

Planning for the Future

Central Cass School District #17 May 2023 (Updated 07/03/23)



Expectations



Thank you to Central Cass School District #17, Cass County, City of Casselton, Census Bureau, and ESRI for assisting in this analysis!

<u>Timeline</u> – Project timeline is a result of ensuring student data could represent as close as possible to the Official County Data with attributes that would allow RSP to forecast enrollment at a parcel level geography.

<u>Findings</u> – The findings were not focused on supporting or contradicting any past internal or outsourced studies. This analysis is based on data, data, and more data.

<u>Study</u> – This study factored in many different data sets to provide data driven analysis that is the foundation to the RSP Statistical Forecast Model (SFM).

<u>Change</u> – Enrollment change in the community is influenced by, but not limited to, the birth rate, demographics, types of development and/or housing affordability.

Facts:

- 1) The study does not provide specific information about which site would be best suited for a new facility or for that matter should the district build any new facility this analysis is one portion of how to make that decision
- 2) This analysis is based on the same grade configuration and educational programming expectations the patrons have for each student
- 3) Projecting enrollment is not a science like life in general some assumptions happen that may lead to greater enrollment while others toward a smaller enrollment
- 4) Student data does not include Preschool, virtual, or 18-21 special education population. Enrollment best aligns with district Official Count Day data. Presented enrollment may vary from state reported enrollment.

The goal of this study is to help the board, administration, and public understand how to make the best decision for the students at the classroom level.

RSP & Associates



RSP Quick Facts:

Founded in 2003
Professional educational planning firm
Expertise in multiple disciplines (GIS, Planning, Facilitation)
Over 20 years of planning experience
Over 80 years of education experience
Over 20 years of GIS experience
Projection accuracy of 97% or greater

RSP Planning Team:

Robert Schwarz, AICP, CEFP

Military, County, City, and School District Planner
University of Kansas – Master of Urban Planning (MUP)
American Institute of Certified Planners (AICP)
Certified Educational Facility Planner (CEFP)

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University of Kansas – Master of Urban Planning (MUP)

American Institute of Certified Planners (AICP)

RSP Recent Projects:

Northern Cass School District

Enrollment Analysis, 2022/23

West Fargo School District

• Enrollment Analysis, 2022/23

Fargo School District

• Enrollment Analysis, 2022/23

Company was started with the desire and commitment to assist school districts in long-range planning. RSP has served over **130** clients in:

- Arkansas
- Colorado
- Iowa
- Illinois
- Kansas
- Minnesota
- Missouri

- Nebraska
- North Dakota
- Oklahoma
- South Dakota
- Tennessee
- Wisconsin

Our Partners:









Discussion Points

HELPFUL HINTS TO READ THE REPORT:



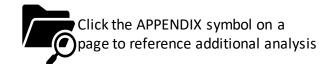
Slides that have the flagged star symbol are SIGNATURE SLIDES



PLUS: indicator of student growth



MINUS: indicator of student loss





PART 1 ENROLLMENT & DEMOGRAPHICS

- Student Analysis
 Maps & Data
- Sophisticated Forecast Model
- Demographics
- Past Enrollment & Change



PART 2 DEVELOPMENT

- Population, Development, & Enrollment Trends
- Yield Rate
- Housing Market Maps & Data
- Potential Growth Analysis



PART 3 PROJECTIONS

- Past, Current, & Future Enrollment
- Building Projections
- Grade Level Projections



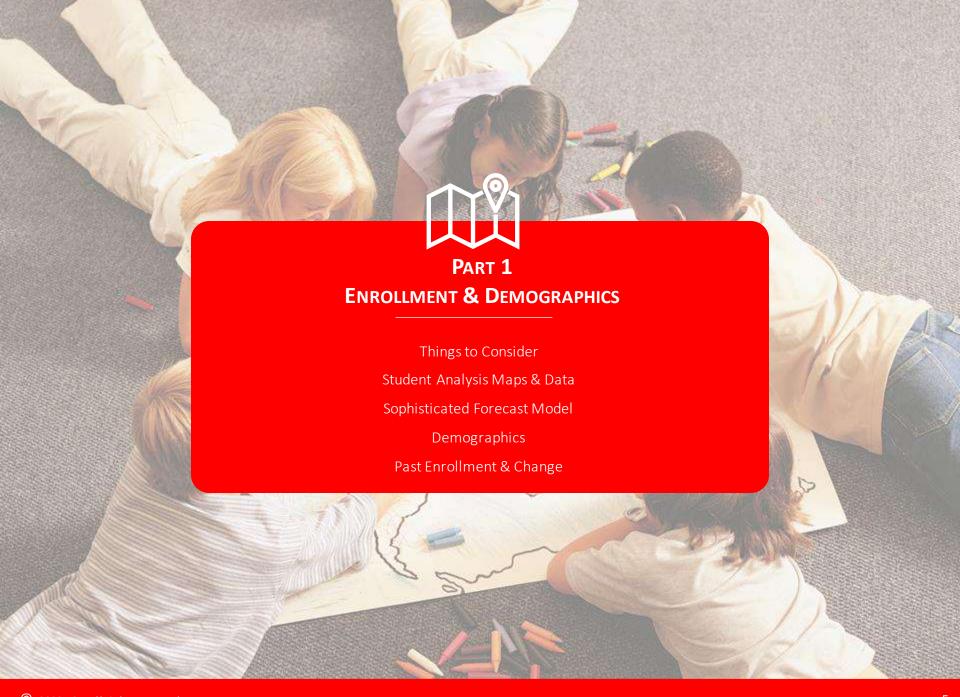
PART 4 NEXT STEPS

- Moving Forward
- Challenges & Solutions
- Next Steps & Key Considerations



APPENDIX

- Community
 Demographics
- Intra-transfer Tables
- Student Density Maps



100,000 Foot Perspective

An overview of what is most notable for your school district, students, and community.



District wide enrollment forecasted to increase by about 83 students over the next five years:

- Elementary forecasted to increase by about 20 students and enroll 443 total ES students.
- Middle School forecasted to decrease by about 1 student and enroll 344 total MS students.
- High School forecasted to increase by about 63 students and enroll 389 total HS students



Capacity was provided by the district and analyzed in regard to projected enrollment for schools:

Capacity challenges can be excepted at Central Cass Elementary School over the next five years as enrollment increases to greater than the building capacity.



Development activity is minimal in regard to size of district:

- 8 new units have been built in 2022/23
- Student residential yield rate has been increasing over the last ten years indicating a turnover of residential inventory
- Almost 300 total potential units could be added to the district in the next ten years

District Boundary Map

Map Details

District Boundary: Purple Line

City Limits:

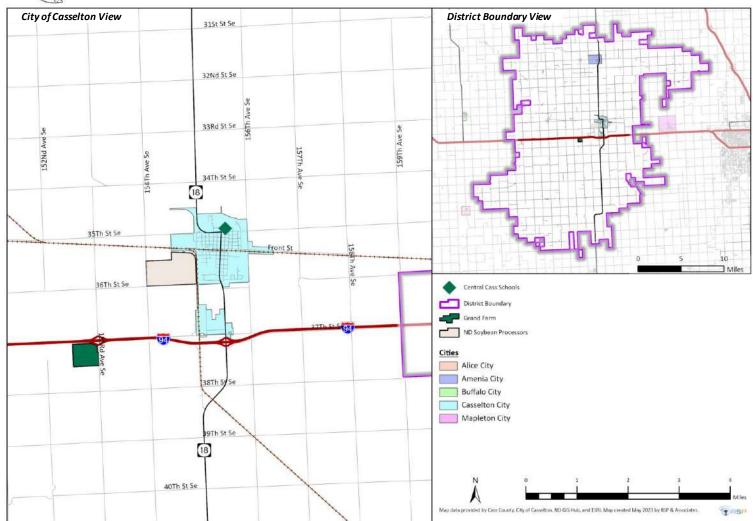
- Casselton City
- Amenia City

School Location: **Green Diamond**



Central Cass School District #17

District Boundary



Planning Areas Map



Map Details

District Boundary:

Purple Line

Planning Areas:

Green Lines

Planning Areas are created from:

- Land Use
- Residential Density
- Neighborhoods
- Transportation network
- Natural and Manmade Features

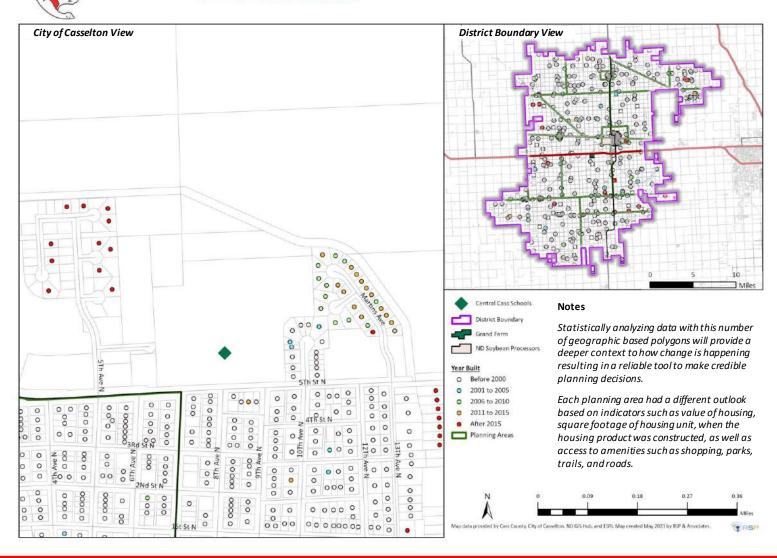
Year Built Points:

- Before 2000
- 2001 to 2005
- 2006 to 2010
- 2011 to 2015
- After 2015

Central Cass School District #17

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Planning Areas-Detail



Sophisticated Forecast Model

Built-Out

$$S_{c,t,x} = S_{c-1,t-1,x} * GC$$

Let

S = The number of students, either an actual count or a projected count

x = A subscript denoting an attendance ares in the School District

c = Grade level

= Time (years)

GC = Growth component either modeling enrollment increase or decrease based on historical information, expressed as a real number

Developing $S_{c,t,x} = S_{c-1,t-1,x} + (BP_{t,x} * R_{c,x})$

Where:
$$BP_{t,x} = \left(\frac{(CP_x)(BT_x)(A_x)}{\sum_x (CP_y)(BT_y)(A_y)} \right) * CT$$

Let:

5 = The number of students, either an actual count or a projected count

x = A subscript denoting an attendance area in School District

= Grade level

t = Time (years)

BP = Building permit forecast as given by the Building Permit Allocation Model (BPAM) model

Rc, x = Student Enrollment ratio of cohort c in planning area x

CP = Capacity of a planning area as expressed by available housing units

BT = Building history trend of planning area

A = An index which models the likelihood of development

CT = Building permit control total forecast

The SFM is...

