

# 2021 Apportionment Plan Review



## BRULEY PLAN

Compiled by Macomb County Department of Planning and  
Economic Development



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## **BRULEY PLAN ANALYSIS**

Performed by Macomb County Department of Planning and Economic Development

### Methodology

Michigan Charter Counties Act 293 of 1966 MCL45.505(2)

*Each district shall be contiguous, compact, and as nearly square in shape as is practicable, depending on the geography of the county area involved, and shall be drawn without regard to partisan political advantage. Each city and township shall be apportioned so that it shall have the largest possible number of complete districts within its boundaries before any part of the city or township is joined to territory outside the boundaries of the city or township to form a district. Townships, villages, cities, and precincts shall be divided only if necessary to meet the population standard.*

United States Supreme Court 377 U.S. 633 (1964), 20 WMCA, Inc. v. Lomenzo

*Case set standard 11.9% population variance for districts*

### District Contiguosness

**All Districts are Contiguous**

## BRULEY PLAN ANALYSIS

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### Measure of District Population Variance

District Target Population: 67,682 (County Population 879,872\* / 13 Districts)

\* State of Michigan CCD Tool Population Total = 881,217 - 1,345 [SOM Macomb Correctional Facility pop.]

District	Total Population	Target Population	Variance	Variance %
District #1	64,158	67,682	-3,524	-5.207%
District #2	68,451	67,682	769	1.136%
District #3	64,374	67,682	-3,308	-4.888%
District #4	68,814	67,682	1,132	1.673%
District #5	65,532	67,682	-2,150	-3.177%
District #6	71,379	67,682	3,697	5.462%
District #7	70,049	67,682	2,367	3.497%
District #8	68,282	67,682	600	0.886%
District #9	68,183	67,682	501	0.740%
District #10	66,784	67,682	-898	-1.327%
District #11	64,208	67,682	-3,474	-5.133%
District #12	67,552	67,682	-130	-0.192%
District #13	72,106	67,682	4,424	6.536%
	879,872			

Maximum Allowable Variance: less than 11.99%

Permitted Plan Variance: 6.536% to -5.364%

Actual Plan Variance: 6.536% to -5.307%

**Plan Meets the 11.9% Standard**

# BRULEY PLAN ANALYSIS

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## Measure of District Compactness

	Polsby-Popper Score
District #1	0.543
District #2	0.330
District #3	0.280
District #4	0.731 <b>Most Comp</b>
District #5	0.607
District #6	0.515
District #7	0.448
District #8	0.637
District #9	0.191 <b>Least Comp</b>
District #10	0.240
District #11	0.357
District #12	0.320
District #13	0.491

The Polsby-Popper test is a mathematical compactness measure of a shape developed to quantify the degree of gerrymandering of political districts. A district's Polsby-Popper score will always fall within the interval of 0-1, with a score of 0 indicating complete lack of compactness and a score of 1 indicating maximal compactness.

Formula:  $PP(D) = \frac{4\pi A(D)}{P(D)^2}$

A(D) = Area of District  
P(D) = Perimeter of District

### ANALYSIS

Mean (Avg)	0.438
Min	0.191
Max	0.731
Median	0.448
Std. Dev.	0.166 (Average distance from mean value)

# BRULEY PLAN ANALYSIS

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Analysis of Splits                      Total 7 splits

Cities                                      4

- City of Roseville
- City of St. Clair Shores
- City of Sterling Heights
- City of Warren

Townships                                3

- Clinton Township
- Macomb Township
- Shelby Township

Villages                                    0

Census VTD                               0

# Macomb County Reapportionment Plan 2021 - Bruley Plan

## Section 1 – District Descriptions

### **District 1**

City of Warren (part) / VTD(s): Warren 1-1, Warren 1-19, Warren 1-34, Warren 1-38, Warren 1-46, Warren 1-47, Warren 1-5, Warren 1-56, Warren 1-6, Warren 2-20, Warren 2-35, Warren 2-36, Warren 2-41, Warren 2-43, Warren 2-44, Warren 2-45, Warren 2-48, Warren 2-55, Warren 2-57, Warren 3-53, Warren 3-54, Warren 5-4

### **District 2**

City of Center Line

City of Fraser

City of Warren (part) / VTD(s): Warren 3-14, Warren 3-24, Warren 3-25, Warren 3-28, Warren 3-32, Warren 3-49, Warren 3-51, Warren 3-52, Warren 4-26, Warren 4-27, Warren 4-31, Warren 4-33, Warren 4-50, Warren 4-58, Warren 5-22, Warren 5-23

### **District 3**

City of Eastpointe

City of Warren (part) / VTD(s): Warren 3-10, Warren 3-11, Warren 4-15, Warren 4-17, Warren 5-12, Warren 5-13, Warren 5-18, Warren 5-3, Warren 5-7, Warren 5-8, Warren 5-9

### **District 4**

City of Sterling Heights (part) / VTD(s): Sterling Heights 10, Sterling Heights 11, Sterling Heights 12, Sterling Heights 18, Sterling Heights 19, Sterling Heights 20, Sterling Heights 21, Sterling Heights 25, Sterling Heights 26, Sterling Heights 27, Sterling Heights 28, Sterling Heights 29, Sterling Heights 3, Sterling Heights 30, Sterling Heights 31, Sterling Heights 36, Sterling Heights 37, Sterling Heights 38, Sterling Heights 39, Sterling Heights 4, Sterling Heights 40, Sterling Heights 5, Sterling Heights 6, Sterling Heights 9

### **District 5**

City of Sterling Heights (part) / VTD(s): Sterling Heights 1, Sterling Heights 13, Sterling Heights 14, Sterling Heights 15, Sterling Heights 16, Sterling Heights 17, Sterling Heights 2, Sterling Heights 22, Sterling Heights 23, Sterling Heights 24, Sterling Heights 32, Sterling Heights 33, Sterling Heights 34, Sterling Heights 35, Sterling Heights 41, Sterling Heights 42, Sterling Heights 43, Sterling Heights 44, Sterling Heights 45, Sterling Heights 7, Sterling Heights 8

# Macomb County Reapportionment Plan 2021 - Bruley Plan

## **District 6**

Shelby Charter Township (part) / VTD(s): Shelby Twp 1, Shelby Twp 10, Shelby Twp 11, Shelby Twp 12, Shelby Twp 14, Shelby Twp 17, Shelby Twp 18, Shelby Twp 2, Shelby Twp 20, Shelby Twp 21, Shelby Twp 23, Shelby Twp 24, Shelby Twp 25, Shelby Twp 26, Shelby Twp 27, Shelby Twp 28, Shelby Twp 29, Shelby Twp 3, Shelby Twp 30, Shelby Twp 4, Shelby Twp 5, Shelby Twp 6, Shelby Twp 7, Shelby Twp 8, Shelby Twp 9

City of Utica

## **District 7**

Armada Township

Bruce Township

City of Memphis

Ray Township

City of Richmond

Richmond Township

Shelby Charter Township (part) / VTD(s): Shelby Twp 13, Shelby Twp 15, Shelby Twp 16, Shelby Twp 19, Shelby Twp 22

Washington Township

## **District 8**

Chesterfield Township

Lenox Township

City of New Baltimore

## **District 9**

Clinton Charter Township (part) / VTD(s): Clinton Twp 1, Clinton Twp 14, Clinton Twp 2, Clinton Twp 27, Clinton Twp 28, Clinton Twp 29, Clinton Twp 34, Clinton Twp 38, Clinton Twp 4, Clinton Twp 42, Clinton Twp 44, Clinton Twp 46, Clinton Twp 6, Clinton Twp 8



# **Macomb County Reapportionment Plan 2021- Bruley Plan**

Macomb Township (part) / VTD(s): Macomb Twp 10, Macomb Twp 12, Macomb Twp 18, Macomb Twp 19, Macomb Twp 2, Macomb Twp 33, Macomb Twp 6, Macomb Twp 8

City of Mt Clemens

## **District 10**

Harrison Charter Township

City of Roseville (part) / VTD(s): Roseville 10, Roseville 11, Roseville 12, Roseville 13, Roseville 14, Roseville 15, Roseville 2, Roseville 8

City of St Clair Shores (part) / VTD(s): St Clair Shores 16, St Clair Shores 18, St Clair Shores 19, St Clair Shores 2, St Clair Shores 20, St Clair Shores 21, St Clair Shores 22, St Clair Shores 23

## **District 11**

City of Roseville (part) / VTD(s): Roseville 1, Roseville 3, Roseville 4, Roseville 5, Roseville 6, Roseville 7, Roseville 9

