

2023 APA-WI CONFERENCE

Leveraging GIS In Zoning To Address Housing Diversity, Density, and Development

September 21, 2023





PLANNING | ZONING | DESIGN | GEOSPATIAL

Houseal Lavigne is an urban planning, design, and geospatial services firm focused on powering the art of planning with science and technology. We focus on leveraging evidence-based decision-making along with graphically compelling and effective storytelling. We pride ourselves on creativity, collaboration, and critical thinking. Our team is built on strong relationships, the exchange of ideas, and a commitment to innovation. Our priorities are to do good, work smart, have fun, and provide visionary, responsive, and viable solutions to our clients and partners.



ALL SCALES

Over 450 Planning Studies throughout the Country, including Zoning, Comprehensive Plans, Downtown Plans, Neighborhood Plans, Housing Studies, TOD/Corridor Plans, and Redevelopment Plans



NATIONAL EXPERIENCE

National Experience includes Alabama, Arkansas, California, Colorado, Connecticut, Georgia, Kansas, Kentucky, Illinois, Indiana, Iowa, Massachusetts, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, North Carolina, Ohio, Oklahoma, Pennsylvania, South Carolina, Tennessee, Utah, Virginia, Washington, Wisconsin



INNOVATIVE and FUN

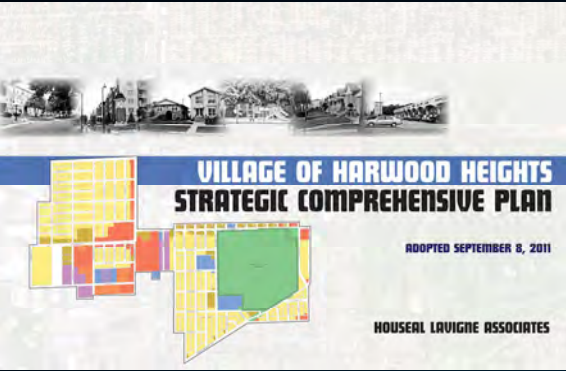
We love what we do and push ourselves constantly, challenging each other to find better approaches and results.



ZONING EXPERIENCE

- Ardmore, OK
- Benton Harbor, MI
- Bentonville, AR
- Bloomington, IL
- Cañon City, CO
- Carol Stream, IL
- Carpentersville, IL
- Cary, IL
- Centerton, AR
- Chicago, IL
- Dunwoody, GA
- Elmhurst, IL
- Ferguson, MO
- Flint, MI
- Franklin, WI
- Fremont, NE
- Hainesville, IL
- Harwood Heights, IL
- Homewood, IL
- Jackson, MO
- Jenks, OK
- Kenilworth, IL
- Knightdale, NC
- Marion, IA
- Melrose Park, IL
- Muskogee, OK
- New Buffalo, MI
- Northbrook, IL
- Oak Brook, IL
- Oak Brook Terrace, IL
- Oak Creek, WI
- Palos Heights, IL
- Palos Park, IL
- Richton Park, IL
- River Forest, IL
- Riverside, CA
- Roscoe, IL
- Springfield, MO
- Sunset Hills, MO
- Verona, WI
- Wake Forest, NC
- Willowbrook, IL
- Winnetka, IL
- Yorkville, IL





450+
Planning
Assignments

60+
Zoning
Assignments



Recognized Experts in Zoning

- National APA Conference Sessions
- Multiple State and Local Section APA Sessions and Panels
- Zoning Practice Publications

