



from the ashes
of shapefiles



Zanesville, OH



Demographics

Population	25,376
Median Age	37
Median HH Income	\$28,258
Poverty	29.3%

Historical Context

Esri Licensing Since 2000

Two GIS Users

City Engineer

CAD Technician

Legacy Setup

ArcMap & ArcPad

Shapefiles & Rasters

Internal Network Share

20 Years of Data

~300 Shapefiles

20GB Vector Data

100s of MXDs

100s of .lock Files

- _GIS_Databases
- _QGIS_Styles
- Admin Boundry
- BUILDINGS
- Centerlines
- Downtown_D5L_Zone
- Emails DK
- Flood NFHL
- GPSPoints
- Hydro
- Indexgrid
- Maps_QGIS
- MUSKINGUM_DFIRM_2010
- NHD
- Orthogrid
- Prop D
- Rentals
- SectionQuarter
- SOIL
- Survey Markers
- THE SYSTEM
- Trails
- Wards
- Watershed Database
- ZIPs
- extract_area.dbf
- extract_area.shp
- InOldNotInNewAdd.prj
- InOldNotInNewAdd.shp.xml
- qgis-ltr-bin.exe.manifest
- StructInOldFlood.sbx
- StructInOldNotNew.dbf
- StructInOldNotNew.shp
- StructuresInNewFloodNotInOld.prj
- StructuresInNewFloodNotInOld.shp.xml
- Water.tbx

- _Layers
- _Styles_ArcPRO
- Admin US
- Canal
- City Data
- ELECTIONS
- EOP
- Flood500
- Historic Maps
- Hydroline
- Major Watersheds
- Master
- National Gas
- NRIS_CR_Standards_Public
- Parks
- Rail
- ROW
- Sewer County
- spots
- Tax Parcel
- TOPO
- TREE CANOPY
- WATER
- Wells
- ZONING
- extract_area.prj
- extract_area.shp.xml
- InOldNotInNewAdd.sbn
- InOldNotInNewAdd.shx
- StructInOldFlood.dbf
- StructInOldFlood.shp
- StructInOldNotNew.prj
- StructInOldNotNew.shp.xml
- StructuresInNewFloodNotInOld.sbn
- StructuresInNewFloodNotInOld.shx

- _Layouts_ArcGIS_Pro
- _symbols
- Annexations
- Cemeteries
- Community Development
- Electric
- Fire
- floodway
- Historical Districts
- Impervious
- Maps
- MasterTemplateDefault.gdb
- National Geodetic Survey
- ODOT_GCAT
- PAVER
- RCAP
- School_District
- Sexual Offenders
- Stormwater
- Temporary
- Township
- Tree_Inventory
- Water County
- Wetlands
- arcmap-styles.style
- extract_area.sbn
- extract_area.shx
- InOldNotInNewAdd.sbx
- MasterToolbox.tbx
- StructInOldFlood.prj
- StructInOldFlood.shp.xml
- StructInOldNotNew.sbn
- StructInOldNotNew.shx
- StructuresInNewFloodNotInOld.sbx
- Temp City Storm Sewer.lyr

- _Layouts_QGIS
- ADDRESSES
- BridgeCulverts
- Census
- DEM
- Electric Downtown
- Flood Map
- GeoXT Master
- Historical Markers
- ImportLog
- Maps_Archive
- MRSID
- New File Geodatabase.gdb
- ODOT_TIMS
- POWER LINES
- Recycling
- Scratch Shapefiles
- Sidewalks
- Street Signs
- Temporary2
- TownshipRange
- USGS
- Watershed
- Y Bridge Pump
- extract_area.cpg
- extract_area.sbx
- InOldNotInNewAdd.dbf
- InOldNotInNewAdd.shp
- QGIS_Temp_GPKG.gpkg
- StructInOldFlood.sbn
- StructInOldFlood.shx
- StructInOldNotNew.sbx
- StructuresInNewFloodNotInOld.dbf
- StructuresInNewFloodNotInOld.shp
- test.mxd







File Geodatabases



FGDB Benefits

Domains

Feature Datasets

Geometric Networks

BUT...



FGDB Issues

Local FGDB Not Backed Up

S l o w Network

rANd0m Data Loss

Esri Support

*FGDB served over a
network share is
NOT a supported
setup*

Solution

RDMS Database on
Enterprise



No Esri Enterprise

SQL Server Express



Get Glowing Review From
SQL Exp User

Repurposed Server

Windows Server 2012

8 Cores, 16GB RAM

Setup SQL Server Express, Permissions & Import Data

Everything
was working
great...



