



IMPLEMENTING A GIS IN THE PUBLIC SECTOR

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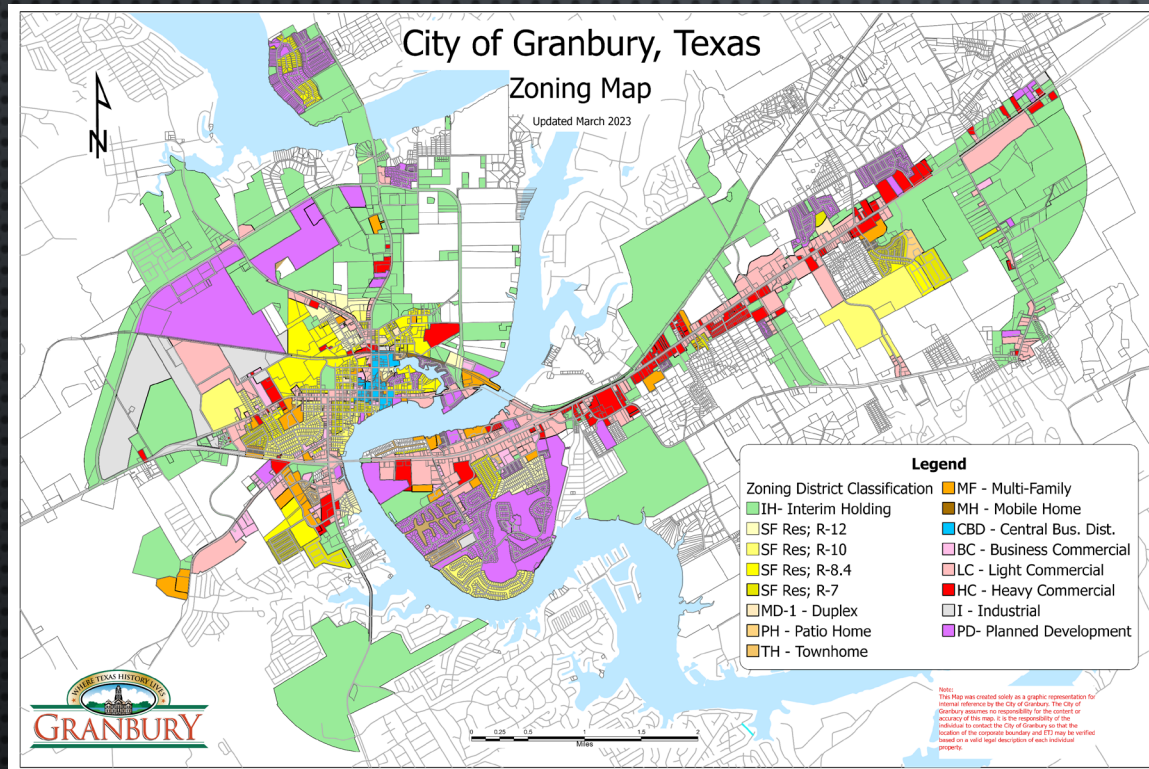
GIS ANALYST, CITY OF GRANBURY

AGENDA

- CITY GIS OVERVIEW
- HYBRID ARCHITECTURE: ARCGIS ENTERPRISE + ARCGIS ONLINE
- PRODUCTION & DEVELOPMENT ENVIRONMENT DESIGN
- DATA GOVERNANCE & PUBLISHING WORKFLOWS
- FIELD MOBILITY & CLIENT DATA ACCESS
- SECURITY & ACCESS CONTROL
- CURRENT PROJECTS
- ROADMAP & LESSONS LEARNED