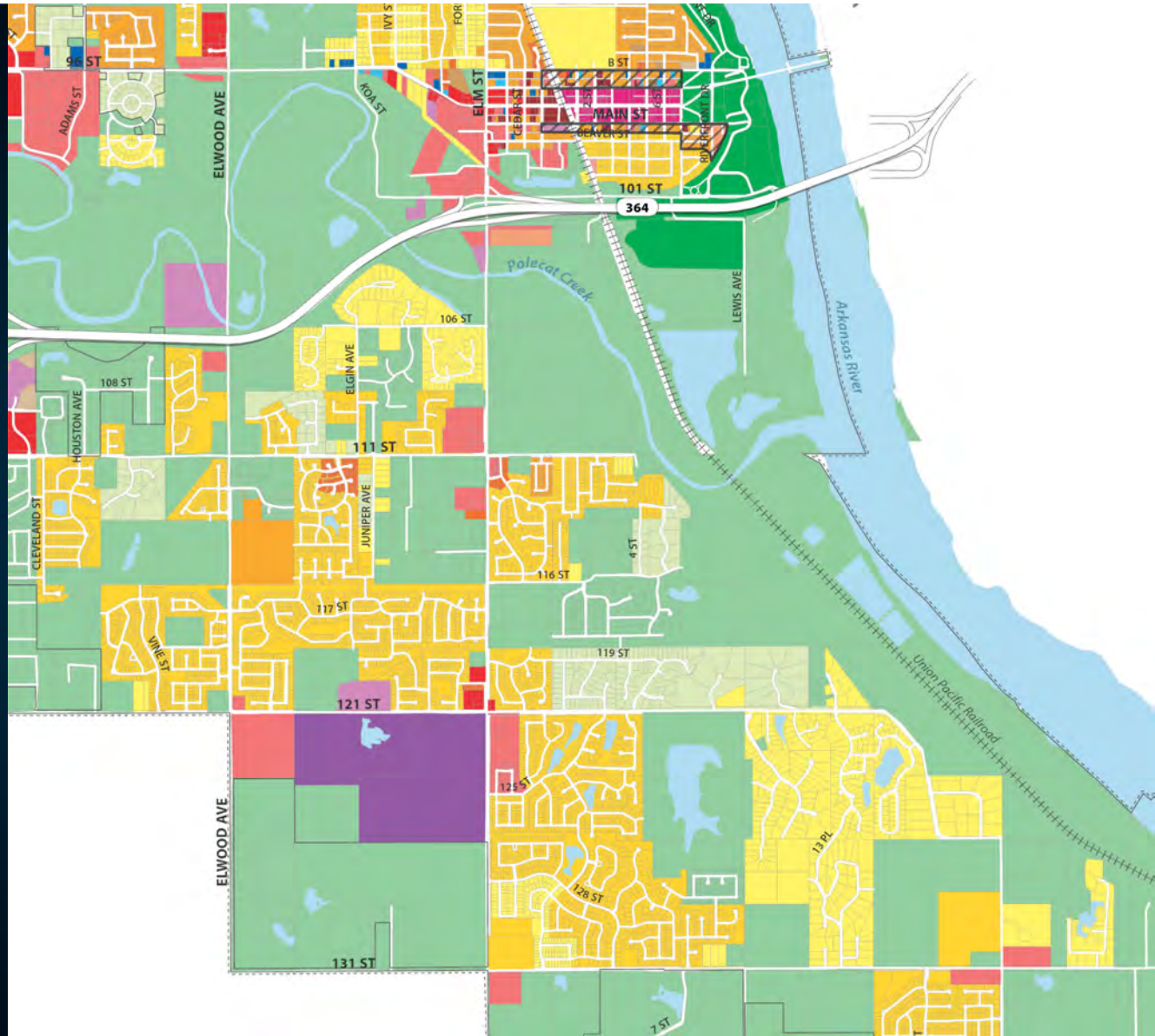




Identifying & Minimizing Regulatory Barriers

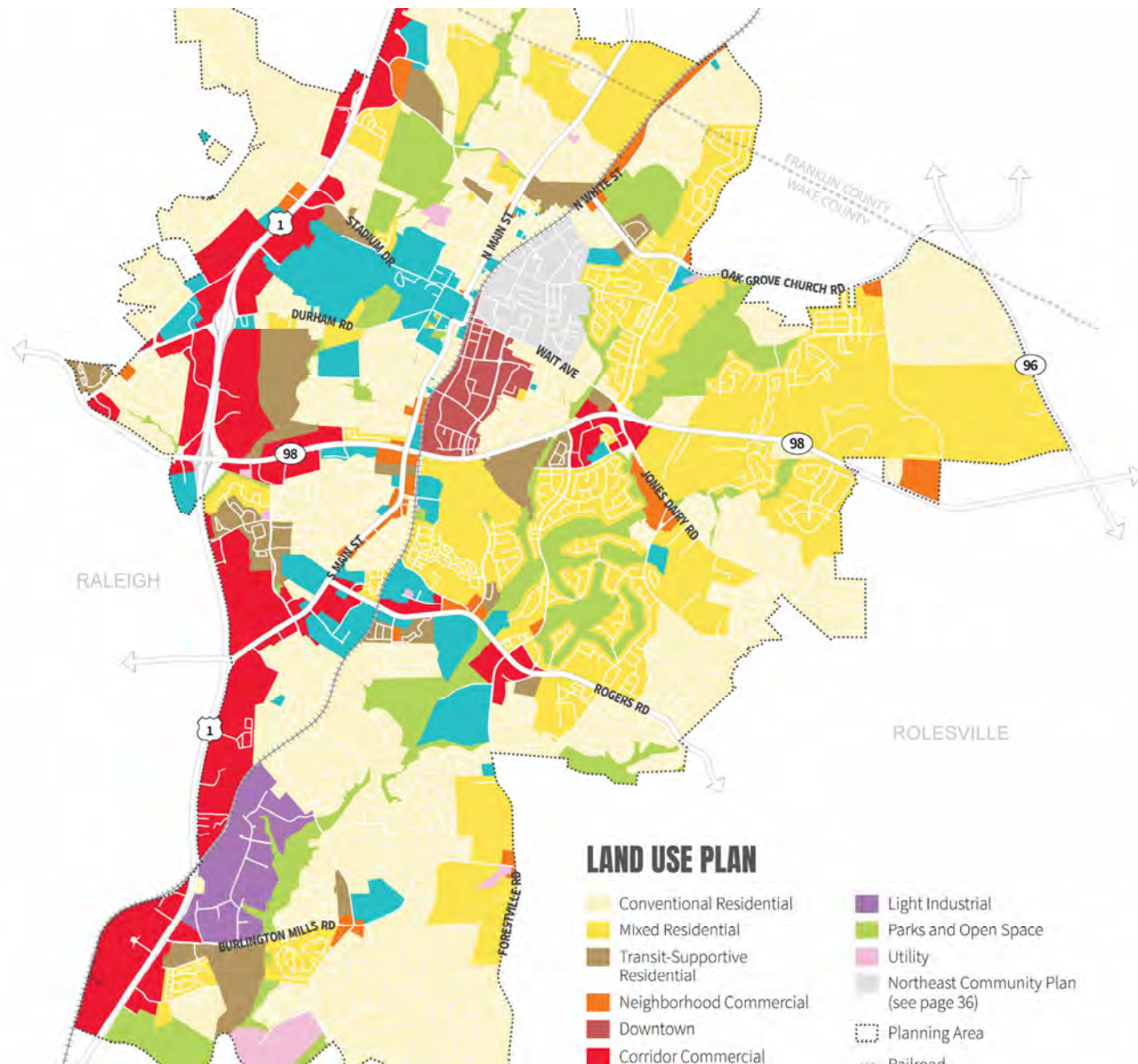
What are regulatory barriers?

- Standards that prohibit or restrict desirable development
- Zoning map and future land use plan out of alignment
- Overly restrictive dimensional standards
- Onerous parking or open space requirements



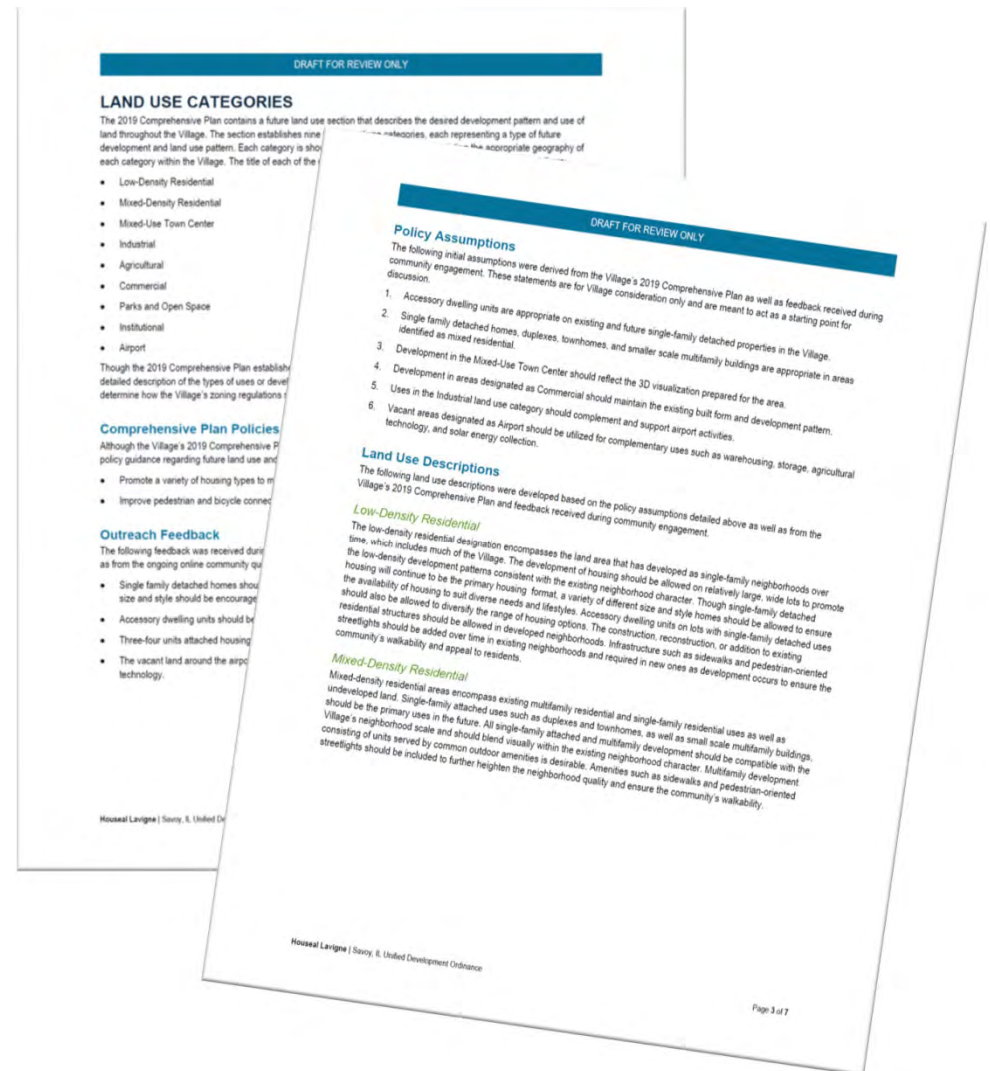
Ways to address regulatory barriers

- Land Use Plan and Zoning Map Alignment Analysis



What if the Land Use Plan doesn't provide adequate direction?

- Ideally, land use plan includes detail on appropriate uses and patterns of development per land use category
- If not, policy direction should be established before starting a land use plan and zoning map alignment analysis
 - Conduct community outreach
 - Draft policy assumptions
 - Confirm / refine assumptions with elected and appointed officials
- Without appropriate policy direction, zoning map changes can be challenged



Step 1: Land Use & Zoning District Crosswalk

Land Use Plan & Zoning Map Alignment

Land Use Category	Zoning Districts								
	(GR5)	(GR10)	(NB)	(HB)	(ICD)	(LI)	(HI)	(UR)	(RMX)
Conventional Residential	2	1	3	3	3	3	3	2	3
Mixed Residential	3	1	3	3	3	3	3	1	1
Transit-Supportive Residential	3	2	3	3	3	3	3	2	2
Neighborhood Commercial	3	3	1	3	3	3	3	3	3
Downtown	3	3	3	3	3	3	3	3	3
Corridor Commercial	3	3	3	1	3	3	3	3	3
Office, Civic, and Institutional	3	3	2	2	2	3	3	3	2
Light Industrial	3	3	3	3	3	1	2	3	3
Parks and Open Space	3	3	3	3	3	3	3	3	3
Utility	3	3	3	3	3	2	1	3	3

1 = Closely Aligned - only minor adjustments needed 2 = Some Alignment - but adjustments needed 3 = Not Aligned



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Office, Civic, ar								3	2
Light Industrial								3	3
Parks and Oper								3	3
Utility								3	3

Land Use	Current Zoning	Value
CC	GR10	3
CS	ICD	3
CS	LI	3
DT	NMX	2
DT	OS	3
DT	PUD	2
DT	RA HC	1
HDN	GR10	2
HDN	RA HC	1
HDN	RD	3
HDN	RMX	2