- a social science... not an exact science; it identifies behavior trends to determine the propensity of them to be recreated
- valuable in how our team created and analyzes the geography at a planning area level for any commonality which while help produce an accurate forecast

Some variables examined for each planning area (but not limited to) are...

- o natural cohort (district data)
- planning area subdivision lifecycle (a RSP variable)
- the value of homes (county assessor data)
- type of residential units like single-family, multi-family, townhome, mobile home, etc. (county assessor data)
- year units were built
- estimated female population (census data)
- o estimated 0-4 population (census data)
- existing land use (county and city data)
- future land use (county and city data)
- capital improvement plan (county and city data)
- o future development (county and city data)
- in-migration of students (district data) & out-migration of students (district data)

This is the **central focus** of everything RSP does.

The model is based on what is happening in a school district. The best data is statistically analyzed to provide an accurate enrollment forecast. The District will be able to use RSP's report and maps to better understand demographic trends, school utilization, and the timing of construction projects.

Each variable is analyzed as an indicator of the future student population:

9



Indicator of Student Growth



Indicator of Student Loss



Birth Rate Information

Cass County, ND Live Births

Central Cass School District Kindergarteners 5 Years Later

Calendar Year	# Live	Birth	% Birth	School	# V.d.a	%Kdg of
Calellual feat	Births	Change	Change	Year	# Kdg	Live Births
2002	1,712			2007/08	41	2.4%
2003	1,843	131	7.7%	2008/09	58	3.1%
2004	1,794	-49	-2.7%	2009/10	57	3.2%
2005	1,934	140	7.8%	2010/11	71	3.7%
2006	2,006	72	3.7%	2011/12	65	3.2%
2007	2,055	49	2.4%	2012/13	69	3.4%
2008	2,096	41	2.0%	2013/14	73	3.5%
2009	2,170	74	3.5%	2014/15	71	3.3%
2010	2,156	-14	-0.6%	2015/16	76	3.5%
2011	2,239	83	3.8%	2016/17	85	3.8%
2012	2,363	124	5.5%	2017/18	81	3.4%
2013	2,463	100	4.2%	2018/19	86	3.5%
2014	2,569	106	4.3%	2019/20	88	3.4%
2015	2,561	-8	-0.3%	2020/21	73	2.9%
2016	2,629	68	2.7%	2021/22	72	2.7%
2017	2,525	-104	-4.0%	2022/23	76	3.0%
2018	2,450	-75	-3.0%	2023/24	67	93
2019	2,436	-14	-0.6%	2024/25	67	92
2020	2,351	-85	-3.5%	2025/26	64	89
2021	2,512	161		2026/27	69	95
3-Year Average	2,433.0	20.7				
3-Year Weighted Average	2,447.2	32.5				Low Range

Source: North Dakota Department of Health and Central Cass School District

High Range

Live Birth Observations

- Tracks the number of live births in Cass County and the corresponding number of kindergarten students five years later
- Live births were increasing and peaked in 2016
- From 2017 to 2020, live births decreased
- 2021 saw a rebound of live births (increase of over 160 more births)
- 3-year average of 20 more live births per year
- Central Cass enrolls around 3.5% of Cass County live births per year
- Kindergarten enrollment was peaking in 2016 to 2018 with over 80 kindergarteners
- The kindergarten classes moving forward are forecasted to be:
 - 64 to 69 students on low end
 - 89 to 95 students on high end

Main Takeaway: The decline of live births in the county can potentially result in smaller kindergarten classes. Continual observation if the increase in live births experience in 2021 is continue over the upcoming years.



Past Enrollment by Grade

Enrollment By Grade

Year	PreK	K	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	K-12 Total	PreK-12 Total
2007/08	23	46	56	37	40	64	71	68	78	75	58	77	61	60	791	814
2008/09	22	60	52	60	44	44	63	68	69	74	76	63	75	57	805	827
2009/10	19	57	64	48	59	46	47	63	73	68	72	76	60	68	801	820
2010/11	25	72	54	65	49	64	44	46	63	64	64	70	70	57	782	807
2011/12	25	65	74	54	63	48	63	48	47	59	66	64	70	68	789	814
2012/13	25	69	66	74	55	62	47	66	47	47	63	67	60	73	796	821
2013/14	31	73	70	64	76	63	65	43	72	48	46	55	69	59	803	834
2014/15	24	71	68	67	60	79	63	65	47	75	44	49	52	67	807	831
2015/16	30	77	70	64	66	62	80	60	70	44	74	45	45	49	806	836
2016/17	23	85	73	78	69	67	63	88	64	68	45	77	45	45	867	890
2017/18	20	83	80	77	76	69	68	65	99	64	72	46	73	46	918	938
2018/19	20	89	83	77	78	76	68	69	65	99	61	74	47	74	960	980
2019/20	31	88	75	85	76	77	74	73	73	70	97	67	72	46	973	1,004
2020/21	30	74	84	75	81	74	79	78	79	74	72	98	61	68	997	1,027
2021/22	32	72	74	85	80	85	76	87	86	82	73	72	97	61	1,030	1,062
2022/23	38	76	65	78	87	78	84	78	96	87	88	72	71	95	1,055	1,093

Source: Central Cass School District

Observations:

- Largest K-12 class in 2022/23 7th grade with 96 students
- Smallest K-12 class in 2022/23 1st grade with 65 students
- o The graduating senior classes tend to be smaller than the incoming Kindergarten class which will increase total enrollment
 - The senior class this year is 95 students (largest in history) as they graduate the high school total enrollment will likely decrease
- Largest total enrollment since 2007/08 is 2022/23 with 1,055 students
- o 2022/23 has the largest grades since 2003/04 in: 3rd, 5th, and 12th grade

Main Takeaway:

The district tends has the largest classes in history in the later elementary and middle school years. The kindergarten class has been less than 80 students for the past three years.



Cohort Student Change

Change By Grade from the Previous Year

		PreK	PreK	K	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	K-12	PreK-12
From	То	PreK	K	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Total Change	Total Change
2007/08	2008/09	-1	37	6	4	7	4	-1	-3	1	-4	1	5	-2	-4	14	13
2008/09	2009/10	-3	35	4	-4	-1	2	3	0	5	-1	-2	0	-3	-7	-4	-7
2009/10	2010/11	6	53	-3	1	1	5	-2	-1	0	-9	-4	-2	-6	-3	-19	-13
2010/11	2011/12	0	40	2	0	-2	-1	-1	4	1	-4	2	0	0	-2	7	7
2011/12	2012/13	0	44	1	0	1	-1	-1	3	-1	0	4	1	-4	3	7	7
2012/13	2013/14	6	48	1	-2	2	8	3	-4	6	1	-1	-8	2	-1	7	13
2013/14	2014/15	-7	40	-5	-3	-4	3	0	0	4	3	-4	3	-3	-2	4	-3
2014/15	2015/16	6	53	-1	-4	-1	2	1	-3	5	-3	-1	1	-4	-3	-1	5
2015/16	2016/17	-7	55	-4	8	5	1	1	8	4	-2	1	3	0	0	61	54
2016/17	2017/18	-3	60	-5	4	-2	0	1	2	11	0	4	1	-4	1	51	48
2017/18	2018/19	0	69	0	-3	1	0	-1	1	0	0	-3	2	1	1	42	42
2018/19	2019/20	11	68	-14	2	-1	-1	-2	5	4	5	-2	6	-2	-1	13	24
2019/20	2020/21	-1	43	-4	0	-4	-2	2	4	6	1	2	1	-6	-4	24	23
2020/21	2021/22	2	42	0	1	5	4	2	8	8	3	-1	0	-1	0	33	35
3-Yr Avg		2.7	65.7	-6.3	1.0	-0.7	-0.3	-0.7	2.7	5.0	1.7	-0.3	3.0	-1.7	0.3	35.3	38.0
3-Yr Wavg		5.0	67.0	-7.8	0.7	-0.5	-0.5	-1.2	3.2	3.8	2.5	-1.3	3.8	-1.3	0.0	29.0	34.0

Source: Central Cass School District

Observations:

- Largest 3-year average K-12 class cohort increase 6th to 7th grade (+5)
- Largest 3-year average K-12 class cohort decrease Kdg to 1st grade (-6)
- Overall change from previous year increase of 33 students (K-12)
- Cohort recovery from previous year in all grades expected 8th to 9th grade and 10th to 11th grade

Main Takeaway:

The district tends to see class sizes grow as they move throughout the system from Kdg to 8th grade. High School cohorts tend to stabilize.



