

Integrating Green Infrastructure

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Integrating Green Infrastructure in the Chicago Region

Green infrastructure provides many critical functions that promote the health and vitality of communities and the region overall. Green infrastructure is often defined differently according to scale. At the regional scale, interconnected natural areas make up the region's green infrastructure network and provide important conservation landscapes for high-quality ecosystems. At the community level, smaller parks and open spaces are provided by municipalities and park districts primarily for recreation and aesthetic benefits. At a site scale, green infrastructure includes site-specific landscaping to provide ecological services, as well as best management practices (BMPs) for stormwater management that use vegetation, soils, and natural processes to mimic natural ecological functions. Together, regional, community, and site scale green infrastructure can provide places for recreation, habitats for native flora and fauna, air pollutant filtration, flood reduction, and groundwater recharge—just to name a few functions.

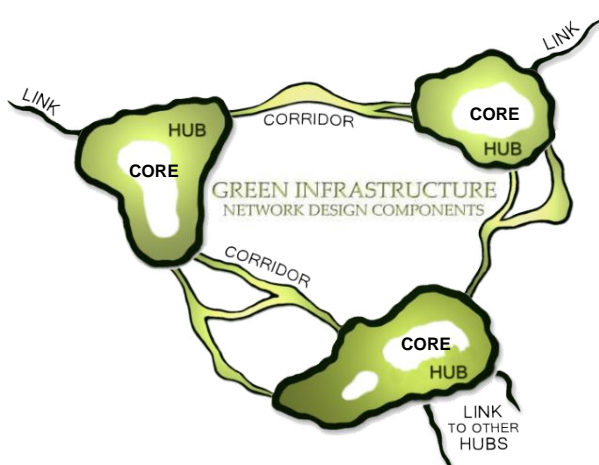
This strategy paper provides a policy framework for addressing green infrastructure in ON TO 2050, the next comprehensive regional plan for metropolitan Chicago. The policy directions in this paper build on the prior GO TO 2040 plan and aim to refine the broad nature of those earlier green infrastructure recommendations by providing additional specificity about how such methods can be implemented at various scales. This report's overarching policy framework integrates the lessons learned from regional stakeholder engagement, review of the GO TO 2040 plan and implementation achievements, and national best practices research. CMAP's Environment and Natural Resources and Land Use Working Committees -- along with other regional partners such as Chicago Wilderness -- provided key input into the scope, direction, and content of this strategy paper. Discussions with these stakeholders brought to light the achievements, challenges, and remaining barriers for green infrastructure implementation since GO TO 2040 was adopted. CMAP staff also conducted a review of green infrastructure best practices at other regional planning agencies across the country to identify effective approaches that can be applied to the Chicago region. The following recommendations will serve as a roadmap for future agency research on green infrastructure policy, and they may also serve as a foundation for the eventual narrative on green infrastructure to be included in the next comprehensive regional plan.



Green infrastructure in GO TO 2040

GO TO 2040 addresses the various scales of green infrastructure in different ways (detailed in Appendix A of this strategy paper). At the regional level, the plan calls for preserving the most important natural resources in the region and increasing acres of conservation open space from 250,000 acres in 2010 to 400,000 acres by 2040. At the community level, the plan recommends improving access to park space for all residents. The target for this goal is for all residents to have access to four acres of park land per 1,000 people, and for 70 percent of residents to have access to 10 acres of park land per 1,000 people by 2040. GO TO 2040 also recommends linking regional open space areas and local parks via functional connections using the [Green Infrastructure Vision](#) (GIV) and [Greenways and Trails Plan](#) as guides. The GO TO 2040 plan calls for increasing new greenway mileage by 1,348 total miles by 2040. Lastly, at the site scale, GO TO 2040 emphasizes the importance of green infrastructure BMPs as part of stormwater management and integrated land use and site planning. The plan does not set a direct target corresponding to this recommendation.

Figure 1. Green Infrastructure Network Design Components



While these policies broadly cover the application of green infrastructure at different scales, there is room to further explore the intersections between these policies, as well as the potential co-benefits of various green infrastructure strategies. For example, the plan's conservation recommendations have been helpful for framing large-scale conservation efforts in the region. However, the GIV, which identifies the core lands, hubs, and corridors (illustrated in Figure 1) that form the basis of our regional green infrastructure network, includes very little land within urbanized areas, leaving these communities without clear guidance for managing their green spaces and locally adapting green infrastructure practices. In addition, GO TO 2040 focuses primarily on increasing acreage of conservation open space, rather than the ecological functions that conservation lands could provide.