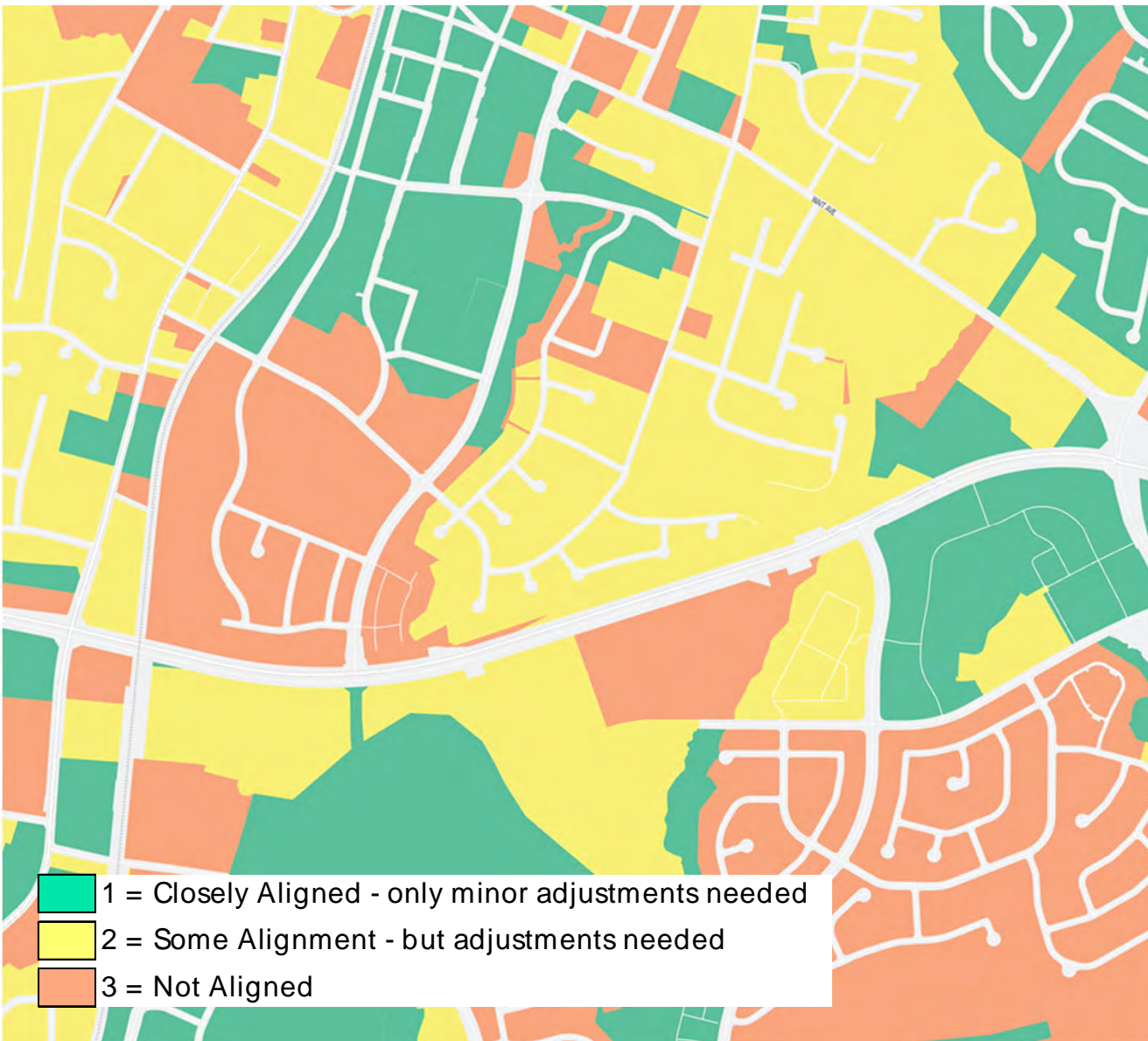
Step 2: Initial GIS Analysis

Land Use Plan &
Zoning Map Alignment

Re-organize the matrix

- The matrix needs to be simplified into a series of combinations to enrich the parcel



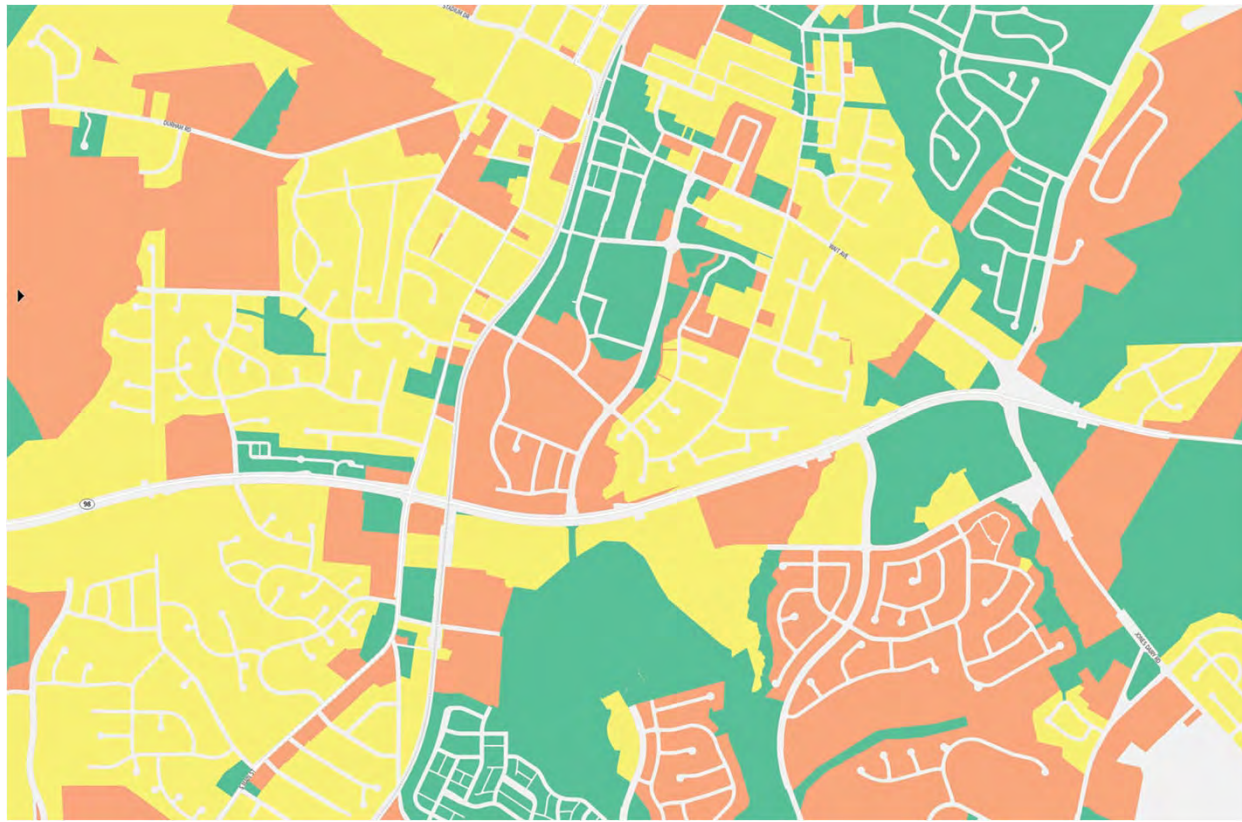


Step 2: Initial GIS Analysis

Land Use Plan &
Zoning Map Alignment

Enrich the Data

- Usually zoning layers are large district-wide polygons and not parcel based.
- o Step 1: Enrich the parcel with current zoning districts.
- o Step 2: Join the crosswalk combinations to the parcel data.
- o Step 3: Map the crosswalk value.



