

Why Your GIS Shouldn't Depend On One Employee

Protecting Institutional Knowledge and Preventing Your Agency from Becoming a GIS Training Mill

Introduction

Many special districts make a significant investment in GIS

They purchase software, collect data, build maps, train employees, and develop processes around the system

Then the employee who knows how everything works leaves

Suddenly, the agency discovers that the GIS was not really an agency resource

It was an employee resource

The departing employee may have known:

- Where the data is stored
- How the GIS is configured
- How to update the data
- How integrations work
- How to correct problems
- Which credentials are required
- Why certain decisions were made
- How to produce important reports
- Which information can be trusted
- How to recover from problems

When that knowledge leaves the building, the agency may have to start over

This creates an expensive cycle:

Hire → Train → Develop expertise → Employee leaves → Start over

A district can unintentionally become a **GIS training mill**

That is not a sustainable GIS strategy

A good enterprise GIS should reduce dependence on individual employees, not increase it

1. The Hidden Risk in “Having a GIS Expert in House”

Having an employee who understands GIS can be extremely valuable

The problem begins when that employee becomes the **only person** who understands GIS

There is an important difference between:

An employee who is highly knowledgeable about the GIS

and

An employee who is required for the GIS to function

The first is an asset

The second is a risk

Ask yourself

- What happens if our GIS employee resigns tomorrow?
- Who knows how the data is maintained?
- Who knows how the system is configured?
- Who knows how to fix problems?
- Who knows how integrations work?
- Who knows what the data means?
- Who can train the replacement?
- Who can explain the decisions made five years ago?

If the answer to most of these questions is one person's name, your agency has a significant operational risk

2. Employee Turnover Makes This Risk Worse

Special districts often operate with small staffs

One employee may have responsibilities across several areas

That employee can become the organization's GIS expert simply because nobody else has the time or training to take over the responsibility

Then the employee develops valuable skills

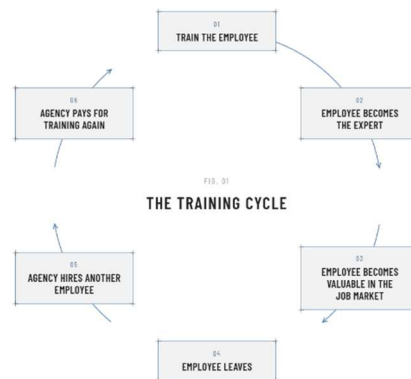
Those skills can make the employee attractive to other organizations

A larger district may offer:

- Higher compensation
- More advancement opportunities
- Larger GIS programs
- Greater responsibility
- Career development

The employee leaves and the agency is left with the system but without the knowledge required to operate it effectively

The cycle begins again



The cycle repeats

3. The Real Cost of Training

Training is not inherently bad

In fact, training is essential

The problem is when the agency repeatedly pays to create expertise that walks out the door

The full cost can include:

- Software training
- GIS training
- Database training
- Vendor training
- Conferences
- Travel
- Employee time during training
- Time learning the agency's infrastructure
- Time learning internal procedures
- Time correcting mistakes
- Time developing specialized knowledge

The financial cost can be substantial

But the greater cost may be the **lost institutional knowledge**

Ask

“How much have we spent training GIS employees who no longer work here?”

The answer may be surprising

4. Your GIS Is an Agency Asset

A GIS should belong to the agency

Not to a particular employee

The employee may build it

The employee may maintain it

The employee may improve it

But the knowledge required to operate the GIS should remain with the organization

Agency-owned knowledge includes:

- Data structure
- Asset definitions
- Maintenance procedures
- Editing procedures
- Workflows
- Integration information
- System configuration
- User permissions
- Documentation
- Data standards
- Quality-control procedures

This information should not exist only in someone's memory

The goal

The employee should add value to the GIS without becoming a single point of failure

5. The “Only Person Who Knows” Problem

There is another risk that is less obvious

When one employee becomes the only person who understands a critical system, the organization may become dependent on that person for routine decisions

Management may hesitate to change procedures because:

“Only Mary knows how the GIS works”

Employees may hesitate to question processes because:

“Mary is the GIS expert”

Projects may be delayed because:

“We have to wait until Mary gets back”

Management may accept unnecessary complexity because:

“Nobody else understands the system”

This is not necessarily the employee's fault

The organization created the dependency

6. When Expertise Becomes Organizational Dependency

- Most employees who become indispensable did not set out to create that situation
- They worked hard
- They learned the system
- They solved problems
- They became the person everyone called
- Over time, something changes

Instead of:

“This employee is highly capable”

the organization reaches:

“We cannot operate this system without this employee”

That is the point where management should act

Warning signs include:

- Only one person has administrator access
- Only one person understands the data structure
- Only one person performs updates
- Only one person knows how integrations work
- Employees are afraid to change anything
- Documentation is limited
- Nobody else can perform basic GIS tasks
- The employee must be consulted for routine decisions

- Projects stop when the employee is unavailable

These are organizational risks

Not employee problems

7. A Polite Way to Address the “GIS Gatekeeper”

There is nothing wrong with having a highly skilled GIS employee

That employee should be recognized and valued

The problem occurs when expertise becomes a form of organizational control

An employee who knows that nobody else understands the system may naturally become protective of that knowledge

Sometimes this can lead to:

- Decisions becoming unnecessarily centralized
- Routine tasks becoming dependent on one person
- Others becoming reluctant to challenge the process
- Management becoming hesitant to make changes
- The employee becoming increasingly difficult to replace

This does not mean the employee is intentionally creating the problem

It means the organization has allowed too much operational knowledge to reside in one place

The management principle is simple

Value the expert without making the organization dependent on the expert

A strong GIS professional should welcome documentation, cross-training, and shared knowledge

Those practices demonstrate professional leadership

8. Build a System That Survives Employee Turnover

The best protection is not hoping employees stay

It is designing the GIS so the agency can survive turnover

Your GIS should have:

- Documented procedures
- Documented system configuration
- Documented data standards
- Multiple trained users

- Appropriate access for more than one person
- Written maintenance procedures
- Written backup procedures
- Written recovery procedures
- Documented integrations
- Documented vendor contacts

Ask

“If our GIS administrator left tomorrow, could another qualified person keep the system operating?”

If the answer is no, start fixing the problem now

9. Document What Matters

Documentation does not need to become a 500-page technical manual

It needs to capture the information required to operate the system

Document:

Data

- Where it is stored
- What each layer represents
- Important attributes
- Data sources
- Update frequency

System

- Configuration
- User roles
- Permissions
- Integrations
- Important settings

Processes

- How assets are added
- How assets are changed
- How assets are retired
- How errors are corrected

Support

- Vendor contact
- Software information
- Renewal information
- Support procedures

Recovery

- Backup procedures
- Recovery procedures
- Emergency contacts

Rule

If the agency would need the information after an employee leaves, document it

10. Cross-Train Employees

Cross-training does not mean everyone needs to become a GIS expert

It means more than one person should understand critical functions

Consider three levels

Level 1 — General Users

- Find assets
- View information
- Perform basic searches
- Use GIS for daily work

Level 2 — Advanced Users

- Perform updates
- Run reports
- Perform inspections
- Manage operational workflows

Level 3 — Administrator

- Manage configuration
- Manage users
- Maintain data
- Coordinate support
- Work with the vendor

Important

There should be enough overlap that the agency can operate if the administrator is unavailable

11. Make Knowledge Transfer Part of the Job

Knowledge transfer should not happen only when someone gives two weeks' notice

Make it part of normal operations

Establish routine practices

- Document new procedures
- Record important configuration changes

- Review documentation annually
- Cross-train another employee
- Keep vendor information current
- Review user permissions
- Test backup procedures
- Update system diagrams
- Record major decisions

This turns institutional knowledge into an agency asset

12. Do Not Confuse Complexity With Expertise

A complicated GIS can make an employee appear indispensable

But complexity is not necessarily value

Ask:

“Does this complexity provide a measurable benefit to the agency?”