A logical expansion for GO TO 2050 is to better connect recommendations for our region-wide green infrastructure network with community-scale green infrastructure practices that can better apply to varied community contexts. Refinement of those green infrastructure recommendations can provide an approach for the spectrum of contexts -- from rural to urban -- found throughout northeastern Illinois.



Proposed policy refinement framework

The following proposed framework to refine green infrastructure policy in ON TO 2050 would provide more comprehensive guidance for various contexts. Across these policy refinements, new emphasis will be given to the multiple potential benefits of green infrastructure, from public health to climate resilience to placemaking. This framework relies on the core-hub-corridor model used in GO TO 2040 (illustrated in Figure 1 above). In this model, core landscapes represent the highest quality ecosystems that provide important habitats for native wildlife. Ideally, core landscapes are surrounded by hubs that provide ecological buffers to protect core ecosystem functions. Hubs may include a range of land uses, but still provide mostly contiguous natural landscapes. Corridors serve as the connective tissue between hubs. Corridors allow for plant and animal species alike to migrate across the region, increasing biodiversity and reducing fragmentation and isolation of ecosystems, as well as potential routes for recreational trails. These components are the building blocks for a healthy, connected regional green infrastructure network and are essential for fostering ecosystems that can thrive in a changing climate.

This refined green infrastructure policy framework is structured around four key themes based on the core-hub-corridor model to address multiple scales of green infrastructure in the region.

- 1. Protecting ecological cores.** Large, high-quality landscapes serve as the building blocks of the region's ecological network. Building on the strong conservation targets from GO TO 2040, the next plan can develop a systematic approach for identifying and protecting the highest priority areas for conservation in the region. Furthermore, community- and site-scale green infrastructure can support conservation goals by providing distributed buffers around high-quality conservation areas and provide important ecological functions in built-out areas with limited opportunities for new parks.
- 2. Encouraging green infrastructure in community-scale green spaces.** At the community scale, GO TO 2040 calls for increased park access for all residents in the region. Whether managed by municipal governments, park districts, or private landowners, parks and other green spaces are important community assets. The implementation of this recommendation thus far has primarily considered access to parks for recreational purposes. ON TO 2050 presents an opportunity to use formal park lands and other privately owned green spaces to support a wider range of ecosystem functions such as carbon sequestration, stormwater management, and air quality improvement. These benefits, which can be integrated in the development of new parks or as part of existing park retrofits, can ensure that increased park access also includes provision of multiple community benefits.
- 3. Greening hardscapes.** Urban, suburban, and rural communities can all strive to incorporate site-scale green infrastructure on traditional hardscapes, such as parking lots and transportation rights of way. In more urban areas, green infrastructure can be used to mitigate flooding and improve public health outcomes in lieu of large park spaces. On developed lands adjacent to large, high-quality natural landscapes, site-scale green



infrastructure can also be integrated into site developments to help protect, buffer, and connect ecological cores.

- 4. Account for co-benefits.** Communities across the region are faced with many resource constraints. Environmental issues are often put on the backburner in favor of other priorities. Since GO TO 2040, new national and local studies demonstrate the range of benefits, from public health to placemaking, and show the multi-faceted ways that green infrastructure improves quality of life. With a more complete understanding of the value of green infrastructure, communities can better prioritize green infrastructure investments alongside other decisions. While this aspect does not itself make up a new policy direction, the refined green infrastructure policy will articulate benefits that can be provided by green infrastructure and explore guidance for assessing ecological benefits of various planning decisions.

Themes of Green Infrastructure Co-Benefits

The remainder of this strategy paper identifies key concepts and considerations for each area of policy refinement.

1. Protecting ecological cores

To augment the existing GO TO 2040 goal of increasing the acreage of conservation open space, the new plan can refine the method of determining priorities for conserving high-quality landscapes and recommend strategies that provide better ecological buffers for these priority natural areas. Together, these additional approaches will help ensure that the region's most sensitive natural resources can continue to provide important ecological functions.

Identify and protect high-quality landscapes

The building blocks that comprise our regional green infrastructure network include high-quality core natural areas, surrounding hubs that buffer the core areas, and corridors that provide important connections between landscapes.¹ This framework formed the foundation of the [GIV 2.0](#). The current GIV approach has been useful for identifying important natural assets in the region and assessing basic ecological characteristics of those areas, but the process for determining the cores, hubs, and corridors could be improved. First, most of the underlying datasets used to define the GIV layers are out of date—some by about a decade. Second, the current GIV does not differentiate between the on-the-ground green infrastructure conditions and the aspirational or restorative potential of lands that make up the visionary aspect of the GIV. Both components are equally important, but differentiating between them remains an ongoing challenge. A refined policy framework should clearly identify both the existing green infrastructure conditions and the regional vision for green infrastructure as distinct but related components. The existing conditions data can be used to identify important core landscapes to protect, while the visionary aspects can be used to prioritize community- and site-scale

¹ American Planning Association, "Green Infrastructure Planning: Recent Advances and Applications," PAS Memo, May/June 2009, <https://www.planning.org/pas/memo/open/may2009/>.



strategies for restoration and conservation in ecological hubs and corridors. The data may also be used to inform performance-based programming for capital projects to ensure that infrastructure does not fragment or impair the region's most important natural assets. Together, these layers can provide context-appropriate and practical strategies for strengthening the natural assets in the region.