Step 3: Assess Amendment Options

*Land Use Plan &
Zoning Map Alignment*

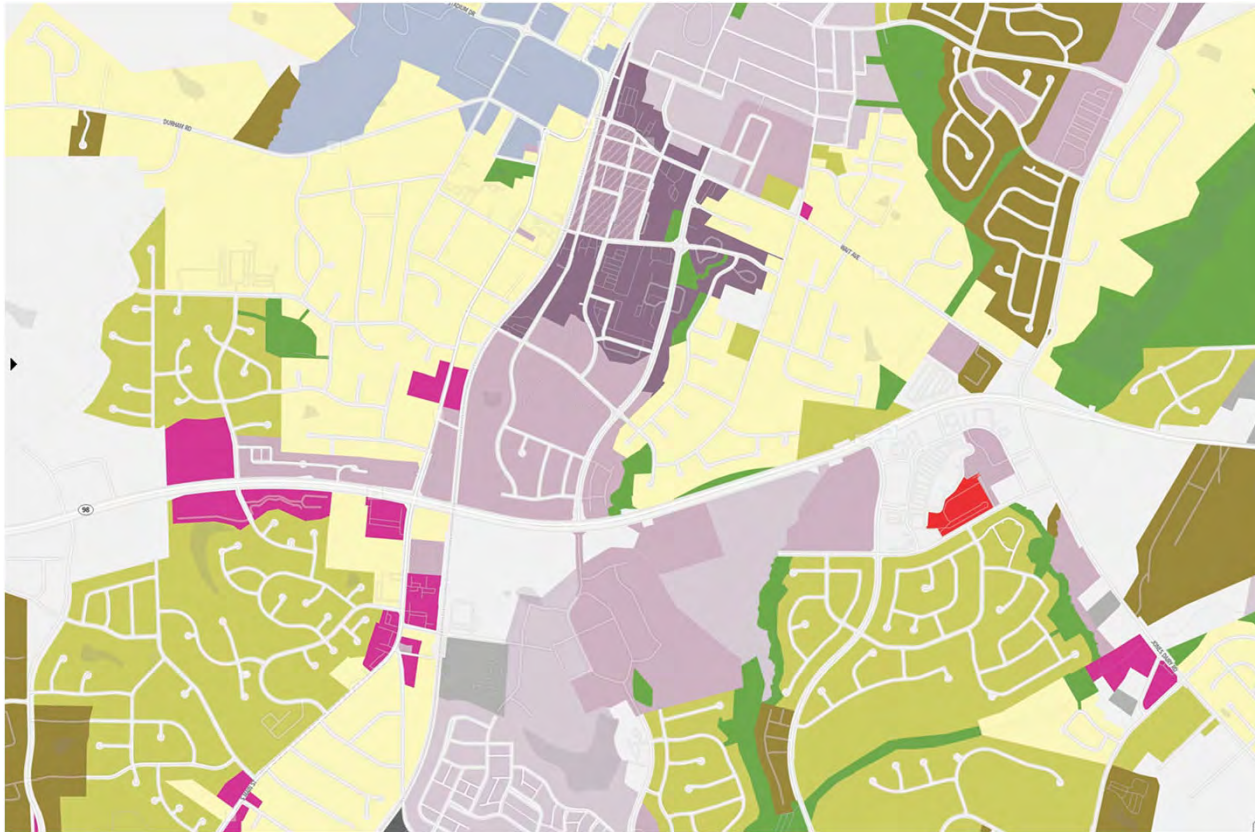
- Can alignment be achieved through text amendments only?*
- Should districts be consolidated?*
- Do new districts need to be developed?*



Step 4: Develop a Proposed Map

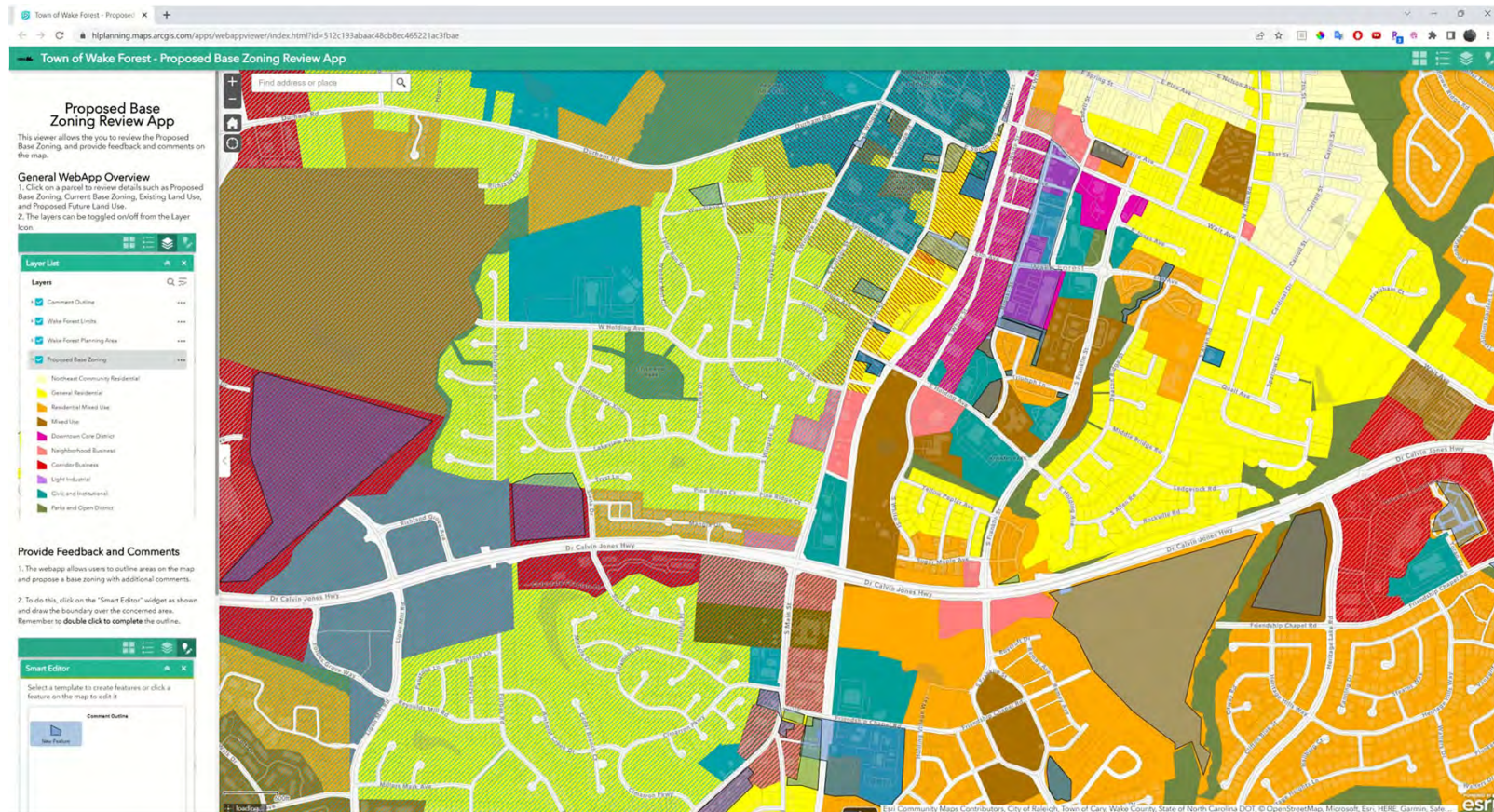
Land Use Plan & Zoning Map Alignment

- Balance between achieving district alignment and...
 - Impacting property rights
 - Accommodating existing development
 - Streamlining zoning map amendment approval