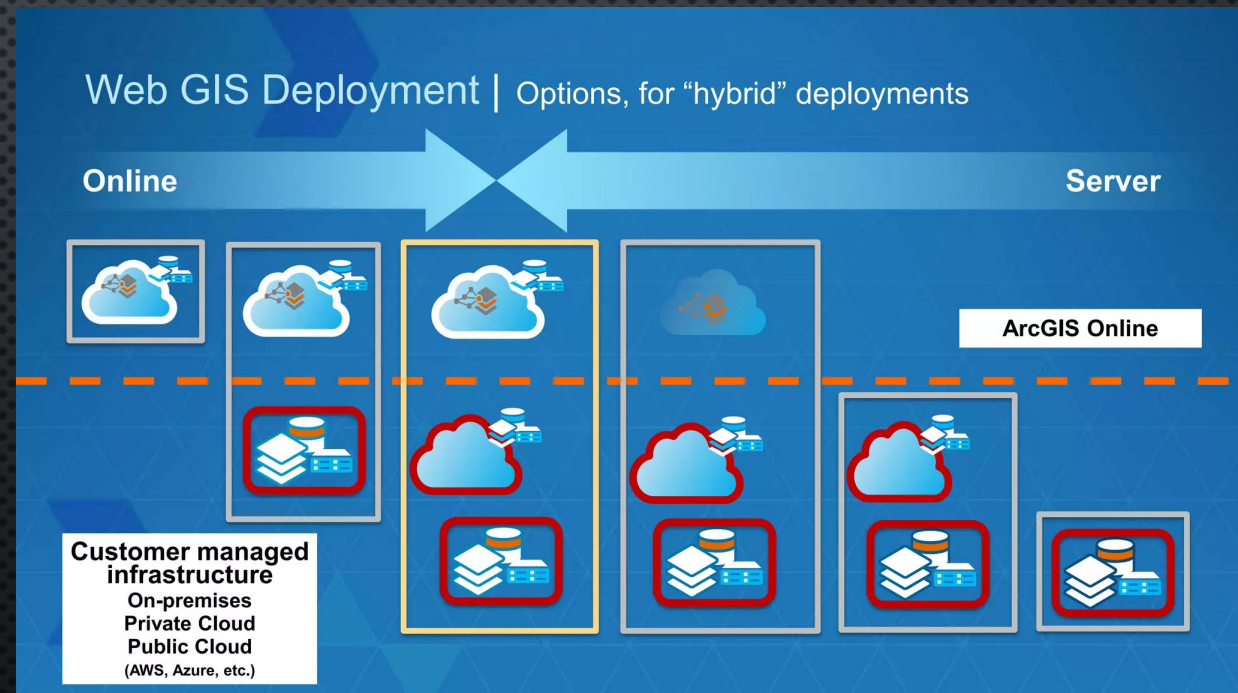
CITY GIS PROGRAM OVERVIEW

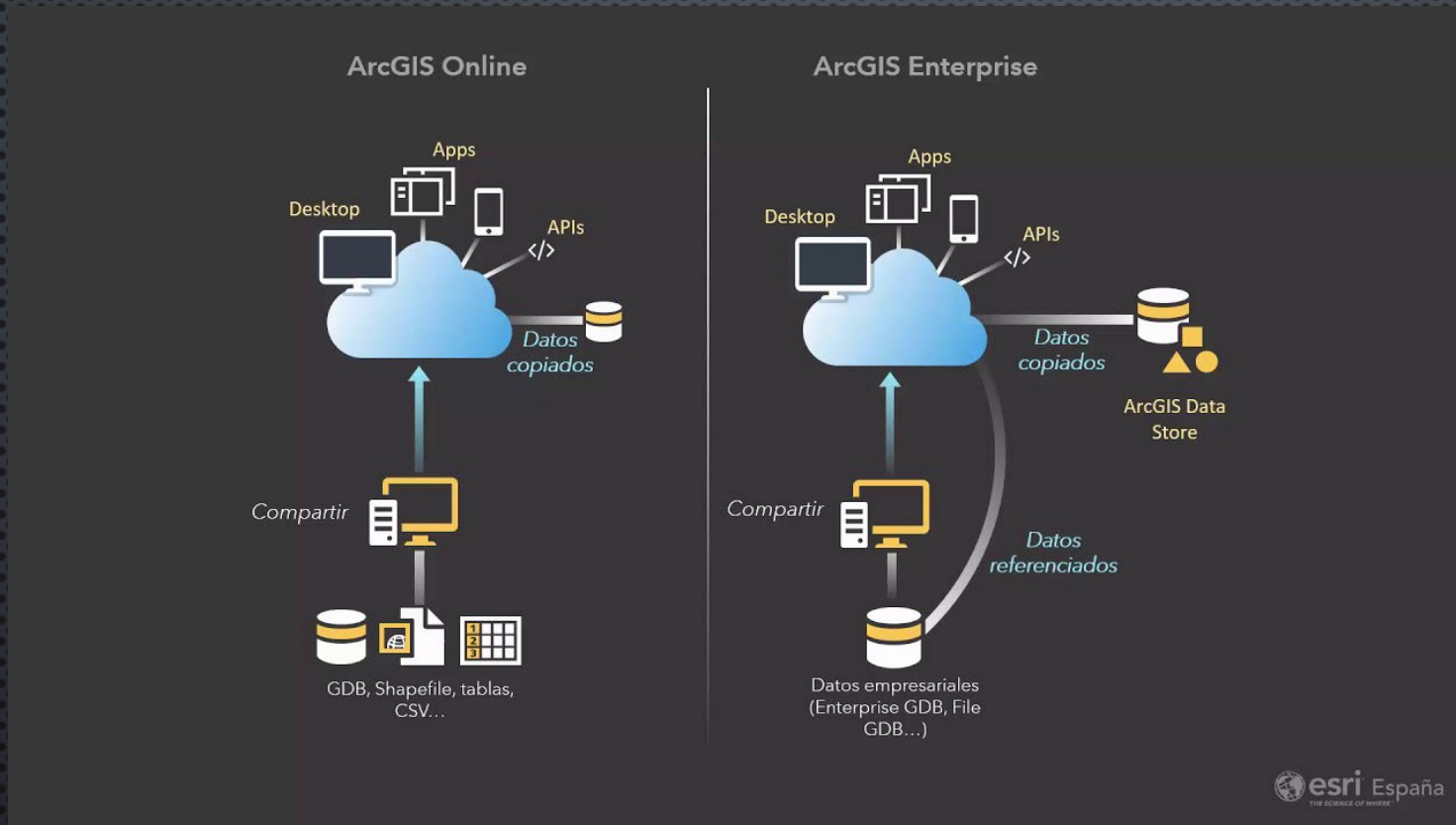


- CENTRALIZED GIS TEAM SUPPORTING ALL CITY DEPARTMENTS
- MIX OF AUTHORITATIVE ENTERPRISE DATA, CLIENT DATASETS, AND PUBLIC-FACING CONTENT
- EMPHASIS ON RELIABILITY, REDUNDANCY, AND MOBILE WORKFLOWS
- COLLABORATION WITH ALL DEPARTMENTS IN THE CITY TO MAKE SURE THEIR NEEDS ARE BEING MET

- BALANCE BETWEEN INTERNAL SECURITY REQUIREMENTS AND PUBLIC TRANSPARENCY
- ENTERPRISE FOR AUTHORITATIVE INTERNAL SYSTEMS
- ARCGIS ONLINE FOR PUBLIC MAPS, FIELD APPS, AND PARTNER COLLABORATION
- REDUCES SERVER LOAD FOR PUBLIC-FACING SERVICES