To better identify current conditions on the ground, CMAP has updated the data underlying the GIV and now provides this information to the public through a [Natural Resources Inventory](#). The inventory is expected to be regularly updated so that decision makers around the region can access the most up-to-date ecological information in planning processes. CMAP is currently comparing the updated data with existing municipal, county, and forest preserve conservation and green infrastructure plans to identify potential areas of priority. The Natural Resources Inventory represents a first step to improved identification of high-quality natural landscapes. In the future, CMAP may use this information to potentially derive regional priorities for conservation areas.

Provide ecological buffers for core landscapes through strategic placement of community- and site-scale green infrastructure

Conservation practices should not exclusively focus on the preservation of large open spaces. While core areas provide a rich array of ecosystem services, their functions can be greatly diminished when they are isolated or fragmented by development. Green hubs provide important lines of defense that enhance ecological functions of core landscapes. Community-scale and site-scale green infrastructure can be employed in hubs to help maintain the ecological integrity of those high-quality landscapes. This strategy supplements the existing regional conservation strategy and provides implementation guidance that is relevant to a wider range of suburban communities.

Ideally, the design and location of both community- and site-scale green infrastructure should be appropriate for the types of ecosystem services that are most relevant for the context. Land use planning can be an effective tool for establishing setbacks and buffers to protect valuable natural areas as well as to reduce fragmentation by roads or development footprints. Additional techniques can be applied in floodplains to reduce the impact of flooding on properties. These community-scale practices can also be paired with site-scale green infrastructure. In growing communities with sensitive aquifer recharge areas, for instance, subdivision ordinances can permit flexible site design to limit development in these areas, and site-scale green infrastructure practices can further reduce impervious cover and promote clean rainwater infiltration. Community-scale green infrastructure interventions to bolster hubs can also promote restoration practices. Areas to target for restoration can be determined by identifying key underlying ecological characteristics, such as soil types, that make them prime locations for restored wetlands and other native ecosystems. Effective buffers can also reduce the susceptibility of core landscapes to invasive species, and with more native and diverse landscaping standards, enhance ecosystem resilience against diseases, such as emerald ash borer and Dutch elm disease.



CMAP may explore broad guidelines to identify hub areas in ON TO 2050, but it will ultimately be the role of local governments to determine the appropriate suite of community- and site-scale green infrastructure that can best protect the high-quality natural resources in their communities.

2. Encouraging green infrastructure in community-scale green spaces

The community-scale green infrastructure recommendations in GO TO 2040 focus primarily on the recreational benefits of parks, but many other relatively large green spaces exist at the community level, such as common open space in subdivisions, golf courses, and institutional campuses. Opportunities exist to expand the benefits provided by park spaces, as well as to increase green infrastructure on other types of community-scale green spaces.

Increase co-benefits provided by parks

Parks are important places of recreation that contribute to improved health outcomes. These spaces also have an opportunity to provide many other environmental benefits and can even be intentionally designed to better capture ecosystem services. Because parks are community assets, it is important that the co-benefits provided by park spaces are compatible with public uses. For instance, stormwater management techniques employed in parks may be designed to be compatible with human activity, such as a naturalized wetland rather than a detention ditch, or to serve dual purposes, such as a sunken ballfield that can effectively absorb stormwater. Drought- and flood-tolerant landscaping may also be designed to provide a welcoming environment, contributing to aesthetic and placemaking benefits, water supply management, as well as climate resilience. The lead implementers for this strategy direction are local entities, including municipal governments, park districts, and other units of government that own or manage park spaces.

