

Attachment #1

Transforming Data into Visual Tools (2 Hours) VAAO Presentation Outline

Excel Analytics – Tate Dietrich 65 min

- Functions (Formulas) 1:00 PM – 1:15 PM
 - Overview of functions
 - How functions can be utilized to summarize & present data
 - Demonstration
 - Residential Summary
 - Data Requests
- Visually Summarize Data 1:15 PM – 1:25 PM
 - Pivot Tables & Pivot Charts
 - Examples of summarized data
- Interactive Dashboard 1:25 PM – 1:50 PM
 - Creating a Data Model
 - Filter Connections
 - Table Relationships
 - Demonstration
 - Residential Dashboard
 - Commercial Dashboard
- Applicability to Assessment 1:50 PM – 1:55 PM
- Q & A 1:55 PM – 2:05 PM

GIS / Mapping & Spatial Analytics – Jason Cash 55 min

- Overview of Software Platforms and integration 2:05 PM – 2:15 PM
 - EagleView Pictometry
 - ProVal
 - ESRI ArcGIS
- Examples of how these platforms can create visual tools 2:15 PM – 2:25 PM
 - Reference/Review
 - Analytics/Modeling with live updates
- Project Spotlight – ‘Flood Influences’ 2:25 PM – 2:50 PM
 - Static vs Dynamic Mapping
 - Data Preparation
 - Table Joins & creating the ‘Intersect’
 - Demonstration
 - Updated FEMA Flood Map & land influences
- Q & A 2:50 PM – 3:00 PM

Attachment #2

Tate Dietrich, Commercial Supervising Appraiser – City of Roanoke, VA

Tate Dietrich has been a member of the City of Roanoke's Real Estate Assessment Office and VAAO for nine years. Tate is a Certified General Real Estate Appraiser, and serves as the Commercial Supervisor. Tate has been in the Real Estate industry for almost 13 years, since graduating with his Bachelor's degree from Christopher Newport University in 2011. He currently leads a project to source, analyze, and present data to support the City's Economic Development office.

Jason Cash, Residential Appraiser - City of Roanoke, VA

Jason Cash serves as a residential appraiser for the City of Roanoke VA and has been in the Real Estate Office for just over two years now. Prior to that he served in various capacities in the City's Department of Technology for 15+ years including over 10 years focused in GIS. Jason has a Master's Degree in Geographic Information Systems (GIS) and a Graduate Certificate in Local Government Management from Virginia Tech. In addition, he has training in business process improvement and is a Lean Six Sigma Green Belt Practitioner. He is currently overseeing efforts for the City's Real Estate Office to obtain IAAO's 'Certificate of Excellence in Assessment Administration'.

Tate Dietrich

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Employment History

City of Roanoke

Roanoke, VA

Supervising Appraiser – Commercial Real Estate

February 2024 – Present

- Supervise assigned commercial real estate staff, appraise residential and commercial/industrial real property, and ensure completion of annual reassessment of City of Roanoke's commercial/multi-family portfolio.
- Assign designated areas to staff, schedule commercial reassessment calendar, and review all commercial/multi-family assignments for completion and accuracy to submit to Deputy Director.
- Assist with residential analysis and train staff members on proper methods and techniques to value commercial real estate.
- Utilize knowledge of state laws and city codes as they relate to assessment of real estate for tax purposes and confidently able to defend established values.
- Complete on-site inspections, perform necessary research, prepare detailed reports for appeals, sales, building permits, rehabs, subdivisions, rezoning, easements, street and alley closings.
- Research and report appropriate market data and trends in a professional and comprehensive presentation for potential commercial developments.

Appraiser II – Commercial Real Estate

April 2021 – February 2024

- Completed annual reassessment of assigned commercial and multi-family neighborhoods and sectors through knowledge of appraisal theory and concepts. Designed and utilized data spreadsheets to analyze and reconcile assessment values to enter into ProVal.
- Utilized knowledge of state laws and city codes as they relate to assessment of real estate for tax purposes and confidently able to defend established values.
- Completed on-site inspections, performed necessary research, prepared detailed reports for appeals, sales, building permits, rehabs, subdivisions, rezoning, easements, street and alley closings by designated deadlines.
- Reviewed and prepared all associated paperwork for documentation/records, provided accurate building sketches, applied judgment to ensure equitable assessments.

Appraiser II – Residential Real Estate

September 2015 – April 2021

- Completed annual reassessment of assigned residential neighborhoods through knowledge of appraisal theory and concepts, building and utilizing data spreadsheets, the Computer Assisted Mass Appraisal System, and by meeting the established deadlines for all work.
- Utilized knowledge of state laws and city codes as they relate to assessment of real estate for tax purposes and is able to defend values established.
- Complete on-site inspections, perform necessary research, prepare detailed reports for appeals, sales, building permits, rehabs, subdivisions, rezoning, easements, street and alley closings by designated deadlines.
- Researched and prepared all associated paperwork for documentation/records, provided accurate building sketches, applied judgment to ensure equitable assessments.

ACT Appraisal

Chantilly, VA

Appraisal Coordinator

November 2013 – September 2015

- Entered, assigned, tracked status, and reviewed appraisal orders upon receipt.
- Responsible for all communication between clients and appraisers.
- Coordinator for two largest clients (Prosperity Mortgage, Caliber Home Loans), top three in turn time and profit every month.

JPMorgan Chase

Falls Church, VA

Appraisal Coordinator

November 2011 – September 2013

- Processed loan applications from the application process through closing.
- Verified documents, determined qualification, effectively communicated with applicants and ensured a high level of customer service.
- Responsible for ensuring that all loan documentation is complete and accurate.

Education

Christopher Newport University

Newport News, VA

Bachelor of Arts

Major: History Minor: Political Science, U.S. National Securities Studies

2011

Certifications

Certified General Appraiser

Virginia License No. 4001017688

2023

Organizations

Virginia Association of Assessing Officers

Member [2015-Present]

- Attend annual and semi-annual meetings and education seminars

Atlantic Coast Collegiate Hockey League

Scheduling Supervisor, SW Region [2019-Present]

- Coordinate and schedule officials for men and women's collegiate hockey teams in southwest Virginia, and surrounding areas.
- Recruit and train officials, review submitted game incident reports.

Christopher Newport University Ice Hockey Alumni Chapter

Secretary [2014-Present]

- One of the four founding members of the Chapter.
- Organized first ever Ice Hockey Alumni game at Christopher Newport University.

Christopher Newport University Club Ice Hockey Team

President [2010-2011]

- Developed outstanding leadership, time management, and budgeting skills.
- Productively managed the team schedule, budget, recruitment, and game operations.

Other Skills

- Microsoft Word, Outlook, Excel, Access, PowerPoint, SQL Server, Adobe Products.
- ProVal, TrakIt, CoStar, Multiple Listing Service, Maps, Pictometry, ArcGIS Pro.

Jason M. Cash

8343 Arabian Lane, Catawba, VA 24070
(757)630.6718 jcashhokies@gmail.com

SUMMARY OF QUALIFICATIONS

An experienced leader with over 20 years in the IT industry and a proven track record in:

- strategic planning, analyzing and synthesizing data
- creating metrics and measures that are aligned with organization's goals and mission
- project management experience and implementing lean process improvements
- excellent interpersonal, organizational, oral, written, and presentation skills
 - experienced leader with staff management and team development
 - financial management, budget development and contract oversight

EXPERIENCE

City of Roanoke, VA – Real Estate Valuation

- Residential Appraiser II (Feb. 2022 – Present)
 - Providing the following services as an appraiser on the residential team:
 - Annual assessment of 35 neighborhoods and over 25% of the City's residential parcels
 - Conduct field inspections/interviews, process building permit value changes, analysis sales data and manage formal appeals
 - Oversee initiative for office to obtain industry certification in assessment best practices
 - Serving as office GIS subject matter expert and leading various GIS analysis efforts aimed at improving assessment decisions

