

Green Infrastructure Baseline Inventory, 2021

Funding

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Description

The Metropolitan Planning Council (MPC), in coordination with the Calumet Stormwater Collaborative (CSC), developed the Green Infrastructure Baseline Inventory. This free, publicly accessible dataset documents existing green infrastructure installations in the Calumet region of Illinois.

Process

Based on recommendations received from two Advisory Committees and members of CSC Work Groups, MPC contacted data providers in the Calumet region of Illinois via direct calls and emails, as well as via curated listservs and social media channels. MPC also worked with partner organizations to share the data request via e-newsletters, on social media, and through other means.

Geography

The priority area for these efforts is comprised of municipalities within the boundaries of MWRD's "South Basin," the catchment basin for the Calumet Water Reclamation Plant. This geography includes the City of Chicago south of 87th Street. For a complete list of communities in the priority area, see **Appendix A**.

Consistent with the Advisory Committee's recommendations, green infrastructure installations identified via the data collection process that fall outside of the priority area were incorporated into the dataset. (For more information, see "Data" below.)

Data

Individual data points represent green infrastructure installations. In total, version 1 of the dataset includes 457 points within the priority area and 1,853 total points. The goal was to be as comprehensive as possible ONLY within the priority area. Therefore, data points outside the priority area should NOT be assumed to be a complete representation of green infrastructure installations in those areas.

Data providers include: *Governmental entities* (e.g., Chicago Dept. of Buildings, Illinois Dept. of Natural Resources–Office of Water Resources, Metropolitan Water Reclamation District of Greater Chicago); *Engineering/consulting firms* (e.g., Geosyntec Consultants, Christopher B. Burke Engineering); *Nonprofit organizations* (e.g., The Wetlands Initiative,

The Nature Conservancy, Openlands); and *Private companies* (e.g., Ozinga, Method Soap Factory).

Attributes

To improve the data collection process, a definition of “green infrastructure” was developed (see **Appendix B**). To supplement this definition, a list of green infrastructure types was provided to improve data standardization, e.g., to prevent minor inconsistencies, such as “bioswale” and “bio swale.” Due to different definitions and standards among the data providers, the final list of green infrastructure types was revised: 1) to adequately account for and sufficiently differentiate the green infrastructure types compiled in the final dataset while 2) minimizing the total number of green infrastructure types. See **Appendix C** for a comparison of the initial and final lists of green infrastructure types.

The requested data attributes were divided between “Core Attributes” and “Additional Attributes, if available.” See **Appendix D** for a list of these attributes.

Formats

Data are provided as a shapefile (.shp) and a comma-separated values spreadsheet (.csv).

Limitations

Although every effort was made to be as comprehensive as possible within the priority area, time and ability to connect with all potential data providers means that some installations may not be represented.

The majority of installations included in the dataset are outside of the priority area. As previously mentioned, any green infrastructure installation identified via the data collection process was incorporated into the dataset, but those data should not be assumed to represent the totality of installations in the region. Again, efforts were made to be comprehensive only within the priority area.

Most green infrastructure installations are represented by a single data point, e.g., one bioswale equals one point in the shapefile and one row in the spreadsheet. Sometimes, however, *multiple* green infrastructure installations are represented by a single point. In such cases, the data provider does/did not track attributes for individual installations. For example, the size in square feet represents the cumulative size of multiple installations.

Finally, stringent data management procedures were followed to prevent data inaccuracies. Despite this, there may be errors in the dataset, either resulting from inaccuracies in the data providers’ original data or from mistakes occurring while compiling data into the final dataset. Please report errors to jkeller@metroplanning.org or info@metroplanning.org.

Provider

Data are provided by MPC. For more information, visit www.metroplanning.org.

Created

Data collection for version 1 of the dataset began in late 2020 and concluded on August 1, 2021.

Updated

Not applicable. The intent is for the dataset to be updated at to-be-determined intervals.

Appendix A: Priority area municipalities

The municipalities within the priority area for the Green Infrastructure Baseline Inventory are as follows. Note, however, that the dataset does not include data points in each one of these municipalities.