Incorporate green infrastructure on non-parkland green spaces

Communities typically include many types of green spaces outside of formalized park space, such as those within golf courses, institutional campuses, office parks, subdivisions, and backyards. There are significant opportunities to include green infrastructure practices in non-traditional areas, yet these lands have not typically been targeted as opportunity areas for green infrastructure. Green infrastructure practices on private lands or rights-of-way can provide ecological buffers in hub areas, as well as strengthen ecological corridors that connect high-quality regional cores. Community programs, such as incentive programs and partnerships, can build awareness and capacity of private landowners to implement green infrastructure practices. The [Space to Grow](#) program is one example of an innovative partnership to retrofit Chicago schoolyards with green infrastructure for recreation, outdoor learning, and community engagement. The program was made successful due to a unique collaboration between Openlands, Chicago Public Schools, the Chicago Department of Water Management, and the Metropolitan Water Reclamation District of Greater Chicago. In addition, municipalities could require that green infrastructure co-benefits are integrated into open space areas for new developments and significant redevelopments. With more landowners educated about and engaged in green infrastructure, communities can begin to build out a stronger distributed



green infrastructure network. The implementation of this strategy should focus on partnerships between municipalities and public and private landowners. Chicago Wilderness has reflected this need by identifying landowners as one of its six major focus areas.

Use site-scale green infrastructure to connect ecological cores and community-scale green spaces

The open space and park access goals in GO TO 2040 have been difficult to implement in built-out communities that have limited ability to create new parks. GO TO 2040 acknowledges this challenge and briefly mentions exploring creative, low-capital ways to provide park access. In practice, this has still remained a challenge. ON TO 2050 can refine the park access policy by providing more specific recommendations on how to address park access in areas with limited open space opportunities, particularly in highly urbanized areas. Examples may include pocket parks on vacant residential lots or publicly accessible parklets on private lands. The Method Products soap factory in the Pullman neighborhood of Chicago is an example of a modern industrial facility that features several environmental features and landscaping in an open campus design.² Local governments may explore opportunities to incentivize private developers to incorporate publicly accessible green spaces in a similar way.

This strategy can be particularly helpful when new park spaces are not an option to encourage communities and developers to consider site-scale green infrastructure design as an alternative. Site-scale green infrastructure can be designed to address broader community needs and priorities that are typically provided through parks and open spaces, such as recreation, air quality improvement, and placemaking. Local municipalities and transportation or public works departments can integrate green infrastructure practices into boulevards, street trees, and urban forestry to transform the public realm. While they cannot provide all the functions of open spaces, they can still foster active transportation, passive recreation, and programming in places underserved by parks. This concept need not diminish the targets for open space and conservation, but it can instead supplement those goals in land-constrained communities that may not see new open spaces as a feasible strategy.

3. Greening hardscapes

From rural to urban settings, impervious surfaces such as roads, rooftops, and parking lots are ubiquitous and necessary components of our regional landscape. As of the latest regional measurement in 2012, the region had 556,000 acres of impervious cover.³ Hardscapes have significant impacts on aquatic ecosystems, ecological integrity, and human health. Impervious surfaces contribute to flooding by preventing infiltration, increasing flows to our waterways, and overwhelming drainage systems. Hardscapes also contribute to urban heat island effect. A regional analysis of land surface temperature shows that lands with high- and medium-

² Learn more about the Method Products soap factory at <http://methodhome.com/beyond-the-bottle/soap-factory/>.

³ CMAP Regional Indicator Methodology, GO TO 2040 Update Appendix: <http://www.cmap.illinois.gov/documents/10180/332742/Update+Indicator+Methodology+FINAL.pdf/720e4b90-0058-4d27-bdff-e898cdf3fb2b>



intensity development are 5 to 6 degrees Fahrenheit warmer than the regional average. More vegetated land cover classifications, such as forests and wetlands are consistently 1 to 2 degrees Fahrenheit cooler than the regional average.

Practices to green the hardscapes can mitigate the effects of flooding and urban heat island, while also providing a variety of other ecological functions to places that lack greenery. The following strategies provide recommendations for reducing the rate of creation of impervious surfaces in new developments and redevelopments, while also retrofitting existing hardscapes to be greener.

Reduce the rate of impervious surface creation

GO TO 2040 sets a target for reducing the rate of impervious surface increase to 640,000 acres by 2040 and presents two recommendations for reaching this target: integration of land use policies, site planning, and water resources; and stormwater infrastructure retrofits. The common thread connecting these recommendations is their focus on site-level, land use-based strategies that reduce imperviousness, help to better manage stormwater, and improve water quality. Counties and municipalities have made significant strides in allowing green infrastructure practices and disconnecting impervious surfaces from discharging into waterways, but they are still not implemented as part of everyday practice. These recommendations are still relevant for 2050, but there is room to strengthen the relationship of these site-scale strategies to region-wide environmental goals for impervious coverage.

