

# A Practical Guide to GIS in AutoCAD Civil 3D (Part 2)

Rick Ellis

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# Who am I...

- Rick Ellis
- Portland, Oregon
- Originally a CAD Manager and Civil Designer
- I've been teaching AutoCAD, Civil 3D, and AutoCAD Map since mid-90's
- Consultant
- Author
- 14<sup>th</sup> year teaching at AU
- Member of the Autodesk University Advisory Council





# Lab Assistants

- Brian Hailey
  - CAD Manager, GEI Consultants
- Sam Lucido
  - Civil Designer and CAD Services Manager, Haley and Aldrich
- R.K. McSwain
  - CAD Manager, LJA Engineering

# Who are you?





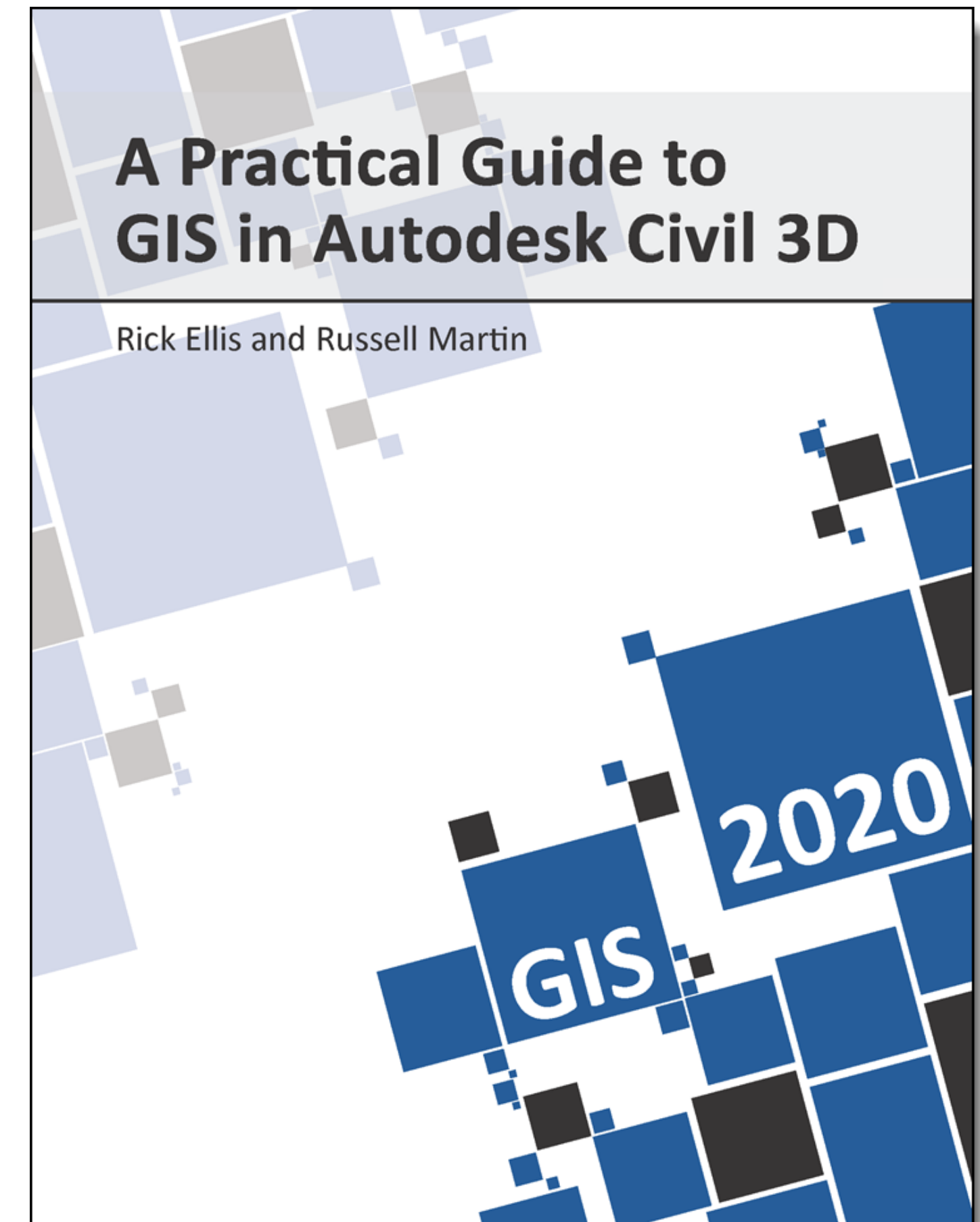
# Class Surveys

- Your class feedback is critical.
- Use the AU mobile app or fill out a class survey online.
- Give feedback after each session.
- AU speakers will get feedback in real-time.
- **Your feedback results in better classes and a better AU experience.**



# A Practical Guide to GIS in AutoCAD Civil 3D 2020

- This class is based on selections from this book.
- I'll give away a copy at the end of the class