City of St Clair Shores (part) / VTD(s): St Clair Shores 1, St Clair Shores 10, St Clair Shores 11, St Clair Shores 12, St Clair Shores 13, St Clair Shores 14, St Clair Shores 15, St Clair Shores 17, St Clair Shores 3, St Clair Shores 4, St Clair Shores 5, St Clair Shores 6, St Clair Shores 7, St Clair Shores 8, St Clair Shores 9

City of The Village of Grosse Pointe Shores A Michigan City

## **District 12**

Clinton Charter Township (part) / VTD(s): Clinton Twp 10, Clinton Twp 11, Clinton Twp 12, Clinton Twp 13, Clinton Twp 15, Clinton Twp 16, Clinton Twp 17, Clinton Twp 18, Clinton Twp 19, Clinton Twp 20, Clinton Twp 21, Clinton Twp 22, Clinton Twp 23, Clinton Twp 24, Clinton Twp 25, Clinton Twp 26, Clinton Twp 3, Clinton Twp 30, Clinton Twp 31, Clinton Twp 32, Clinton Twp 33, Clinton Twp 35, Clinton Twp 36, Clinton Twp 37, Clinton Twp 39, Clinton Twp 40, Clinton Twp 41, Clinton Twp 43, Clinton Twp 45, Clinton Twp 5, Clinton Twp 7, Clinton Twp 9

## **District 13**

# Macomb County Reapportionment Plan 2021 - Bruley Plan

Macomb Township (part) / VTD(s): Macomb Twp 1, Macomb Twp 11, Macomb Twp 13, Macomb Twp 14, Macomb Twp 15, Macomb Twp 16, Macomb Twp 17, Macomb Twp 20, Macomb Twp 21, Macomb Twp 22, Macomb Twp 23, Macomb Twp 24, Macomb Twp 25, Macomb Twp 26, Macomb Twp 27, Macomb Twp 28, Macomb Twp 29, Macomb Twp 3, Macomb Twp 30, Macomb Twp 31, Macomb Twp 32, Macomb Twp 34, Macomb Twp 35, Macomb Twp 36, Macomb Twp 37, Macomb Twp 4, Macomb Twp 5, Macomb Twp 7, Macomb Twp 9

## Section 2 – Data and Demographics

### Population

District Name	Total Population	Target Population	Variance	Variance %	Compactness Polsby Popper	Compactness Schwartzberg
District 1	64,158	67,682	-3,524	-5.207	0.543	0.737
District 10	66,784	67,682	-898	-1.327	0.240	0.490
District 11	64,208	67,682	-3,474	-5.133	0.357	0.597
District 12	67,552	67,682	-130	-0.193	0.320	0.565
District 13	72,106	67,682	4,424	6.536	0.491	0.701
District 2	68,451	67,682	769	1.136	0.330	0.575
District 3	64,374	67,682	-3,308	-4.888	0.280	0.529
District 4	68,814	67,682	1,132	1.672	0.731	0.855
District 5	65,532	67,682	-2,150	-3.177	0.607	0.779
District 6	71,379	67,682	3,697	5.462	0.515	0.717
District 7	70,049	67,682	2,367	3.497	0.448	0.669
District 8	68,282	67,682	600	0.886	0.637	0.798
District 9	68,183	67,682	501	0.740	0.191	0.437

### Race

District Name	Total White Alone	Total Black Alone	Total American Indian And Alaskan Native Alone	Total Asian Alone	Total Native Hawaiian And Pacific Islander Alone	Total Other Alone
District 1	40,265	9,845	157	10,028	9	630
District 2	49,818	10,605	217	3,481	15	491
District 3	27,791	29,302	235	1,980	26	790
District 4	55,683	5,211	112	3,883	10	484
District 5	51,360	3,591	142	7,077	7	522

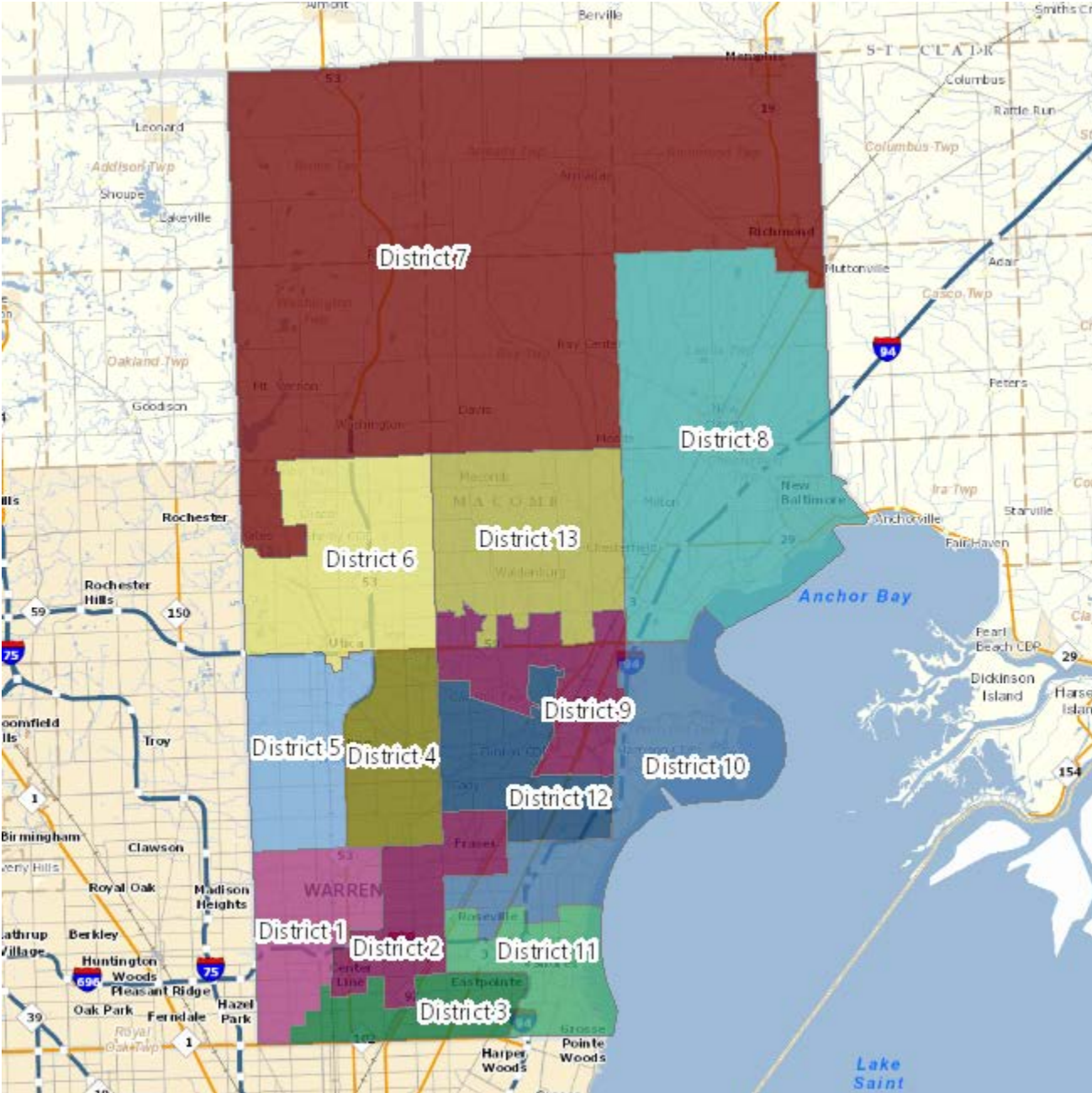
## Macomb County Reapportionment Plan 2021- Bruley Plan

District 6	60,452	2,945	165	3,157	11	797
District 7	63,076	846	153	882	44	1,239
District 8	58,738	4,795	223	655	20	710
District 9	49,182	12,045	185	1,441	21	993
District 10	52,813	8,294	214	822	23	510
District 11	50,442	8,005	168	969	9	592
District 12	50,234	11,269	155	1,296	20	641
District 13	62,410	2,723	99	2,750	14	426