The implementation of this strategy hinges on collaboration among many partners involved in economic development, land use and site planning, conservation and restoration, and stormwater management. The region's urbanized areas are highly impervious (see Figure 2). Regional policies addressing infill and reinvestment call for denser and more compact development in key locations as well as broad revitalization of existing communities. These policies should also be recognized as essential to reducing the creation of additional impervious surfaces.

While urban centers come most readily to mind as being highly impervious, suburbs in the collar counties are actually experiencing the fastest rates of imperviousness creation (see Figure 3). In turn, growing communities have some of the biggest opportunities to incorporate green infrastructure design during new construction and minimize the creation of new impervious surfaces from the outset. Sites slated for development can adopt compact site-design practices and incorporate site-scale green infrastructure from the initial design phases to reduce the generation of new impervious cover.

Incorporate site-scale green infrastructure into existing hardscapes

As more communities are being affected by urban flooding -- largely resulting from high levels of impervious surface, overwhelmed drainage systems, and increasingly large storm events -- strategies that reduce the amount of impervious surface and retain and slow down the runoff of water through green infrastructure systems will be essential to reducing damages and impacts to quality of life. However, these solutions will need to be located strategically and integrated



into largely built out communities. Infill and redevelopment, under new stormwater management ordinances, are increasingly incorporating site-scale green infrastructure, yet significant improvements in water and air quality, reduced stormwater volumes, and an enhanced urban tree canopy would require very extensive retrofits. Additional opportunities exist to incorporate site-scale green infrastructure and should be prioritized based on the rate of change feasible in already built communities.

One of the most significant opportunities for green infrastructure retrofits within existing transportation rights-of-way, given their often shorter design life than buildings as well as their ownership by public entities. Many regional stakeholders (including CMAP) have explored strategies to integrate green infrastructure design into roadway design, transportation rights-of-way, parkways, and parking lots. For instance, CMAP's LTA program is working with the Village of Midlothian to incorporate green infrastructure and "[complete streets](#)" approaches within the 147th Street right-of-way. These spaces, often overlooked in traditional site planning, offer creative opportunities for on-site stormwater management that can filter and absorb runoff directly from adjacent impervious surfaces. Local stormwater utilities and departments can play a significant role in identifying opportunity areas for site-scale infrastructure to mitigate flooding in existing hardscapes. State and local departments of transportation and other transportation managers, counties, and communities can integrate this concept with the capital planning process as they build or repair transportation and utility infrastructure.