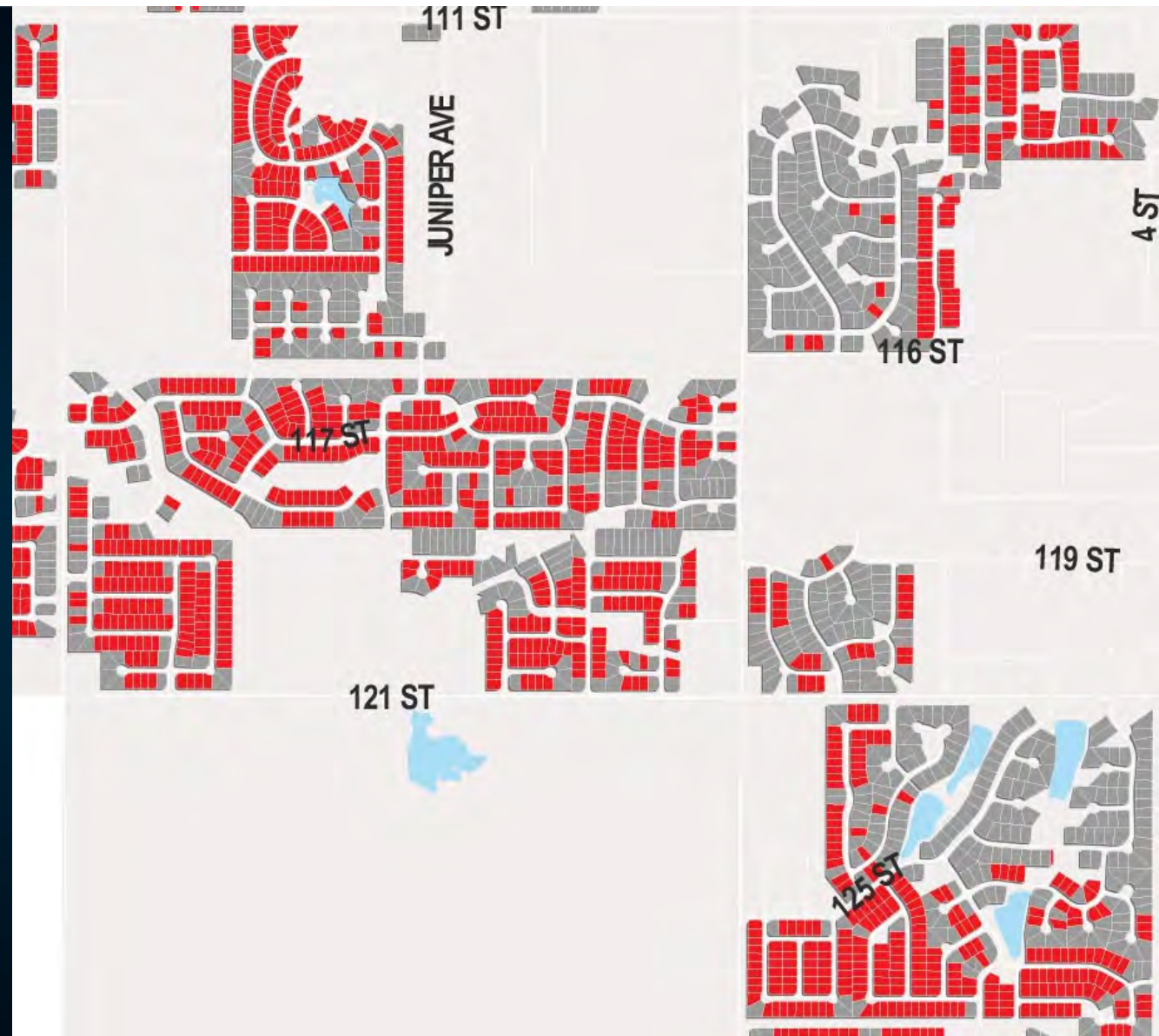
Step 5: Refine Proposed Map with Stakeholder Input

Land Use Plan & Zoning Map Alignment



Ways to address regulatory barriers

- Land Use Plan and Zoning Map Alignment Analysis*
- Nonconformities Analysis*



What is a nonconformities analysis?

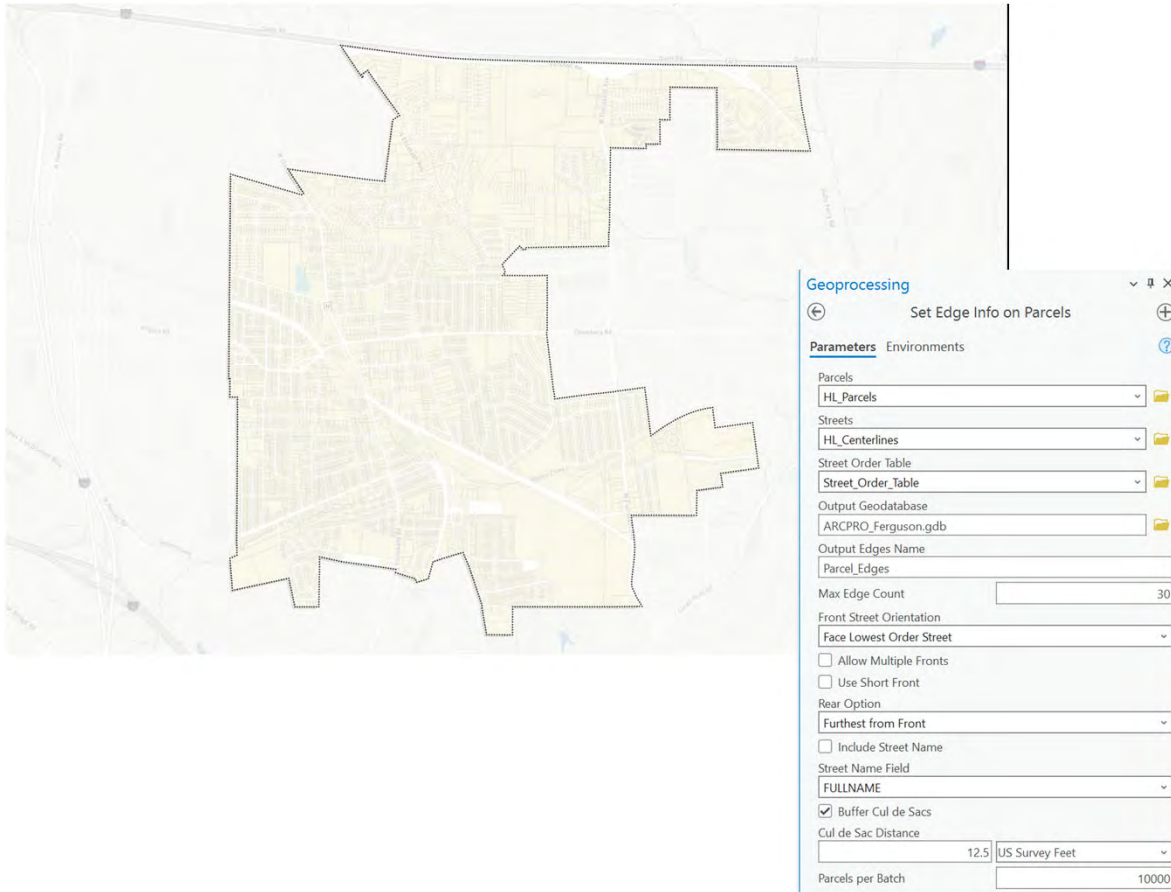
- *Compares minimum lot area and width standards in each zoning district with existing development in that district*
- *Identifies whether existing standards are creating an unnecessary number of legal nonconformities*
- *Tests new standards to lessen nonconformities*
- *Tests new subdivision opportunities to minimize chances that new standards will change the character of a neighborhood*



Why is minimizing nonconformities important?

- *Make it easier for property owners to reinvest in their lots and buildings*
- *Allow people to more easily get mortgages and loans for home purchases and improvements*





Step 1: Prep Data

Nonconformities Analysis

- Setup Street Order Table
- Rank the types of street a property would face or where the front edge should be.
- Run “Parcel Edge Tool” in ArcGIS Pro to split edges of the parcels into Front, Sides, and Read edges
- Refine and QC parcel edges
- Calculate front edge length or “Lot Width”
- QC and publish data for Nonconformity Analysis WebApp.



Step 2: Test Standards Nonconformities Analysis

The screenshot displays the 'City of Ferguson Nonconformity Viewer' interface. On the left, the 'Zoning Standards Test Parameters' panel includes the following settings:

- Select a zoning district: R-1D
- Select SFR or MFR: SFR
- 1. Parcels With Lot Area Less Than: less than 15k. Input: 15000. Buttons: Set to minimum, Set to maximum, Reset.
- 2. Parcels With Lot Width Less Than: less than 75. Input: 75. Buttons: Set to minimum, Set to maximum, Reset.
- 3. Subdiv Opp - Enter Lot Area (x2): 30,000+. Input: 30000. Buttons: Set to minimum, Set to maximum, Reset, Clear.
- 4. Subdiv Opp - Enter Lot Width (x2): 150+. Input: 150. Buttons: Set to minimum, Set to maximum, Reset, Clear.