Past Enrollment by Grade (Mapleton 7)

Enrollment by Grade

Year	K	1st	2nd	3rd	4th	5th	6th	K-6 Total	K-6 Change
2007/08	10	12	9	3	12	11	7	64	
2008/09	17	10	10	9	8	14	9	77	13
2009/10	13	15	12	10	9	8	12	79	2
2010/11	11	13	18	11	14	8	8	83	4
2011/12	12	11	15	19	10	13	10	90	7
2012/13	15	10	13	13	19	11	13	94	4
2013/14	18	12	7	11	11	15	9	83	-11
2014/15	15	16	10	7	10	11	13	82	-1
2015/16	13	12	16	11	7	8	8	75	-7
2016/17	23	16	11	15	10	11	6	92	17
2017/18	16	29	17	13	19	10	9	113	21
2018/19	31	18	36	19	15	18	11	148	35
2019/20	29	29	17	36	17	14	4	146	-2
2020/21	27	33	28	18	36	15	13	170	24
2021/22	31	27	31	29	20	31	11	180	10
2022/23	32	32	23	32	32	19	25	195	15

Source: North Dakota Department of Public Instruction

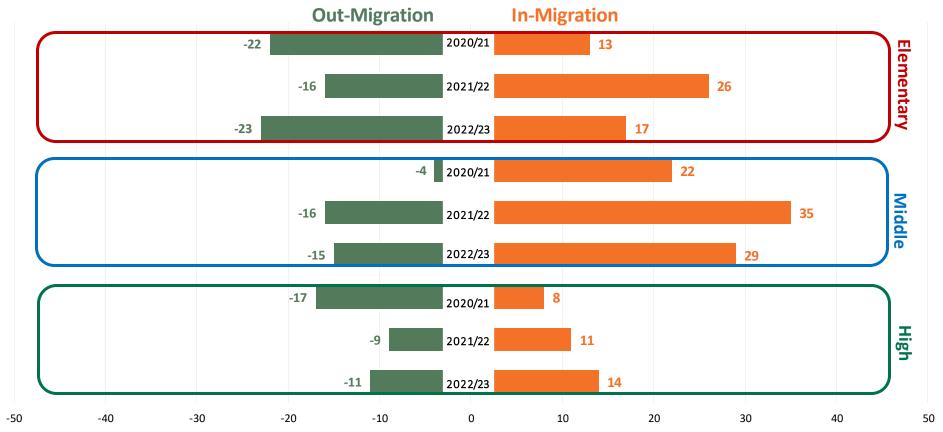
Observations:

- Mapleton 7 School District is a K-6 students, at 7th grade Mapleton students tend to transfer into surrounding districts
- o Largest K-6 class in 2022/23 Kindergarten, 1st, 3rd, and 4th grade with 32 students
- o Smallest K-6 class in 2022/23 5th grade with 19 students

Main Takeaway:

Enrollment has been increasing in Mapleton resulting in a likelihood that Central Cass out of district students will increase in the future as more Mapleton students transfer into Central Cass after 6th grade.

3-Year Student Migration Trend



Source: Central Cass School District and RSP

Definition

Out-Migration: Shows number of students in grade K to 11th that were attending the District in 2021/22, but are not attending the District in 2022/23.

In-Migration: Shows number of students in grade 1st to 12th that are attending the District in 2022/23, but were not attending the District in 2021/22.

Observations

- 2020/21 lost 43 students and gained 43 students; NET: 0
- 2021/22 lost 41 students and gained 72 students; NET: +31
- 2022/23 lost 11 students and gained 60 students; NET: +11

Main Takeaway:

The district tends to see more new students in-migrating into the district then past students out-migration out of the district.

Out of District Student Map

Map Details

Central Cass
Boundary: Purple

Central Cass School District #17

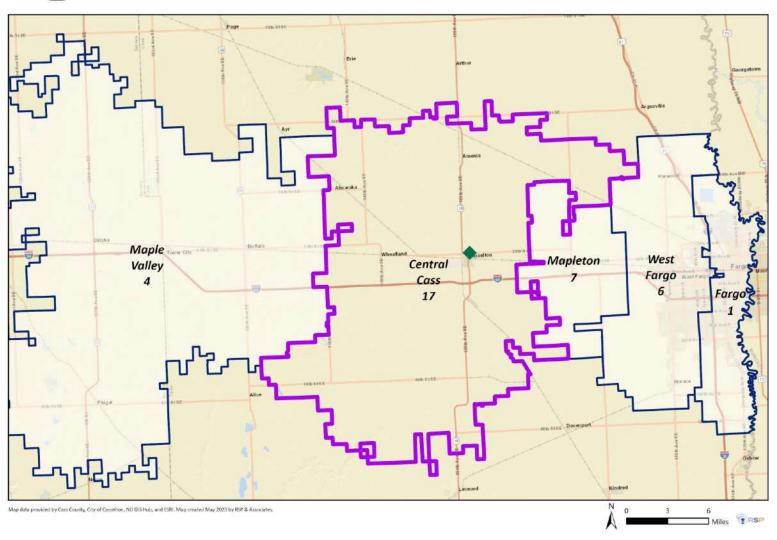
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Surrounding School Districts

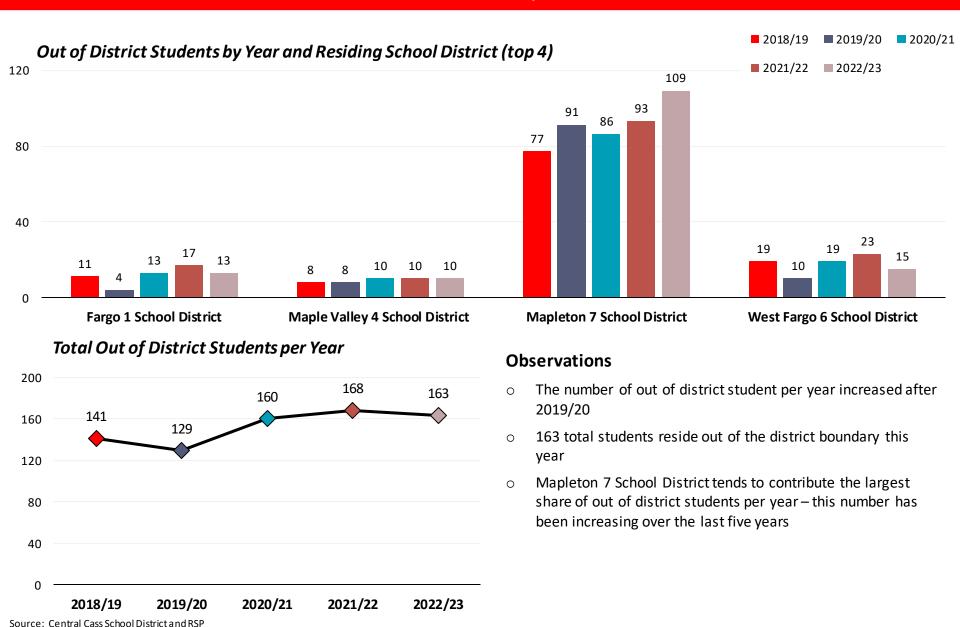
Mapleton School District 7:

Contributes the largest share of out of district students (K-6 district)

Enrollment has been increasing at Mapleton 7, resulting likely in more students transferring into Central Cass at 7th grade.



Out of District Student Analysis



Student Count Change Map



Map Details

Depicts student movement at Planning Area from 2018/19 to 2022/23

Orange: student

increase

Green: student decrease

White: no student change

Notes

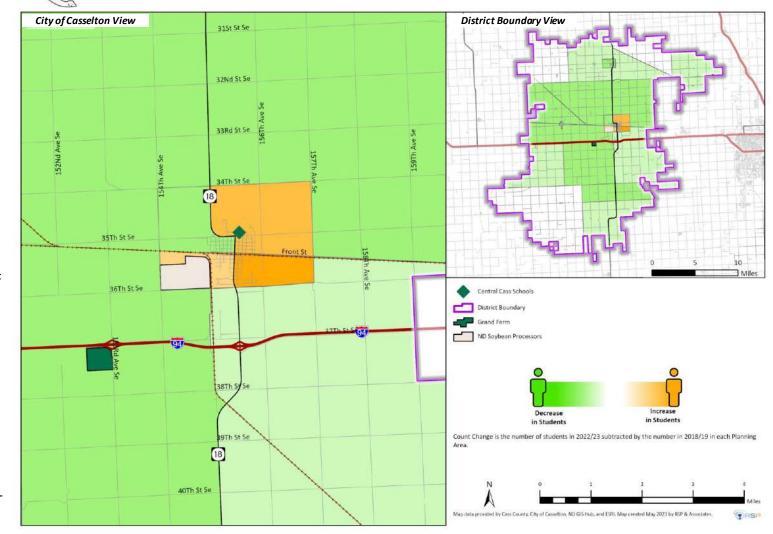
New developments have a greater propensity to have more students in future years.

Current colors do not indicate area will continue to increase or decrease. Each of these planning areas are fluid with respect to change—the visual shown is a snapshot.

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Student Count Change from 2018/19 to 2022/23 in Grades K-12





Student Heat Map



Map Details

Visual shows the location of students in proximity to other students for a "heat affect" in the district.

Red: highest student density

Gray: lowest student density

Notes

Overlapping points (2 or more students) are handled using a weighting of coincident points.

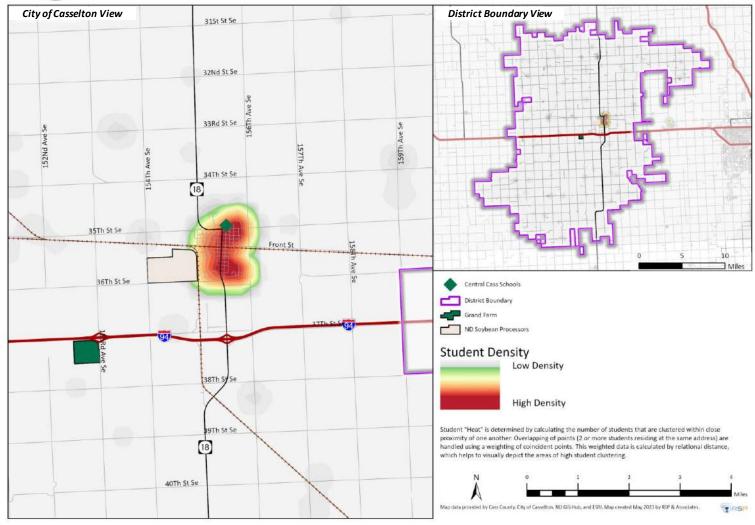
Newer developments and/or most affordable areas tend to have the greatest density.