- [www.cadapult-software.com/books](http://www.cadapult-software.com/books)



# Course Agenda

- Introduction to GIS in Civil 3D
- Analyze Different types of GIS Data in Civil 3D
- Create Thematic Maps to Display Complex Data
- Export AutoCAD Geometry to Different GIS Formats
- Export Civil 3D Objects to Different GIS Formats

# What About Questions???

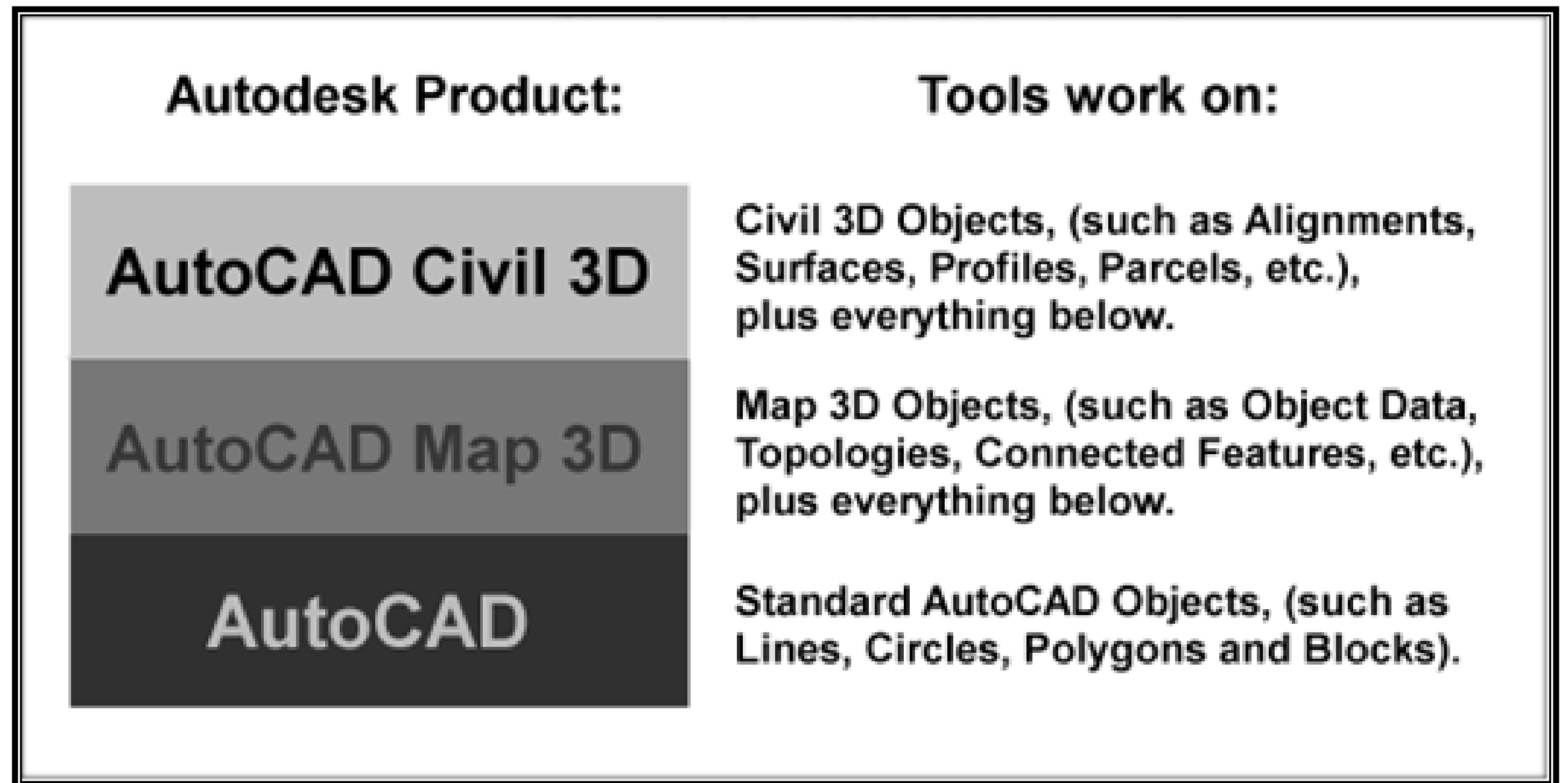
- Lab Assistants are here to help you
- Short time for questions at the end of each topic
- After the session
- Via email





