

The post-pandemic value and management of green spaces

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The post-pandemic value of green spaces - Maintaining the renewed interest in green infrastructure
PERFECT Policy paper
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This paper has been prepared on behalf of the PERFECT project.

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About PERFECT

PERFECT (Planning for Environment and Resource eFFiciency in European Cities and Towns) is a project, running from January 2017 to September 2022, co-funded by Interreg Europe. It aims to demonstrate how the multiple uses of green infrastructure can provide social, economic and environmental benefits. It will raise awareness of this potential, influence the policy-making process, and encourage greater investment in green infrastructure.

To find out more about PERFECT, visit <http://www.interregeurope.eu/perfect/>



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1 Introduction

The Covid-19 pandemic fundamentally changed how green infrastructure¹ is used and appreciated. This publication looks at these changes in use, using examples from the PERFECT partners and beyond to reflect on the challenges and opportunities that have affected the maintenance of green spaces.

There is a common story across Europe. Over the last decade there has been a general disengagement from central and local governments in the planning, funding and maintenance of green infrastructure which left parks and other green spaces with limited resources. When the pandemic hit, there was an overwhelming increase in the number of people visiting green spaces close to where they live to exercise and socialise. As a result, there was an increase in recognition of the importance of spending time in green spaces for mental and physical wellbeing. This renewed interest throughout the Covid-19 pandemic now provides an opportunity for policymakers to promote green infrastructure and for municipalities to review their investment in it.

Whilst this was positive as many people were introduced to the benefits of green spaces and nature, it also led to increased wear and tear and challenges around maintenance, at a time when there were reduced maintenance services due to the pandemic. This then created concerns around litter picking and anti-social behaviour that led to a rise in management costs when income-making facilities like cafés and car parks were closed.

This paper assesses the challenge of funding, managing and planning for that increase in usage and highlights the opportunities that may arise from it.

2 Changing habits and attitudes

The Covid-19 pandemic and subsequent lockdowns changed the way many people viewed and interacted with green infrastructure. The places where people socialised and exercised closed, so people visited parks, gardens and other green spaces to pursue those activities. Green infrastructure became a place of recreation, restoration and escape. A study in Helsinki, for example, demonstrated that physical exercise and spending time outdoors were essential for citizens to cope with the crisis². In the UK, during the strictest lockdowns, green infrastructure was positioned as key component in supporting citizen's wellbeing, and the government encouraged people to visit their local green spaces for exercise.

Across Europe, many people visited their local green spaces when restrictions permitted. Urban parks and out-of-town grounds and nature reserves experienced the biggest increase in visitor numbers. One study³ highlighted the challenges created by the increased popularity of

¹ Green infrastructure is a network of multi-functional green space and other green features, urban and rural, which can deliver quality of life and environmental benefits for communities. More information available here: <https://tcpa.org.uk/what-is-green-infrastructure/>

² Coping With Crisis: Green Space Use in Helsinki Before and During the COVID-19 Pandemic. Available here: <https://www.frontiersin.org/articles/10.3389/frsc.2021.713977/full>

³ The Impact of COVID-19 on the Management of European Protected Areas and Policy Implications. Available here: <https://www.mdpi.com/1999-4907/11/11/1214/htm>

Protected Areas, such as national and regional parks, particularly in late spring and summer 2020 when domestic restrictions had eased slightly but international travel was very limited.

Case study: Increased restrictions in rural locations during the pandemic, Somogy County, Hungary

During the pandemic restrictions, there were challenges in the management of holiday settlements in Hungary that are close to natural areas. As restrictions were not tied to a residential address, some people chose to move to their second homes or to holiday resorts close to the seaside and nature because of the attractive environmental conditions. On top of the new semi-permanent residents, the visits to local holiday sites increased due to the lack of international travel so new restrictions and regulations were required specifically for those sites to manage the new crowds. For example, in Lake Balaton, a major holiday destination with beaches and volcanic hills, the mayors of the key settlements were given additional powers for the closure of spaces. The closures occurred during the Easter period in 2020 and affected beaches and car parks, playgrounds, and access to the boat station and public parks.