Central Cass School District #17

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Student "Heat" Density in 2022/23 in Grades K-12



Enrollment Observation and Conclusion



RSP & Associates monitors over 30 planning areas for demographic, development, and enrollment data sets



Live births in Cass County increased in 2021, but were decreasing the previous five years



District enrollment increased by 31 students from last year

- Kindergarten class has decreased to less than 80 students over the last three years
- Most grade levels increase as they work their way through the system
- The larger classes tend to be at the middle and high school level



Graduating senior classes are smaller than incoming kindergarten classes



District historically has had a positive migration trend for the past two years



Out of district student enrollment has been increasing, likely due to growing enrollment in Mapleton 7 School District

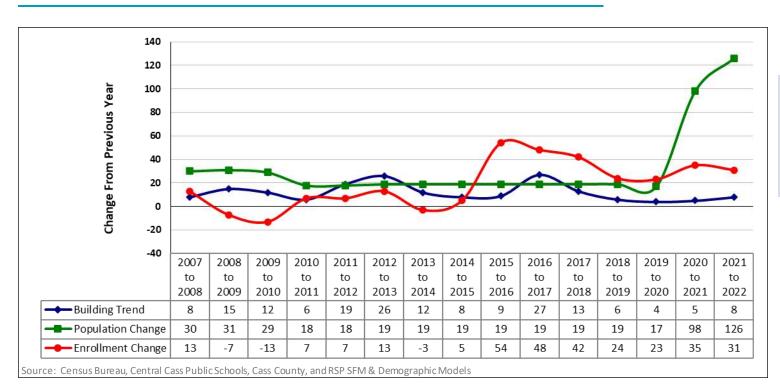


Highest point of student density in the district is centrally located in the City of Casselton





Population, Development, & Enrollment



Benchmark data to determine if there is a correlation between:

- Population change
- Building activity
- School enrollment

Graphic Explanation

- BLUE LINE: Building activity has averaged less than ten new units a year over the past five years
 - Rate of building activity has decreased since 2012 to 2017
- GREEN LINE: Census data indicates an increasing population
 - The last two years, population has increased at a higher rate than the previous thirteen years likely due to growth from the City of West Fargo and the increase in economic movement in the region
 - New decennial census data often affects year-to-year change (2020 to 2021)
- RED LINE: Student enrollment has been generally increasing year to year
 - The district has increased by 30 to 50 students per year over the past eight years



Student Yield Rate



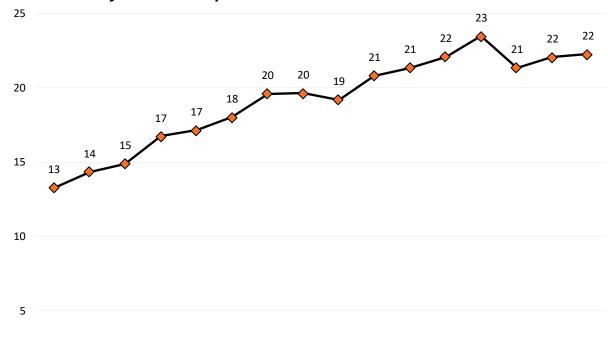
Student Yield Rate:	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	Average
Number of K-4 Student per 100 Residential Units	13	14	15	17	17	18	20	20	19	21	21	22	23	21	22	22	19

Source: Cass County, Central Cass School District, and RSP

Yield Rate Observations

- Table shows the number of K-4 students per 100 residential units by year
- District sees on average 19 K-4 students per 100 residential units
- The student yield rate has been increasing year to year and peaked in 2019 with 23 students per 100 residential units
- Increasing student yield rates is an indicator of housing stock turning over – As people move out of their houses, new families are moving in with students
- Adding new housing inventory can increase the yield rate – There were 137 new homes built from 2012 to 2023

Number of K-4 Student per 100 Residential Units



2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022

Source: Cass County, Central Cass School District, and RSP

Average Year Built Map

Map Details

Colors to show decade units were built

White: no data

Blue: before 1970

Green: 1971 to 1980

Orange: 1981 to 1990

Red: After 1990

Notes

Year built data based on Cass County Assessor data.

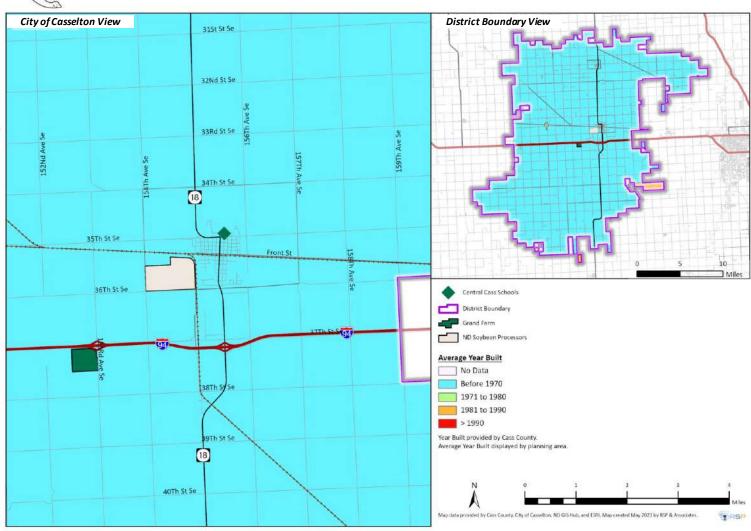
Averages based on RSP Planning Areas and the units built in them.

Based on a planning area and could be influenced by the number of units prior to new units being built

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Average Year Built



Median Home Value Map

Map Details

Colors to show affordability of units

Orange to Red: greatest value

Green to Blue: greatest affordability

Notes

Based on assessed Home Value as provided and maintained by Cass County assessor's office.

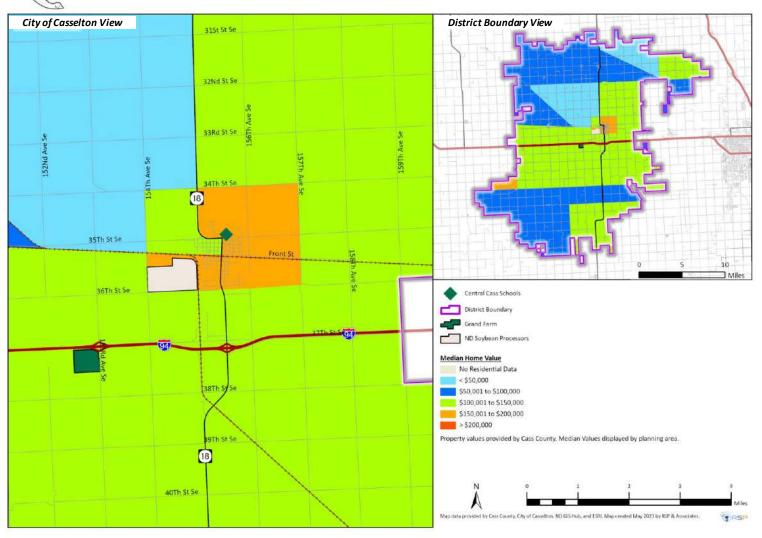
Depicted by Median Value in each Planning Area - Based on a planning area and could be influenced by the number of units prior to new units being built.

Home values likely correlated to socio-economic status – new areas tend to be the least affordable.

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Median Home Value



Recent Year Built Map

Map Details

Reveals where recent residential development has occurred.

Colors of dots represent year built (Cass County assessor's office):

Red: 2022
Orange: 2021
Yellow: 2020
Green: 2019
Blue: 2018

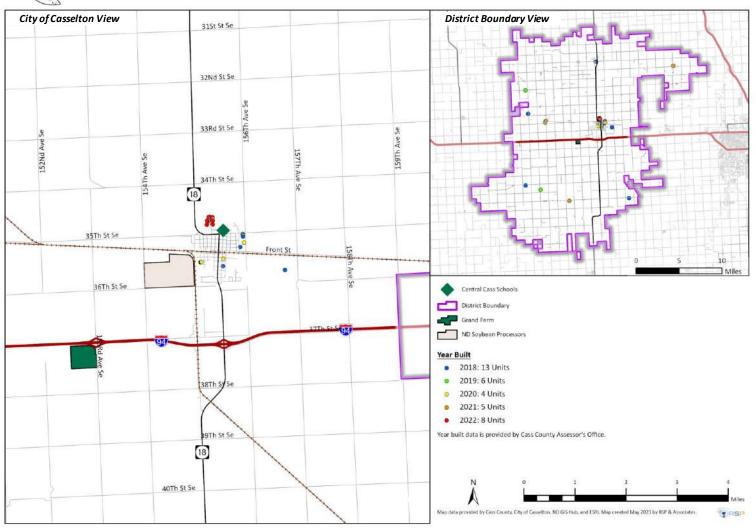
Notes

Type of housing is monitored as some planning areas (single-family or multi-family) do not necessarily lead to similar yield rates and may change from year to year (only partial record for 2023)

Some new areas do not necessarily lead to similar yield rates of like developments.



Residential Year Built



Development Activity Over Time

Observations:

- o Table has been created to illustrate the number of units by year built
- The average number of units built per year from 2010 to 2019 (13.8 per year) is lower than from 2000 to 2009 (19.7 per year)
- o Most of the units in the district were built prior to 1939, since then 1970 to 1979 contributed the largest amount of new units
- o The average year for all units built was 1963 while the median year built is 1970
- o Year built of some units were unable to be determined. They were excluded in this analysis.

1,800 1.600 1,400 1,200 1.000 800 600 400 200 0 1939 or 1940-1949 1970-1979 1980-1989 1990-1999 2010-2019 2020-2023 1950-1959 1960-1969 2000-2009 Earlier ■ Number of New Units in Time Period 596 56 108 54 214 50 141 197 138 17 Number of Existing Units 596 652 760 814 1,028 1,078 1,219 1,416 1,554

New V.S. Existing Units by Decade

Source: Cass County and ESRI



Growth Area Map



27

Map Details

Growth areas are created from existing and future land use, capital improvement plan, zoning, and city staff input.