City of Roanoke, VA – Dept. of Technology

- Enterprise (Projects/Service Desk/Security) Division Administrator (Dec. 2019 – Feb. 2022)
- Infrastructure Division Administrator (Jun. 2019 – Dec. 2019)
- *Acting* Projects Division Administrator (Apr. 2019 – Jun. 2019)
- *Acting* Infrastructure Division Administrator (Dec. 2018 – Apr. 2019)
- Technology Planning & Strategy Manager (2016 – 2019)
- *Acting* Technology Radio Shop Assistant Manager (2015)
- Technology GIS Project Leader (2012 – 2016)
- Technology GIS Analyst II (2007 – 2012)
- Serving as a department administrator and providing leadership in the following capacities:
 - Department of Technology
 - Standing member of Administrative team focused on department strategic planning
 - Standing member of Management team focused on department initiatives
 - Standing member of Change Review Board (CRB) focused on monitoring IT changes
 - Projects Team
 - Manage portfolio of IT projects including cross departmental resource, financial and resource management
 - Lead and coordinate annual IT capital funding needs
 - Lead and coordinate development of multi-year capital improvement plan (CIP) IT funding needs
 - Oversee project managers/leads responsible for implementing city-wide IT led projects and providing strategic guidance on contract review & issue handling, budget issue handling as well as addressing project scope, schedule and cost challenges
 - Serve as project manager, in some cases, on large scale projects (e.g. E911 Blue Hills Center and Global HR upgrade to Lawson)
 - Technology Planning and Security (TPS) Office

- Oversee manager and team responsible for city-wide cyber-security
 - Oversee manager and team responsible for on-going department business support including budget oversight including on-going reconciliation, invoice payments, requisitions/encumbrances, funds transfers, etc.
- Service Desk
 - Oversee supervisor and team responsible for handling the city-wide 'help desk'
- Other City-wide Areas
 - Standing member of Information Technology Committee (ITC)
 - Standing member of Star City Innovators (SCI) including Advisory Team; involved in City's 'lean' effort since inception ~2015
- Additional financial management experience:
 - Leading ITC Project Review Team (PRT) responsible for prioritizing enterprise capital IT project requests and presenting funding recommendations to senior leadership
 - Managing departmental operating budget development & providing expenditure accounting oversight
 - Serving as contract manager and providing contract review on multiple IT contracts
- Led strategic development efforts including:
 - Creation of a new departmental Technology Program Services (TPS) Office focused on overseeing process improvements, policy development and department financial management; key responsibilities included identifying key strategic opportunities; defining purpose, goals and initiatives; collaborating with department staff on providing immediate and long term strategic recommendations, support, priorities, and operational plans to ensure alignment with the department and organization.
 - Design and implementation of a department-wide project management process based on industry best practices and customized to fit the existing culture; key responsibilities included focusing efforts on areas with highest potential improvement opportunities, development of output templates and coordinating staff training.
 - Key role in development of a department-wide project portfolio and resource management methods and tools; included developing a tool for mapping out current staff resource allocations, visualizing active projects against project management method phases and finalizing a process for sizing and prioritizing project requests
- GIS Specific:
 - Conducted complex GIS analysis using ESRI ArcGIS Desktop software
 - Led enterprise-wide GIS software upgrades & license management
 - Used Microsoft SQL queries to extract and manipulate both spatial & non-spatial data
 - Developed Python scripts to automate data processing
 - Engaged with other City departments to identify GIS needs, develop long-term GIS strategic planning & provide training

US Army Corps of Engineers (USACE), Norfolk, VA

- Geographer

(2003 – 2007)

- Analysis, modeling, data interpretation, and map production
- Desktop and web-based GIS applications design and implementation
- Enterprise data management using industry data standards

EDUCATION

- 2018: **Cortex Leadership Consulting**
 - Leading a Winning Team

Cortex – Roanoke, VA
- 2018: **Batten Leadership Institute**
 - Certificate in Leadership

Hollins University – Roanoke, VA
- 2015: **Weldon Cooper Center for Public Service**
 - Leading Education and Developing (LEAD)

Univ. of Virginia – Charlottesville, VA
- 2014: **Virginia Tech Center for Public Admin. & Policy**
 - Graduate Certificate in Local Government Mgmt.

Virginia Tech - Blacksburg, VA
- 2012: **Foundation for Leadership Excellence I & II**

City of Roanoke, VA
- 2007: **Leadership College**

City of Roanoke, VA
- 2003: **Masters of Science**

Virginia Tech - Blacksburg, VA

- 1999: **Bachelors of Science**

Virginia Tech - Blacksburg, VA

CERTIFICATIONS

- **Project Management Professional (PMP)** (#1937881) Project Management Institute (PMI)
 - June 2016 to June 2022
- **GIS Professional (GISP)** (#60532) GIS Certificate Institute (GISCI)
 - October 2008 to October 2018
- **Lean Six Sigma - Green Belt (CLSSGB)** Virginia Tech
 - June 2015 to Present
- **ITIL v4 Strategic Leader** (#GR670001062JC) Axelos
 - August 2021 to Present



Transforming Data into Visual Tools

VAAO 69th Education Seminar

July 24, 2024

Tate Dietrich

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Jason Cash

jason.m.cash@roanokeva.gov

Utilizing Data in Excel

- ▶ How can you create tools to utilize data?
 - ▶ Functions and Measures
 - ▶ Pivot Tables & Pivot Charts
 - ▶ Connected Tables
 - ▶ Interactive Dashboard



Reference & Logical Functions

VLOOKUP Function

A rectangular box with a blue border containing the text "VLOOKUP Function". Two blue arrows are positioned above and below the box, pointing from left to right.

IF Function

- ▶ Capability to return data from a specified column based on based on an entered value
- ▶ Can be used create summaries, templates, parcel profiles
- ▶ Returns one value based on if condition is TRUE, another value if condition is FALSE
- ▶ Can be used to return data from one table based on data from another
- ▶ Functions & formulas can be used separately or combined to create reports or templates



Templates using Logical Functions

2024 Income Worksheet			
Class:		Tax ID: <input type="text"/>	
Rooms:			
Market Rates (RACK) Avg. Per Room:			
Average Daily Rate (ADR) @ 80%:			
Gross Potential Annual Room Revenue:		Adjusted 10% for Personal Property	
Market Occupancy:		National Select Service Lodging	
Room Income After Vacancy:			
Other/Misc. Revenue:		National Select Service Lodging	
Effective Gross Income:			
Operational Expenses: (Less RE Tax Rate)		National Select Service Lodging	
NET OPERATING INCOME:			
Certified Value:			
Proposed Value:			
CAP RATE SCHEDULE + R.E. Tax Rate		Indicated Value	Per Room Value
Notes:			
2024 Remarks:			
Date:			
Owner:			
Requested By:			
LOA:			



2024 Income Worksheet Springhill Suites by Marriott			
Class: A	301 RESERVE AVE SW	Tax ID: <input type="text" value="1032210"/>	
Rooms:	127		
Market Rates (RACK) Avg. Per Room:	\$150.00		
Average Daily Rate (ADR) @ 80%:	\$120.00		
Gross Potential Annual Room Revenue:	\$5,006,340		Adjusted 10% for Personal Property \$108.00
Market Occupancy:	70%		National Select Service Lodging
Room Income After Vacancy:	\$3,504,438		
Other/Misc. Revenue:	\$350,444		10.0% National Select Service Lodging
Effective Gross Income:	\$3,854,882		
Operational Expenses: (Less RE Tax Rate)	(\$2,505,673)		65% National Select Service Lodging
NET OPERATING INCOME:	\$1,349,209		
Certified Value:	\$13,015,700		\$102,486
Proposed Value:	\$14,396,000		\$113,354
CAP RATE SCHEDULE + R.E. Tax Rate		Indicated Value	Per Room Value
7.50%	8.72%	\$15,472,576	\$121,831
8.00%	9.22%	\$14,633,499	\$115,224
8.50%	9.72%	\$13,880,747	\$109,297
9.00%	10.22%	\$13,201,650	\$103,950
9.50%	10.72%	\$12,585,901	\$99,102
Notes:			
•Barista coffee bar in the lobby, featuring Wolfgang Puck coffee •Contemporary bistro-style restaurant serving breakfast and dinner •Indoor pool with spa, room service. •State-of-the-art fitness center •Sundry shop, open 24 hours a day, seven days a week.			
2024 Remarks:			
Date:			
Owner:			
Requested By:			
LOA:			

