



BISMARCK
PUBLIC SCHOOLS

Planning for the Future

Bismarck Public Schools

Enrollment Analysis

March 2024

Report updated 03/14/24

Maps updated 04/08/24



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 Clients:

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

Arkansas	Minnesota	South Dakota
Colorado	Missouri	Tennessee
Iowa	Nebraska	Wisconsin
Illinois	North Dakota	
Kansas	Oklahoma	

RSP Planning Team:

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Military, County, City, and School District Planner
University of Kansas, Master of Urban Planning (MUP)
American Institute of Certified Planners (AICP)
Accredited Learning Environment Planner (ALEP)

Ginna Wallace, Planner

City, Demographic, and School District Planner
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American Institute of Certified Planners (AICP)

RSP Recent Projects:

West Fargo Public Schools

Enrollment Analysis, 2023/24

Grand Forks Public Schools

Enrollment Analysis, 2023/24

Fargo Public Schools

Enrollment Analysis, 2023/24

Our Partners:



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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

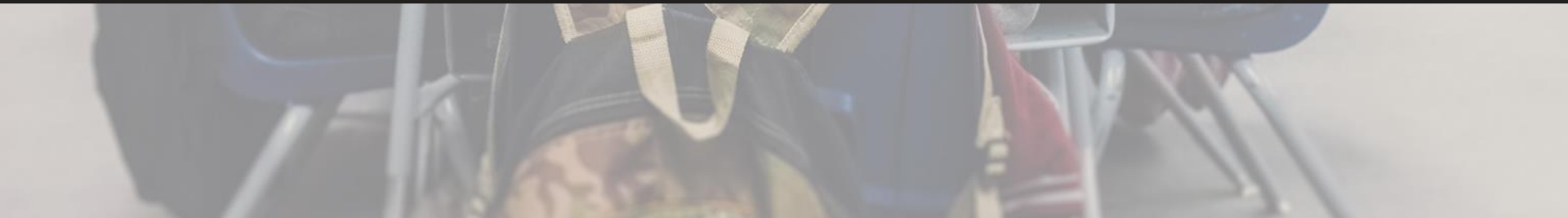


Click the APPENDIX symbol on a page
to reference additional analysis



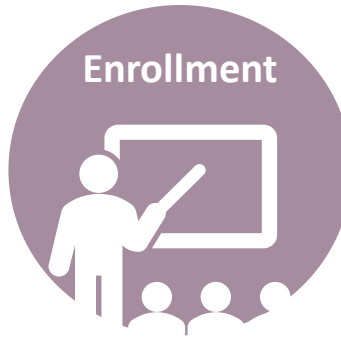
PART 1 ENROLLMENT & DEMOGRAPHICS

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



100,000 Foot Perspective

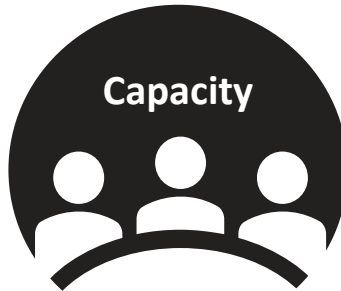
An overview of what is most notable for your school district, students, and community.



Enrollment

District wide enrollment forecasted to increase by about 580 students

- **Elementary forecasted to increase by about 100 students**
- **Middle School forecasted to increase by about 370 students**
- **High School forecasted to increase by about 110 students**



Capacity

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

Capacity challenges can be expected at:

- Elk Ridge Elementary School
- Solheim Elementary School
- Wachter Middle School



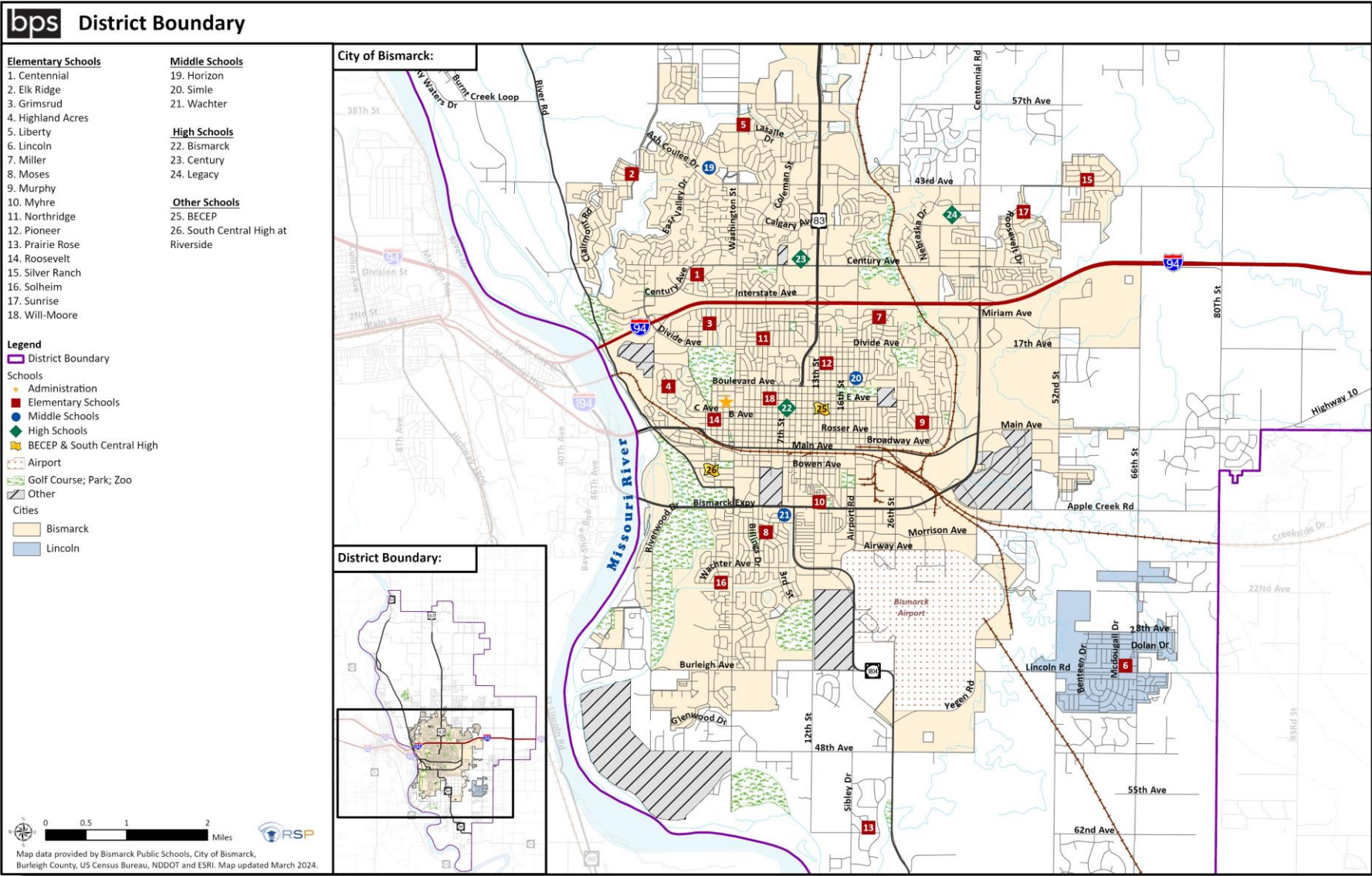
Development

Development activity is a driver of future enrollment growth:

- 197 single-family and 256 multi-family units were built in 2023
- Over 10,000 total potential units could be added to the district in the next ten years
- Most growth is located to the northern areas of district