Green: current development activity

Yellow: 5-year development potential

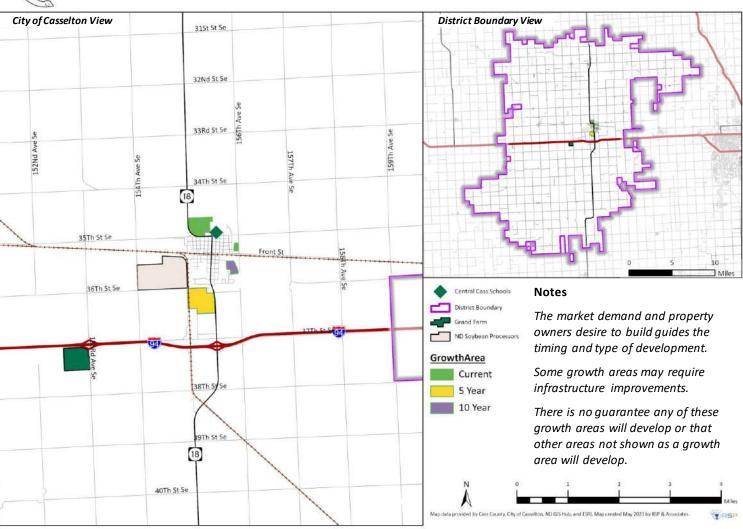
Purple: 10-year development potential



Central Cass School District #17

FOSTERING STUDENT EXCELLENCE

Growth Areas



Development Table

RSP Planning Area Name	Development Type	Timing of Growth	Acres	Existing Units	Potential Units
Casselton Farms	Single-Family		91.56	11	37
East View 3rd Addition	Single-Family		7.31	1	10
Prairie Skies Addition	Mixed-Use	5 Year	145.36	0	182
NE of Cottonwood Estates	Single-Family	10 Year	26.69	0	60
		Summ	ation of Units	Existing Units	Potential Units
			Current	12	47
			5 Year	0	182
			10 Year	0	60
			10 (ear	U	00

Source: City of Casselton, Cass County, and RSP

Observations

- o Growth areas are created from existing land use, future land use, capital improvement plan, zoning, and city staff input
 - Green: identifies where development activity is happening
 - Yellow: identifies possible areas that could develop within a 5-year range
 - Purple: identifies possible areas that could develop within a 10-year range

Notes

- O The market demand and property owners desire to build guides the timing and type of development
- O Some growth areas may require infrastructure improvements
- O There is no guarantee any of these growth areas will develop or that other areas not shown as a growth area will develop

Economic Drivers

Grand Farm

- A new "permanent" Innovation Facility is planned to be built two miles west of the City of Casselton
- The space can be used for auditorium for the High School and a space for agriculture research and development
- The project broke ground in Oct 2022 and was planned to begin research projected Spring 2023

 $\underline{https://www.agweek.com/news/grand-farm-announces-permanent-home-near-casselton-north-dakota}\\$

 $\underline{https://grandfarm.com/grand-farm-breaks-ground-on-future-agriculture-technology-innovation-facility-in-north-dakota/}$

North Dakota Soybean Processors (NDSP)

- A new facility will open in Casselton to process 42 millions bushels of soybeans per year and produce soybean oil, meal, and hulls
- The new facility is expected to generate 50-60 new jobs and by fully operational in 2024

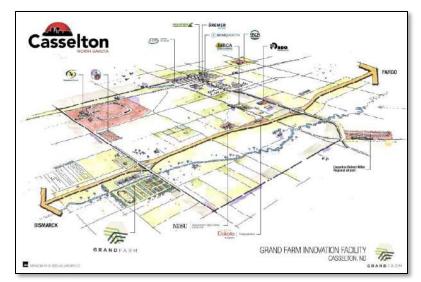
https://www.cgb.com/north-dakota-soybean-processors-break-ground-on-new-facility/

 $\label{lem:https://www.world-grain.com/articles/17817-soybean-crush-plant-slated-for-north-dakota#: $$ ``text=The%20new%20plant%20is%20projected,tonnes%20of%20soybean%20hulls%20annually $$ $$ $$ $$$

Maple River Grain and Agronomy

- A new office location is opening in City of Casselton to expand MRGA facilities for employees and truck fleet parking
- Construction is expected to be completed by Spring 2024

https://www.nordakpublishing.com/articles/maple-river-grain-and-agronomy-is-on-the-grow/





Development Observation and Conclusion



Almost 300 units identified for potential development within the next 10+ years



Building activity has been decreased the past couple of years

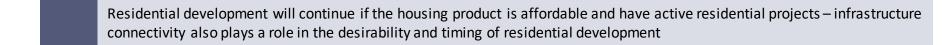
- Opportunities of residential growth still exist however the speed of the activity is forecasted to continue decreasing
- Monitor local factors that may affect development timing and economic outlook to gauge how the new decade of residential growth will play out



Student residential yield rates have been increasing over the last ten years and peaked in 2019

• Tracking yield rates per year important to understand the relationship of existing inventory with students each year

Current growth areas are located within the City of Casselton and there are multiple economic projects in the region to expand job offerings and economic footprint



As of February 2022, construction costs have increased over 100% from August 2020 and supply chain challenges impact the potential of new development and where new developments will occur in the district



Long Range Accuracy (Attend)

Elementary (PK-4)

Projected: 431

Actual: 422

Accuracy: 97.9%

Middle School (5-8)

Projected: 324

Actual: 345

Accuracy: 93.9%



High School (9-12)

Projected: 321

Actual: 326

Accuracy: 98.8%

District (PK-12)

Projected: 1,076

Actual: 1,093

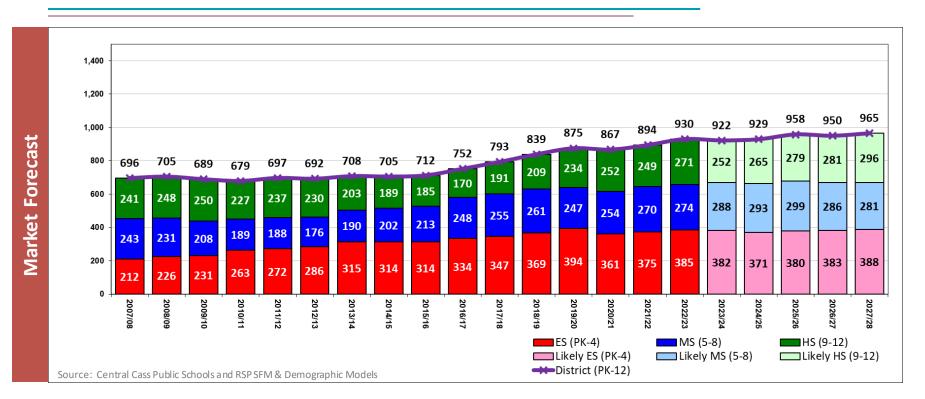
Accuracy: 98.4%

Projection Information:

- This accuracy is the 3rd year of the 2019/20 RSP Projections
- More focus on this forecast was to better understand the impact of COVID-19 about movement of families and household trends
- Additional analysis was conducted with out of district enrollment since that enrollment is between 12% and 15% of the total PreK-12th grade enrollment
- More focus spent on middle school enrollment change to have greater statistical accuracy
- This forecast did include analysis how to determine what Prekindergarten could reasonably be in the future
- New developments with different price break points will influence future projections
- Enrollment projections should be analyzed every two or three school years



Past, Current, & Future Enrollment (Reside)



Enrollment Future Described:

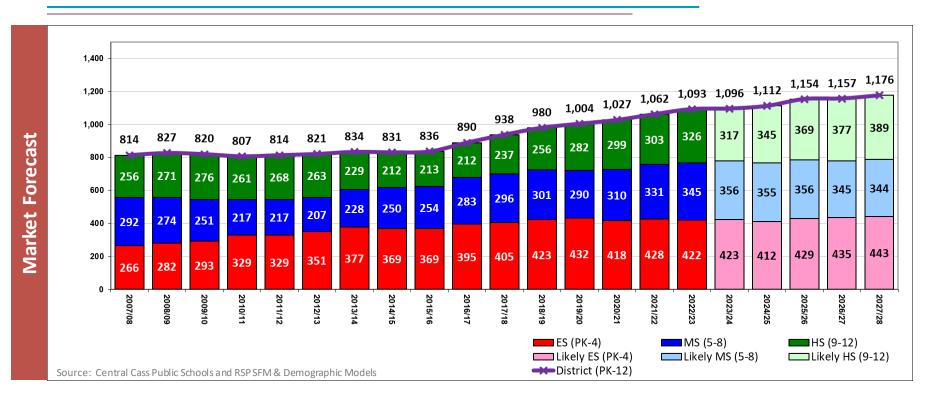
- Next Five-Year Enrollment Change (RESIDE):

 Mapleton Public
- Outlook dependent upon new developments and economic growth
- District increases by 35 students (+3.8%)
- Elementary increases by 3 students (+0.8%)
- Middle School increases by 7 students (+2.6%) (Current 22/23 1st grade class will result in the smaller MS enrollment)
- High School increases by 25 students (+9.2%)

Reside projections reflect only students residing in the district – no students from Mapleton Public Schools



Past, Current, & Future Enrollment (Attend Updated)



Enrollment Future Described:

Attend projections reflect the number of students which may come from Mapleton Public Schools

- Next Five-Year Enrollment Change (ATTEND):
 - Outlook dependent upon new developments, economic growth, and Out of District trends (Mapleton 7 cohort biggest factor)
 - District increases by 83 students (+8.3%)
 - Elementary increases by 21 students (+4.9%)
 - Middle School decreases by 1 student (-0.3%) (Current 22/23 1st grade class will result in the smaller MS enrollment)
 - High School increases by 63 students (+22.3%)

Projection Notes

Projection Clarification and Notes:

- Past Enrollment and Projections are shown two ways:
 - 1. Reside (Based on where a student Resides in relation to the attendance area: DOES NOT INCLUDE Open Enrollment)
 - 2. Attend (Based on where the student may likely attend INCLUDES Open Enrollment)
- Capacity
 - Provided by district administration
 - Should be annually examined to ensure appropriate education space is available
- □ Other Items
 - Enrollment Grade Configuration in Student Forecast Model (Prek-4, 5-8, 9-12)
 - Open enrollment trends are assumed to follow district policy and will continue like those trends during the projection time frame. Open enrollment from Mapleton 7 School District is forecasted to increase after 7th grade as enrollment in that district-wide has been increasing.
 - Development will be impacted by the Fargo Flood Diversion project (Likely will see continued development in the unincorporated area)



Market Forecast

Current Grade Configuration (Reside)

	School	2022	2022/23 Reside Enrollment and Reside Projections Through 2027/28									
ELEMENTARY SCHOOL	Capacity	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	5 Yr Change				
Central Cass ES	423	385	382	371	380	383	388	3				
Elementary Total	423	385	382	371	380	383	388	3				

	School	2022	2022/23 Reside Enrollment and Reside Projections Through 2027/28									
MIDDLE SCHOOL	Capacity	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	5 Yr Change				
Central Cass MS	368	274	288	293	299	286	281	7				
Middle School Total	368	274	288	293	299	286	281	7				

	School	2022	2022/23 Reside Enrollment and Reside Projections Through 2027/28									
HIGH SCHOOL	Capacity	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	5 Yr Change				
Central Cass HS	432	271	252	265	279	281	296	25				
High School Total	432	271	252	265	279	281	296	25				