# Macomb County Reapportionment Plan 2021- Bruley Plan

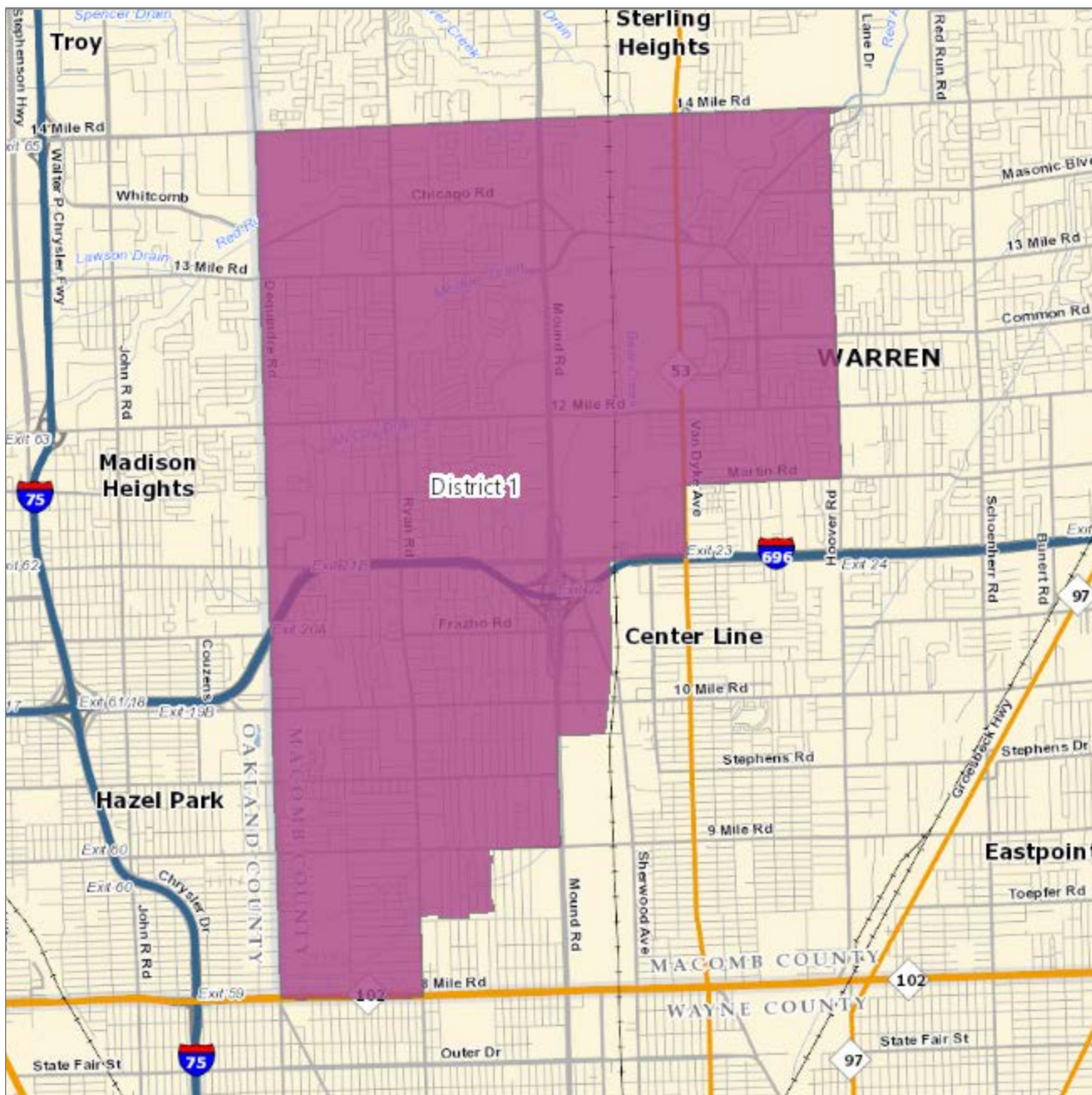
## Section 3 – Maps

### Macomb County District Map



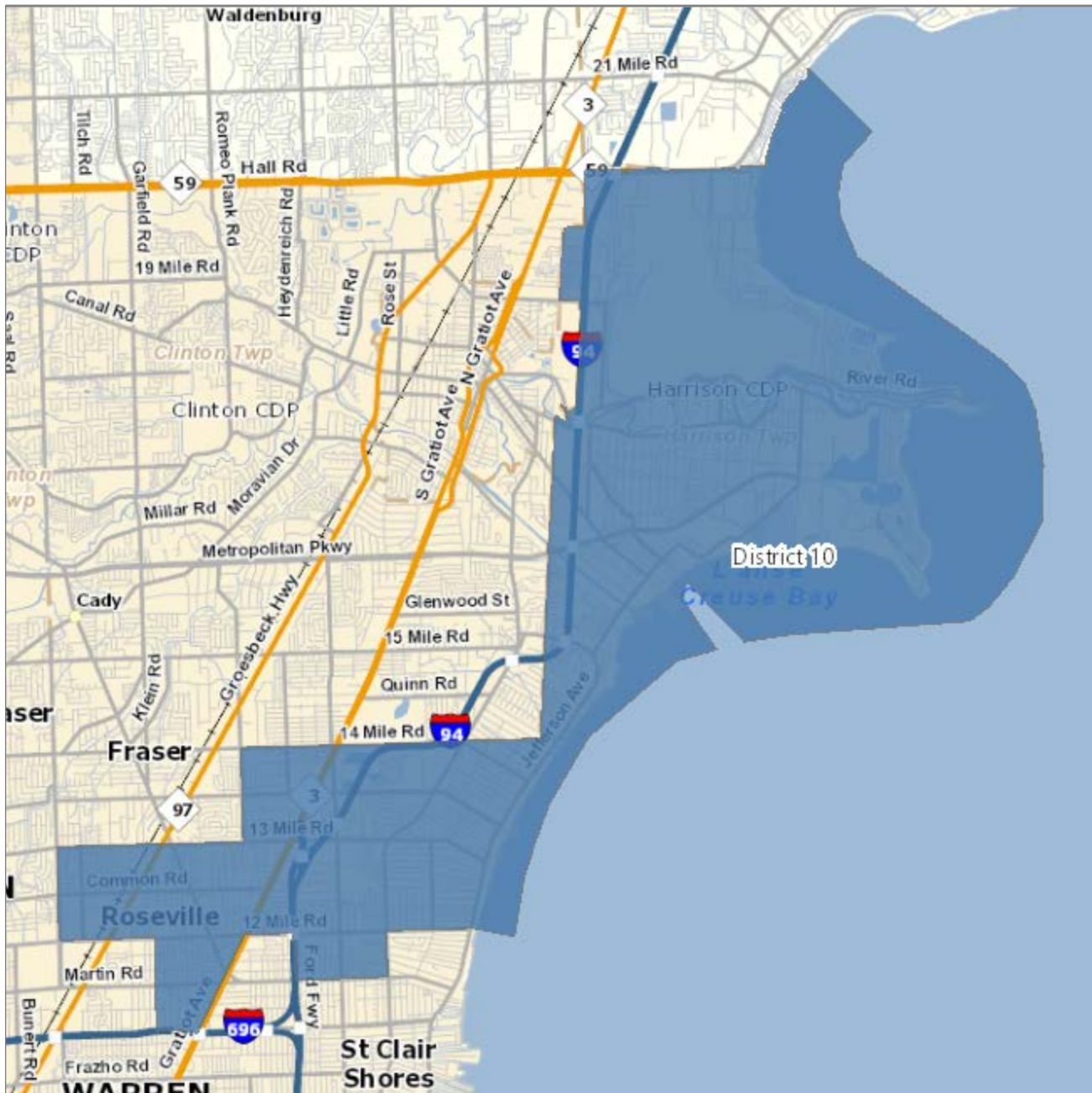
# Macomb County Reapportionment Plan 2021- Bruley Plan