# Introduction to GIS in Civil 3D

- It's really 3 programs in 1
  - So what data can I create and who can use it?



# Analyze Different types of GIS Data in Civil 3D

- Different types of GIS data you may have in Civil 3D:
  - AutoCAD Objects with Object Data or Database Links
  - Features based on connected GIS Data





# Exercise



# Create Thematic Maps to Display Complex Data

In this lesson we will explore:

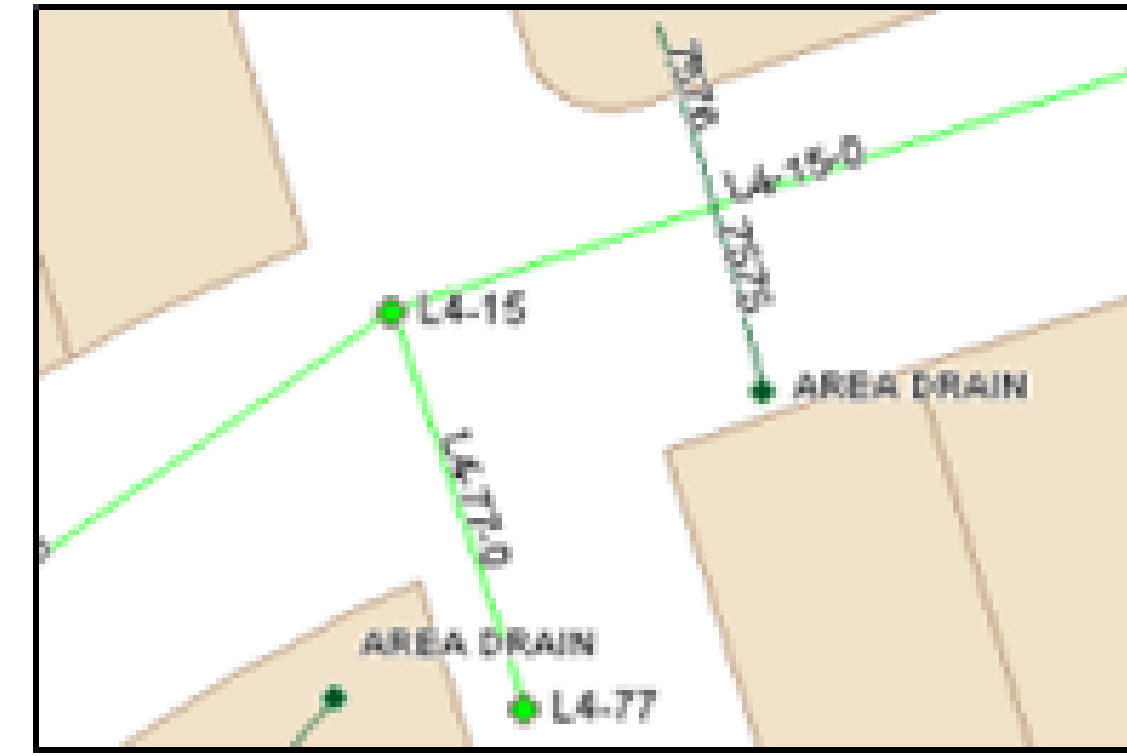
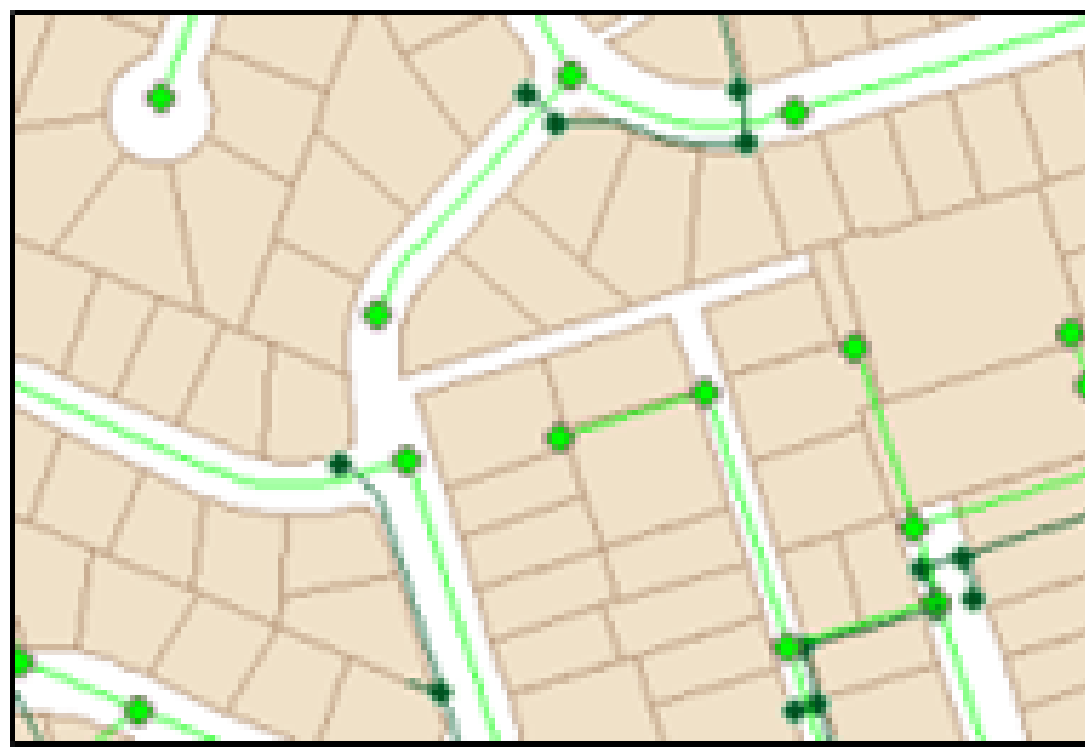
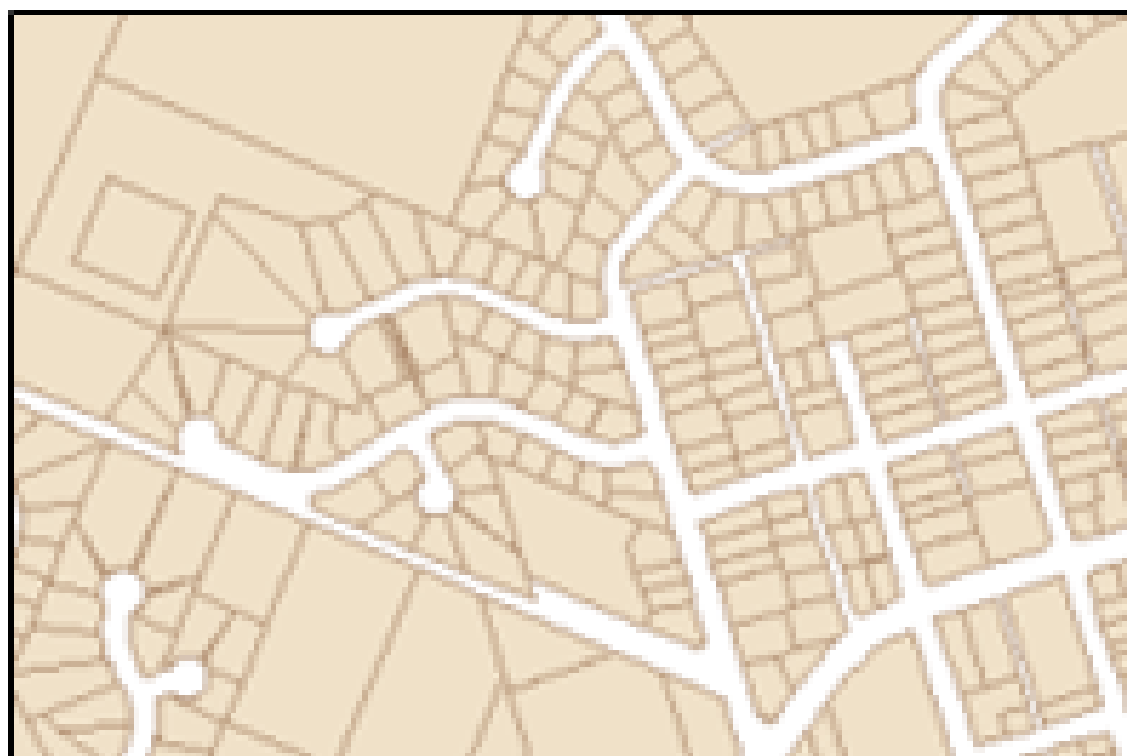
- Using Scale Dependent Styles
- Thematic Mapping of Linear Objects with Object Data
- Thematic Mapping of Polygon Features



