

# Vacant Buildable Lands Model

VBLM

# Topics

- Model Overview and definition of terms
- History of the VBLM
- Additional Resources

# What does the model do?

- Measures acres of developable land
- Based on a formula agreed upon by the Cities, County, and the Community
- Based on the best available data
  - GIS map layers
  - Assessor/Treasurer records

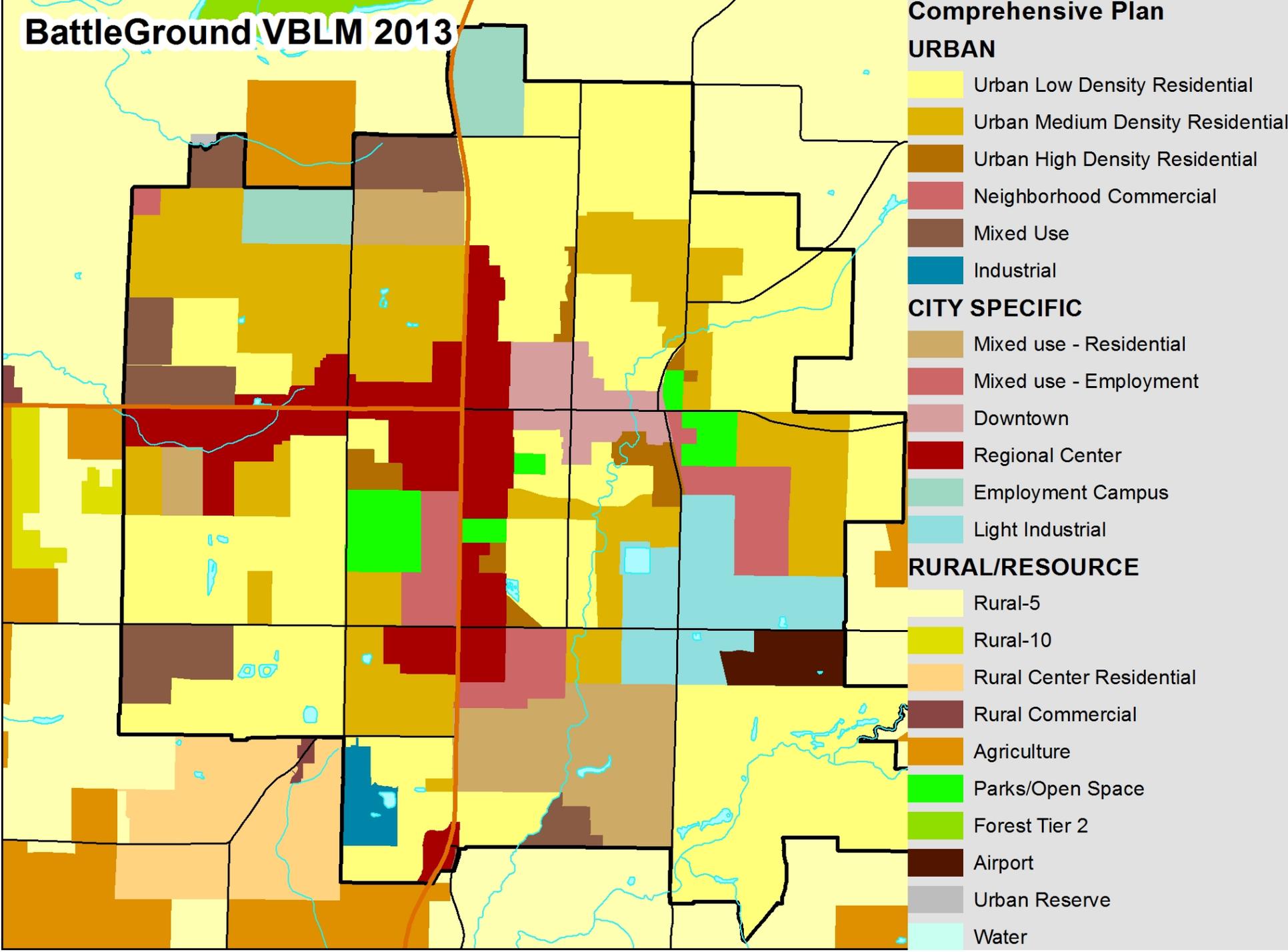
# VBLM is actually 3 models

- Residential
- Commercial
- Industrial

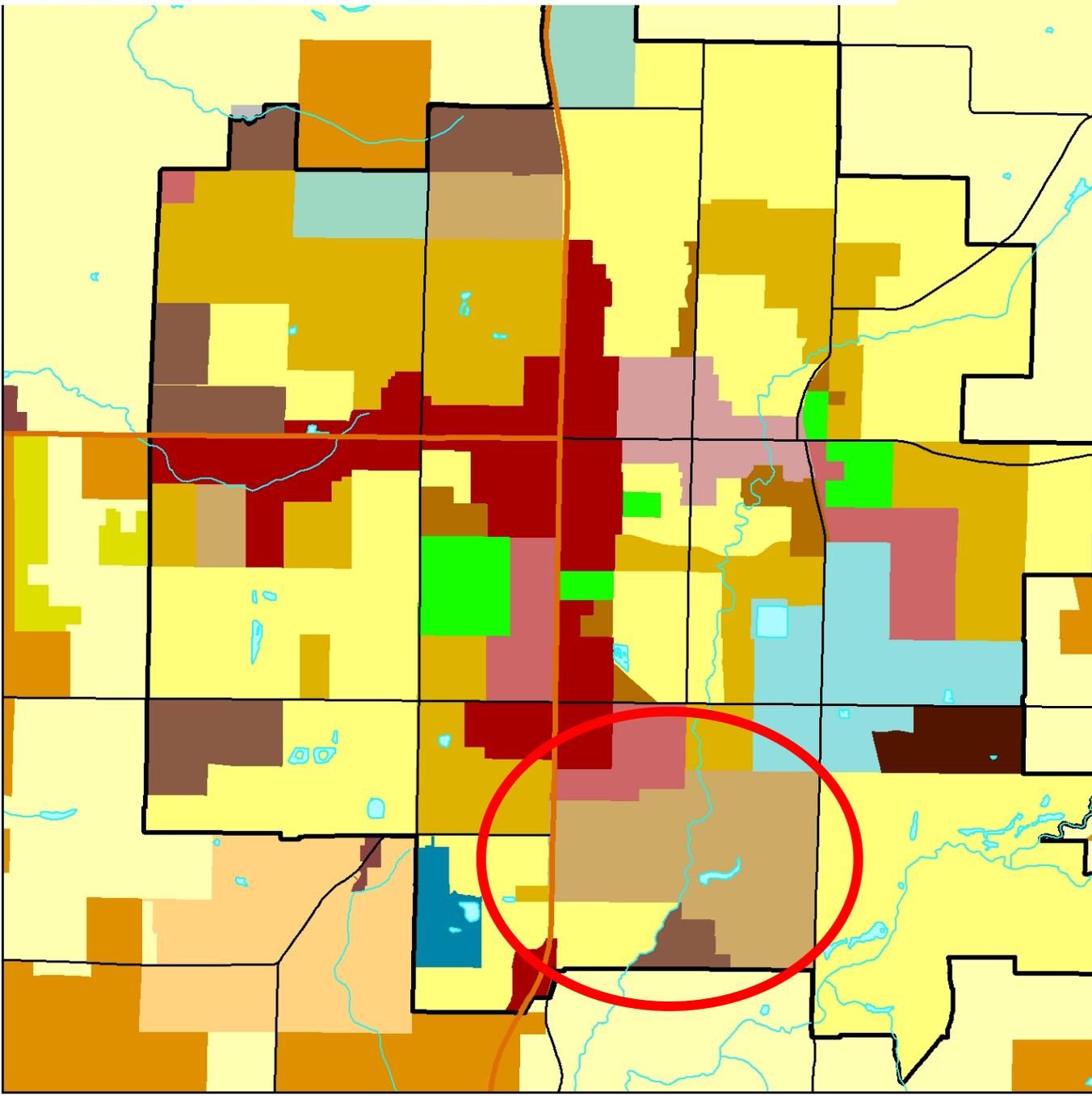
Source: Comprehensive Plan map

50 designations grouped into the 3 models

# BattleGround VBLM 2013



# Comprehensive Plan Classifications



## Comprehensive Plan

### URBAN

- Urban Low Density Residential
- Urban Medium Density Residential
- Urban High Density Residential
- Neighborhood Commercial
- Mixed Use
- Industrial

### CITY SPECIFIC

- Mixed use - Residential
- Mixed use - Employment
- Downtown
- Regional Center
- Employment Campus
- Light Industrial

### RURAL/RESOURCE

- Rural-5
- Rural-10
- Rural Center Residential
- Rural Commercial
- Agriculture
- Parks/Open Space
- Forest Tier 2
- Airport
- Urban Reserve
- Water

# Comprehensive Plan Classifications

## Comprehensive Plan

### URBAN

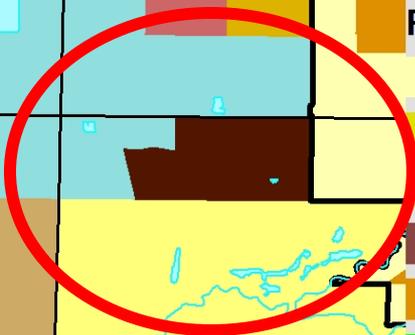
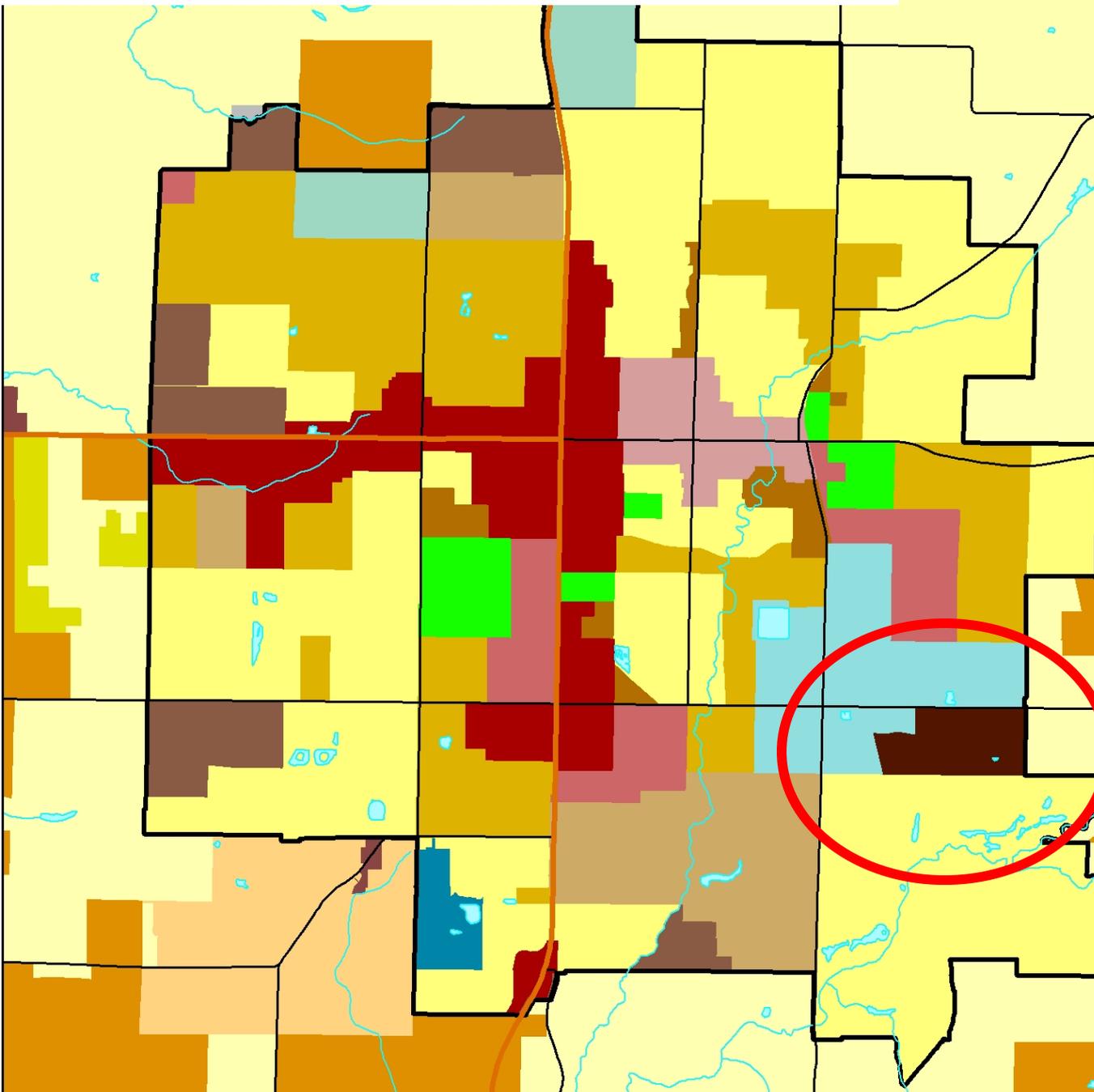
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- Mixed Use
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### CITY SPECIFIC

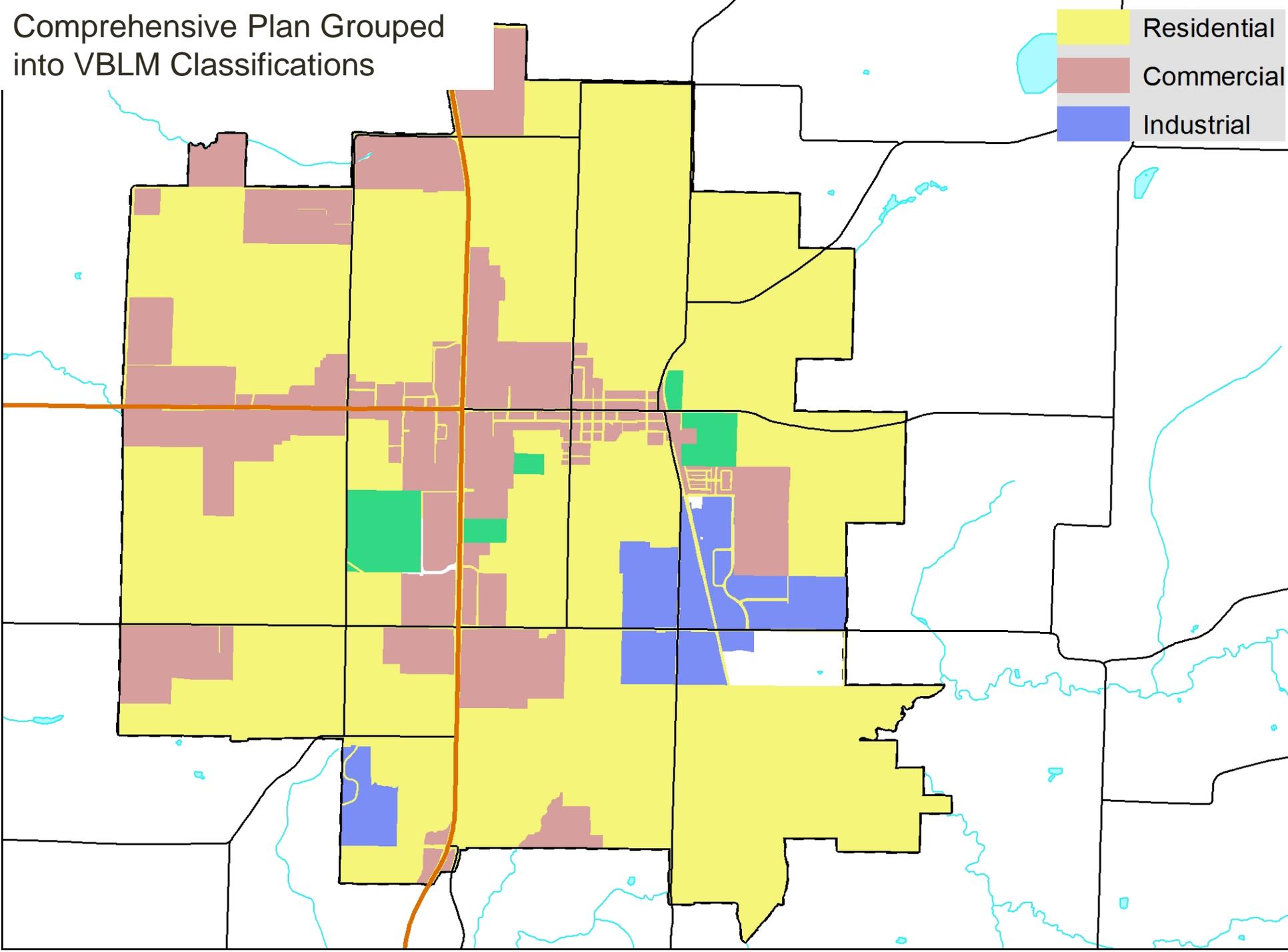
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# Comprehensive Plan Grouped into VBLM Classifications



# What is Vacant?

Residential

Building Value < \$13000

Commercial

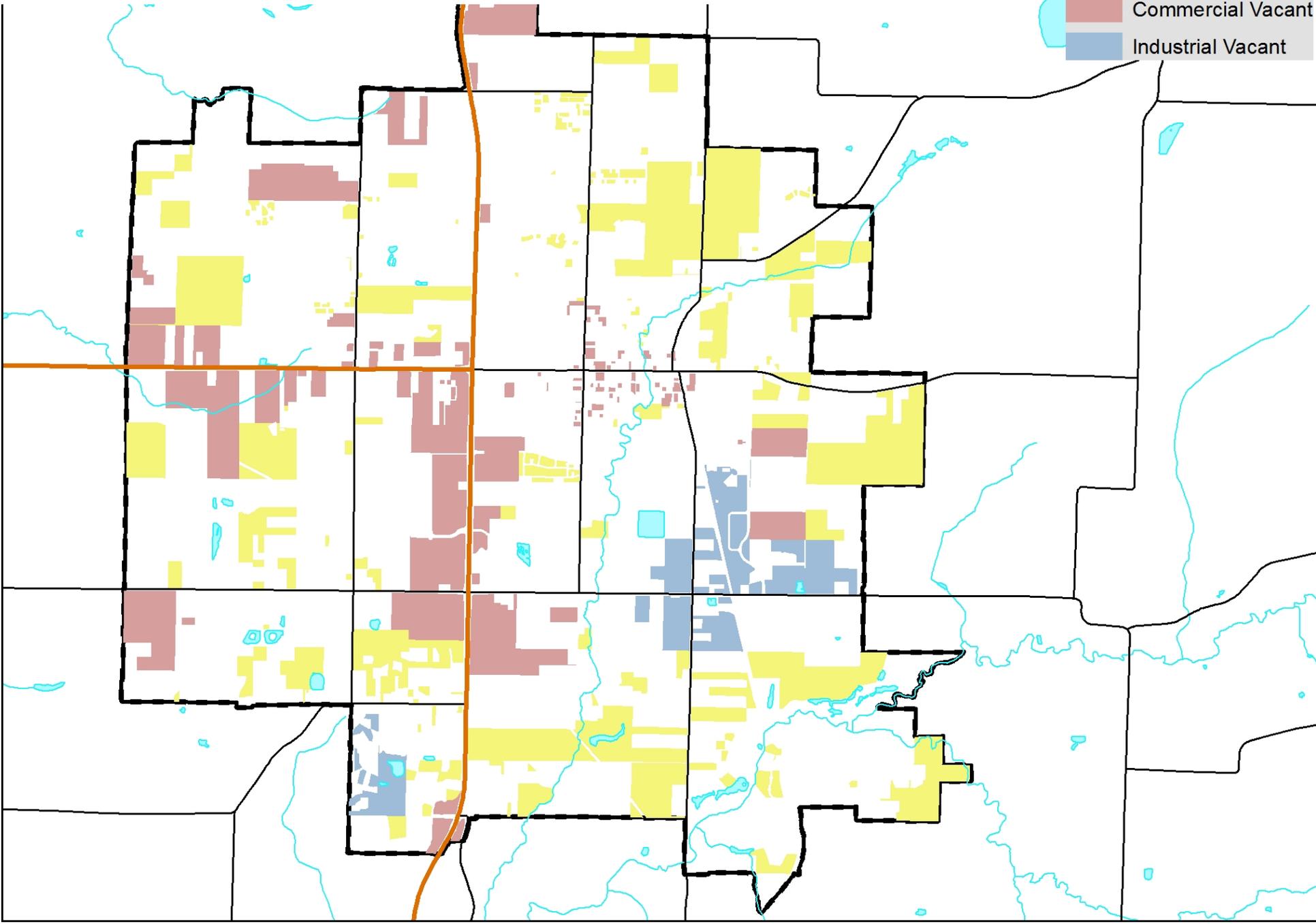
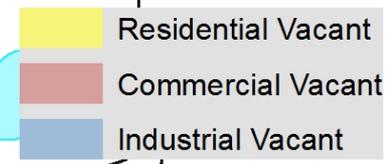
Building Value < \$67,000

Industrial

Building Value < \$67,000

Source: Property Assessment Database

# Battle Ground Vacant Land



# Underutilized Property

Larger parcels with a structure. Parcel could subdivide.

Building Value per Acre (BVA) = Building Value / Number of Acres

Residential

Minimum lot size 1 acre

Bottom 20<sup>th</sup> percentile of BVA (\$260,000 in 2013)

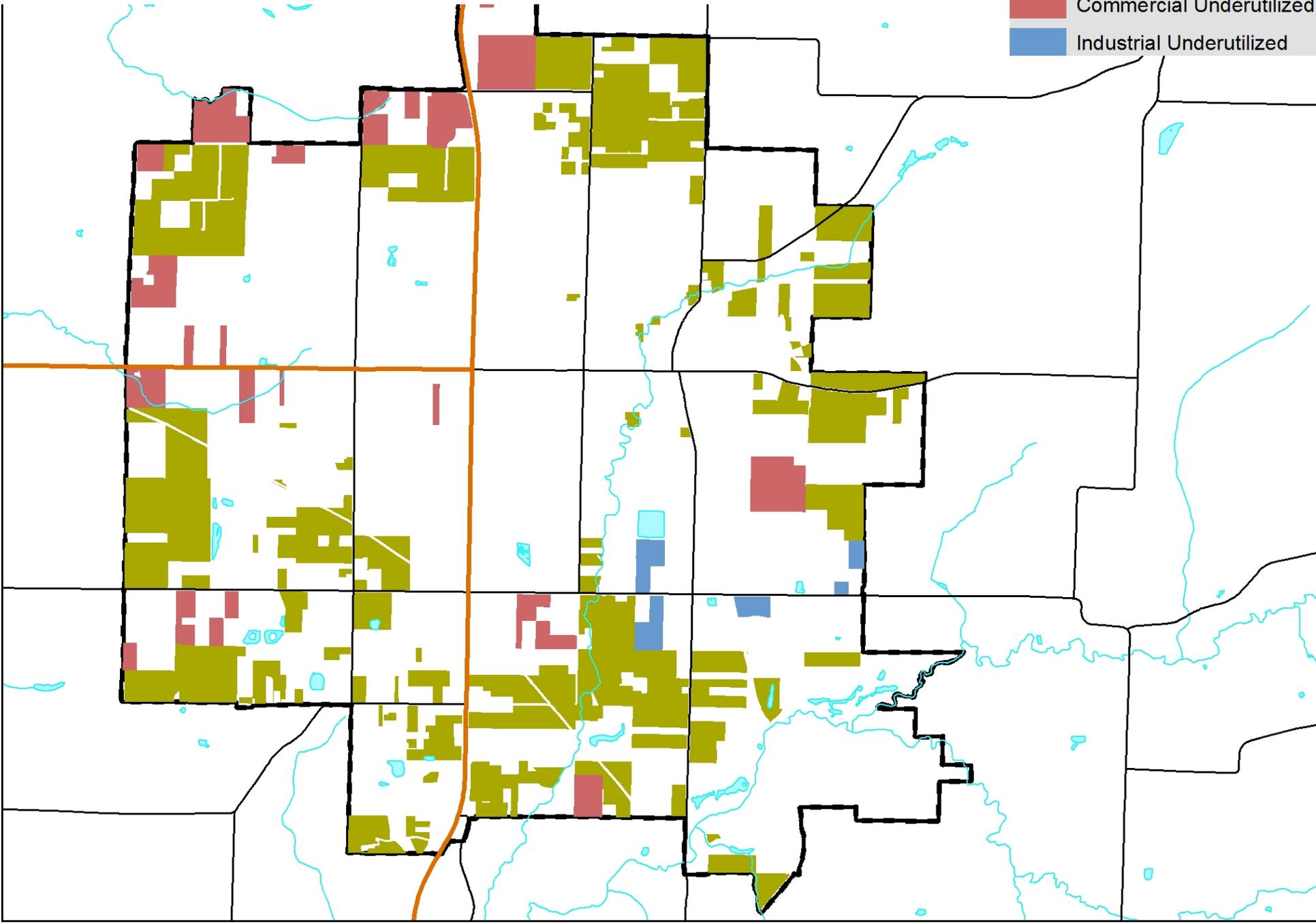
Commercial /Industrial

BVA less than \$50,000

Source: Assessor

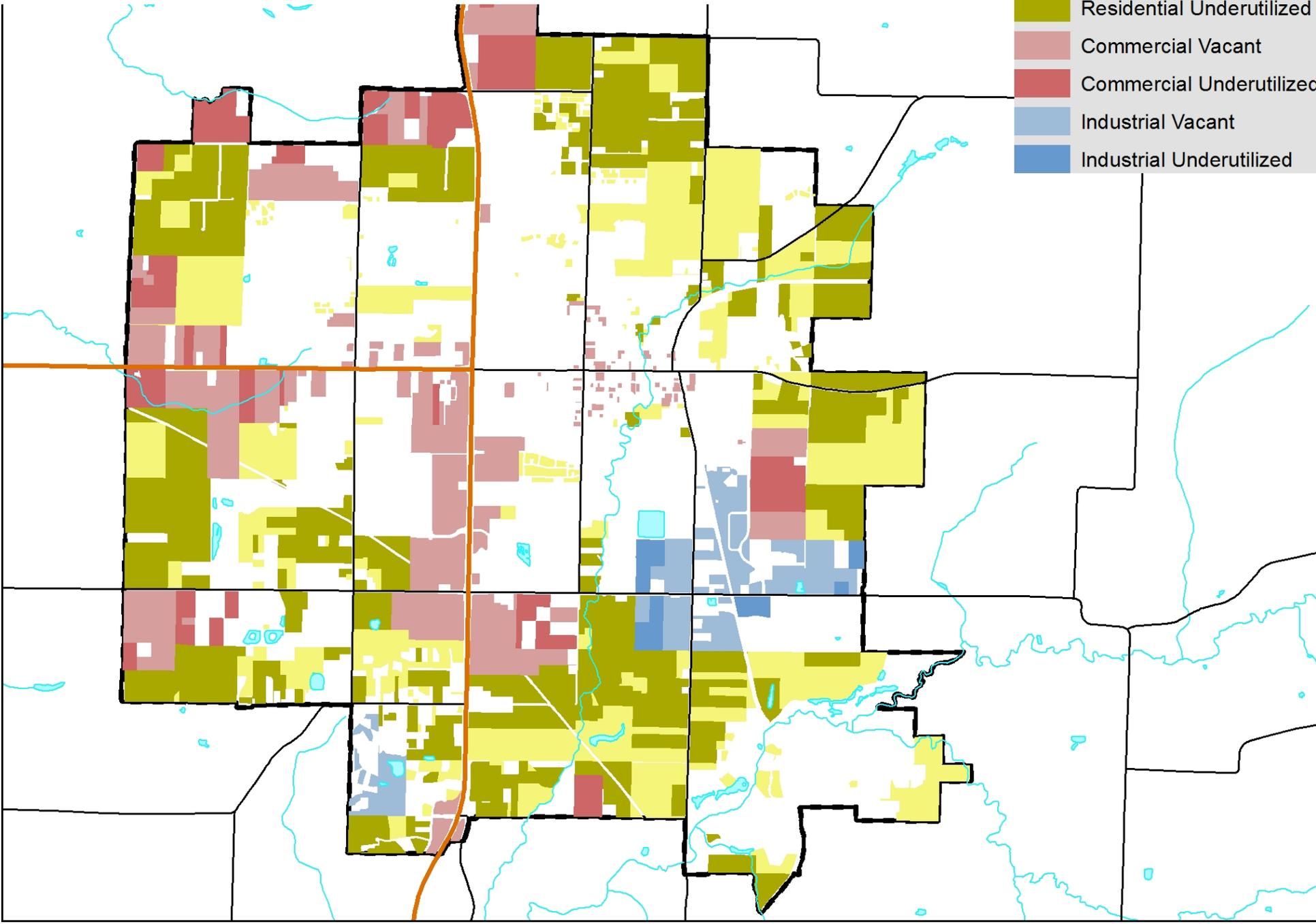
# Battle Ground Underutilized

- Residential Underutilized
- Commercial Underutilized
- Industrial Underutilized



# Battle Ground Vacant Lands Inventory

- Residential Vacant
- Residential Underutilized
- Commercial Vacant
- Commercial Underutilized
- Industrial Vacant
- Industrial Underutilized

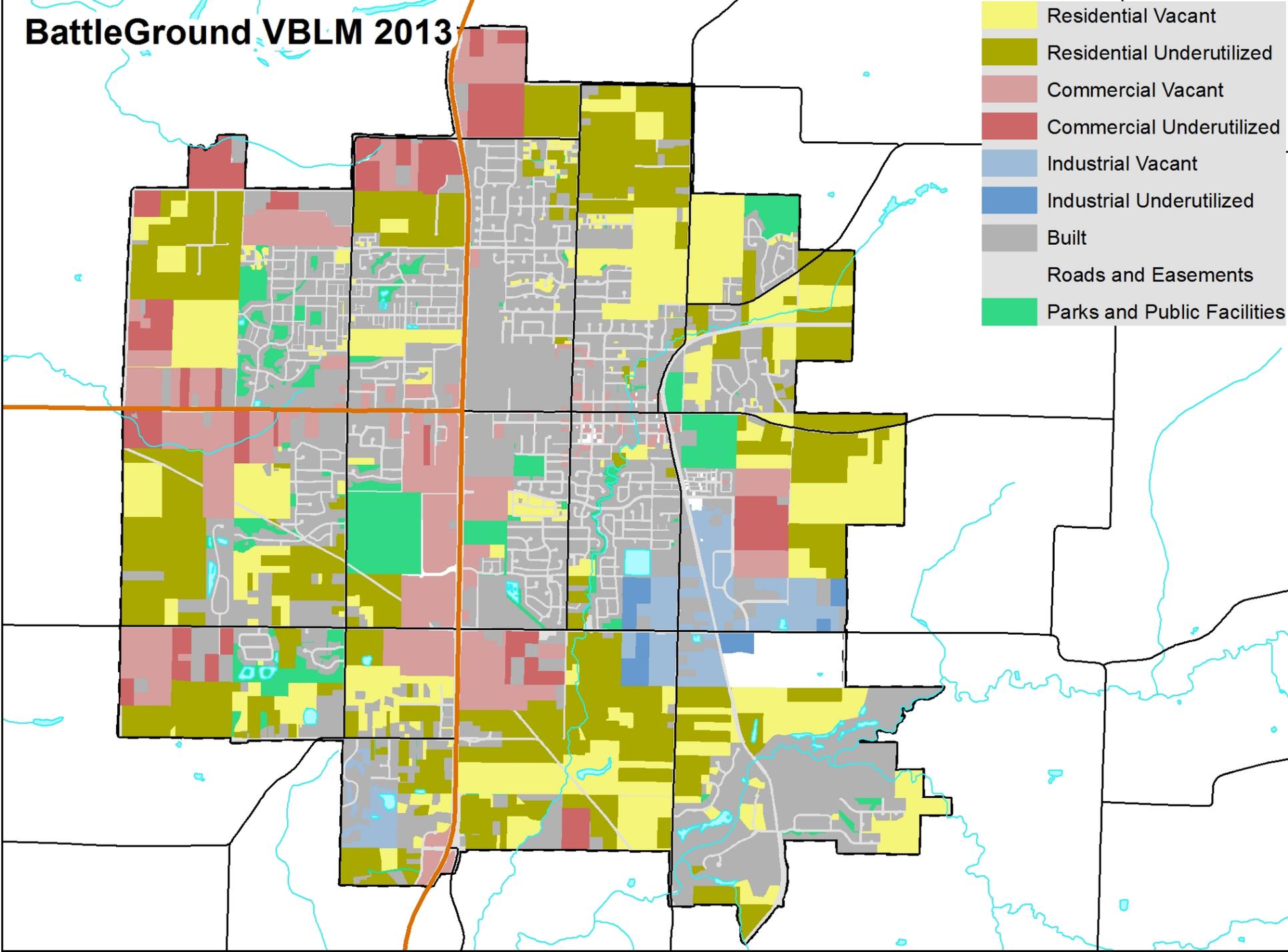


# Built Classifications

- Built (undifferentiated)
- Easements and Right of Way
- Parks
- Private Open space
- Public Facilities
- Exempt Properties
- Court Yards
- Mansions
- Condos
- Mobil Home Parks

# BattleGround VBLM 2013

- Residential Vacant
- Residential Underutilized
- Commercial Vacant
- Commercial Underutilized
- Industrial Vacant
- Industrial Underutilized
- Built
- Roads and Easements
- Parks and Public Facilities



# Rates of Development

- Vacant land will develop faster than Underutilized
- Some land will never develop
  - A larger portion of Underutilized will not develop
- Environmental Constraints will further limit development potential