District 1 - population 64,158



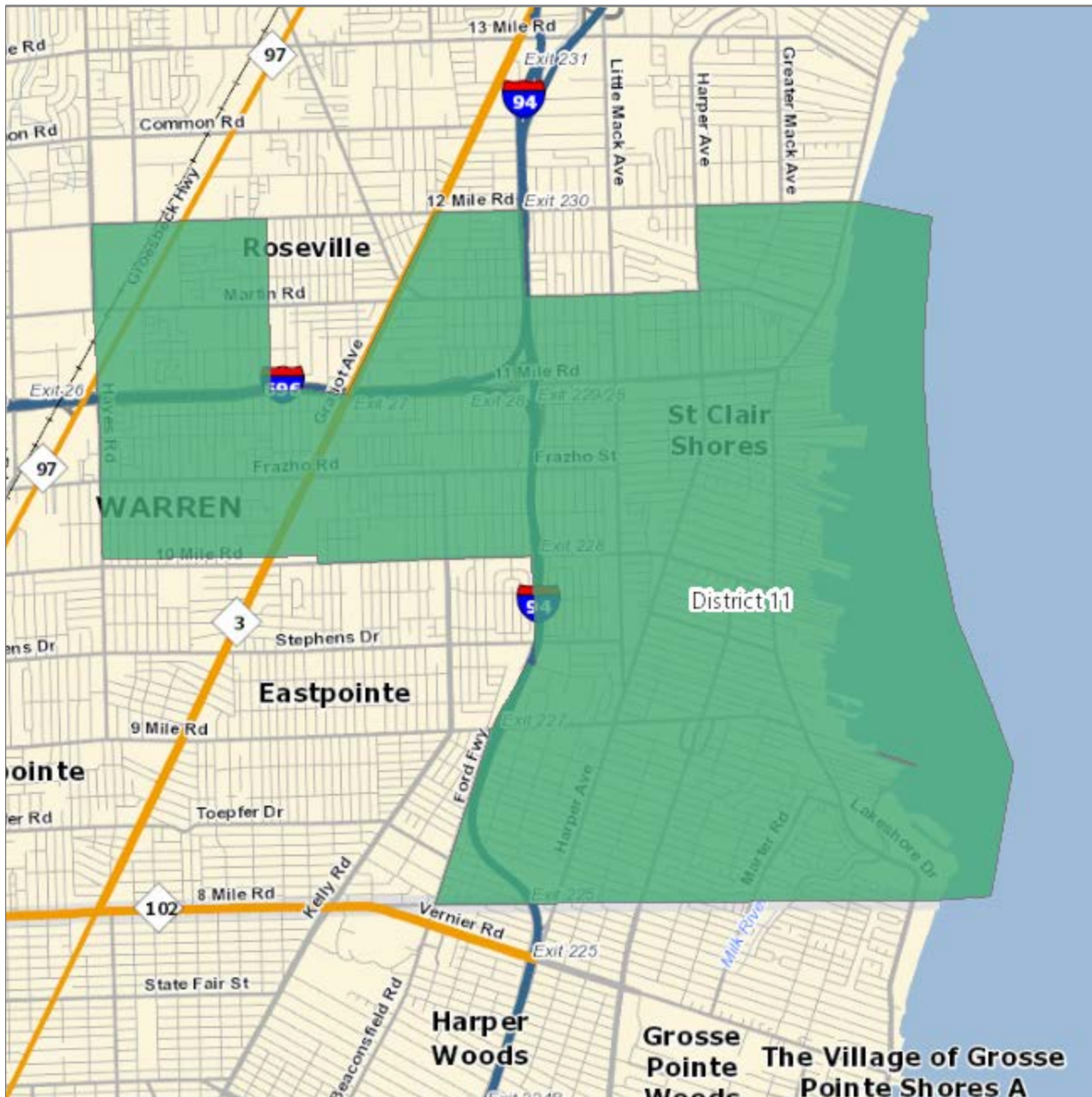
# Macomb County Reapportionment Plan 2021 - Bruley Plan

District 10 - population 66,784



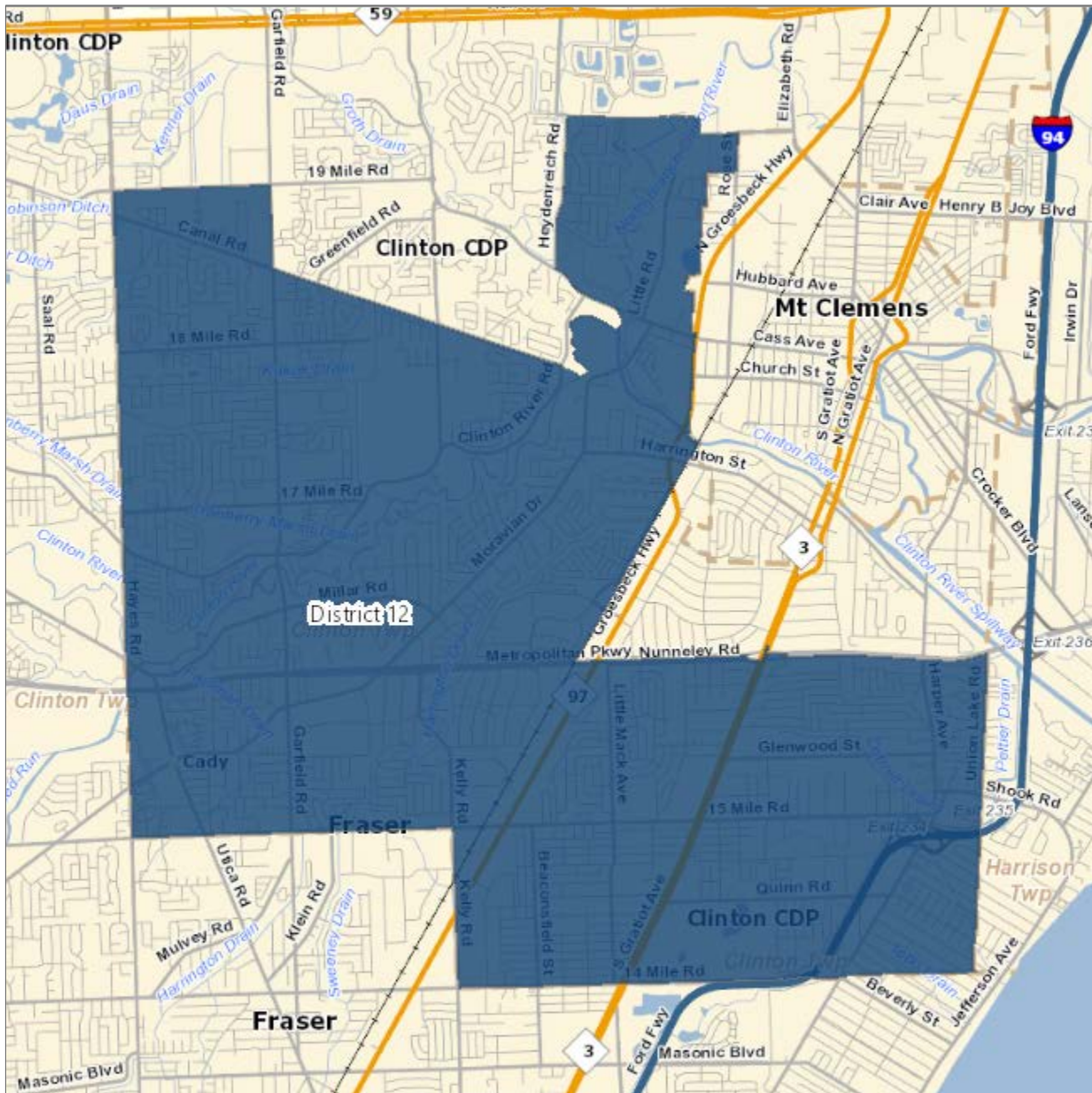
# Macomb County Reapportionment Plan 2021 - Bruley Plan