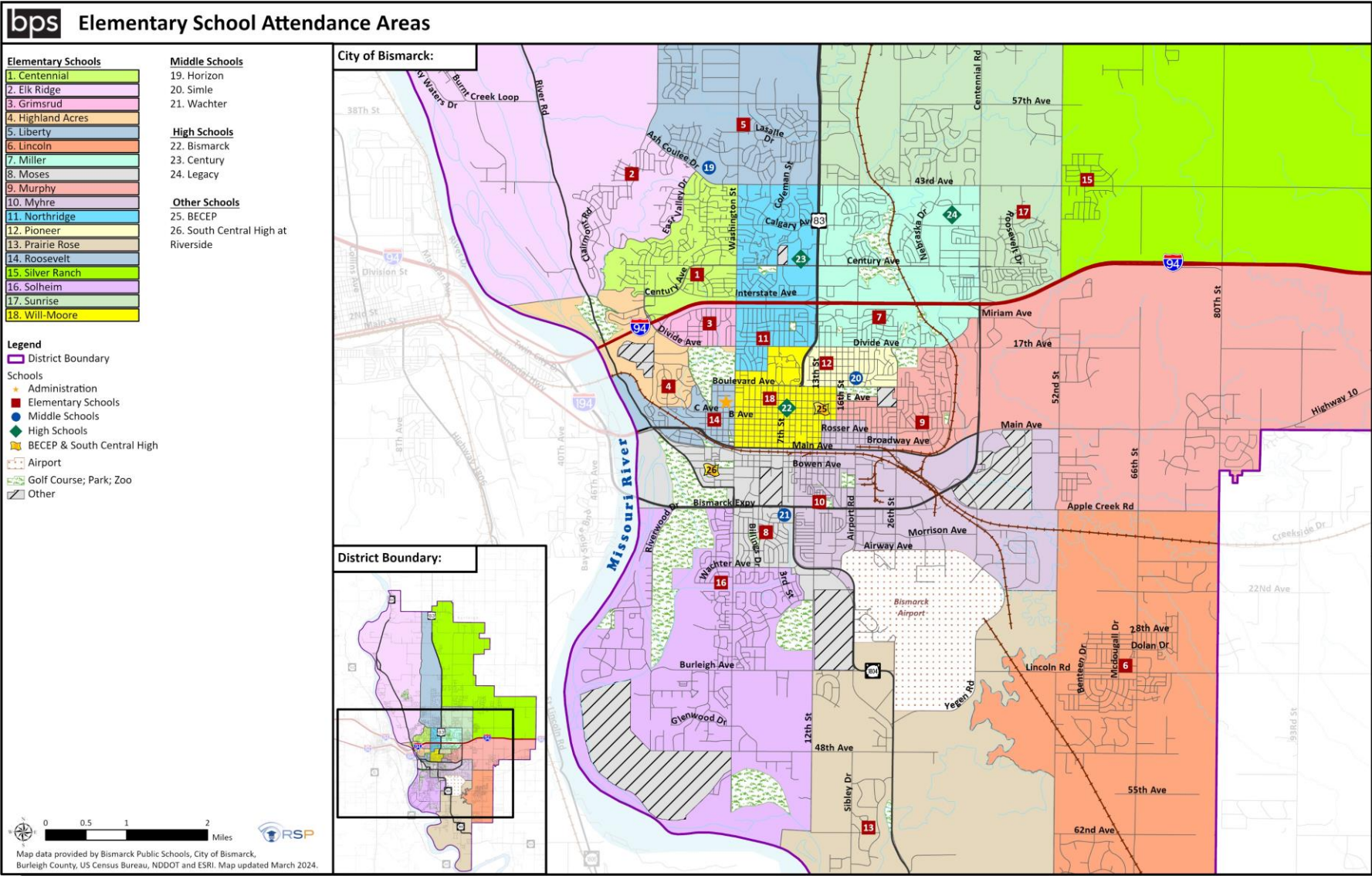
District Boundary Map

Maps updated 04/08/24



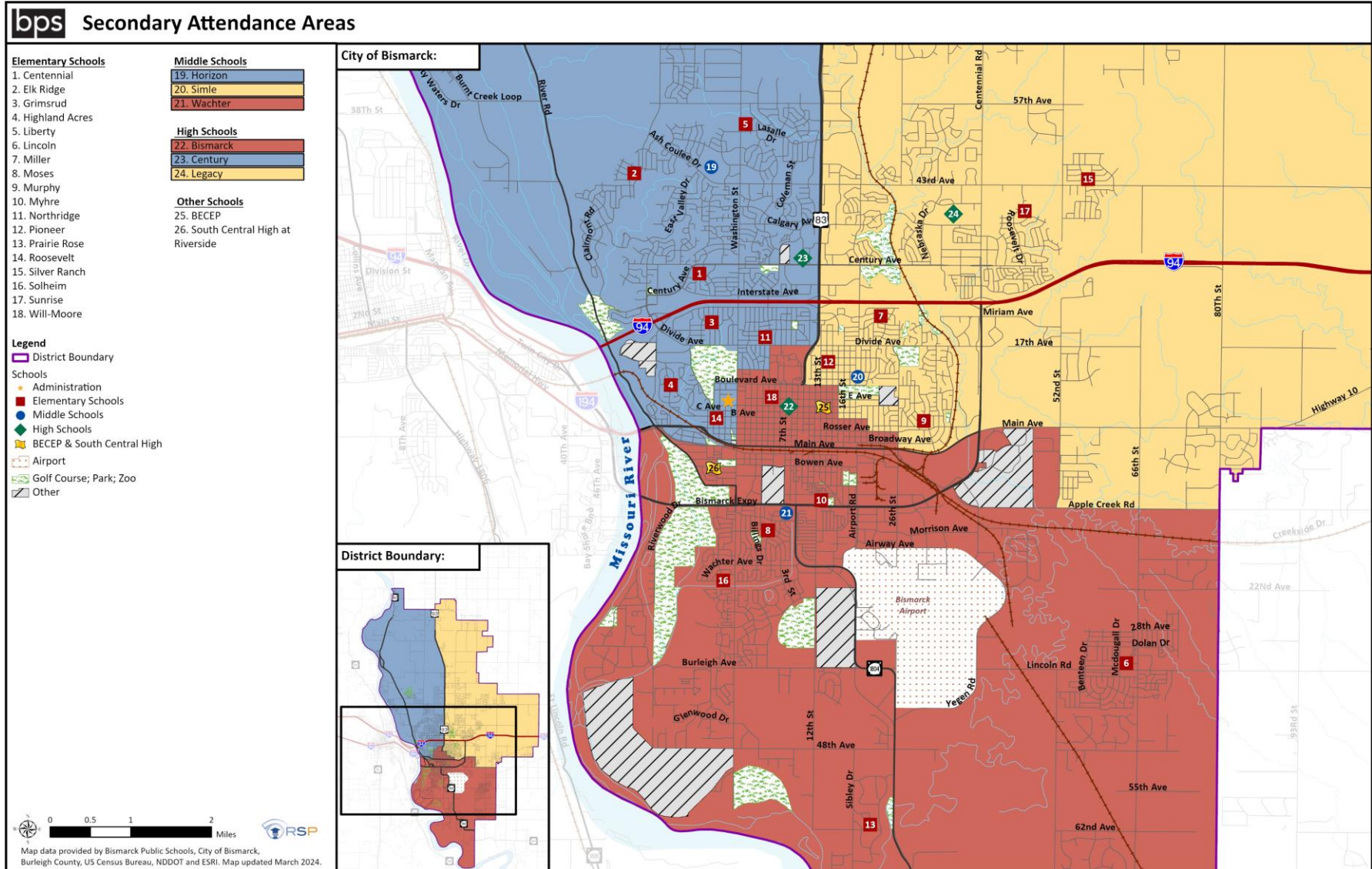
Elementary Boundary Map

Maps updated 04/08/24



Secondary Boundary Map

Maps updated 04/08/24



Feeder System

Bismarck High School	Century High School	Legacy High School
Wachter Middle School	Horizon Middle School	Simle Middle School
Lincoln Elementary	Centennial Elementary	Miller Elementary
Moses Elementary	Elk Ridge Elementary	Murphy Elementary
Myhre Elementary	Grimsrud Elementary	Pioneer Elementary
Prairie Rose Elementary	Highland Elementary	Silver Ranch Elementary
Solheim Elementary	Liberty Elementary	Sunrise Elementary
Will Moore Elementary	Northridge Elementary	
	Roosevelt Elementary	
Manning Elementary (OOD)		Apple Creek, Menoken, Naughton, and Sterling elementary schools (OOD)

Observations

- The district operates a complete feeder system from Elementary to High School
- Century High School has the most elementary schools feeding into it while Legacy High School has the least
- Students from surrounding elementary district feed into the district for middle and high school programming

RSP Sophisticated Forecast Model (SFM)

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 area in the School District
- c = Grade level
- t = 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: $BP_{t, x} = \left(\frac{(CP_x) (BT_x) (A_x)}{\sum_x (CP_x) (BT_x) (A_x)} \right) * CT$

Let:

- S = The number of students, either an actual count or a projected count
- x = A subscript denoting an attendance area in School District
- c = Grade level
- t = Time (years)
- BP = Building permit forecast as given by the Building Permit Allocation Model (BPAM) model
- R_{c, 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

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.