# Environmental Constraints

Limits development on vacant and underutilized land

Steep Slopes

Landslide Areas

Riparian Areas

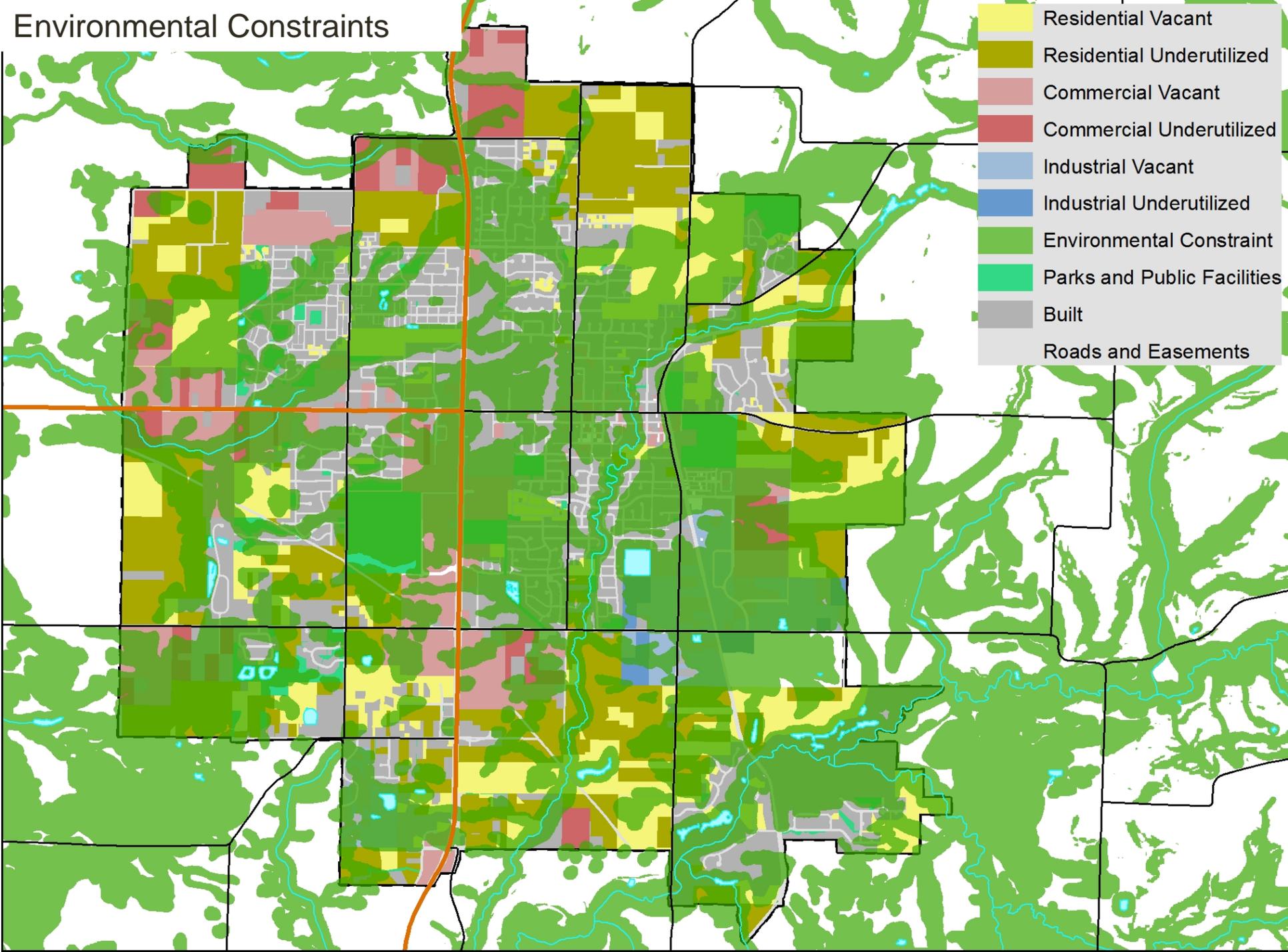
Flood plains

Wetlands

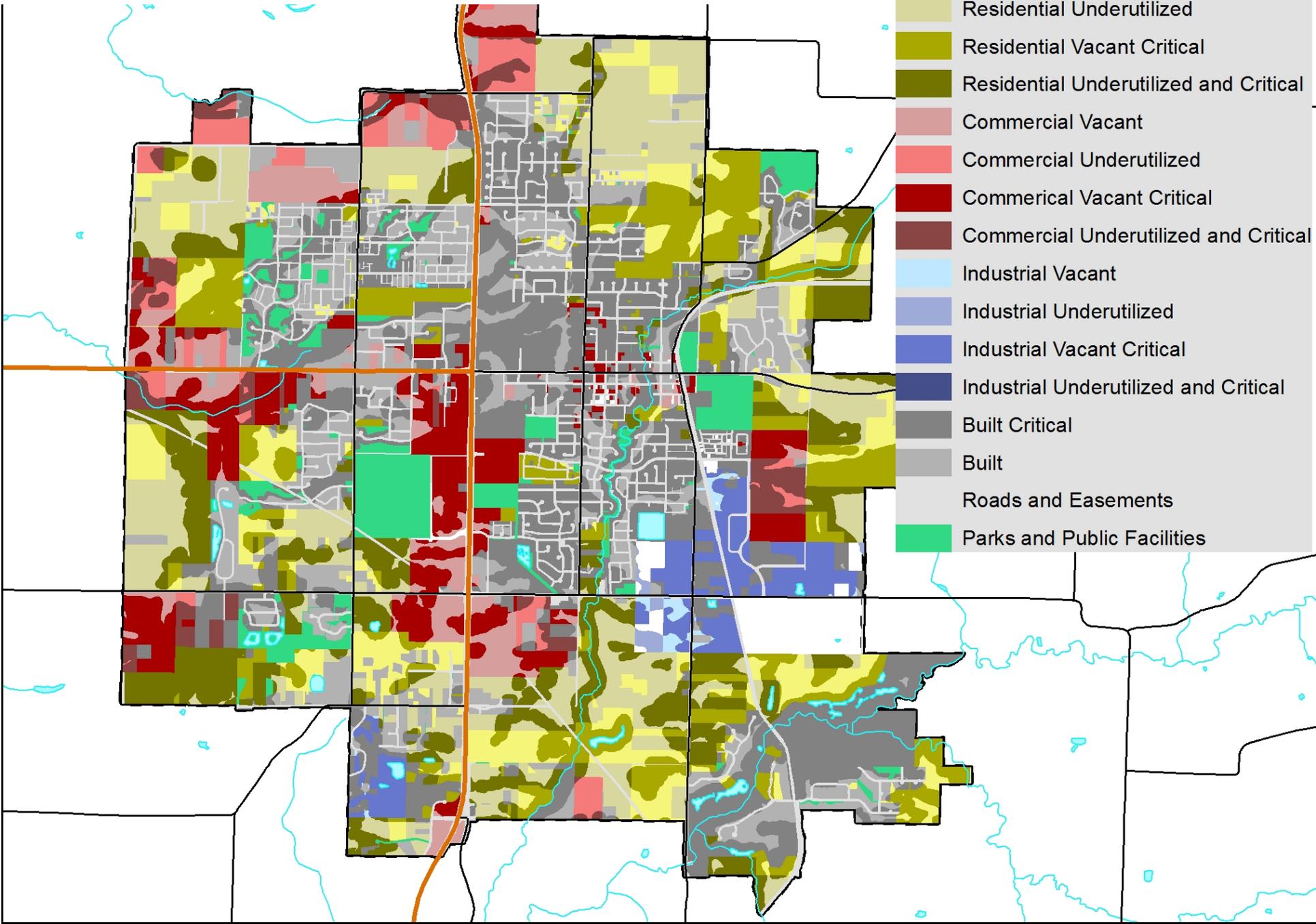
Habitat and Species

Source: GIS Layers

# Environmental Constraints

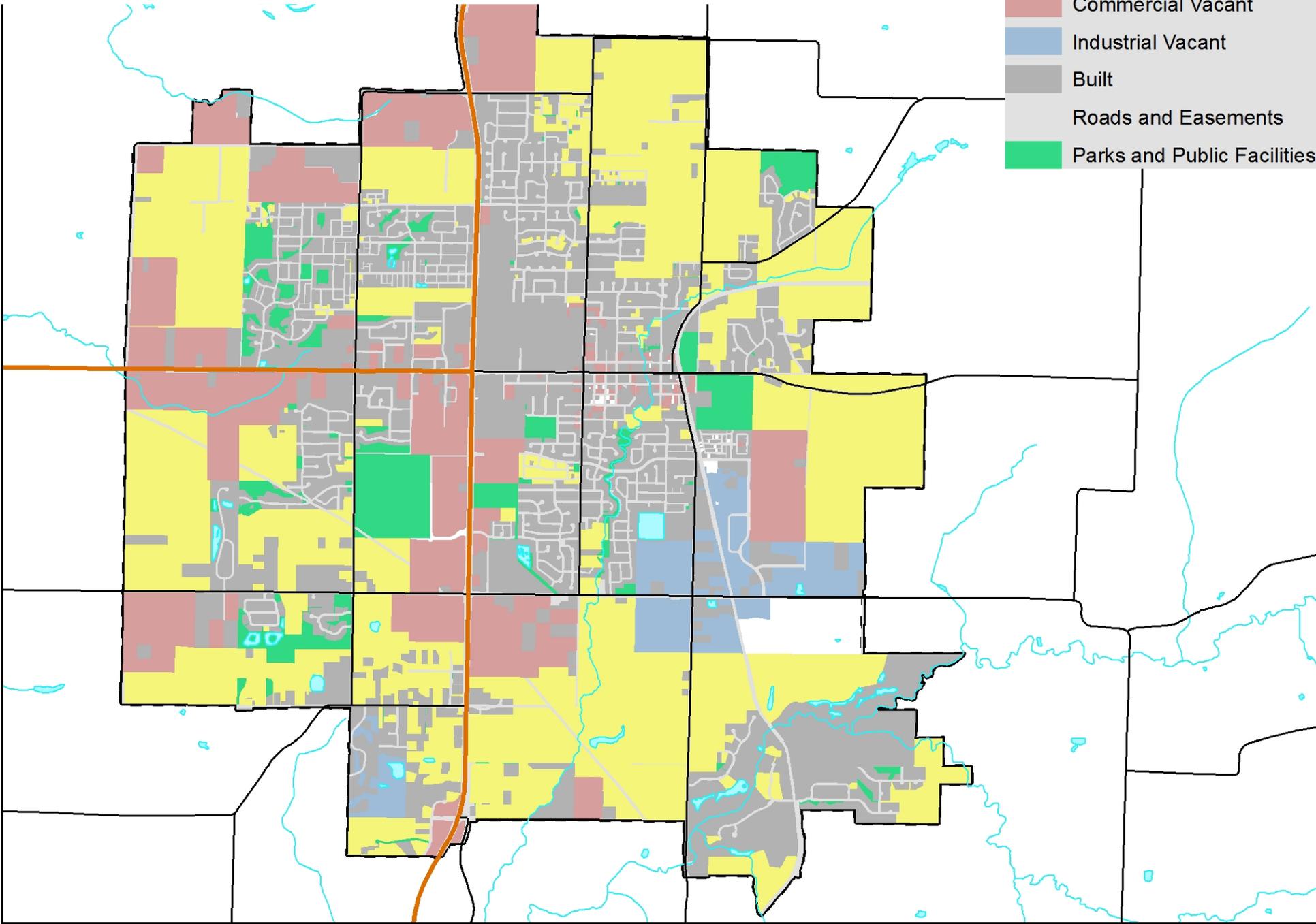


# All VBLM Classifications

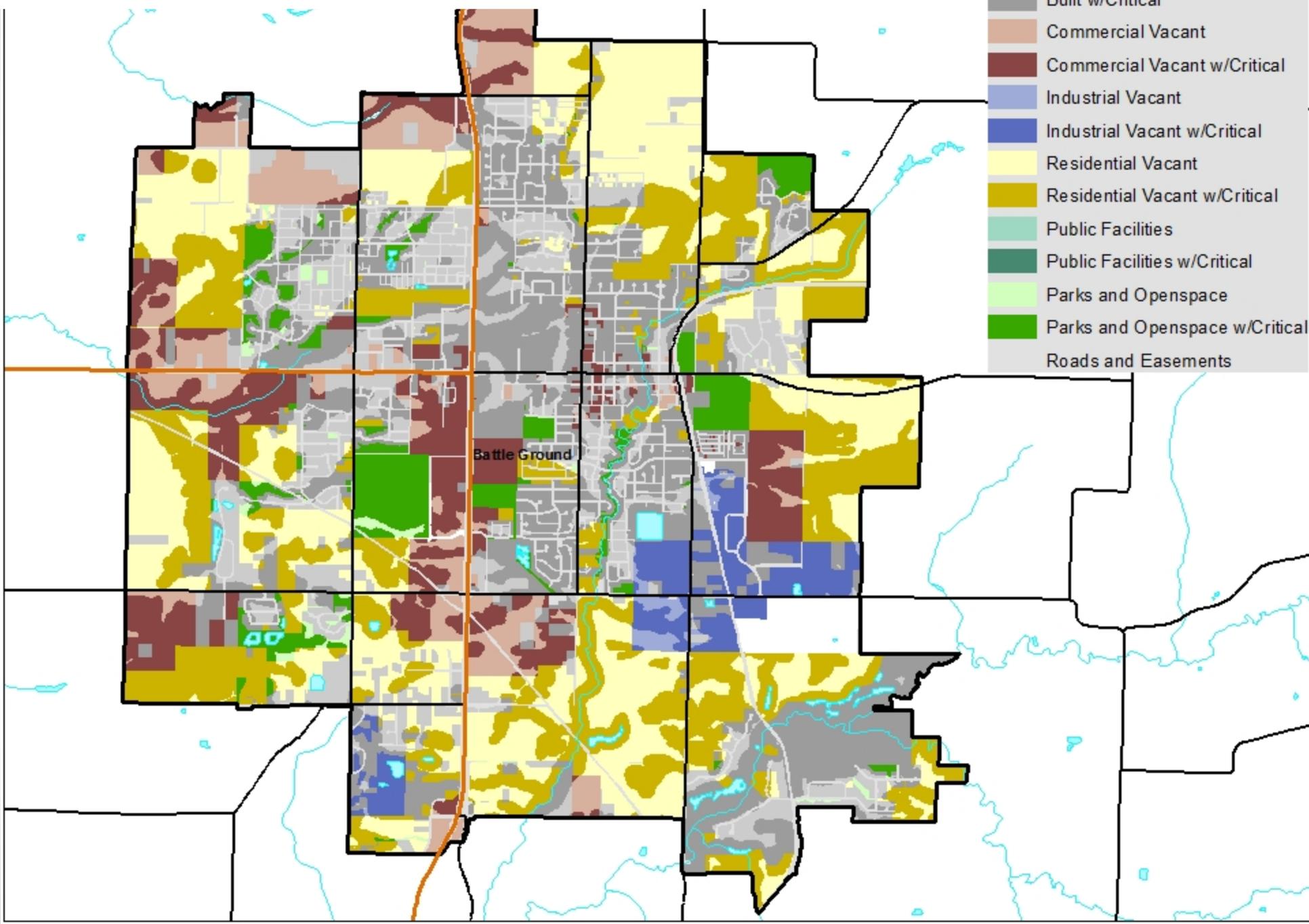


# VBLM Classifications Collapsed

- Residential Vacant
- Commercial Vacant
- Industrial Vacant
- Built
- Roads and Easements
- Parks and Public Facilities



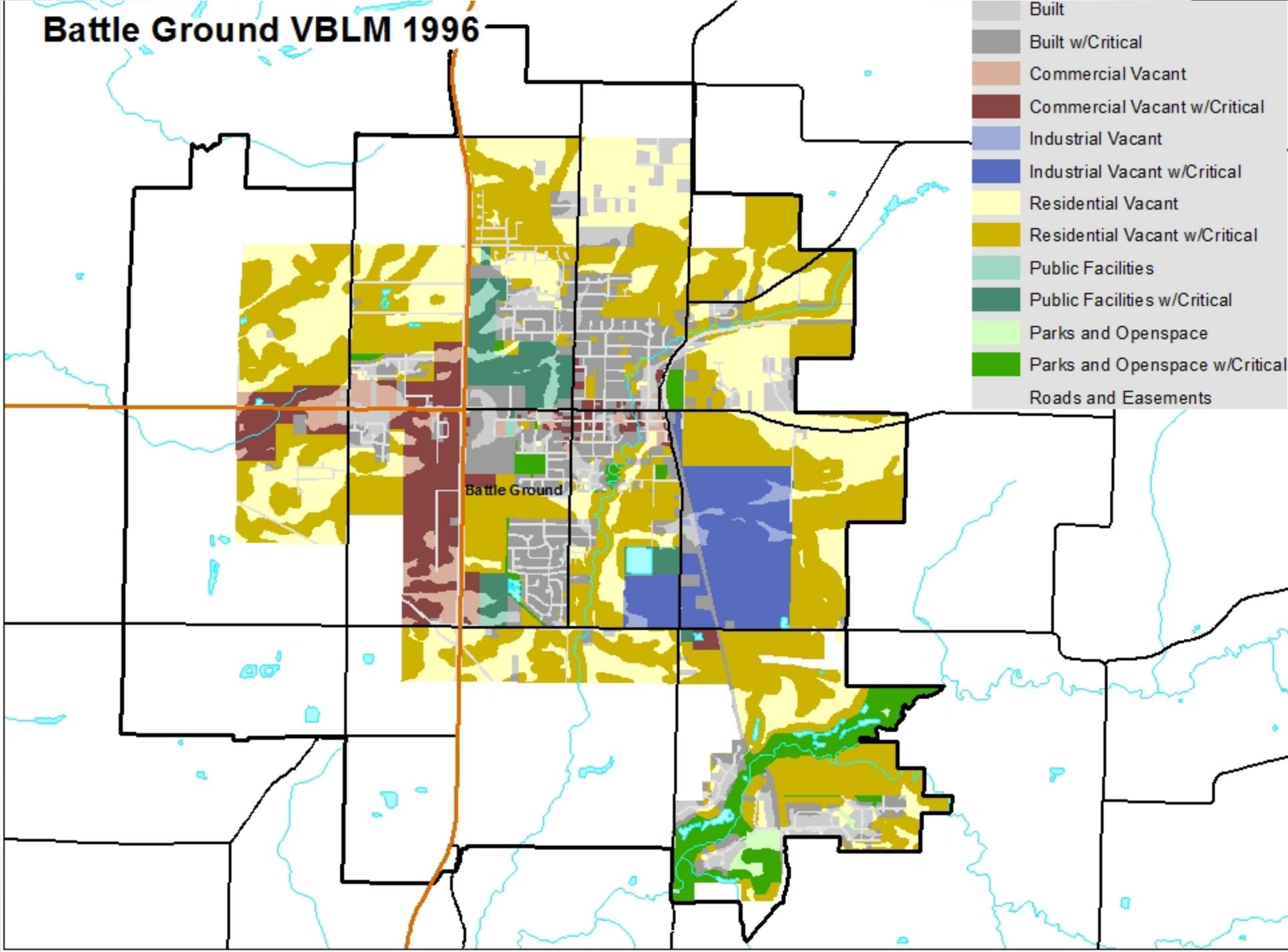
# VBLM and Environmental Classifications



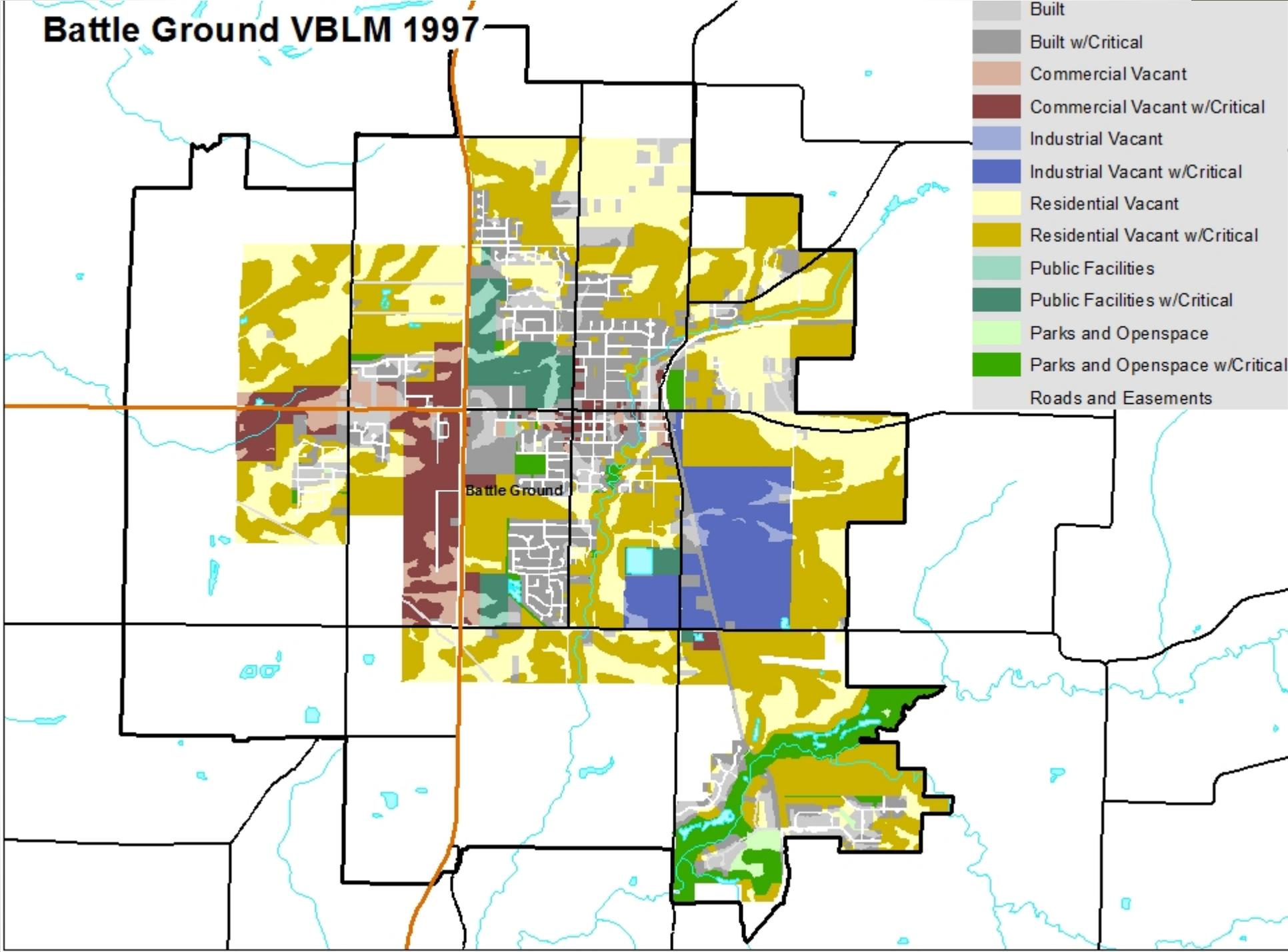
Viewing the model through  
time.