- Alsip
- Blue Island
- Bridgeview
- Burbank
- Burnham
- Calumet City
- Calumet Park
- Chicago (partial+)
- Chicago Ridge
- Country Club Hills
- Crestwood
- Dixmoor
- Dolton
- East Hazel Crest
- Evergreen Park
- Flossmoor
- Glenwood
- Harvey
- Hazel Crest
- Hickory Hills
- Homewood
- Lansing
- Markham
- Merrionette Park
- Midlothian
- Oak Forest
- Oak Lawn
- Orland Hills
- Orland Park
- Palos Heights
- Palos Hills
- Palos Park
- Phoenix
- Posen
- Riverdale
- Robbins
- South Holland
- Thornton
- Tinley Park
- Worth

TOTAL: 40 municipalities

+ Specifically, the following Chicago community areas: Auburn Gresham*, Beverly, Burnside, Calumet Heights, Chatham*, East Side, Hegewisch, Morgan Park, Mount Greenwood, Pullman, Riverdale, Roseland, South Chicago*, South Deering, Washington Heights, West Pullman

* Only partially within MWRD's "South Basin"

Appendix B: Definition of green infrastructure

MPC convened an Advisory Committee in 2019 to determine the feasibility of and need for establishing the Green Infrastructure Baseline Inventory. Through those meetings, a definition of green infrastructure was developed to ensure that data collection efforts result in a dataset of the specific types of green infrastructure the CSC is most interested in tracking.

The resulting definition is as follows:

Green infrastructure is a stormwater management approach that is nature-based or mimics natural hydrological processes, engineered to store or treat stormwater on-site, and offers community benefits, such as filtering pollutants and improving water quality, improved public health outcomes, community resilience, large-scale on-site irrigation, or as part of an interconnected network of flood mitigation efforts.

This definition was referenced in data requests and in supporting materials, including in the Frequently Asked Questions section of the project webpage:

www.metroplanning.org/work/project/23/subpage/6.

Appendix C: Comparison of green infrastructure types

In the data requests, a preliminary list of green infrastructure types was referenced, both to provide examples of the types of data being collected and to prevent data inconsistencies, such as “bioswale” and “bio swale.”

The initial list of green infrastructure types was as follows:

- Bioinfiltration System, e.g., engineered rain garden
- Bioswale
- Constructed Wetland
- Green Roof
- Native Landscaping
- Naturalized Detention Basin
- Permeable Asphalt
- Permeable Pavers
- Pervious Concrete
- Rainwater Harvesting – Cistern
- Stormwater Tree, i.e., within 20 ft. of impervious surface
- Underground Detention System (with Infiltration or Biofiltration element)

However, upon receiving data, it was determined that some installations could not be accurately categorized based on the original types provided. The final list was amended as follows:

- Artificial Turf/Play Surface with Subgrade Void Storage
- Bio Retention
- Bioinfiltration System, e.g., engineered rain garden
- Bioswale
- Constructed Wetland
- Green Roof
- Infiltration Basin
- Native Landscaping
- Naturalized Detention Basin
- None
- Other
- Oversized Detention + Restrictor
- Permeable Asphalt
- Permeable Pavement (unknown type)
- Permeable Pavers
- Pervious Concrete
- Porous Pavement
- Rainwater Harvesting – Cistern
- Stormwater Tree, i.e., within 20 ft. of impervious surface
- Underground Detention System (with Infiltration or Biofiltration Element)
- Unknown
- Void Volume

Note: “None,” “Other,” and “Unknown” all mean the green infrastructure type is not known and should be updated in future versions of the dataset. Specifically, “None” means the field was left blank, and “Other” and “Unknown” mean the green infrastructure type was classified in the data provider’s dataset as “other” or “unknown.”

Appendix D: Data attributes

As part of the data request, all data providers were asked to provide the following **"Core Attributes,"** if possible. These were determined to be the minimum data required to ensure the resulting dataset would be useful to the broadest range of stakeholders:

- Project name/Identifier
- Green Infrastructure/BMP Type
- Status
 - Under construction
 - Completed
- Project Completion Date or Anticipated Completion Date
- Location (only one is required)
 - Street Address
 - Latitude-Longitude
 - Cook County Property Index Number
- Municipality in which installation is located
- Green Infrastructure/BMP Size in Square Feet (i.e., surface area of individual installation)
- Reason Built (e.g., comply with ordinance, grant funded initiative)

When data providers had additional data, they were asked to provide the following **"Additional Attributes,"** though the goal is for future versions of this dataset to include all of the following attributes for all data points:

- Owner Information
- Property Type
 - Residential
 - Commercial
 - Industrial
 - Mixed use
 - ROW
 - Other
- Green Infrastructure/BMP Capacity (i.e., static volume)
- Design Rainfall Event (inches)
- Total Acreage Tributary to GI/BMP
- Impervious Acreage Tributary to GI/BMP
- Watershed in which installation is located
- Sewershed in which installation is located
- Party Responsible for Maintenance
- Maintenance Plan?
 - If "Yes," explain maintenance activities and frequency.