Summarizing Data in Excel

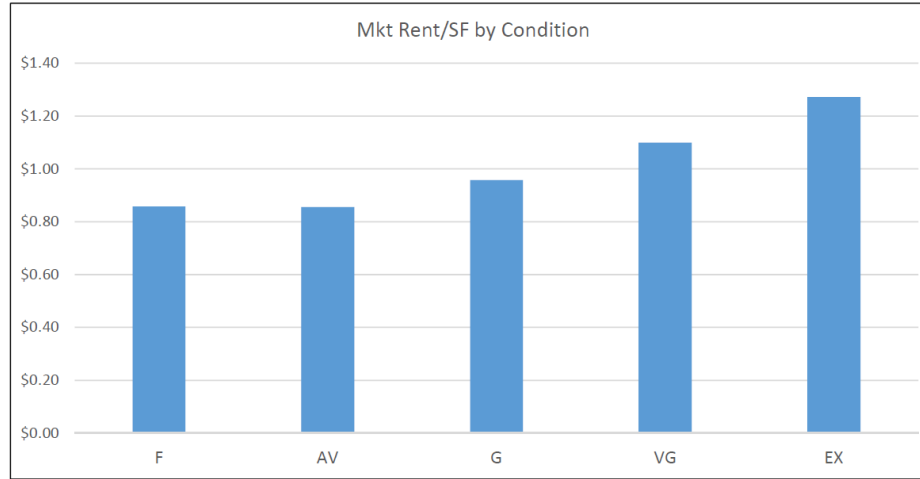
- ▶ Pivot tables & charts illustrate summaries, trends, and patterns
- ▶ Can help make the data seem more easily understood through visual summaries
- ▶ Analyze/review data by different categories



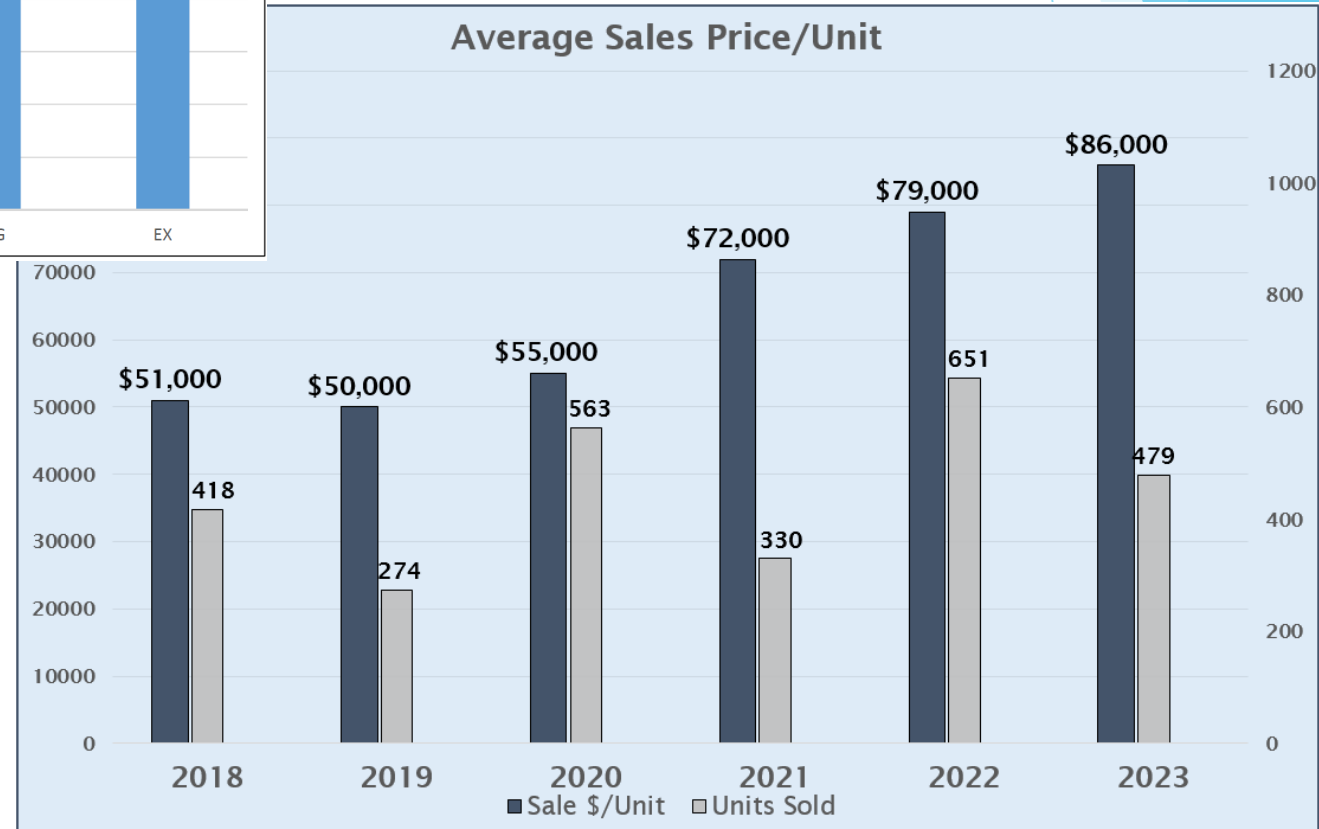


Summarized Data in Excel

Condition	Avg Rent/SF
F	\$0.86
AV	\$0.86
G	\$0.96
VG	\$1.10
EX	\$1.27

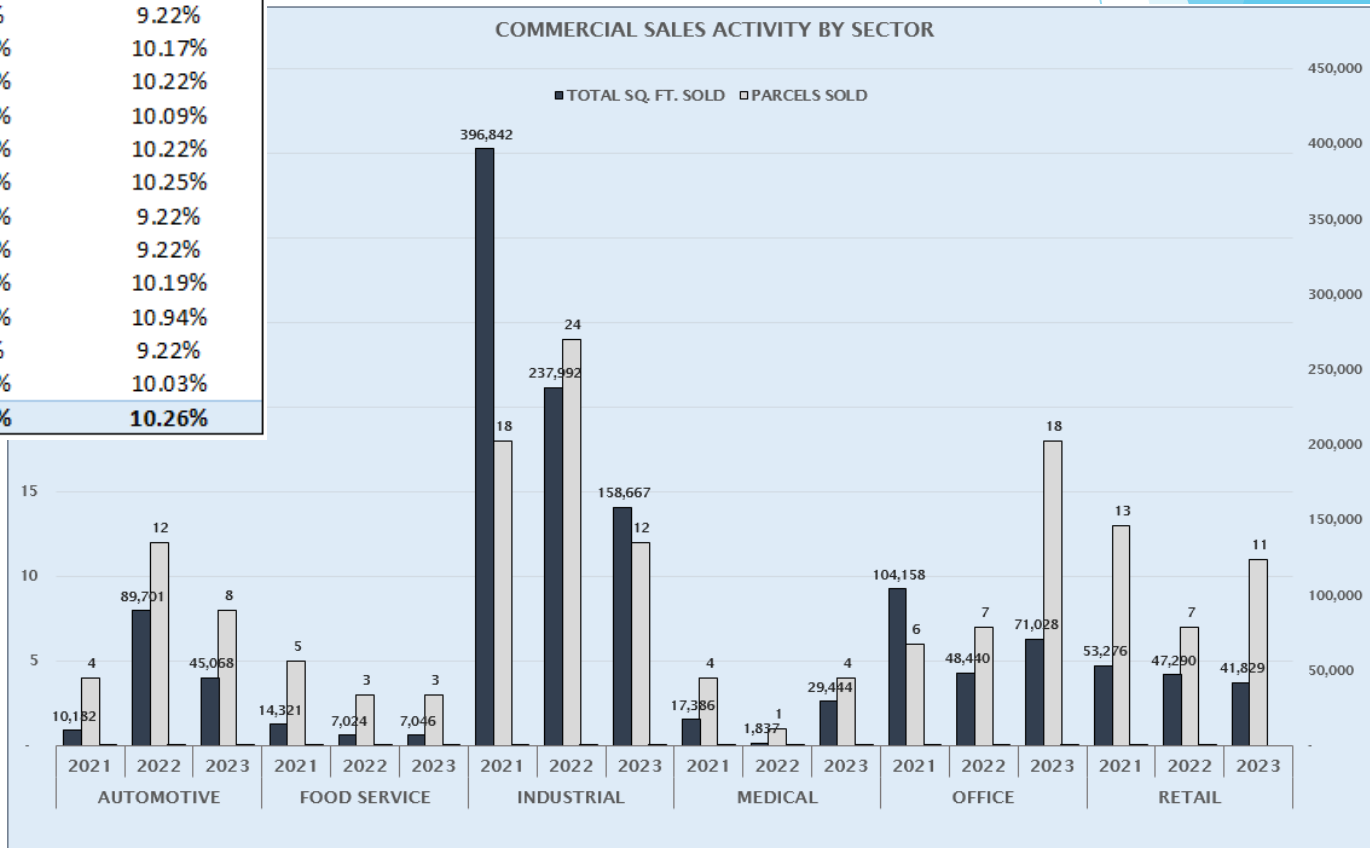


APARTMENT MARKET RENTS						
QUAD	COMPLEX COUNT	TOTAL UNITS	Average of Effic Rent	Average of 1 BR Rent	Average of 2 BR Rent	Average of 3 BR Rent
NE	57	1,527	--	\$636	\$817	\$1,339
NW	120	4,053	\$523	\$557	\$670	\$809
SE	26	606	\$438	\$583	\$678	\$830
SW	216	4,300	\$538	\$647	\$788	\$1,036
AVERAGE	419	10,486	\$500	\$606	\$738	\$1,003