1996 - 2013

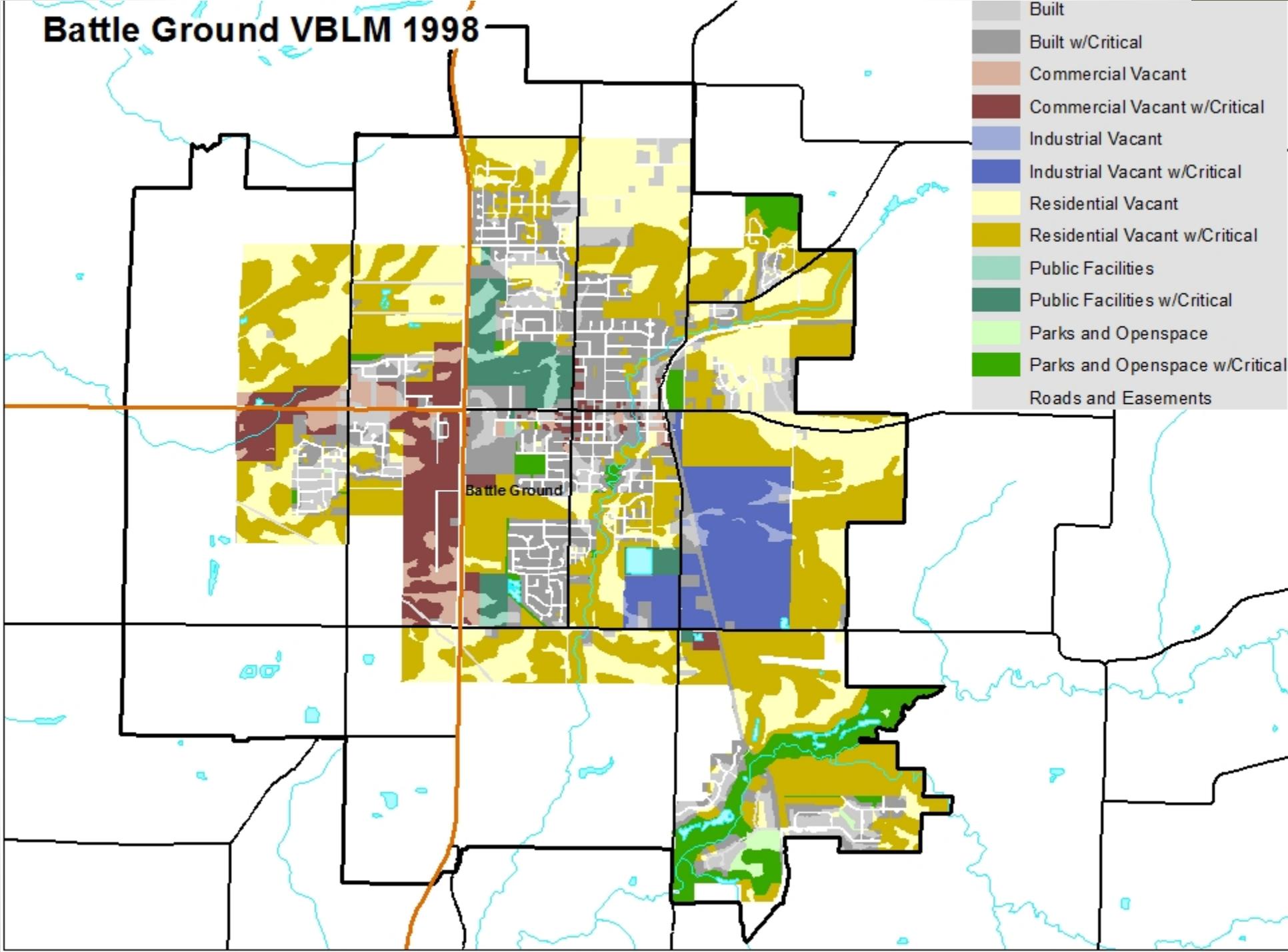
# Battle Ground VBLM 1996



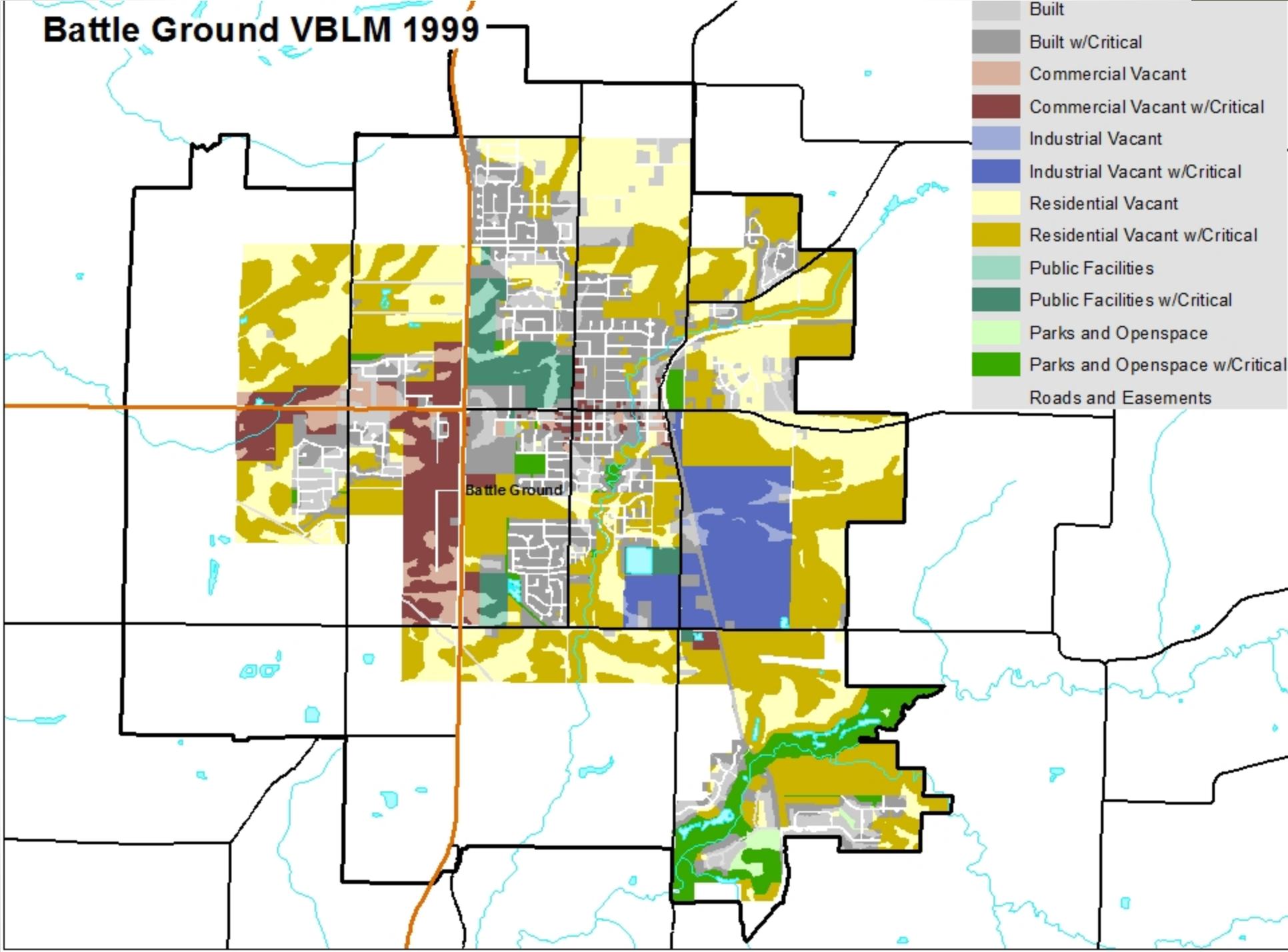
# Battle Ground VBLM 1997



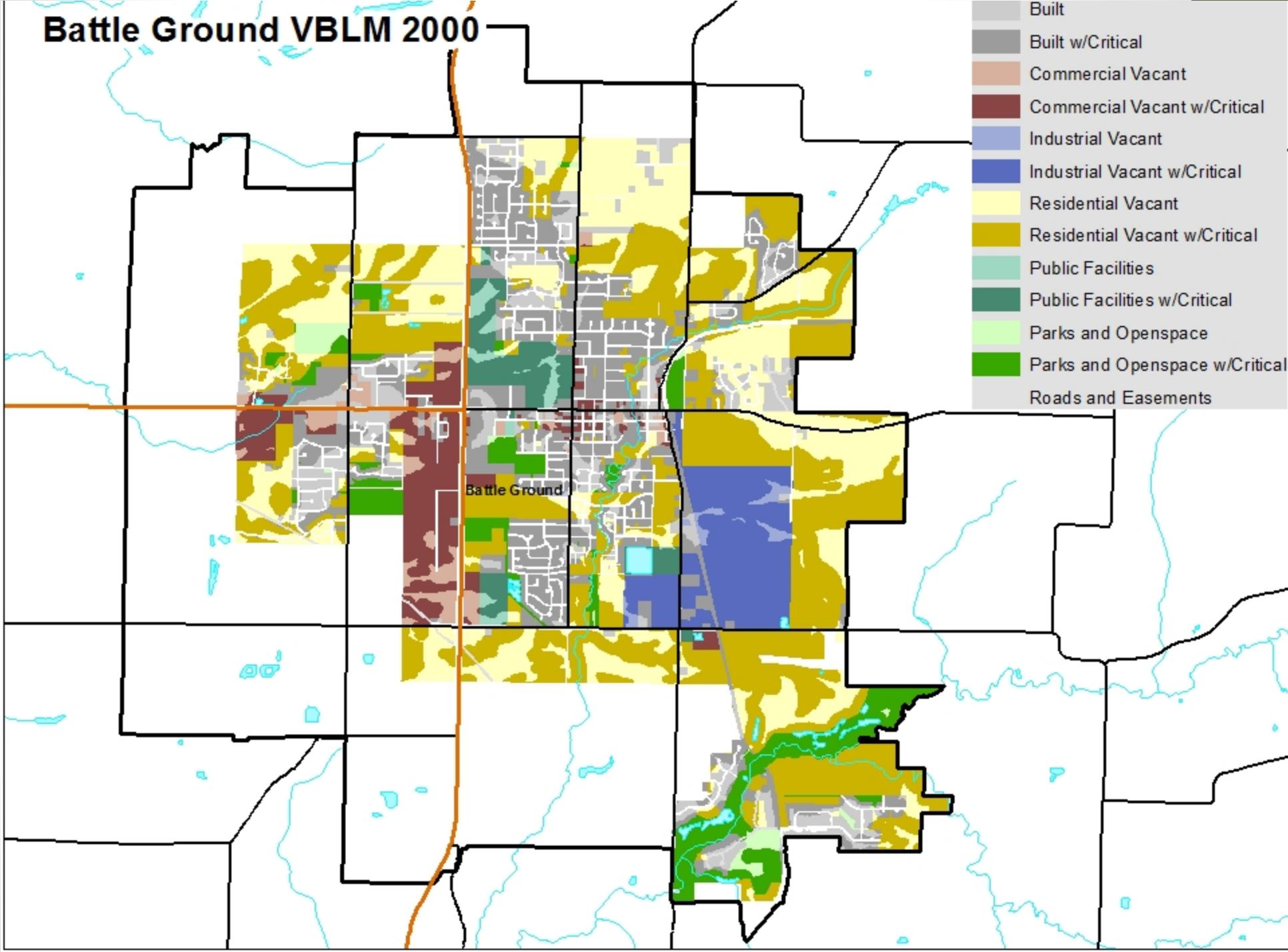
# Battle Ground VBLM 1998



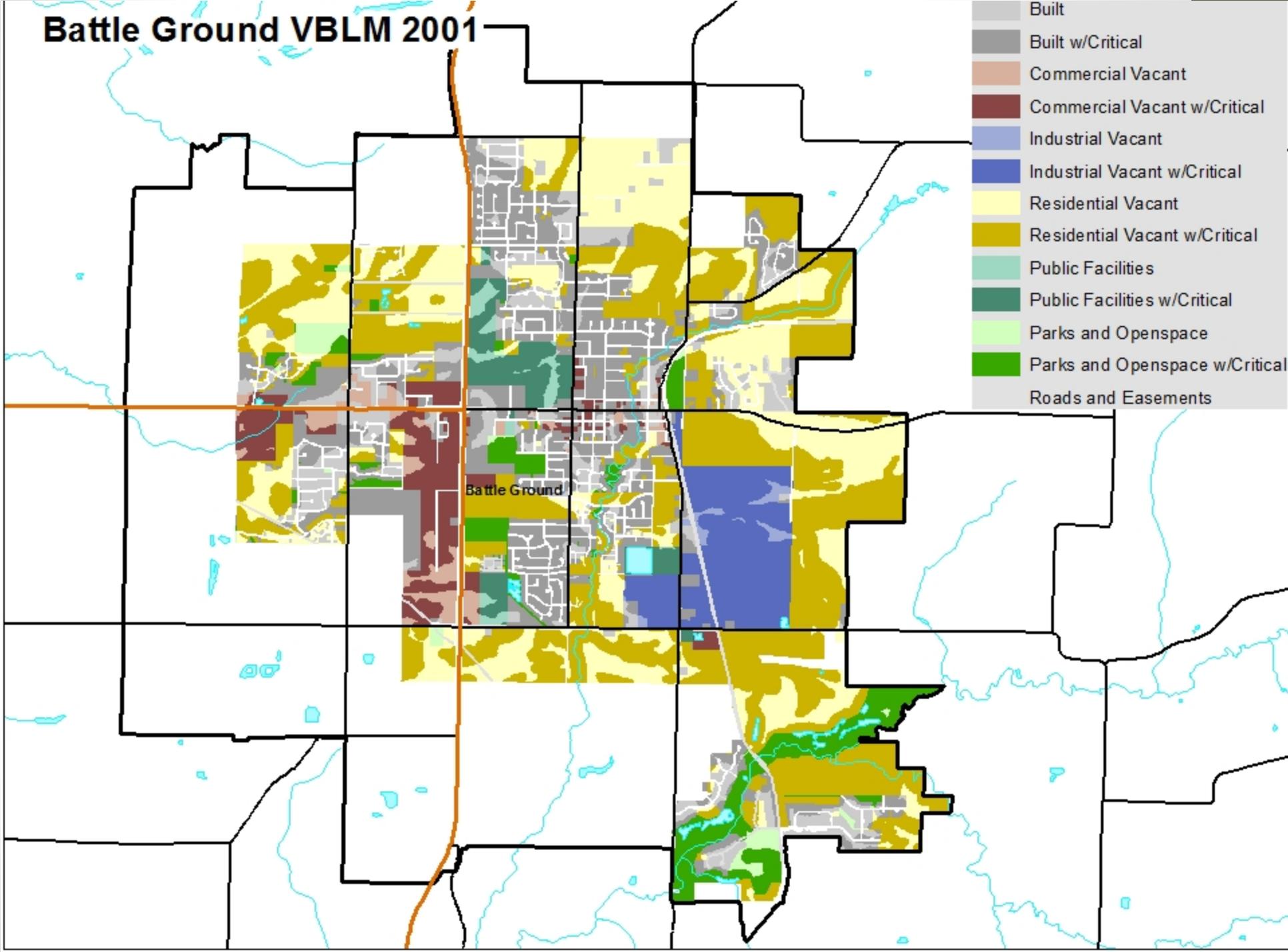
# Battle Ground VBLM 1999



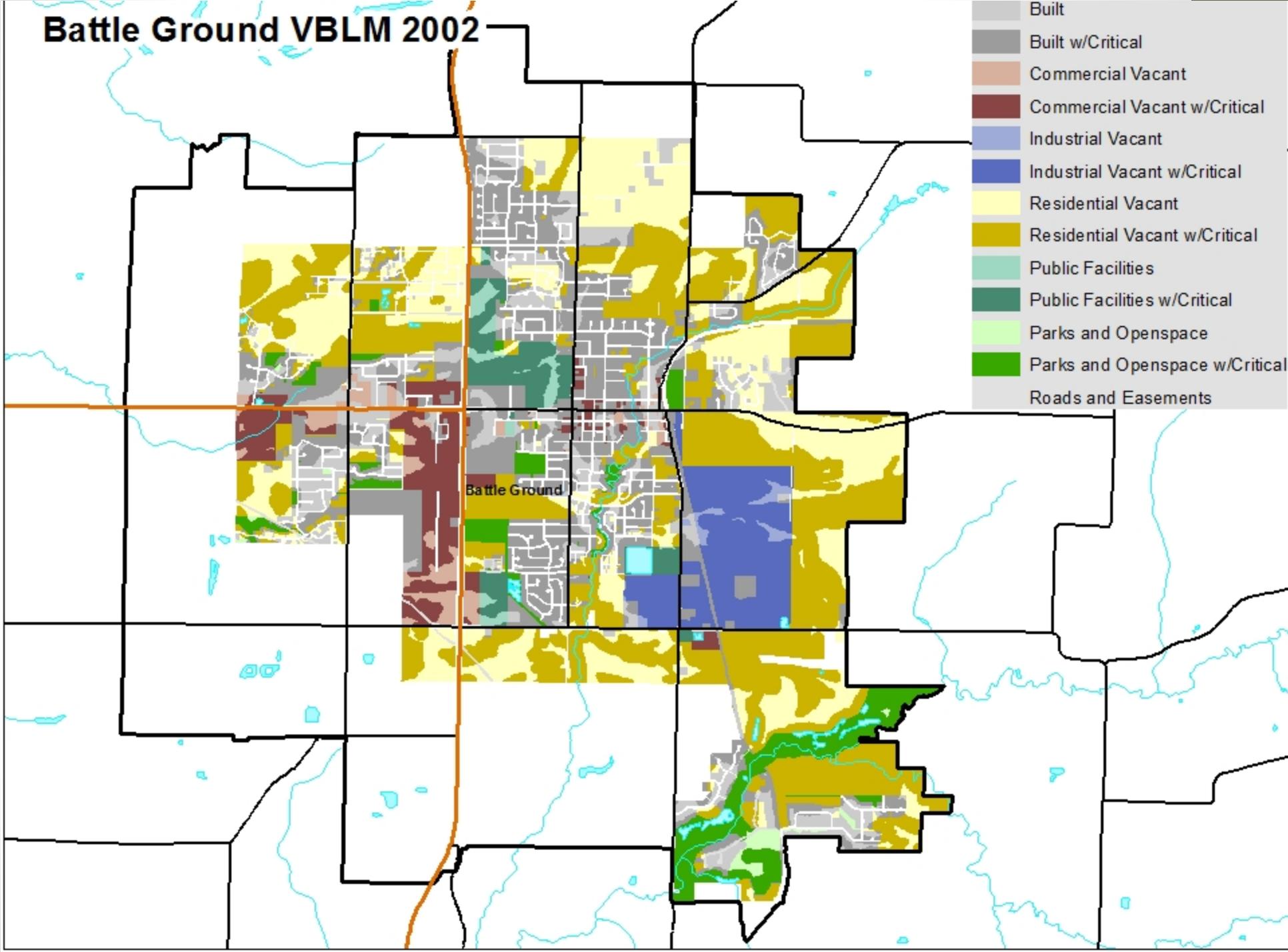
# Battle Ground VBLM 2000



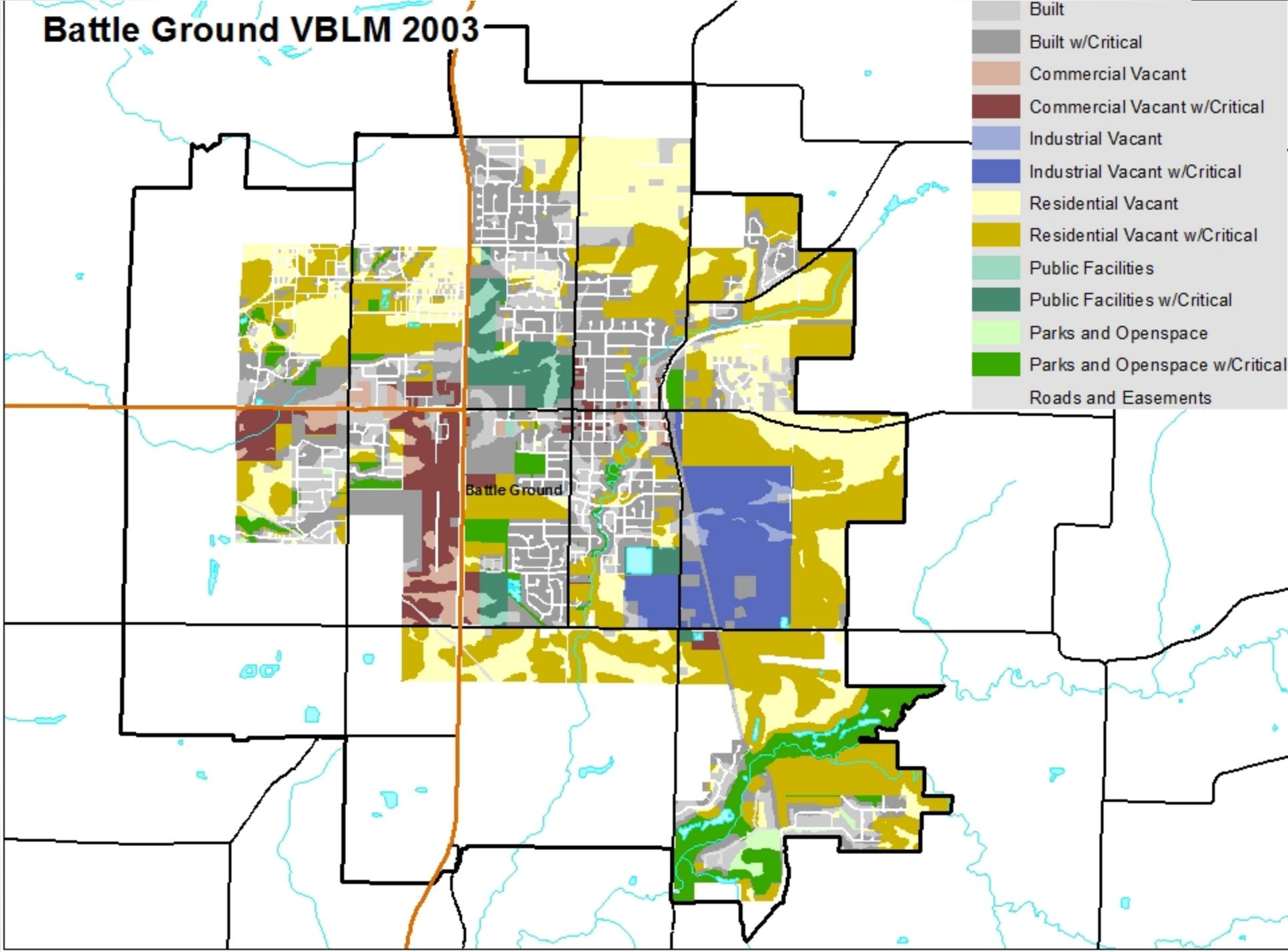
# Battle Ground VBLM 2001



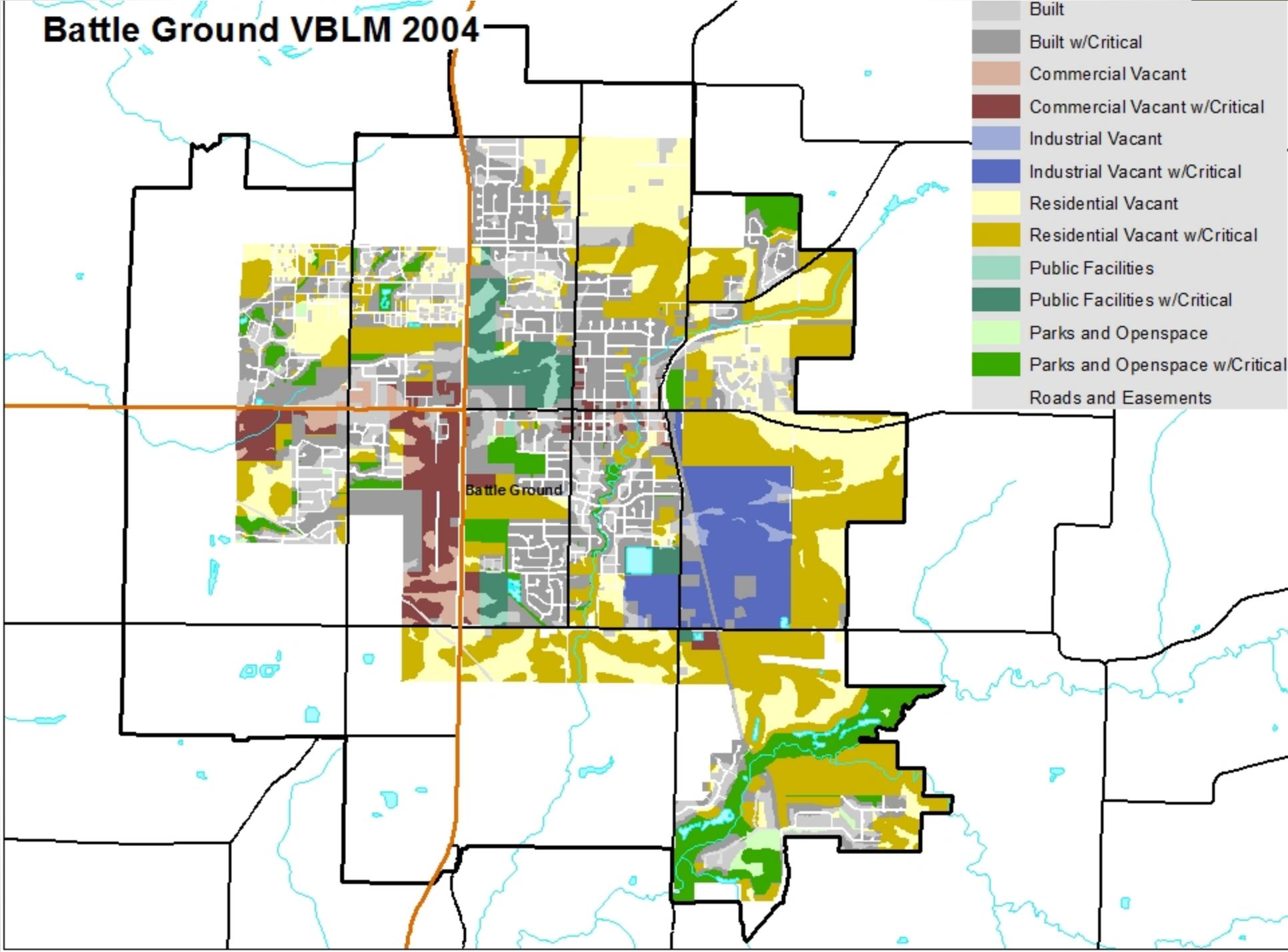
# Battle Ground VBLM 2002



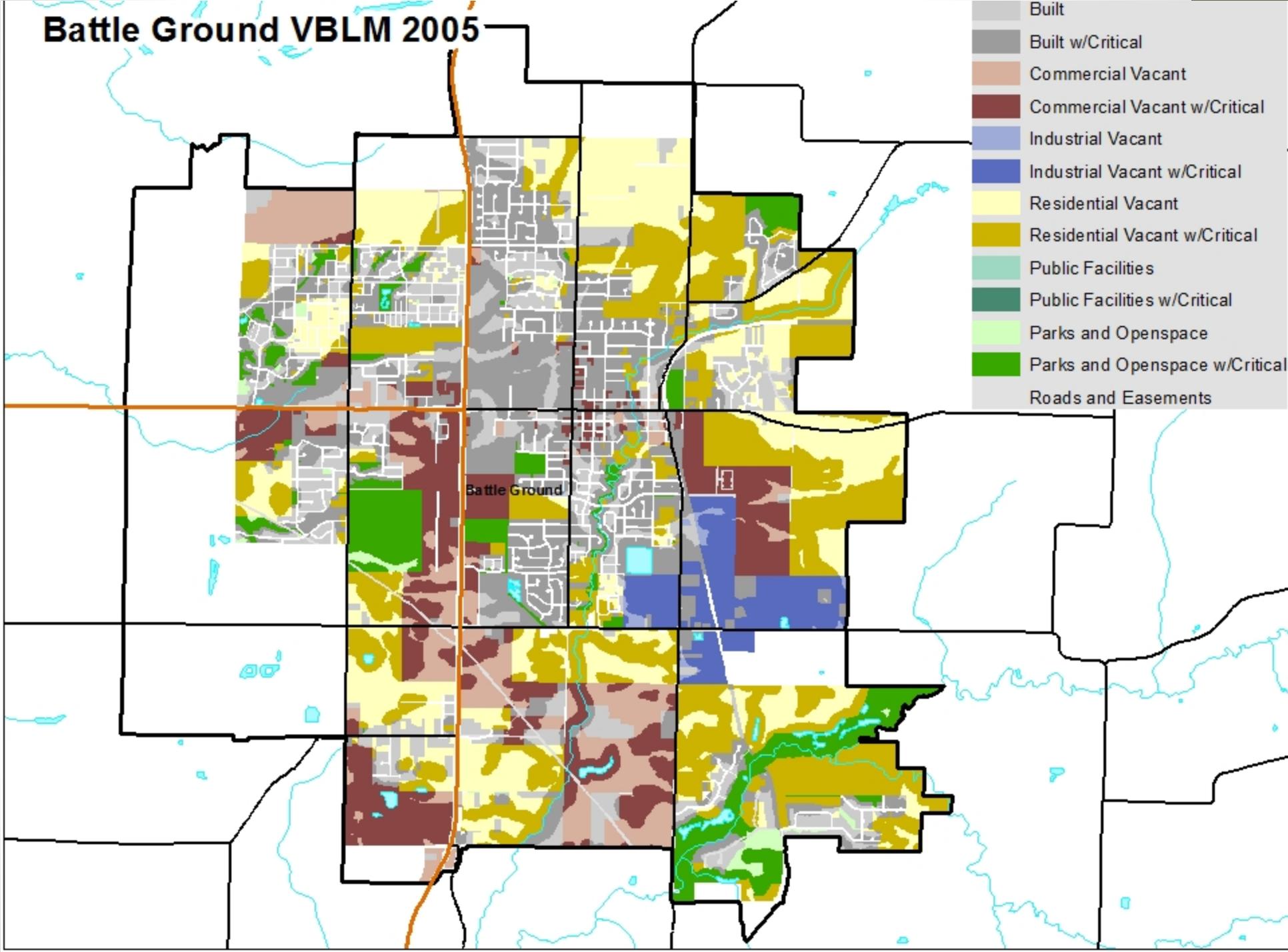
# Battle Ground VBLM 2003



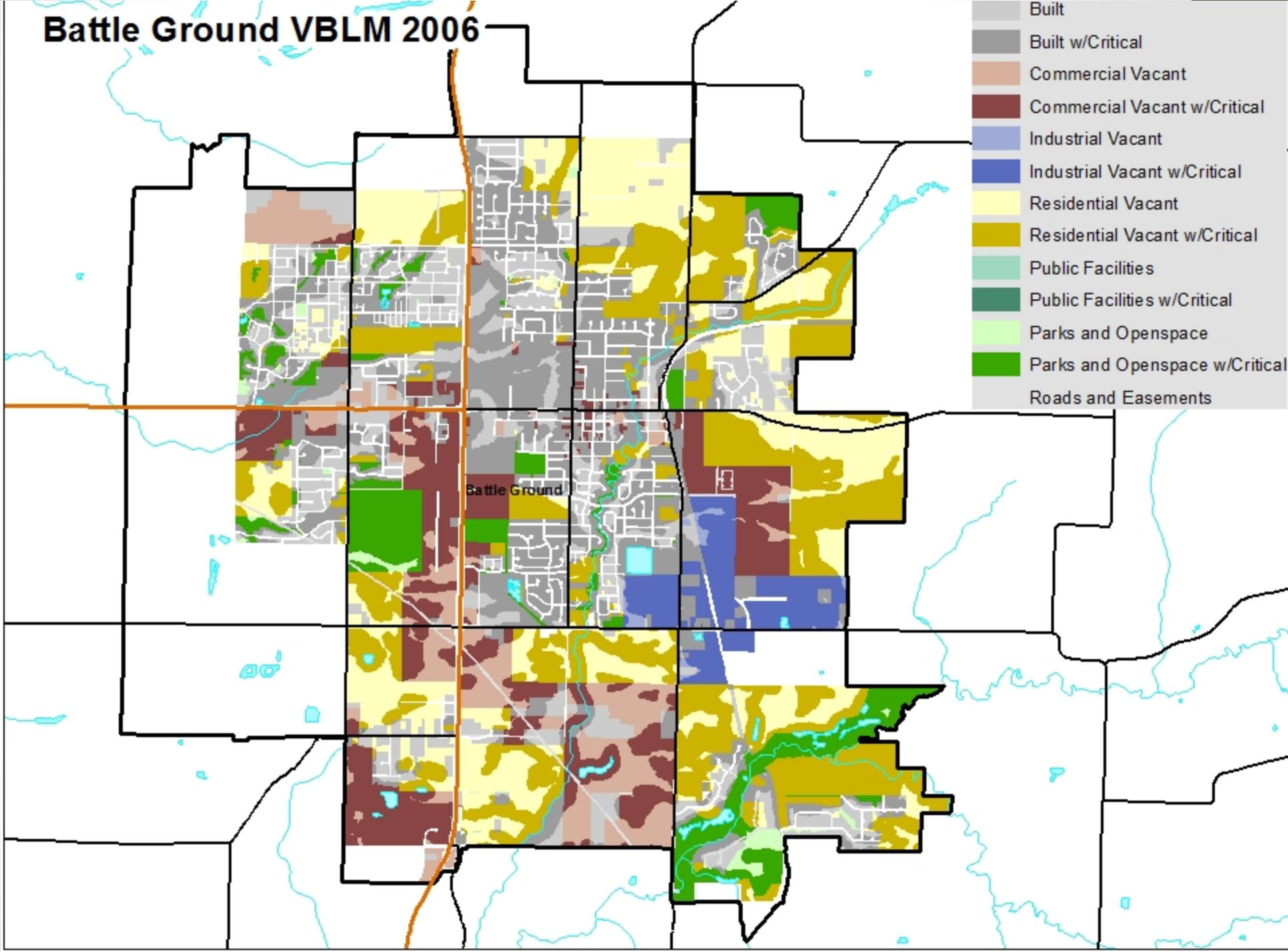
# Battle Ground VBLM 2004



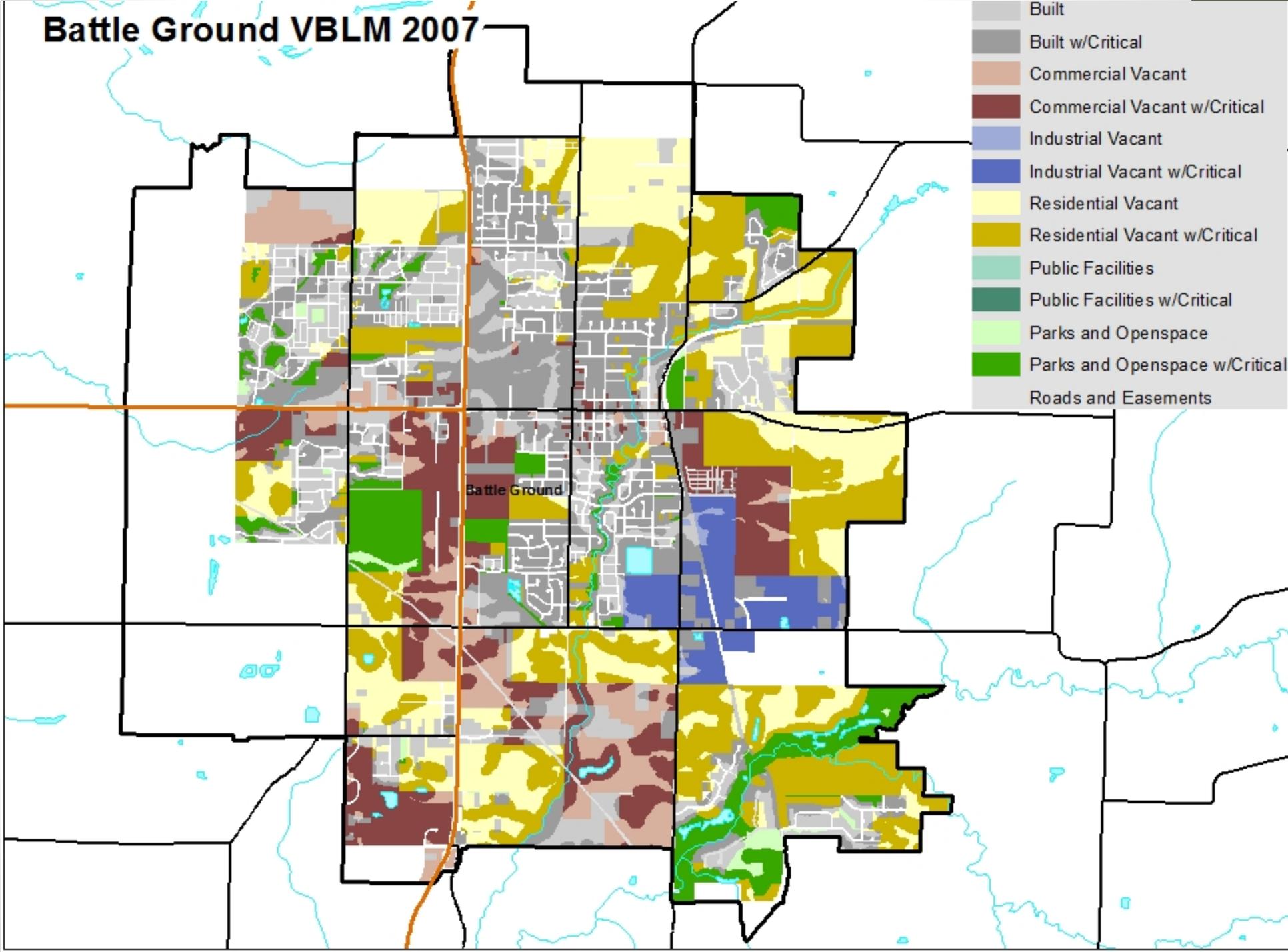
# Battle Ground VBLM 2005



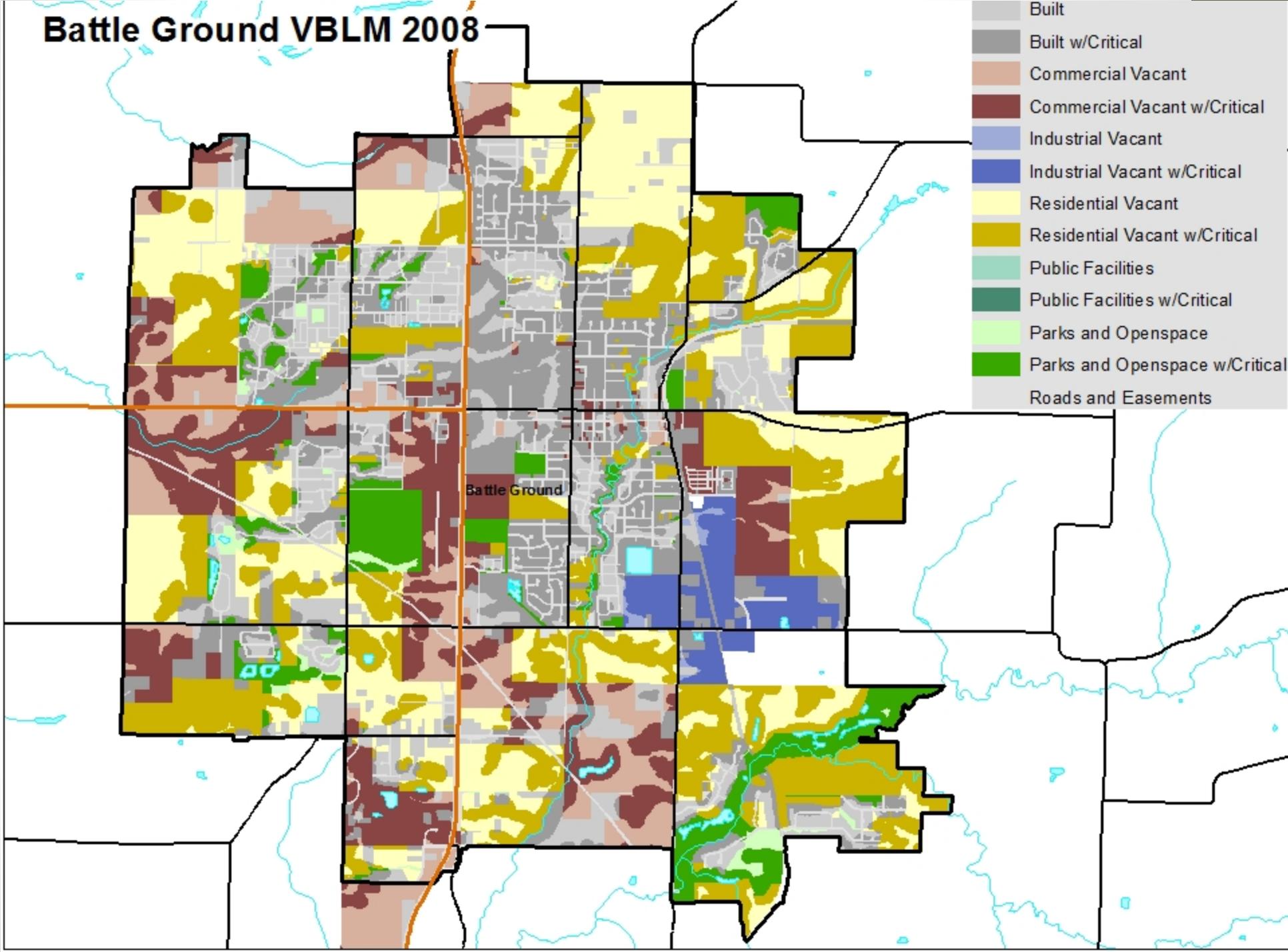
# Battle Ground VBLM 2006



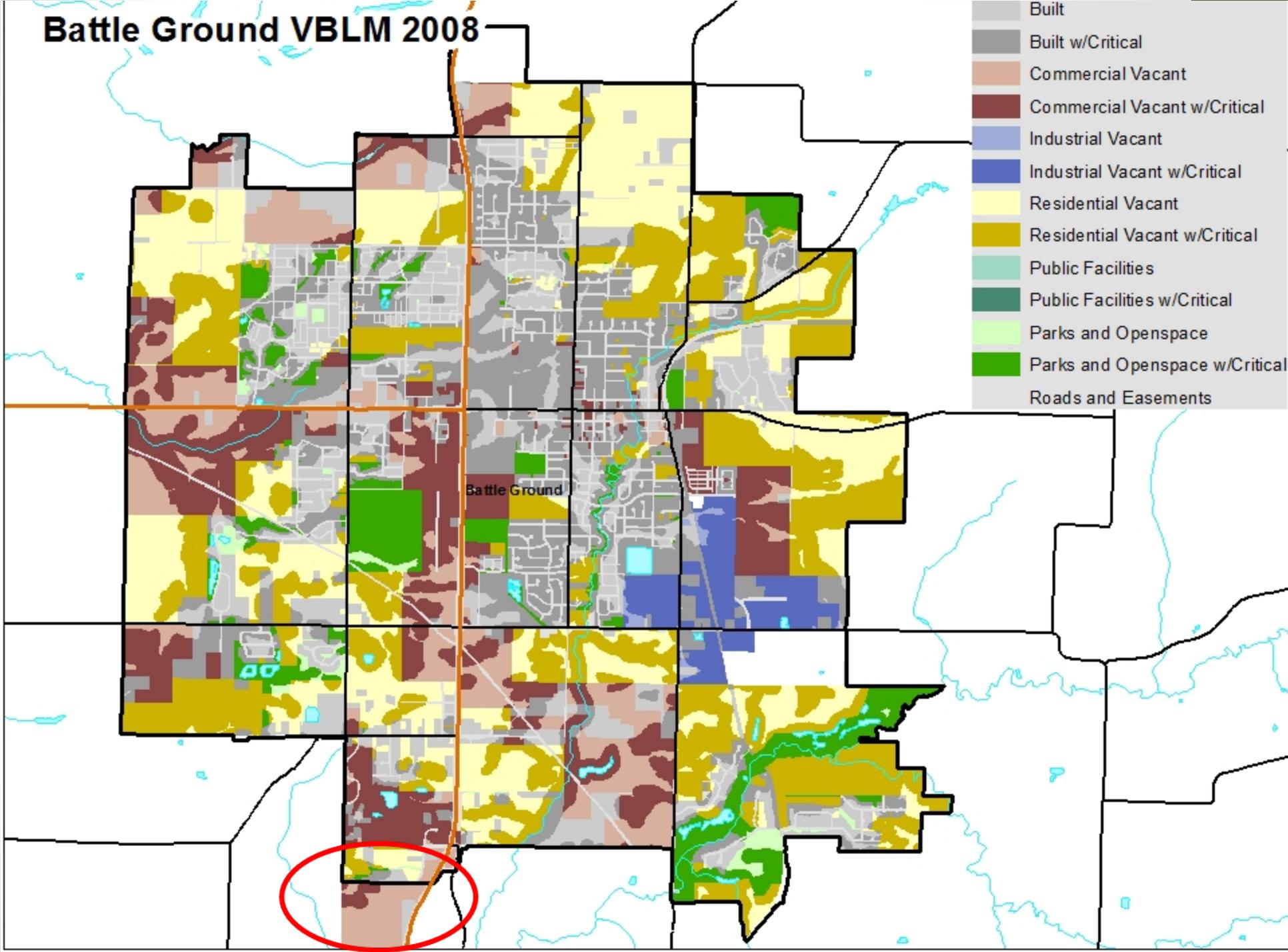
# Battle Ground VBLM 2007



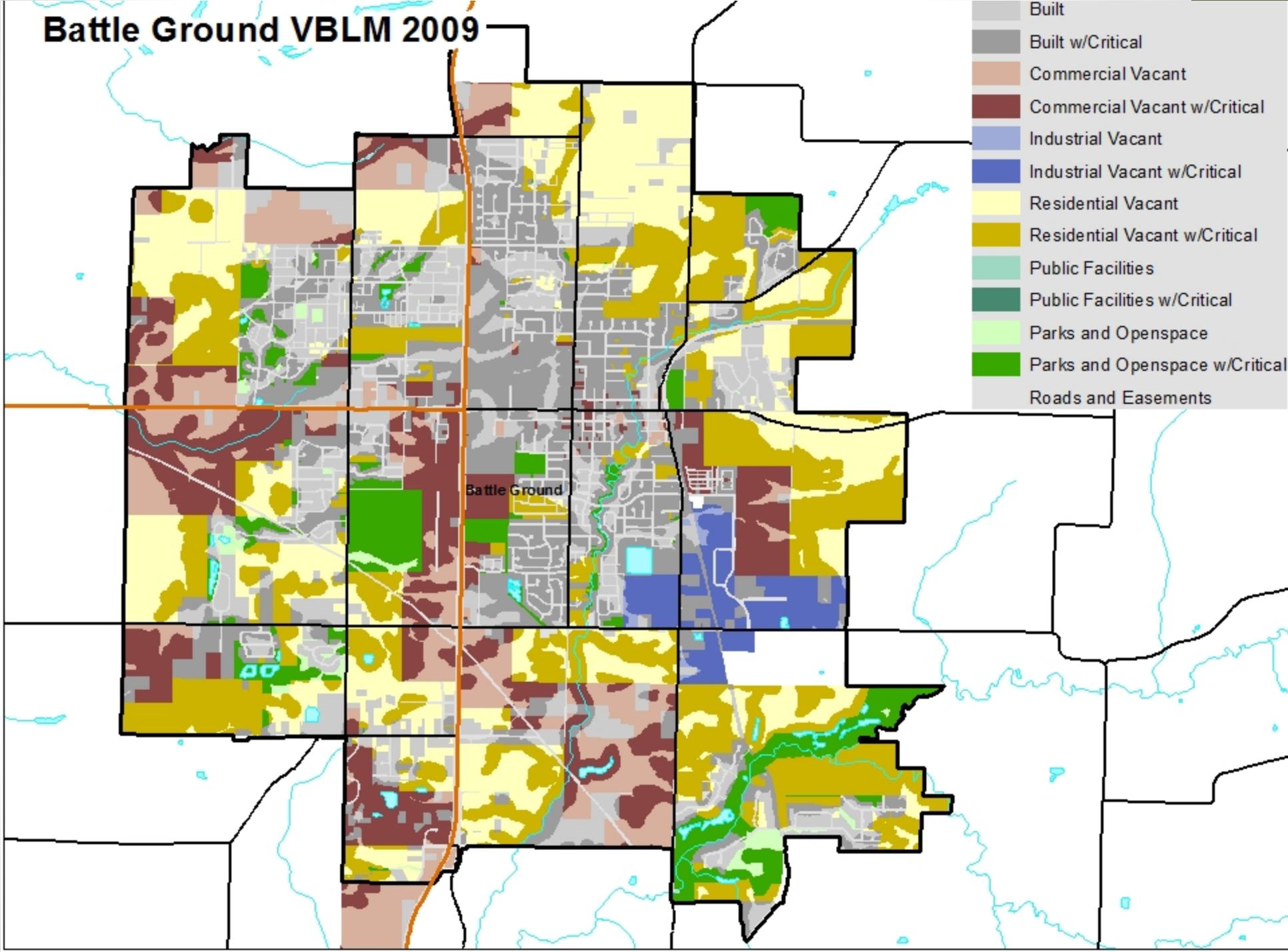
# Battle Ground VBLM 2008



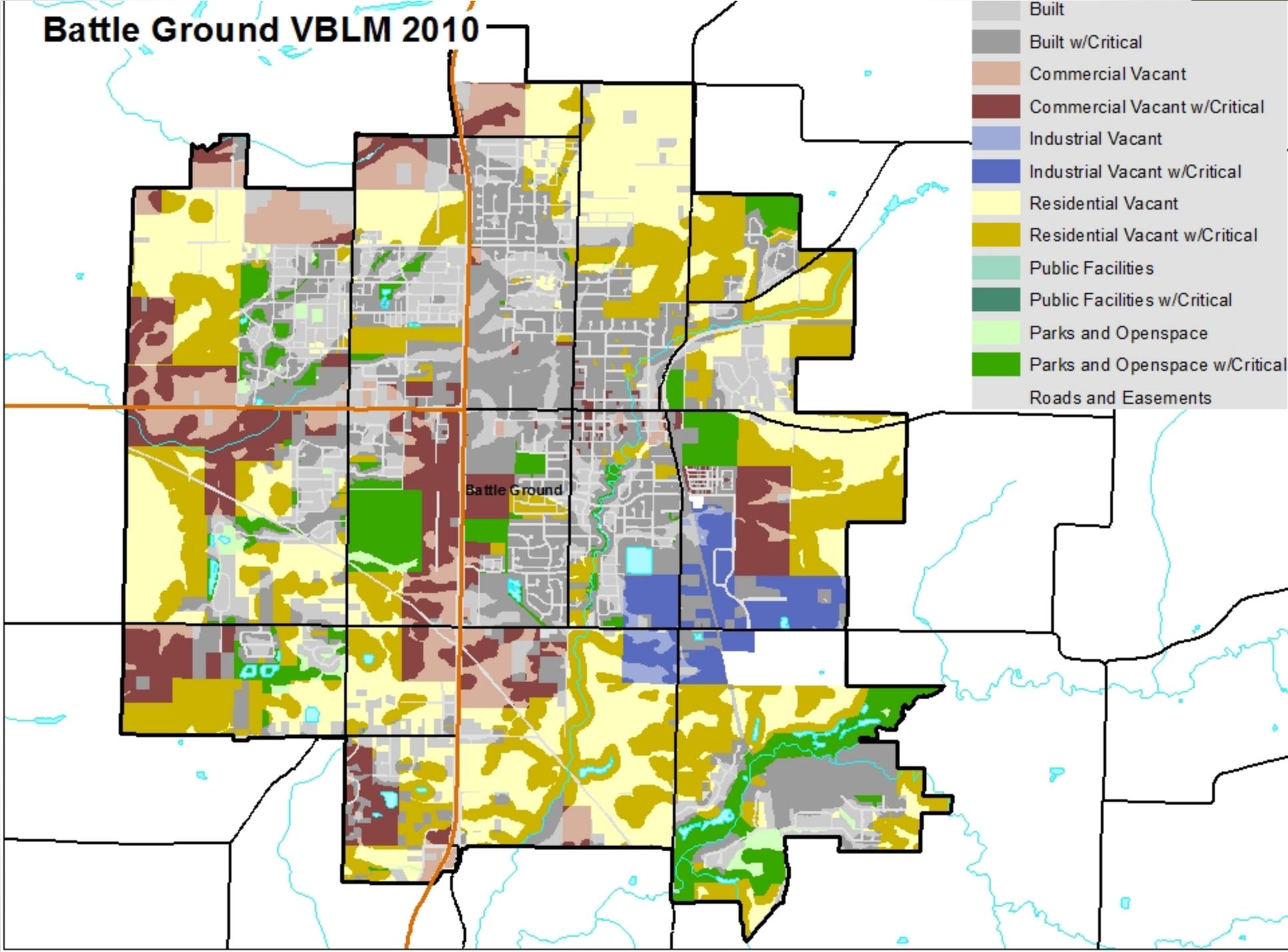
# Battle Ground VBLM 2008



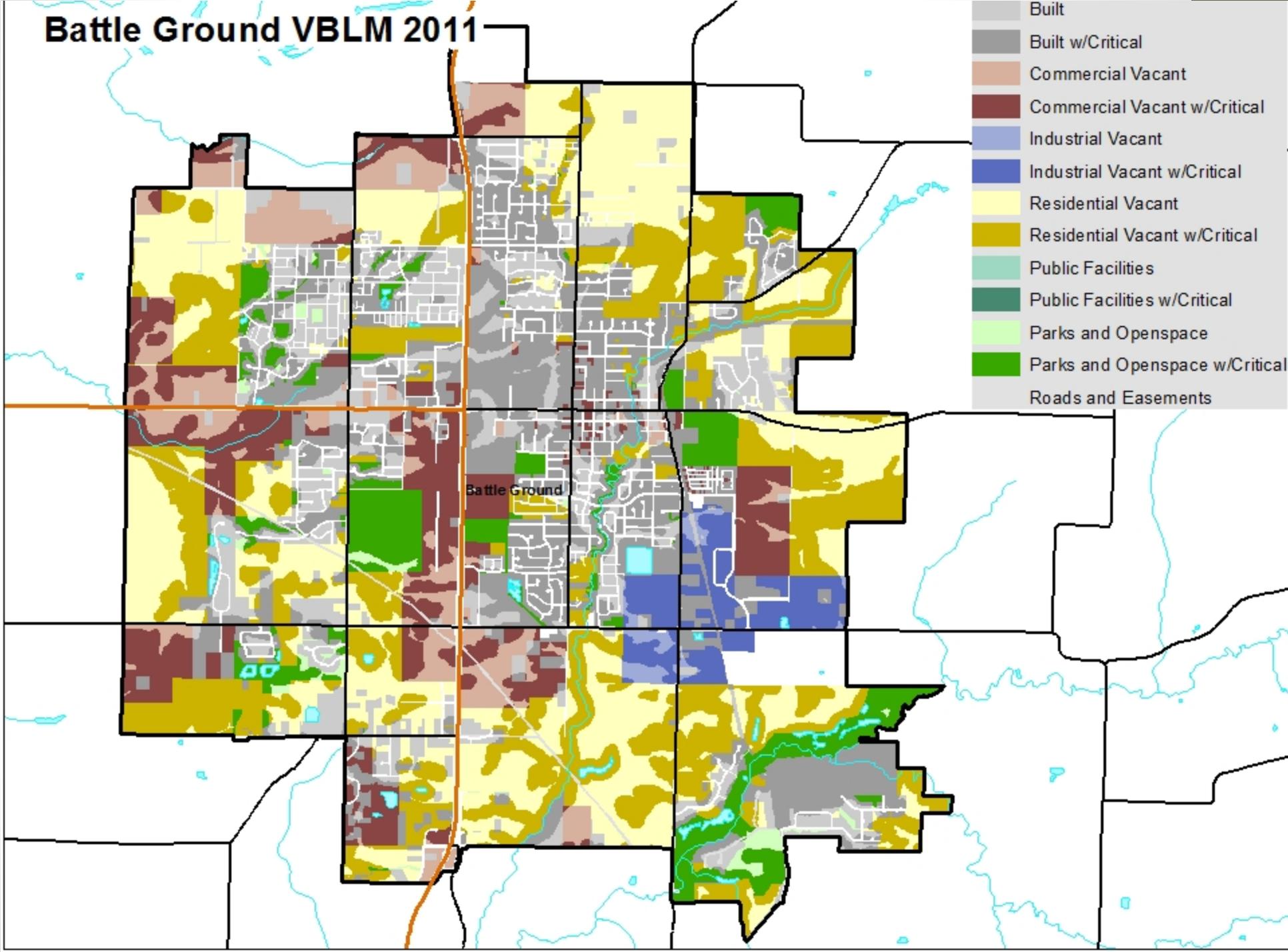