	District	2022	2022/23 Reside Enrollment and Reside Projections Through 2027/28								
DISTRICT TOTALS	Capacity	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	5 Yr Change			
District Totals	1,223	930	922	929	958	950	965	35			
Percent Change			-0.9%	0.8%	3.1%	-0.8%	1.6%	3.8%			
Actual Change			-8	7	29	-8	15	35			

Source: RSP & Associates, LLC and Central Cass Public Schools (06-09-23)

NOTES:

Preschool students INCLUDED in the elementary school numbers
Capacity for each school is being calculated by the District
Reside is based on where a student lives as it relates to the attendance area
Attend is based on where the student may likely choose to attend

LEGEND

Beyond Capacity

Reside projections reflect only students residing in the district – no students from Mapleton Public Schools



Market Forecast

Current Grade Configuration (Attend Updated)

	School	2022/23 Attend Enrollment and Attend Projections Through 2027/28				Attend		
ELEMENTARY SCHOOL	Capacity	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	5 Yr Change
Central Cass ES	423	422	423	412	429	435	443	21
Elementary Total	423	422	423	412	429	435	443	21
Elementary Change			1	-11	17	6	8	21
Elementary Percent Change			0.2%	-2.6%	4.1%	1.4%	1.8%	5.0%
	School	2022	2022/23 Attend Enrollment and Attend Projections Through 2027/28			7/28	Attend	
MIDDLE SCHOOL	Capacity	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	5 Yr Change
Central Cass MS	368	345	356	355	356	345	344	-1
Middle School Total	368	345	356	355	356	345	344	-1
Middle School Change			11	-1	1	-11	-1	-1
Middle School Perecent Change			3.2%	-0.3%	0.3%	-3.1%	-0.3%	-0.3%
	School	2022/23 Attend Enrollment and Attend Projections Through 2027/28				7/28	Attend	
HIGH SCHOOL	Capacity	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	5 Yr Change
Central Cass HS	432	326	317	345	369	377	389	63
High School Total	432	326	317	345	369	377	389	63
High School Change			-9	28	24	8	12	63
High School Perecent Change			-2.8%	8.8%	7.0%	2.2%	3.2%	19.3%
	District	2022/23 Attend Enrollment and Attend Projections Through 2027/28				Attend		
DISTRICT TOTALS	Capacity	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	5 Yr Change
District Totals	1,223	1,093	1,096	1,112	1,154	1,157	1,176	83
District Change			3	16	42	3	19	83
District Percent Change			0.3%	1.5%	3.8%	0.3%	1.6%	7.6%

Source: RSP & Associates, LLC and Central Cass Public Schools (07-03-23)

NOTES:

Preschool students INCLUDED in the elementary school numbers Capacity for each school is being calculated by the District Attend is based on where the student may likely choose to attend





Beyond Capacity

Attend projections reflect the number of students which may come from Mapleton Public Schools – fully factors in the Mapleton #7 future cohort of students

Projection Observations and Conclusion

Projection Overview

- Elementary enrollment is forecasted to increase by 20 students over the next five years to total 443 students in 2027/28.
- Middle School enrollment is forecasted to be stable the next three years but slightly decrease over the projection time period. Enrollment forecasted to total 344 students in 2027/28. This decrease is a factor of the current 1st grade class being one of the smallest 1st grade classes seen in the last decade and some of the largest grades are currently attending the middle school.
- High School enrollment is forecasted to increase by 63 students over the next five years to total 389 students in 2027/28.

Challenges

• Capacity challenges are forecasted to be experience at the elementary school over the next five years.

Driving Themes of Enrollment

2022/23 Student population *Indicators:*

- Largest classes in history
- Larger kindergarten classes than senior classes

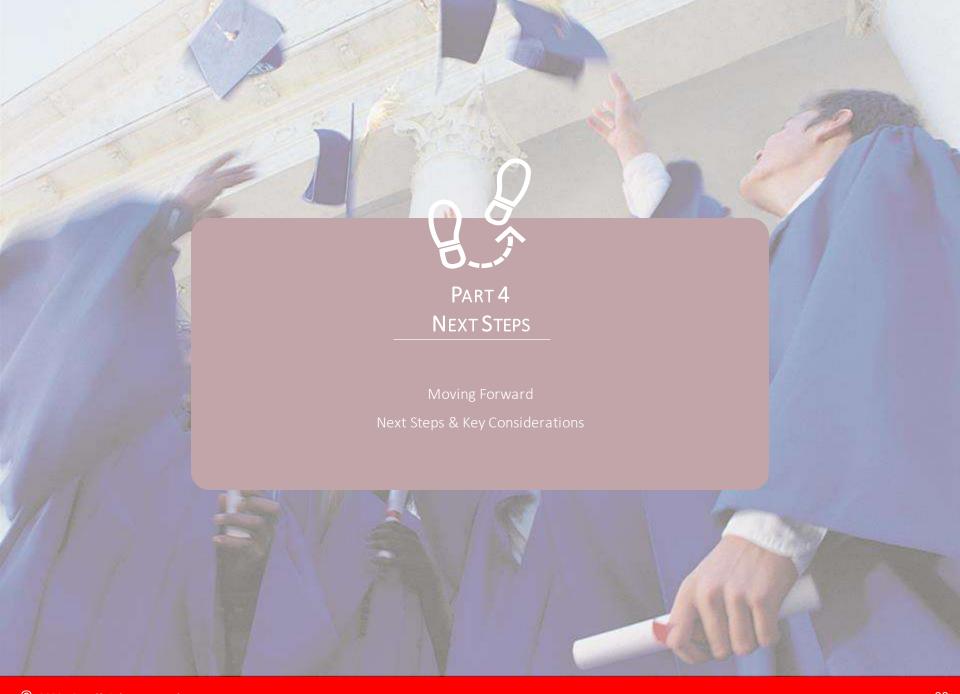
Development Activity *Indicators:*

- Increasing yield rates
- Potential new developments
- Potential economic growth

Migration Trends

Indicators:

- Positive student migration
- Cohort growth year to year
- Out of district enrollment increasing



Conclusion & Key Considerations

The following items will assist the district advance its educational goals:

- Annually review enrollment projections, demographics, and development trends
- District administration and the Board of Education further study the enrollment, demographic, and development information presented
- If the current 1st grade class increases greater than anticipated the middle school will not decrease as much as it is projected to decrease over the next five years
- The type of residential development and how affordable it is will determine likely location and number of students
- Annually monitor the impact of future educational programming that will be integrated into each facility to ensure equitable and appropriate space is utilized in the building which will experience enrollment change
- RSP Enrollment forecasting is based on the best-known information at the time

Key Considerations:

- 1. Number of live births in Cass County (More than previous years)... see page 10
- 2. Size of outgoing senior class (smaller) compared to the incoming Kindergarten and PK classes (larger)... see page 11
- 3. Migration trends (In-Migration tends to be more than Out-Migration)... see page 15-16
- 4. Development trends and timing of identified projects (300-unit production potential next ten years)... see pages 28-29

RSP Recommended to continually monitor the following indicators:

Enrollment may decrease more than forecasted if	Enrollment may increase more than forecasted if			
Decreasing share of live births or number of live births	Increasing share of live births or number of live births			
Current housing stock does not re-green (decrease student yield)	Current housing stock re-greens (turns over in student yield rate)			
Development and economy maintain minimal potential growth	Development and economic growth increases			
Demographic shifts in population	Demographic shifts in population			
Incoming Kindergarten class smaller than outgoing senior class	Incoming Kindergarten class larger than outgoing senior class			

These factors are not all positive or negative. Each have a different impact on future outlooks. RSP modeling attempts to find the most likely outcome. It is important to continue to monitor these factors. The goal of this study is to help the board, administration, and public understand how to make the best decision for the students at the classroom level.



Demographic Summary



Population

Percent Change of Annual Rate

2000 to 2010: 1.12%

2010 to 2020: 0.50%

2020 to 2022: 2.86%

2022 to 2027: 1.59%



Housing

Percent Change of Annual Rate of Housing Inventory

2000 to 2010: 1.28%

2010 to 2020: 0.48%

2020 to 2022: 3.06%

2022 to 2027: 1.86%



Income

Percent Change of Income per Capita

2022: \$43,124

2027: \$40,880

2022 to 2027: 2.96%



Workforce

Unemployment Rate

2.3% as of July 2022

Observations:

- Population increased from 2020 to 2022 at a higher rate than the last two decades. The next five years is expected to continue increasing, but a slightly lower rate.
- Housing inventory increased from 2020 to 2022 at a higher rate than the last two decades. The next five years is expected to continue increasing, but a lower rate.
- o Income has increased in the district and is forecasted to continue increasing b almost 3%.
- The unemployment rate is lower than the State of North Dakota (2.4%).

Demographics

General Demographics	Central Cass School District	Northern Cass School District	Mapleton 7 School District	Cass County	North Dakota
2022 Unemployment Rate	2.3%	2.5%	1.8%	3.2%	2.4%
2022 Average Household Size	2.8	2.52	2.58	2.45	2.58
2022 Median Age	38.20	40.20	38.00	36.80	40.40
2022 Total Population	9,297	21,776	4,212	506,172	53,859
2022 Median Household Income	\$79,658.00	\$72,681.00	\$80,950.00	\$70,413.00	\$82,752.00
2022 Total Housing Units	3,515	8,745	1,730	217,612	21,619
2022 Owner Occupied Housing Units	2,757	5,949	1,260	136,069	16,087
2022 Renter Occupied Housing Units	545	2,122	356	66,506	4,118
Vacancy Rate	6.1%	7.7%	6.6%	6.9%	6.5%
Race/Ethnicity	Central Cass School District	Northern Cass School District	Mapleton 7 School District	Cass County	North Dakota
White	93.3%	94.9%	89.9%	80.5%	81.1%
Black	0.5%	0.3%	1.6%	7.1%	3.5%
American Indian/Alaskan	0.7%	0.7%	0.6%	1.3%	4.8%
Asian	0.1%	0.1%	0.2%	3.3%	1.7%
Pacific Islander	0.0%	0.0%	0.0%	0.0%	0.1%
Other Race	0.3%	0.1%	0.1%	0.3%	0.3%
Two or More Races	3.5%	2.9%	4.7%	4.1%	4.1%
Hispanic	1.6%	1.0%	3.0%	3.4%	4.4%

Source: U.S. Census, ESRI BAO

Notes:

- Central Cass has the largest Average Household Size (2.8) compared to all neighboring geographies.
- When compared to all neighboring geographies, Central Cass has the lowest Vacancy Rate (6.1%)
- Demographic information is similar to Northern Cass.