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...

- 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)
- 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)
- future development (county and city data)
- in-migration of students (district data) & out-migration of students (district data)

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



Indicator of Student Growth



Indicator of Student Loss

Understanding the Model

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	⊕ Increasing share of live births
⊖ Current housing stock does not re-green (continues to age)	⊕ Current housing stock re-greens (turns over)
⊖ Housing development experiences minimal potential growth	⊕ Housing development experience more potential growth
⊖ Economic indicators challenge the ability for new homeowners and affordability aspects of the district	⊕ Economic indicators improve the ability for new homeowners and the affordability aspects of the district
⊖ Demographic shifts in community and/or surrounding communities	⊕ Demographic shifts in community and/or surrounding communities
⊖ Incoming Kindergarten class smaller than outgoing senior class	⊕ Incoming Kindergarten class larger than outgoing senior class

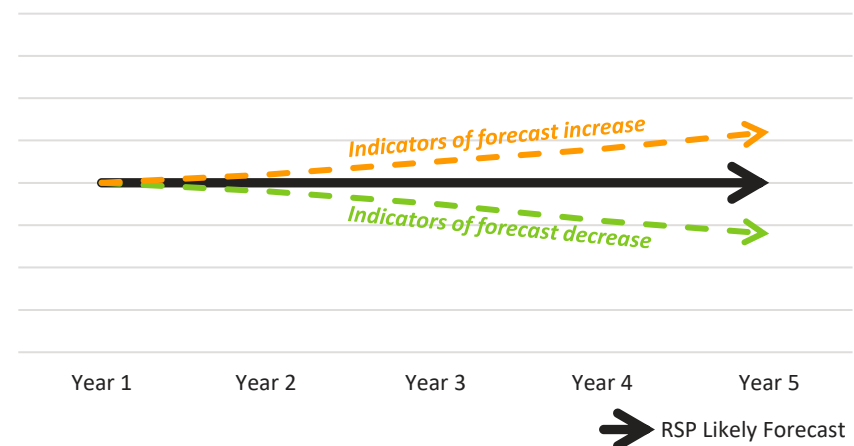
See graphic below to illustrate how the different variables may impact forecasted enrollment outlook:

Main Takeaway:

- These factors are not all positive or negative. Each have a different impact on future outlooks.
- State education policy change may impact enrollment outlook. This analysis assumes policies will continue as they currently operate throughout the projection time frame.
- It is important to continue to monitor these factors – RSP modeling attempts to find the most likely outcome:

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.

Example of Forecast Evolution



Birth Rate Table



Burleigh County North Dakota Live Births and Bismarck Kindergarten 5-Years Later

Calendar Year	# Live Births	Birth Change	% Birth Change	School Year	# Kdg	%Kdg of Live Births
2007	1,055			2012/13	966	91.6%
2008	1,024	-31	-2.9%	2013/14	1,001	97.8%
2009	1,069	45	4.4%	2014/15	991	92.7%
2010	1,086	17	1.6%	2015/16	1,003	92.4%
2011	1,134	48	4.4%	2016/17	997	87.9%
2012	1,211	77	6.8%	2017/18	1,008	83.2%
2013	1,224	13	1.1%	2018/19	1,002	81.9%
2014	1,371	147	12.0%	2019/20	1,057	77.1%
2015	1,367	-4	-0.3%	2020/21	1,029	75.3%
2016	1,347	-20	-1.5%	2021/22	1,093	81.1%
2017	1,220	-127	-9.4%	2022/23	1,006	82.5%
2018	1,234	14	1.1%	2023/24	982	79.6%
2019	1,133	-101	-8.2%	2024/25	853	1,108
2020	1,168	35	3.1%	2025/26	879	1,142
2021	1,165	-3	-0.3%	2026/27	877	1,139
2022	1,176	11	0.9%	2027/28	885	1,150
2023	1,116	-60	-5.1%	2028/29	840	1,091
3-Year Average	1,152.3	-17.33				
3-Year Weighted Average	1,144.2	-26.83				

Source: North Dakota of Department of Health and Bismarck Public Schools

Low Range

High Range

Live Birth Observations

- Tracks the number of county live births and the corresponding number of kindergarten students in Bismarck Public Schools five years later
- The number of live births have been decreasing. This is consistent with national and state trends.
- 3-year average of 17 less live births per year. The county has reported less than 1,200 births per year for the past five years.
- Bismarck Public Schools enrolls around 80-95% of county live births per year. The market share of kindergarten has been decreasing.
- Kindergarten enrollment decreased this year with 982 students
- Based on this variable, the kindergarten classes moving forward are forecasted to be:
 - 840 to 885 students on the low end
 - 1,091 to 1,150 students on the high end

Main Takeaway: The decline of live births in the Burleigh County can potentially result in smaller kindergarten classes. To keep similar or greater enrollment will require an increased in the market share of future kindergarten students. RSP recommends continuing to monitor this variable for more understanding on demographic trends as propensity of Burleigh County live births enrolling in Bismarck Public Schools.

Past Enrollment by Grade



NORTH DAKOTA SCHOOL DISTRICT - Dept of Education

Enrollment By Grade														K-12		
Year	K	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Total	Change	% Change
2005/06	672	703	760	736	772	733	748	845	792	874	920	904	932	10,391		
2006/07	817	723	752	799	781	829	778	799	865	814	869	891	849	10,566	175	1.7%
2007/08	769	830	736	777	809	805	843	828	804	893	816	866	865	10,641	75	0.7%
2008/09	841	773	834	758	800	815	824	856	835	852	882	806	826	10,702	61	0.6%
2009/10	820	820	766	836	750	807	815	837	872	847	810	844	814	10,638	-64	-0.6%
2010/11	850	823	827	780	839	756	806	855	839	909	866	824	878	10,852	214	2.0%
2011/12	936	848	850	833	787	851	767	819	837	852	917	854	833	10,984	132	1.2%
2012/13	966	969	875	870	852	826	846	803	828	879	878	890	862	11,344	360	3.3%
2013/14	1,001	974	991	918	891	864	844	872	806	853	914	877	885	11,690	346	3.1%
2014/15	993	1,035	983	1,020	927	916	891	866	888	864	849	923	841	11,996	306	2.6%
2015/16	1,003	1,016	1,041	1,018	1,026	941	932	924	899	936	874	868	895	12,373	377	3.1%
2016/17	997	1,009	1,008	1,056	1,023	1,035	976	948	940	983	924	894	856	12,649	276	2.2%
2017/18	1,008	1,008	990	1,009	1,063	1,029	1,026	969	957	984	935	917	876	12,771	122	1.0%
2018/19	1,002	1,000	1,007	984	1,010	1,075	1,053	1,049	975	1,010	952	940	900	12,957	186	1.5%
2019/20	1,057	1,031	1,020	1,017	997	1,029	1,098	1,066	1,070	1,024	985	972	924	13,290	333	2.6%
2020/21	1,029	993	999	985	981	981	1,025	1,098	1,054	1,094	1,001	946	941	13,127	-163	-1.2%
2021/22	1,093	1,070	1,000	1,009	1,026	1,006	1,000	1,040	1,123	1,110	1,056	974	912	13,419	292	2.2%
2022/23	1,006	1,105	1,065	1,023	1,013	1,035	1,013	1,020	1,054	1,211	1,084	1,017	966	13,612	193	1.4%
2023/24	982	1,039	1,117	1,078	1,040	1,034	1,062	1,029	1,023	1,158	1,136	1,044	961	13,703	91	0.7%

Source: North Dakota Department of Education (2005/06 to 2016/17) and Bismarck Public Schools (2017/18 to 2023/24)

DISCLAIMER: Enrollment does not include BECEP

Observations:

- Largest K-12 class in 2023/24 – 9th Grade with 1,158 Students
- Smallest K-12 class in 2023/24 – 12th Grade with 961 Students
- Graduating senior class is smaller than the incoming Kindergarten class which will increase total enrollment
- Largest historical increase was from 2014/15 to 2015/16 with increase of 377 students (3.1%)
- Largest total enrollment since 2005/06 is this year with 2023/24
- 2023/24 has the largest grades since 2005/06 in: 2nd Grade, 3rd Grade, 10th Grade, and 11th Grade

Cohort Student Change



Enrollment Grade Change

From	To	K 1st	1st 2nd	2nd 3rd	3rd 4th	4th 5th	5th 6th	6th 7th	7th 8th	8th 9th	9th 10th	10th 11th	11th 12th	K-12	
														Change	% Change
2005/06	2006/07	51	49	39	45	57	45	51	20	22	-5	-29	-55	175	1.7%
2006/07	2007/08	13	13	25	10	24	14	50	5	28	2	-3	-26	75	0.7%
2007/08	2008/09	4	4	22	23	6	19	13	7	48	-11	-10	-40	61	0.6%
2008/09	2009/10	-21	-7	2	-8	7	0	13	16	12	-42	-38	8	-64	-0.6%
2009/10	2010/11	3	7	14	3	6	-1	40	2	37	19	14	34	214	2.0%
2010/11	2011/12	-2	27	6	7	12	11	13	-18	13	8	-12	9	132	1.2%
2011/12	2012/13	33	27	20	19	39	-5	36	9	42	26	-27	8	360	3.3%
2012/13	2013/14	8	22	43	21	12	18	26	3	25	35	-1	-5	346	3.1%
2013/14	2014/15	34	9	29	9	25	27	22	16	58	-4	9	-36	306	2.6%
2014/15	2015/16	23	6	35	6	14	16	33	33	48	10	19	-28	377	3.1%
2015/16	2016/17	6	-8	15	5	9	35	16	16	84	-12	20	-12	276	2.2%
2016/17	2017/18	11	-19	1	7	6	-9	-7	9	44	-48	-7	-18	122	1.0%
2017/18	2018/19	-8	-1	-6	1	12	24	23	6	53	-32	5	-17	186	1.5%
2018/19	2019/20	29	20	10	13	19	23	13	21	49	-25	20	-16	333	2.6%
2019/20	2020/21	-64	-32	-35	-36	-16	-4	0	-12	24	-23	-39	-31	-163	-1.2%
2020/21	2021/22	41	7	10	41	25	19	15	25	56	-38	-27	-34	292	2.2%
2021/22	2022/23	12	-5	23	4	9	7	20	14	88	-26	-39	-8	193	1.4%
2022/23	2023/24	33	12	13	17	21	27	16	3	104	-75	-40	-56	91	0.7%
3-Year Average		28.7	4.7	15.3	20.7	18.3	17.7	17.0	14.0	82.7	-46.3	-35.3	-32.7	192.0	1.4%
3-Year Weighted Average		27.3	5.5	15.8	16.7	17.7	19.0	17.2	10.3	90.7	-52.5	-37.5	-36.3	158.5	1.2%

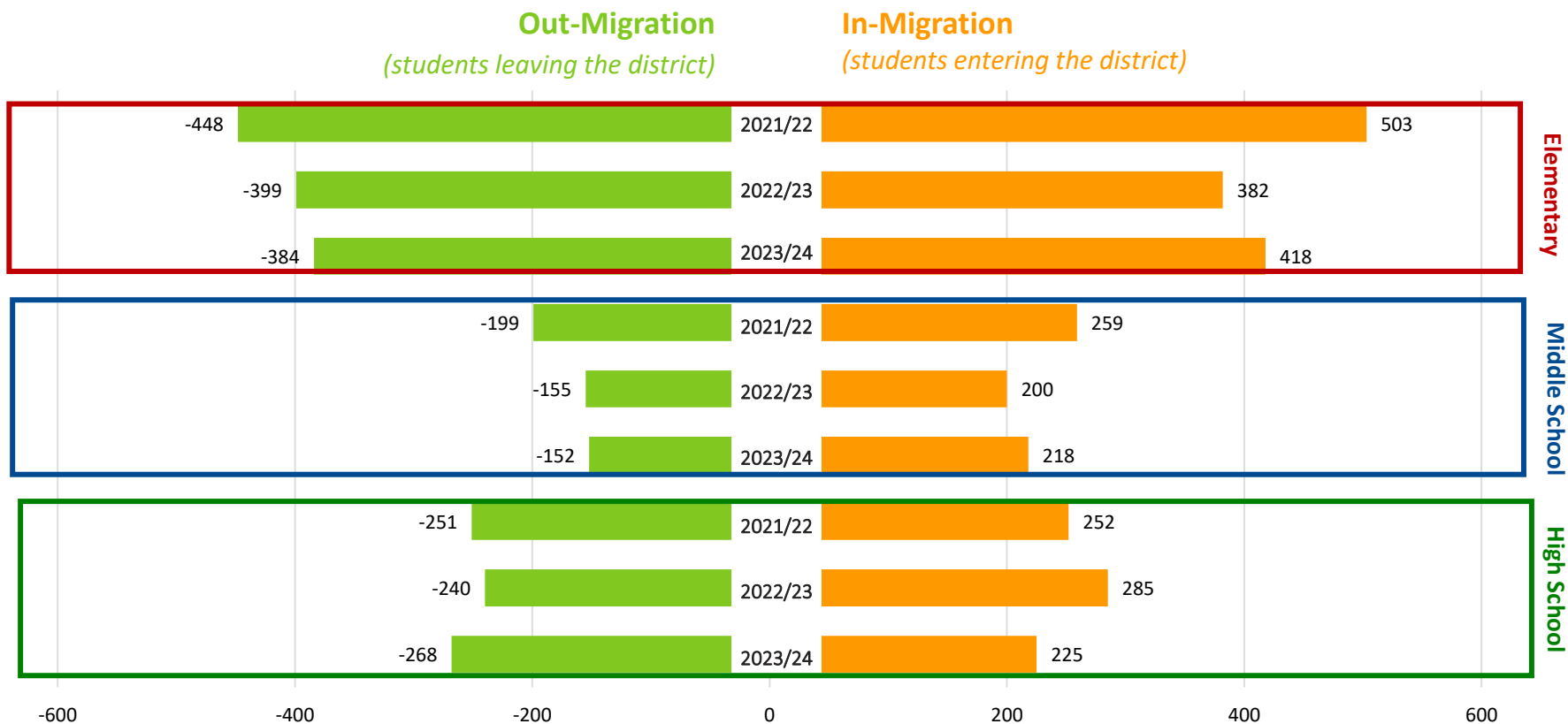
Source: North Dakota Department of Education (2005/06 to 2016/17) and Bismarck Public Schools (2017/18 to 2023/24)

DISCLAIMER: Enrollment does not include BECEP

Observations:

- Largest 3-year average K-12 class cohort increase – 8th to 9th grade **(+82.7)**
- Largest 3-year average K-12 class cohort decrease – 9th to 10th grade **(-46.3)**
- Overall percent change from previous year of 0.7% - increase of 91 students
- Instructional Modality will have to be monitored to determine if the students who are not attending the district still reside in the district and if or how many return to receive services in the future years
- The cohort loss of students from 9th to 12th grade has been increasing over the past few years

3-Year Student Migration Trend



Source: Bismarck Public Schools and RSP

Definition

Out-Migration: Shows number of students in grade K to 11th that were attending the District in the previous year, but are not attending the District in the current year.

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.