# Battle Ground VBLM 2009



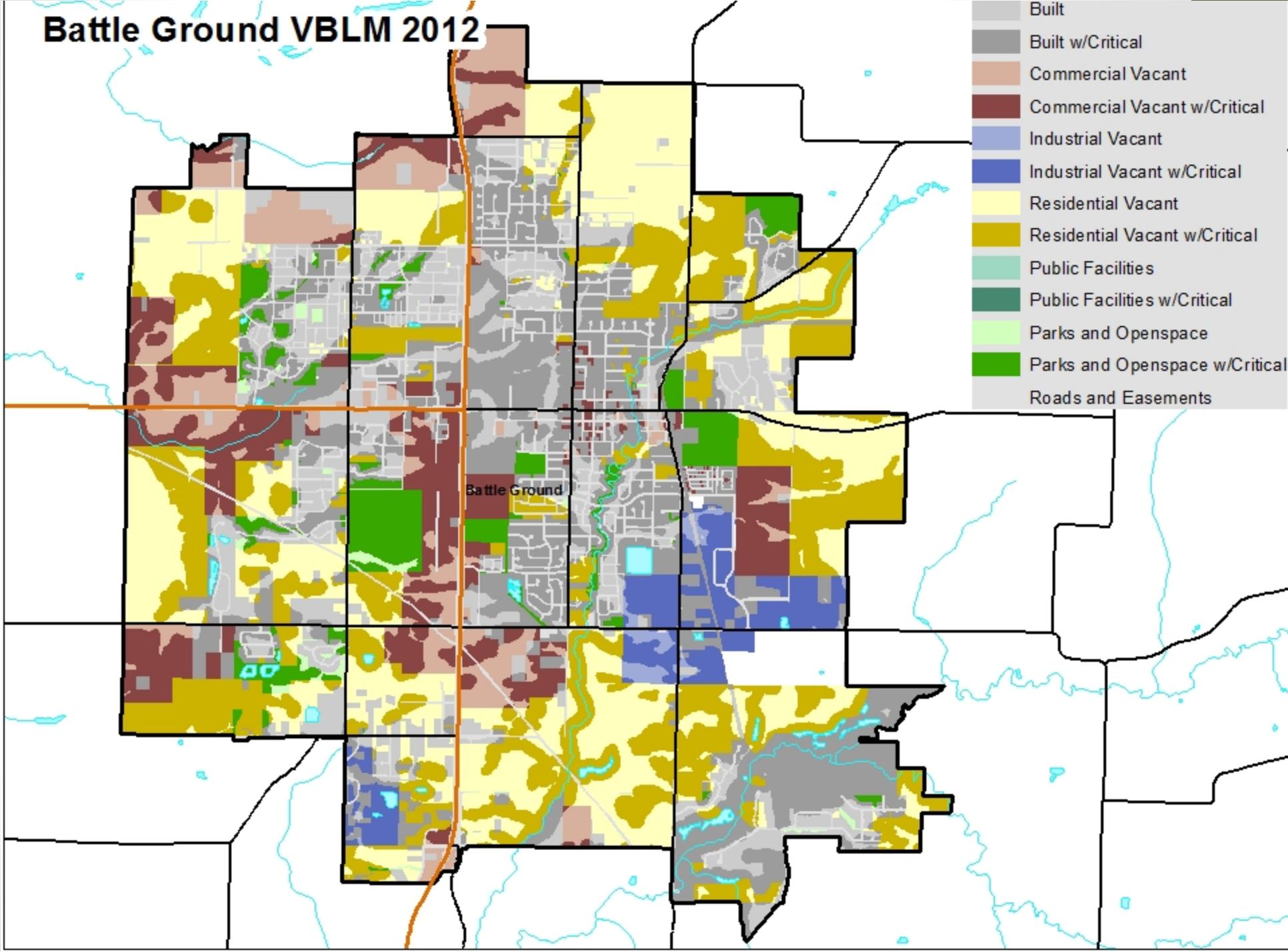
# Battle Ground VBLM 2010



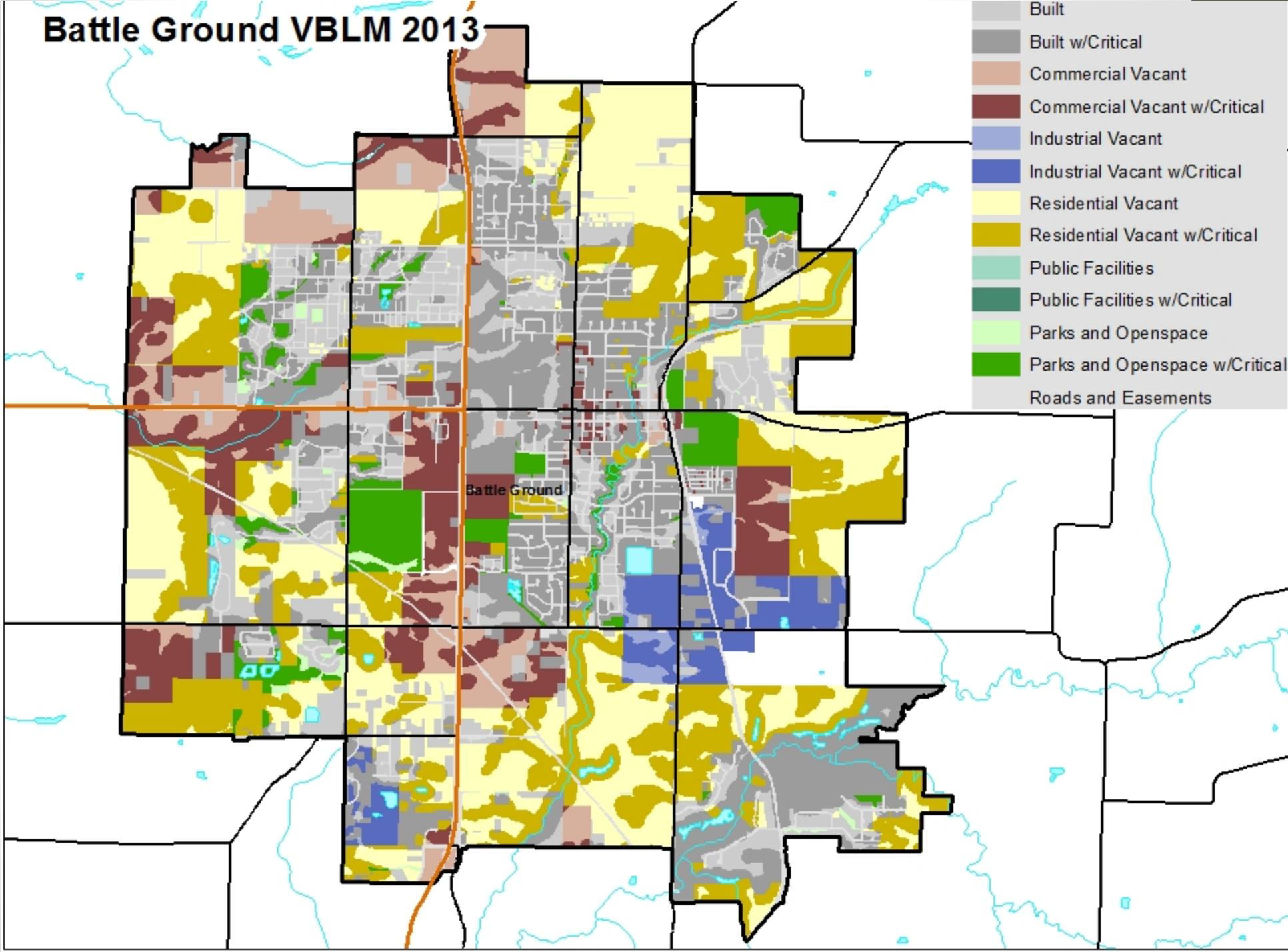
# Battle Ground VBLM 2011



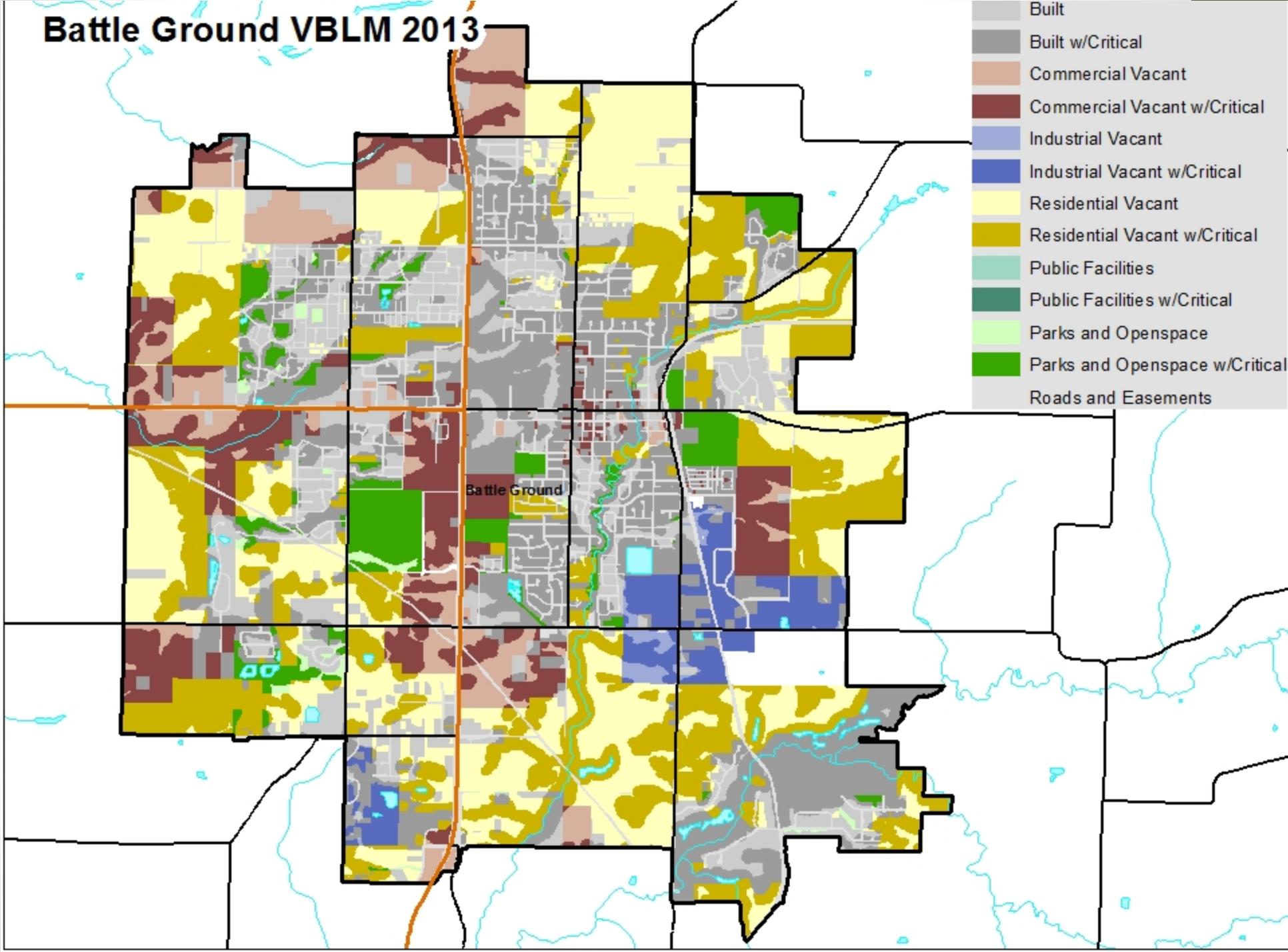
# Battle Ground VBLM 2012



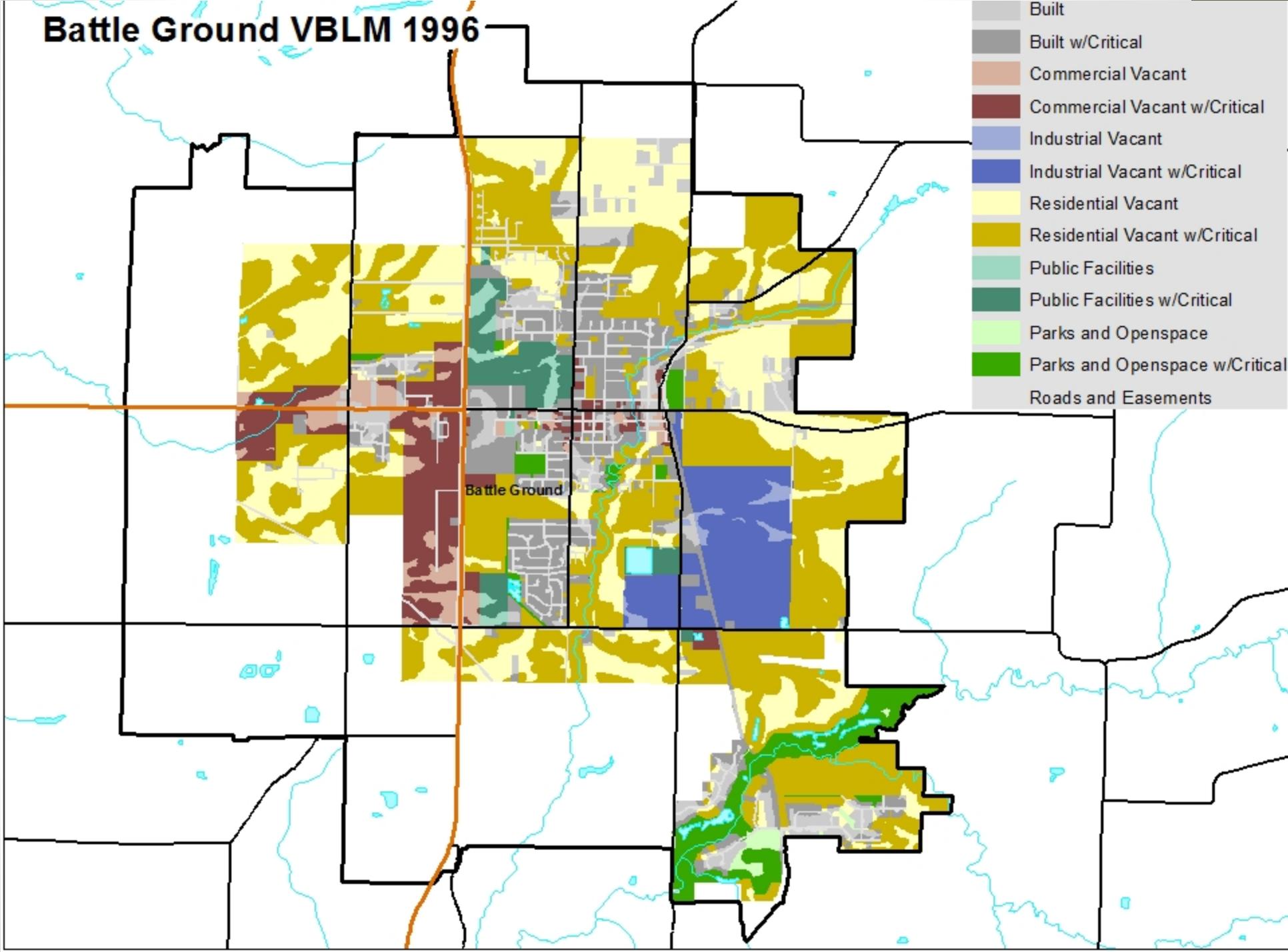
# Battle Ground VBLM 2013



# Battle Ground VBLM 2013



# Battle Ground VBLM 1996



# Model Runs

Model parameters:

- Year: Selects Assessment Year, Parcel Layer
- UGA Boundary: Sets the extent for each city
- Comprehensive Plan:

A Letter is assigned to each UGA alternative.

Adopted plan keeps the letter.

Adopted Model Names.

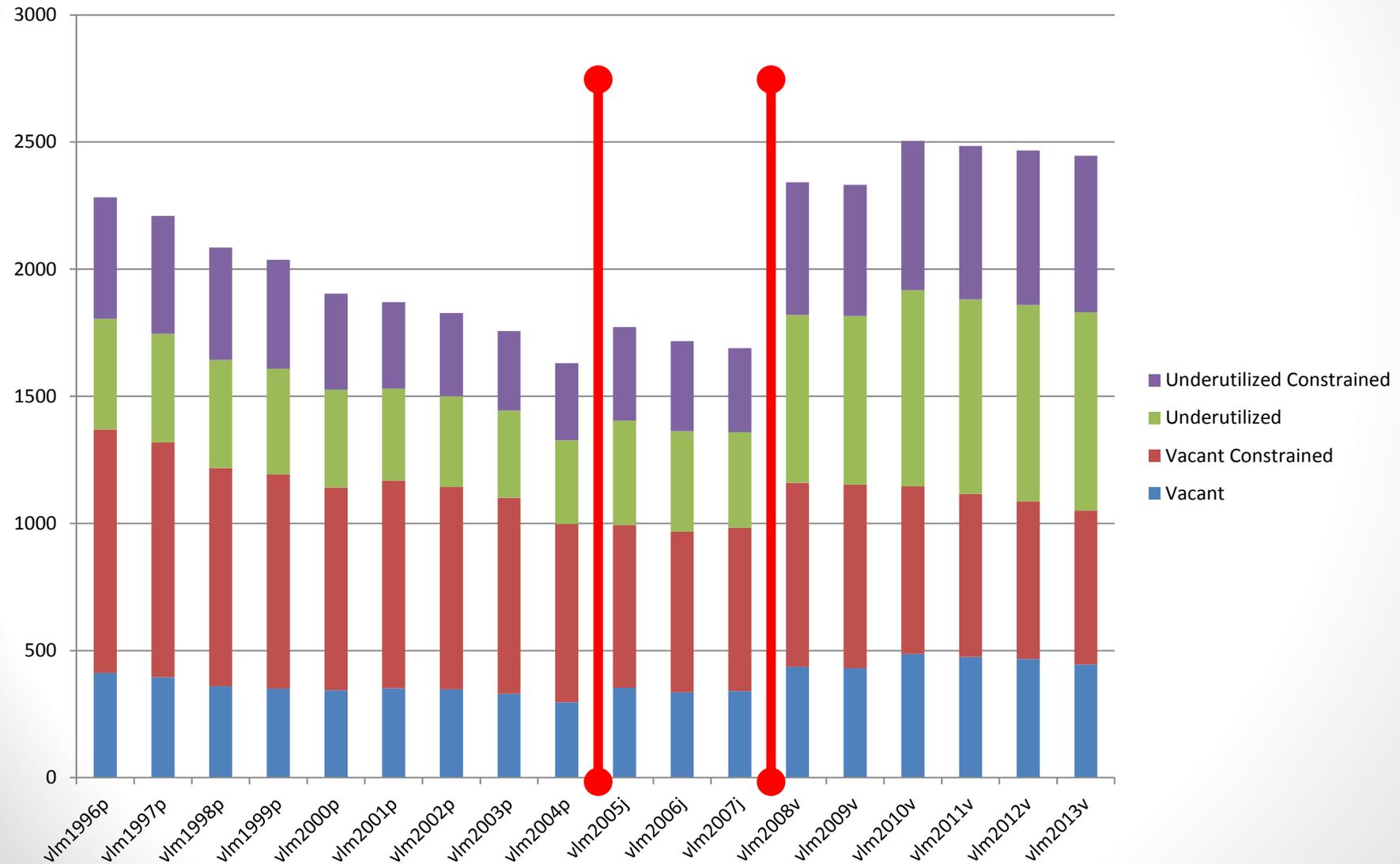
1994: P

2004: J

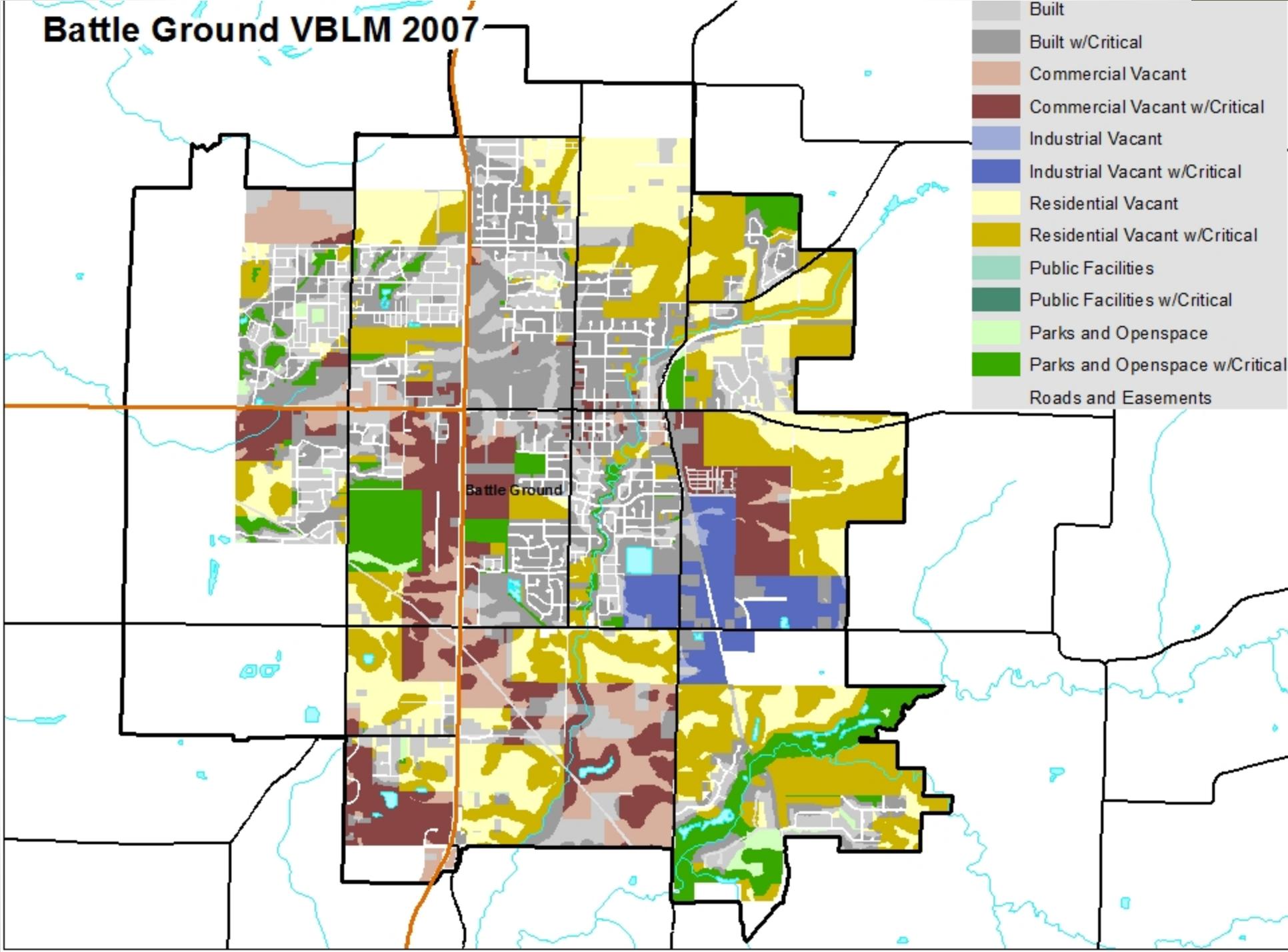
2007: V

# Battle Ground

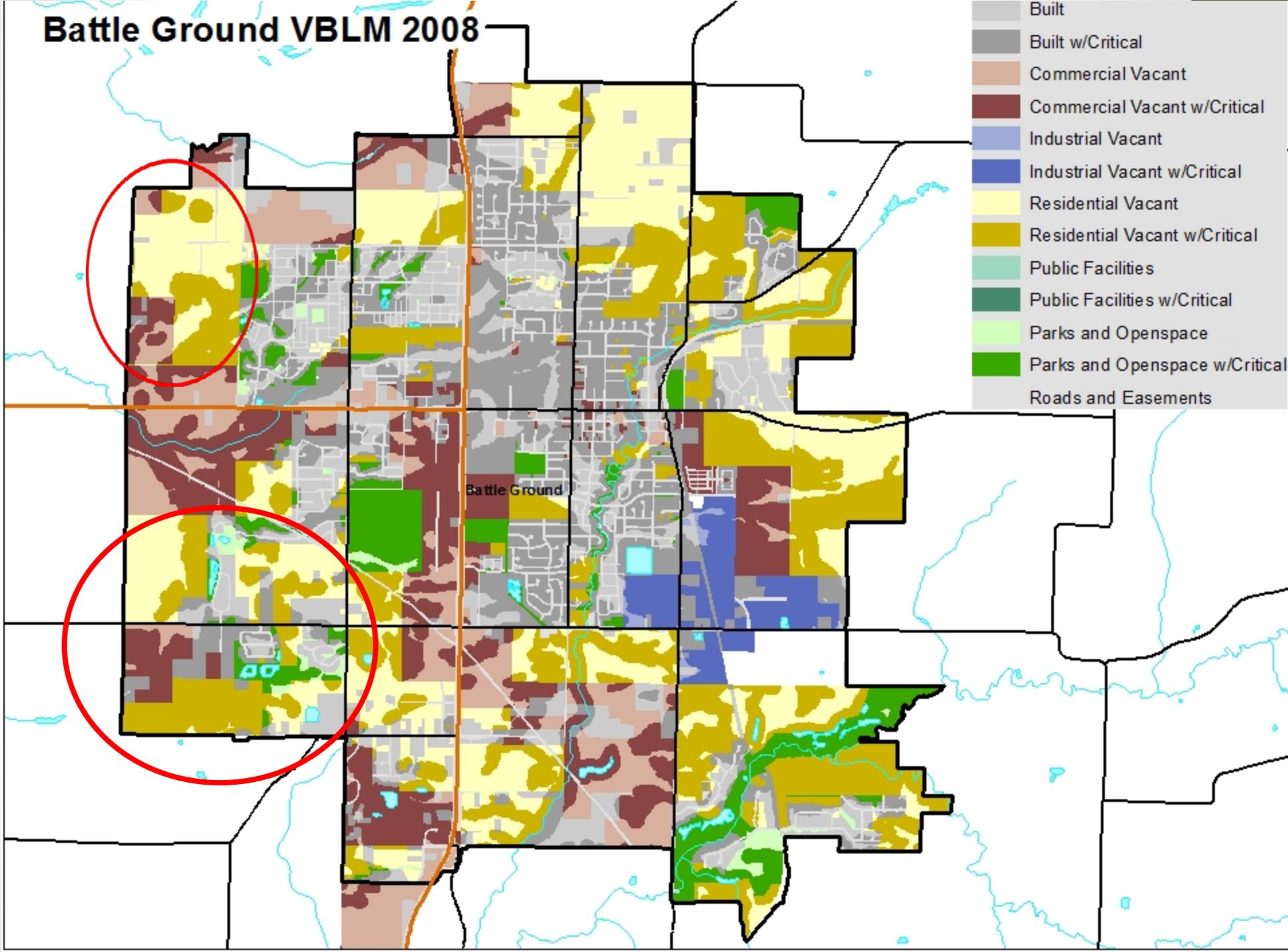
## Residential Gross Acres



# Battle Ground VBLM 2007

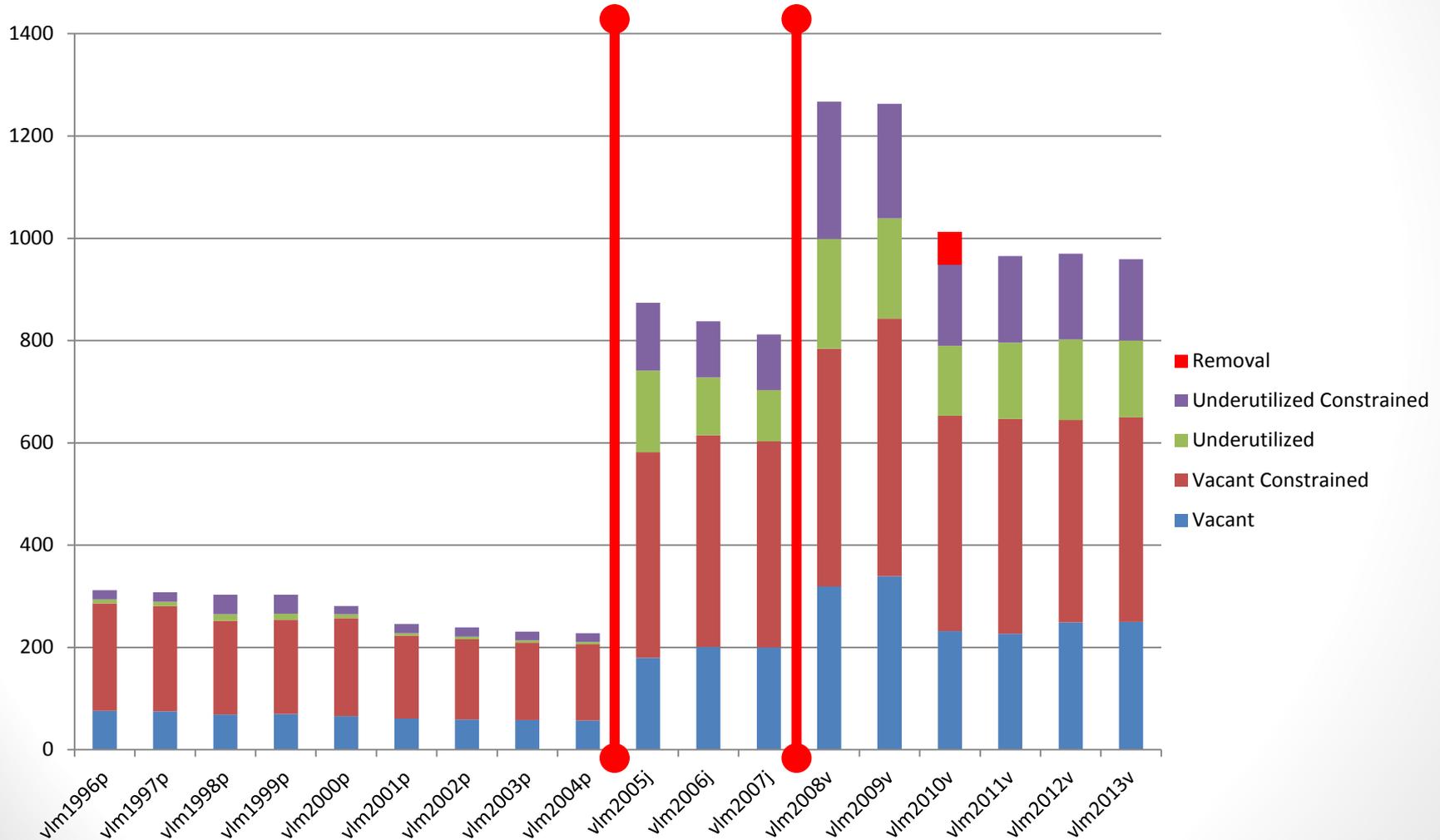


# Battle Ground VBLM 2008

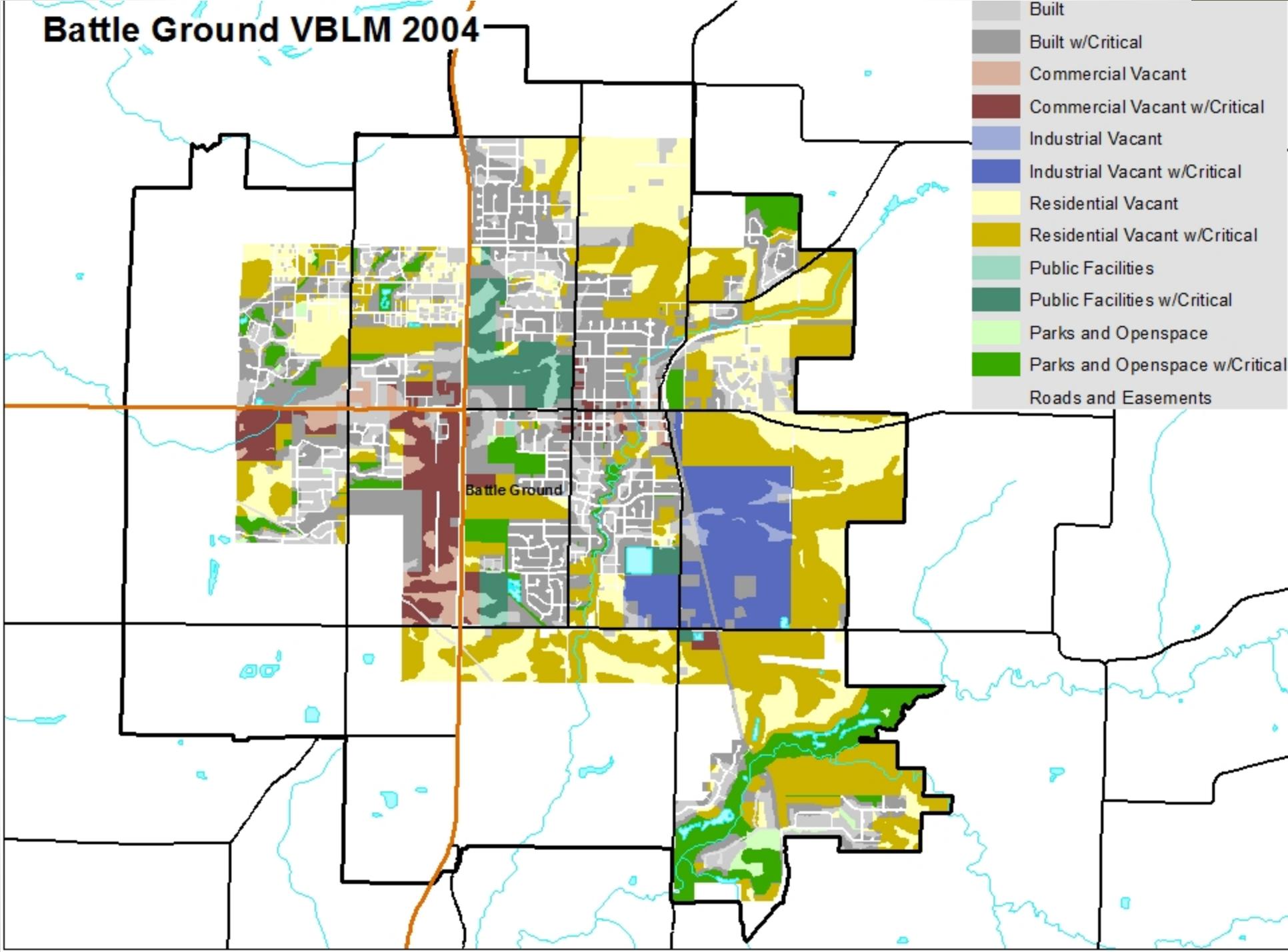


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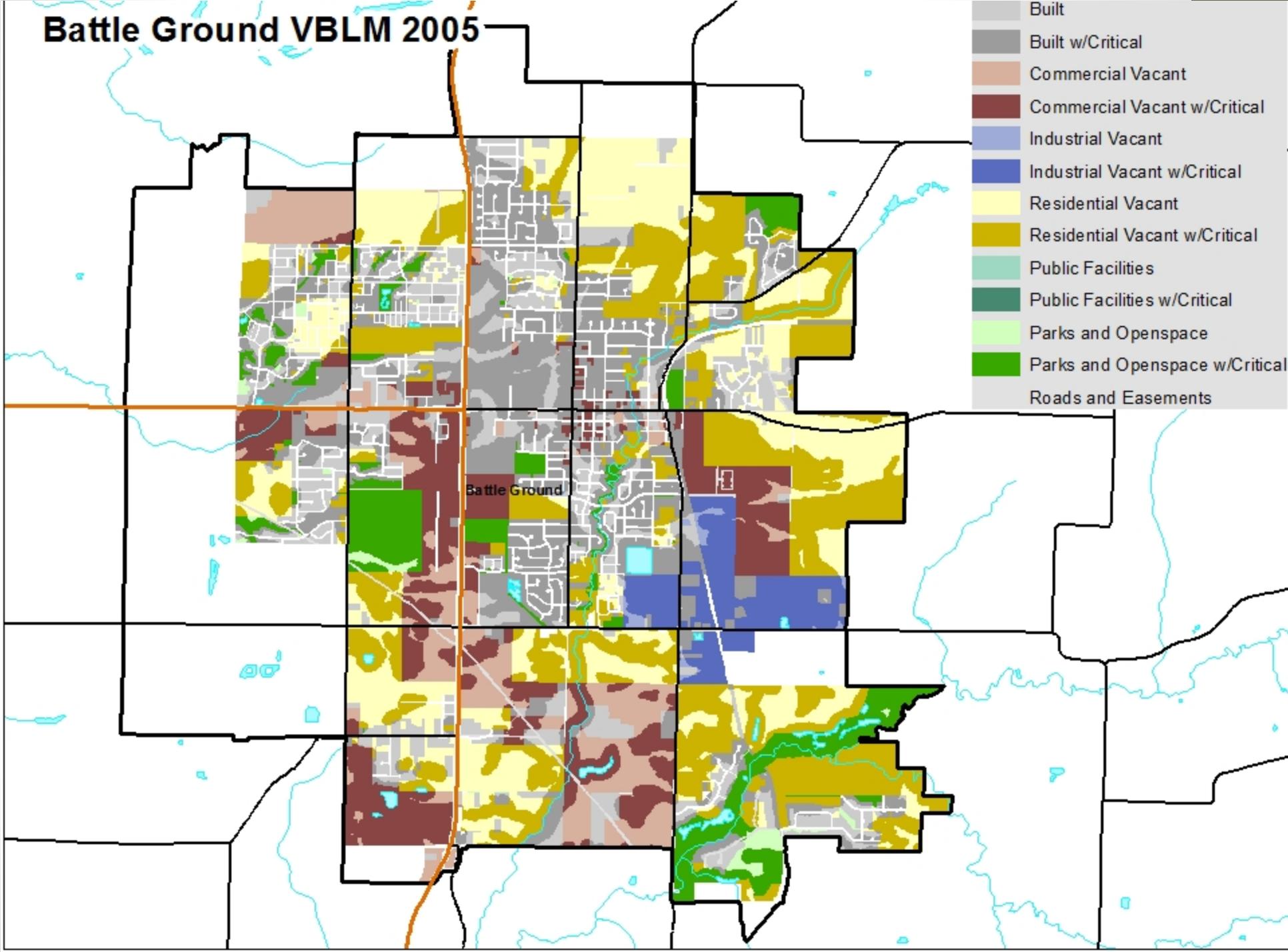
## Commercial Gross Acres