- PROVIDES RESILIENCE IF ONE ENVIRONMENT EXPERIENCES DOWNTIME

WHY A HYBRID GIS?





HIGH-LEVEL ARCHITECTURE DIAGRAM

- ARCGIS ONLINE

1. HOSTED FEATURE LAYERS FOR PUBLIC MAPS
2. MOBILE APPS: FIELD MAPS, SURVEY123
3. PUBLIC VIEWER

- ARCGIS ENTERPRISE (PROD & DEV)

1. HOSTED ON INTERNAL INFRASTRUCTURE
2. SDE/SQL SERVER DATABASES
3. INTERNAL SERVICES & SECURED LAYERS

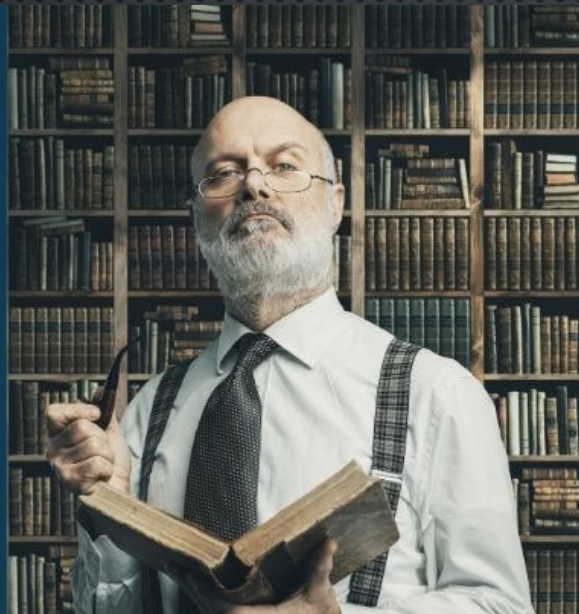


ArcGIS Enterprise Environments

- DEVELOPMENT ENVIRONMENT
 1. SANDBOX FOR TESTING SCHEMA CHANGES
 2. STAGING FOR NEW APPS/WORKFLOWS
 3. INTEGRATION TESTING WITH IT
- PRODUCTION ENVIRONMENT
 1. AUTHORITATIVE SYSTEM
 2. HIGH AVAILABILITY
 3. EDITOR AND VIEWER SERVICES