# Scale Dependent Styles

Scales can be applied to different styles on the same feature layer

- There are two main approaches to applying scale ranges in a drawing.
  - No Display
  - Change Display Style



# Exercise

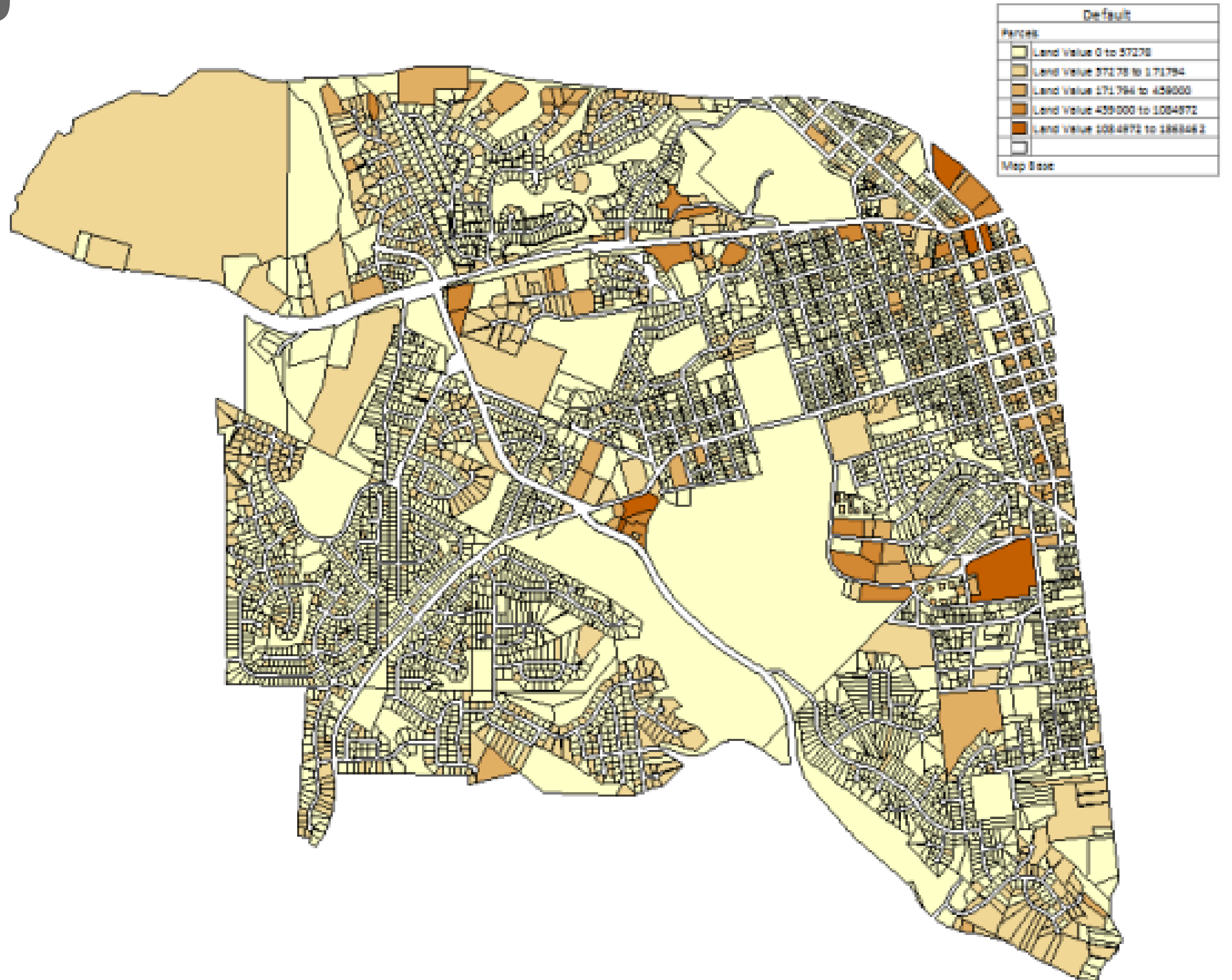




# Thematic Mapping

Thematic maps, in the most general terms, creates pictures based on the data.

- It is a way to see data:
- Trends
- Distribution
- Connections



# Exercise





# Export AutoCAD Geometry to Different GIS Formats

- Important to understand how GIS data is structured
  - Feature Classes
  - Drawing standards a critical
  - You can be selective with the data you export
- Civil 3D objects such as alignments, profiles, parcels, etc., are not exported with this command.