Employment Information

Francisco and her in desature (Canada)	Central Cass Northern Cass		Mapleton 7	Coop County	Novel Balance
Employment by Industry (Census)	School District	School District	School District	Cass County	North Dakota
2022 Agriculture/Mining (SIC01-14) Employees	3.9%	4.7%	0.7%	0.9%	4.0%
2022 Construction (SIC15-17) Employees	5.6%	7.4%	3.4%	4.9%	5.1%
2022 Manufacturing (SIC20-39) Employees	14.1%	17.8%	14.9%	6.5%	5.5%
2022 Transportation (SIC40-47) Employees	7.6%	5.6%	24.1%	2.8%	3.5%
2022 Communication (SIC48) Employees	1.5%	0.2%	0.0%	1.2%	1.0%
2022 Utility (SIC49) Employees	0.3%	3.2%	2.4%	0.3%	1.5%
2022 Wholesale Trade (SIC50-51) Employees	11.0%	5.9%	7.7%	5.8%	5.2%
2022 Home Improvement (SIC52) Employees	1.6%	0.1%	0.1%	1.8%	1.6%
2022 General Merchandise (SIC53) Employees	0.5%	0.1%	0.0%	1.4%	1.5%
2022 Food Stores (SIC54) Employees	2.9%	0.5%	0.0%	2.1%	2.3%
2022 Auto Dealer/Gas Station (SIC55) Employees	3.0%	0.4%	3.5%	2.6%	2.5%
2022 Apparel/Accessory (SIC56) Employees	0.0%	0.2%	0.0%	0.8%	0.6%
2022 Furniture/Home Furnishings (SIC57) Employees	0.1%	0.0%	0.0%	2.8%	1.2%
2022 Eating & Drinking (SIC58) Employees	4.5%	2.5%	1.2%	6.5%	6.1%
2022 Miscellaneous Retail (SIC59) Employees	0.8%	0.3%	0.0%	2.6%	2.2%
2022 Banks (SIC60-61) Employees	1.4%	2.2%	0.0%	1.7%	1.7%
2022 Securities Broker (SIC62) Employees	0.1%	0.0%	0.0%	0.6%	0.4%
2022 Insurance (SIC63-64) Employees	1.3%	0.5%	0.0%	2.8%	1.8%
2022 Real Estate/Holding (SIC65-67) Employees	0.1%	2.5%	0.0%	2.2%	2.0%
2022 Hotel/Lodging (SIC70) Employees	1.3%	0.1%	0.0%	1.7%	1.7%
2022 Auto Services (SIC75) Employees	4.0%	0.5%	22.1%	1.3%	1.2%
2022 Movie/Amusement (SIC78-79) Employees	3.6%	0.5%	3.0%	2.1%	2.5%
2022 Health Services (SIC80) Employees	3.0%	0.0%	0.0%	15.0%	13.2%
2022 Legal Services (SIC81) Employees	1.8%	0.0%	0.0%	0.7%	0.6%
2022 Education/Library (SIC82) Employees	12.4%	8.5%	9.8%	8.3%	8.3%
2022 Other Service (SIC72-89SEL) Employees	10.3%	33.0%	4.1%	16.6%	15.7%
2022 Government (SIC91-97) Employees	3.4%	2.0%	1.7%	3.2%	6.1%
2022 Unclassified Establishments (SIC99) Employees	0.1%	1.1%	1.2%	0.7%	0.6%

Source; U.S. Census and Esri BAO

Notes:

- Highest percentage of employees in Manufacturing (14.1%)
- When compared to all neighboring geographies, Central Cass has a larger percentage of employees working in Wholesale Trade (11%) and the lowest in Utility (0.27%)

Planning Areas – Full Map

Map Details

District Boundary:

Purple Line

Planning Areas:

Green Lines

Planning Areas are created from:

- Land Use
- Residential Density
- Neighborhoods
- Transportation network
- Natural and Manmade Features

Year Built Points:

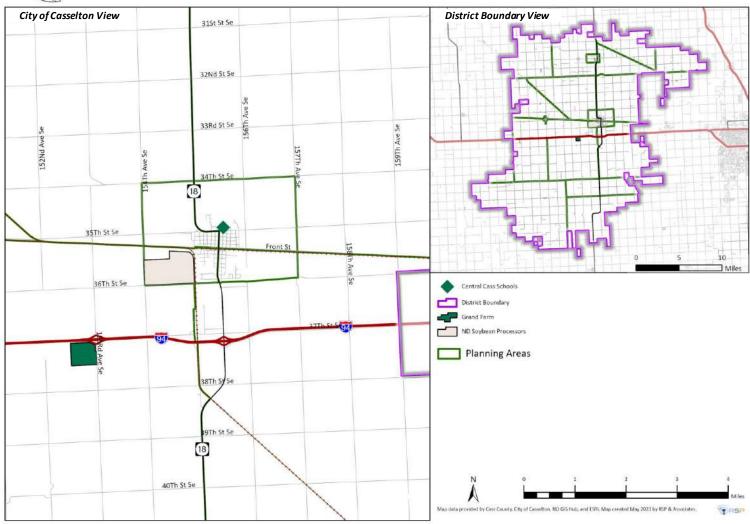
- Before 2000
- 2001 to 2005
- 2006 to 2010
- 2011 to 2015
- After 2015



Central Cass School District #17

FOSTERING STUDENT EXCELLENCE

Planning Areas



Planning Areas – Aerial Map

Map Details

District Boundary: **Purple Line**

Planning Areas: **Green Lines**

Planning Areas are created from:

- Land Use
- Residential Density
- Neighborhoods
- Transportation network
- Natural and Manmade Features

Year Built Points:

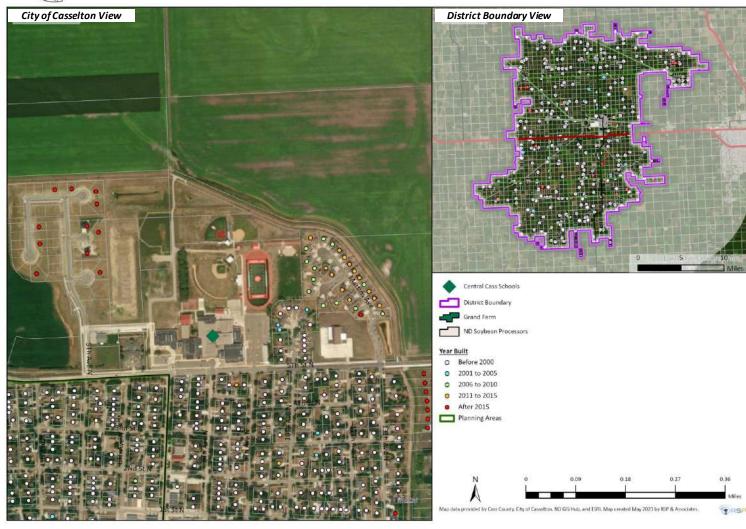
- Before 2000
- 2001 to 2005
- 2006 to 2010
- 2011 to 2015
- After 2015



Central Cass School District #17

FOSTERING STUDENT EXCELLENCE

Planning Areas-Detail



Elementary Student Count Change Map

Map Details

Depicts student movement at Planning Area from 2018/19 to 2022/23

Orange: student

increase

Green: student decrease

White: no student change

Notes

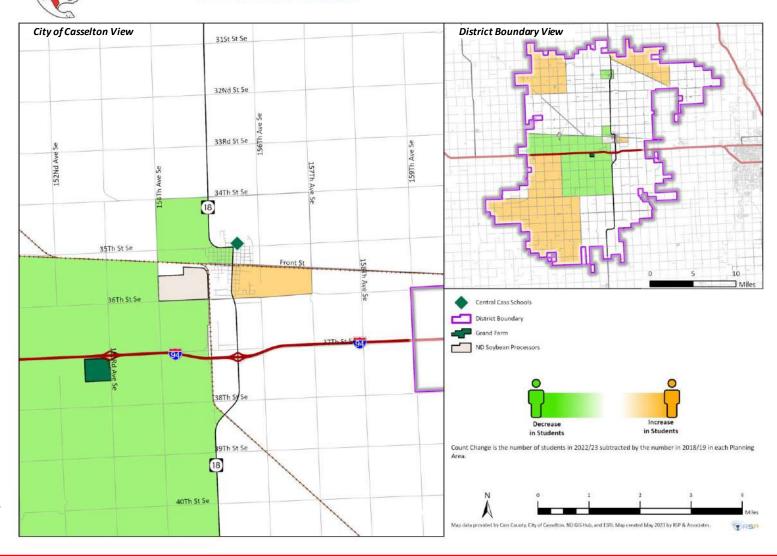
New developments have a greater propensity to have more students in future years.

Current colors do not indicate area will continue to increase or decrease. Each of these planning areas are fluid with respect to change—the visual shown is a snapshot.

Central Cass School District #17

Student Count Change from 2018/19 to 2022/23 in Grades K-4





Middle School Student Count Change Map

Map Details

Depicts student movement at Planning Area from **2018/19** to 2022/23

Orange: student

increase

Green: student decrease

White: no student change

Notes

New developments have a greater propensity to have more students in future years.

Current colors do not indicate area will continue to increase or decrease. Each of these planning areas are fluid with respect to change the visual shown is a snapshot.

Central Cass School District #17

Student Count Change from 2018/19 to 2022/23 in Grades 5-8 FOSTERING STUDENT EXCELLENCE

Map data provided by Cass County, City of Casselton, ND GIS Hub, and ESRI, Map created May 2023 by RSP & Associate:



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40Th St Se

High School Student Count Change Map

Map Details

Depicts student movement at Planning Area from 2018/19 to 2022/23

Orange: student

increase

Green: student decrease

White: no student change

Notes

New developments have a greater propensity to have more students in future years.