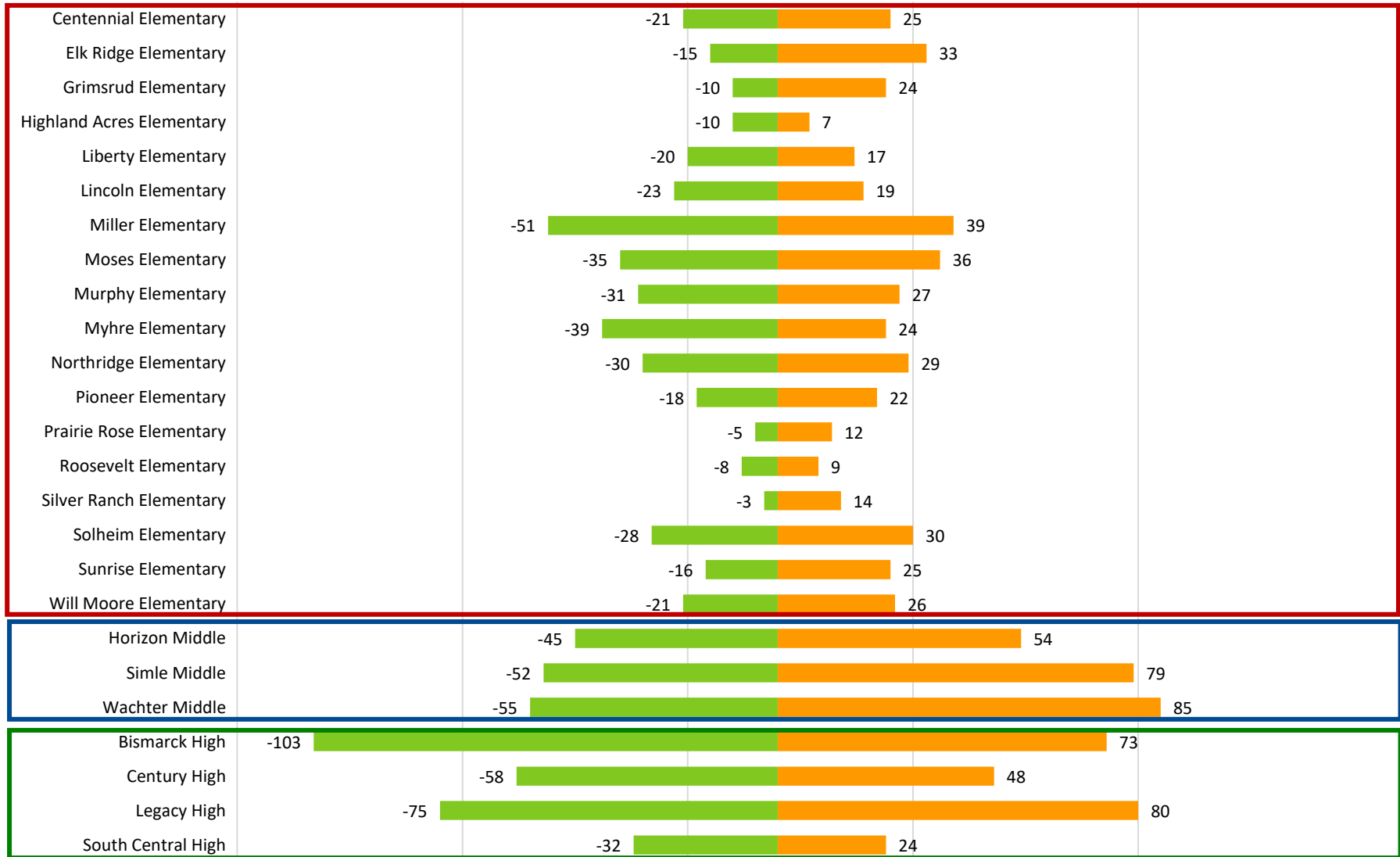
Observations

- 2021/22 lost 898 students and gained 1,014 students; **NET: +116**
- 2022/23 lost 794 students and gained 867 students; **NET: +73**
- 2023/24 lost 804 students and gained 861 students; **NET: +57**

Main Takeaway: The district has had a positive migration of students the past three years. There tends to be more new students migrating into the district than past student exiting.

1-Year Student Migration by Building (Attend)

Out-Migration In-Migration

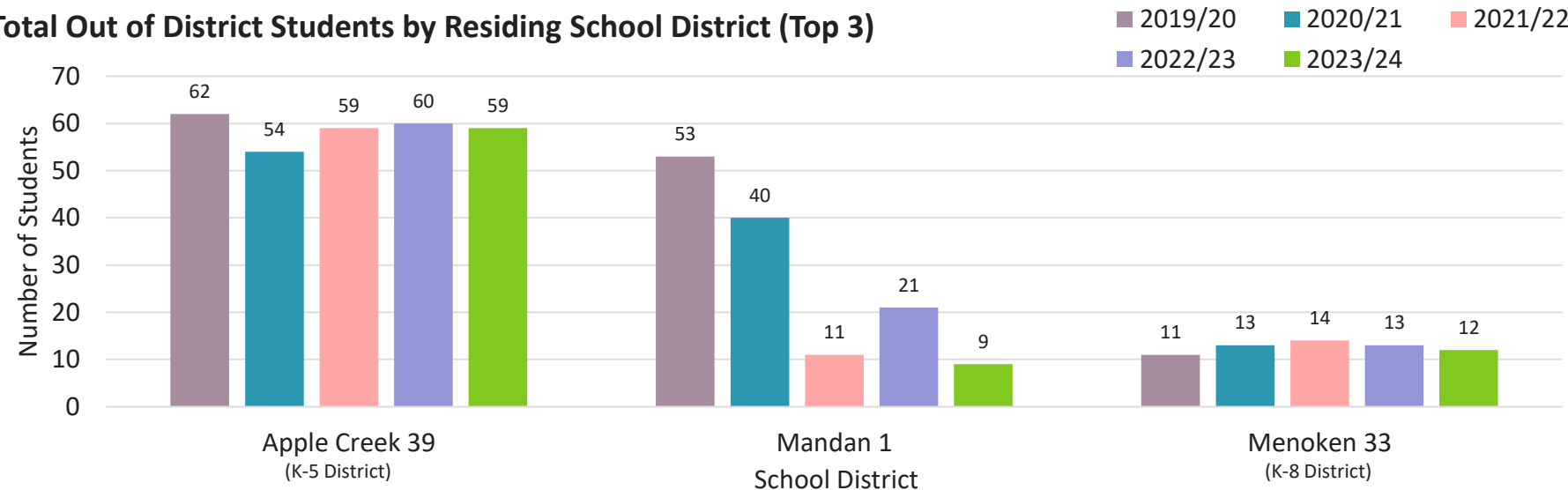


Source: Bismarck Public Schools and RSP



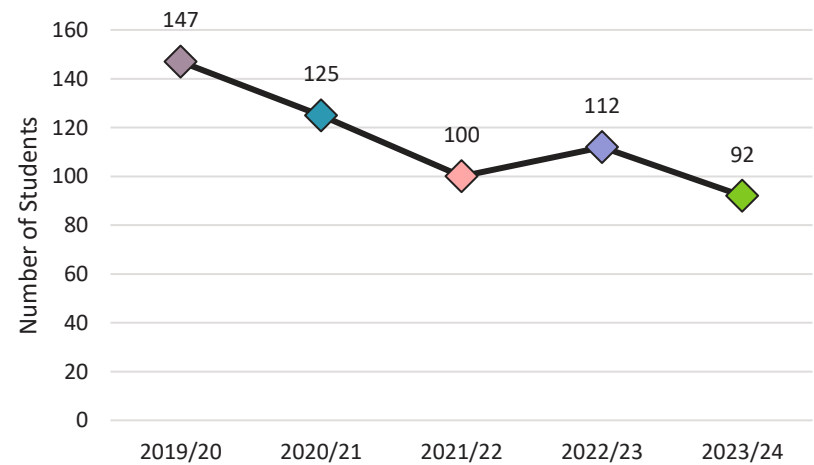
Out of District Student Analysis

Total Out of District Students by Residing School District (Top 3)



Source: Bismarck Public Schools and RSP

Total Out of District Students per Year



Source: Bismarck Public Schools and RSP

Observations

- Out of district enrollment decreased this year
- 92 total students reside out of the district boundary
- Apple Creek 39 tends to contribute the largest share of out of district students per year