District 11 - population 64,208



# Macomb County Reapportionment Plan 2021 - Bruley Plan

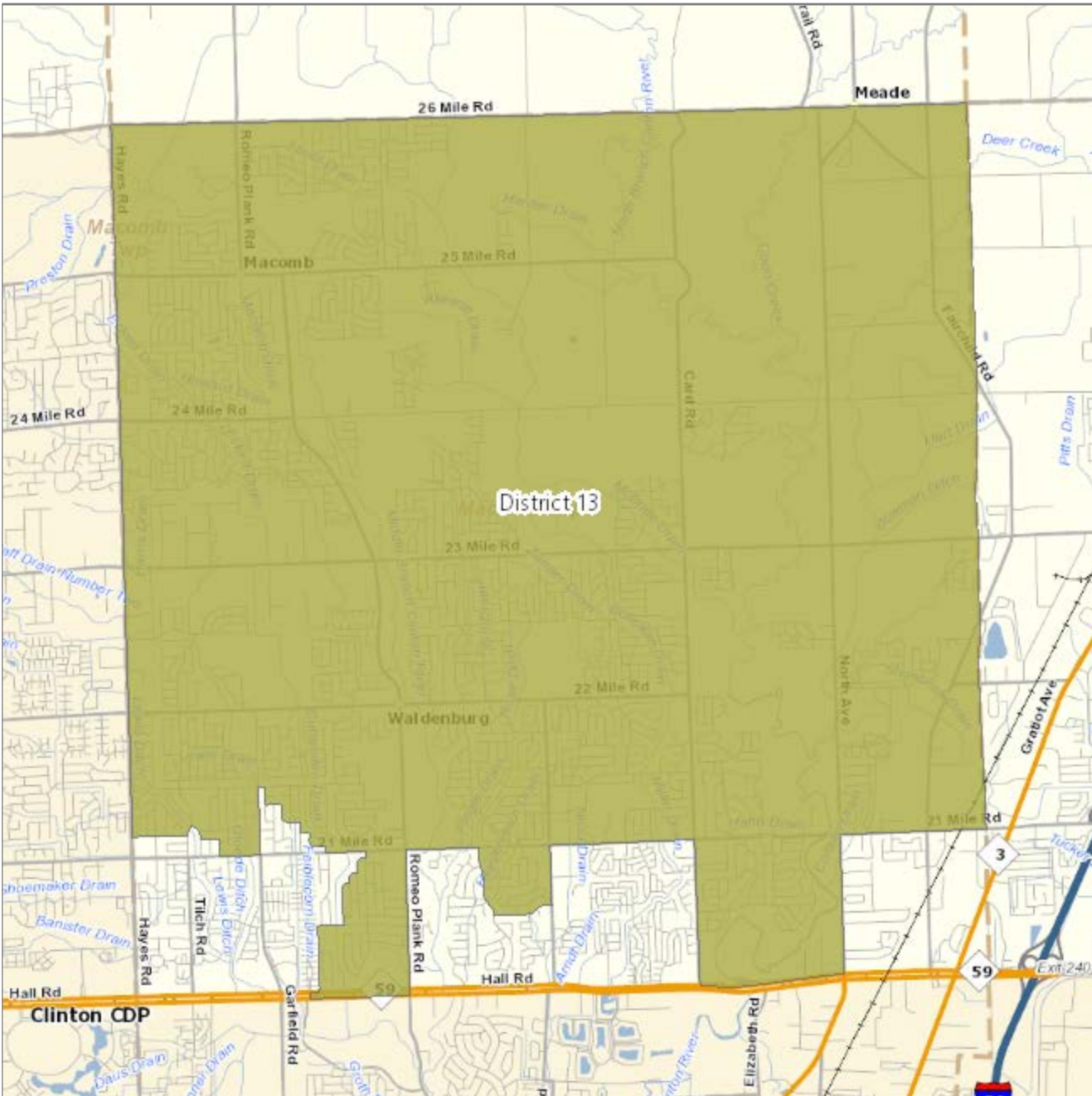
District 12 - population 67,552





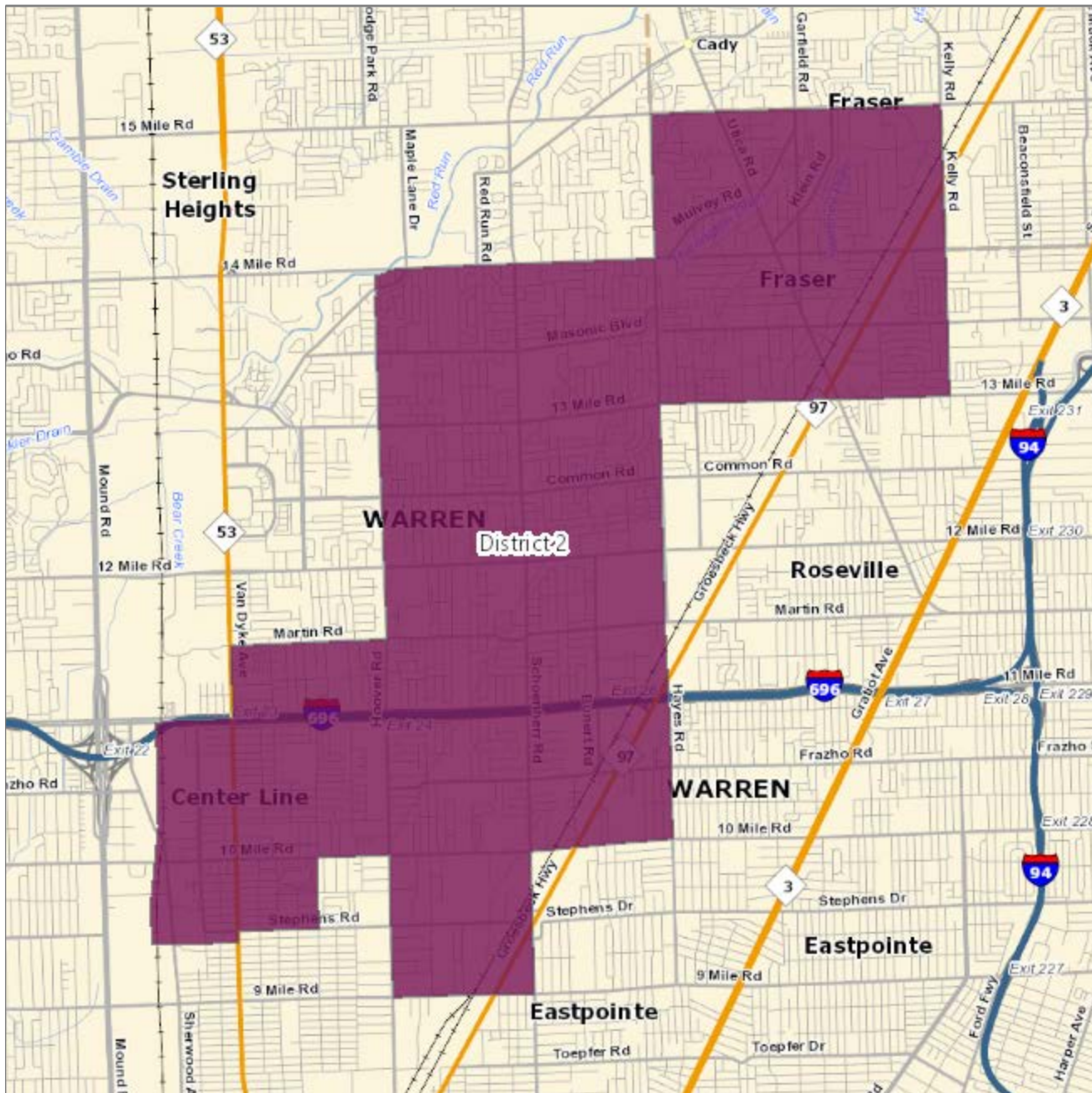
# Macomb County Reapportionment Plan 2021 - Bruley Plan

District 13 - population 72,106



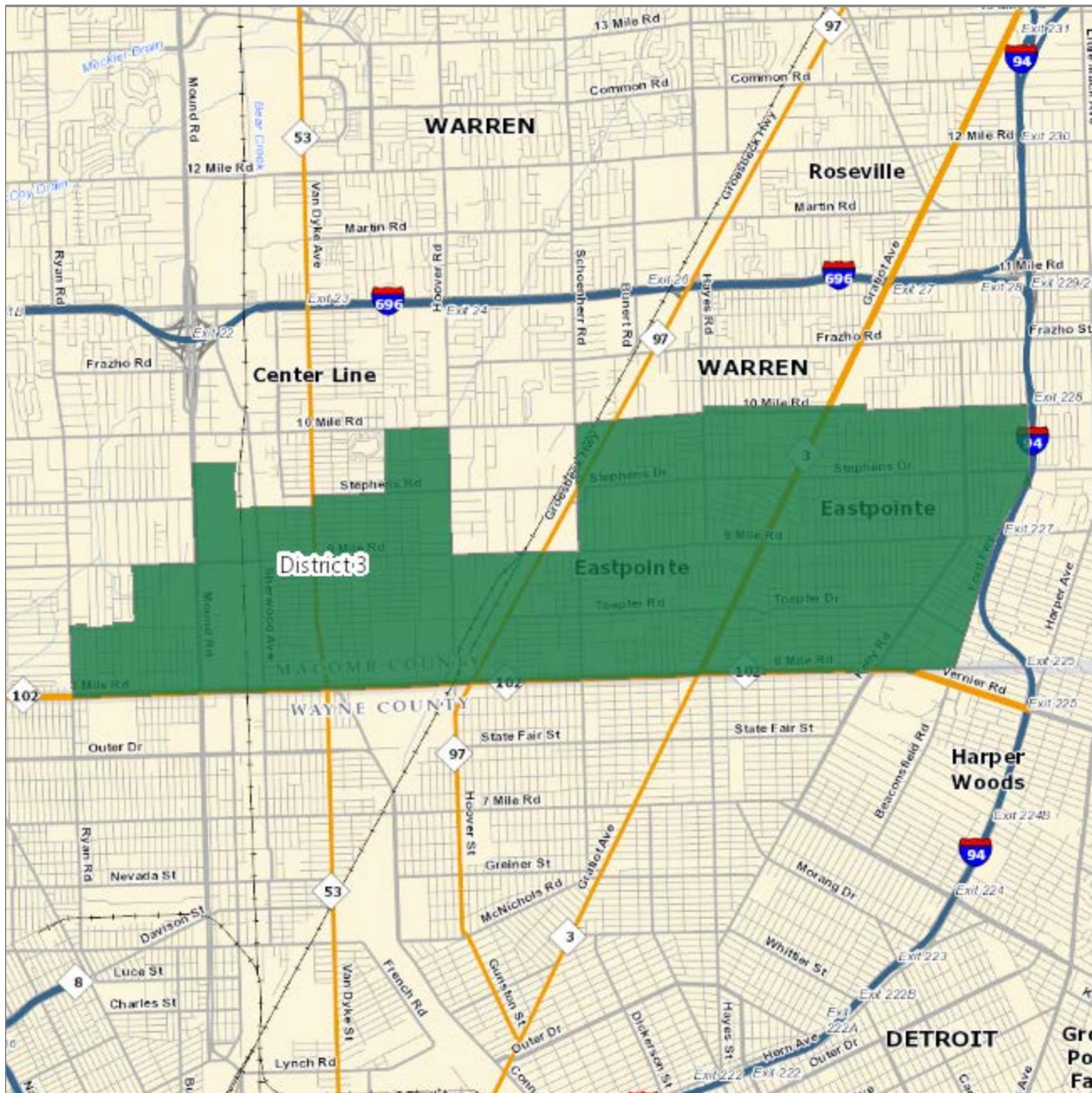
# Macomb County Reapportionment Plan 2021 - Bruley Plan