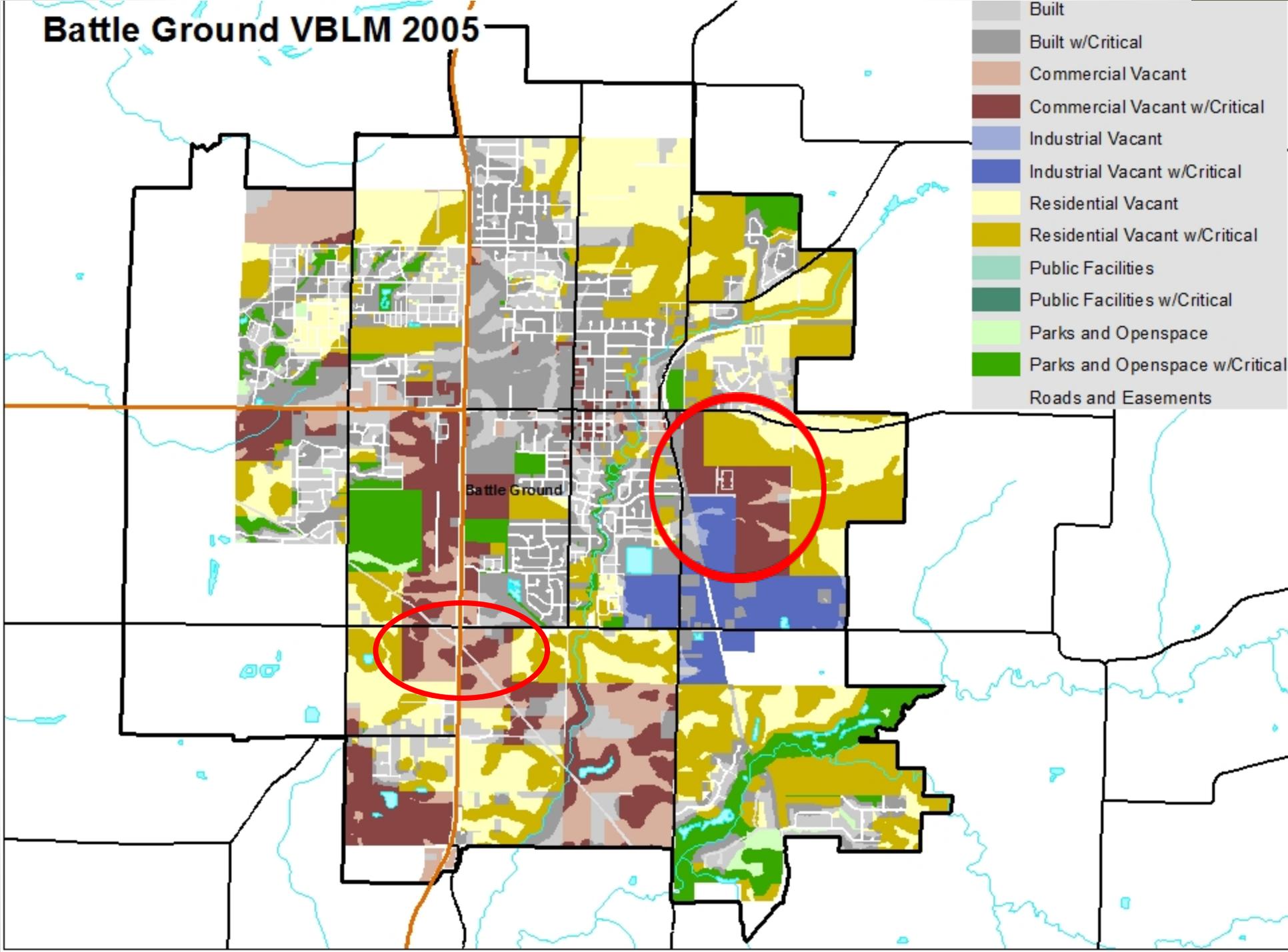
# Battle Ground VBLM 2004



# Battle Ground VBLM 2005

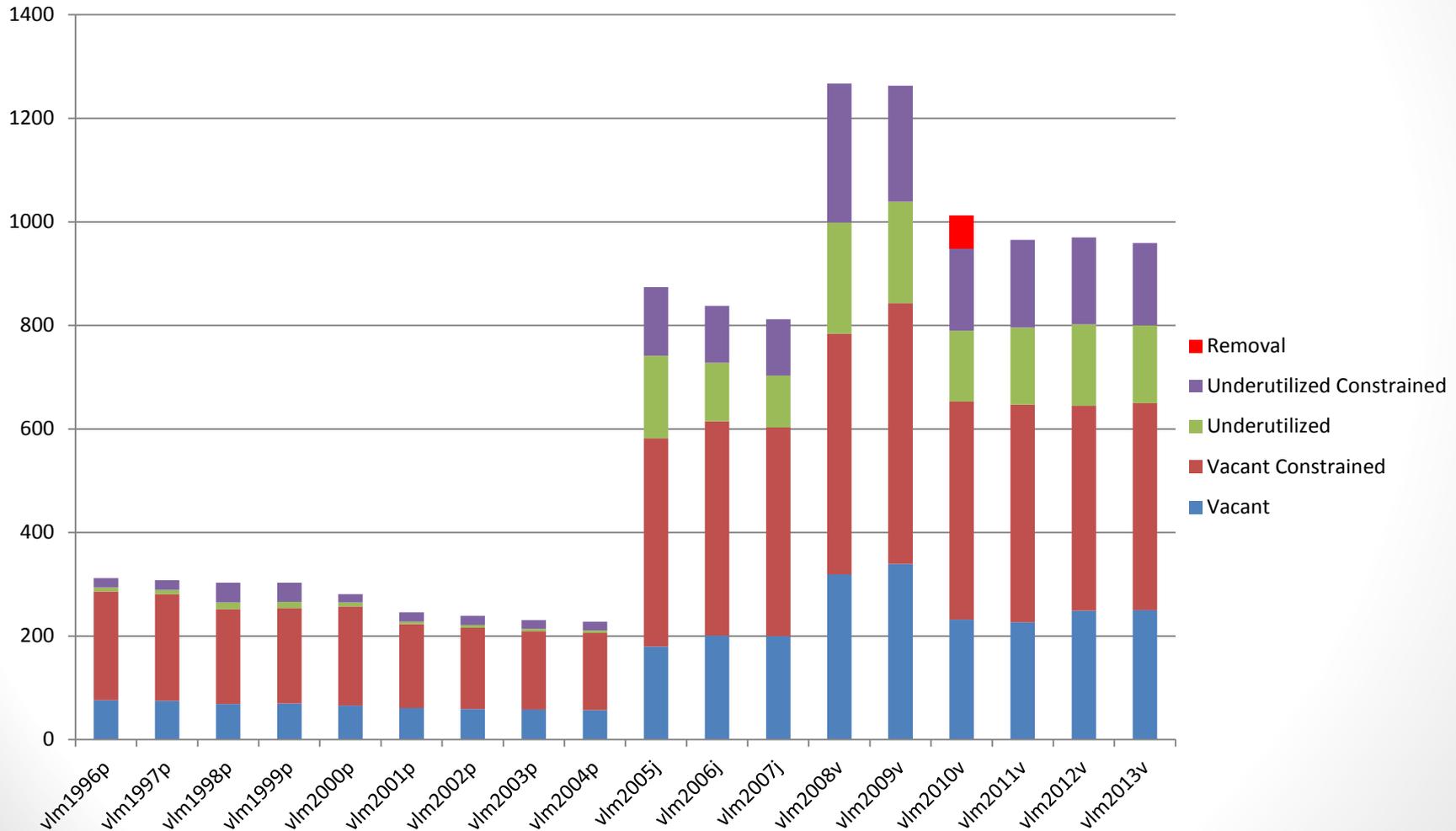


# Battle Ground VBLM 2005

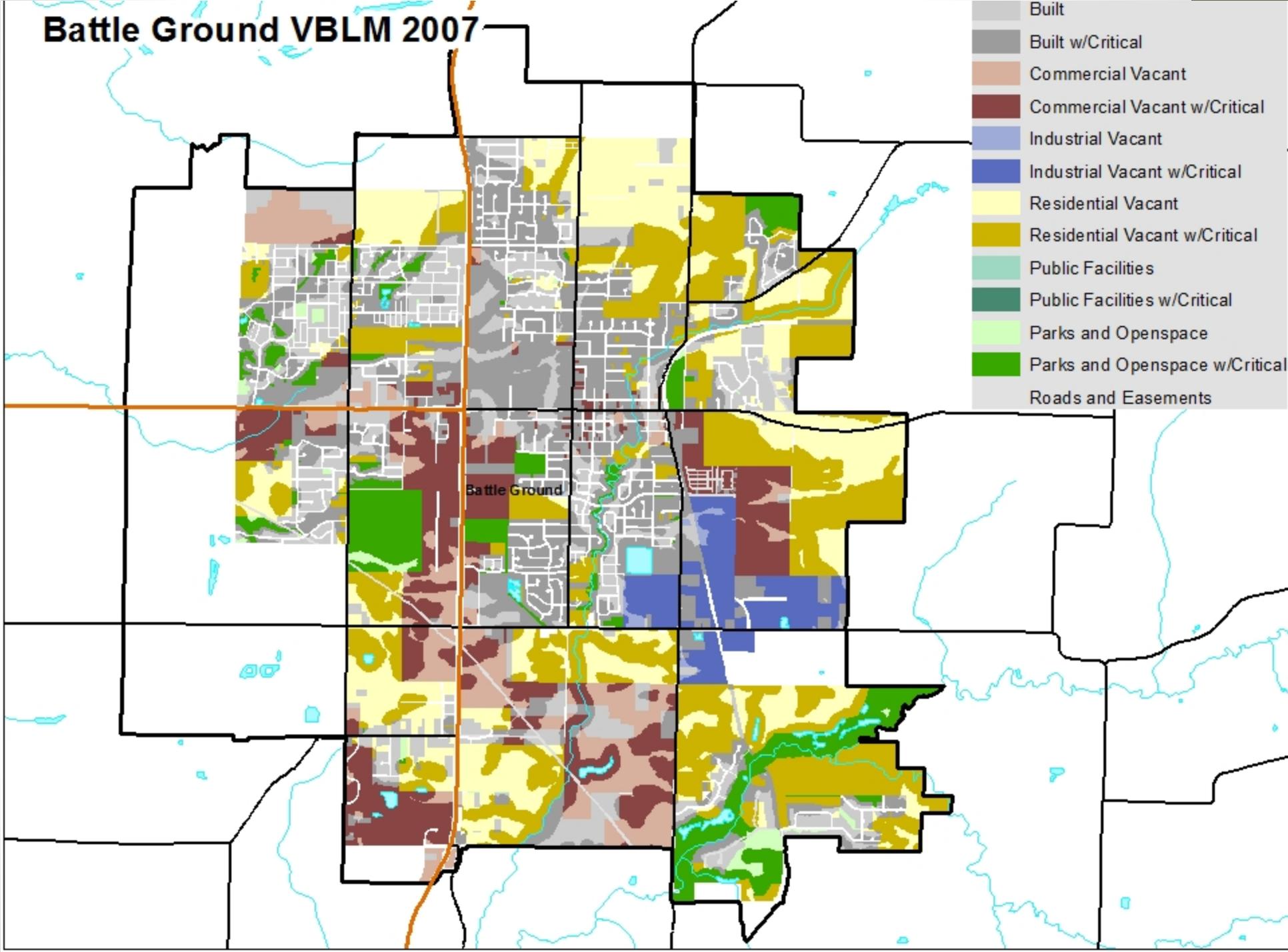


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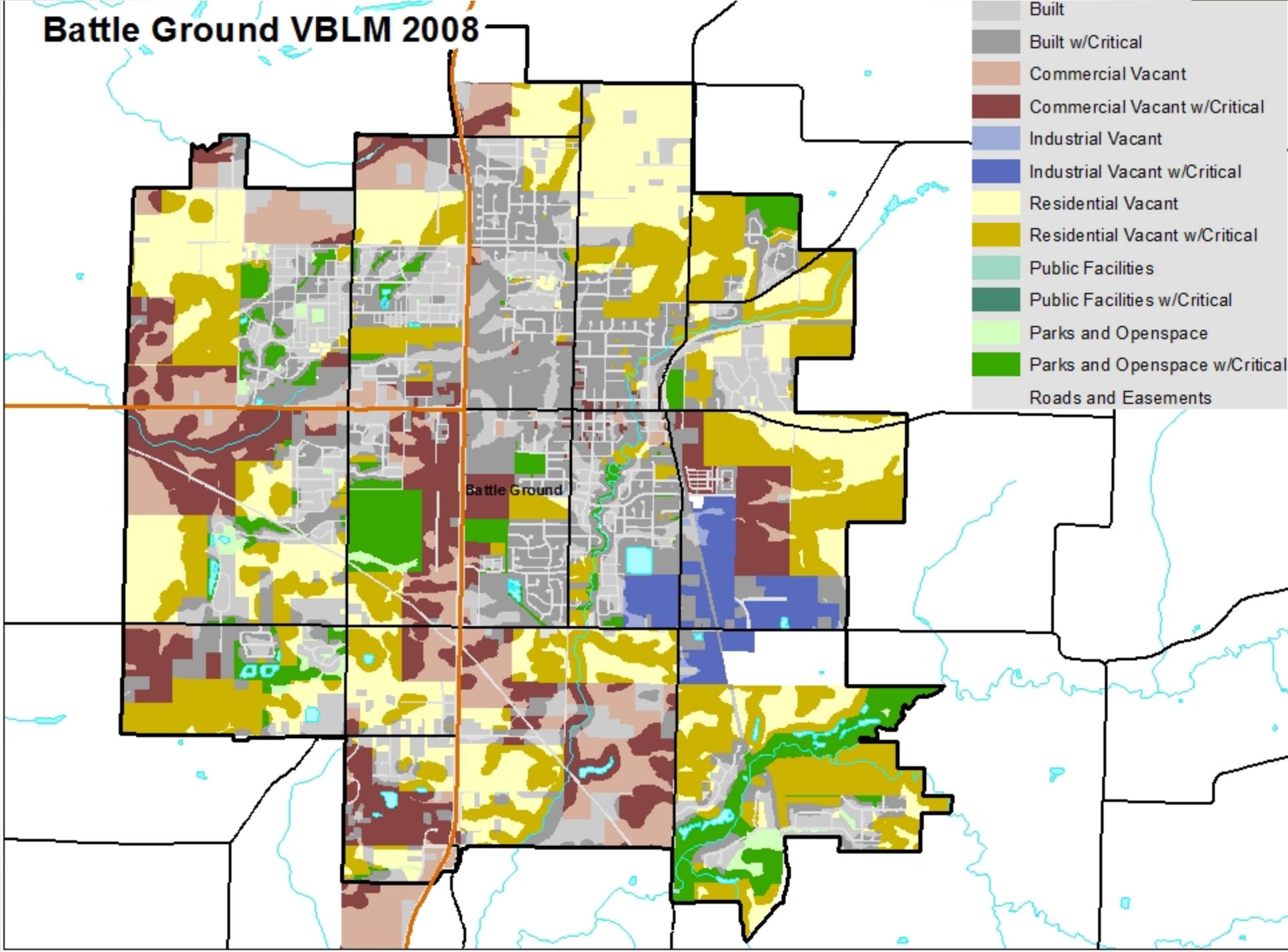
## Commercial Gross Acres



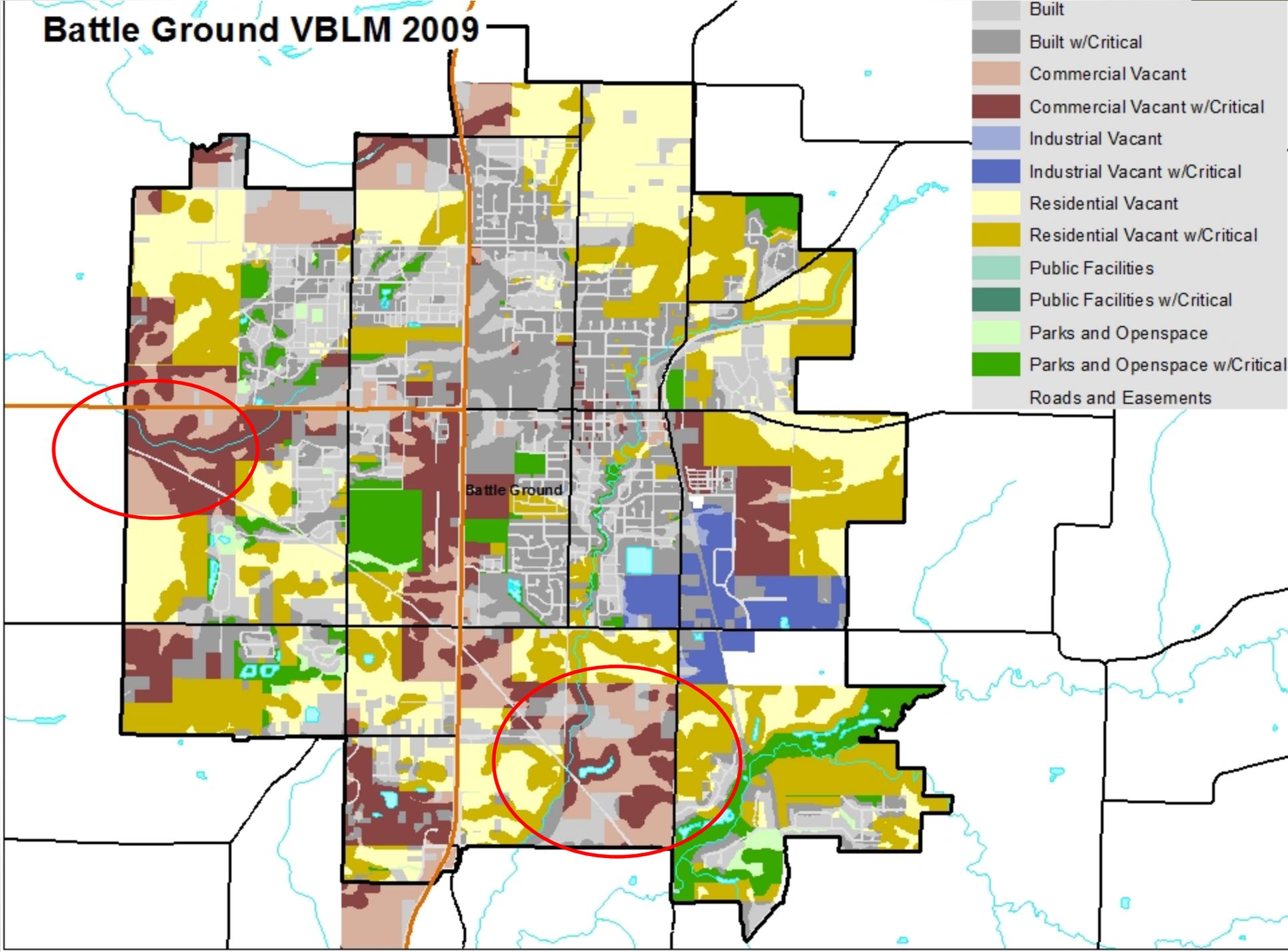
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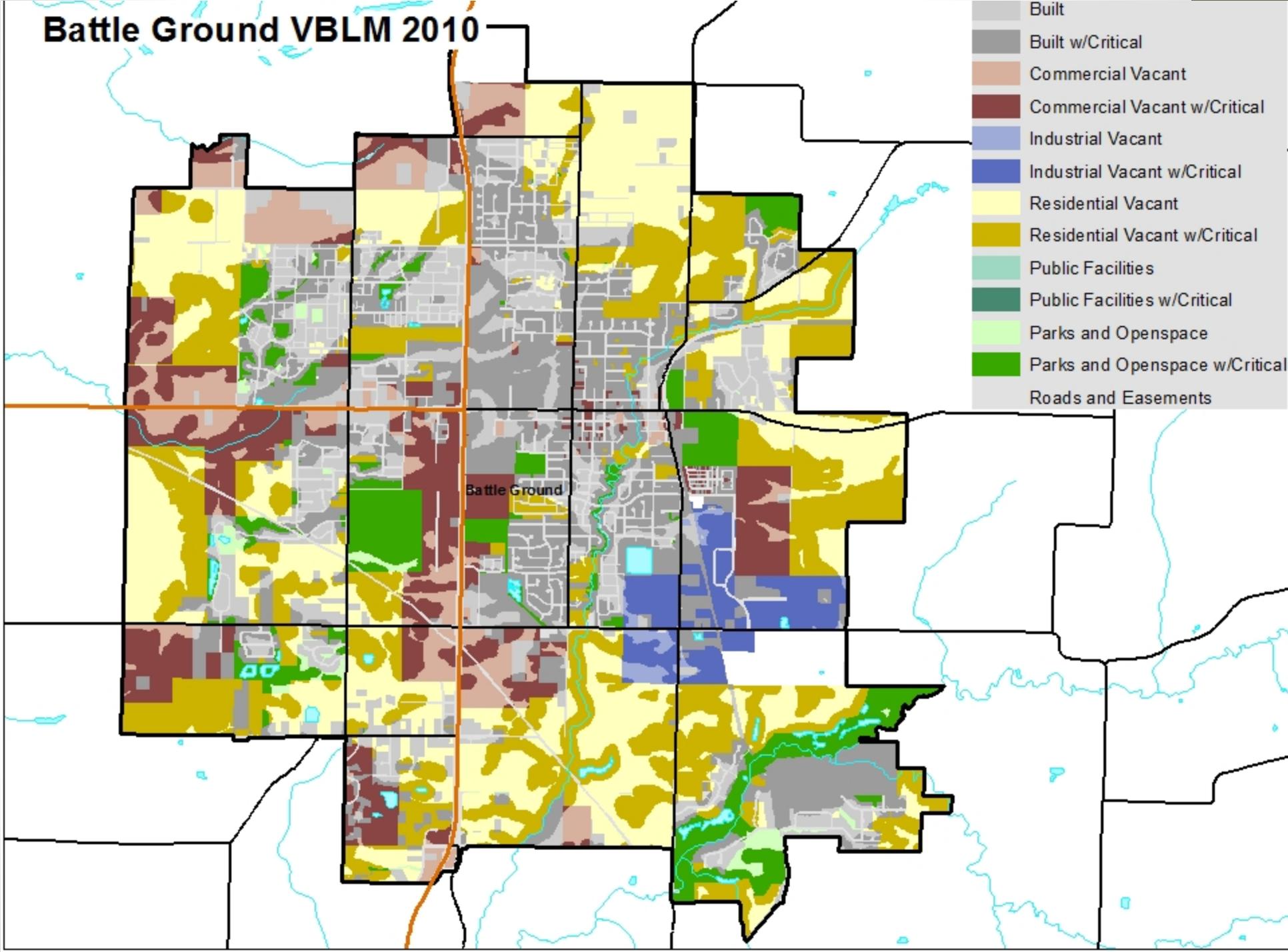
# Battle Ground VBLM 2008