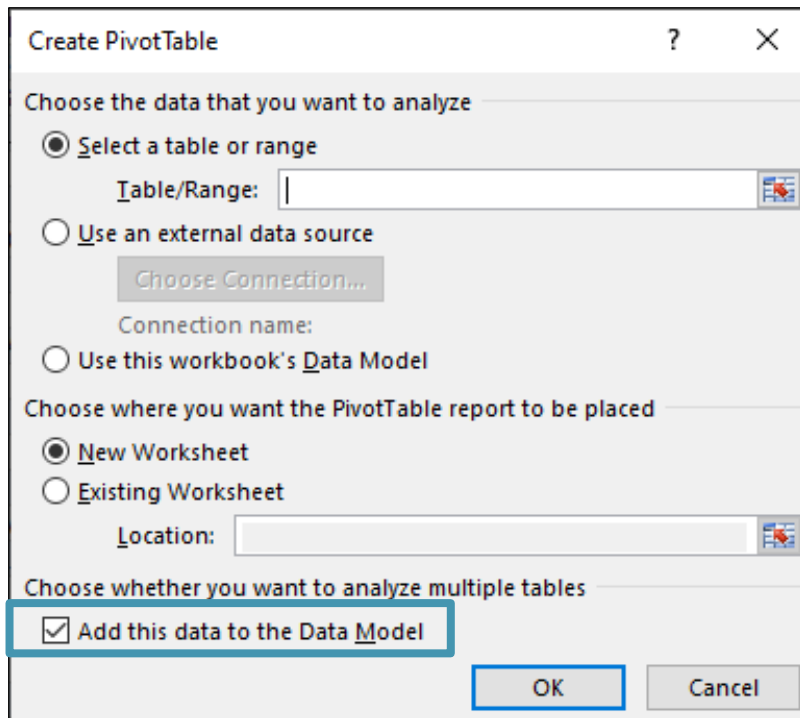
More Examples of Summarized Data

Industrial Market Income Summary				
Use	Avg Market Rent SF	Avg Market Vac & Coll	Avg Market Expense Ratio	Avg Market Cap Rate
Automotive Center	\$8.25	5.0%	5.0%	9.22%
Distribution Warehouse	\$5.12	7.9%	11.7%	10.17%
Industrial Engineering	\$10.00	7.0%	20.0%	10.22%
Industrial Flex Building	\$7.71	7.6%	11.7%	10.09%
Industrials, Heavy Mftg.	\$3.33	15.0%	15.0%	10.22%
Industrials, Light Mftg.	\$5.15	8.4%	12.1%	10.25%
Mixed Retail w/ Office Units	\$8.75	5.0%	10.0%	9.22%
Office Building	\$15.50	5.0%	20.0%	9.22%
Service Repair Garage	\$7.63	6.1%	13.8%	10.19%
Storage Warehouse	\$3.61	10.8%	13.7%	10.94%
Transit Warehouse	\$8.50	5.0%	5.0%	9.22%
Warehouse Showroom Store	\$6.62	7.6%	10.6%	10.03%
Grand Total	\$5.49	8.2%	12.1%	10.26%



Creating a Data Model

- ▶ Name all tables and charts
- ▶ Establish a data model, and add data tables
- ▶ Create relationships between tables



Create PivotTable

Choose the data that you want to analyze

Select a table or range

Table/Range: |

Use an external data source

Choose Connection...

Connection name:

Use this workbook's Data Model

Choose where you want the PivotTable report to be placed

New Worksheet

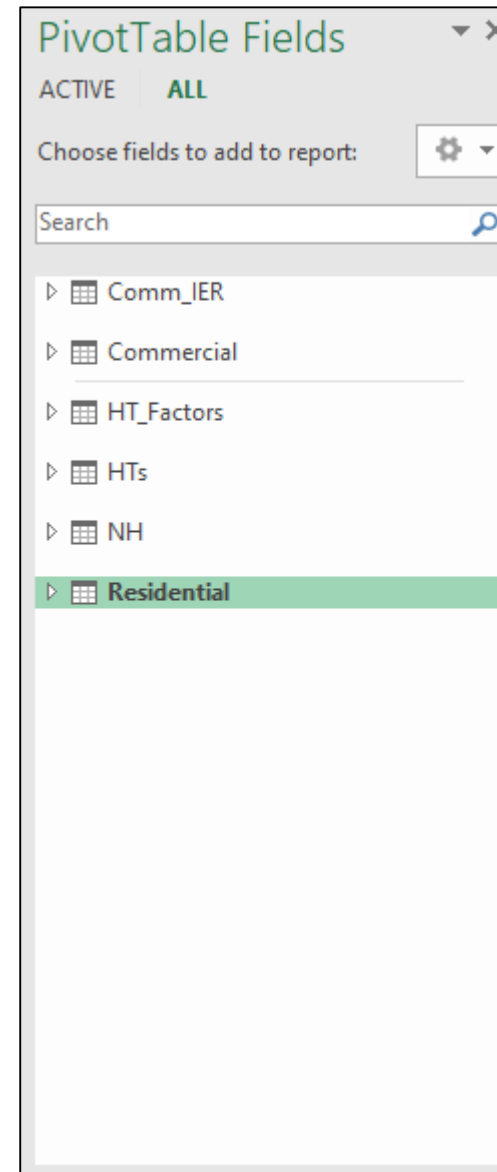
Existing Worksheet

Location: |

Choose whether you want to analyze multiple tables

Add this data to the Data Model

OK Cancel



PivotTable Fields

ACTIVE ALL

Choose fields to add to report: [Settings]