Figure 2. Percent of regional imperviousness, 2011

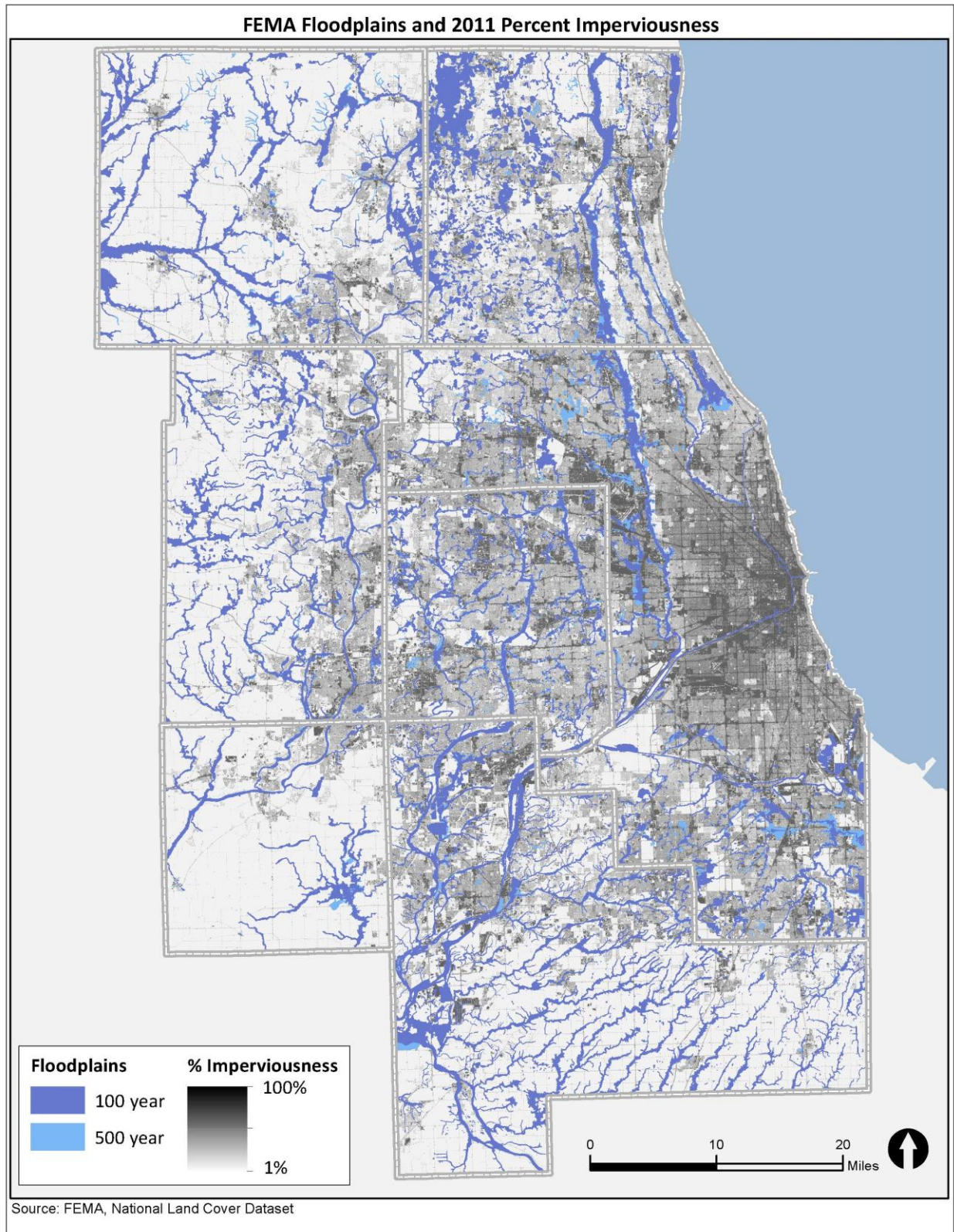
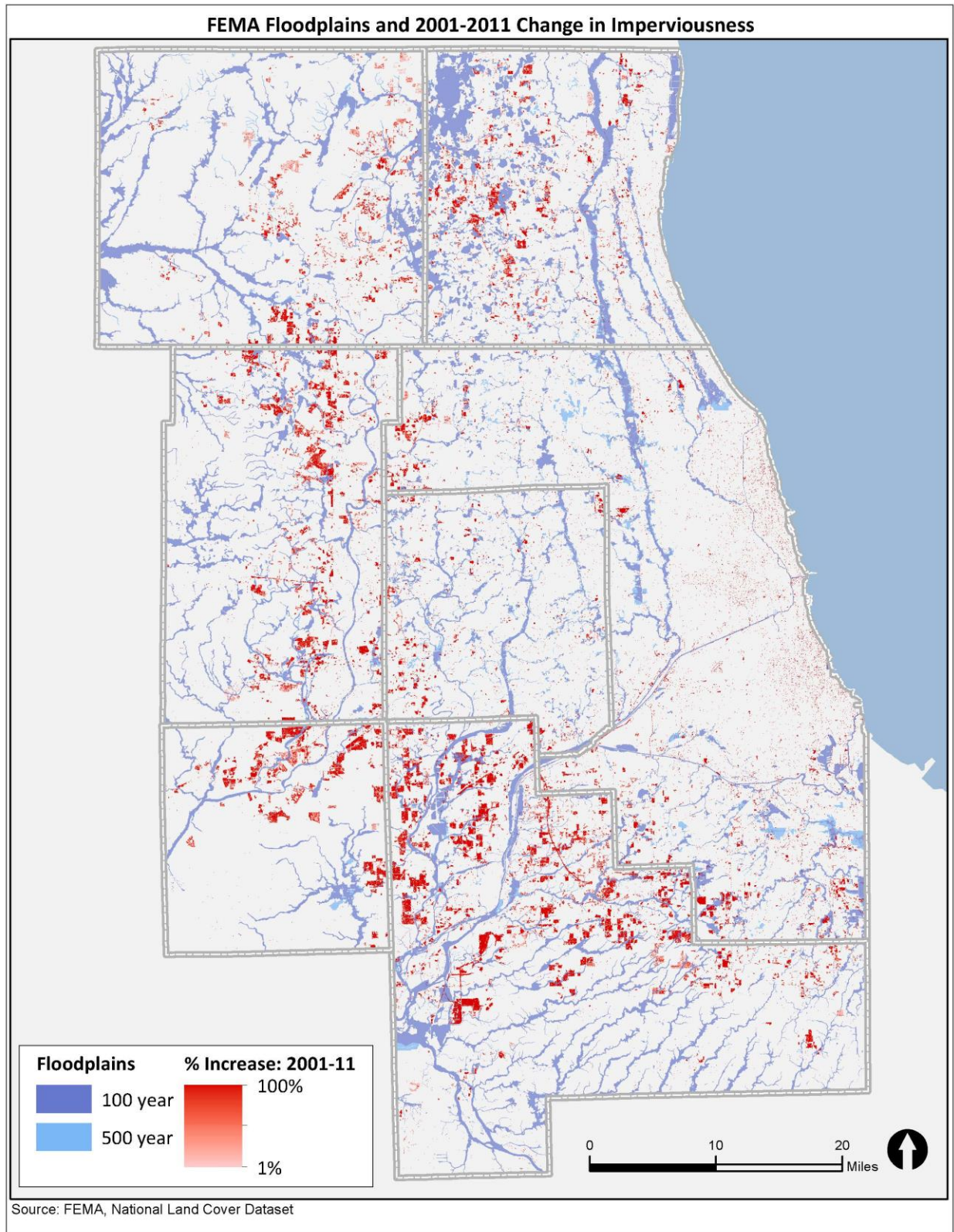