District 2 - population 68,451



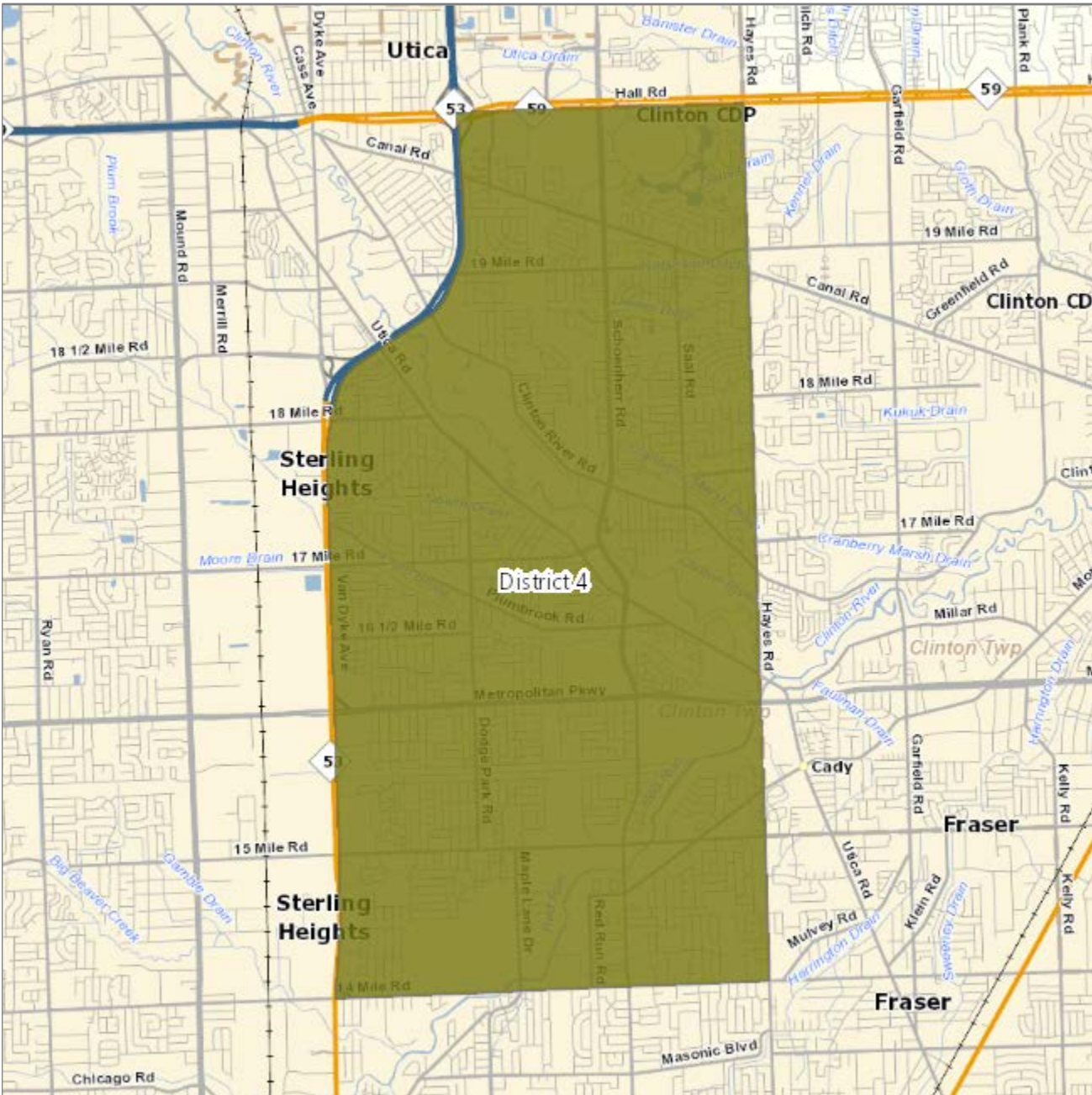
# Macomb County Reapportionment Plan 2021 - Bruley Plan

District 3 - population 64,374



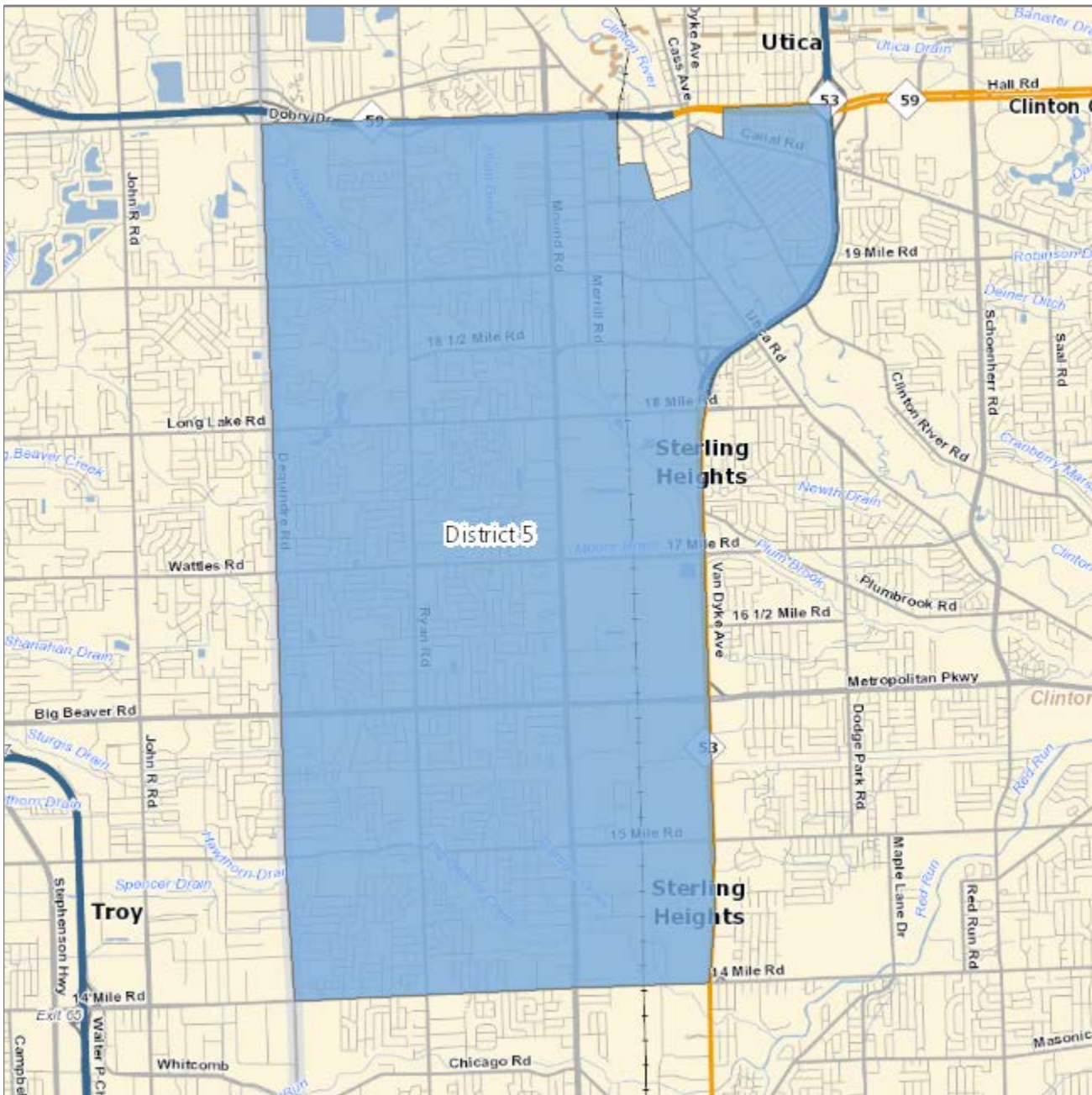
# Macomb County Reapportionment Plan 2021 - Bruley Plan

