

The Cartegraph logo is positioned in the top right corner of the image. It features the word "Cartegraph" in a white, sans-serif font. A small orange triangle is placed above the letter 'e' in "Carte".

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The background of the entire page is a photograph of a park. On the left, a tall skyscraper is visible. The park features a large green lawn, several trees with green and yellowing leaves, and a wooden fence in the foreground. A white network overlay with nodes and connecting lines is superimposed over the scene.

ASSET MANAGEMENT

For Parks Big and Small

EAM for Local Government:

Asset Management for Parks Big and Small

It is easy to see how a technology-driven asset management program can streamline operations for a major metropolis whose park system entails an intricate infrastructure of roads and bridges, miles of ocean beaches, world-class events, and millions of tourists. But also a small township with a handful of mini-parks, a playground or two, a few miles of trails, and maybe a ball field or a pool can benefit from an asset management plan to enhance recreational services for a modest population.

Whether your parks division serves a leading cosmopolitan city or the tiniest dot on the map, your parklands probably feature the following asset categories:

- Buildings (picnic shelters, restrooms, concessions, offices, storage facilities)
- Amenities (athletic fields, swimming pools, playground)
- Infrastructure (irrigation systems, parking lots, roads and paths)
- Developed Landscape (picnic groves, rights of way)
- Natural Resources (habitat conservation, waterways, unpaved trails)

EAM for Local Government:

Asset Management for Parks Big and Small

A technology-driven asset management program starts with gathering data to build an inventory of every one of these assets. Using data on asset location, features, value, and condition, you can extend the service life of park facilities, protect public safety, and enhance the experience of park visitors. Your operations will benefit from informed decision-making, accurate forecasting, and cost control.

This white paper will discuss the following best practices and first steps necessary for establishing a sound approach to park asset and maintenance management:

- 1 Establish accurate inventory
- 2 Assess current condition
- 3 Identify maintenance benchmarks
- 4 Prioritize renovation or replacement
- 5 Estimate capital costs and operating budget
- 6 Map it out
- 7 Update the plan and put it to work

Establish Accurate Inventory

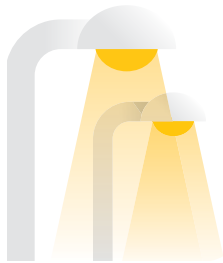
What exactly constitutes an asset? Every facility, amenity, and landscape is a complex asset made up of individual assets such as trees, pavement segments, lighting fixtures, pumps, and picnic tables. A technology-driven process provides field-ready templates for capturing pertinent data on each individual asset.

So, for every tree on your parklands, you can quickly enter location, scientific and common names, height, trunk and crown diameter, replacement value, and other details. At the same time, you can also schedule routine follow-up tasks, such as pruning, at a set interval on a repeating work order. Also note issues such as protruding roots and hazardous overhangs that affect another asset — a trail. Continue on to record other aspects of the trail, then move on to the picnic tables, and so forth.

In this way you will build an accurate, up-to-date inventory of all individual components as well as the facilities they are part of. You will be able to view and compare multiple asset types at once and understand how they are connected. Your data can interface with industry standards and metrics. Your database will be the foundation for each subsequent step of asset management — assessing condition and remaining service life, planning repair or replacement, projecting costs, and evaluating processes.

Assess Current Condition

A thorough inspection of each asset will help you determine how it is performing, how much life it has left, and whether it is still cost-effective to maintain. Record specific deficiencies ranging from cosmetic and routine wear to those that compromise safety, structural integrity, and service life.



Example: An assessment of lighting fixtures on the softball field will expose any improper grounding of the luminaire, faulty wiring and breakers, and unclear markings on the service panel. If light levels prove to be inadequate, a quick check of history in the database will reveal when levels were last measured and how frequently measurements should be conducted. The condition of each asset can then be expressed in a benchmarking index that will enable you to develop a plan for maintenance, repair, renovation, or replacement.

Identify Maintenance Benchmarks

Cyclical scheduled maintenance is required for all assets, whether in good condition or failing, to maximize the useful life and minimize potential liability. A system of benchmarks will tell you when to intervene at strategic points in an asset's normal life cycle to improve performance and optimize resource allocations.

Benchmarks should be taken into account service expectations such as:

- What is the asset's typical lifespan?
- At what point is it considered faulty or unsafe?
- Has new technology made the asset obsolete?
- What impact will a deficiency have on the total system?
- Is the asset's appearance important to the public?
- What are the cost implications?

Identify Maintenance Benchmarks (continued)

A benchmarking method classifies assets into several categories from excellent to serious condition and prioritizes maintenance accordingly.

For example, here's how benchmarking might help determine the right treatment at the right time for a pavement segment:

- 1 Excellent condition — requires only routine maintenance.**
An aggressive preventive maintenance cycle of sealing, patching, grading, and overlays will extend pavement life and avoid costly reactive measures.
- 2 Good or fair condition — needs preventative work in addition to cyclical maintenance.**
The pavement segment may exhibit drainage problems or require ADA access modifications.
- 3 Poor condition — will require extensive work and significant investment to correct deficiencies.**
The pavement has deteriorated and requires more invasive, costly treatments.
- 4 Very poor or serious condition — nearing end of useful life; consider replacement alternatives.**
It will be more economical to reconstruct the segment than to repair or upgrade.

It is useful to attach time frames and priorities to each benchmark. The U.S. National Park Service uses a system of metrics that includes Critical Systems Identification as follows:



Minor Deficiency:

Condition has a long-term impact beyond five years (low priority).

Serious Deficiency:

If not corrected within two to five years, deterioration will result in failure or a threat to user health or safety (high priority).