Figure 3. Change in regional imperviousness, 2001-11



4. Accounting for co-benefits

Financial constraints often make it difficult to champion environmental priorities. By demonstrating the economic contributions of natural resources to society, ecosystem service valuation can be an important tool for advocates and implementers to make the case for environmental investments.

As a growing body of research shows, green infrastructure at all scales improves quality of life in important ways: better air quality and public health, enhanced placemaking, reduced urban heat island effect, more recreational opportunities, better resilience to climate change, and many others. A recent study found that 813,970 acres of land identified in the GIV contribute about \$6.4 billion of economic value to the region for flood control, water purification, groundwater recharge, and carbon storage.⁴ The following concepts provide a new framing that builds the case for green infrastructure as a flexible strategy for addressing multiple needs.

Assess the ecosystem service value of green infrastructure

Since GO TO 2040, many stakeholders in the region have begun to use ecosystem service valuation studies to highlight the importance of green infrastructure policies at local and regional scales. CNT published a Green Values Stormwater Calculator that provides monetary estimates of site-scale BMPs. CMAP also supported an ecosystem service valuation study for lands within the GIV. Such analysis can strengthen the case for green infrastructure in any community context and help connect green infrastructure strategies with other aspects of land use and development. The GIV ecosystem service valuation analysis has only been used in a handful of local planning activities, but initial feedback indicates that community partners find it effective to demonstrate the value of green infrastructure in economic terms to multiple decision makers who have many competing priorities for investment. In fact, the ecosystem service valuation for the McHenry County Consolidated Economic Development Strategy showed how the value that green infrastructure provided for flood control, water purification, groundwater recharge, and carbon sequestration was equal to 18.5% of the total equalized assessed value (EAV) and five times greater than the farm EAV of the county in 2014. This led to a greater understanding of the value of green infrastructure to McHenry County's economic vitality and quality of life.

As CMAP determines how to balance a multitude of priorities in the ON TO 2050, ecosystem service valuation can be used to frame the importance of green infrastructure resources as a part of a thriving region.

Conduct further research on non-monetary methods of assessing green infrastructure co-benefits

As helpful as it is to estimate monetary contributions of green infrastructure, it can also be incredibly difficult to place a dollar value on many of its quality-of-life benefits. In addition, ecosystem service valuations only focus on a discrete number of ecosystem functions. The GIV

⁴ GIV 2.3 Ecosystem Service Valuation. The Conservation Fund, 2014. Using ArcGIS Version 10.2. Redlands, CA: Esri. 2014. <https://datahub.cmap.illinois.gov/group/green-infrastructure-vision>.



study, for instance, only provided economic estimates for four services. Because it is impossible to evaluate every contribution of green infrastructure to society, ecosystem service valuation estimates always underestimate the true value of green infrastructure. Further research on the non-monetary ecological and social benefits of green infrastructure can provide a more holistic approach to understanding co-benefits. Analysis that CMAP has begun on urban heat island effect and climate resilience, as well as research by the Chicago Regional Trees Initiative on urban forestry, are just some examples of efforts that can improve regional information and data on green infrastructure co-benefits. This research can potentially inform any refinements to green infrastructure targets and indicators for the next plan.

Explore approaches to account for green infrastructure co-benefits in evaluation of planning decisions

A better understanding of the monetary and non-monetary co-benefits of green infrastructure can be used in evaluation of major capital projects, transportation investments, and other planning decisions. Several existing regional efforts require the consideration of positive and negative environmental impacts. The Congestion Mitigation and Air Quality program, for instance, requires all potential projects to be assessed for their air quality benefits. Major capital project evaluation considers whether projects could spur development contrary to the GIV or increase impervious surfaces and greenhouse gas emissions.