# Battle Ground VBLM 2009

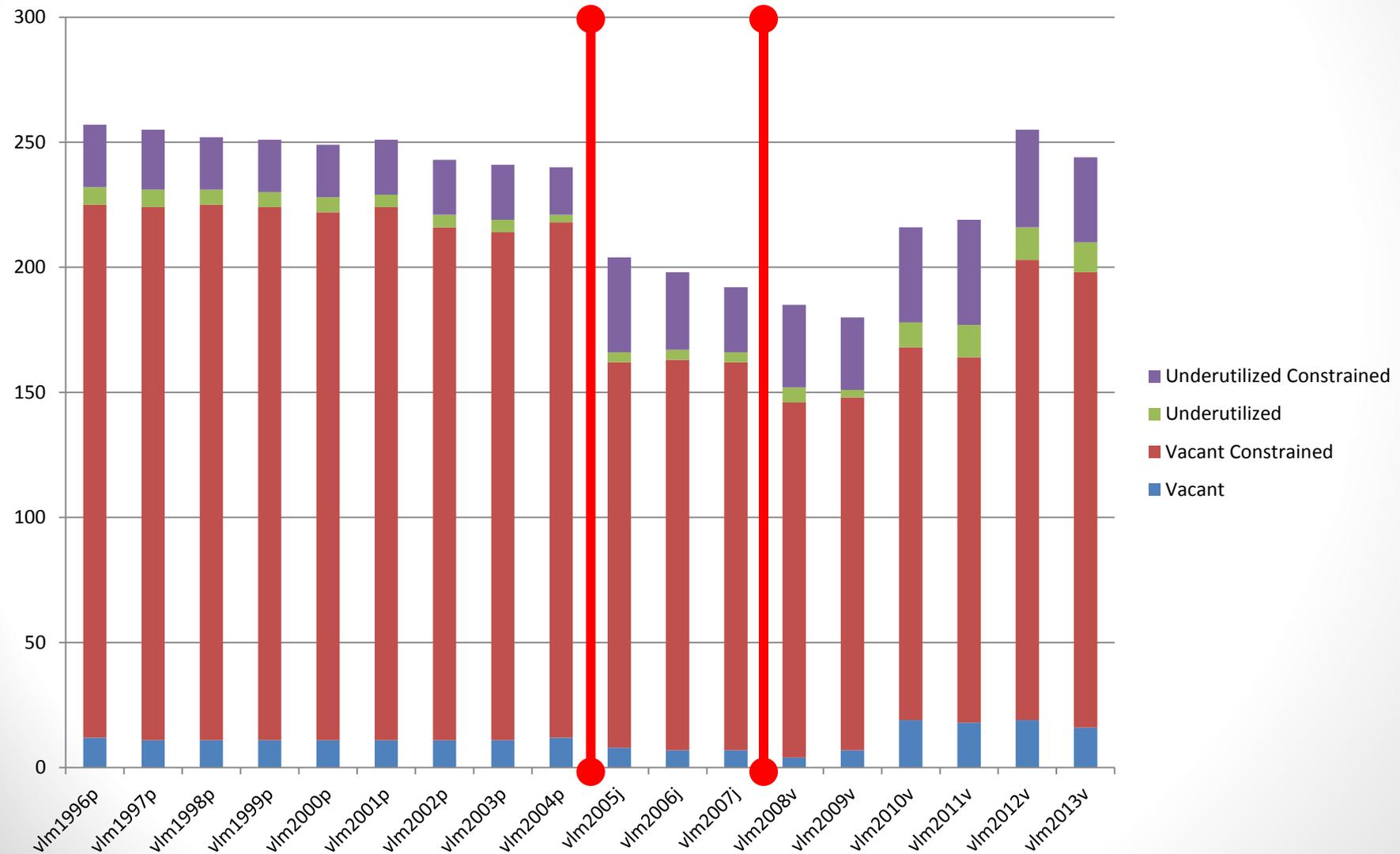


# Battle Ground VBLM 2010

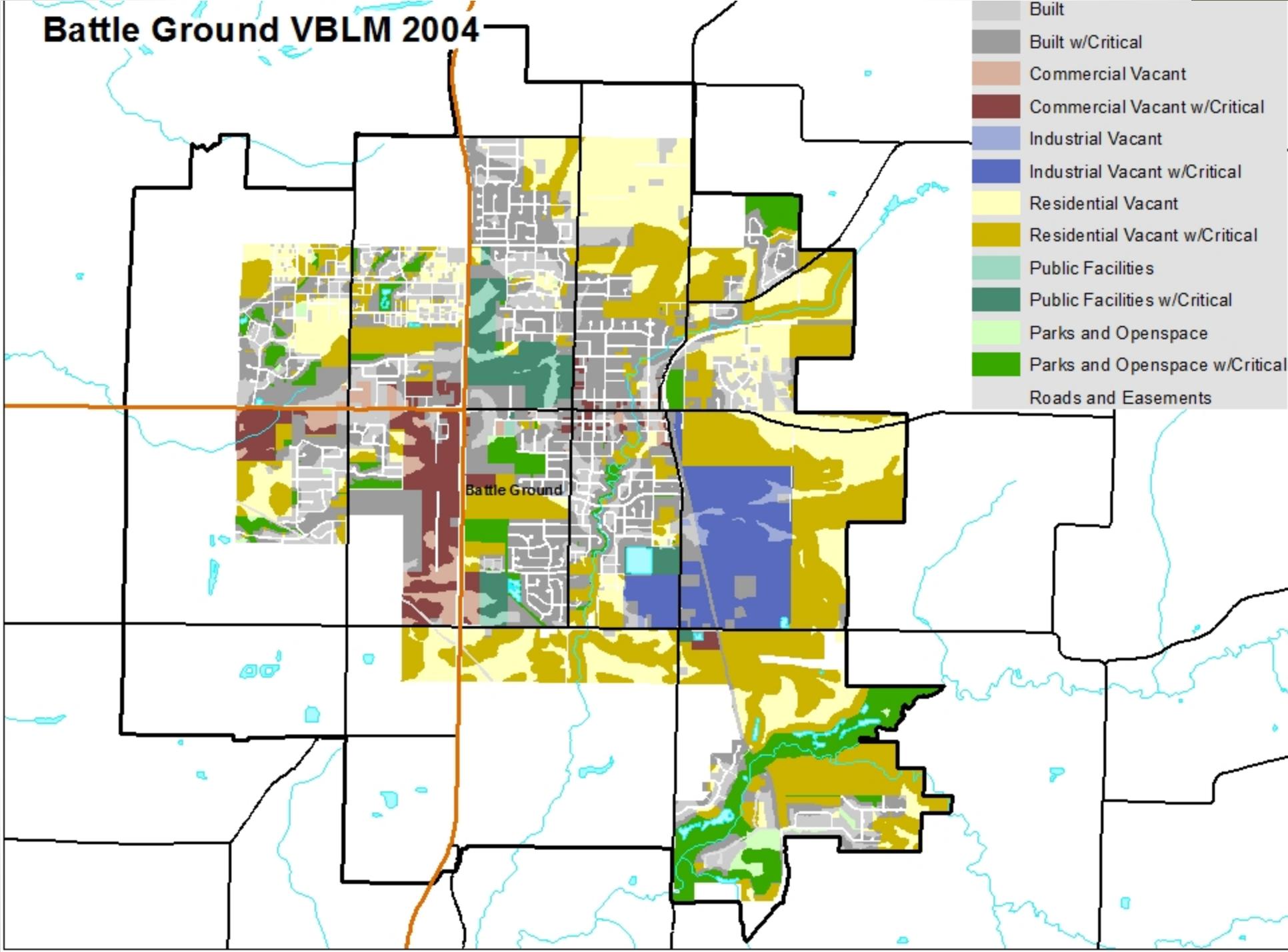


# Battle Ground

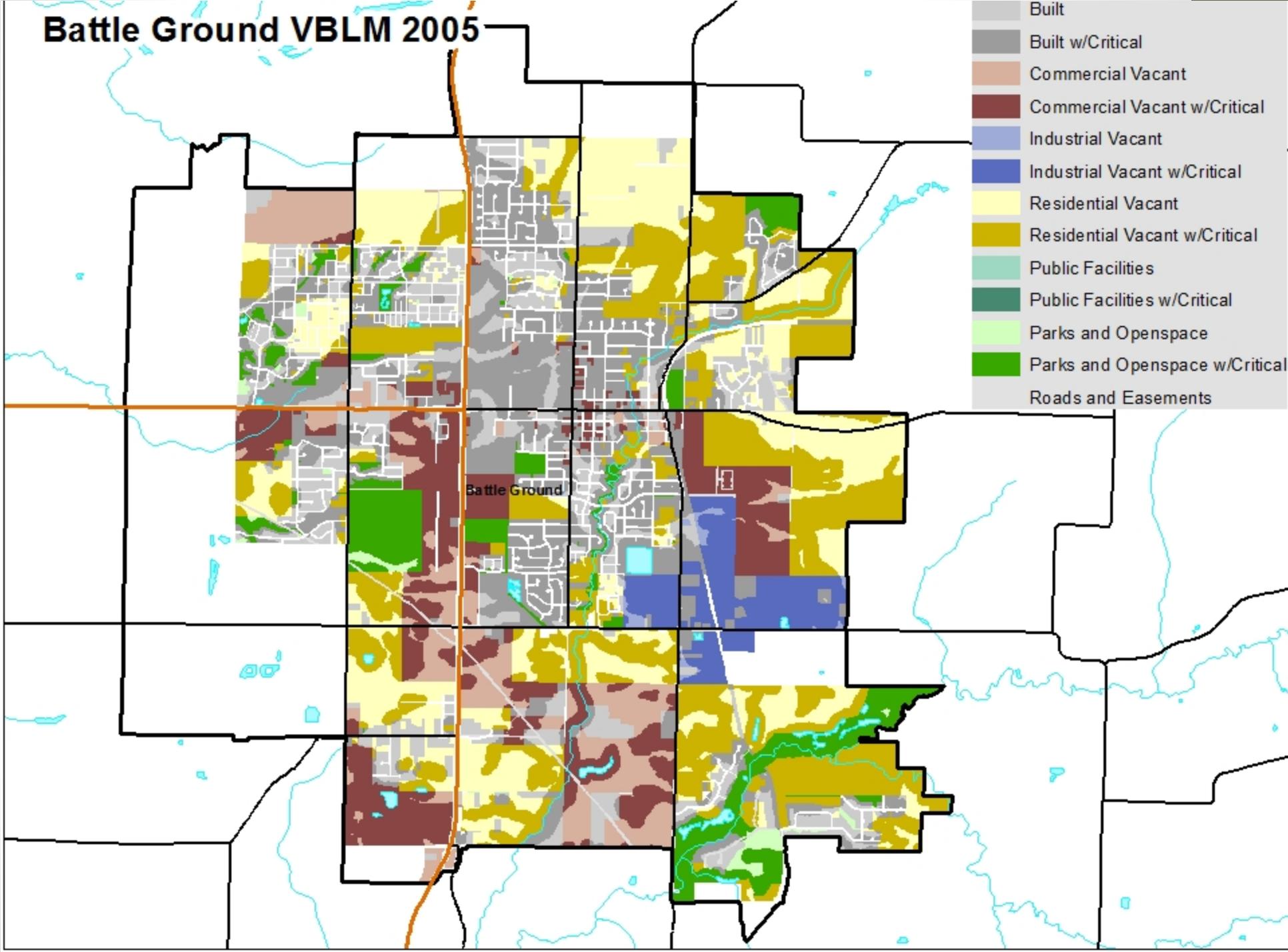
## Industrial Gross Acres



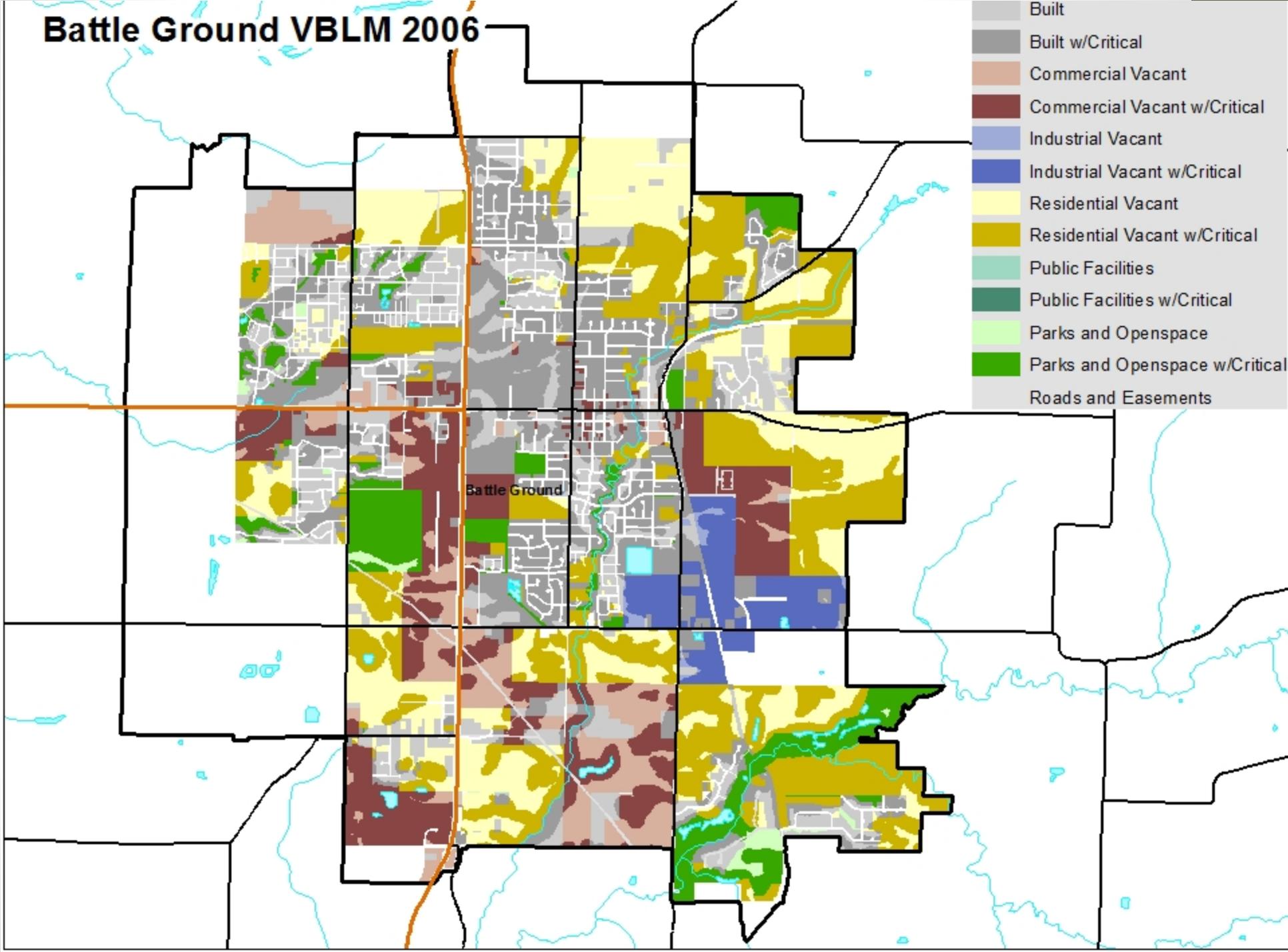
# Battle Ground VBLM 2004



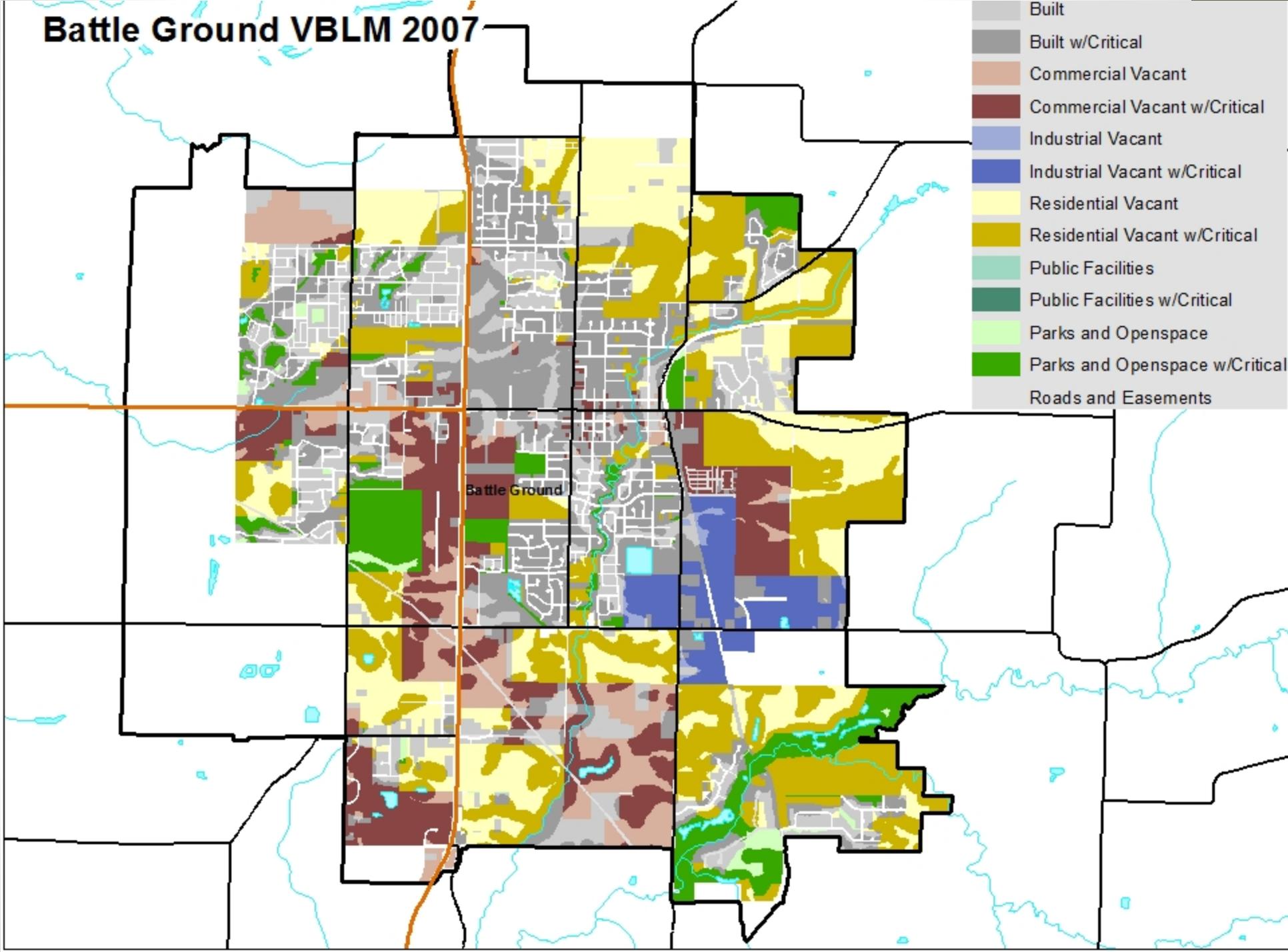
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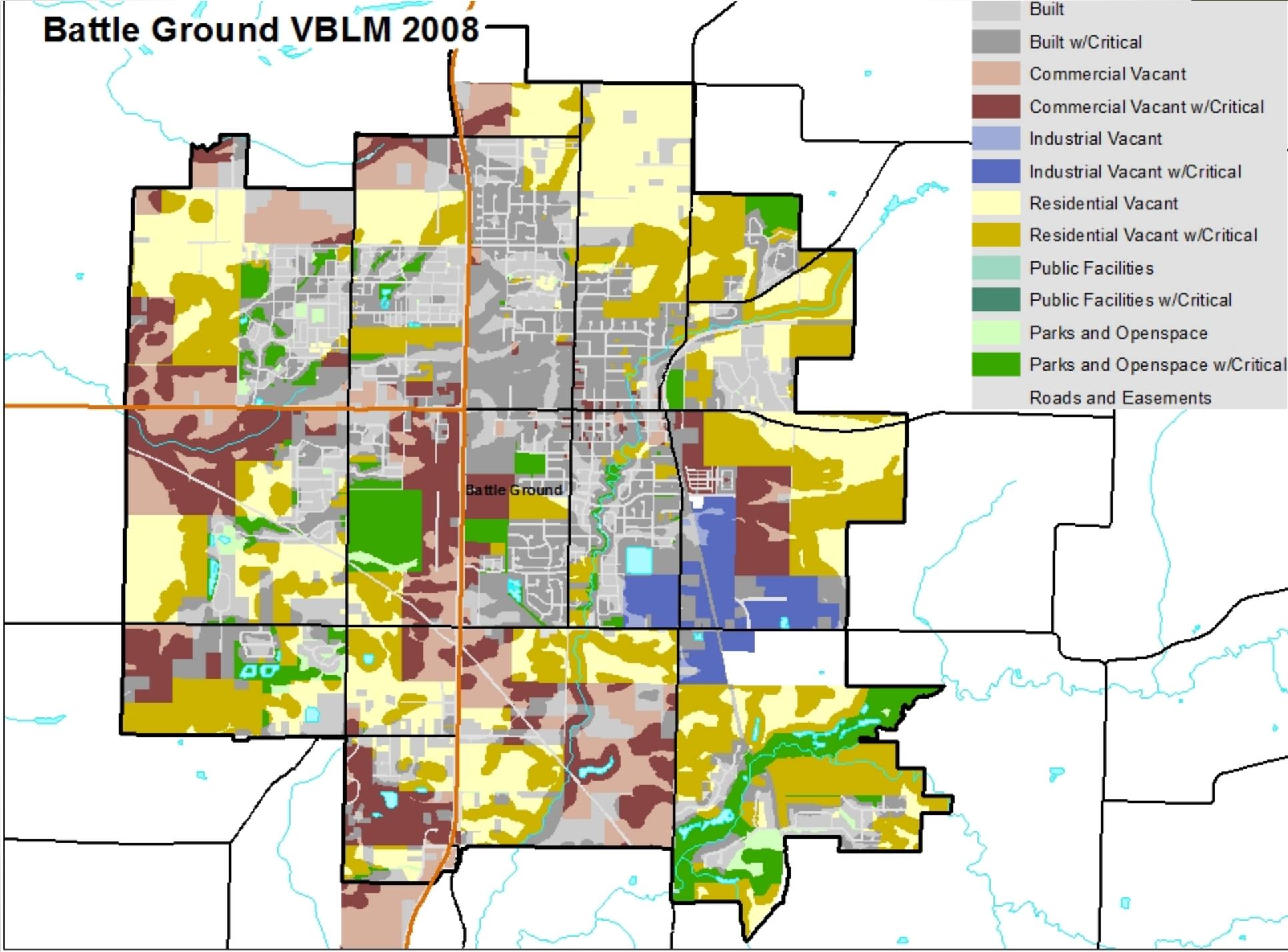
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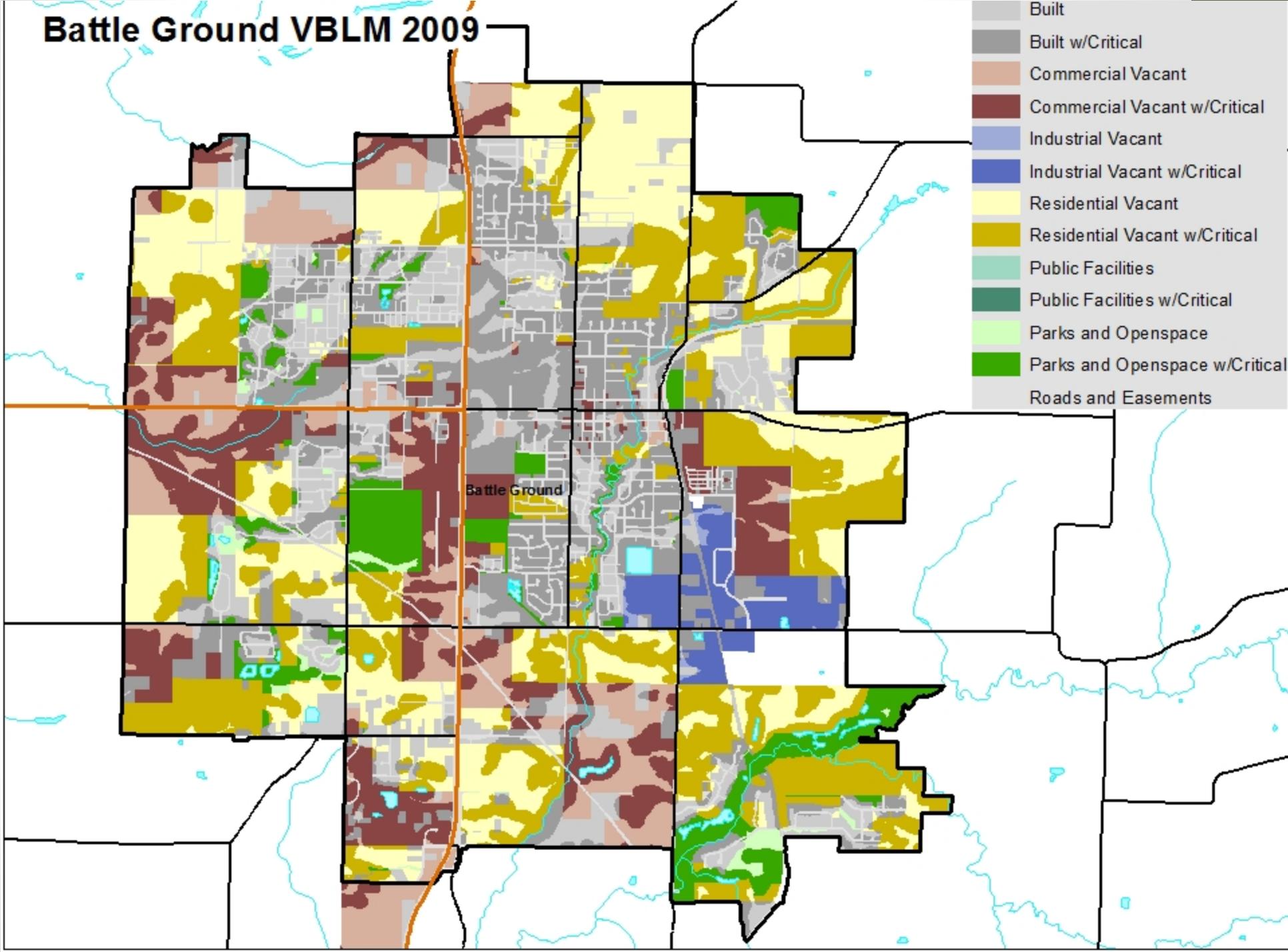
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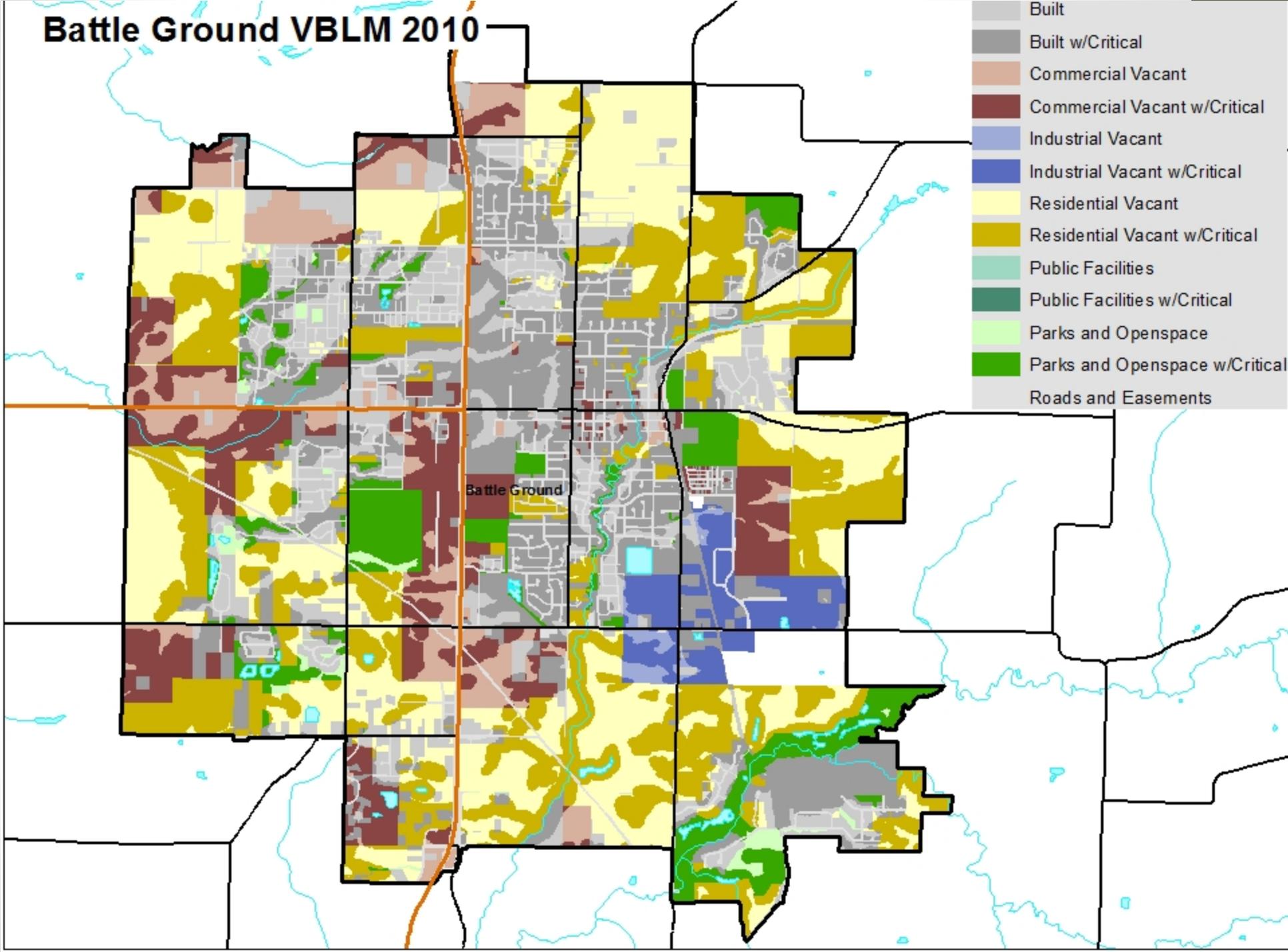
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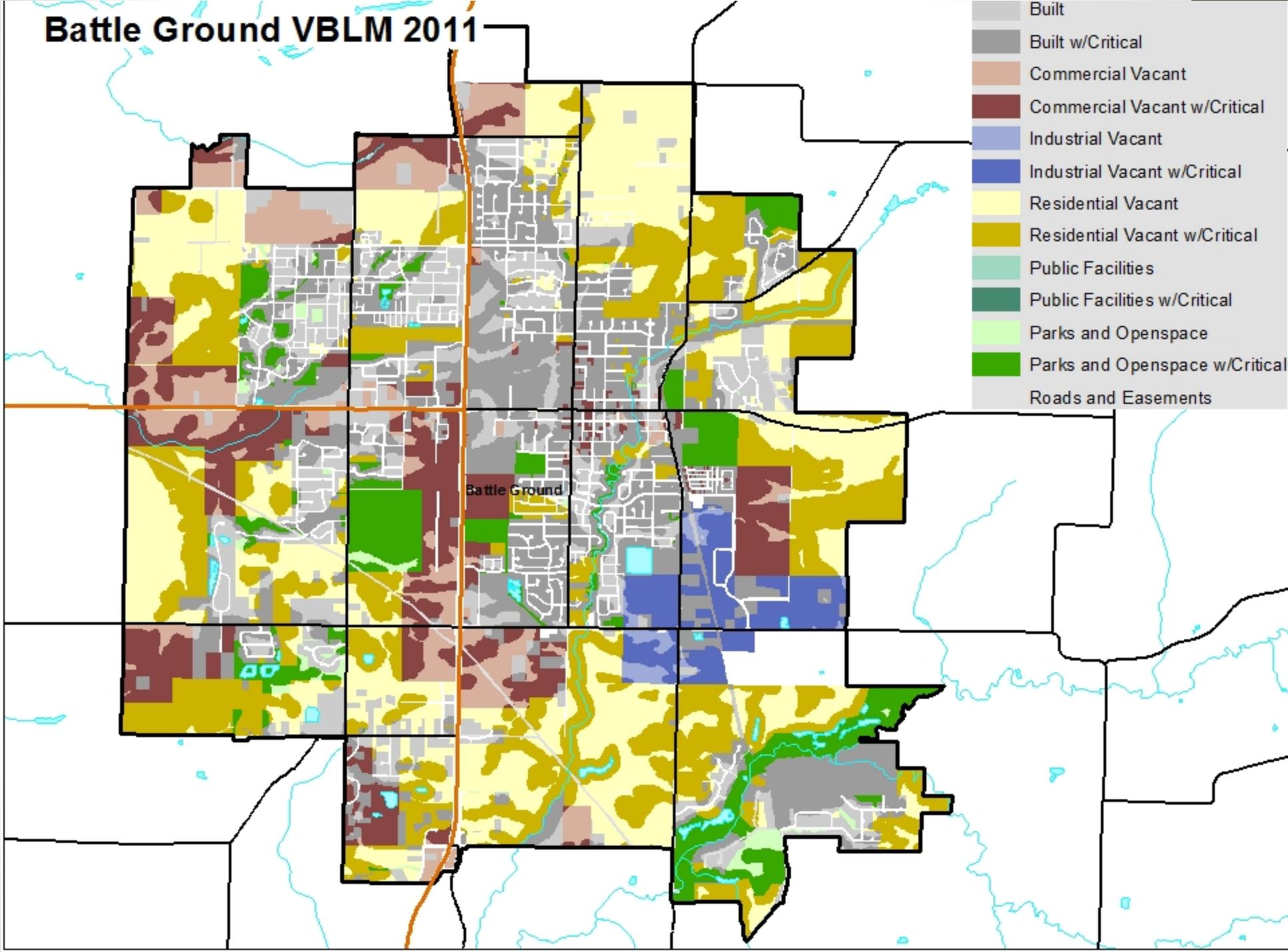
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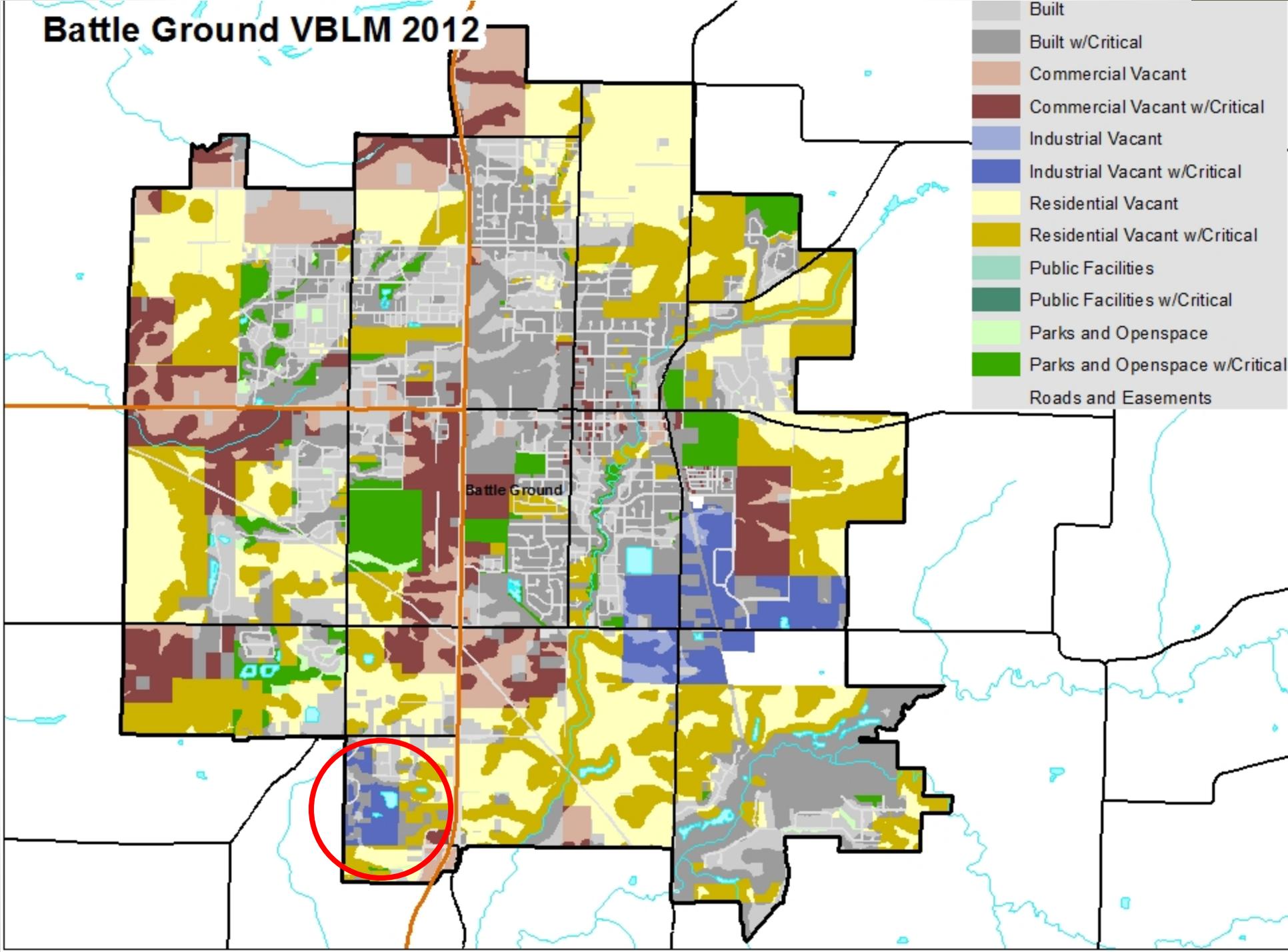
# Battle Ground VBLM 2010



# Battle Ground VBLM 2011

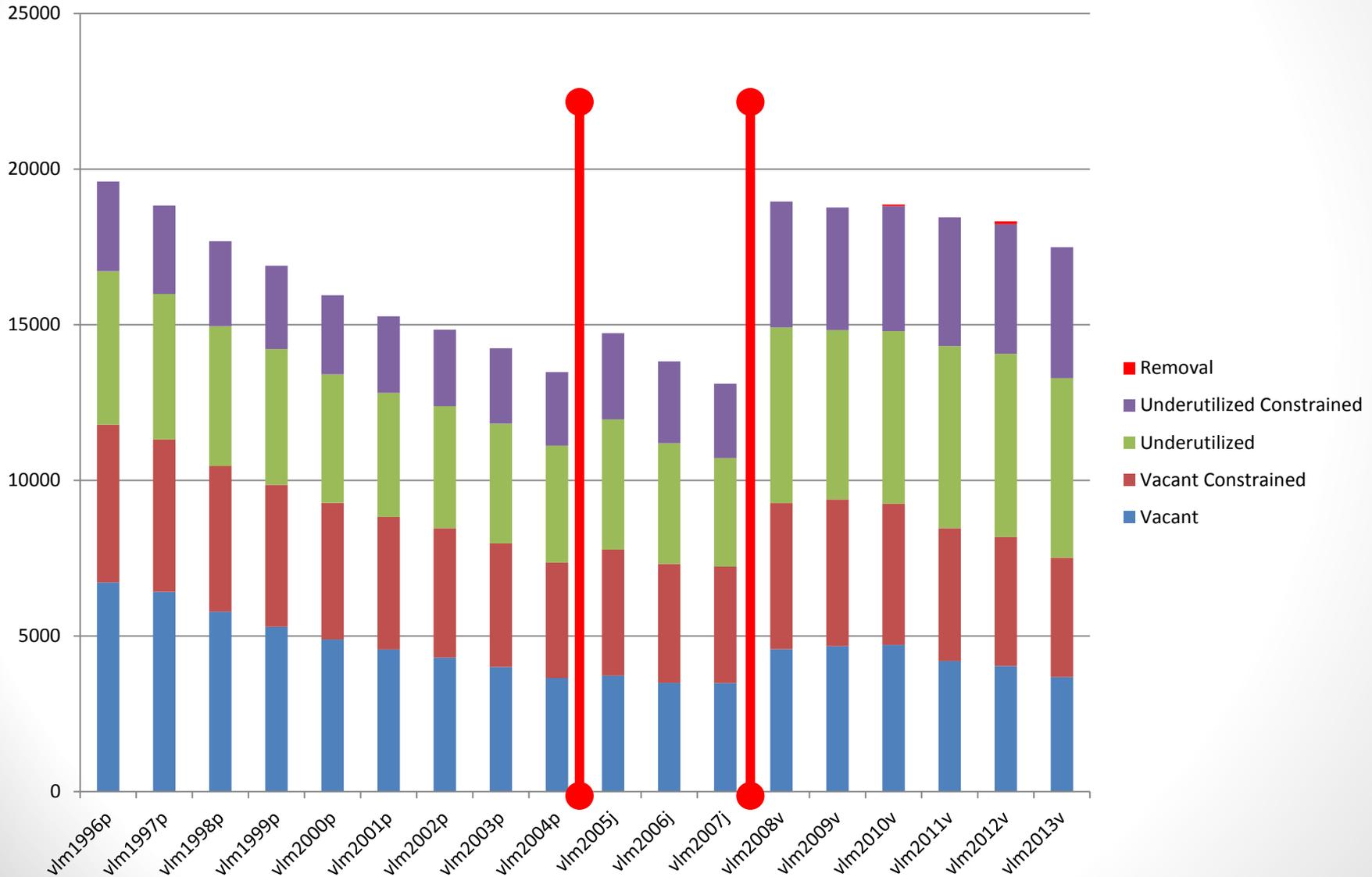


# Battle Ground VBLM 2012

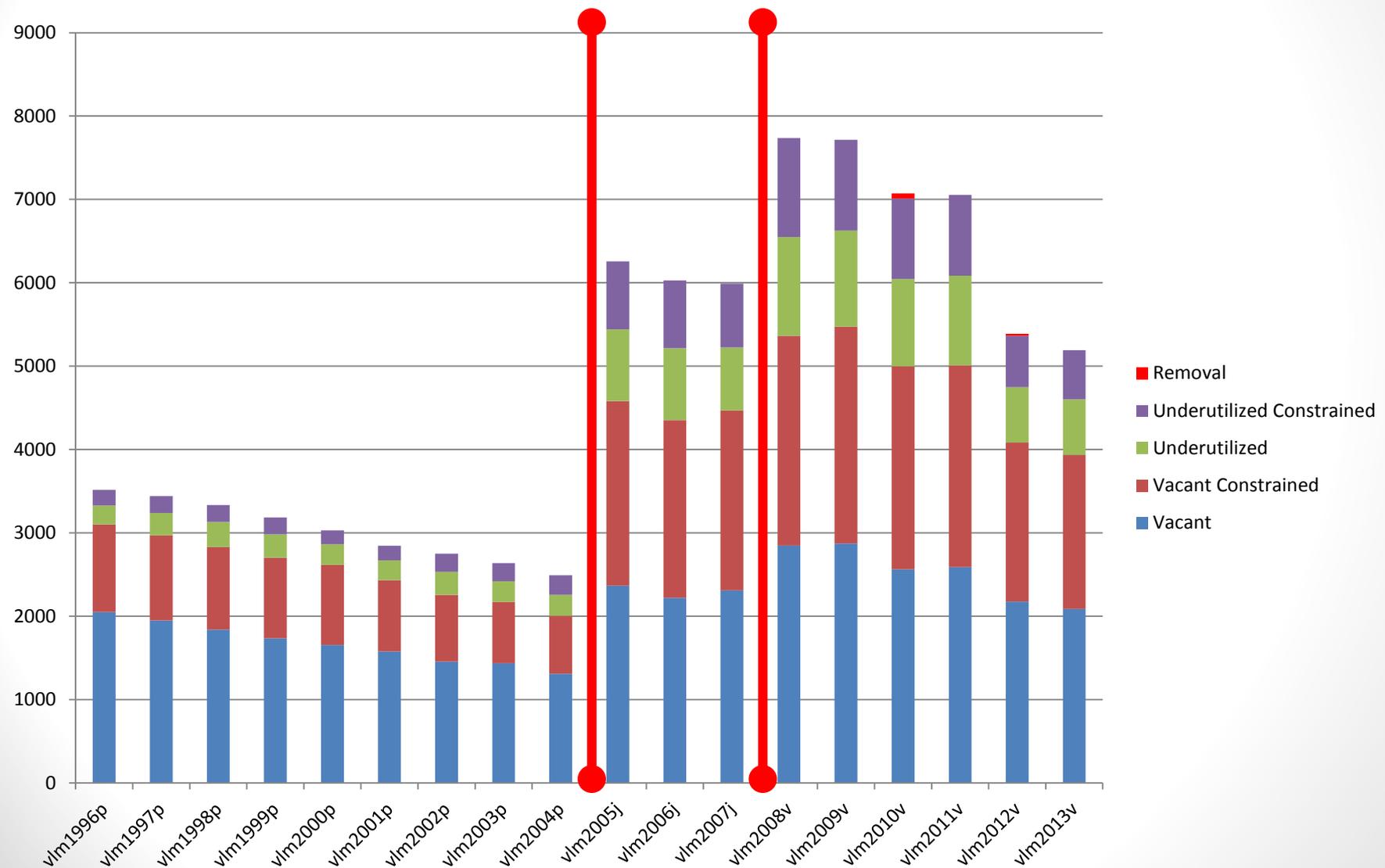


# Countywide Time Series

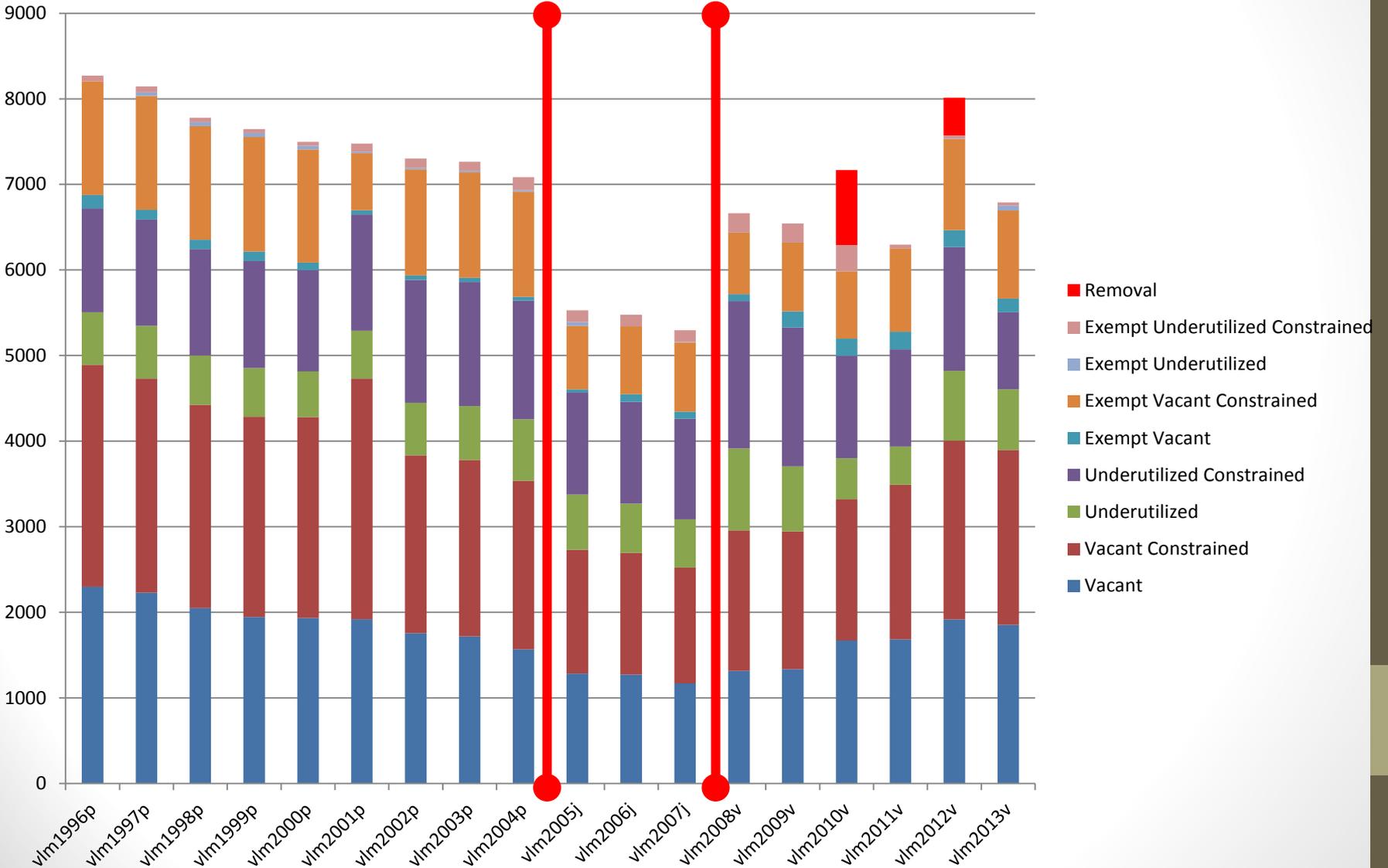
# County wide Residential Gross Acres



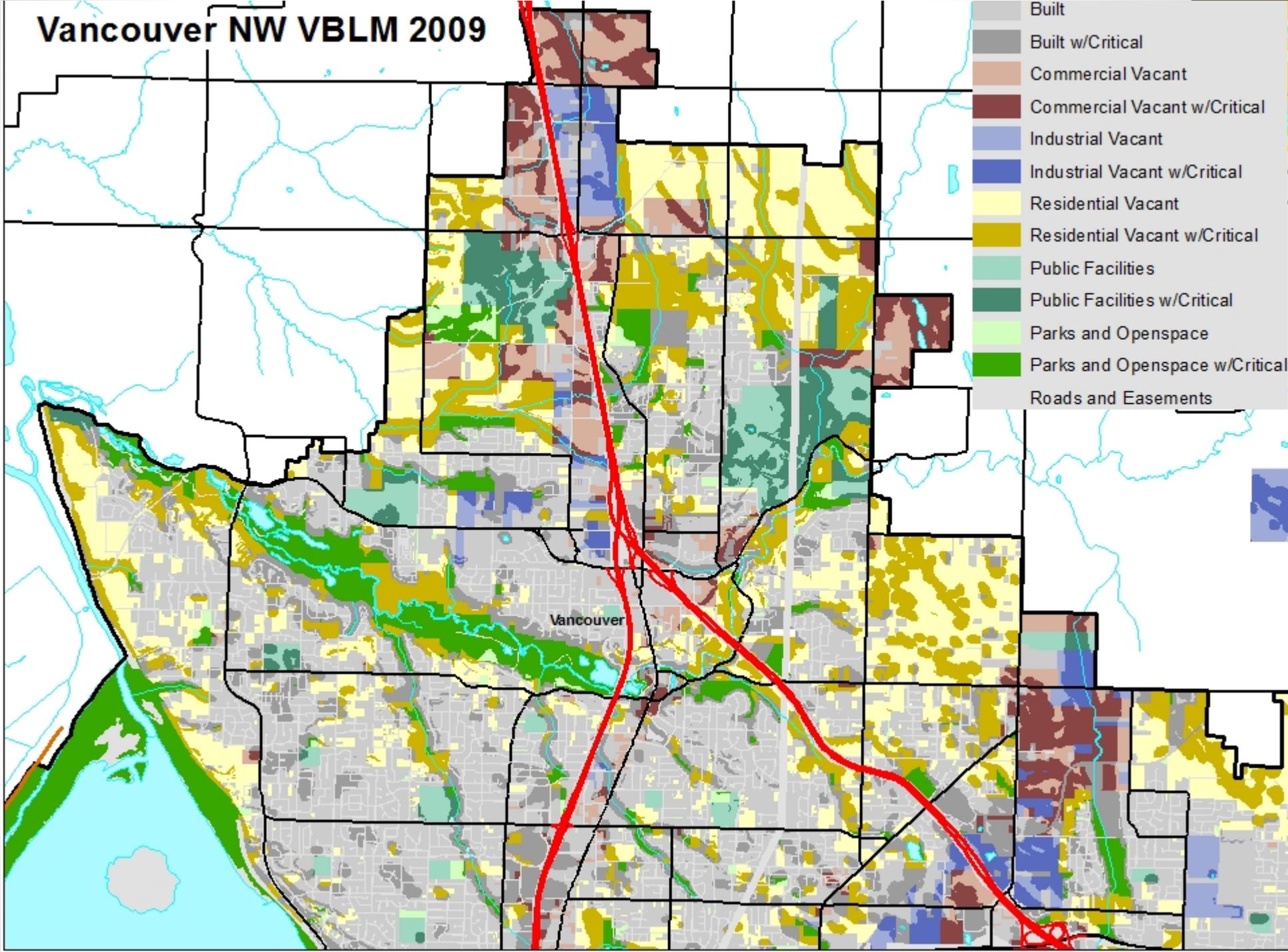
# County wide Commercial Gross Acres



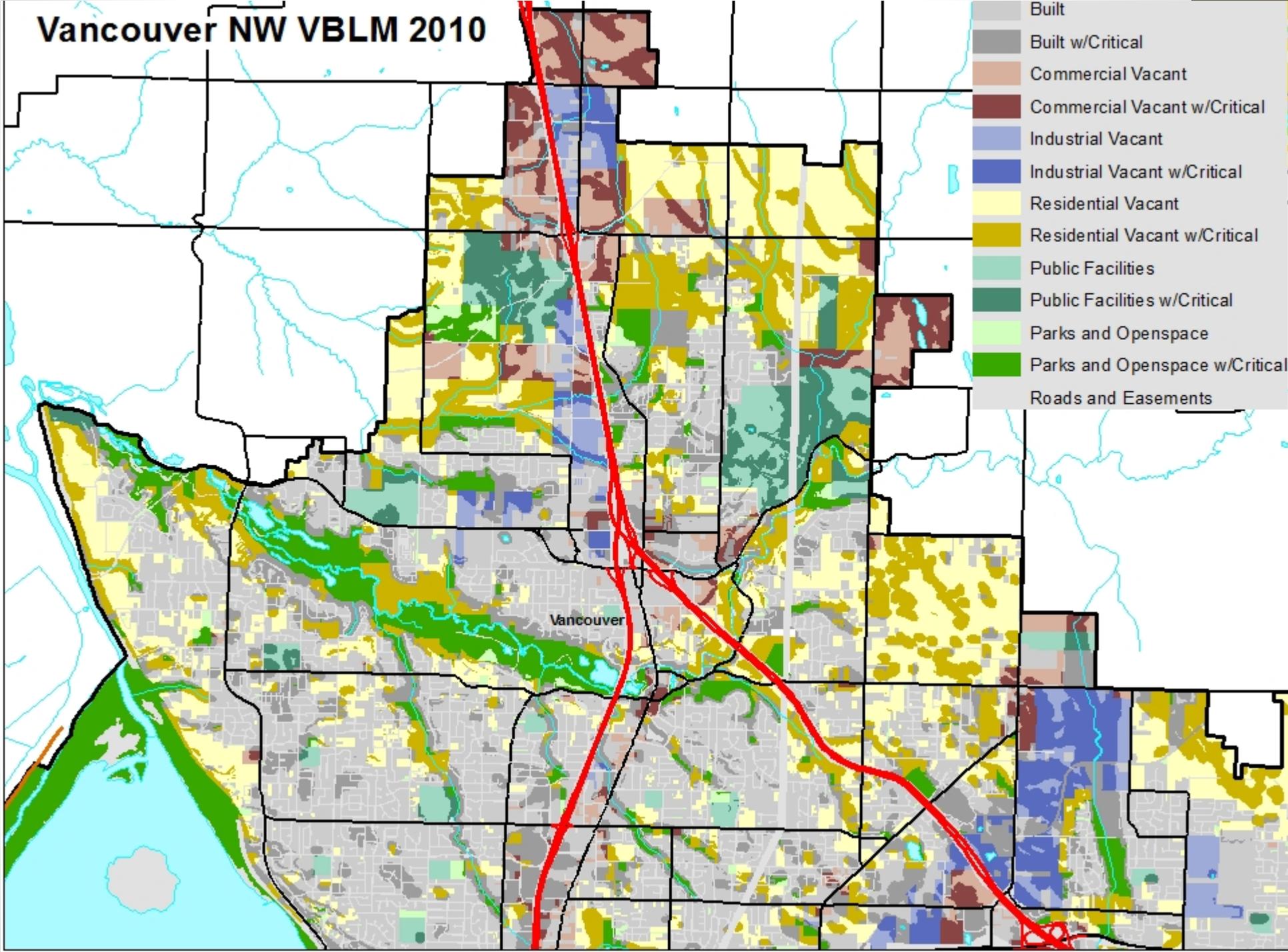
# County wide Industrial Gross Acres



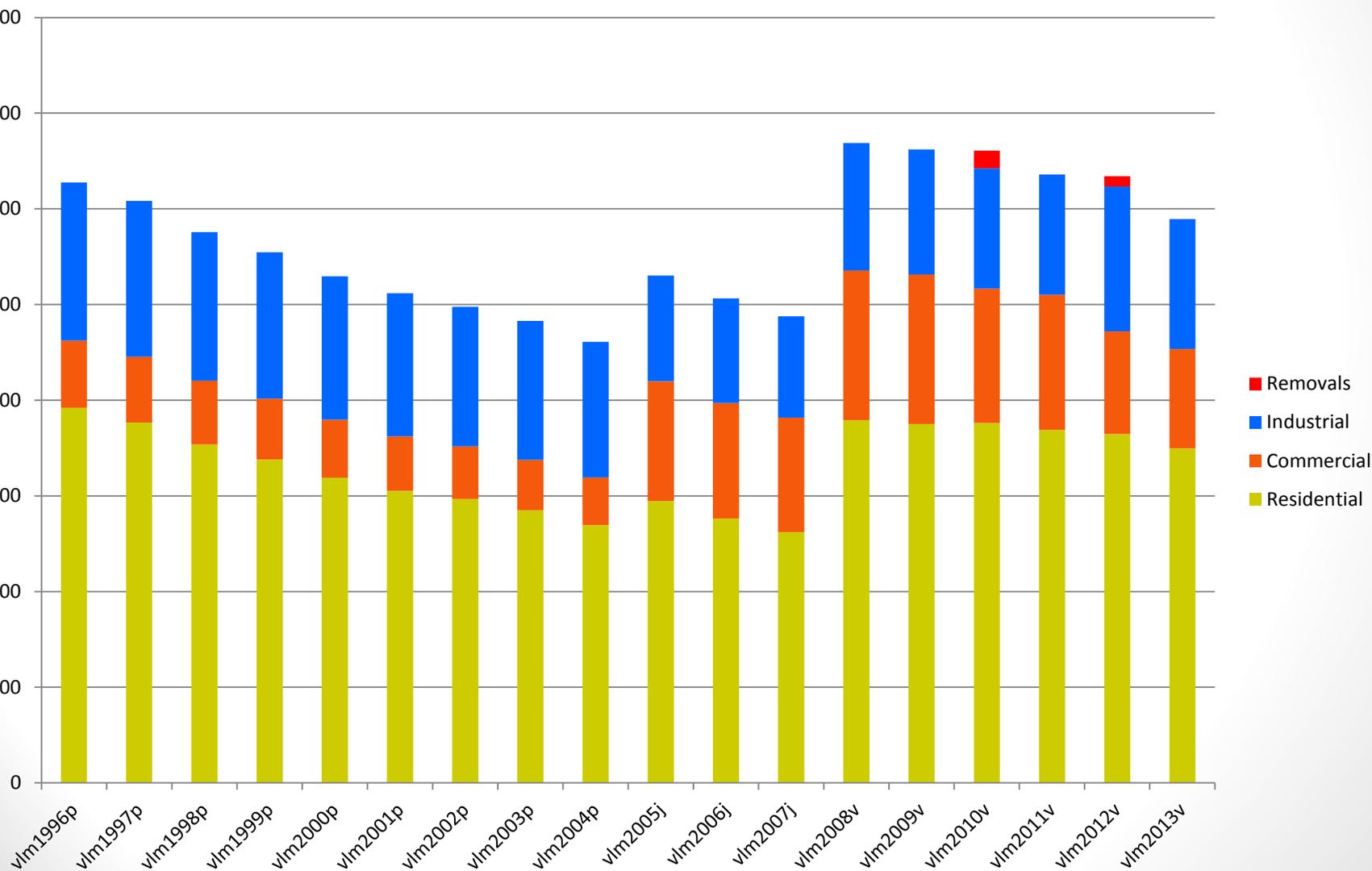
# Vancouver NW VBLM 2009



# Vancouver NW VBLM 2010



# County wide All Vacant Buildable Land



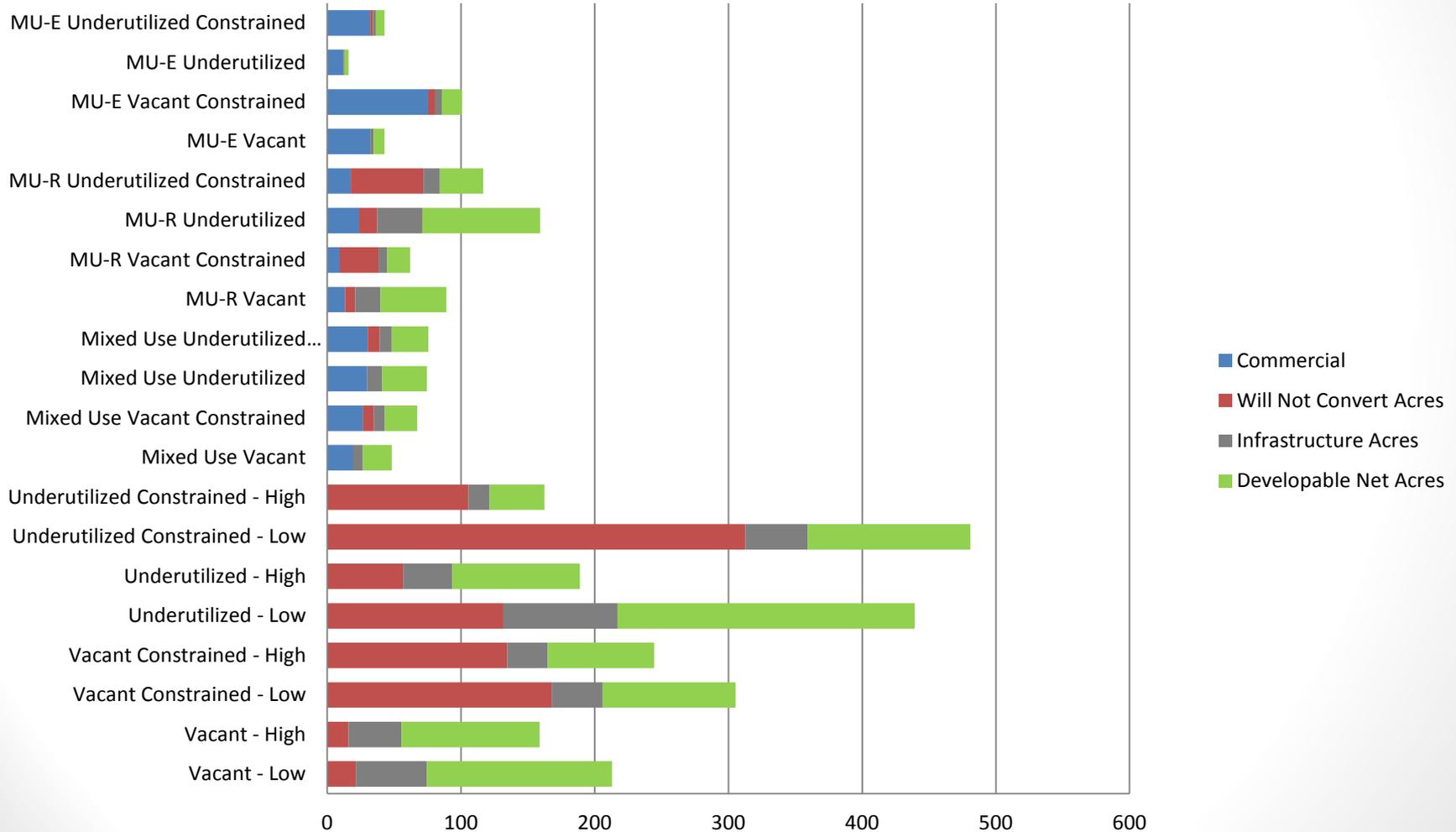
# Gross acres to Net acres

1. Never to convert (residual)  
0% - 50% depending on VBLM class
2. Environmental Constraints  
0% - 50% depending on VBLM class
3. Infrastructure (right of way, storm water facilities)  
25% - 27.7% depending on VBLM class
4. Mixed Use split
  - Gross acres split into commercial and residential
  - Depending on Comprehensive Plan designation
    - Mixed Use: 60% Residential - 40% Commercial
    - MU – Residential: 85% Residential - 15% Commercial
    - MU – Employment: 25% Residential - 75% Commercial