These changes in the way that people use green infrastructure raised challenges for management authorities that have had to introduce new measures to enable all users to visit them safely and to protect the green spaces. Section 3 summarises the context of underfunding of public parks, Section 4 outlines the challenges and how they have been overcome and Section 5 discusses how to ensure the long-term maintenance of green infrastructure in the current context of renewed interest.

Case study: Management challenges in Ljubljana urban region



Figure 1 Šmartinski Park. Photo credits: Dunja Wedam

During the Covid-19 pandemic, the green infrastructure in Ljubljana's Urban Region was under pressure. As most of public life was shut down, residents visited green areas more

frequently. The City of Ljubljana is the most densely populated city in Ljubljana Urban Region (LUR), so it is the place that suffered the most.

Green spaces had to be cleaned more often due to the higher levels of waste generation as more residents were using those areas for exercise, recreation and for social activities. Increased maintenance was also needed in the city's communal gardens. In some cases, the city officers had to intervene as a mediator in disputes between garden tenants. Additionally, the interest in renting community gardens in the city increased greatly and has not declined even after the relaxation of the Covid-19 rules.

To manage the challenges mentioned above, additional funds were made available in the city's budget. The municipality had to reorganise and offer more frequent cleaning of green areas, especially in parks and playgrounds. In addition to increased regular maintenance, the city has plans to renovate existing infrastructure in 2021/2022. This includes renovating existing playgrounds and sports facilities in larger areas, building new bike paths which connect to the regional cycling network, building new sports areas of local importance and building new sports and recreational areas along river shores.

3 Addressing the challenges in the context of drastic funding cuts

Maintenance costs matched with austerity policies over the last decade meant that many parks were already struggling before the pandemic to maintain quality and meet the needs of different users. For instance, in the UK, since 2010, local authorities have had to reduce between 20 and 90% of their budgets for environment management due to cuts to local government funding⁴. Whilst it is accepted that all sorts of infrastructure, such as buildings, roads or bridges, require high maintenance costs, it is green infrastructure's funding that is often challenged and cut.

As a result, there has been a proliferation of income-generating facilities in parks, like as cafés, sports fields, and community centres. All of which help to plug financial gaps as well as attract a wider range of people by transforming parks into social and leisure spaces that greater parts of the population can enjoy. Most green spaces need a mixture of sources of funding including a significant element of income generating activities. However, when the Covid-19 pandemic began, parks which were overly reliant on this type of income struggled as those facilities were forced to close.

In addition to the loss of funding to certain parks and chargeable facilities, there were increased costs related to the surge in usage and the requirements for social distancing like new signage, fencing, PPE for staff, new equipment and additional cleaning. In some municipalities, staff were shifted to working in other support services of the municipality which increased the challenge of maintaining parks. Many volunteer groups which usually support the maintenance of community green spaces were required to pause their activities during the lockdowns. This has put many municipalities in a difficult position.

⁴ Blame it on austerity? Examining the impetus behind London's changing green space governance. Available here: <https://www.semanticscholar.org/paper/Blame-it-on-austerity-Examining-the-impetus-behind-Whitten/49b68bffe971b856ec5a942b6070080f245f4265>

Case study: Financial impact of COVID-19 on parks and green spaces in Watford Borough Council

Watford Borough Council is a council in Hertfordshire, England with 90,000 residents and over 50 parks and green spaces. During the lockdown period, all parks remained open but all the facilities were closed, this included cafés, gyms, play areas, car parks, sports clubs etc. Although the facilities were slowly reopened there was a strong financial impact on the parks.

The loss of income to the parks over the initial three months of the lockdown period was estimated at £86,000, having particularly suffered from loss of income from leases and concession rents and car parking. This was quite concerning for park managers as before the pandemic, 15% of income was from external sources. The Council forecast an additional £5,000 per month of losses as a result of closing facilities, redeployment of staff and extra security.