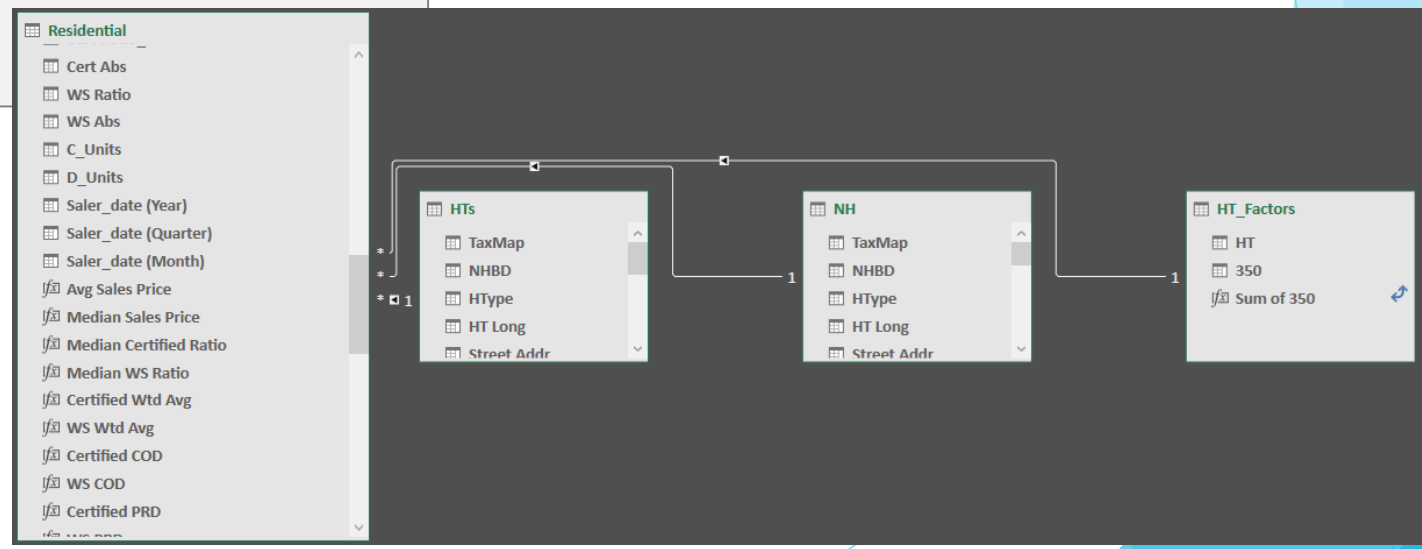
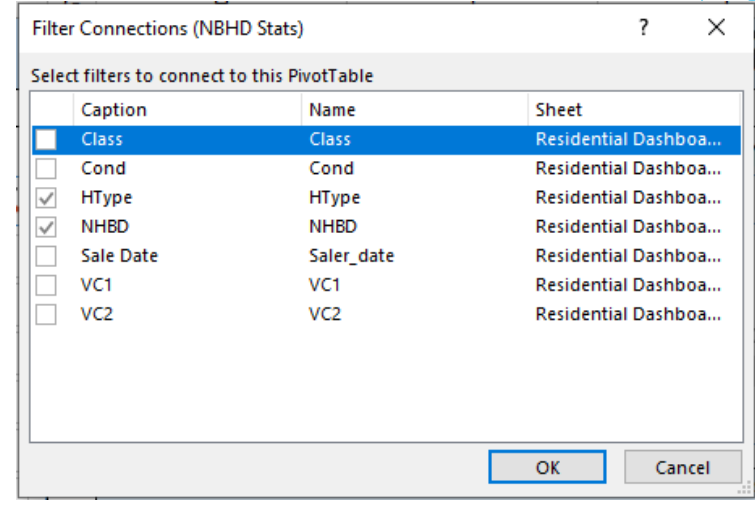
Search

- ▶ Comm_IER
- ▶ Commercial
- ▶ HT_Factors
- ▶ HTs
- ▶ NH
- ▶ Residential

Connections & Relationships

- ▶ **Filter Connections**
 - ▶ Manage which filters control which data

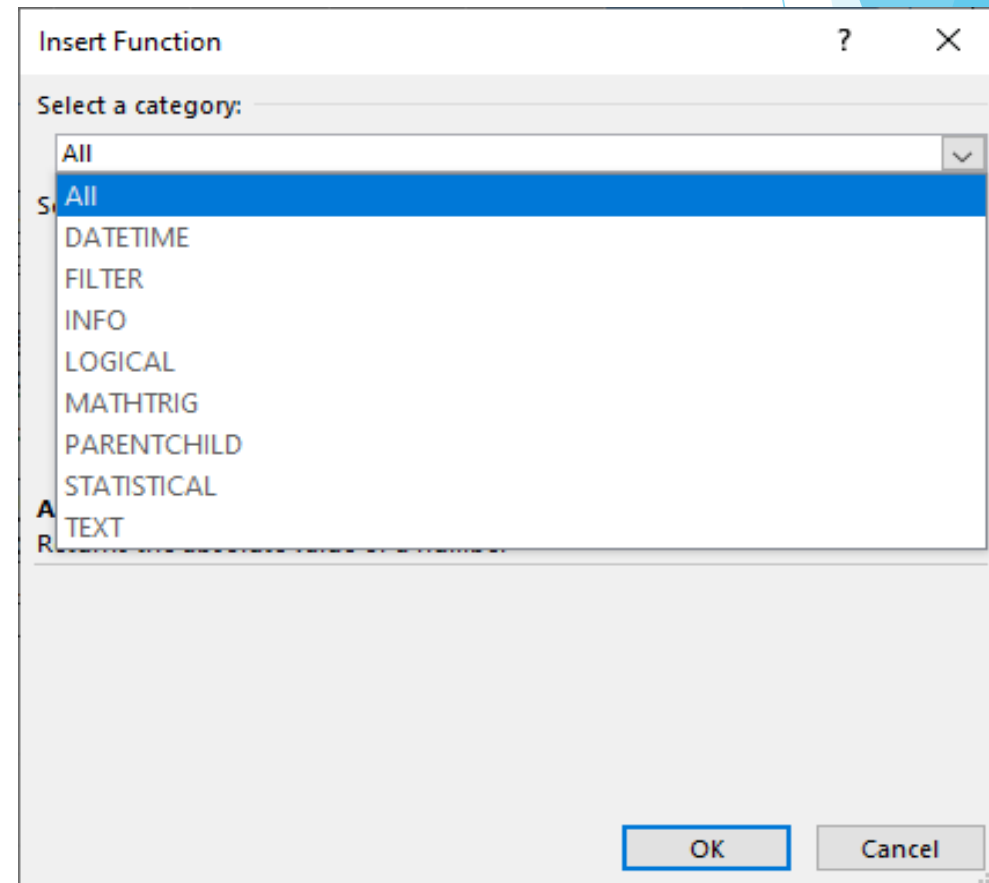
- ▶ **Relationships**
 - ▶ Create relationships between data to show related data from different tables on the same report



Measures [DAX Functions]



- ▶ Utilize your data to it's fullest potential
- ▶ Custom dynamic calculations based on user preference
- ▶ Variety of calculations for visualizing or analyzing data
- ▶ Measures within others measures



Residential Dashboard



2024 Residential Dashboard

Filters

NHBD

11	12	13	14	15	16	17	18	21
22	23	24	25	26	27	28	40	50
61	62	63	64	71	72	91	100	110
111	112	120	121	130	141	142	143	144
150	161	162	163	164	165	166	167	171
172	191	192	201	202	203	211	212	221
222	230	240	250	260	261	281	282	283
290	300	305	310	320	331	332	333	341
342	343	350	361	362	371	372	373	374
381	382	383	384	385	386	387	390	400
420	430	441	442	443	444	450	461	463
464	470	471	472	473	480	492	501	502
503	504	505	510	531	532	533	540	

HType

11	12	13
21	22	41
43	51	61
62	71	72
73	74	92

Class

200
300
310
251
253
254
255

Cond

AV
EX
F
G
VG
P
VP

Sales Summary

Sale Date: 2023 - 2024

Total Sales	Median Sales Price	Average Sales Price
39	\$295,000	\$290,300

Sales to Certified Values					
Median Ratio	Average Ratio	Std Dev	COD	PRD	
88.0%	86.7%	9.91%	8.68	1.01	

Sales to Current Values					
Median Ratio	Average Ratio	Std Dev	COD	PRD	
96.7%	98.2%	8.08%	5.72	1.01	

Median Sales Price History 2020-2024

Year	Median Sales Price
2020	\$195,000
2021	\$234,950
2022	\$241,000
2023	\$291,000
2024	\$295,000

Sales by House Type				
House Type	Volume	Median Sales Price	Median WS Ratio	HT Factor
11	1	\$90,000	104.6%	110
12	3	\$300,000	96.9%	123
13	2	\$257,500	96.9%	123
21	7	\$330,000	96.7%	127
22	7	\$330,000	96.1%	126
41	10	\$266,250	99.1%	114
43	5	\$275,000	96.6%	130
51	1	\$320,000	96.7%	126
61	1	\$360,000	102.2%	119
62	1	\$400,000	94.3%	116
72	1	\$286,150	96.7%	106

Neighborhood Profile

NBHD	Parcel Count	Avg SF	Avg Ac	Avg YB	% Change
350	826	1,455	0.25	1946	8.9%

Certified Median			Proposed Median		
Land	Improvement	Total	Land	Improvement	Total
\$44,100	\$184,300	\$228,000	\$50,700	\$197,850	\$248,450

Housetype Composition

- 11 Older 1 Story
- 12 Older 1+ Story
- 13 Older 1 Story + Attic
- 21 Older 2 Story
- 22 Older 2+ Story
- 41 Newer 1 Story
- 43 Newer 1 Story + Attic
- 51 Newer 1+ Story
- 61 Newer 2 Story
- 62 Newer 2+ Story
- 71 Split Level
- 72 Split Level
- 73 Split Level