Critical Deficiency:

Advanced deterioration that has already resulted in failure or, if not corrected within one year, will result in a threat to user health or safety (high priority).

Prioritize Renovation or Replacement

Eventually, most assets will require renovation or even replacement. Your park asset management program will provide criteria to prioritize those actions. Tap your database for information on the asset's purpose and place in your infrastructure. What is it worth? What does it cost to maintain? What happens if it fails? Use the answers to these questions to make decisions about assets that your benchmarking placed in fair to poor condition.

Say a popular playground is approaching its projected lifespan of about 15 years and it may be time for an overhaul. Time to consult your data. Does the equipment still meet safety standards? Can you extend the life by salvaging equipment from other playgrounds? Would new equipment designs be more enjoyable for users?

To help you determine when to renovate or replace assets and justify your capital improvement requests, apply criteria such as the following:

- 1 Public Safety
- 2 Codes and Legal Mandates
- 3 Technological Advances
- 4 Geographic Equity
- 5 Cost of Maintaining Older Systems
- 6 Demand for New or Expanded Services

Estimate Capital Costs and Operating Budget

A key aspect of your park asset management plan is the ability to evaluate different strategies to answer the questions:

- 1 Which solution will provide the highest level of service?
- 2 How much will it cost?
- 3 Can we afford to do it — and can we afford not to?

Timely, objective data lends credibility to spending decisions and funding requests, whether for routine operations and maintenance or capital expenditures for new assets and upgrades. Your asset data can be used to run different scenarios and compare outcomes. Key decision makers and stakeholders can see first-hand the impact of postponing repairs and the payoff in increasing budgets.

Specifically, the asset data captured at each stage will enable you to:

- Document the need for funding of renovations and replacements
- Quantify the long-term cost impact of delays and inadequate funding
- Accurately allocate available resources to new and existing assets
- Provide historical information on maintenance hours and materials
- Effectively manage assets despite budget constraints



Example: Remember to factor in funding from sources such as grants, partnerships, and donations. For New York's 843-acre Central Park, the most frequently visited urban park in the United States, these sources are significant. The Central Park Conservancy's asset management system tracks endowments and benefactors of benches, fountains, and other park features.

Map it Out

Integrating an asset database with GIS/mapping software leverages the power of both systems. When you have two platforms that work seamlessly together, you'll combine GIS web maps and asset inventories with operations and asset management functionality.

Records in the asset management database will link with corresponding records in the GIS database. Spatial and attribute data will update in both systems in real-time as changes are made. Whichever system you're using, you'll always have current data to work from.

The right GIS interface will allow you to locate a feature, add it to the map with a single click, color code it by class or type, and access it in real-time. Digitized base layers for playgrounds, trails, athletic facilities, and other park assets will be projected onto aerial images.

Variable filtering options allow you to focus on the exact features you want to see. Maps can be examined using different viewing options, such as road, satellite, or topographic.

The integrated data is easily shared among departments so, for example, park employees can access park-related data collected by maintenance employees and vice versa.



Example: The Arkansas State Parks PIMS database uses an integrated GIS system to manage more than 16,000 assets in 50 parks. During the inventory process, aerial photos and GPS were used to locate and record assets. When making queries, such as hot water tanks of a certain age in cabins and lodges, database users can view the assets on a map along with pertinent status information.

Update the Plan and Put it to Work

Your park asset management database is not a snapshot in time but an ongoing effort. You will want to establish procedures to continually update inventory, condition, maintenance requirements, and costs. Then you can mine your database to generate resources such as:

- Periodic progress reports that assess maintenance efficiency
- Comprehensive audits that evaluate systems against defined performance measures
- Long-term strategic plans that look beyond current needs and budgets
- Feedback mechanisms that confirm achievement of intended results



Example: The City of Portland, Oregon, established a Total Asset Management (TAM) program that works in tandem with a planning framework consisting of a 20-year vision, organizational mission, and 3-year strategic plans to manage and protect Parks and Recreation assets valued at \$1 billion. The TAM program provides for integrated data collection and asset management to obtain a thorough understanding of the asset portfolio and to inform planning, evaluation, and decision-making at all levels.

Getting Started

If your organization lacks the manpower to coordinate a data collection effort of its own, private sector data collection services that specialize in municipal asset management can help you implement your park asset management program within budget. A data collection service will help gather essential data immediately so it can be put to use before it becomes outdated. Data collection specialists do all the legwork, mapping, and evaluating each park asset. They bring the field to the office by integrating tools such as GIS mapping, 3D imagery, and software tailored for creating benchmarks and measuring outcomes.

Now You Know

Today's technology will help your organization simplify and enhance managing the day-to-day operations performed against its diverse inventory of park system assets. By treating your park system assets as an extension of your public infrastructure, your organization enables itself to improve safety, effectively manage asset and labor costs, improve the quality of life in your community and, most importantly, provide better amenities and services to the public.

A Parks Management Solution for Local Government

Cartegraph's user-centric, Esri-enabled Operations Management System is designed especially for managing the work, assets, requests, and resources at the center of local government operations. It's rich toolset includes specialized solutions for managing the core assets of park systems of all sizes, including monuments, water features, trees, pavement segments, water distribution and storm water networks, and more. The system also enables organizations to connect large container assets — such as parks and facilities — to the component assets that reside within them and manage everything on a more comprehensive level.

[Learn More Now](#)

About Cartegraph

Cartegraph technology is designed and built to help public sector organizations save time and money. With its emphasis on adoptability, user experience, and return on investment, Cartegraph helps local governments effectively manage the work, requests, resources, and enterprise assets at the center of their day-to-day operations.