# Exercise





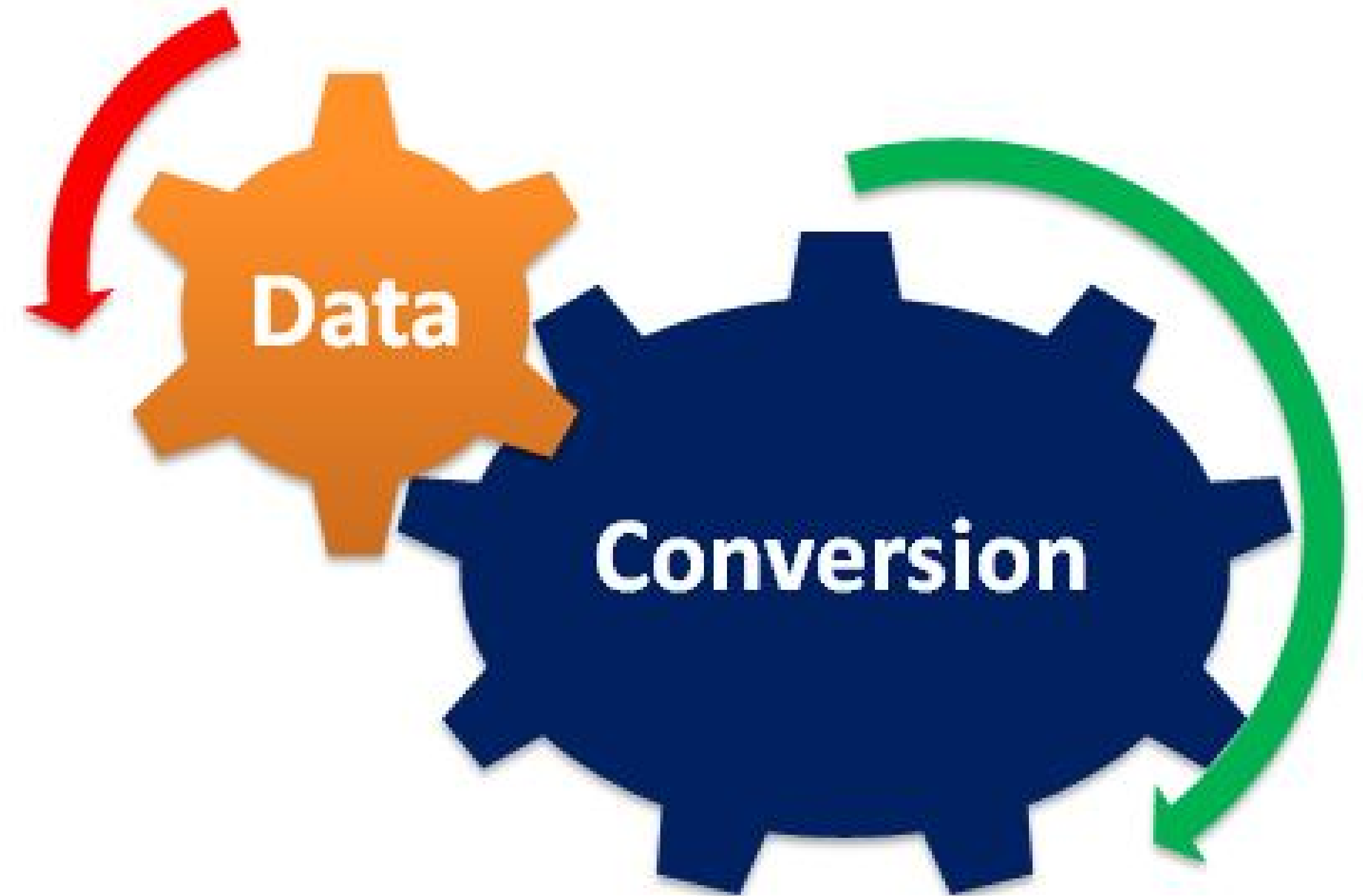
# Export Civil 3D Objects to Different GIS Formats

- Types of Civil 3D objects that can be exported:

- Points
- Alignments
- Parcels
- Pipes
- Structures

- Two step process

- Export to an SDF
- Bulk Copy to the desired format



# Exercise





# Other useful GIS tools in Civil 3D

- Drawing Cleanup tools
  - Automate the process of cleaning many common geometry errors
- Thematic Mapping
- Dynamic North Arrows, Scale Bars and Legends
- Map Books