Grade

- AVG
- AVG-
- AVG+
- Fair
- Fr+
- Gd-
- Good

Condition

- AV
- EX
- F
- G
- P
- VG



Commercial Dashboard

Commercial GRA Summary

Reconciliation Summary

Median Cost Ratio	Median Income Ratio	Median Sales Ratio	Percent Change
83.8%	94.9%	91.5%	6.9%

SECTOR	USE		
AGRICULTURAL	AIRPORT	ARTS-REC-ENTERTAIN	Automotive Center
AUTO DEALER	AUTO DEALER - MA...	AUTOMOTIVE	Barn
BANK	BED & BREAKFAST	CELL TOWER	Bulk Oil Storage
CEMETARY	CHURCH	CONVERTED HOUSE	Cold Storage Facility
EDUCATIONAL	GOVERNMENT	HOSPITAL	Distribution Warehouse
HOTEL	INDUSTRIAL	KENNEL	Equip. Storage Bldg.
MIXED- RETAIL & AP...	MIXED- RETAIL & OF...	MIXED USE APARTM...	Equipment <Shop> Building
MOBILE HOME PARK	NURSING/GROUP LI...	OFFICE	Fuel Tanks
OFFICE - MEDICAL	PUBLIC ASSEMBLY	PUBLIC UTILITIES	Gas Manufacturing
RESIDENTIAL	RESTAURANT	RETAIL	Industrial Engineering
RETAIL - BIG BOX	RETAIL - DRUG STO...	RETAIL - GROCERY	Industrial Flex Building
RETAIL - MALL	RETAIL - MINIMART	RETAIL - MINIMART ...	Industrials, Heavy Mftg.
RETAIL - NBHD SHO...	RETAIL - SERVICE	SELF STORAGE	Industrials, Light Mftg.
TRANSPORTATION	VACANT	VACANT- PARKING	Lt. Commercial Utility Build.
			Maintenance Storage Building
			Material Storage Building

NH	CLASS					QUAD
600	610	620	630	651	140	NE
652	653	660	670	680	400	NW
690	700	710	720	725	420	SE
730	741	742	743	750	451	SW
760	800	812	820	830	452	
831	840	850	855	856	454	
860	870	900	910	920	455	
930	931	935	940	950	456	
					458	

Market Income

Median Rent/SF	Median Vac/Coll Loss	Median Expense Ratio	Median Cap Rate
\$5.00	10%	10%	10.22%

Sales [2022-2023]

Sales Volume	Min Sale \$/SF	Median Sale \$/SF	Max Sale \$/SF
22	\$12	\$57	\$262

Sale \$/SF

Year	Sale \$/SF
2019	\$35
2020	\$39
2021	\$61
2022	\$55
2023	\$62

Sale Date

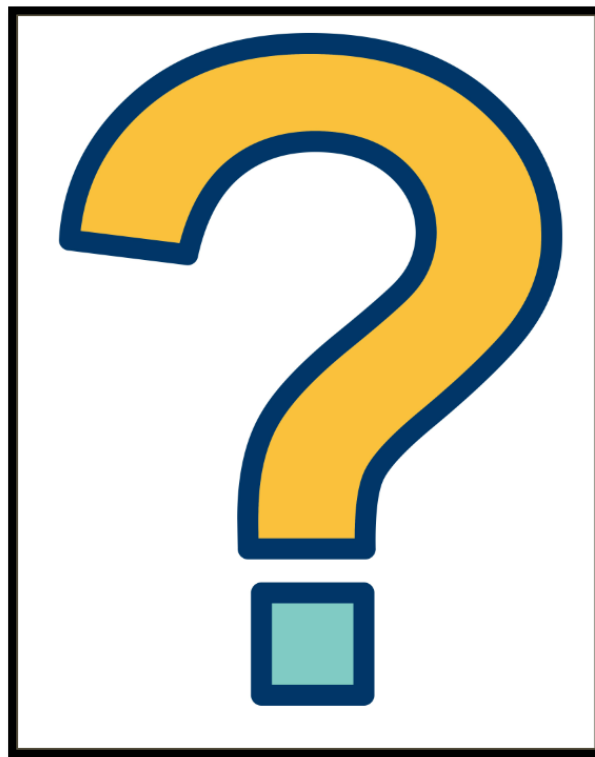
2019 - 2023

2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 20

Applicability to Assessment

- ▶ **Efficiency**
 - ▶ Streamline reporting process
 - ▶ Automation and interactive features allow for focus on analysis
 - ▶ Faster and more accurate decision making
- ▶ **Presentation**
 - ▶ Professional & comprehensible presentation of data
 - ▶ Communicate information effectively
- ▶ **Review**
 - ▶ Efficiently review reassessment information
 - ▶ Offers a variety of summaries based on the user's choice of filters
- ▶ **Analytics**
 - ▶ Comprehensive in-depth insights that identify and summarize trends, patterns, and anomalies
 - ▶ Analyze up-to-date changes, real estate characteristics, & reconciliation
 - ▶ Potential to set up data "bridge" that would update data to create a live dashboard

Q & A



Short Break



GIS/Mapping & Spatial Analysis



- ▶ **Software**
 - ▶ Pictometry - Aerial Oblique Imagery
 - ▶ ProVal & ESRI - CAMA & GIS Maps

- ▶ **Examples**
 - ▶ Reference
 - ▶ Value Modeling
 - ▶ Equality & Equity
 - ▶ Project Spotlight - Flood Influences

- ▶ **'Mapping'** (Connecting Real Estate data & GIS data)
 - ▶ Dynamic/Live - ESRI database connection
 - ▶ Static - CAMA export and ESRI import

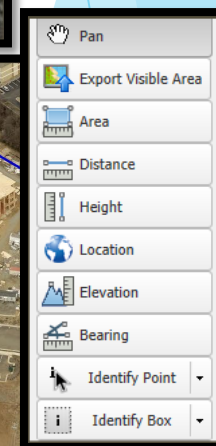
EagleView Pictometry

▶ Access:

- ▶ ProVal (client)
- ▶ Connect Explorer (hosted/online)

▶ Features:

- ▶ Imagery (current & historical)
- ▶ Searching, Layers & Tools
- ▶ Inaccessible?
- ▶ Changes? Dual Pane
- ▶ Future?
 - ▶ Sketch Inspect
 - ▶ 1" Pixel Resolution
 - ▶ Biennial to Annual