For more information: <https://www.local.gov.uk/case-studies/financial-impact-covid-19-parks-and-green-spaces-watford-borough-council>

4 Challenges due to increased usage

The increased number of visitors in urban parks and in larger national/out of town parks led to many challenges in the management of those spaces⁵, including:

- Competition for space, resulting in difficulties in social distancing, increased risks to staff members and tension between different user groups;
- Damage to vegetation from trampling and the informal creation of new paths;
- Increased volume of litter and overfilled bins;
- Anti-social behaviour which included partying, noise disruption and illegal gatherings.

There were also specific challenges related to larger national parks, including:

- An increased number of vehicles in the vicinity of the national park, leading to road congestion and illegal parking;
- In remote and mountainous parks, visits from inexperienced hikers led to an increased demand for first aid provision and search-and-rescue missions;
- Tension between visitors and local residents, particularly about the increased exposure to infection from Covid-19;
- Disturbance of local wildlife including off-trail walking and trampling of vegetation.

As municipalities across Europe have tried to deal with these challenges, two difficult questions have arisen:

1. How can municipalities ensure that everyone has access to nature in order to enjoy the multiple benefits of green infrastructure safely without disturbing local ecosystems?
2. How can municipalities manage and resource the new interest in using green infrastructure?

⁵ The Impact of COVID-19 on the Management of European Protected Areas and Policy Implications. Available here: <https://www.mdpi.com/1999-4907/11/11/1214/html>

Case study: Accessibility to green spaces in Karlova Ves

Bratislava Municipality Karlova Ves belongs to the 'greenest Bratislava district', located close to the river Danube on the slopes of the Little Carpathian mountains. Eighty per cent of the municipality is made up of natural features. These green spaces have a key role in ensuring a healthy ecosystem, promoting biodiversity and fighting against the challenges of climate change.

However, despite the importance of these green spaces due to their provision of ecosystem services, their recreational purposes for residents and visitors are limited. Some areas, like the Sihot Forest, are protected and highly restricted due to the protection of the drinking water supply system. But, in other cases, entry is limited because those spaces are not accessible and there is not appropriate infrastructure to accommodate visitors.

In Slovakia, a series of national lockdowns limited the number of places that the inhabitants could use to support their mental and physical health. These lockdowns were characterized by different intensity of measures, which we herein define as 'strict' and 'hard'.

During the 'strict' lockdown, residents could not use the green infrastructure in Karlova Ves because they could only leave their flat to walk their pets 100 metres away from their home, regardless of whether there was green infrastructure 100 metres from their home or not. Therefore, the strict lockdown had limited people's access to nature and by consequence enjoy its embedded benefits.



Figure 2 Evaluation of the availability of green infrastructure spaces of 2 ha in area and more, located within 300 m of distance including the Zoological and Botanical Gardens in the Bratislava Municipality Karlova Ves

Then there were periods of widespread 'hard' lockdown, which allowed short stays in nearby areas and longer walks in the natural areas outside the urbanised areas of Bratislava. Besides overburdening local green spaces attached to residential areas that were still used mostly for short stays, the high volume and intensity of visits moved further into the natural parks and forests on the city outskirts. This led to littering, trampling and off-trail walking, and disturbance to wildlife and birds. From the visitor's perspective these areas quickly became overcrowded, lowering the nature experience and sense of tranquillity. A steep increase in visits created severe challenges for management and maintenance of these natural, mostly forested areas.

The city of Bratislava has been collecting data on residents' visits to city parks by analysing posts from social media or through field observation. It was concluded that the popular, larger parks and nature areas (e.g. along the Danube river) were not in use for prolonged periods during these lockdowns, compared to pre-Covid times. For example, analysis showed a significantly lower number of positive posts and reactions on social media - which is a relatively objective indicator pointing towards decrease in mental and physical benefits derived from nature visits. At the same time, green spaces near residential apartment buildings were overused and their management overburdened.

