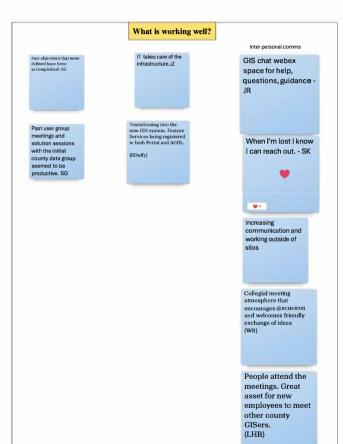
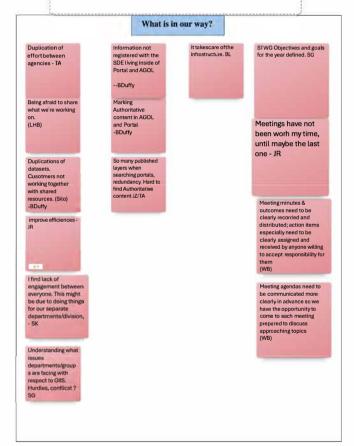
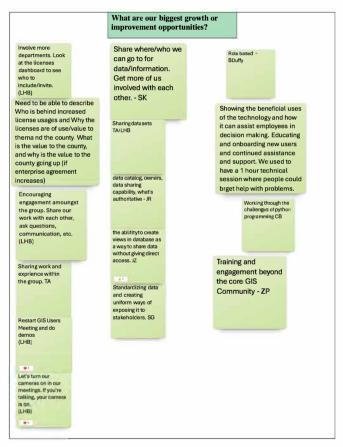
Modified SWOT analysis

Brief discription of the full and modified SWOT analysis https://www.youtube.com/watch?v=BlNcY76swk4&t=2s Please create as many notes as necessary to facilitate the meeting









= Fully supported

♠ = Partial support or with limitations/workarounds

X = Not supported

Desktop & Enterprise GIS Comparison

Feature/Requirement	ArcGIS Pro	QGIS	AutoDesk Map 3D	GRASS	uDig	gvSIG	MapInfo Pro	Maptitude
Custom Tools	✓ Python/Toolbox	☑ Python/Plugins	✓ AutoLISP/.NET	✓ Scripts	⚠ Java plugins	✓ Scripting		⚠ Basic scripting
Scripts/Modeling	✓ Python/ModelBuilder	Python/Modeler	\triangle	✓ Shell/Python	X	⚠ Limited	×	×
Local Gov Templates	(Esri LGIM)	∴ Custom only	×	X	X	×	×	×
Relationship Tables	✓ Full support	✓ Full support	\triangle	⚠ Limited	\triangle	\triangle	lacksquare	\triangle
Modeling Tools	✓ ModelBuilder	Graphical Modeler	\triangle	lacksquare	X	\triangle	×	×
Versioning (Multi-user)	✓ (Enterprise GDB)	⚠ (PostGIS)	×	X	X	×	\triangle	×
Attribute Rules/Assistants	✓ Arcade, Rules	⚠ Expressions	\triangle	X	X	×	×	×
File GDB Support	✓ Native	⚠ Read-only	×	<u></u> GDAL	X	×	×	×
Routing	✓ Network Analyst	⚠ Plugins	\triangle	\triangle	X	\triangle	\triangle	lacksquare
Manual Georeferencing	lacksquare	lacksquare	lacksquare	lacksquare	\triangle	\square	lacksquare	lacksquare
Excel/Spreadsheet Support	lacksquare	lacksquare	lacksquare		\triangle	\triangle	lacksquare	lacksquare
Data Joins	lacksquare	lacksquare	lacksquare	lacksquare	\square	\square	lacksquare	lacksquare
Access DB	⚠ (OLE DB)	⚠ (via ODBC)	\triangle	X	X	×	\triangle	\triangle
DBF/SQL Support	☑ (DBF, SQL, FGDB)	☑ (DBF, PostGIS, etc.)	\triangle	lacksquare	\triangle	\square	lacksquare	lacksquare
COGO	(Survey grade editing)	<u> </u>	(Survey grade editing)	\triangle	\triangle	\triangle	<u> </u>	×
3D Analysis	(Advanced, Industry-leading)	⚠ (via plugins)	✓ (CAD-based)	⚠ (3D terrain only)	X (Minimal/none)		(Some 3D tools)	
Spatial Analysis	✓ (Industry-leading)	(Extensive)	(Infrastructure focused)	(Advanced raster)	⚠ (Basic)	⚠ (Moderate)	(Good for vector analysis)	(Good for thematic maps)
Business Analysis	(Esri Business Analyst, dashboards)	⚠ (possible via plugins, limited)	(AEC/engineering business focus)	×	X	\wedge	(Market planning)	(Business GIS core strength