Software Platforms



- ▶ **Aumentum - Proval**

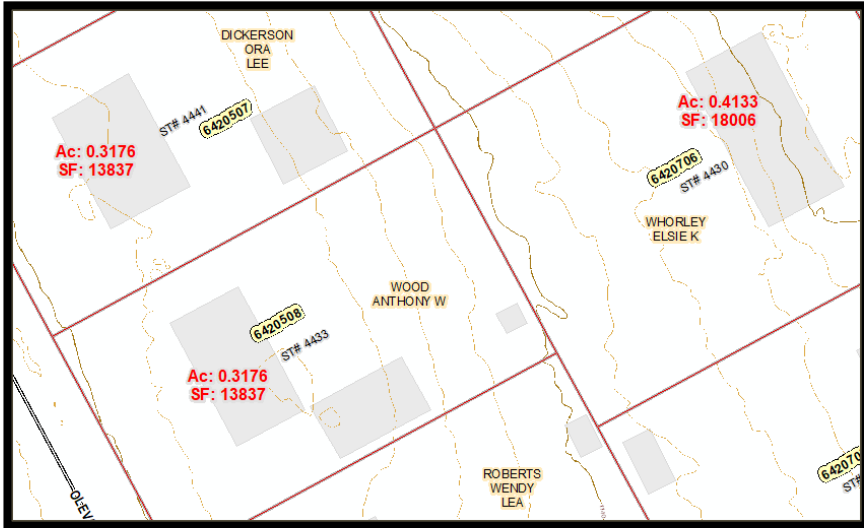
- ▶ 'Map' Tab

- ▶ **ESRI ArcGIS**

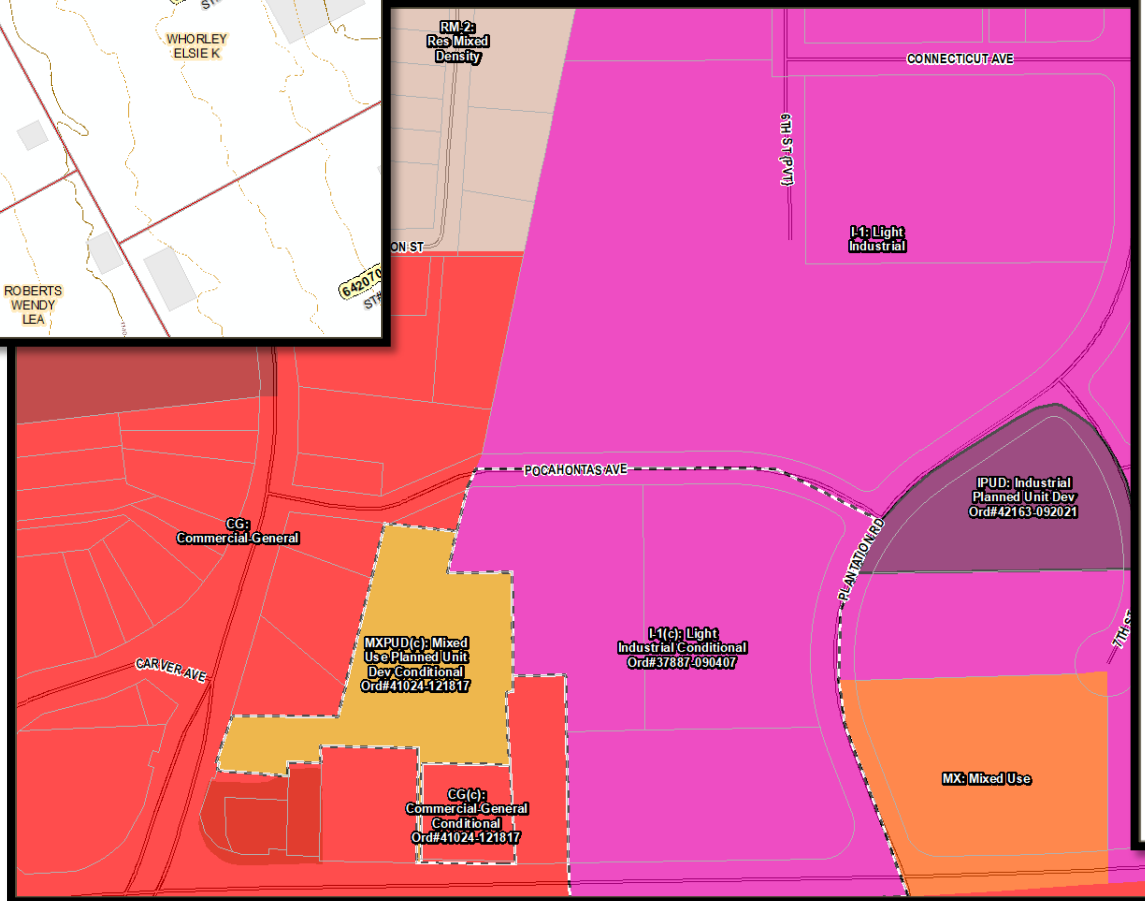
- ▶ ArcMap to ArcGIS Pro (upgrades)
- ▶ Layer Types - Database vs. Web Map Services



Reference Layers



General Info



Layers

Table of Contents

- Layers
 - TaxID
 - Grade
 - Proposed Land Values (live)
 - Parcels (no labels)
 - Street #
 - Size (Acres & S/F)
 - Last Sale > 0
 - LandInfl
 - Owner
 - Land - Certified Values
 - Land - Certified per SF (live)
 - Land - Proposed per S/F (live)
 - Total - Proposed Values (live)
 - Tax ID, Zoning, Land Rate/Sq Ft
 - Land Review Chgs for 2024 Certified (NH164)
 - Land Review Chgs for 2024 Certified (ALL NHs)
 - Parcels
 - Basemapping
 - City Limit
 - Greenways
 - Hydrological
 - River & Lakes
 - Streams & Rivers
 - FEMA Flood Zones (2023 most recent)
 - Zoning
 - Caching/Contours2015
 - Buildings
 - Airport
 - City Streets < 36k
 - City Streets > 36k
 - Railroad
 - Golf Courses
 - Cemeteries
 - City Parks
 - US Park Service
 - Caching/Imagery_Pictometry_2021
 - Real_Estate/Residential_Neighborhoods

Value Modeling



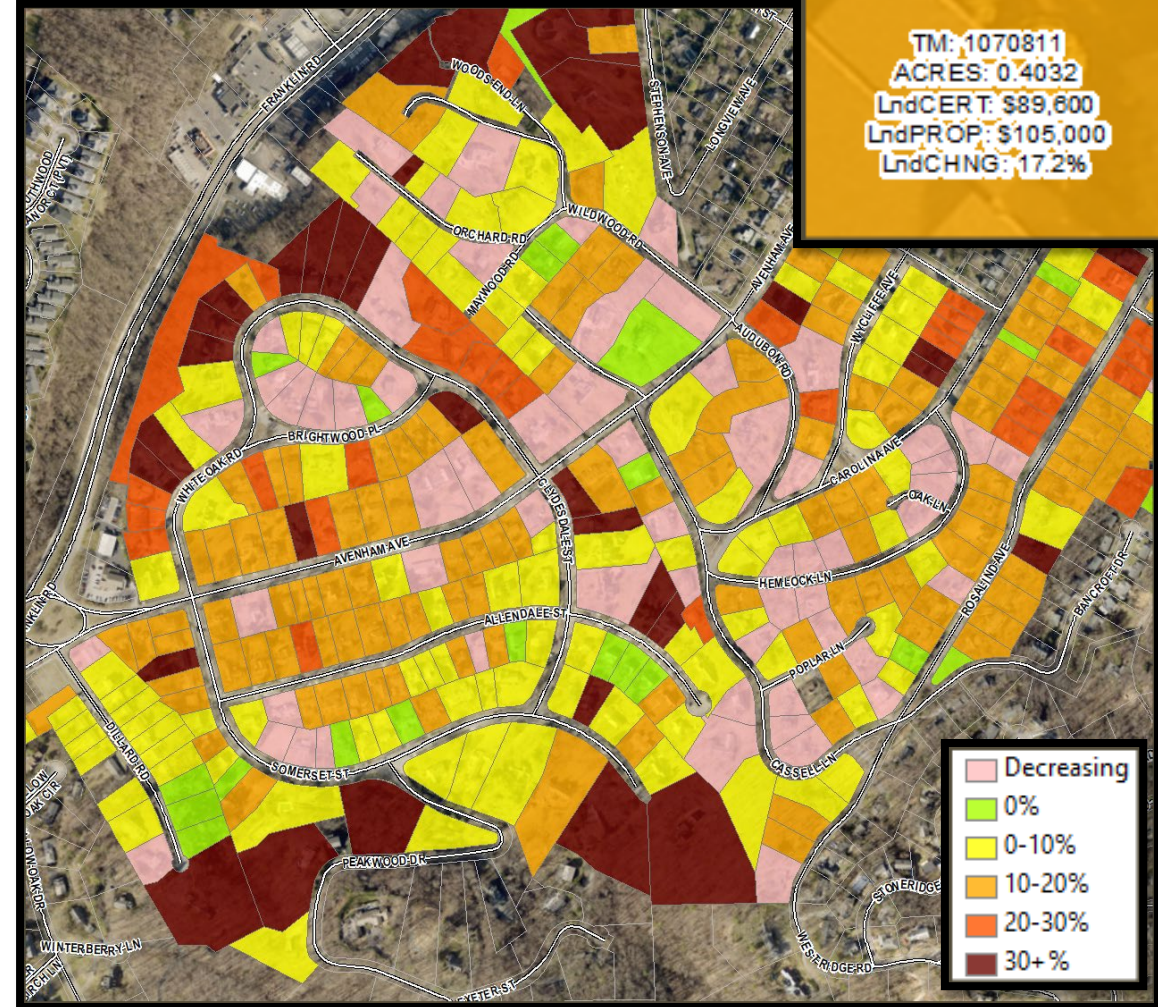
Last Sale



Proposed Land S/F



Land Changes



Equality & Equity



Grades



Land Influences

PROJECT HIGHLIGHT 'Flood Influences'