The impact of the different lockdowns sheds a light on the accessibility of green spaces for residents. Despite the high quantity of green spaces, those spaces lack in quality and accessibility. The parks, gardens and other green infrastructure must be further developed in quantity, quality and functionality, to meet the needs of densely populated residential housing areas inside the Karlova Ves district.

5 Responding to the renewed interest in green infrastructure

How to ensure that everyone has access to nature while allowing local wildlife to flourish?

Accommodating new users in parks

The Covid-19 pandemic has caused a renewed interest in green infrastructure as people have explored their local green spaces during lockdown. We now need to maintain this interest so that communities can continue to enjoy the multiple benefits provided, but without disturbing local ecosystems.

Throughout the pandemic, many people started to use the green spaces near their homes that they had never visited before, and to subsequently appreciate the benefits that these areas provide. However, this means that a much wider group of people are now using these spaces and they will want to use the areas for different activities, some of which may impact others' experiences of that green spaces. Municipalities will have to make sure that the needs of all different park users are met, and all have equal access to spaces, by providing a variety of local green spaces with space to accommodate different user groups.

Recommendation 1: Municipalities should provide a variety of types of green space in urban areas, with different areas designed for different activities and user groups.



Additionally, it is important to recognise that residents will want to visit green spaces outside of urban areas. Management authorities should plan for and provide alternative transport routes to encourage visitors to use public transport or active travel options rather than private cars. This would reduce traffic and parking challenges, such as by linking urban areas and green spaces with cycle paths and thus improving accessibility for those that do not have a car.

Recommendation 2: Municipalities should plan for and provide sustainable and accessible transport routes to green spaces in and near urban areas.

Protecting spaces

Communication is the key to effectively protecting green spaces, particularly when there are people visiting a space for the first time. There should be clear signage indicating the footpaths, and sufficient provision of bins to discourage littering.

In some cases, it may be necessary to limit access to certain areas, for example to protect unique biodiverse habitats or to allow certain areas to recover from overuse, by fencing areas off for all or part of the year. Again, this should be accompanied by clear signage and a public education campaign to explain the reason. Signs could be accompanied by explanatory boards explaining why access is limited from an ecological perspective, outlining the importance of those green features to the biodiversity of the area and how it functions with the rest of the local ecosystems. For example, there could be signs by a protected flowering meadow that explains its functions for biodiversity, water management, soil systems etc. Rather than just prohibiting access, visitors would learn why it is important to protect those spaces and thus increase engagement and promote respect towards nature.

Recommendation 3: Municipalities should provide information for visitors on how to use green spaces, including, for example, explaining why access to certain areas may be restricted to protect the wildlife.



Case study: Coosebean Valley, Cornwall Council



The Coosebean Valley greenspace is 18 hectares of green space land on the edge of Truro that includes river frontage, broadleaf woodland and wild grassland. Whilst the area was rich in nature and there was a cycle path to enable residents to travel through it, the valley was neglected with some anti-social behaviour and little access for residents. The land was then devolved to Truro City Council by Cornwall Council and a Countryside

Ranger post was created in 2019 to look after the land and encourage use of the Coosebean space.

During the lockdown period, the area became very popular. At the start of the project, people were encouraged to access the site and use the many formal and informal paths. A local resident also helped to create 'fairy doors' (miniature doors added to trees) laid out in a trail to encourage families to use the site. Many new users were encouraged, and many established residents 'discovered' the site for the first time.

The number of people using the site rapidly increased and it became apparent that this scale of usage was impacting the health of the site and nature. There were also some anti-social behaviour issues with wildlife areas trampled, littering and fairy doors and installations destroyed. The warden set up a 'Friends of Coosebean' group and worked with volunteers to create new paths away from important habitat, encourage wider controlled exploration of the site, reduce damage from dog walking and improve habitat. This included balancing accessibility to some areas, tree planting and creation of dead hedges and natural structures to guide users. Some additional funding has also been released for activities in recognition of the impacts on the site and its growing importance in the lives of residents.