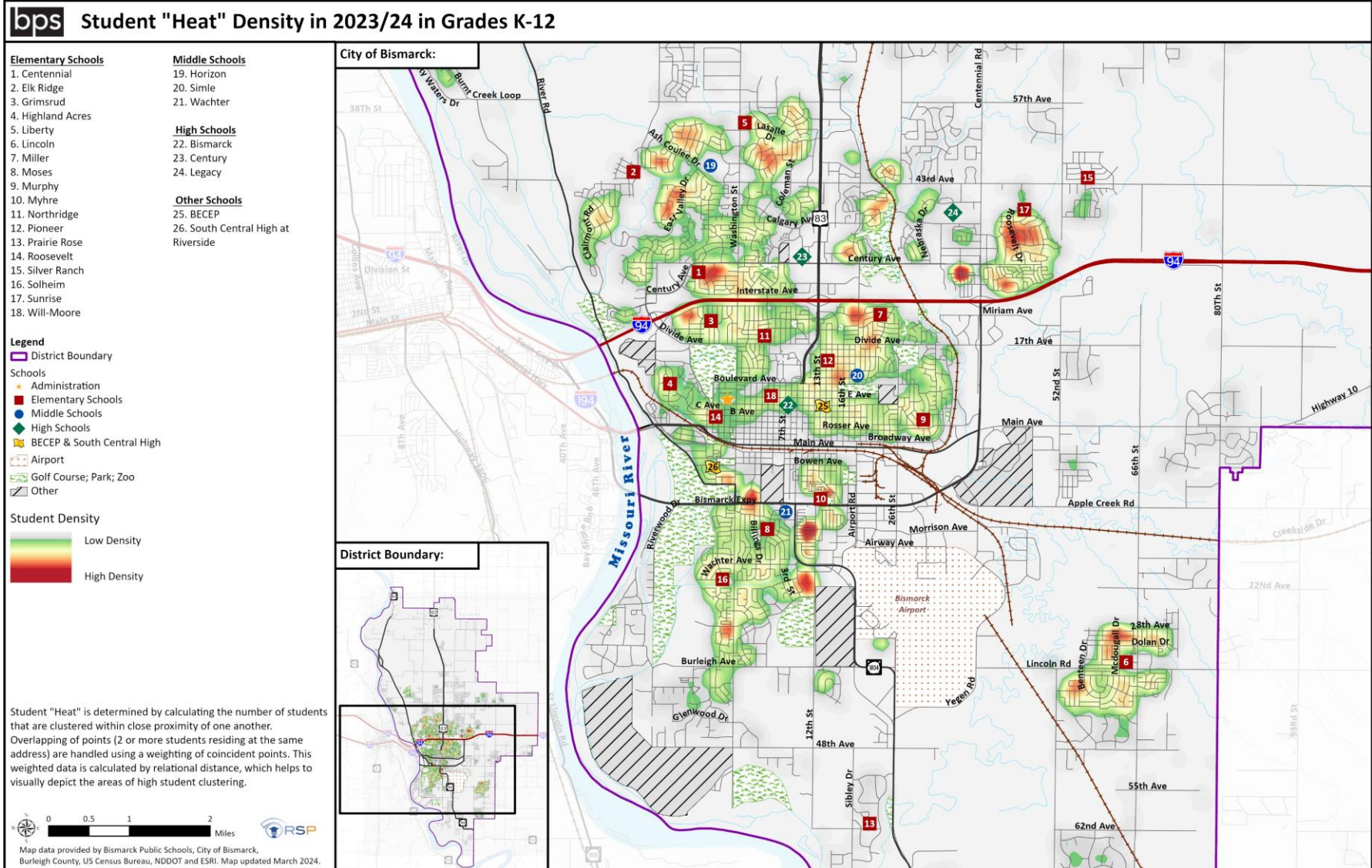
Note: Analysis includes the number of students RSP has geocoded residing out of the district boundary. It may not align with district totals of out-of-district transfers, but provides count of students with addresses outside of the district at the time of Official Count provided data.

Main Takeaway: It is important to monitor the current market share of out of district students to better understand changes in student choices.

K-12 Student Heat Map



Maps updated 04/08/24



Enrollment Observation and Conclusion

RSP & Associates monitors over 950 planning areas for demographic, development, and enrollment data sets



Live births in Burleigh County have been decreasing the past five years – *indicator of student loss*



District enrollment increased by 91 students from last year – *indicator of student growth*

- Cohorts tend to gain students from K through 9th grade
- Most grade levels increase as they work their way through the system



Graduating senior classes are smaller than incoming kindergarten classes – *indicator of student growth*



District historically has had a positive migration trend for the past two years – *indicator of student growth*

Open enrollment trends should continually be analyzed as change to open enrollment policy have impact on enrollment outlook.

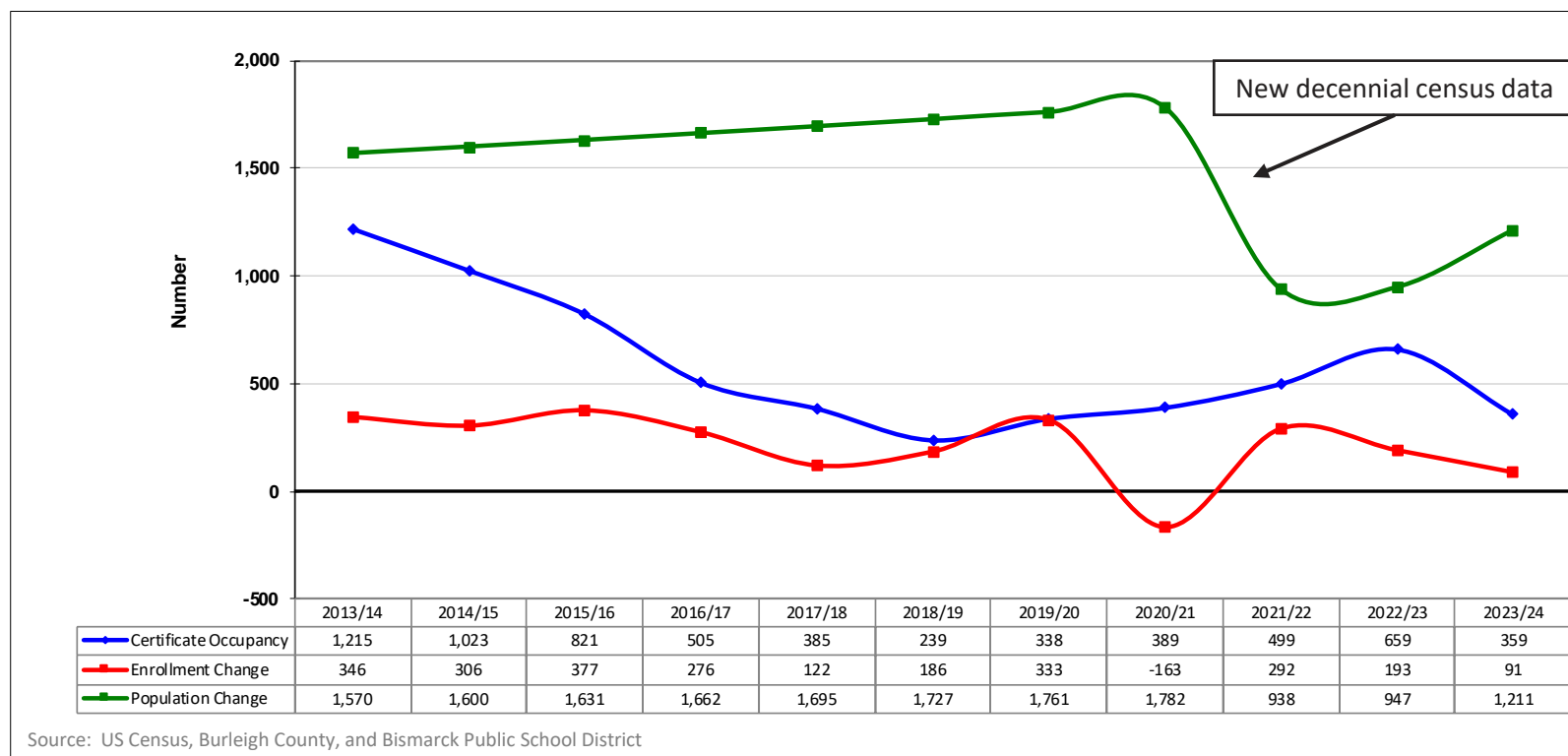


PART 2 DEVELOPMENT

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



Population, Development, & Enrollment



Graphic Explanation

- **BLUE LINE:** Building activity has averaged over 550+ units a year
- **GREEN LINE:** Census data indicates a stable, slightly increasing population
 - Population shows the estimate growth of the whole decade
 - New decennial census often affect year-to-year change
- **RED LINE:** Student enrollment has been generally increasing year to year
 - 2020/21 saw a decrease in students, likely due to COVID-19 pandemic