The central map shows a grid of parcels in Ferguson, Missouri, with many parcels highlighted in red to indicate nonconformities. Labeled streets include N Elizabeth Ave, N Flamingo Ave, N Flamingo Rd, N Flamingo St, N Flamingo Way, N Flamingo Dr, N Flamingo Ct, N Flamingo Pl, N Flamingo Ln, N Flamingo Ter, N Flamingo Driv, N Flamingo Blvd, N Flamingo Pkwy, N Flamingo Expwy, N Flamingo Bypass, N Flamingo Loop, N Flamingo Circle, N Flamingo Drive, N Flamingo Way, N Flamingo Court, N Flamingo Place, N Flamingo Lane, N Flamingo Terrace, N Flamingo Drive, N Flamingo Way, N Flamingo Court, N Flamingo Place, N Flamingo Lane, N Flamingo Terrace. Labeled parks and schools include HUDSON PARK, ST. LOUIS GASTRUC SCHOOL, LEE HAMILTON ELEMENTARY, FERUGSON MIDDLE SCHOOL, ROBERT DUFFNESS, DELWOOD PARK, WATCOE PARK, FORESTWOOD PARK, KINLOCH PARK, DADR PARK, MCCLELL SOUTH BENELEY HIGH SCHOOL, COOL VALLEY ELEMENTARY, NORMANDY PARK, WESTVIEW MIDDLE SCHOOL, KOSHEMAN PARK, BENELEY RECREATION CENTER, and KINLOCH.

On the right, the 'Zoning Standards Dashboard' provides a summary:

- This dashboard is intended to test different zoning standards and visualize potential areas for new subdivision opportunities.
- Values in boxes (1) and (2) in the left side panel can be used to visualize parcels that do not meet a potential lot area and width minimum.
- Boxes (3) and (4) can be used to see new subdivision opportunities based on the alternative lot area and width minimums.

Summary statistics:

- Parcels that do not meet the tested zoning standards: **3.3k**
- Potential Opportunities for Subdivision: **14**

Footer text: Input the lot area and lot width you want to test in the dialogue boxes. Esri Community Maps Contributors, County of St. Louis, Missouri Dept. of Conservation, Missouri DNR, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA | St. Louis County GIS Service Center. Jan. Powered by Esri.



Step 3: Refine Recommendations with Stakeholder Input

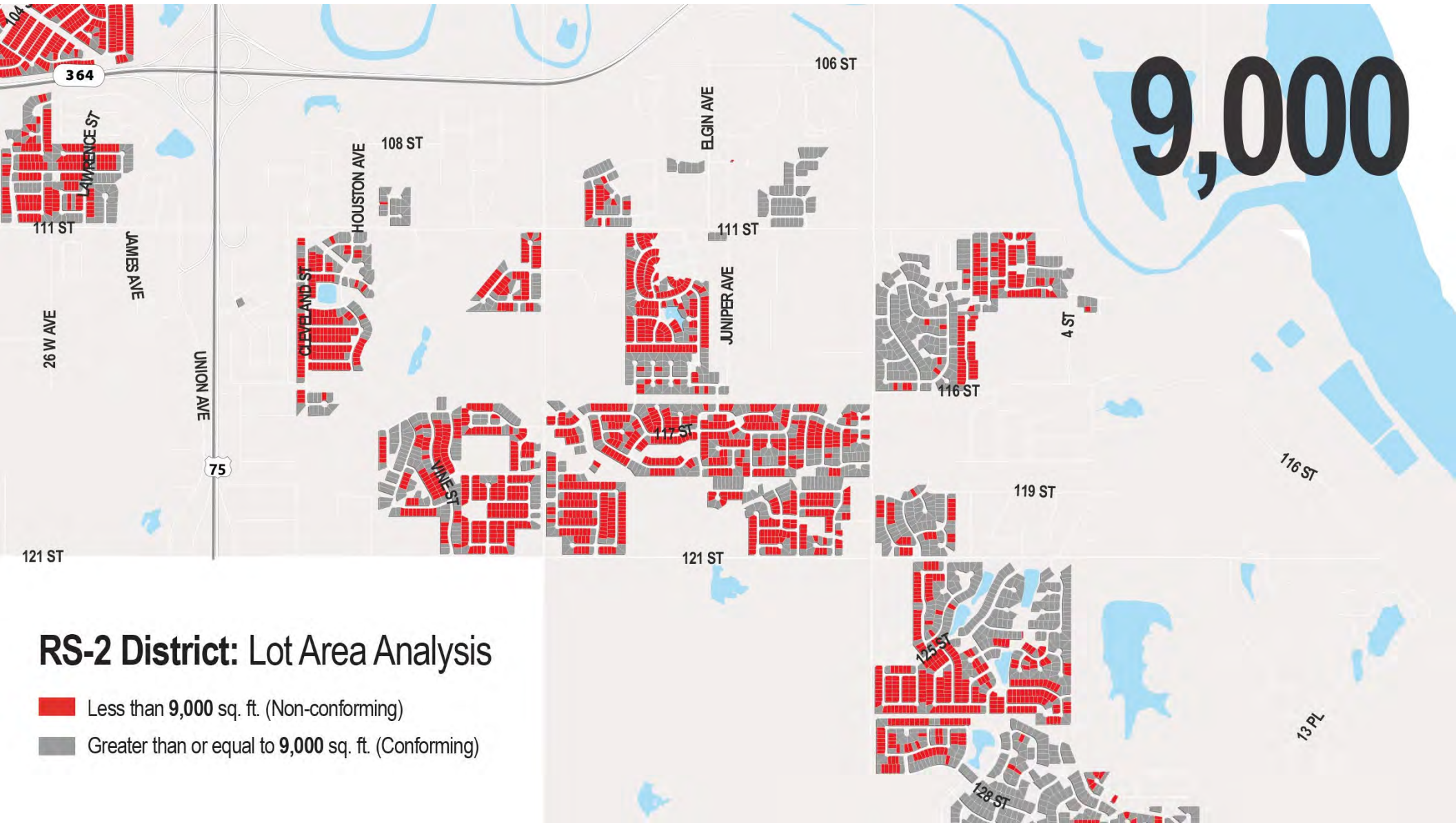
Nonconformities Analysis

Lot Area Minimum	Number of Parcels Less than Minimum	Percent of Parcels Less than Minimum
Existing - 9,000 sq.ft.	2,462	50%
Alternative - 8,000 sq.ft.	1,592	32%
Alternative - 7,000 sq.ft.	561	11%

Lot Width Minimum	Number of Parcels Less than Minimum	Percent of Parcels Less than Minimum
Existing - 75 ft.	3,349	70%
Alternative - 65 ft.	2,217	46%
Alternative - 55 ft.	815	17%
Alternative - 50 ft.	525	11%