SQL Express Issues

Slow to Select/Start Editing

Three Connection Limit

4GB Mem Limit

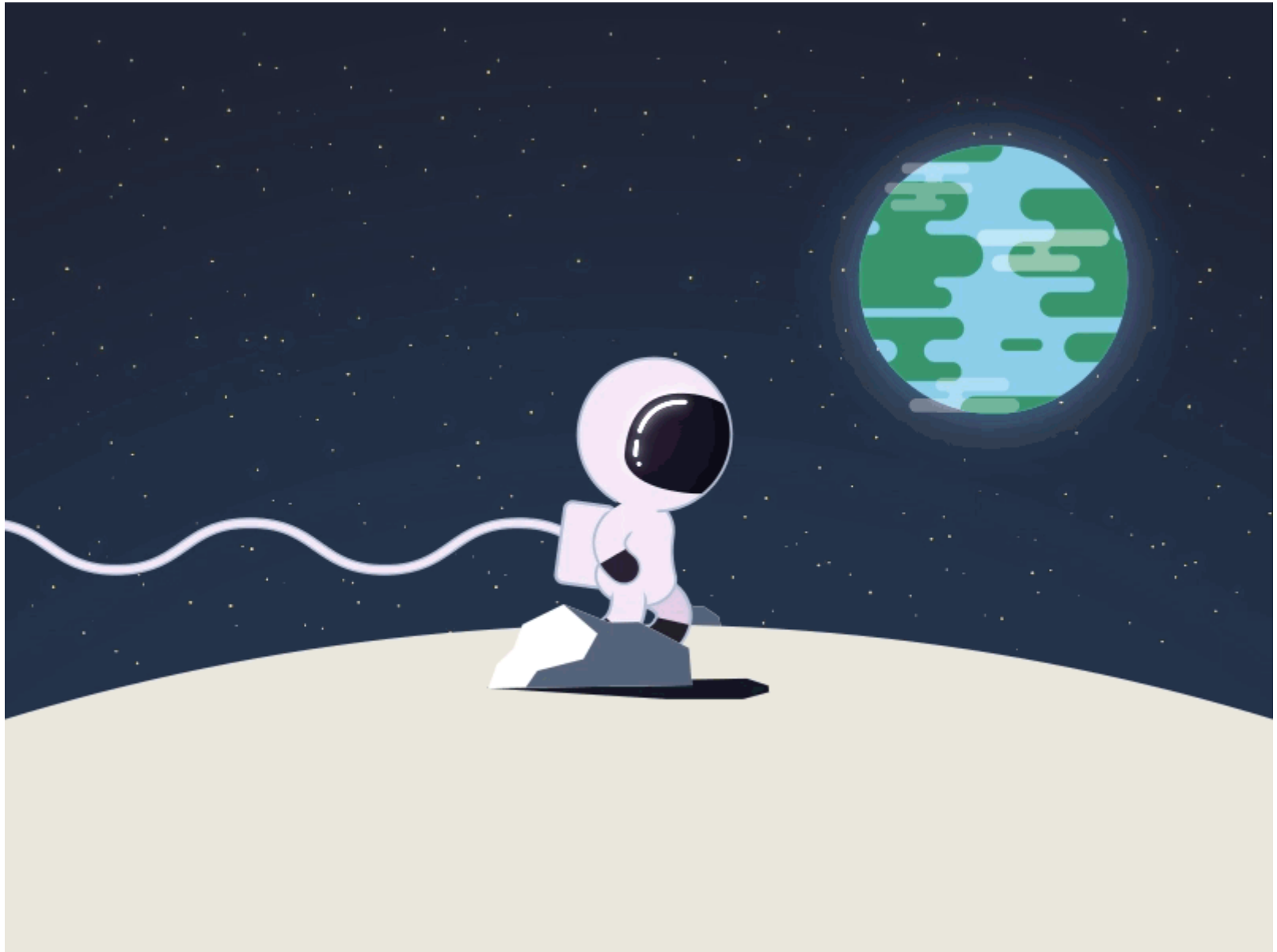


~~Shapefiles~~

~~FGDB~~

~~SQL Server Express~~

😊 Alternatives 🤔



QGIS +



Overview

Database

PostgreSQL v11 &

PostGIS v3.0

PostgreSQL v11

Postgres First Released in
1996

View-Only Support in ArcMap
& ArcPro

Desktop

QGIS 3.1

Editing & Print Maps

ArcGIS Pro

Editing of AGOL & Print Maps

ArcMap

Viewer for Legacy Users (2)

