



# Attachment B: Additional Resources

## Additional Resources:

### Website Links:

#### 1. **American Public Health Association: Press Release**

*American Public Health Association adopts 17 new policy statements at Annual Meeting*

Policy 20137: To aid in promoting healthy and active lifestyles, encourages land use decisions that prioritize access to natural areas and green spaces for residents of all ages, abilities and income levels. Calls on public health, medical and other health professionals to raise awareness among patients and the public at-large about the health benefits of spending time in nature and of nature-based play and recreation. Also urges such professionals to form partnerships with relevant stakeholders, such as parks departments, school districts and nature centers. Calls for promoting natural landscaping.

Online at:

<http://www.apha.org/about/news/pressreleases/2013/2013adoptedpolicystatements.htm>

#### 2. **SVR Design (Seattle)**

SVR is an example of a private landscape design firm that designs and installs small-scale urban greenspace projects. Online at:

<http://www.svrdesign.com/>

#### 3. **USFS Urban Ecosystems and Social Dynamics Program**

Extensive research and a suite of tools to illustrate the benefits provided by trees. Online at: [www.fs.fed.us/psw/programs/used](http://www.fs.fed.us/psw/programs/used)

#### 4. **Portland, OR Downtown Tree Plan**

Portland Urban Forestry is helping Portlanders to improve their community's street trees by conducting tree inventories and creating **Neighborhood Tree Plans**. Online at:

[http://www.portlandoregon.gov/parks/article/433143#plans\\_and\\_reports](http://www.portlandoregon.gov/parks/article/433143#plans_and_reports)

## **Magazine, News, and Website Articles:**

### **1. Crosscut**

*Article: Why Does Seattle Have so Many Bleak Public Spaces?*

Online at: <http://crosscut.com/2011/05/18/architecture/20927/Why-does-Seattle-have-so-many-bleak-public-spaces-/>

### **2. Oregon Public Broadcasting**

*Article: Hotter Summers Mean More Health Risks in Urban Heat Islands*

Online at: <http://earthfix.opb.org/communities/article/hotter-summer-mean-more-health-risks-in-urban-hea/>

### **3. New York Times**

*Article: Shadows Over Central Park*

Online at: <http://nyti.ms/1gWzMcf>

### **4. Sustainable Cities Collective**

*Article: Public-Private Partnerships, Seattle-Style: Part 2*

Almost every city in America has a public-private partnership around one or more of its parks. Everyone is doing it, and everyone is asking the same questions about the best way to develop and manage them. It is a tough topic to wrap your head around since every partnership is a slightly different riff on the one they learned from. But the key question appears to be, what does the right agreement look like that keeps public space public?

Seattle is taking a big picture view of where and how they want to use partnerships and working hard on finding the best way to keep public space for the public. "Our approach is going to look different in different parts of the city," says Christopher Williams, Acting Superintendent for Seattle Parks and Recreation. "For example, in the downtown core Friends of the Central Waterfront are working with us in a guiding position for how the waterfront gets redeveloped."

Seattle is undertaking a huge restoration on its waterfront with a theme of creating more east-west connections to the water. Transformation of Seattle's waterfront is made possible by the removal of the failing Alaskan Way Viaduct and replacement of the deteriorating Elliott Bay Seawall. The viaduct is being replaced with a 2-mile underground tunnel and freeing up hundreds of acres. The project is expected to restore the city's core waterfront.

“A project of this size – a signature park for the city – has made us recognize that there is room for a partner to help us operate the waterfront park,” Williams acknowledges.

Online at: <http://sustainablecitiescollective.com/city-parks-blog/193866/public-private-partnerships-seattle-style-part-2-3>

## **Scholarly Articles:**

### **1. Public Health. November 18, 2013**

*An ecological study investigating the association between access to urban green space and mental health.*

Nutsford D, Pearson AL, Kingham S. Source: University of Canterbury, GeoHealth Laboratory, Christchurch, New Zealand.

#### Abstract

**OBJECTIVES:** This study aims to find whether proximity to urban green spaces is associated with human mental health.

**STUDY DESIGN:** A cross-sectional examination of the relationship between access to urban green spaces and counts of anxiety/mood disorder treatments amongst residents (aged 15 years and over) in Auckland City, New Zealand.