The increase in access to Coosebean and to other wild spaces during the pandemic added to the importance that residents place on them. The site remains busy, and activities to nurture wildlife, educate and promote active involvement and volunteering have all increased. There are regular volunteering opportunities to encourage a sense of ownership by residents and visitors. A greater sense of community involvement has reduced anti-social behaviour and increased the sense of pride that residents and visitors feel for this diverse greenspace.

Further information may be found at:
<https://www.visittruro.org.uk/things-do/wild-truro>

Improving accessibility for all

The COVID-19 pandemic also revealed the stark challenges of accessing green infrastructure for many. Studies reflected that the quality, functionality and location of green infrastructure in urban areas illustrated a disparity in distribution; meaning that in many cases, communities with higher ethnic diversity, lower income and greater health inequality suffered from insufficient access⁶. It is crucial that policymakers and municipalities take this as an opportunity to improve accessibility for those in more deprived communities.

This is a topic that will be covered in an upcoming PERFECT publication on health inequalities and access to green infrastructure.

How can municipalities manage and resource green infrastructure going forward?

Sustaining public interest

Green infrastructure played a unique role during the COVID-19 pandemic and many people realised the potential that it has for benefitting mental and physical health. Municipalities must recognise that the role of green spaces is just as important in the post-pandemic world,

⁶ Access to Nature in a Post Covid-19 World: Opportunities for Green Infrastructure Financing, Distribution and Equitability in Urban Planning. Available here: <https://pubmed.ncbi.nlm.nih.gov/33562711/>

particularly for improving levels of mental and physical health and in addressing the climate crisis.

Municipalities should continue to encourage community engagement and continue to promote the provision of green spaces; this can be achieved through a variety of ways. For example, by organising cultural events in parks, arranging sports activities for children and adults, promoting the use of “pocket parks” so people can access them easily and encouraging community activities like gardening.

Recommendation 4: Municipalities should organise events and activities to encourage people to fully use their local green spaces.

Municipalities should collect data about how green spaces are being used and consult the park users and the wider community about what they would like from their local green spaces. This information can also help to recognise the economic value of green infrastructure, which will help make the case to increase investment in parks.

Recommendation 5: Municipalities should consult local residents on what they would like from their local green spaces and collect data about how the spaces are being used.

Case Study: Making Space for Nature (Green Infrastructure for Growth 1 and 2), Cornwall



Making Space for Nature has improved 57 sites in 14 towns across Cornwall, resulting in 74 hectares of public spaces enhanced for biodiversity and people. This £6.5m European Regional Development Fund project (April 2017 to Dec 2022) sets out to improve the ecological and social value of Cornish urban green spaces including parks, small green spaces, road verges, closed churchyards and cemeteries. It aims to increase biodiversity and improve the cultural, provisioning and regulating ecosystem services provided by sites; mitigating the effects of climate change by storing carbon and creating a more flood resilient landscape; linking urban green spaces within the wider landscape for wildlife and for active travel; and enhancing people's engagement with and experience of nature on their doorstep.

Lockdown restrictions made the improved areas much more popular and provided a good opportunity for locals to become more familiar with the improvements made under the project, experience the changing seasons and deepen relationships with their local green spaces. The ban on indoor socialising encouraged greater social use of outdoor space. Seating provision and spacing became more important to users and has increased the time people spend in these green spaces. An urban ranger was added to the team, to harness green volunteer power, encourage more people to use the sites, support community buy-in and to help improve the exit strategy for long term management.