Web

Database to Web

Postgres ->

NodeJS ->

GeoJSON ->

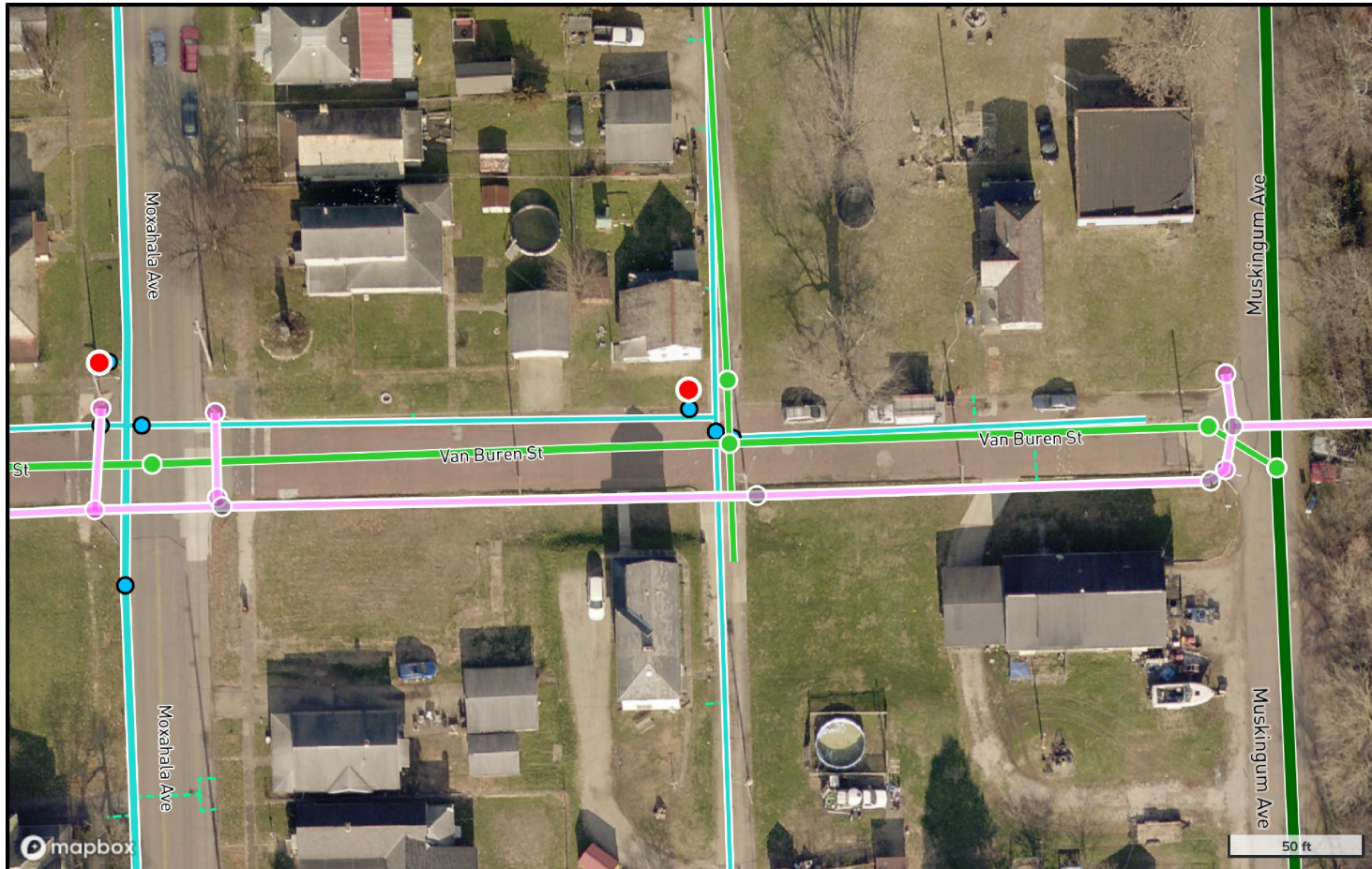
Vector Tiles

Mapbox GL JS

Internal Applications

Public Map Viewer

Simple Print Maps



Map © 2018 City of Zanesville | Imagery © 2015 Muskingum County | © Mapbox © OpenStreetMap | Printed on 9/20/2020 | 1in ~ 50ft

City of Zanesville
Department of Public Service
Division of Engineering

COZ WebMap Export

Map Disclaimer

City of Zanesville does not guarantee the accuracy of this data. This map is subject to all terms and conditions of the disclaimer posted at www.coz.org/map-disclaimer.

ArcGIS Online

Water Utility Data
Collector
Dashboards
WebAppBuilder
Story Maps

Benefits

Postgres/QGIS Benefits

Database Views

Geometry Checks

QGIS Projects stored in DB

Open Licensing

QGIS Plugins

Issues

Missing Features

Editor Tracking

Editing in ArcMap or Pro

Esri Transformations

Geometry Fields

Postgres != ArcGIS Online

Enterprise?

Issues with Upgrading

Administration Changes

Benefits Difficult to Communicate

COVID-19 & Budget Cuts

Future
Direction

Live Web Services

pg_featureserv

pg_tileserv



Shapfiles

*Still used as the
default cross-
platform data
format.*

Contact Info

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