With more data on green infrastructure co-benefits, CMAP will be able to more effectively promote projects that maximize co-benefits as part of its approach to performance-based funding. Assessments of various planning decisions can better account for positive and negative ecological impacts for these and other planning decisions. CMAP is currently exploring ways to improve ecological assessments of major capital projects, but the agency should investigate additional opportunities to improve ecological considerations for other transportation programs, as well as wastewater facility siting and planning through CMAP's designated role as the [Areawide Water Quality Planning Agency](#).

Next Steps

CMAP will use the policy framework presented in this strategy paper to shape upcoming plan development work that will identify actionable strategies and relevant indicators to advance green infrastructure goals. Because such strategies relate to many aspects of planning, from conservation to stormwater management to climate resilience, CMAP expects to closely align work associated with this strategy paper with other pertinent plan development tasks to create a cohesive approach to these issues in ON TO 2050.

However, CMAP cannot achieve the region's green infrastructure goals alone. The implementation of effective green infrastructure practices will require a collective effort with many partners across the region. To that end, CMAP will begin conversations in the near term with relevant partners to vet and collect feedback on the framework, determining how the agency's approach might coincide with other entities' priorities.



Appendix: GO TO 2040 green infrastructure recommendations

GO TO 2040 Recommendation	Additional Details
<p>Integrate land use policies and site planning with water resources</p>	<ul style="list-style-type: none"> • Developers, governments, and county stormwater agencies should use green infrastructure for stormwater management and site planning. • Explore user fees for stormwater maintenance. • Use infill or redevelopment as opportunities to promote retrofits with green infrastructure. • Require maintenance plans in the stormwater management permitting process that specify maintenance activities and indicate responsible parties. These plans should be transferrable with property deeds. • Take advantage of the IEPA administered Clean Water State Revolving Fund (CWSRF) Green Project Reserve to finance green infrastructure implementation. • Barriers to implementation include lack of regional performance data and lack of mechanisms for long-term financing.
<p>Encourage watershed planning and stormwater retrofits</p>	<ul style="list-style-type: none"> • Watershed plans should promote stormwater retrofits through green infrastructure. • We should strive to develop watershed plans that cover all the watersheds in the region. • Local governments with stormwater authority should consider charging dedicated user fees to cover costs of maintenance. • Green infrastructure can help disconnect impervious areas from waterbodies. • Barriers for implementation include the need for increased commitment from county stormwater committees to support watershed-based planning and capital improvements for stormwater retrofits.
<p>Provide more parks in developed areas to increase park accessibility</p>	<ul style="list-style-type: none"> • Parks should be publicly accessible. • Newly growing communities should adopt best practices for developer donations. • Local governments should collaborate to provide additional parks in underserved areas. • In developed communities, use redevelopment as



	<p>an opportunity to provide more park space by leveraging private investments. Open space impact fees can be applied during redevelopment, but should not discourage development.</p> <ul style="list-style-type: none"> • Use funding for park development capital projects and match for state and federal grants. • Glean economic development opportunities from parks projects, such as greenway trails. • Find creative low-capital ways to provide parks, such as school grounds or closing low-traffic streets or removing parking lots. • The primary challenge to implementation is providing land in already-developed places where it is needed most.
<p>Preserve most important natural areas in the region</p>	<ul style="list-style-type: none"> • Coordinate investment in land protection within the GIV. Two-thirds (100,000 acres) of the conservation target should happen within GIV Resource Protection Areas. • Additional acreage can come from state or federal acquisitions, park district protections, land trusts, and conservation easements. • Reexamine funding criteria and grant scoring systems to align with overarching goal of connected green infrastructure network. • Secure funding for strategic conservation, maintenance, and restoration. • Capitalize on volunteer efforts. • Look at agriculture preservation as next best strategy to open space conservation.
<p>Provide functional connections between parks and preserves, using the GI network as a design concept</p>	<ul style="list-style-type: none"> • Greenways and Trails Plan should be expanded to help connect parks and preserves. • The Greenways and Trails Plan should look at other kinds of open space connections, including waterways (see, for instance, the Openlands IL Regional Water Trails Plan).



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The Chicago Metropolitan Agency for Planning (CMAP) is our region's official comprehensive planning organization. The agency and its partners are developing ON TO 2050, a new comprehensive regional plan to help the seven counties and 284 communities of northeastern Illinois implement strategies that address transportation, housing, economic development, open space, the environment, and other quality-of-life issues. See www.cmap.illinois.gov for more information.

ON TO 2050 strategy papers will explore potential new topics or refinements to existing GO TO 2040 recommendations. These documents and data-driven snapshot reports will define further research needs as the plan is being developed prior to adoption in October 2018.