Main Takeaway:

Provides a benchmark of data to determine if there is a correlation between:

- Population change
- Building activity
- School enrollment

K-5 Student Yield Rate: Single-Family



Students per 100 SF units:	2017	2018	2019	2020	2021	2022	2023	Avg
Centennial Elementary	17	18	18	19	19	19	19	18
Elk Ridge Elementary	24	27	28	24	26	29	29	27
Grimsrud Elementary	17	15	16	16	16	15	16	16
Highland Acres Elementary	17	19	18	18	17	20	21	19
Liberty Elementary	31	31	30	27	27	23	22	27
Lincoln Elementary	31	31	32	30	32	31	30	31
Miller Elementary	19	18	17	16	17	17	17	17
Moses Elementary	14	14	12	12	12	14	13	13
Murphy Elementary	18	18	17	16	16	17	15	17
Myhre Elementary	13	11	12	10	10	11	12	11
Northridge Elementary	14	15	15	15	15	14	14	15
Pioneer Elementary	14	15	15	14	15	15	14	15
Prairie Rose Elementary	20	19	18	17	16	18	18	18
Roosevelt Elementary	13	12	13	14	13	12	12	13
Silver Ranch Elementary	31	33	33	29	27	26	26	29
Solheim Elementary	18	20	19	18	19	19	19	19
Sunrise Elementary	30	29	29	28	28	27	26	28
Will Moore Elementary	10	11	11	11	12	10	10	11
District (K-5):	20	21	20	19	20	20	20	20

Table Legend

- +3 greater from District Average
- -3 fewer from District Average

Main Takeaway:

With the new residential inventory, the district yield rate has been stable around 20 students per 100 SF units.

Source: Burleigh County, Bismarck Public Schools, and RSP

Single-Family Yield Rate Observations

- Table shows the number of students per 100 single-family (SF) units by year and by elementary boundary
- District sees on average 20 K-5 students per 100 single-family households
- Lincoln Elementary has the largest 2023 SF yield rate with 30 students per 100 single-family households
- Will Moore Elementary has the smallest 2023 SF yield rate with 10 students per 100 single-family households
- Adding new housing inventory can increase the yield rate – **There were 3,295 single-family homes built from 2014 to 2024**

K-5 Student Yield Rate: Multi-Family



Students per 100 MF units:	2017	2018	2019	2020	2021	2022	2023	Avg
Centennial Elementary	15	15	15	14	15	13	15	15
Elk Ridge Elementary	12	11	15	14	16	19	19	15
Grimsrud Elementary	8	7	8	8	9	8	9	8
Highland Acres Elementary	5	5	3	4	5	4	4	4
Liberty Elementary	17	17	17	15	15	14	14	16
Lincoln Elementary	42	40	45	49	49	43	36	43
Miller Elementary	8	8	9	10	10	11	10	9
Moses Elementary	10	8	9	8	9	10	10	9
Murphy Elementary	10	9	9	9	8	8	9	9
Myhre Elementary	16	13	12	12	14	13	12	13
Northridge Elementary	9	7	7	6	7	7	7	7
Pioneer Elementary	43	39	25	46	43	3	6	29
Prairie Rose Elementary	0	0	0	0	0	0	0	0
Roosevelt Elementary	0	0	0	0	0	0	0	0
Silver Ranch Elementary	0	0	0	0	0	0	0	0
Solheim Elementary	13	10	11	12	11	11	12	11
Sunrise Elementary	16	15	15	13	15	12	12	14
Will Moore Elementary	7	6	5	5	5	6	8	6
District (K-5):	12	10	10	10	11	10	11	11

Table Legend

- +3 greater from District Average
- -3 fewer from District Average

Main Takeaway:

The yield rate for multi-family developments have slightly decreased since 2017.

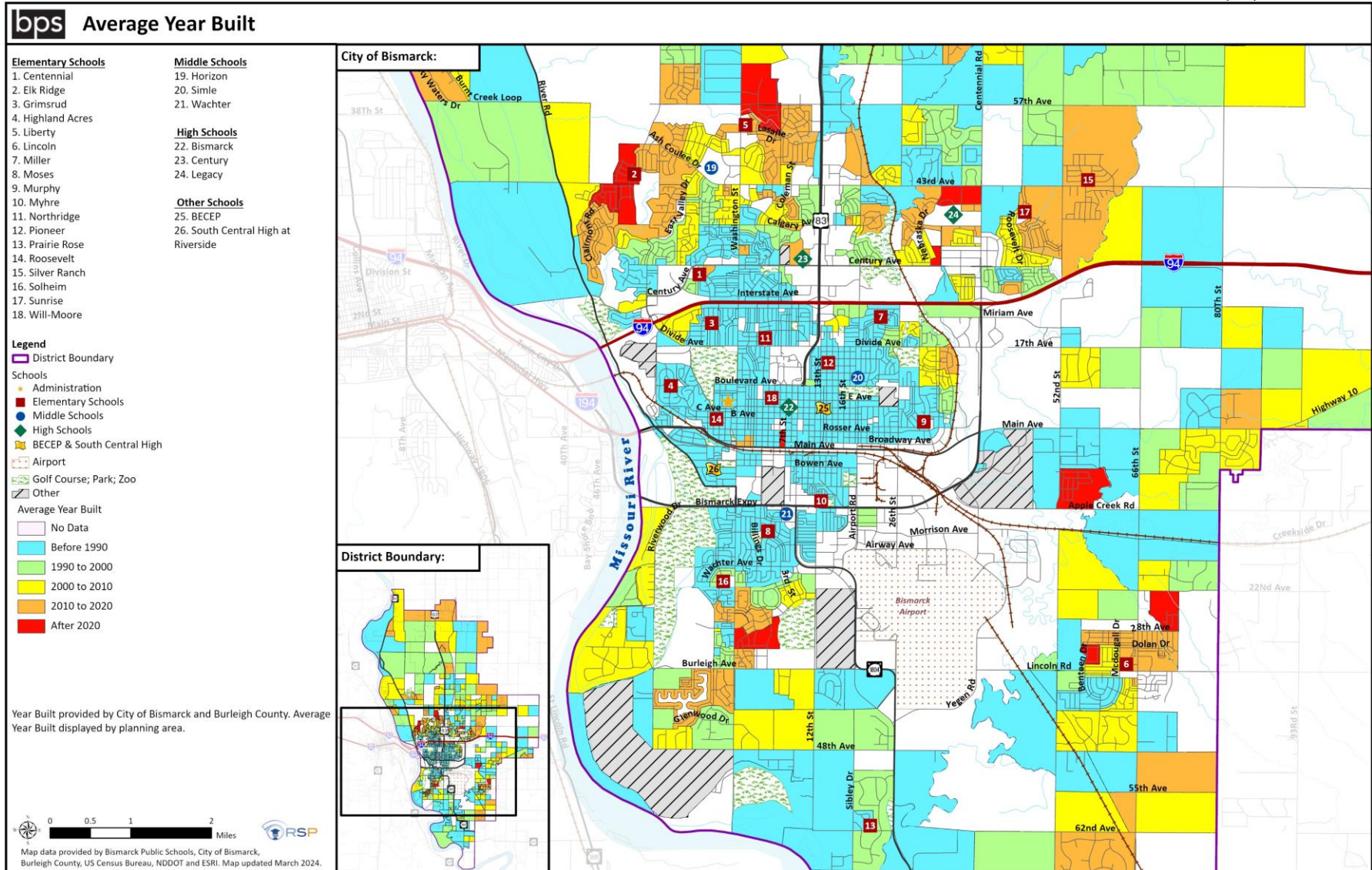
Source: Burleigh County, Bismarck Public Schools, and RSP