▶ Project Goals

- ▶ Ensure equitability in the use of flood influences
- ▶ Utilize latest data from FEMA Flood Mapping
 - ▶ Roanoke River Flood Reduction Project
 - ▶ 20+ Yr. Project, \$70M+ Cost
 - ▶ Partnership with US Army Corps of Engineers
 - ▶ Acquisition of Flood Prone Properties
 - ▶ Construction of Levees, Flood Walls & 'Bench Cuts'



PROJECT HIGHLIGHT

‘Flood Influences’

▶ ‘Mapping’ Real Estate Data with GIS

▶ From CAMA

- ▶ Export Land Influence Data

▶ Within GIS

- ▶ Clean Up/Prep Influence Data
- ▶ Join Influences Table to Parcel GIS Layer
- ▶ ‘Intersect’ with Flood GIS Layer
 - ▶ Key - provides % of each flood layer within each parcel!
- ▶ Export Results to Excel

• **Note - Static vs. Dynamic Mapping**

- Dynamic - ESRI database connection
- Static - CAMA export and ESRI import
- Considerations
 - Visibility of changes - ‘live’ or not
 - Drawing speeds

PROJECT HIGHLIGHT

'Flood Influences'



LandInfluencesFromPr...Table_FloodOnly X

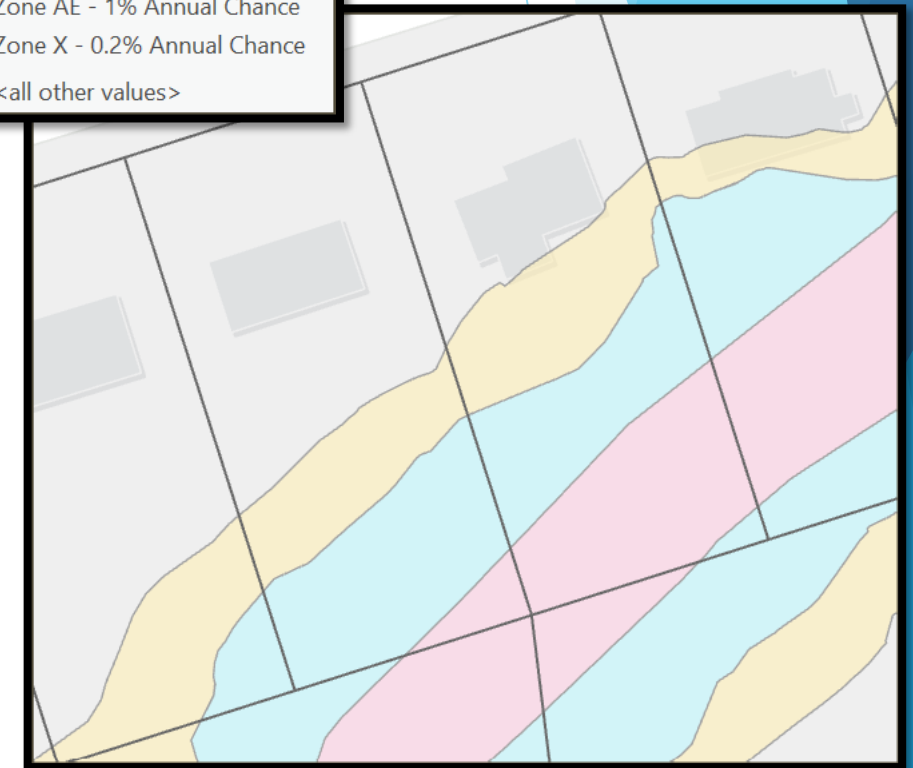
Field: Add Calculate Selection: Select By Attributes Zoom To Switch Clear

	OBJECTID *	ParcelIDText	TaxMapNum	LRSN	NH	CurrentInfAmntPerc
1	540	1420402	1420402	7903	400	-3%
2	541	1420403	1420403	7904	400	-3%
3	542	1420404	1420404	7905	400	-3%
4	543	1420405	1420405	7906	400	-3%
5	544	1420406	1420406	7907	400	-3%
6	545	1420407	1420407	7908	400	-3%
7	546	1420408	1420408	7909	400	-3%
8	547	1420409	1420409	7910	400	-3%
9	3	1360130	1360130	7430	341	-5%
10	4	1360131	1360131	7431	341	-5%
11	12	1250514	1250514	5408	283	-5%
12	36	1322003	1322003	6585	361	-5%
13	75	5480707	5480707	39617	900	-5%

FEMA DFIRM

Special Flood Hazard Area

- Floodway
- Zone A - 1% Annual Chance
- Zone AE - 1% Annual Chance
- Zone X - 0.2% Annual Chance
- <all other values>





PROJECT HIGHLIGHT

'Flood Influences'

TOTAL SQFT from GIS	CURRENT FLOOD INFLUENCE	TOTAL SQFT of 'FLOODWAY'	TOTAL SQFT of ZONE 'AE' (SFHA 100 YR/ 1% ANNUAL)	TOTAL SQFT of ZONE 'A' (SFHA 100 YR/ 1% ANNUAL)	TOTAL SQFT of FLOODWAY, ZONE 'A' & 'AE' COMBINED	TOTAL % of FLOODWAY, ZONE 'A' & 'AE' COMBINED	NEW PROPOSED FLOOD INFLUENCE	CHANGE IN FLOOD INFLUENCE '-' = less inf '+' = more inf
171,556.49	-25%		149,474.54		149,474.54	87.13%	-40%	
70,868.09	-10%		16,204.39		16,204.39	22.87%	-10%	0%
31,985.06	-30%		4,841.15		4,841.15	15.14%	-10%	-20%
9,449.99			9,449.99		9,449.99	100.00%	-40%	40%
6,858.98					0.00	0.00%	0%	0%
5,671.81					0.00	0.00%	0%	0%
6,609.74					0.00	0.00%	0%	0%
11,585.46			1.04		1.04	0.01%	-10%	10%
8,600.78			261.03		261.03	3.03%	-10%	10%
8,600.78			428.99		428.99	4.99%	-10%	10%
8,665.46			523.02		523.02	6.04%	-10%	10%
6,466.73	-10%		487.83		487.83	7.54%	-10%	0%
6,466.76	-10%		774.51		774.51	11.98%	-10%	0%
6,466.74	-10%		1,411.27		1,411.27	21.82%	-10%	0%
6,466.74	-25%		2,879.61		2,879.61	44.53%	-20%	-5%
6,466.76	-30%		4,149.19		4,149.19	64.16%	-30%	0%
21,683.34	-25%		21,683.34		21,683.34	100.00%	-40%	
6,786.41	-25%		6,786.41		6,786.41	100.00%	-40%	
6,869.37	-25%		6,869.37		6,869.37	100.00%	-40%	
36,356.84	-25%		36,357.06		36,357.06	100.00%	-40%	
41,595.23	-25%		41,595.23		41,595.23	100.00%	-40%	
6,372.27	-25%		6,372.27		6,372.27	100.00%	-40%	
10,794.49			10,794.27		10,794.27	100.00%	-40%	
177,732.34		146,369.76	31,363.38		177,733.14	100.00%	-40%	40%
65,086.25		65,080.31	6.22		65,086.53	100.00%	-40%	
1,437,627.77					0.00	0.00%	0%	
3,151.24			120.61		120.61	3.83%	-10%	10%
10,986.27					0.00	0.00%	0%	0%
2,303.46			2,303.46		2,303.46	100.00%	-40%	40%
3,624.72			3,540.10		3,540.10	97.67%	-40%	40%

PROJECT HIGHLIGHT

‘Flood Influences’

- **LAND** (***) Use land influence)
 - ‘A’ & ‘AE’ 100 year and ‘Floodway’
 - 0% to < 25% = - 10%
 - 25% to < 50% = - 20%
 - 50% to < 75% = - 30%
 - 75% to 100% = - 40%

 - ‘X’ 500 year
 - IGNORE

- **BUILDING** (***) Use new flood rdf) (and in addition to any land adjustments)
 - Primary (and anything attached – e.g. decks, porches, etc.)
 - ‘Floodway’ = - 10% for coverage (partial or full)
(note, if the parcel is in both the ‘Floodway’ AND ‘A’ and ‘AE’, use -10% adjustment, do not combine adjustments for the improvements)
 - ‘A’ & ‘AE’ 100 year = - 5% for coverage (partial or full)
 - ‘X’ 500 year (insurance optional) = IGNORE

 - Secondary/Outbuildings/Etc. = IGNORE

Q & A