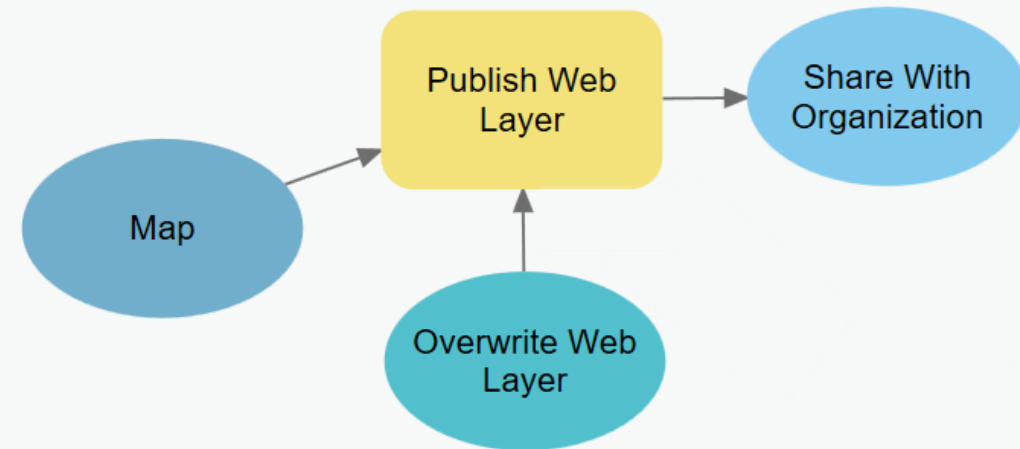
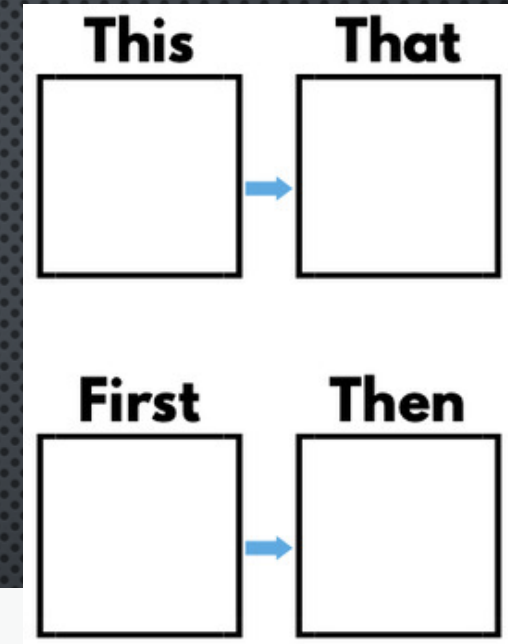
Authoritative Sources 101:

How To
Find & Use Reliable Information



PUBLISHING WORKFLOW

1. AUTHOR DATA IN DEV
2. TEST WEB LAYERS AND APPS
3. PROMOTE TO PRODUCTION
4. PUBLISH TO ENTERPRISE
5. REPUBLISH SELECT LAYERS TO AGOL
6. MANAGE VERSIONS FOR EDITING WORKFLOWS
7. CREATE WEBHOOKS TO STREAMLINE EDITING VERIFICATION
8. METADATA REVIEW AND DEPLOYMENT