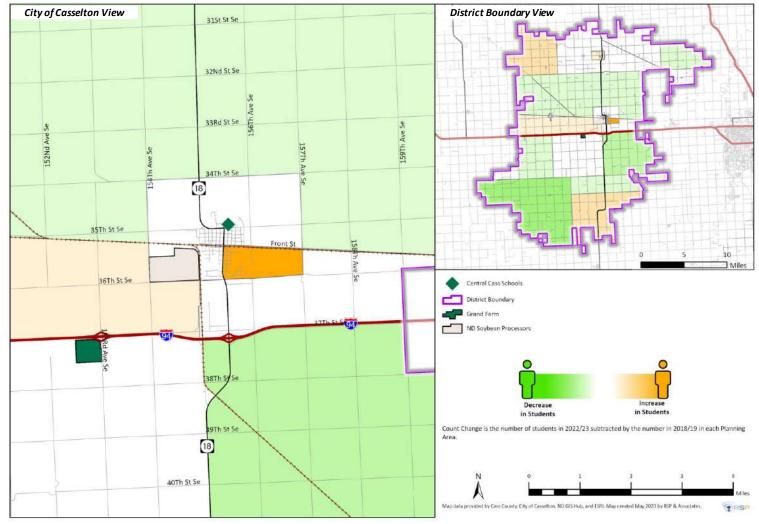
Current colors do not indicate area will continue to increase or decrease. Each of these planning areas are fluid with respect to change—the visual shown is a snapshot.



Central Cass School District #17

FOSTERING STUDENT EXCELLENCE

Student Count Change from 2018/19 to 2022/23 in Grades 9-12



2022/23 Student Density Map

Map Details

Depicts student density snapshot in 2022/23

Red: area of highest student density

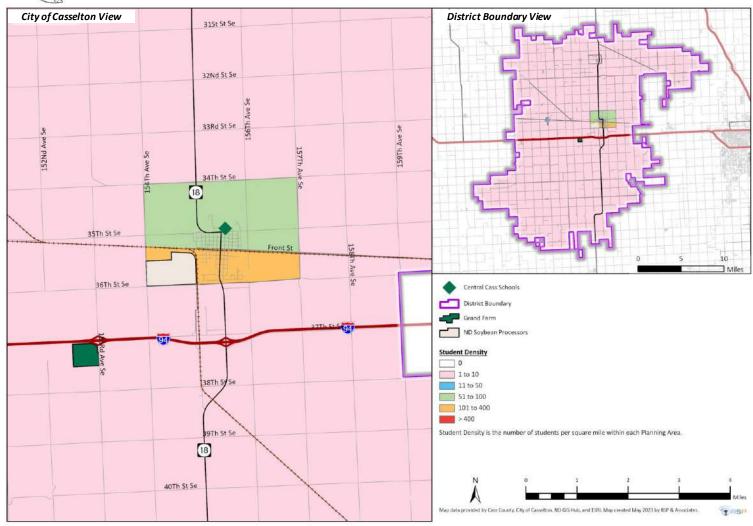
Pink: area of lowest student density



Central Cass School District #17

FOSTERING STUDENT EXCELLENCE

2022/23 Student Density in Grades K-12



2018/19 Student Density Map

Map Details

Depicts student density snapshot in 2018/19

Red: area of highest student density

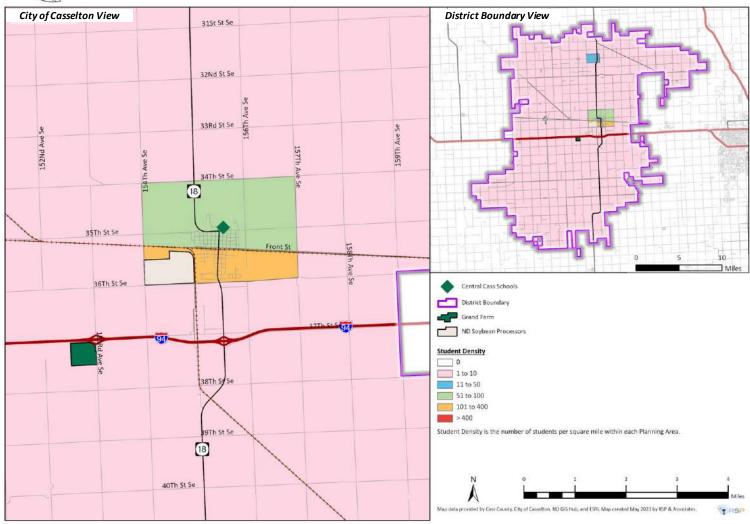
Pink: area of lowest student density



Central Cass School District #17

FOSTERING STUDENT EXCELLENCE

2018/19 Student Density in Grades K-12



Student Density Change Map

Map Details

Depicts student density movement at Planning Area from 2018/19 to 2022/23

Orange: student

increase

Green: student decrease

White: no student

change

Notes

New developments have a greater propensity to have more students in future years.

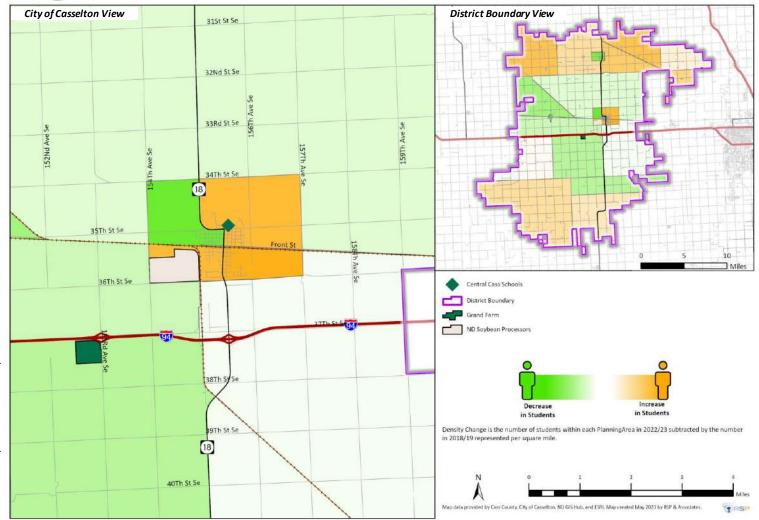
Current colors do not indicate area will continue to increase or decrease. Each of these planning areas are fluid with respect to change – the visual shown is a snapshot.



Central Cass School District #17

FOSTERING STUDENT EXCELLENCE

Student Density Change from 2018/19 to 2022/23 in Grades K-12



Yield Rate Analysis Map

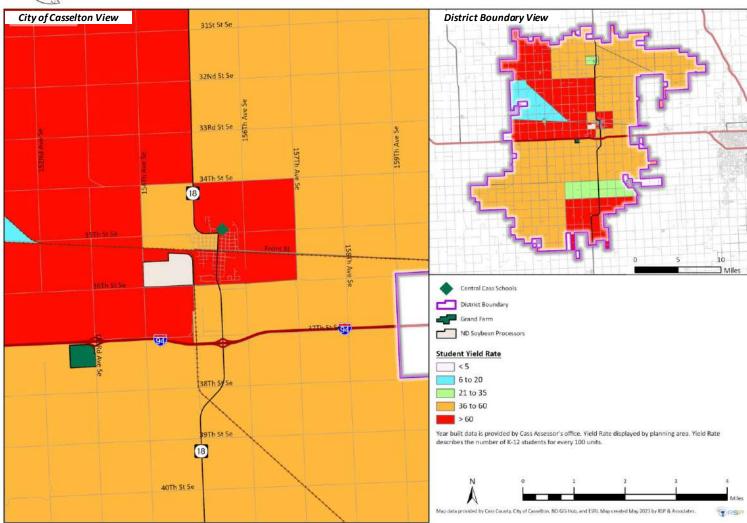
Map Details

Mapping visual corresponds with Yield Rate Analysis on slide #20.

Red: Area of highest student yield rate



Yield Rate



Detailed Growth Area Map

Map Details

Growth areas are created from existing and future land use, capital improvement plan, zoning, and city staff input.

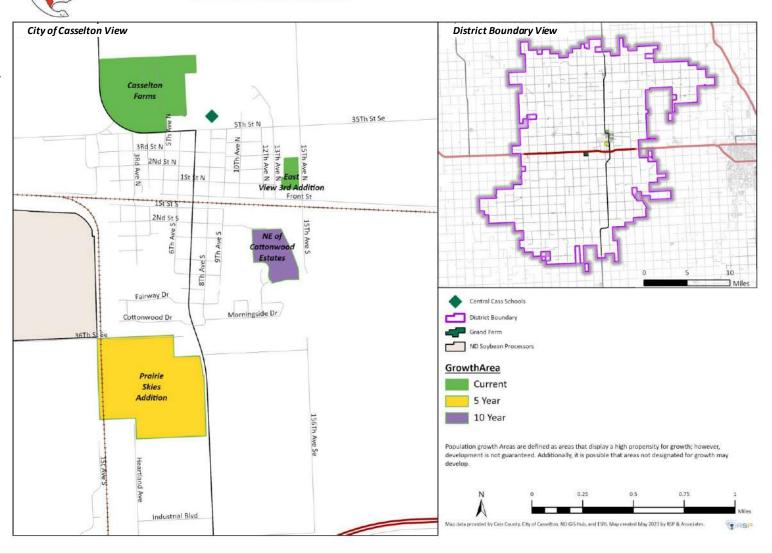
Green: current development activity

Yellow: 5-year development potential

Purple: 10-year development potential



Growth Areas



Definitions

- o Cohort: a group of individuals having a statistical factor (such as grade level) in common in a demographic study
- Out-migration: shows number of students in grade Kindergarten to 11th that are attending the district in the previous year, but were not attending the district in the current year
- o In-migration: shows number of students in grade 1st to 12th that are attending the district in the current year, but were not attending the district in the previous year
- Yield-rate: ratio of students that attend each school to the number of housing units in that school's attendance area
- O Single-family: a house that is may be fully detached or semi-detached occupied by one household or family
- Multi-family: a classification of housing where multiple separate housing units for residential inhabitants are contained within one building or several buildings within one complex
- Town Homes: Side by side housing units that do not meet the definition of single-family houses
- Mobile Home Park: movable dwelling, 8 feet or more wide and 40 feet or more long, designed to be towed on its own chassis, with transportation gear integral to the unit when it leaves the factory, and without need of a permanent foundation.
- Vacant Land: means any undeveloped land/ erf within a proclaimed township or a land development area and will continue to be rated as vacant until such time as a certificate of occupancy
- Mixed-use development: development that blends two or more residential, commercial, cultural, institutional, and/or industrial uses
- Median Year Built: equal to the middle point of all reported years when each dwelling unit was built based on information from the local assessor's office
- o Median Home Value: equal to the middle point of all reported home values from the assessor's office in the district