Web / Cloud GIS & Visualization

Feature	Azure Maps	CARTO	Mapbox	MangoMap	Policy Map	Power BI (Maps)
Custom Tools	☑ APIs & SDKs	✓ SQL/JS	✓ JS SDKs	<u> </u>	X	⚠ (Power Query/DAX)
Scripts/Modeling	⚠ API only	<u></u> SQL	<u>∧</u> JS	×	X	⚠ DAX logic
Local Gov Templates	X	×	×	×	X	X
Relationship Tables	X	⚠ Limited	X	×	X	⚠ Via model
Modeling Tools	X	×	X	×	X	⚠ Power BI model
Versioning	X	×	×	×	X	X
Attribute Rules/Assistants	X	×	×	×	X	X
File GDB Support	X	×	X	×	X	X
Routing	(Charge per each inquiry)	\triangle	\triangle	×	X	\triangle
Manual Georeferencing	X	×	×	×	X	X
Excel/Spreadsheet Support	⚠ CSV only	lacksquare	lacksquare	lacksquare	lacksquare	✓ Native
Data Joins	<u> Nia API</u>	lacksquare	lacksquare	lacksquare	X	lacksquare
Access DB	X	×	X	×	X	⚠ Indirect
DBF/SQL Support	⚠ SQL APIs	SQL DBs	∧ via tilesets	×	X	Limited SQL connectors
COGO	X	X	X	×	X	X
3D Analysis	(3D visualization)	X (2.5D only)	(3D WebGL maps)	×	X	<u> (</u> (via custom visuals)
Spatial Analysis	⚠ (Limited analytics)	(GeoSQL, spatial stats)	<u> (</u> (Minimal built-in)	🗥 (Basic only)	(Pre-packaged maps)	⚠ (Basic filters/spatial joins)
Business Analysis	(integration with Microsoft stack)	(location intelligence)	(used in dashboards, apps)	(Web dashboards)	V	(Business dashboards, great UX)

Quick Highlights by Category

Requirement Best Tools

Full Local Government Support ArcGIS Pro

Open-source QGIS

Web-Based Mapping
Custom Scripting/Tools
Routing
ArcGIS Pro, QGIS, Mapbox, CARTO
ArcGIS Pro, Azure Maps, Maptitude
File GDB Compatibility
ArcGIS Pro, QGIS (read-only)
Access/DBF/SQL Support
Manual Georeferencing
ArcGIS Pro, QGIS, MapInfo Pro
ArcGIS Pro, QGIS, GRASS GIS
ArcGIS Pro

3D Analysis ArcGIS Pro
Spatial Analysis ArcGIS Pro
Business Analysis ArcGIS Pro

Notes:

ArcGIS Pro is the only platform that supports all of these workflows natively — including COGO, versioning, attribute rules, and Esri's Local Government templates (LGIM).

QGIS is very strong overall and supports most workflows with **plugins**, though it lacks Esri-style **attribute rules**, **versioning**, and **COGO**.

GRASS, gvSIG, MapInfo Pro, AutoDesk Map 3D all support many components but fall short in one or more critical areas (like COGO or templates).

Web-based tools (CARTO, Mapbox, MangoMap, Azure Maps, PolicyMap, Power BI) are not suitable for traditional county GIS workflows — they're designed for visualization, dashboards, and data delivery, not survey-grade editing or local government workflows.

2025 Esri User Conference: an IT Perspective

Teddy Arnold 9.18.2025

Big Picture — What's New

- GIS is more connected and intelligent
- Al and automation built into ArcGIS tools
- ArcGIS Integrations -Microsoft and More
- Real-Time GIS and Digital Twins
- Enterprise Server 12.0 is coming

Al in ArcGIS — Al Framework

GeoAl

• Deep learning models

AI Assistants

Improving access and efficiency

Al Agents

Automated workflows

Al Examples from Esri UC

- Chattanooga: Al detecting road damage
- Survey123: photo → auto-filled hazard form
- Symbology: Using language prompts
- COGO Reader for Parcel Fabrics in ArcGIS Pro
- Using GeoAl to Inventory ADA Curb Ramps

Integrations with Microsoft 365



Excel → add maps and analyze spatial data



PowerAutomate → data management, attachments handling



SharePoint → dynamic mapping with lists, link document libraries



Why it matters: maps where you already work

Real-Time GIS

- Velocity
- Digital Twins and Indoor GIS
- predictive maintenance, simulation, and scenario planning

Enterprise 12.0 Announced

- Web AppBuilder, Configurable Apps, and Map Viewer Classic are officially gone
- New Support Lifecycle
- Currently upgrading from 10.9.1 to 11.5
- ▶ 11.5 general availability until June 2027 and extended support June 2029

ArcGIS Online vs Enterprise

- quick, easy, anywhere
- Saas solution, Esri Managed
- Upgrades quarterly
- Best for less critical datasets or less regulated environments designed to be shared

- On Premises
- secure, internal systems managed by IT
- Releases are behind ArcGIS Online

Hybrid approach: best of both

Takeaways

- Al trends are continuing
- Indoors and Digital Twinning in real world applications
- Stronger Microsoft 365 integrations

Additional Information

- ArcGIS Trust Center | Documentation
- Update to ArcGIS Enterprise Product Lifecycle
- Automate Road Surface Investigation Using Deep Learning
- Integrate your SharePoint documents with ArcGIS
- Dive into ArcGIS Enterprise 11.5 before you delve into 12