AGOL for Public & Field Ops

Dashboards and story maps

Field Maps & Survey123

AGOL used for scalability, public traffic, partner access, non-sensitive data

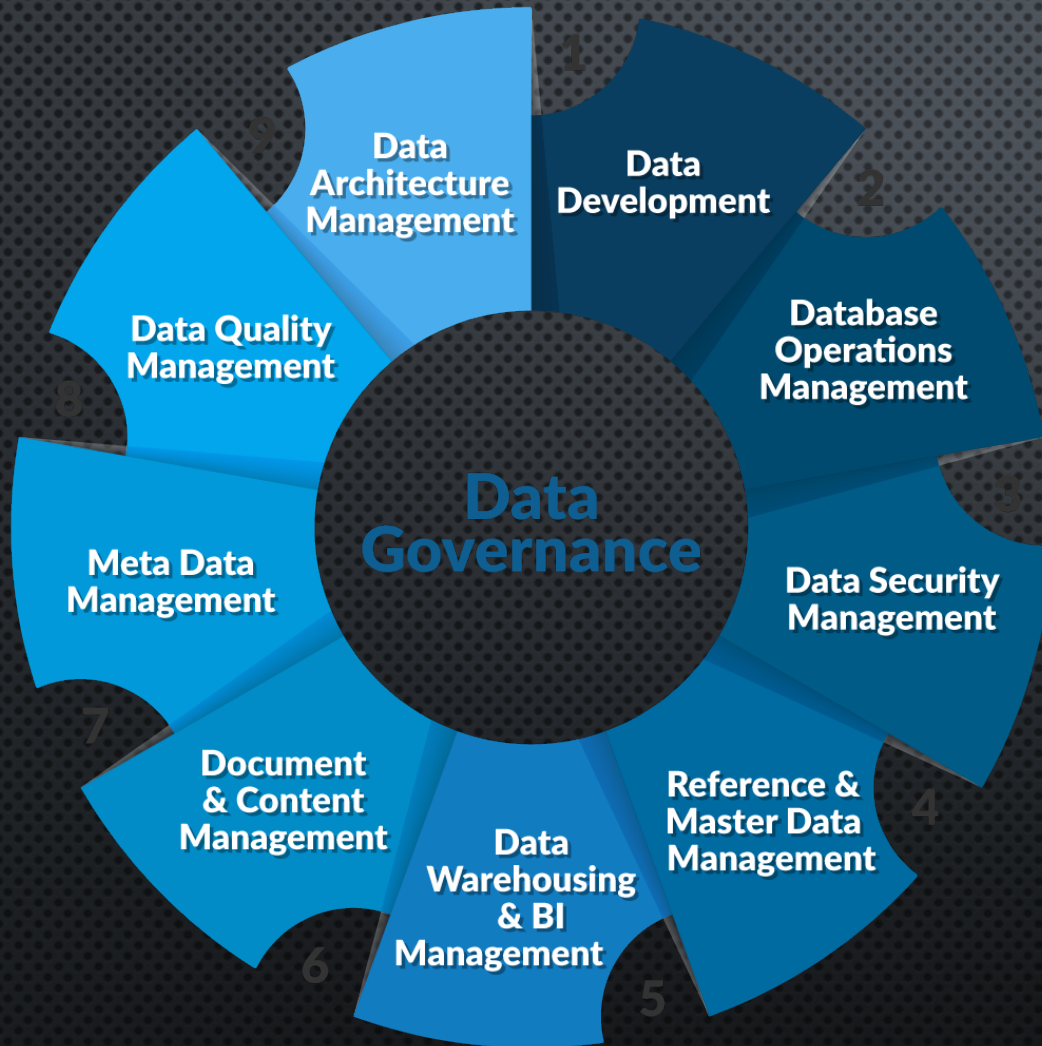
Authoritative datasets stay in Enterprise and replicate outward



The Process Behind Field Data Collection



DATA GOVERNANCE & QUALITY



- ESTABLISH A GIS COMMITTEE TO ASSIST IN DECISION MAKING
- VERSIONED EDITING
- SCHEMA DEV → PROD PIPELINE
- AGOL REFRESH SCHEDULES
- ATTRIBUTE RULES & DOMAINS
- DOCUMENTED PUBLISHING STANDARDS