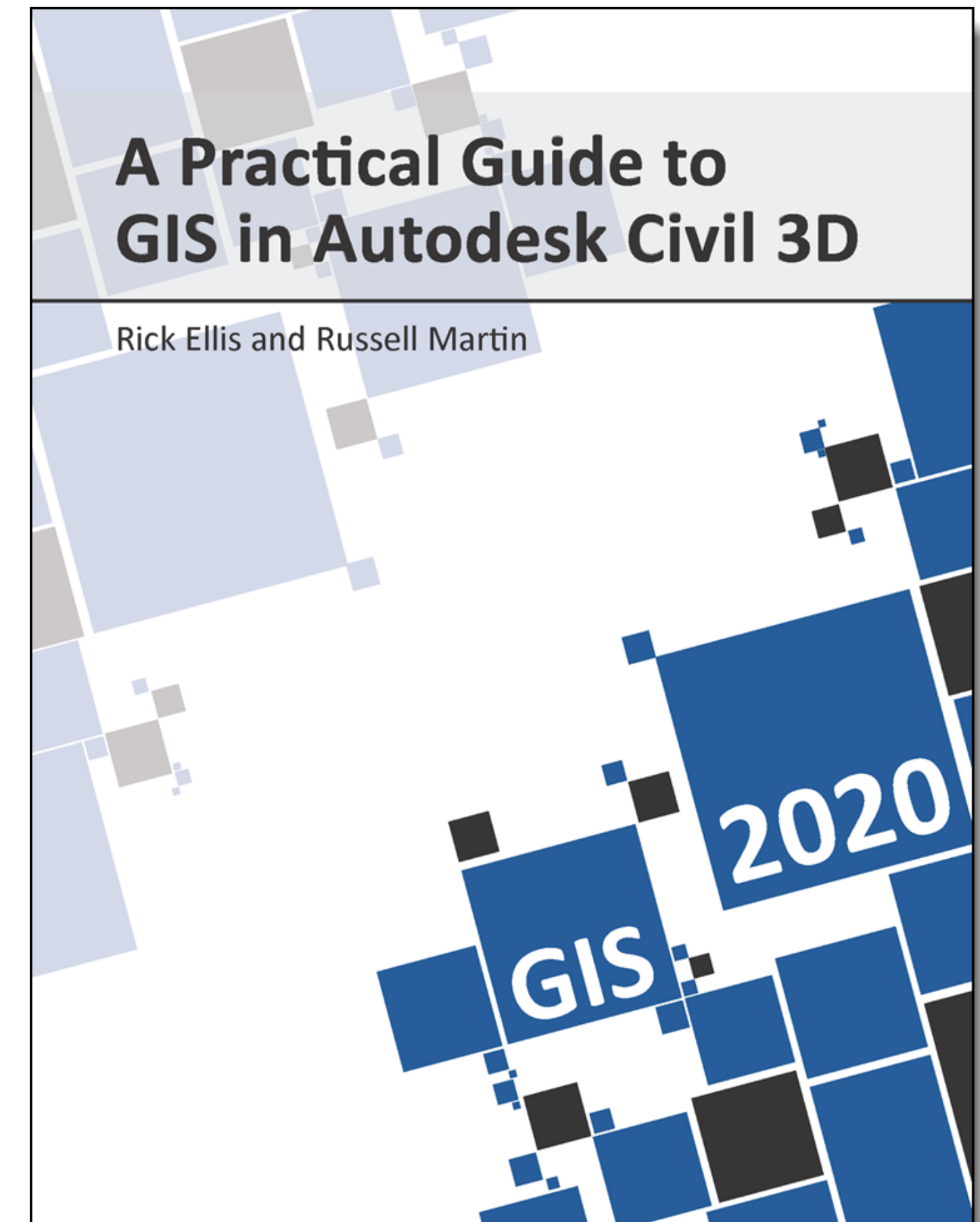
# How did you like the presentation on your device using FXP Touch?

- A. It was great and made the class better.
- B. I didn't like it or had problems with it.
- C. I didn't try it.



# A Practical Guide to GIS in AutoCAD Civil 3D 2020

- This class is based on selections from this book.
- We have only scratched the surface of this topic.
- Get your copy at:
  - [www.cadapult-software.com/books](http://www.cadapult-software.com/books)



# Still have Questions???

- Via email
  - [rick@cadapult-software.com](mailto:rick@cadapult-software.com)





Thank you for your time and attention!

Don't forget to fill out the class survey!

Rick Ellis

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