District 4 - population 68,814



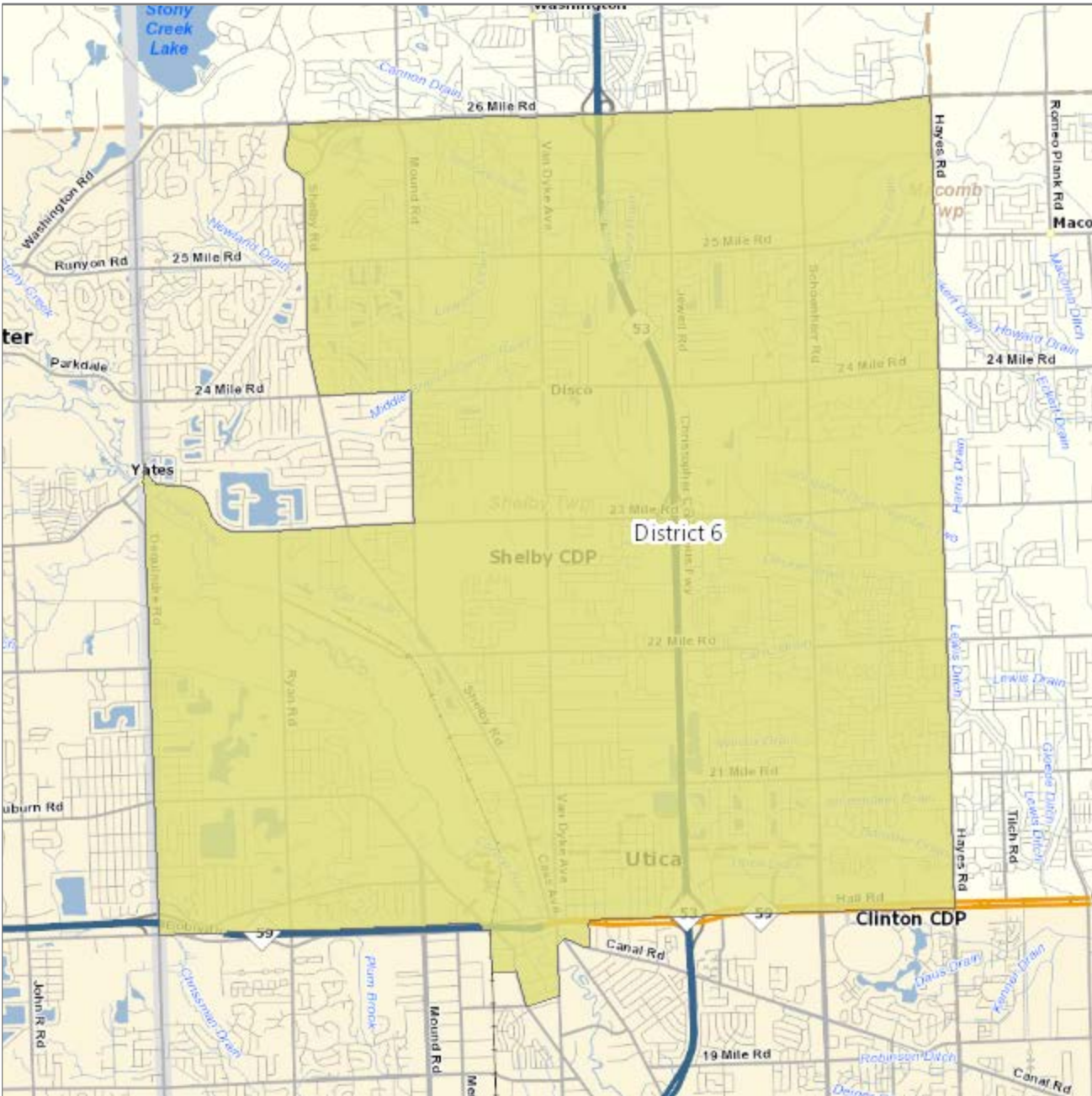
# Macomb County Reapportionment Plan 2021 - Bruley Plan

District 5 - population 65,532



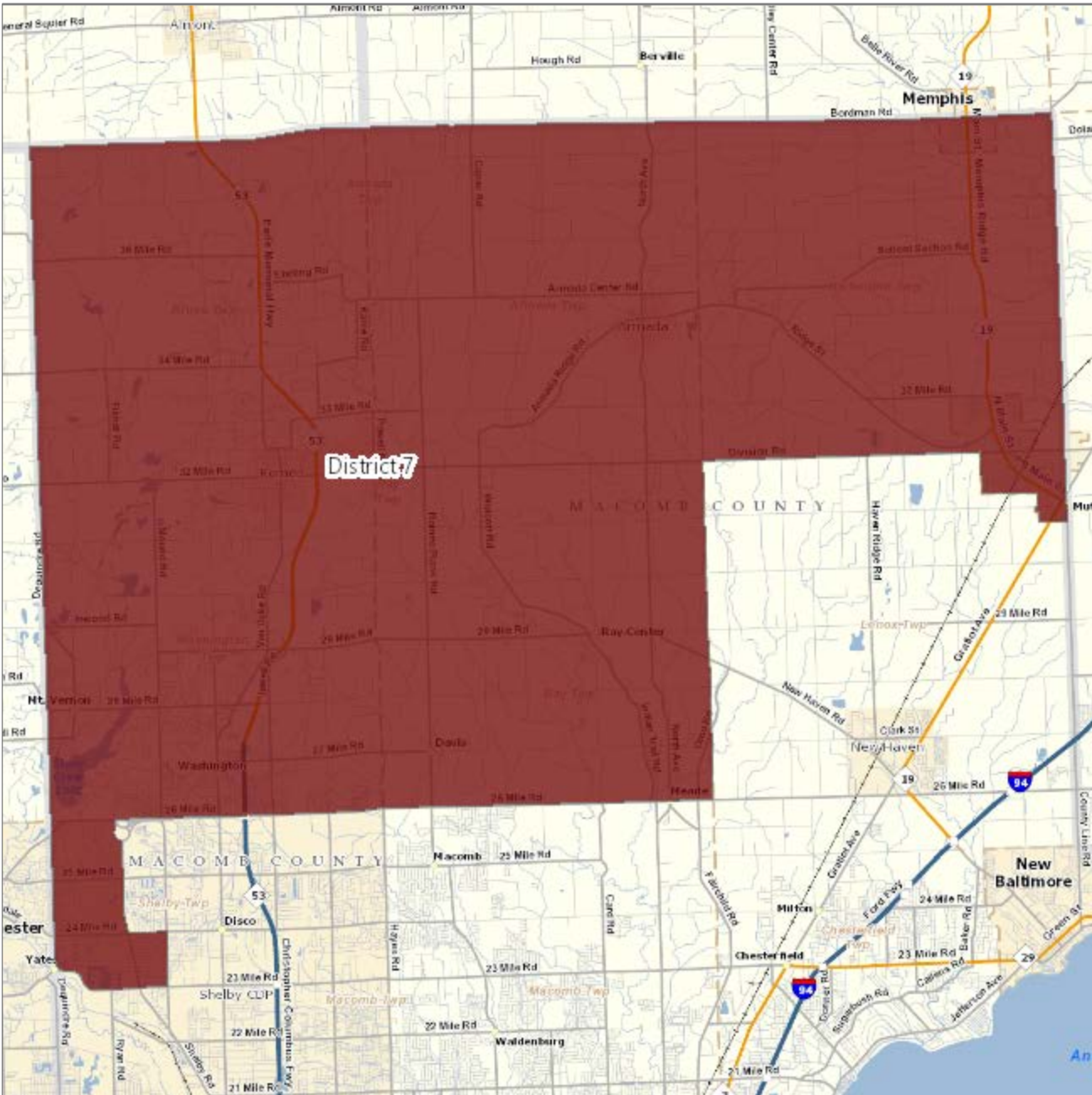
# Macomb County Reapportionment Plan 2021 - Bruley Plan