SECURITY & ACCESS CONTROL

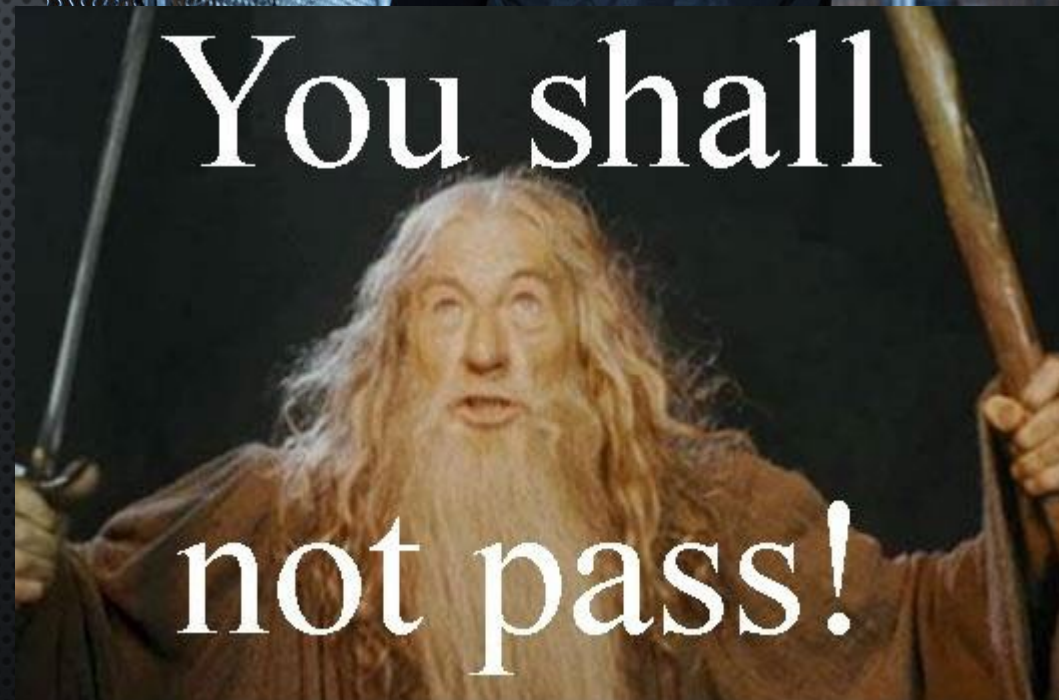
ENTERPRISE: AD GROUPS

AGOL: PRIVATE → GROUP → ORG → PUBLIC

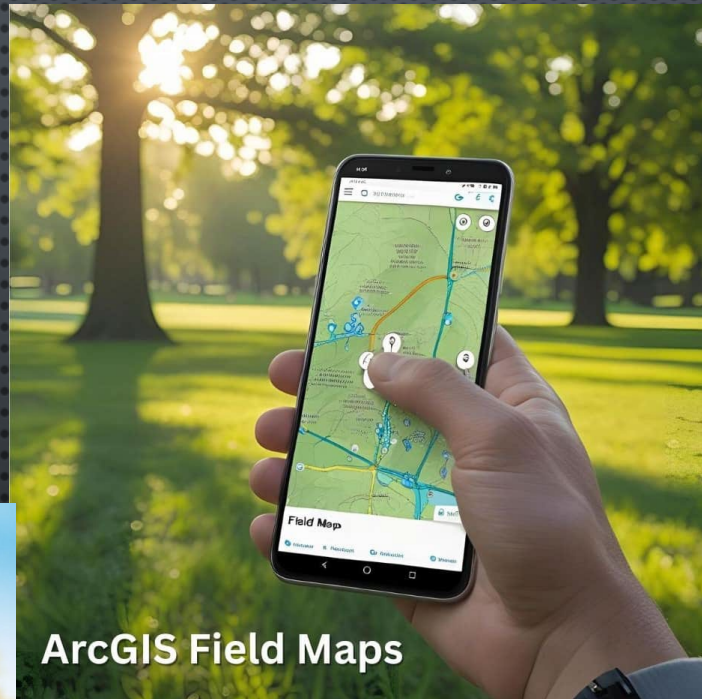
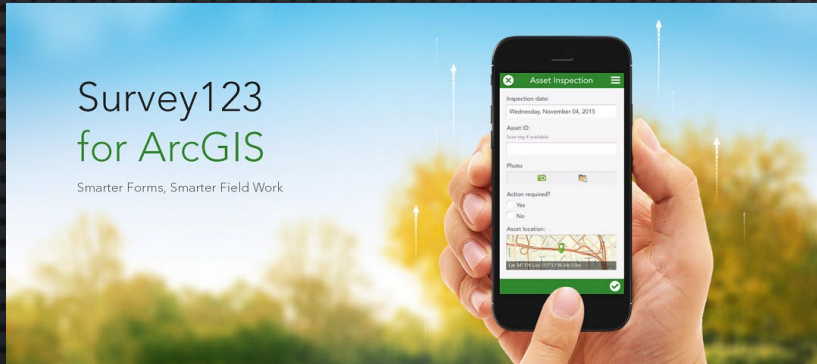
API KEYS FOR CUSTOM APPS