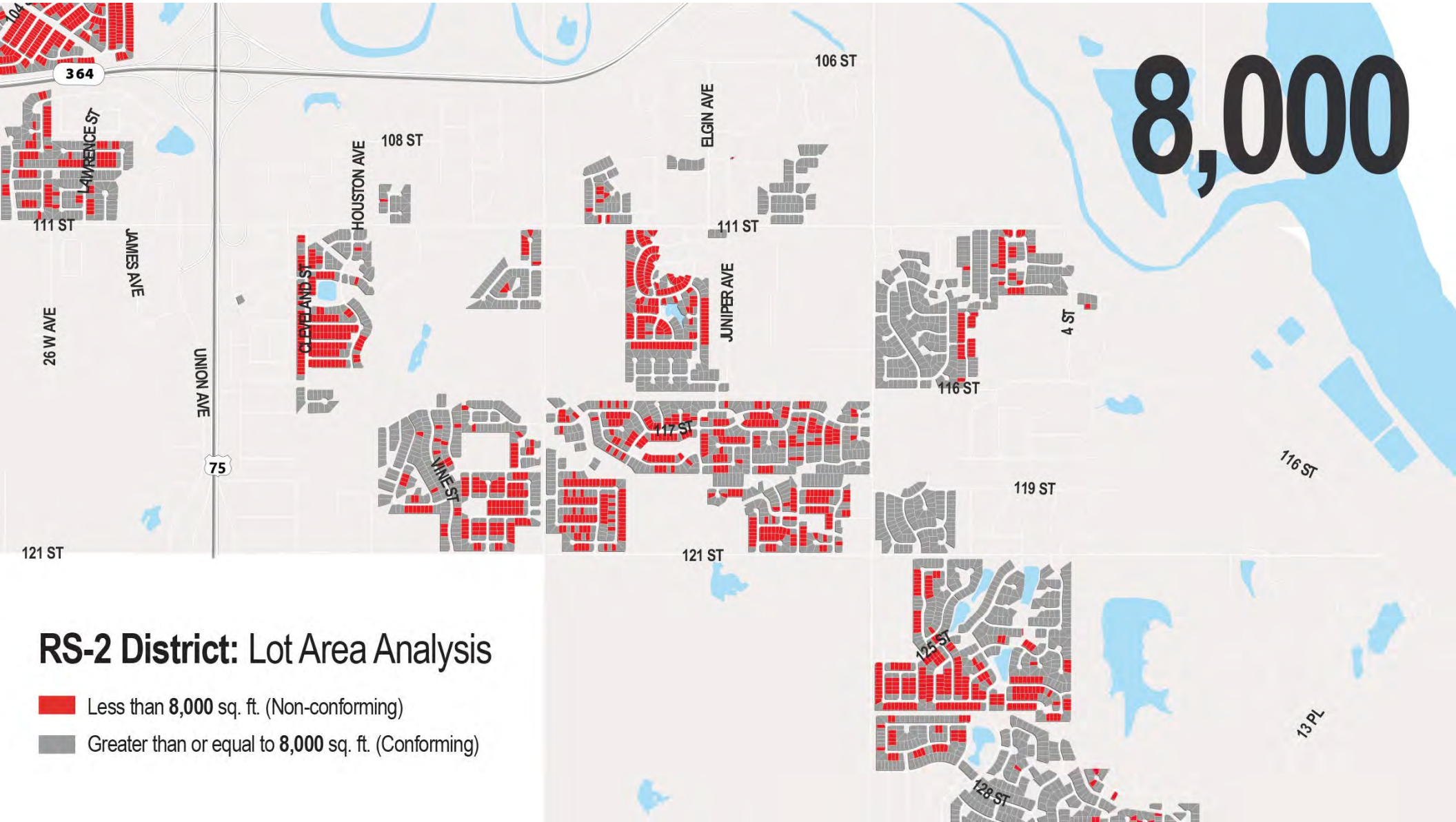
9,000



RS-2 District: Lot Area Analysis

- Less than 9,000 sq. ft. (Non-conforming)
- Greater than or equal to 9,000 sq. ft. (Conforming)

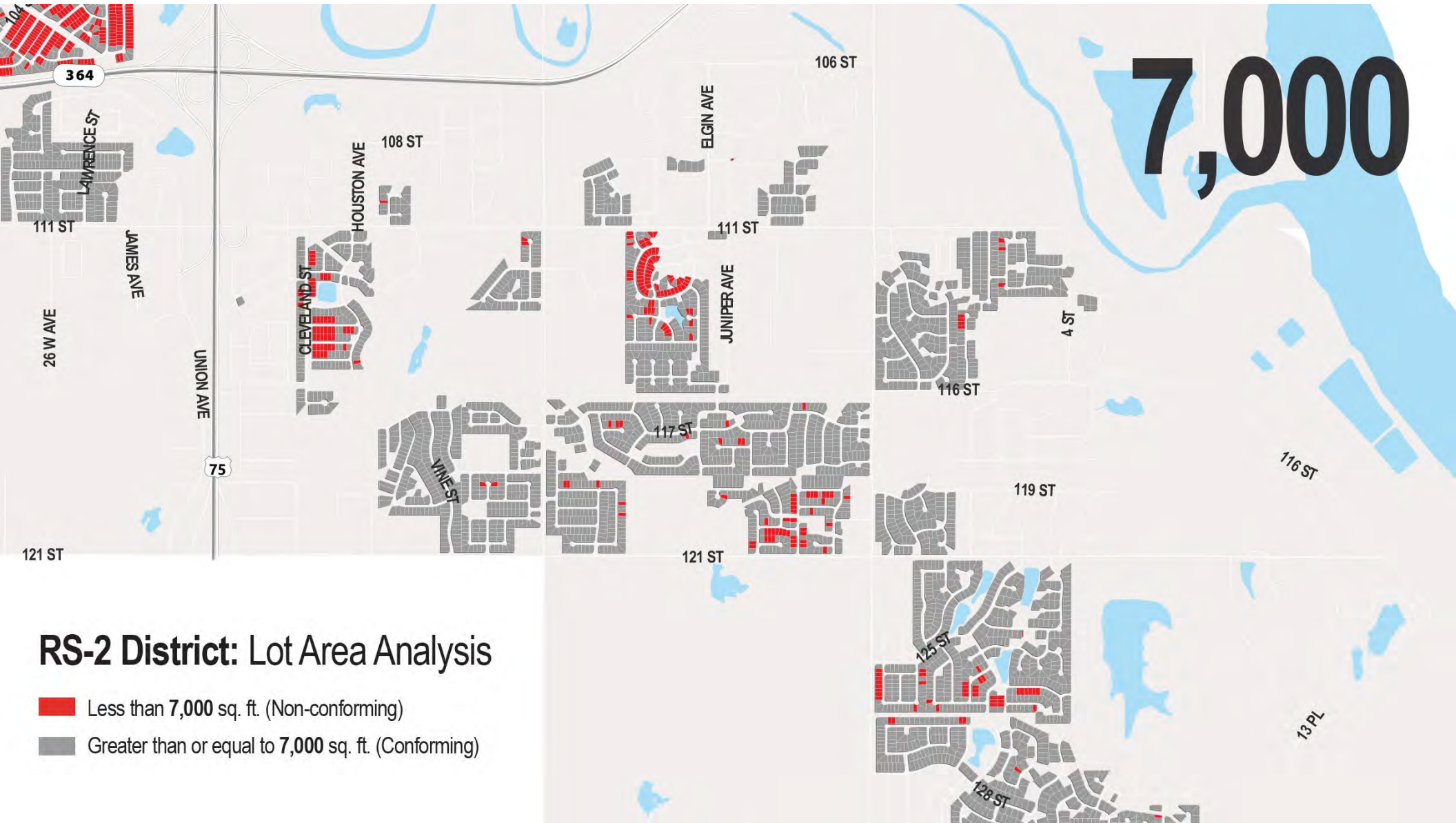
8,000



RS-2 District: Lot Area Analysis

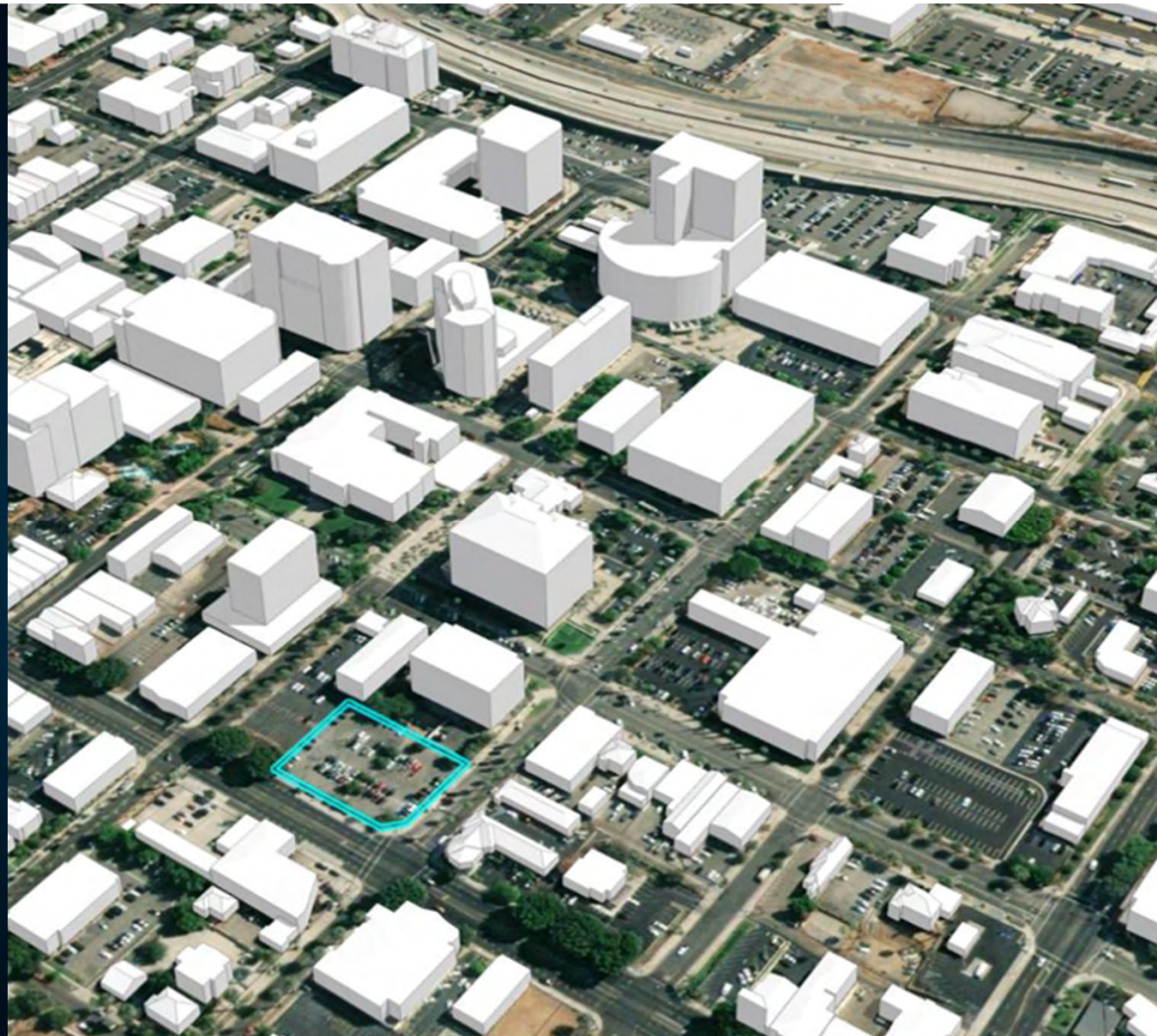
- Less than 8,000 sq. ft. (Non-conforming)
- Greater than or equal to 8,000 sq. ft. (Conforming)

