francisco Is Changing the Way People Think of Green Space. The Atlantic. November 27, 2013.

<https://www.theatlantic.com/politics/archive/2013/11/how-san-francisco-is-changing-the-way-people-think-of-green-space/445335>)

San Francisco has been credited with the creation of the first parklet. Parklets were introduced with street plazas in 2009 as part of a collaborative effort between several municipal agencies, now called the Pavement to Parks (P2P) program.

Because of the involvement of local nonprofits and business owners, parklets are context-oriented street improvements.

The creation of parklets and similar small-scale open spaces has inspired a widespread effort across a number of cities in the United States and around the world. As of March 2015, more than 60 parklets have been installed by merchants, neighborhood groups, nonprofits, and other organizations throughout San Francisco.

Location: San Francisco, California, USA

Population: 0.8 million

Metro: 4.5 million

Extent: 65 parklets installed citywide; 7 street plazas installed citywide

Size: 2–2.5 m x 10–12 m

Context: Mixed-use (Residential/Commercial)

Cost: Commercial and residential Construction 10,000–30,000 USD Fees 2,000 USD

Annual permit 250 USD

Funding: Private. Cost of construction and fees are covered by the applicant.)

(Global Designing Cities. Case Study: Pavement to Parks; San Francisco, USA. <https://globaldesigningcities.org/publication/global-street-design-guide/streets/pedestrian-priority-spaces/parklets/case-study-pavement-to-parks-san-francisco-usa/>)

Local: Park and recreation agencies are in a unique position to ensure that the needs of underserved older adults are being met. Agencies are a critical, lifesaving resource to those with lower-income members of the population by providing low-cost nutritional meals, transportation to and from senior centers, recreation centers and other needed service providers, and low-cost/free fitness programs. Forty-four percent of park and recreation agencies have specific programming and outreach activities designed to serve the specific needs of underserved older adults in the community. Following are a few examples of what park and recreation agencies are providing to their older adult population:

- Offering transportation for anyone 55 years or older anywhere within the community for less than \$1 roundtrip
- Providing free or low-cost meals followed by targeted social and/or physical activities encouraging increased participation by older adults
- Hosting health fairs, craft fairs and educational seminars focusing on older adults
- Encouraging travel through sponsored field trips and tours, allowing older adults to have greater access to the world around them

(National Recreation and Park Association [NRPA]. 2017. Healthy Aging in Parks Survey.

<https://www.nrpa.org/contentassets/79223ed861564c3c9bd386a60fac473c/healthy-aging-survey-report.pdf>)

National: The U.S. National Park Service offers an \$80 lifetime Senior Access Pass which provides access to more than 2,000 recreation sites managed by six Federal agencies. The Senior Passes admit pass owner/s and passengers in a noncommercial vehicle at per-vehicle fee areas and pass owner + three adults, not to exceed four adults, where per-person fees are charged. (Children under 16 are always admitted free.). Also, at many sites, the Senior Passes provide the pass owner (only) a discount on Expanded Amenity Fees (such as camping, swimming, boat launching, and guided tours).

A lifetime Access Pass offering similar benefits is available for those with permanent disabilities for free (plus a \$10 handling fee).

The funds from all Senior Passes purchased in a national park will go to a National Park Foundation Endowment and a National Park Centennial Challenge Fund, both authorized by the Centennial Legislation.

(USGS. Recreational Pass. <https://store.usgs.gov/recreational-passes>)

## Q9

Provide a roadmap to implementation: [Insert any actions state agencies, legislators, counties, local government, or philanthropy can take to move this recommendation forward. Some of the entities listed below may or may not be applicable to each recommendation.] State Agencies/Departments: [action to be taken by Governor or specific state agencies] State Legislature: [legislation needed to implement recommendation] Local Government: Federal Government: Private Sector: Community-Based Organizations: Philanthropy: Other:

State Agencies/Departments: Allocate funding for developing and deploying the accessibility protocol and related tools.

Local Government: Use accessibility tool to help guide park and urban greenway programs; allocate funding for accessibility improvement measures (e.g., additional benches along pathways; sidewalk construction and maintenance; street trees and other plantings in currently underserved areas and routes, such as where a lack of cooling shade would prevent people from venturing outdoors).

Community-Based Organizations: Consultation with interest groups and neighborhood organizations to identify important accessibility problems.

University: Develop data tool for identifying accessibility barriers; identify ways in which this tool could be deployed together with other tools (e.g., transportation deficiency).

## Q10

Identify person-centered metrics: [What are the individual measures of inputs or outcomes that can be used to predict your recommended action's impact on people.]

Number of seniors and disabled individuals who can enjoy local parks and greenways as determined by survey and behavioral observations.

## Q11

Measuring Success: [Describe specific metrics that could be used to empirically measure the effectiveness of your recommendation]

Number of municipalities that utilize accessibility methods to help guide coordinated park and green space programs.

## Q12

Measuring Success: [How would we know that the implementation of your recommendation is successful?]

Short term: By 2020...

**Incorporation of the concept in the Master Plan for Aging.**

Mid term: By 2025...

**Number of municipalities that utilize accessibility methods and have identified areas and populations suffering accessibility constraints.**

Long term: by 2030...

**Measurable reduction in number of aging and disabled populations experiencing accessibility problems.**

### Q13

Provide data sources: [What existing data can be used to measure success or progress?]: Existing data sources: [specify datasets, variables, and data owner/location] Suggestions for data collection to evaluate implementation of this goal when no data sources exist:

Existing data sources: [specify datasets, variables, and data owner/location]

- California Community Survey (CCS)
- California Household Travel Survey (CHTS)

Suggestions for data collection to evaluate implementation of this goal when no data sources exist:

- Surveys to supplement existing sources (example: addition to the California Household Transportation Survey [CHTS])
- Surveys of community members
- Target marketing and outreach
- Community engagement at senior housing communities

### Q14

Respondent skipped this question

Identify potential costs and/or savings: [Provide any research, actuarial analysis or other evidence of the cost of, or potential savings from, implementing your recommendation.]

### Q15

High

Prioritize your recommendation: [How would you prioritize your recommendation relative to other needs/priorities?]

### Q16

Contact information: [Let's stay in touch!]

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