REGULAR ACCESS AUDITS

SEPARATE AUTOMATION CREDENTIALS



FIELD WORKFLOWS



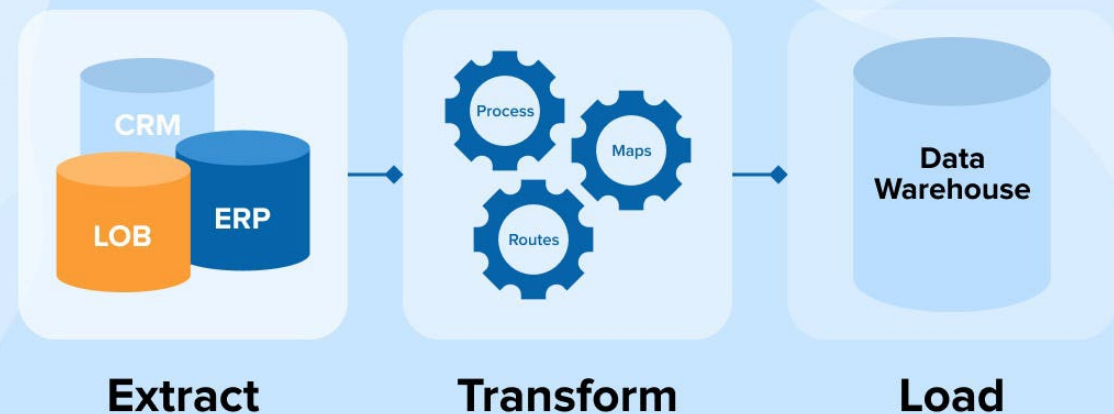
- FIELD MAPS: ASSETS, HYDRANTS, SIGNS, INSPECTIONS
- SURVEY123: CITIZEN/INTERNAL FORMS
- WORKFORCE (TO BE IMPLEMENTED)
- AUTOMATED SYNC TO ENTERPRISE (FUTURE GOAL)

INTEGRATIONS & AUTOMATION

- PYTHON AUTOMATION
- SCHEMA VALIDATION
- HOSTED LAYER UPDATES
- NIGHTLY ETL (EXTRACT TRANSFORM AND LOAD)
- HUB/OPEN DATA SITE



ETL Process (Extract, Transform, Load)



CURRENT PROJECTS



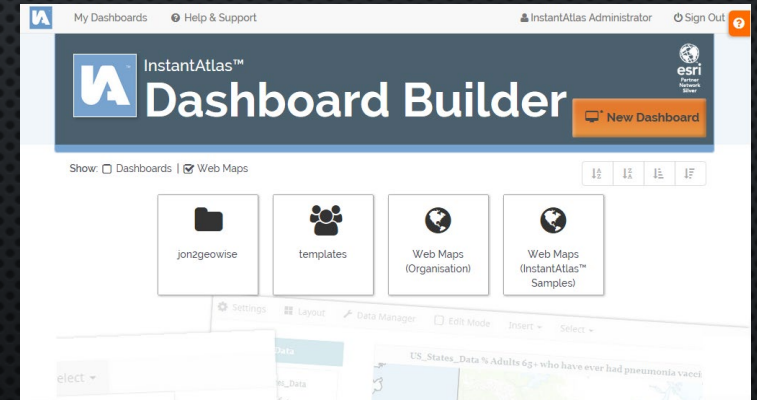
ASSET INVENTORY UPDATE

ESTABLISH A GIS COMMITTEE

AGOL/ENTERPRISE REORGANIZATION

DASHBOARD CREATION

IDENTIFY DEPARTMENTAL NEEDS



LESSONS LEARNED

Always test in Dev

Keep AGOL organized

Automate replication

Enterprise performance tuning matters

Documentation helps onboarding



**BUT DID YOU
DOCUMENT IT?**

ROADMAP



- Expand mobile collection
- Standardize dashboards
- Improve identity/group structure
- Explore AI analytics
- Cloud migration evaluation

Q&A

Thank you!

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