If a routine task requires specialized knowledge, determine why

Could it be:

- Simplified
- Automated
- Documented
- Integrated
- Performed by another employee
- Supported by the vendor

The goal

Reduce unnecessary complexity

A good enterprise system should make important work easier, not create a permanent requirement for specialized intervention

13. Consider the Total Cost of Employee Dependence

The cost of a GIS is more than software

Consider the cost of employee dependency

Potential costs include:

- Recruiting
- Training
- Turnover
- Lost productivity
- Recreating undocumented work
- Rebuilding data
- Consulting
- Emergency support
- Delayed projects
- Management time
- Loss of institutional knowledge

A GIS that requires one highly specialized employee may appear inexpensive

Until that employee leaves

Ask

“What would it cost us to rebuild our GIS knowledge from scratch?”

That number should be part of your GIS risk assessment

14. Build Continuity Into Your GIS Contract

Your vendor can help reduce employee dependency

Ask what support is available for:

- Documentation
- Training
- New employee onboarding
- Administrator training
- Data maintenance
- System configuration
- Technical support
- Disaster recovery
- Staff turnover

Ask the vendor

“If our GIS administrator leaves, how will you help us transition to the next person?”

A good answer should be specific

15. The GIS Independence Checklist

Data

- Data locations are documented
- Data ownership is documented
- Data standards are documented
- Data maintenance procedures are documented
- Backup procedures are documented

People

- More than one person understands the GIS
- More than one person can perform critical tasks
- A backup administrator is identified
- General users have basic GIS knowledge
- Training procedures exist for new employees

System

- Configuration is documented
- User permissions are documented
- Integrations are documented
- Vendor contacts are documented
- Support procedures are documented

Continuity

- The agency can operate if the GIS expert is absent
 - The agency can operate if the GIS expert leaves
 - Critical knowledge is stored by the agency
 - Documentation is reviewed regularly
 - Employee turnover will not require starting over
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16. The “Tomorrow” Test

Imagine this scenario:

Your GIS administrator resigns today

They are leaving in two weeks

Ask these questions:

Can we access the system?

Can we access the data?

Can someone else update assets?

Can someone else manage users?

Can someone else troubleshoot basic problems?

Do we know who supports the system?

Do we know how the integrations work?

Do we have current documentation?

Can we train the replacement?

If several answers are “no,” your agency has a knowledge-transfer problem

17. The Better Model

There are two very different approaches to GIS

Model A — Employee-Centered GIS

Agency → Employee → GIS

The employee becomes the critical connection between the agency and the system

If the employee leaves, the system becomes difficult to operate

Model B — Agency-Centered GIS

Agency → GIS → Employees

The GIS becomes an organizational resource

Employees use it

Procedures are documented

Knowledge is shared

The vendor or internal staff provides support

The agency retains institutional knowledge

The second model is more sustainable

18. Your Agency Should Not Be a GIS Training Mill

Training employees is necessary

Training the same position repeatedly because every GIS expert leaves is not a strategy

If your agency repeatedly:

Hires → Trains → Develops → Loses → Replaces

you are paying for the same institutional knowledge again and again

The objective should be different:

Hire → Train → Document → Share → Improve

When an employee leaves, the agency loses an employee

It should not lose the GIS

19. Questions for Management

Ask these questions at least once each year:

- Who understands our GIS?
- Who can maintain it?
- Who can update the data?
- Who can troubleshoot it?
- Who knows how our integrations work?
- Where is the documentation?
- When was it last updated?
- Who is the backup?
- What happens if our GIS administrator leaves?
- How much would it cost to replace the lost knowledge?

Most important question

“Is our GIS an agency asset, or is it an employee's specialty?”

If the answer is the second, it is time to change the model

Final Thought

Your employees are valuable

Their knowledge is valuable

Their expertise should be recognized and rewarded

But your agency should never become dependent on one person's memory

A well-designed GIS distributes knowledge, documents processes, and makes the organization stronger

The goal is not to make your GIS expert less important

The goal is to make the **agency less vulnerable**

When an employee leaves, the agency should be able to say:

“We lost a valuable employee, but we did not lose our GIS”

That is what institutional knowledge protection looks like

Your GIS should belong to the agency — not to the person who happens to know how to run it