

The Hidden Costs of GIS

Seven Expenses Most Software Proposals Never Mention

A Guide for Directors, General Managers, Public Works Directors, and Executive Staff

Executive Summary

When public agencies evaluate Geographic Information System (GIS) software, proposals often focus on subscription prices, implementation costs, and software features. Those numbers are important—but they rarely tell the entire financial story.

The true cost of owning a GIS extends well beyond the initial purchase. Staffing, training, customization, maintenance, software dependencies, and ongoing support can significantly affect the total investment over the life of the system.

For many agencies, these indirect costs eventually exceed the original purchase price.

Understanding these hidden expenses before approving a GIS project helps ensure that public funds are invested wisely and that the selected system continues to deliver value for many years.

Hidden Cost #1

The Cost of Specialized Staff

Many GIS platforms require personnel with specialized technical knowledge to administer, configure, maintain, and expand the system.

Questions every Board should ask include:

- How many employees will require specialized GIS training?
- What happens if those employees retire or leave?
- Can another employee immediately assume responsibility?
- Will outside consultants become necessary?

Every hour spent learning or maintaining software is an hour not spent maintaining infrastructure or serving customers.

A GIS should reduce operational dependence on specialized expertise whenever practical.

Hidden Cost #2

Training Never Really Ends

Technology evolves continuously.

Software updates introduce new interfaces, tools, workflows, and administration methods.

As staff changes, new employees must also be trained.

Training expenses may include:

- Registration fees
- Travel
- Lodging
- Lost productivity
- Instructor costs
- Internal mentoring
- Continuing education

Even when online training is available, employees are still away from their regular duties while learning.

Ask:

"What is our estimated annual training investment?"

Hidden Cost #3

Customization and Configuration

Every utility operates differently.

No software package perfectly matches every organization's workflows immediately after installation.

Customization may include:

- Database modifications
- Reports
- Dashboards
- Inspection forms
- Work order processes
- Customer lookup screens
- Asset tracking
- Regulatory reporting
- Mobile workflows

Some systems allow extensive customization but require in-house programming expertise or outside consultants.

Before purchasing, ask:

"How much customization is included, and who will perform future modifications?"

Hidden Cost #4

Software Dependencies

Many GIS platforms rely upon additional software products to perform certain functions.

Examples may include:

- Desktop GIS applications
- Database software
- Reporting tools
- Editing software
- Mobile applications
- Image management
- Document management
- Third-party extensions

Each additional product may introduce:

- Additional licensing
- Additional maintenance
- Additional upgrades
- Additional training
- Additional technical support

Boards should understand the complete software ecosystem—not simply the primary GIS application.

Ask:

"What additional software is required for us to achieve our long-term goals?"

Hidden Cost #5

Data Maintenance

Owning GIS software does not automatically keep GIS information current.

Infrastructure changes continuously.

Every year agencies install:

- New water mains
- Sewer lines
- Storm drains
- Valves
- Hydrants
- Meters
- Easements
- Lift stations
- Treatment improvements

Someone must update those records.

If GIS information becomes outdated, employees gradually lose confidence in the system.

Eventually, paper records begin replacing digital information.

Ask:

"What is our long-term plan for maintaining accurate GIS data?"

Hidden Cost #6

Vendor Support

Every software system eventually requires assistance.

Questions to consider include:

- How quickly are support requests answered?
- Are support technicians familiar with utility operations?
- Is support provided directly by the software developer?
- Are consulting services billed separately?
- What happens during emergencies?

Excellent software with poor support often becomes an expensive frustration.

Responsive support can dramatically reduce downtime, improve user confidence, and accelerate adoption.

Ask:

"What level of support is included after implementation?"

Hidden Cost #7

Organizational Disruption

Implementing a GIS changes the way people work.

Departments may need to modify established procedures.

Employees must learn new workflows.

Historical records may require conversion.

Temporary reductions in productivity are common during implementation.

A successful project includes:

- Change management
- Staff communication

- User training
- Executive support
- Realistic implementation schedules
- Ongoing user assistance

Technology succeeds when people successfully adopt it.

The software itself is only part of the investment.

Ask:

"How will this implementation affect daily operations during the first year?"

Looking Beyond the Purchase Price

When evaluating competing GIS solutions, agencies should compare more than subscription costs.

Decision makers should evaluate:

- ✓ Total cost of ownership
- ✓ Staffing requirements
- ✓ Training requirements
- ✓ Long-term support
- ✓ Ease of maintenance
- ✓ Operational benefits
- ✓ Vendor responsiveness
- ✓ Scalability
- ✓ Integration capabilities
- ✓ Organizational risk

The most economical solution is not necessarily the one with the lowest purchase price.

Likewise, the most expensive solution is not automatically the best value.

A successful GIS investment is one that delivers measurable operational improvements while remaining sustainable within the agency's financial and staffing resources.

Questions Every Board Should Request Before Approval

Before authorizing any GIS purchase, Boards should request written answers to the following:

1. What is the estimated total cost of ownership over the next ten years?
 2. What additional software licenses are required to achieve the proposed functionality?
 3. How many employees must receive specialized training?
 4. How much annual consulting or technical support should be expected?
 5. What is the agency's long-term plan for maintaining GIS data?
 6. How will this solution improve operational efficiency and reduce costs?
 7. What measurable return on investment is expected during the first five years?
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Final Thoughts

A Geographic Information System should be viewed as long-term operational infrastructure rather than simply another software purchase.

The most successful implementations are those that balance functionality, affordability, ease of use, sustainability, and dependable support.

Public agencies have a responsibility to look beyond the purchase price and evaluate the complete lifecycle cost of ownership before committing public resources.

By asking thoughtful questions and carefully considering both direct and indirect expenses, Boards can make informed decisions that provide lasting value to their organizations and the communities they serve.