# Battle Ground

## Gross Acres to Net Acres

### Residential



# Yield Report

Gross to Net GIS Acres Report for Vancouver

Model Name: Annual Update

Model Year: 2013

Model Plan: v

\*\*\* Residential \*\*\*

	VBLM Gross Acres	Will Not Convert Acres	Infrastructure Acres	Developable Net Acres	Housing Units
Vacant		(0% + 10%)	(27.7%)		
Low (5 units)	1398.3	139.8	348.6	909.9	4549.5
High (16 units)	471.4	47.1	117.5	306.7	4907.3
Vacant Constrained		(50% + 10%)	(27.7%)		
Low (5 units)	1329.2	731.1	165.7	432.5	2162.3
High (16 units)	381.7	210.0	47.6	124.2	1987.2
Underutilized		(0% + 30%)	(27.7%)		
Low (5 units)	2733.4	820.0	530.0	1383.4	6916.8
High (16 units)	261.2	78.4	50.6	132.2	2114.9
Underutilized Constrained		(50% + 30%)	(27.7%)		
Low (5 units)	1756.7	1141.8	170.3	444.5	2222.6
High (16 units)	115.3	75.0	11.2	29.2	466.9
Mixed Use Vacant		(0% + 0%)	(25%)		
60% (18 units)	135.4	0	33.9	101.6	1828.0
Mixed Use Constrained		(20% + 0%)	(25%)		
60% (18 units)	94.4	18.9	18.9	56.6	1019.2
Mixed Use Underutilized		(0% + 0%)	(25%)		
60% (18 units)	92.1	0	23.0	69.1	1243.0
Mixed Use Constrained		(20% + 0%)	(25%)		
60% (18 units)	54.0	10.8	10.8	32.4	583.0

# Yield Report (portion)

Gross to Net GIS Acres Report for Vancouver

Model Name: Annual Update

Model Year: 2013

Mod

\*\*\*

Housing units  
per acre

Residual 10%

Critical 50%

Commercial (40%) - Residential Split (60%)

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High (16 units)	115.3	75.0	11.2	29.2	466.9
Mixed Use Vacant		(0% + 0%)	(25%)		
60% (18 units)	135.4	0	33.9	101.6	1828.0
Mixed Use Constrained		(20% + 0%)	(25%)		
60% (18 units)	94.4	18.9	18.9	56.6	1019.2
Mixed Use Underutilized		(0% + 0%)	(25%)		
60% (18 units)	92.1	0	23.0	69.1	1243.0
Mixed Use Constrained		(20% + 0%)	(25%)		
60% (18 units)	54.0	10.8	10.8	32.4	583.0

# VBLM History

# Origins

1992-1994

- County GIS 2 years old
- Translate VBLM concept into GIS model
- Discover best available computer databases
- No Aerial Photos for QA/QC
- A single model result consumed 20% of GIS disk space. Each model overwrote the last
- Model run time 3 days

# 1995-1999

- Annual Model Run
- Gradual improvement of Assessor data for VBLM purpose
- Aerial photo flights 1994,1996,1998
- 1996 GIS data archive on CDROM begins.
- 1998 Google is founded

# 2000

- Plan Monitoring Technical Advisory Committee (TAC) evaluates model
  - Responsible Growth Forum
  - Friends of Clark County

# 2000 Plan Monitoring TAC Model Review

- Model results field checked
- Model revised
  - Mobile Home Parks classified as built
  - Building Values Increased for Inflation
  - Common Areas and Courtyards added to easements category
- Residential Underutilized criteria revised.

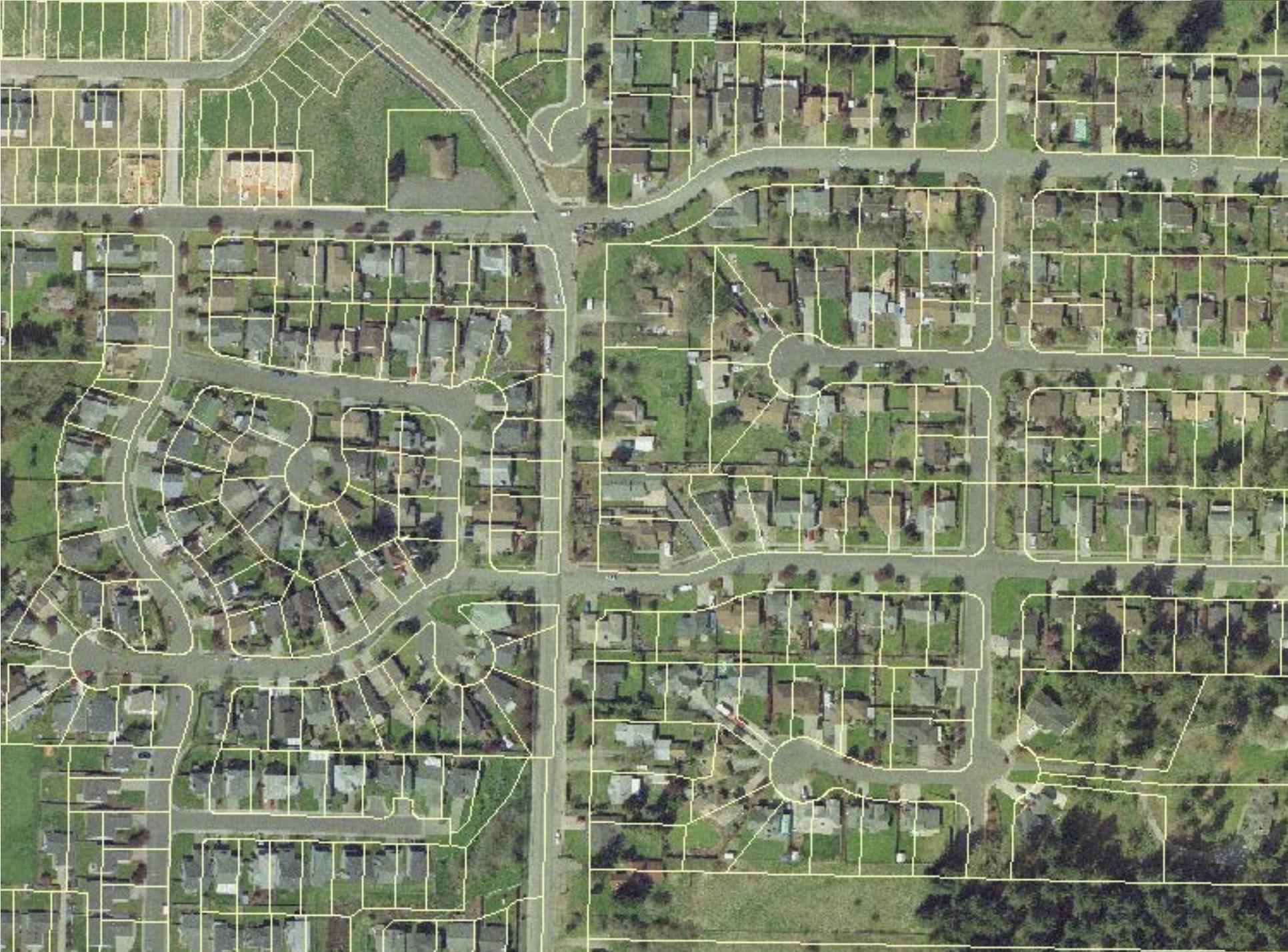
# 2002

- Historical Models Added (compare apples to apples)
- Scenarios are added (CREDC, Home Builders, Cities)
- Model takes 8 hours to run

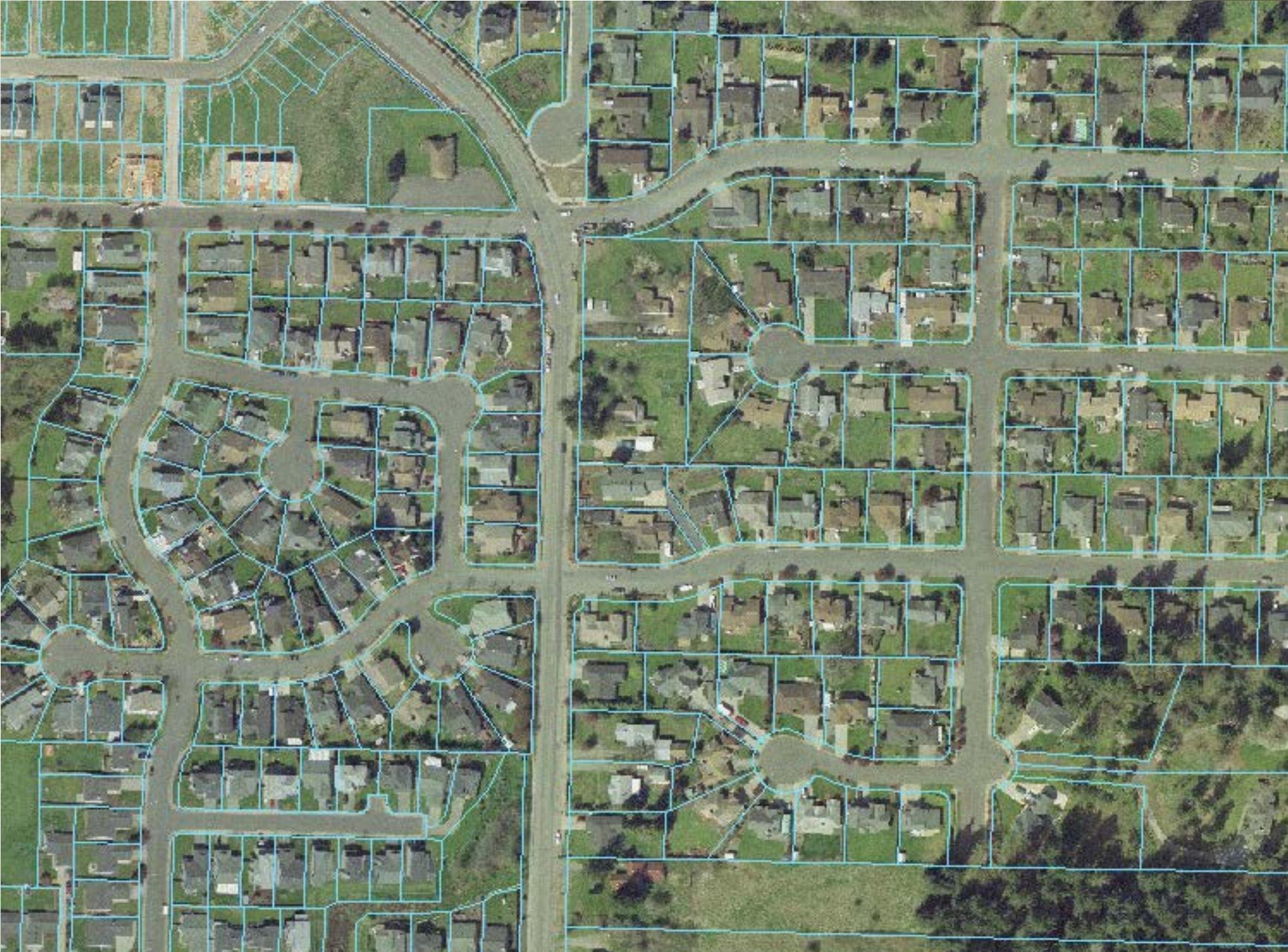
# 2003-2005

- 2003 Parcel Layer Accuracy improved
- 2004 New County wetlands inventory
  
- 2004 First UGA expansion
  - New Comprehensive Plan

# Parcels Layer Adjustment



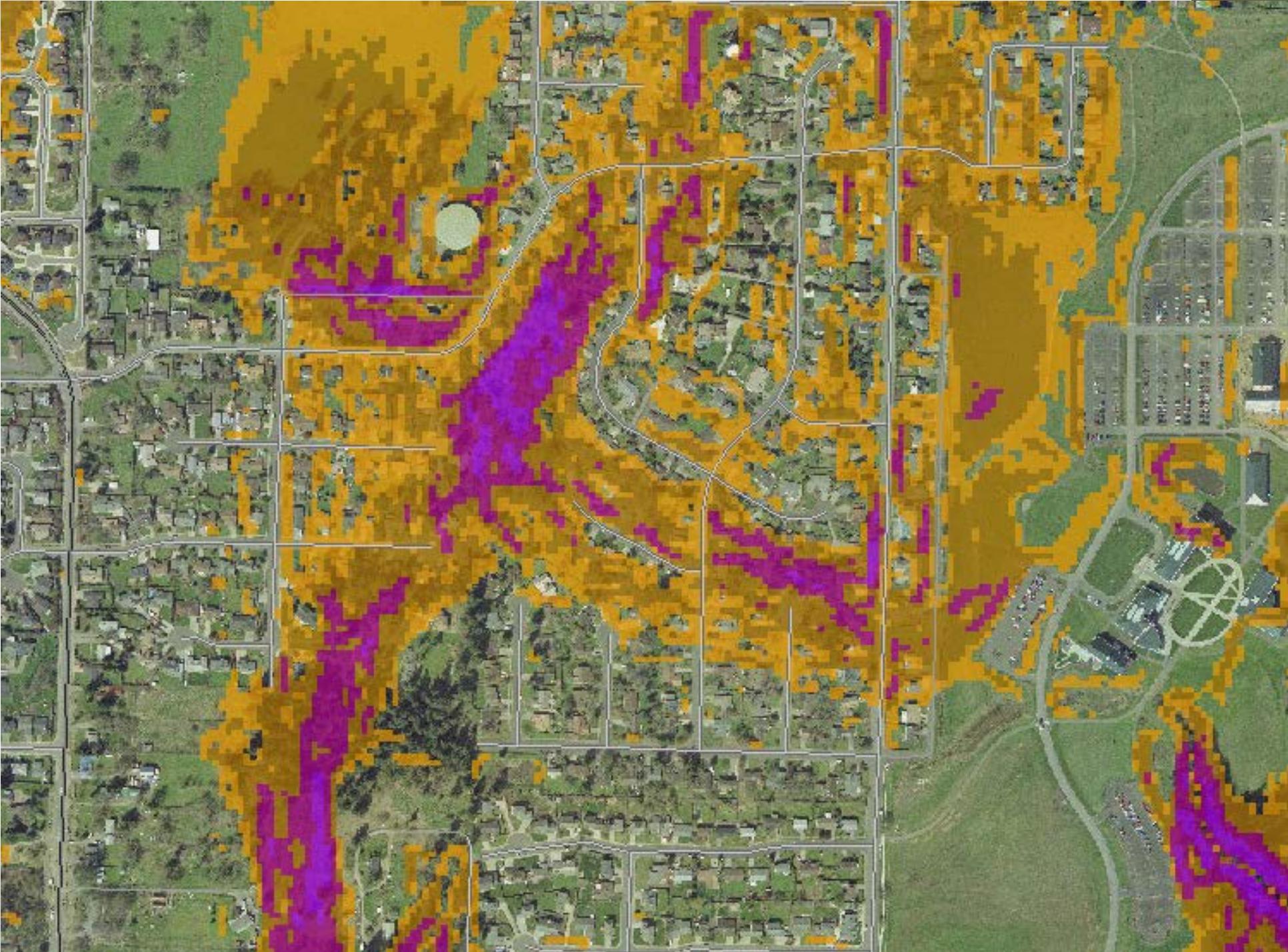


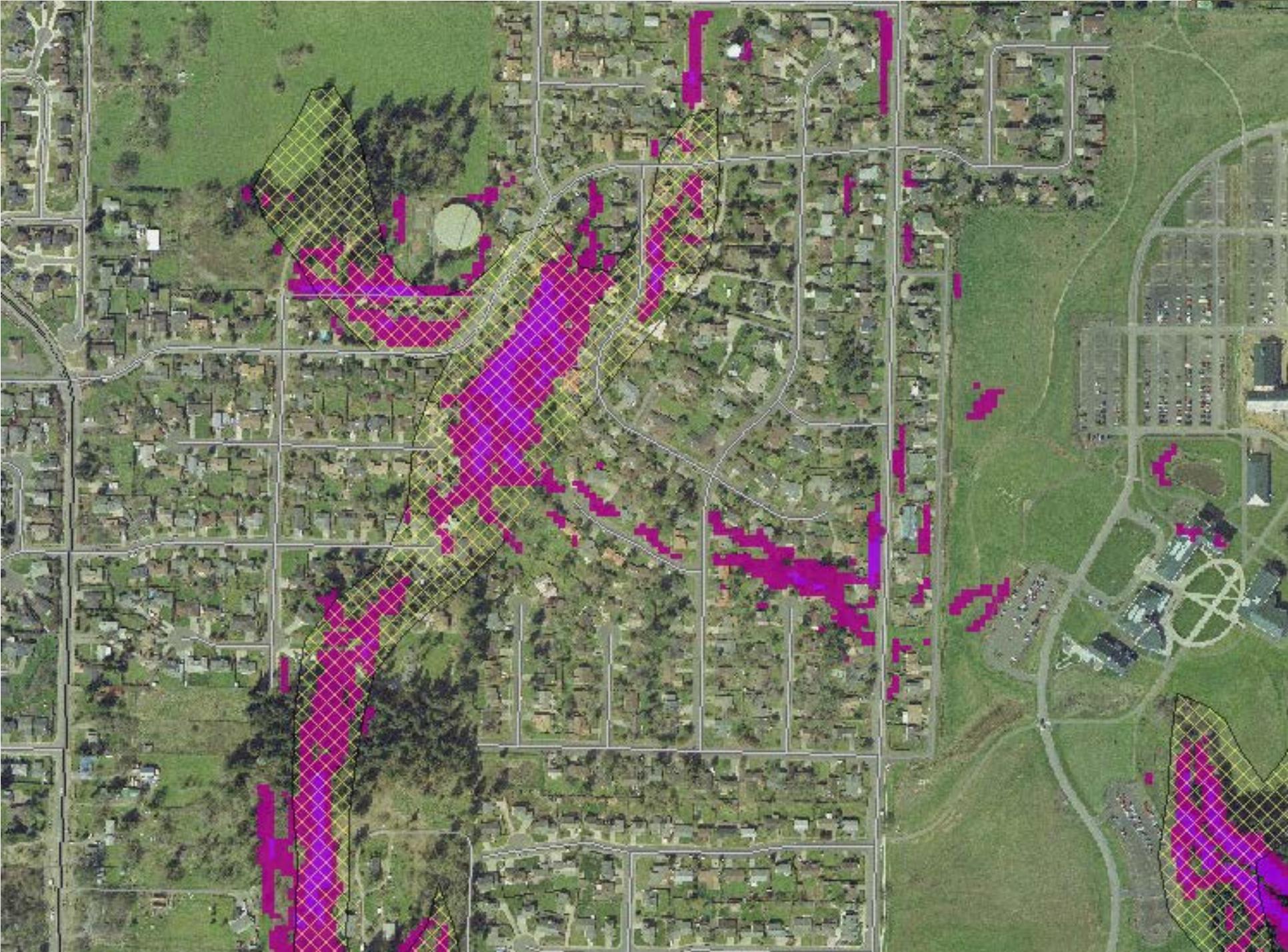


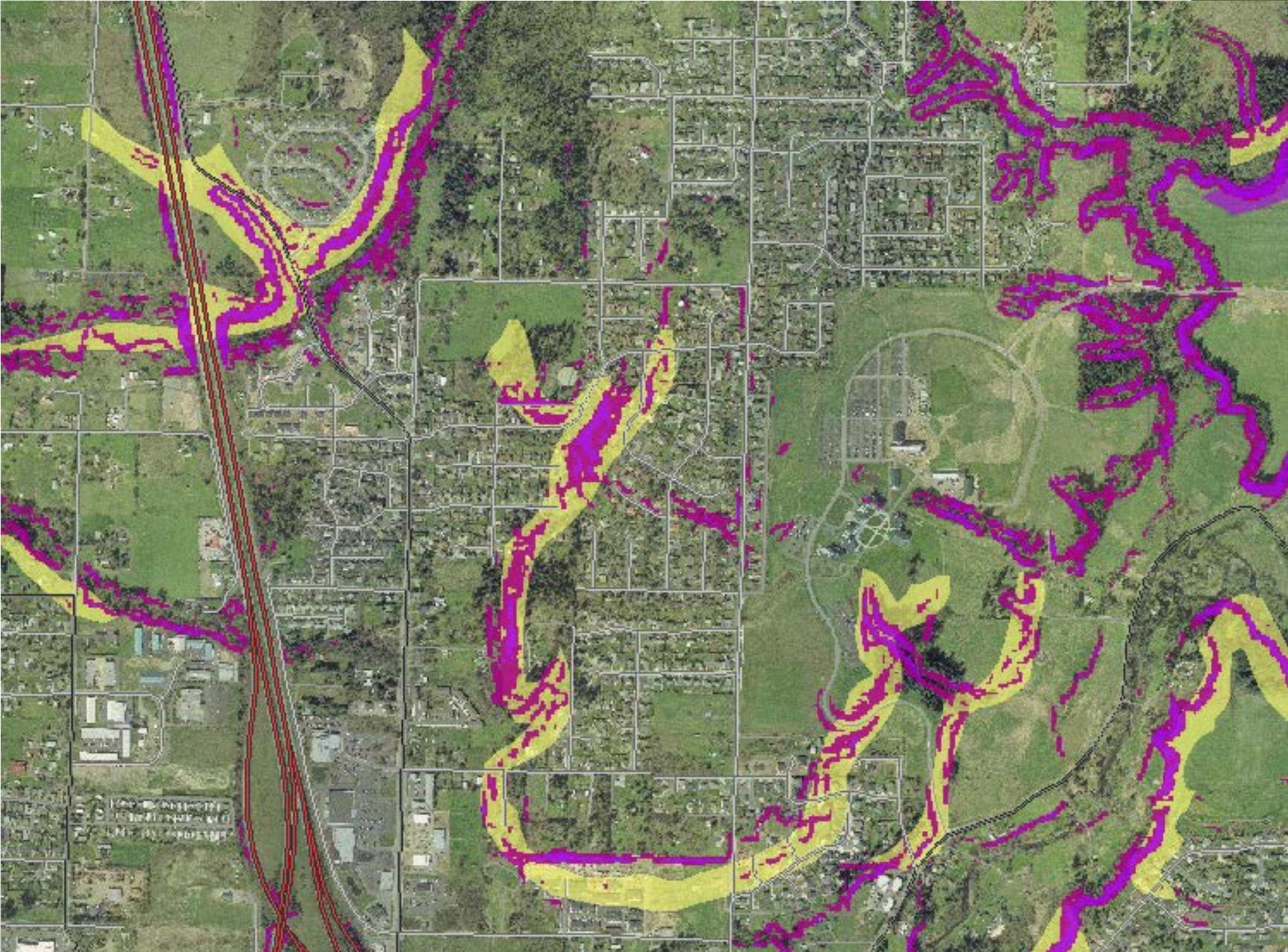
# New Slope Layer

- 2002 Lidar Flight
  - 2 foot contours county wide
  - New slope layer based on contours
  - Old Slope layer based on soil types









# Clark County Wetlands Inventory

Grant from Department of Ecology

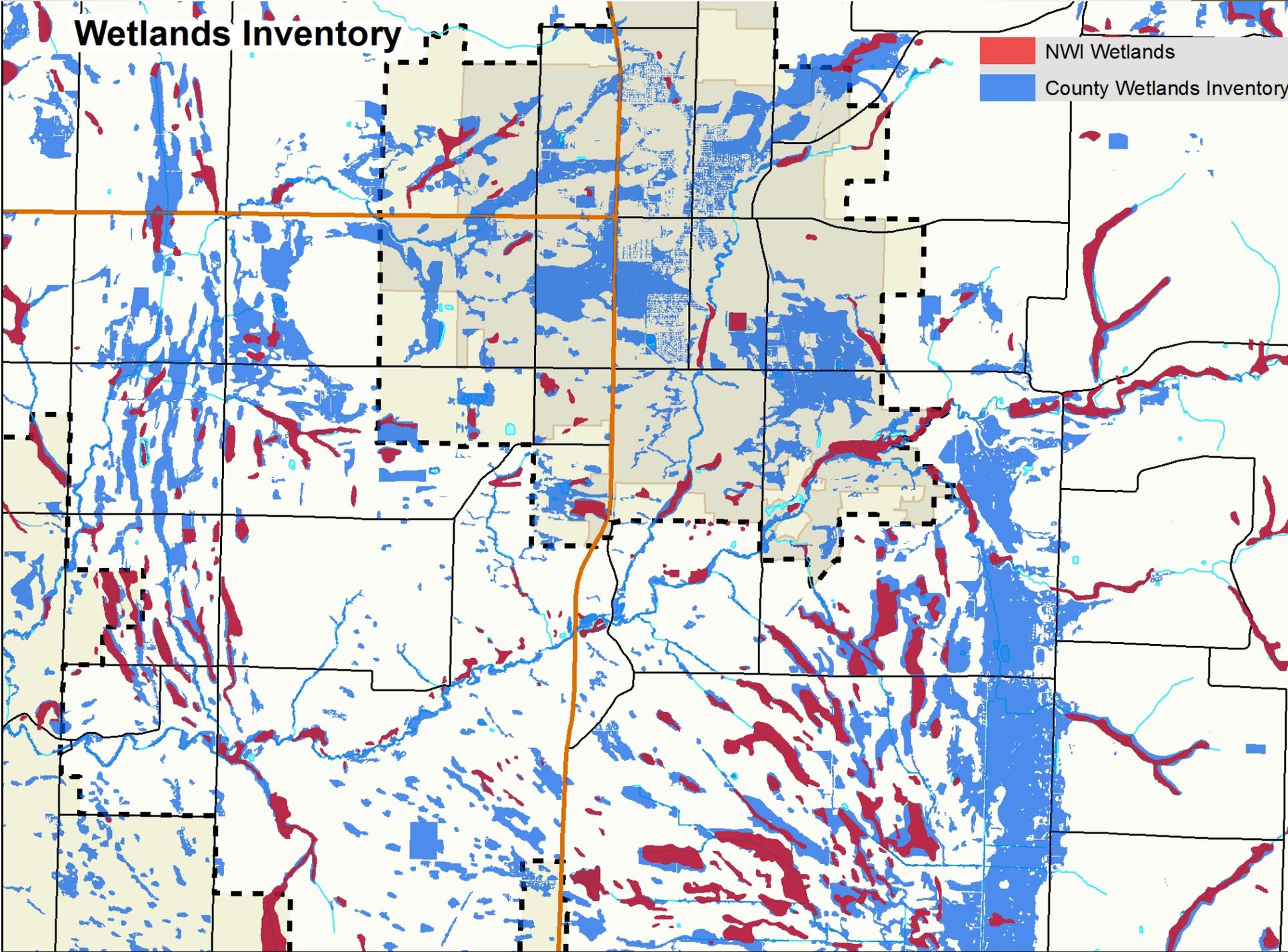
Uses new contour layer to find depressions

Uses new soils layer

Collaborative effort of wetland scientists from County, State, Private sector.

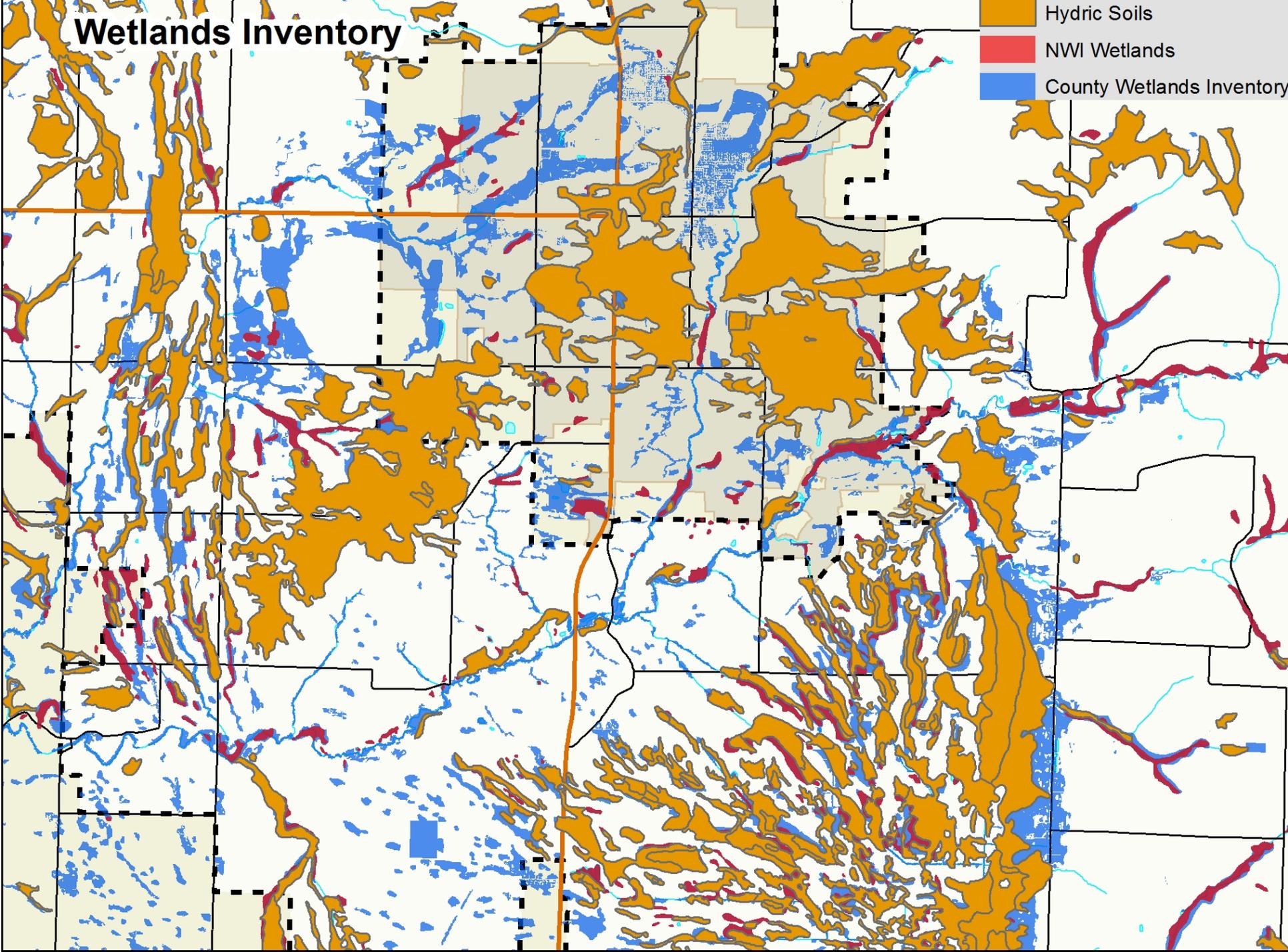
# Wetlands Inventory

- NWI Wetlands
- County Wetlands Inventory



# Wetlands Inventory

- Hydric Soils
- NWI Wetlands
- County Wetlands Inventory



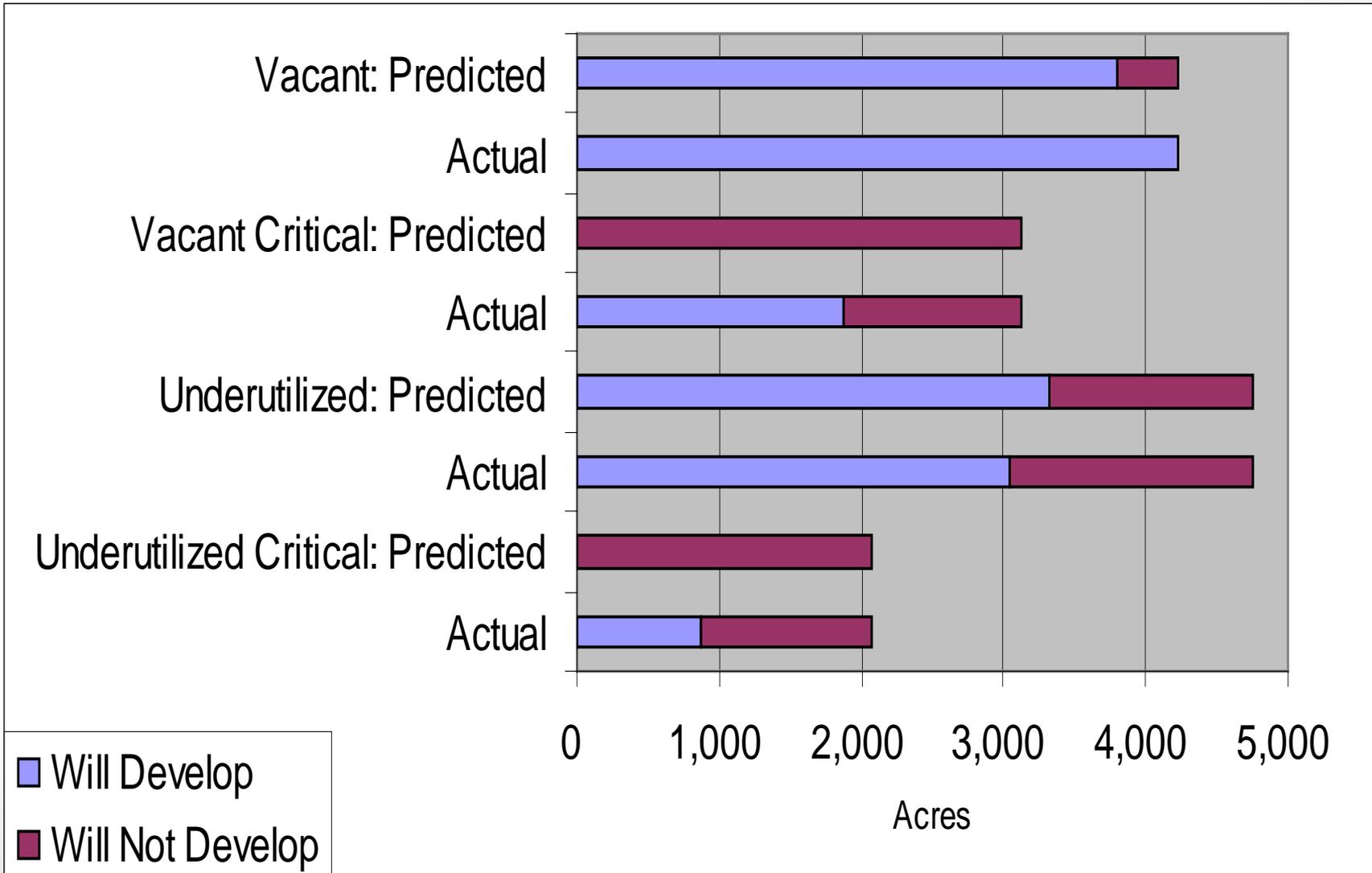
# 2005

- 2005 Model Review
  - Evaluation of model over time
    - Actual development patterns vs. 1994 predictions
  - Model revisions
    - Residential
      - Underutilized value criteria switched to Building Value per Acre (BVA)
    - Commercial
      - Underutilized changed to Building Value per Acre
      - “Assessed With” property classified as built
    - Industrial
      - Changed to modified Commercial model
      - Exempt Port Property Classifications added
    - Environmental Constraints independent of parcel configuration