District 6 - population 71,379



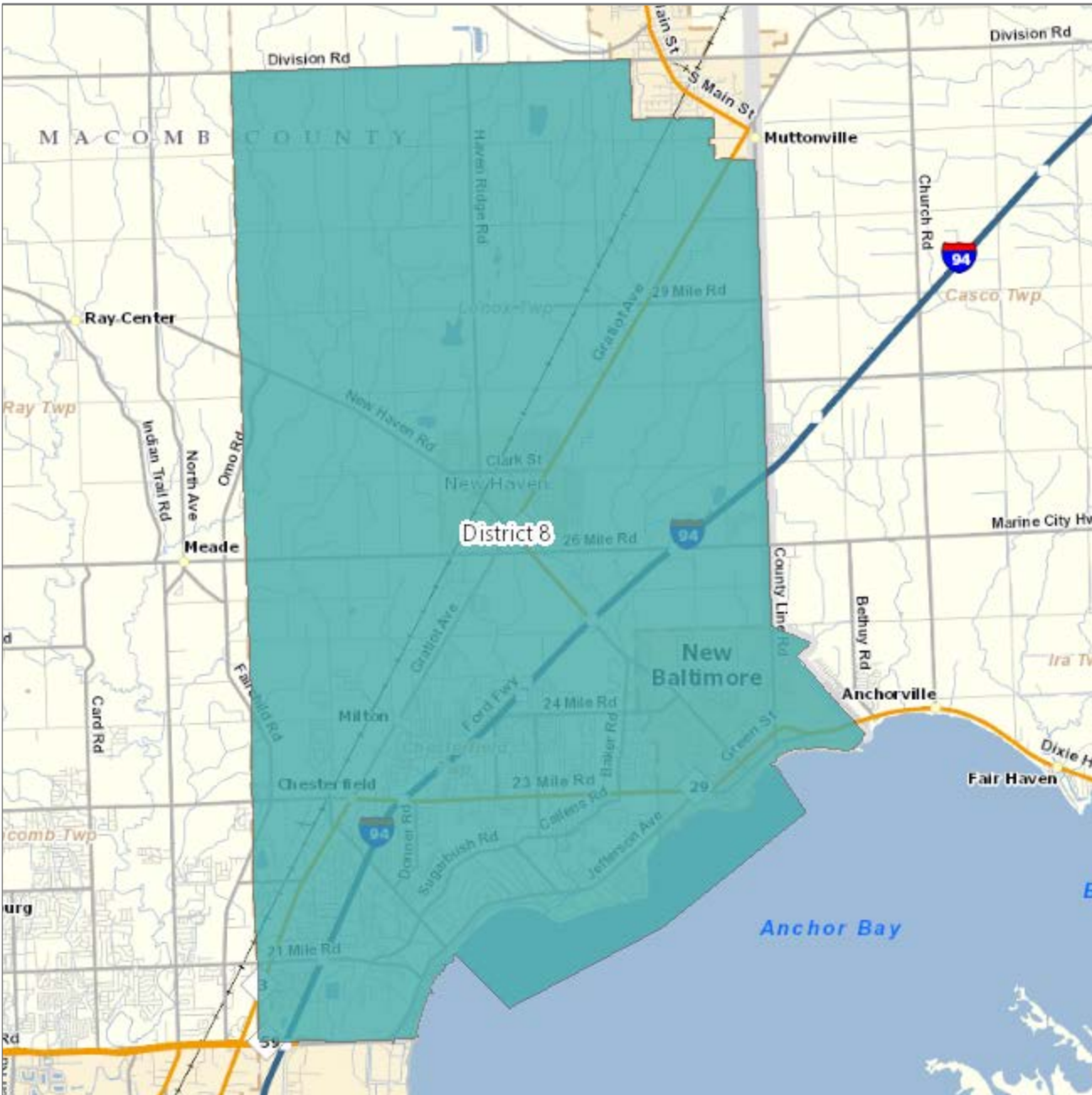
# Macomb County Reapportionment Plan 2021 - Bruley Plan

District 7 - population 70,049



# Macomb County Reapportionment Plan 2021 - Bruley Plan

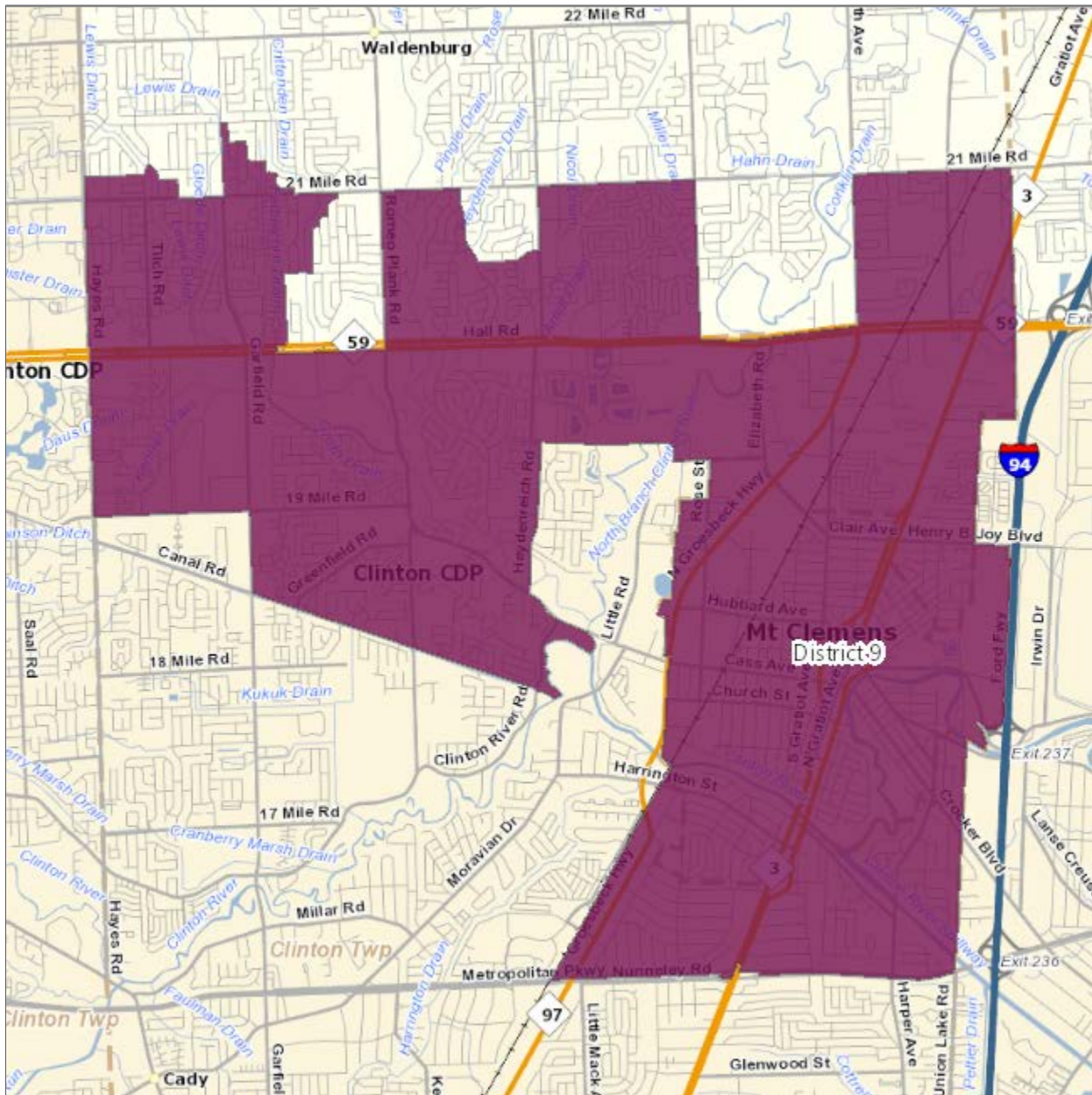
District 8 - population 68,282





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District 9 - population 68,183



Total population all districts: 879,872