7,000



Ways to address regulatory barriers

- Land Use Plan and Zoning Map Alignment Analysis*
- Nonconformities Analysis*
- Development Standards Testing*

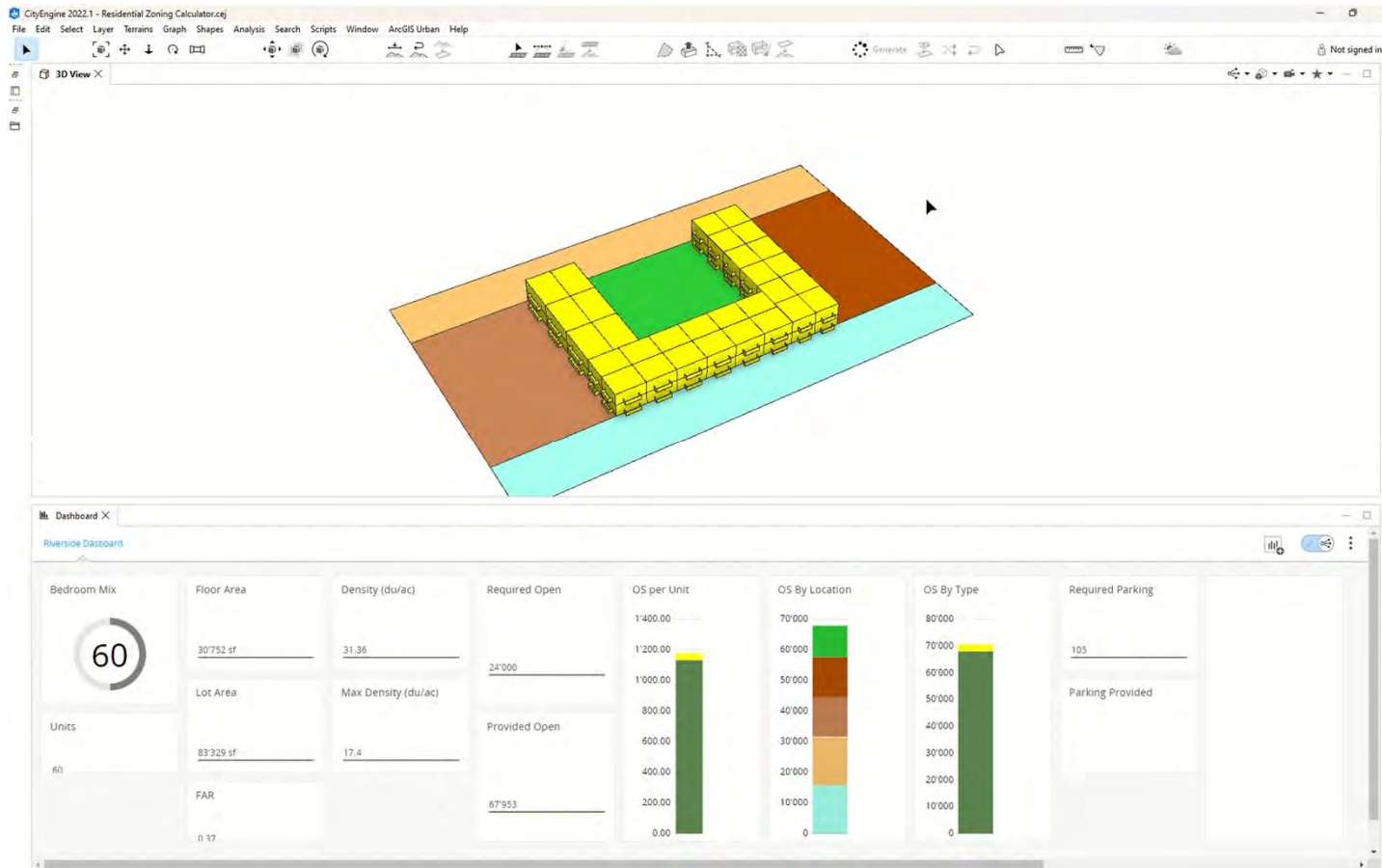


Why test development standards?

- Understand how regulations and requirements limit the development potential of a site
- Helps answer the question – why are we not getting the type of development we want to see?



Development Standards Testing Utilizing CityEngine





Streamlining Approval Processes

What leads to inefficient approval processes and what can be done to streamline?

Typical Causes

- Unclear or subjective design requirements*
- Lack of adopted policy direction*
- Requirements for unnecessary referrals / meetings*
- Lack of public engagement in early stages*
- Fear of the unknown*

Potential Solutions

- Establish objective design standards*
- Update plans and policy documents*
- Eliminate unnecessary approval steps*
- Require neighborhood meetings at concept plan step*
- Visualize development proposals*



Utilizing Urban & CityEngine Visualize Development Proposals



Immersive 3D

Visualize Development Proposals

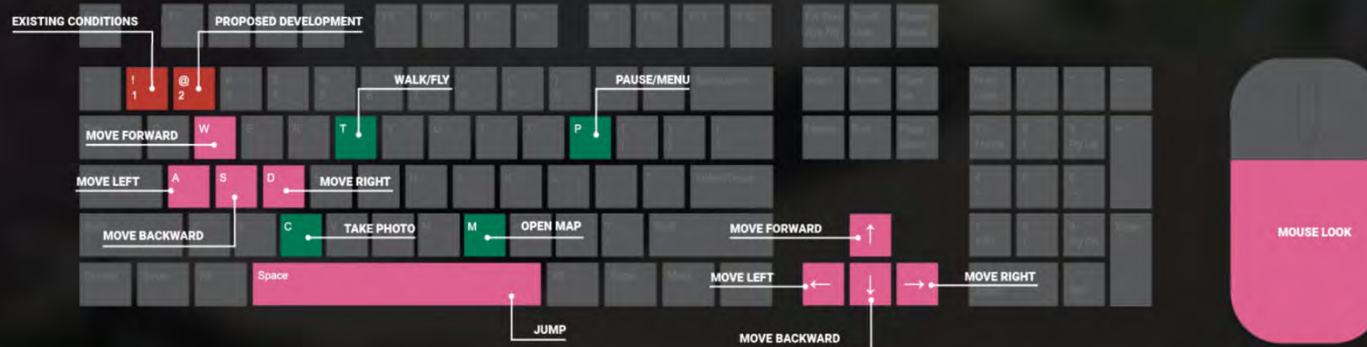


Welcome to the Immersive 3D Development Viewer, created for the Village of Glen Ellyn by Houseal Lavigne. Instructions on how to use and navigate the application to explore proposed development in Downtown Glen Ellyn are below. Press the Start button to continue.

Recording has started



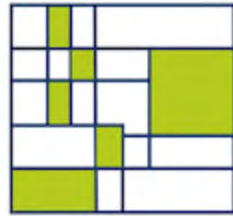
Start



HUD recently released a notice of funding availability for the new Pathways to Removing Obstacles (PRO) Housing Grant.

Esri is offering a software solutions package that is eligible for PRO Housing grant funding.

The deadline to submit is October 30, 2023



PRO HOUSING
Pathways to Removing Obstacles





THANK YOU!

Jackie Berg: jberg@hlplanning.com