**METHODS:** Anxiety/mood disorder treatment counts by three age groups were aggregated to 3149 small area units in Auckland. Six measures of green space access were derived using GIS techniques involving total green spaces and useable green spaces. Negative binomial regression models have been fitted to test the relationship between access to green space and area-level anxiety/mood disorder treatment counts, adjusted for age and area-level deprivation.

**RESULTS:** Anxiety/mood disorder treatment counts were associated with three green space measures. The proportion of both total and useable green space within 3 km and distance to nearest useable green space all indicated a protective effect of increased access to green space against anxiety/mood disorder treatment counts. Access to total and useable green space within 300 m did not exhibit significant associations.

**CONCLUSION:** This study found that decreased distance to useable green space and increased proportion of green space within the larger neighbourhood were associated with decreased anxiety/mood disorder treatment counts in an urban environment. This suggests the benefits of green space on mental health may relate both to active participation in useable green spaces near to the home and observable green space in the neighbourhood environment.

## 5. Preventive Medicine. November 2013

*Mental health benefits of neighbourhood green space are stronger among physically active adults in middle-to-older age: evidence from 260,061 Australians.*

Astell-Burt T, Feng X, Kolt GS. Source: School of Science and Health, University of Western Sydney, Australia; School of Geography and Geosciences, University of St Andrews, UK.

### Abstract

**OBJECTIVE:** While many studies report that green spaces promote mental health, some suggest the psychological benefits of physical activity are amplified if participation occurs within greener environs. We investigated whether this relationship could be observed among adults in middle-to-older age.

**METHOD:** Multilevel logit regression was used to investigate association between green space and psychological distress (Kessler scores of 22+) among 260,061 Australians over 45 years old living in New South Wales (2006-2009). Physical activity was measured using the Active Australia survey. Percentage green space was estimated within a 1-kilometre of residence.

**RESULTS:** In comparison to residents of the least green areas, those in the greenest neighbourhoods were at a lower risk of psychological distress (Odds Ratio 0.83, 95% CI: 0.76, 0.92) and were less sedentary (0.81: 0.77, 0.87). An interaction was observed between physical activity and green space ( $p=0.0028$ ). More green space did not appear to benefit mental health among the least active (0.99: 0.85, 1.15), but there was a protective association for the more physically active (0.82: 0.67, 0.99).

**CONCLUSION:** For adults in middle-to-older age, green spaces are not only important for promoting physical activity, but the mental health benefits of greener environs appear contingent upon those active lifestyles.

**6. International Journal of Environmental Research and Public Health.**  
**September 2, 2013**

*Green space and stress: evidence from cortisol measures in deprived urban communities.*

Roe JJ, Thompson CW, Aspinall PA, Brewer MJ, Duff EI, Miller D, Mitchell R, Clow A. Source: School of the Built Environment, Heriot-Watt University, Edinburgh EH14 4AS, UK.

Abstract

Contact with green space in the environment has been associated with mental health benefits, but the mechanism underpinning this association is not clear. This study extends an earlier exploratory study showing that more green space in deprived urban neighbourhoods in Scotland is linked to lower levels of perceived stress and improved physiological stress as measured by diurnal patterns of cortisol secretion. Salivary cortisol concentrations were measured at 3, 6 and 9 h post awakening over two consecutive weekdays, together with measures of perceived stress.

Participants (n = 106) were men and women not in work aged between 35-55 years, resident in socially disadvantaged districts from the same Scottish, UK, urban context as the earlier study. Results from linear regression analyses showed a significant and negative relationship between higher green space levels and stress levels, indicating living in areas with a higher percentage of green space is associated with lower stress, confirming the earlier study findings. This study further extends the findings by showing significant gender differences in stress patterns by levels of green space, with women in lower green space areas showing higher levels of stress.

A significant interaction effect between gender and percentage green space on mean cortisol concentrations showed a positive effect of higher green space in relation to cortisol measures in women, but not in men. Higher levels of neighbourhood green space were associated with healthier mean cortisol levels in women whilst also attenuating higher cortisol levels in men.

We conclude that higher levels of green space in residential neighbourhoods, for this deprived urban population of middle-aged men and women not in work, are linked with lower perceived stress and a steeper (healthier) diurnal cortisol decline. However, overall patterns and levels of cortisol secretion in men and women were differentially related to neighbourhood green space and warrant further investigation.

## 7. Public Health. November 18, 2013.

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Online at: <http://www.ncbi.nlm.nih.gov/pubmed/24262442>