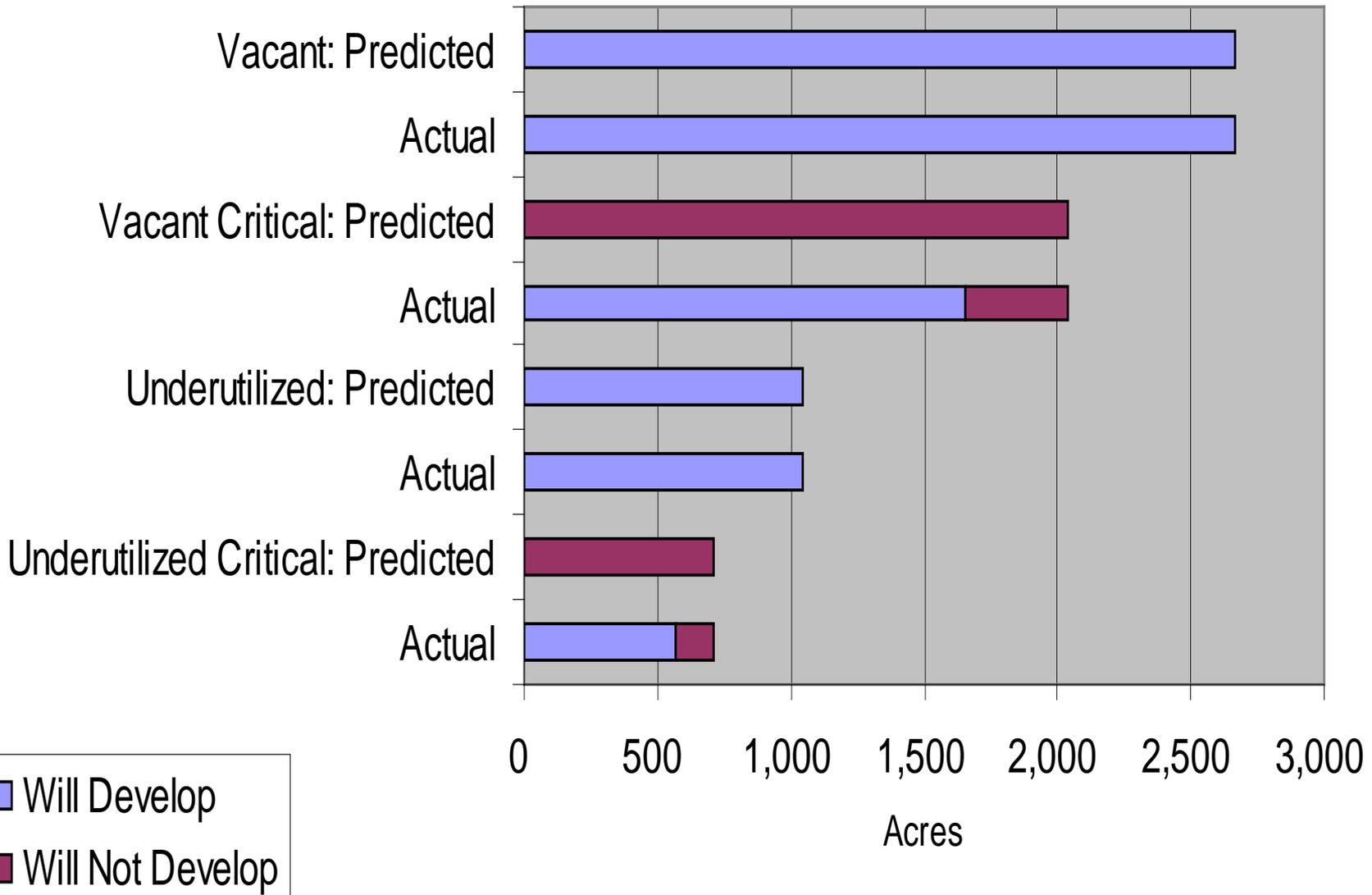
# Environmental Constraints

Parcels with Environment Constraints do develop

# Residential Percent Developed



# Commercial Percent Developed

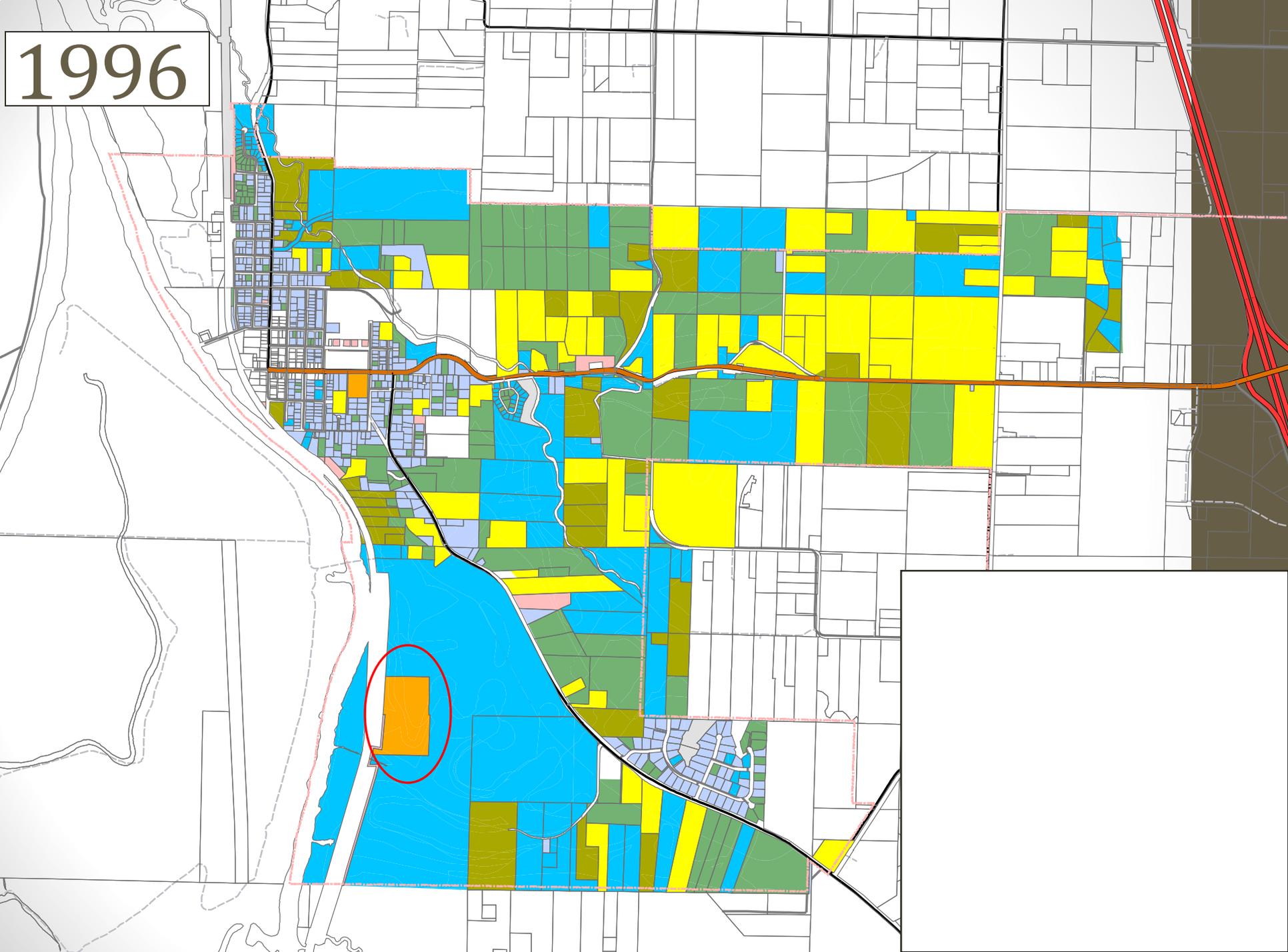


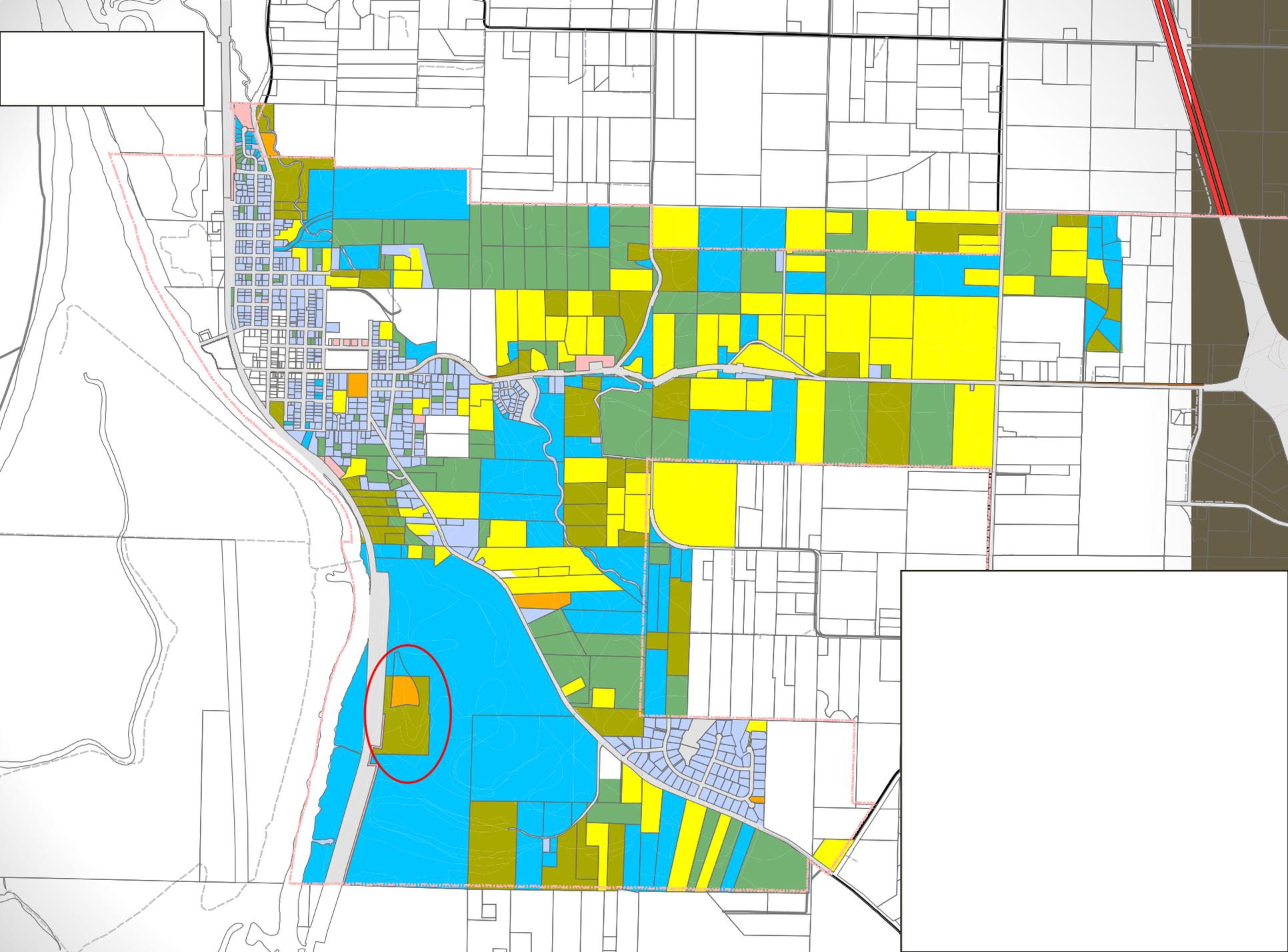
Environmental Constraints  
should be independent from the  
parcel configuration

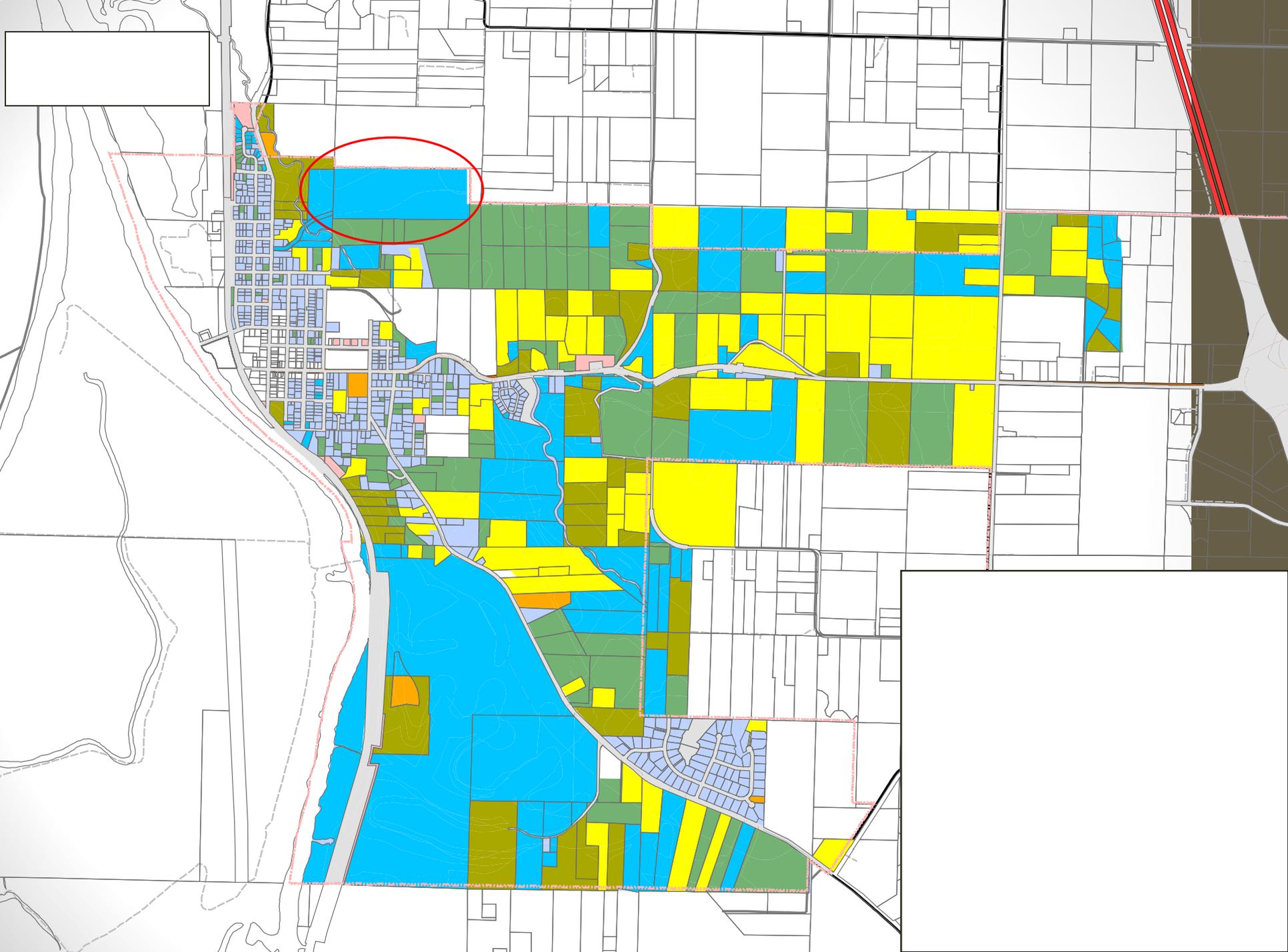
# Ridgefield

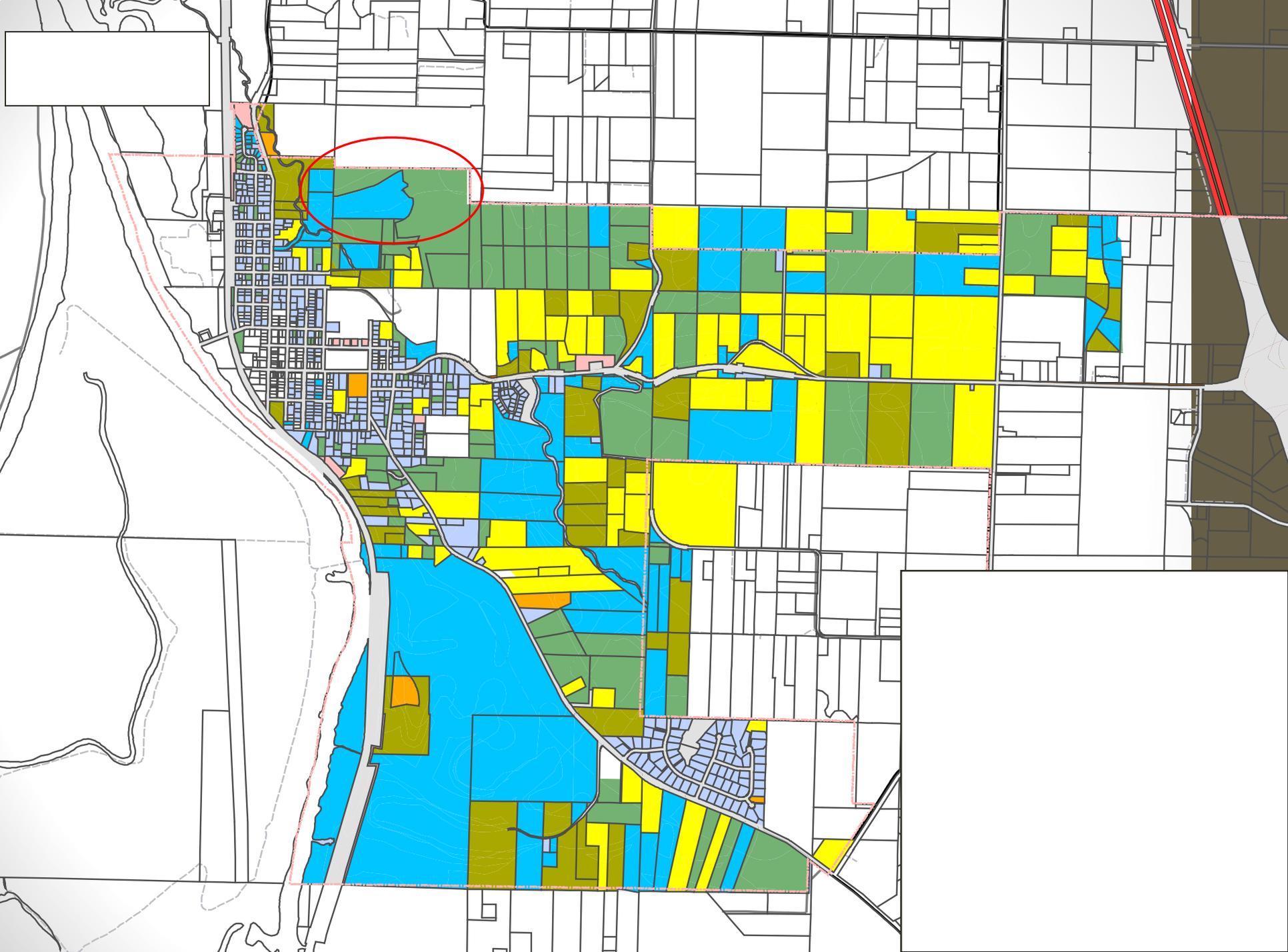
Annotated

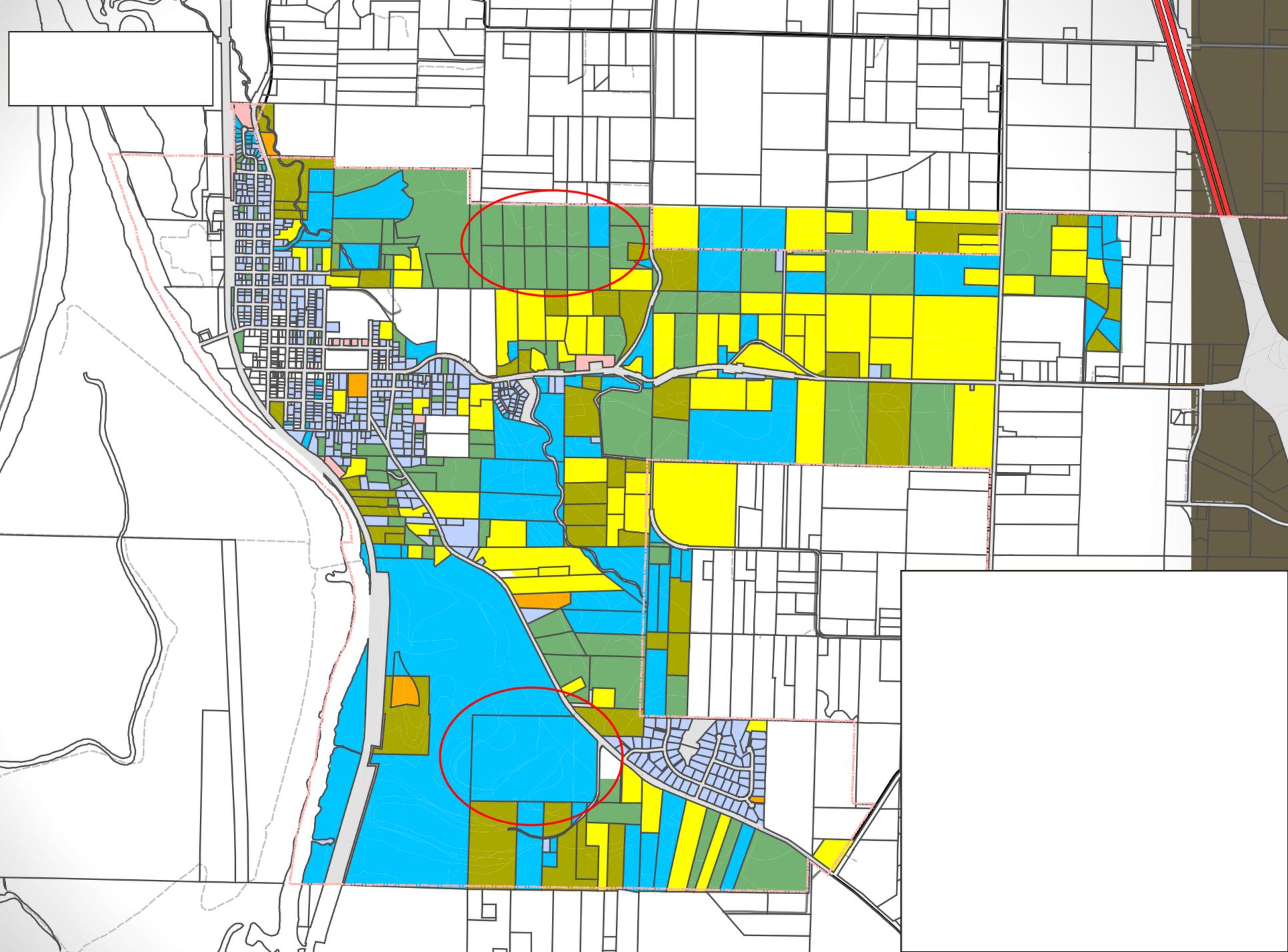
1996



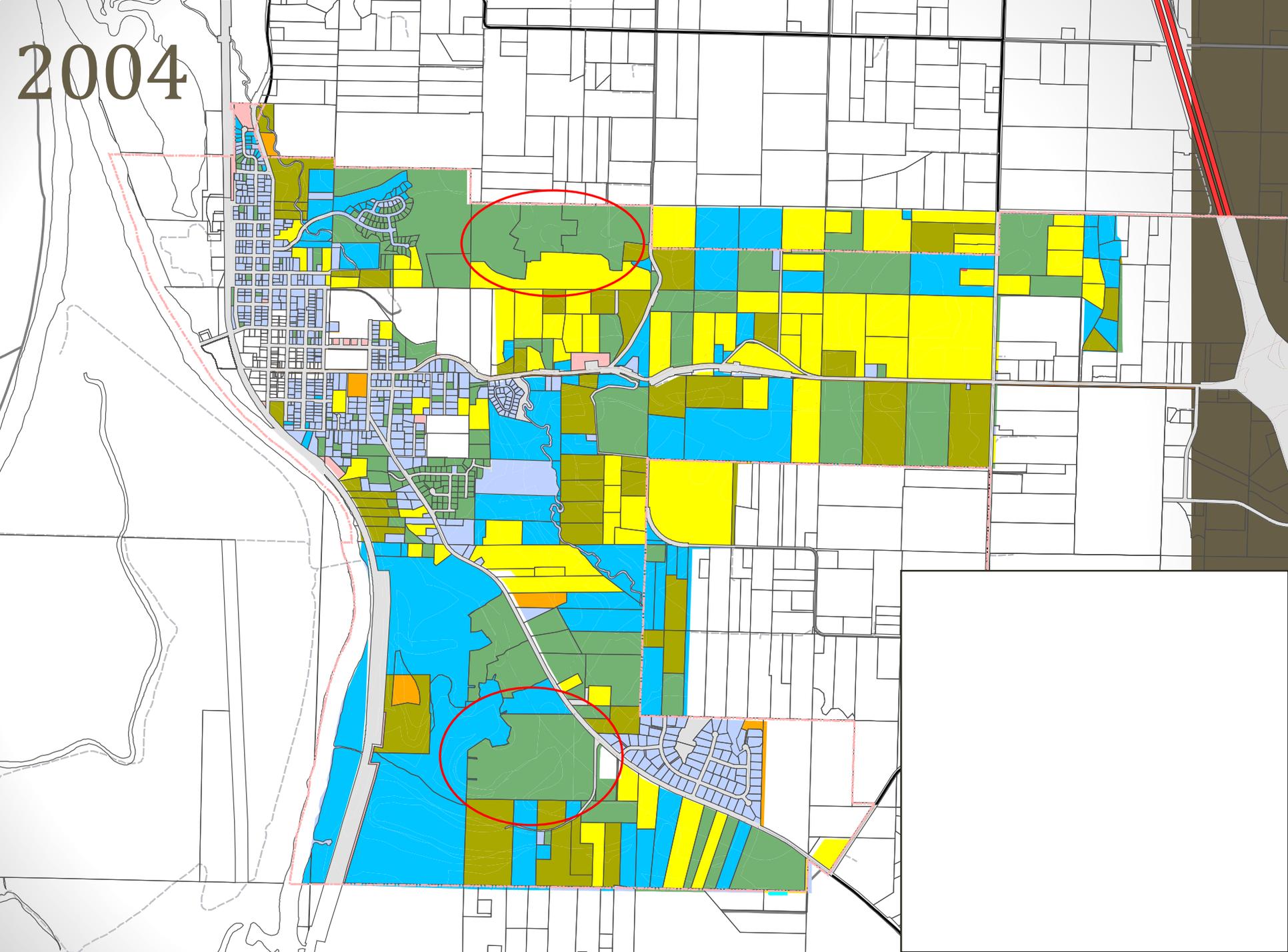


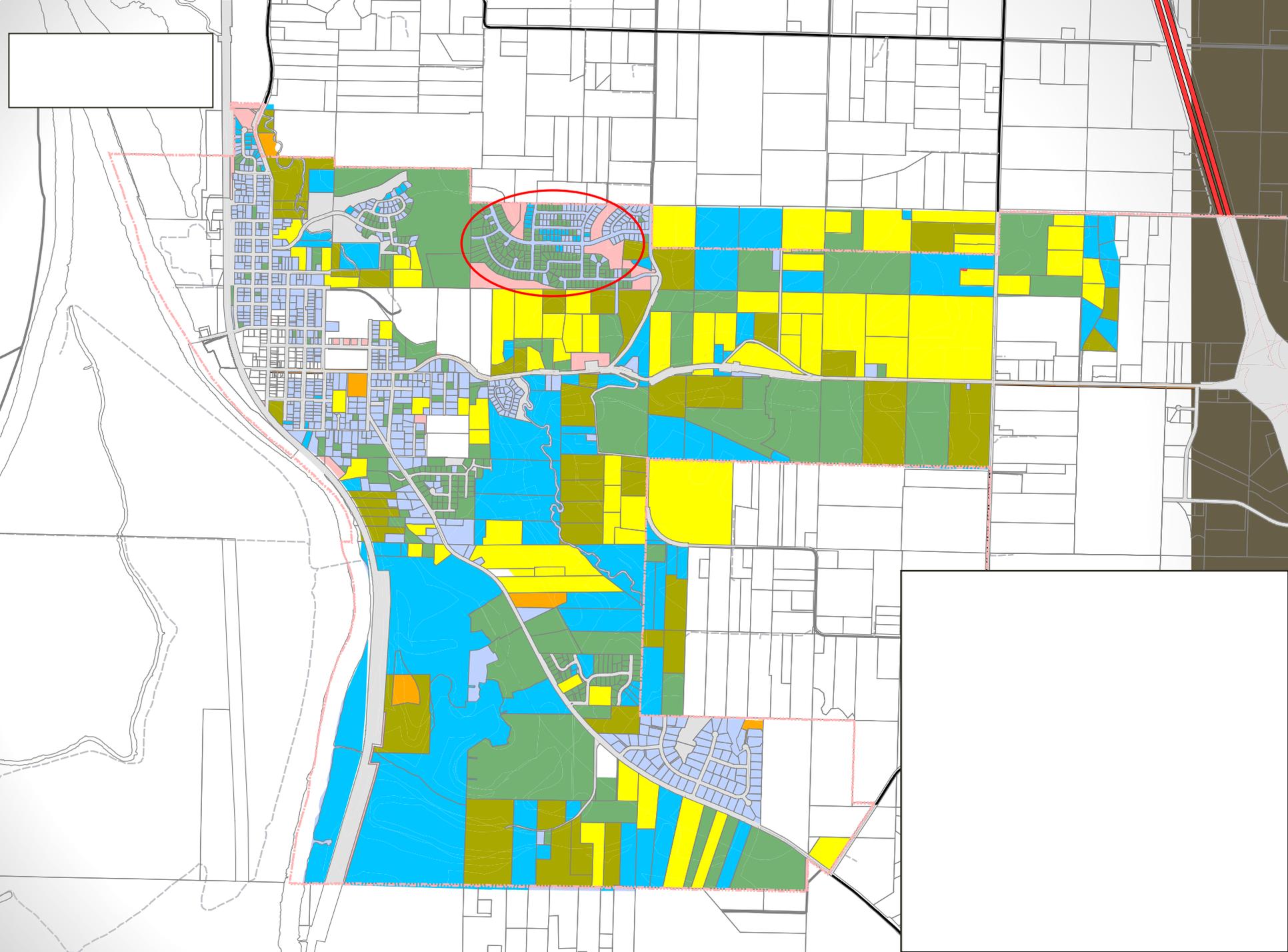




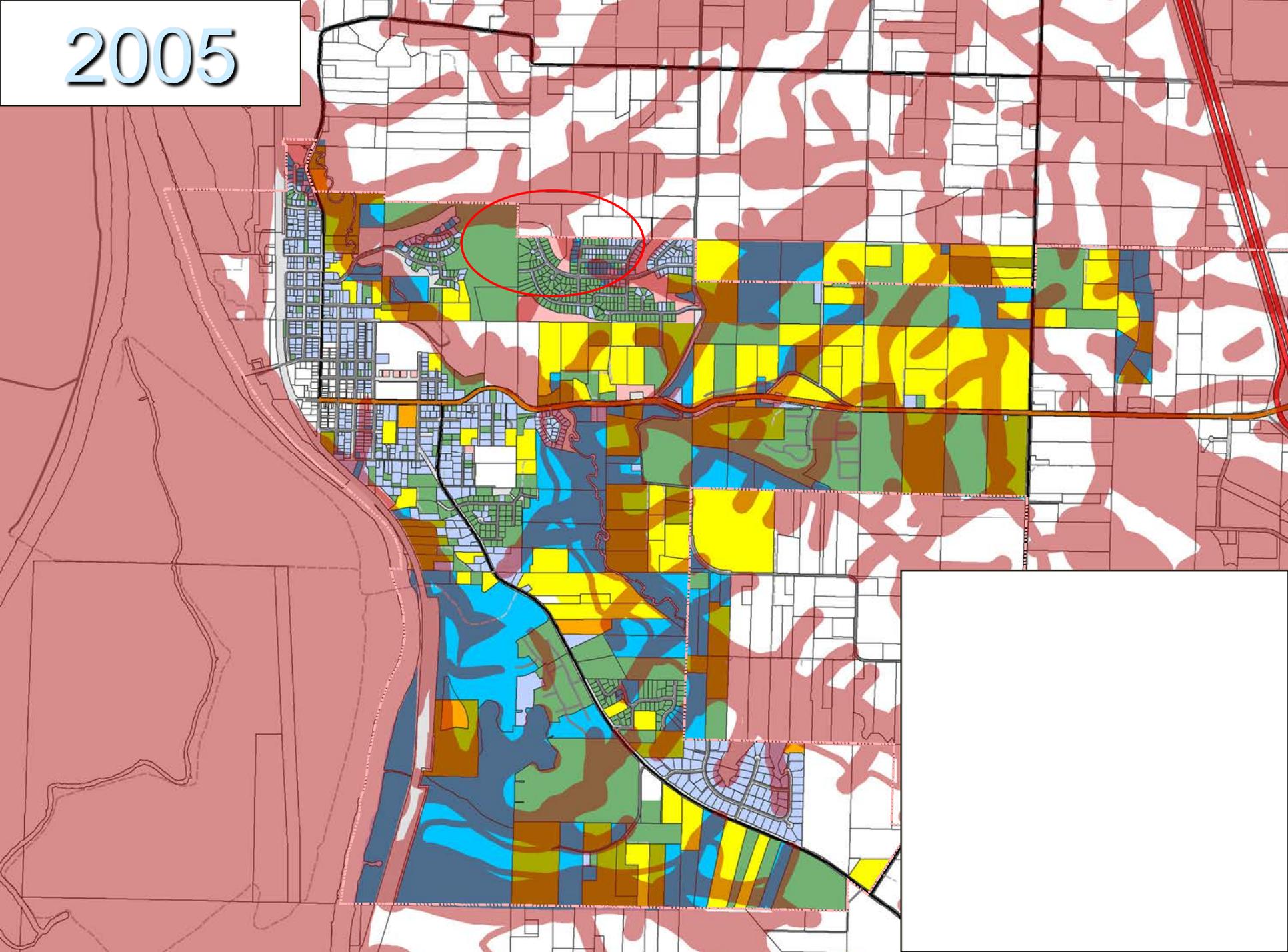


2004



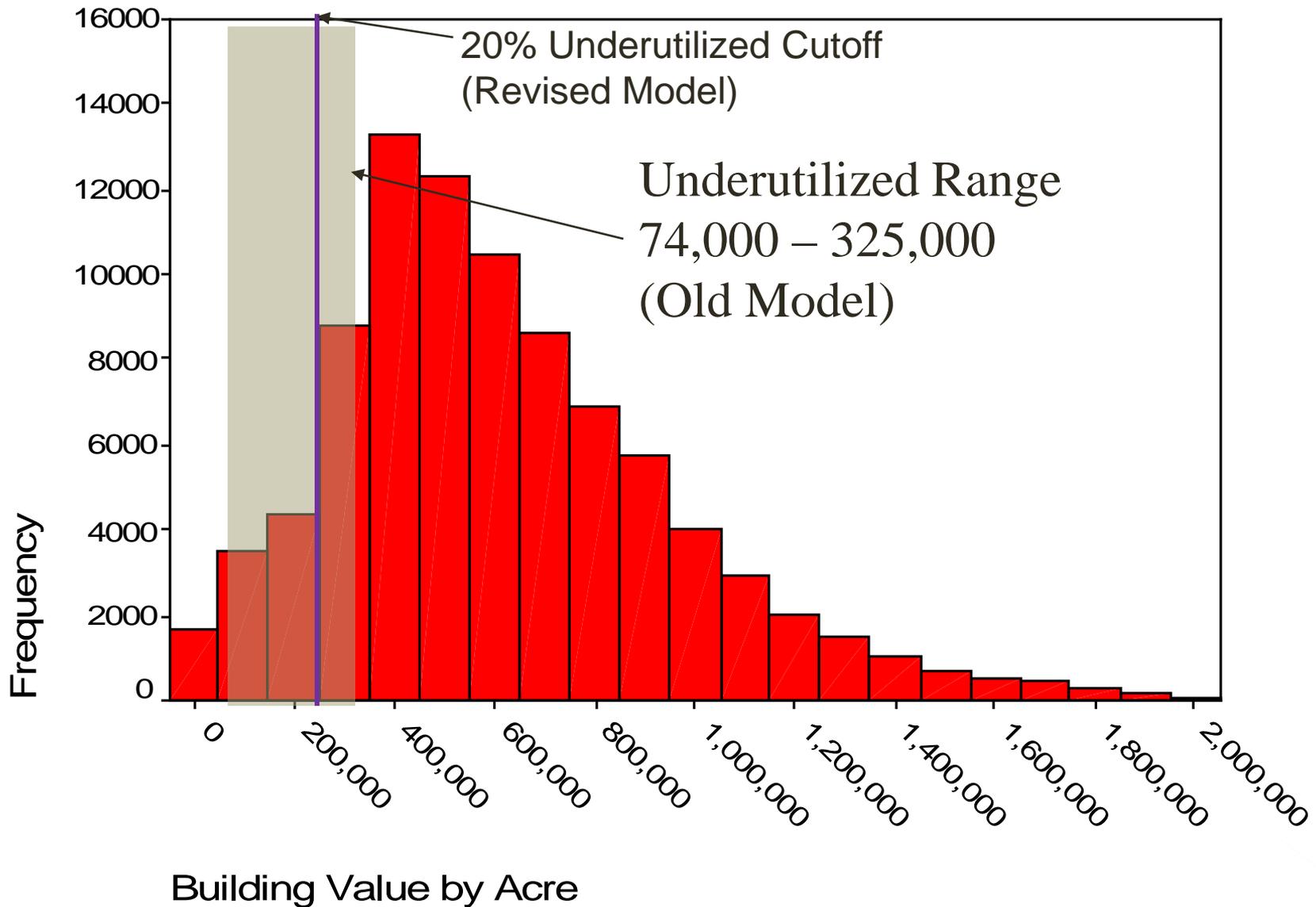


2005



# Building Value by Acre

## All Residential Property (inside UGA)



# Results of VBLM 2005 Study

## Underutilized

- Simplified (single building value per acre)
- Allows for inflation adjustment
- Compensates for platted acreage subdivisions
- Added to industrial underutilized
- Works in expansion areas. (Farms with houses or barns)

## Easements and infrastructure

- Based on development patterns on vacant land
- Considers existing infrastructure

## Environmental Constraints

- Compensates for mapping limitations
- Based on development patterns

# 2007

- New UGA Boundary and Comprehensive Plan Adopted

# 2013

- Remaining Model Issues?
  - Fixed values.
    - Residential Vacant Building Value < \$13,000
    - Commercial Vacant Building Value < \$67,500
    - Commercial Underutilized BVA Value < \$50,000 dollars per acre.

# Considerations

- Frequent Comprehensive Plan Changes
  - New since 2005 model
  - Masks trends for individual classifications
- Redevelopment
  - VBLM is vacant land
  - Redevelopment happens on developed land

# 2013

- Comprehensive Plan Web Site
  - Better/faster access to information
- Model runs in under an hour
  - Reran all 17 historic models for this presentation