Whilst the lockdown period slowed down the project delivery, it allowed a period of reflection on the management of spaces, more people to discover the improved spaces and reduced mowing regimes on urban verges and other small areas of land, with a positive response from the public and increases in biodiversity. This accelerated the public experience of and subsequent acceptance of meadow management mowing regimes. Interviews with users revealed that the use of the spaces during lockdown increased the value and connection felt towards the spaces.

The use of the improved greenspaces was promoted with post-lockdown community events in summer 2021 and was reviewed by the European Centre for Environment and Human Health - this provided evidence of the positive environmental and social outcomes from the combination of physical improvements and social interventions on the sites and helped demonstrate the positive link between nature and health.

Further information may be found at:

<https://www.cornwall.gov.uk/parks-leisure-and-culture/parks-and-open-spaces/making-space-for-nature>

Making the case for green infrastructure

Policymakers need to engage directly with the evidence attributing an economic and social value to green infrastructure and ensuring that investment towards green infrastructure is maintained in the long term. This means that the benefits to health, climate change, water management and economic uplift associated with green infrastructure can be valued to ensure it gets considered an essential form of urban infrastructure. There is a lot of evidence available that showcases the value that green infrastructure demonstrates for investment. By engaging with a range of stakeholders and using the language of economic benefits, policymaking can be influenced to ensure the long-term investment of green infrastructure⁷. The pandemic demonstrated that there was a high demand from the public to access nature, policymakers cannot ignore it.

Now is the time to push for green infrastructure to be considered ‘essential infrastructure’ and to embed its development within all policy to ensure all have access to it. This will require strong leadership, sustained funding and clear legislation, but urban areas are in the unique position to promote the equitable access and the benefits of green infrastructure for all. The PERFECT partnership published an Expert Paper on ‘what does good infrastructure policy look like’⁸ which provides a hybridised green infrastructure policy tool which assesses the multi-functionality and strength of green infrastructure policy wording. This tool can help policymakers make the case for why green infrastructure is needed and how to overcome the multiple strategic challenges to deliver it.

Ensuring long term investment

The Covid-19 pandemic has posed a unique opportunity to further understand and communicate the benefits of green infrastructure, which helps to make the case for additional funding to be released from central and local governments for green infrastructure. Commentators argue that this might facilitate a reconsideration by central government of the value of nature and promote engagement with the evidence base of supporting the economic, sociocultural and ecological benefits of green infrastructure⁹.

⁷ Access to Nature in a Post Covid-19 World: Opportunities for Green Infrastructure Financing, Distribution and Equitability in Urban Planning. Available here: <https://pubmed.ncbi.nlm.nih.gov/33562711/>

⁸ Available here: <https://tcpa.org.uk/resources/expert-paper-what-does-good-green-infrastructure-policy-look-like/>

⁹ Access to Nature in a Post Covid-19 World: Opportunities for Green Infrastructure Financing, Distribution and Equitability in Urban Planning. Available here: <https://pubmed.ncbi.nlm.nih.gov/33562711/>

Funding from national governments should prioritise funding for green infrastructure linking to health, wellbeing and climate change. If municipalities have financial support from national government, it will enable them to make long-term commitments to green infrastructure funding which would bring further benefits to residents. Additionally, central government funding would help municipalities to attract funding from other types of sources like corporate sponsorship or local businesses.¹⁰

Economic analysis of the multiple benefits of green infrastructure projects provides a rationale for a significant increase in funding for green infrastructure delivery and management. It also provides the justification for the diversification of funding sources. There is plenty of available evidence and now policymakers need to take the current context as an opportunity to increase financing green infrastructure. For more information on how to make the case for increase in finance, read the PERFECT expert paper on ‘Investment finance for green infrastructure’¹¹

¹⁰ For policymakers in the UK, the TCPA has pulled together a list of funding resources for local authorities and community groups on where to access funding for green infrastructure. Available here: <https://www.tcpa.org.uk/funding-sources-for-green-infrastructure>

¹¹ Available here: <https://tcpa.org.uk/resources/expert-paper-investment-finance-for-green-infrastructure/>