Multi-Family Yield Rate Observations

- Table shows the number of students per 100 multi-family (MF) units by year and by elementary boundary
- District sees on average 11 K-5 students per 100 multi-family households
- Lincoln Elementary has the largest 2023 MF yield rate with 36 students per 100 multi-family households
- Prairie Rose, Roosevelt, and Silver Ranch elementary schools do not have any students generated from multi-family housing
- Adding new housing inventory can increase the yield rate – **There were 2,016 multi-family homes built from 2014 to 2024**

Average Year Built Map

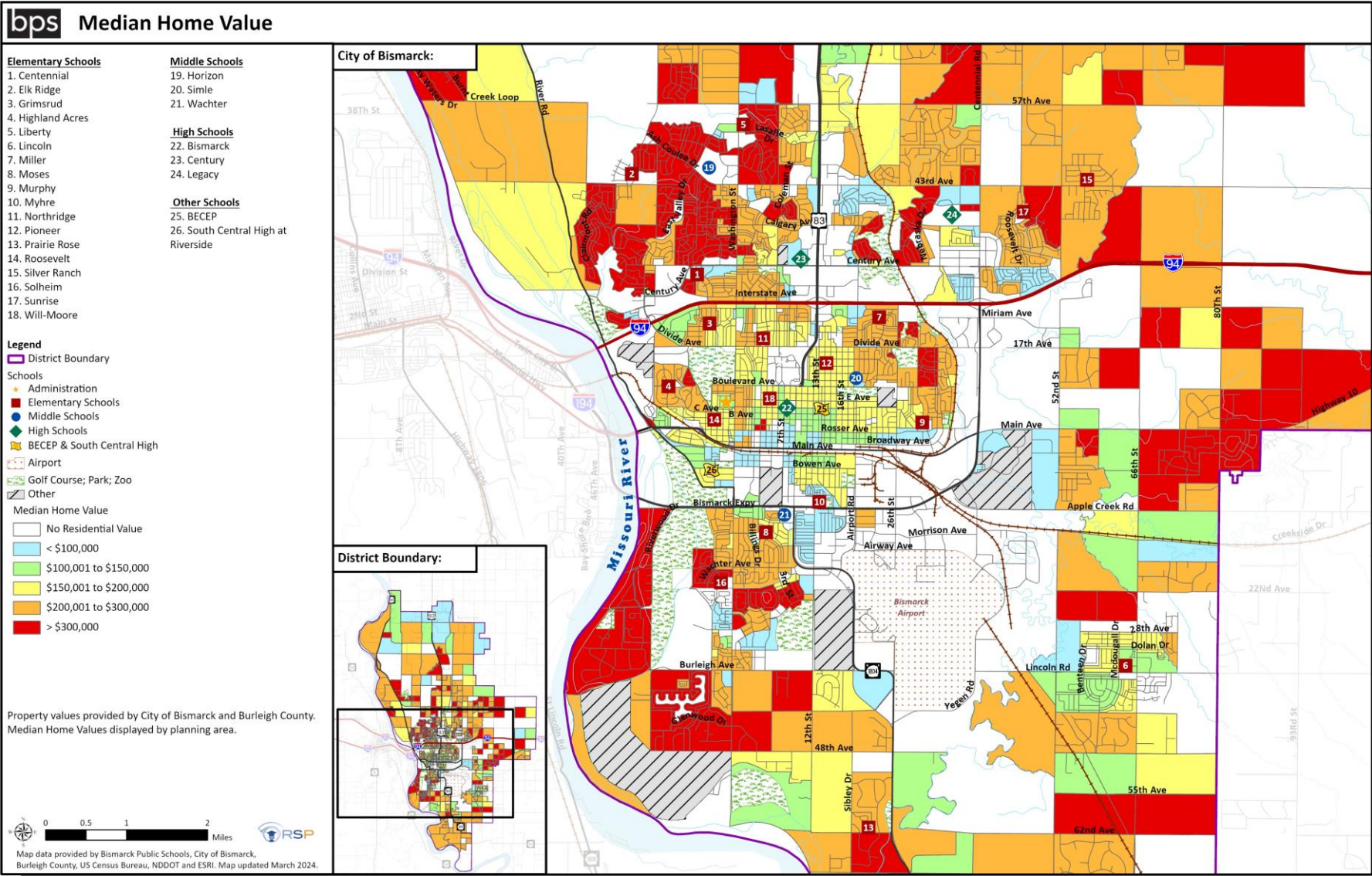
Maps updated 04/08/24



Median Home Value Map

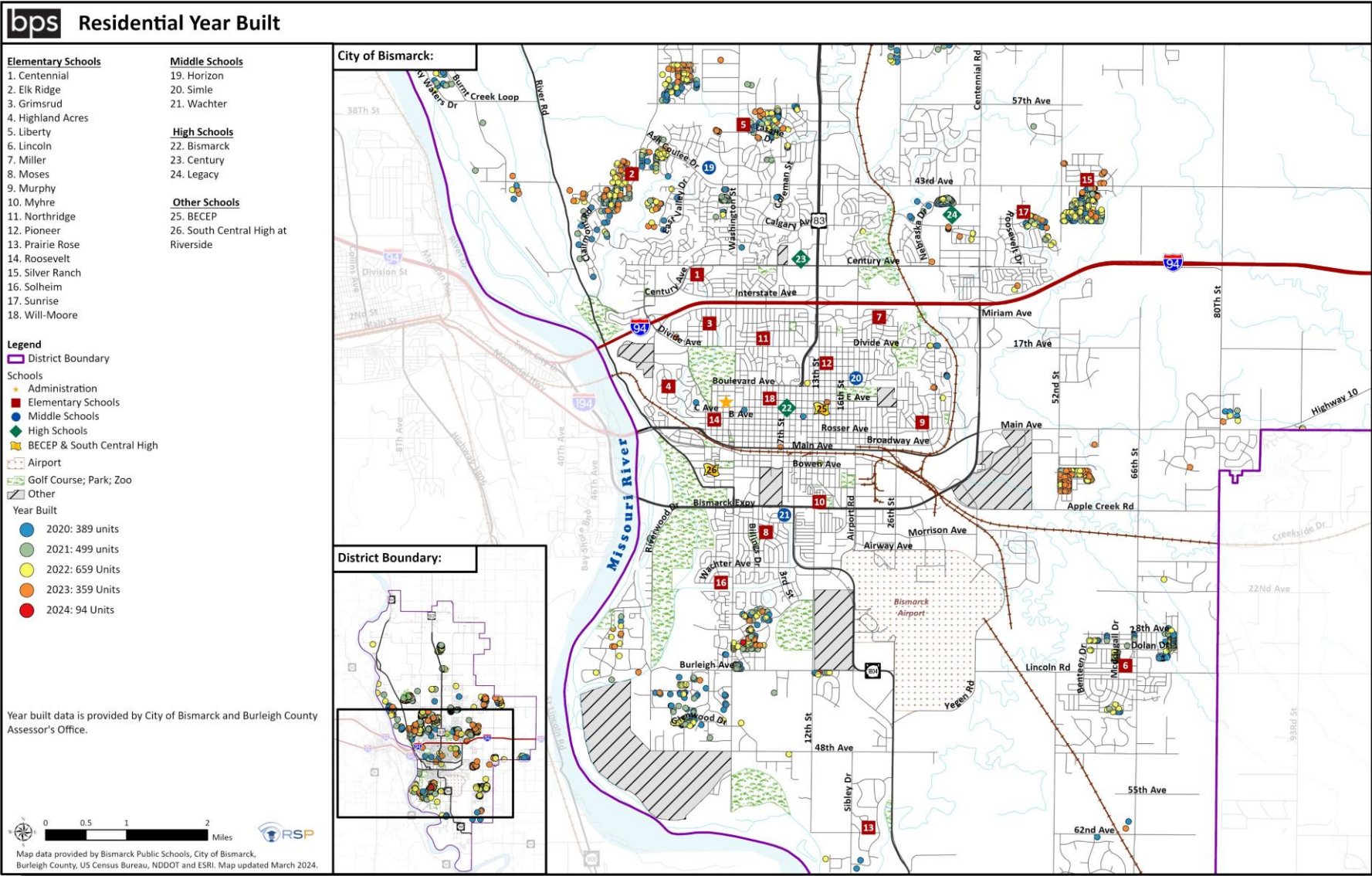


Maps updated 04/08/24



Recent Year Built Map

Maps updated 04/08/24



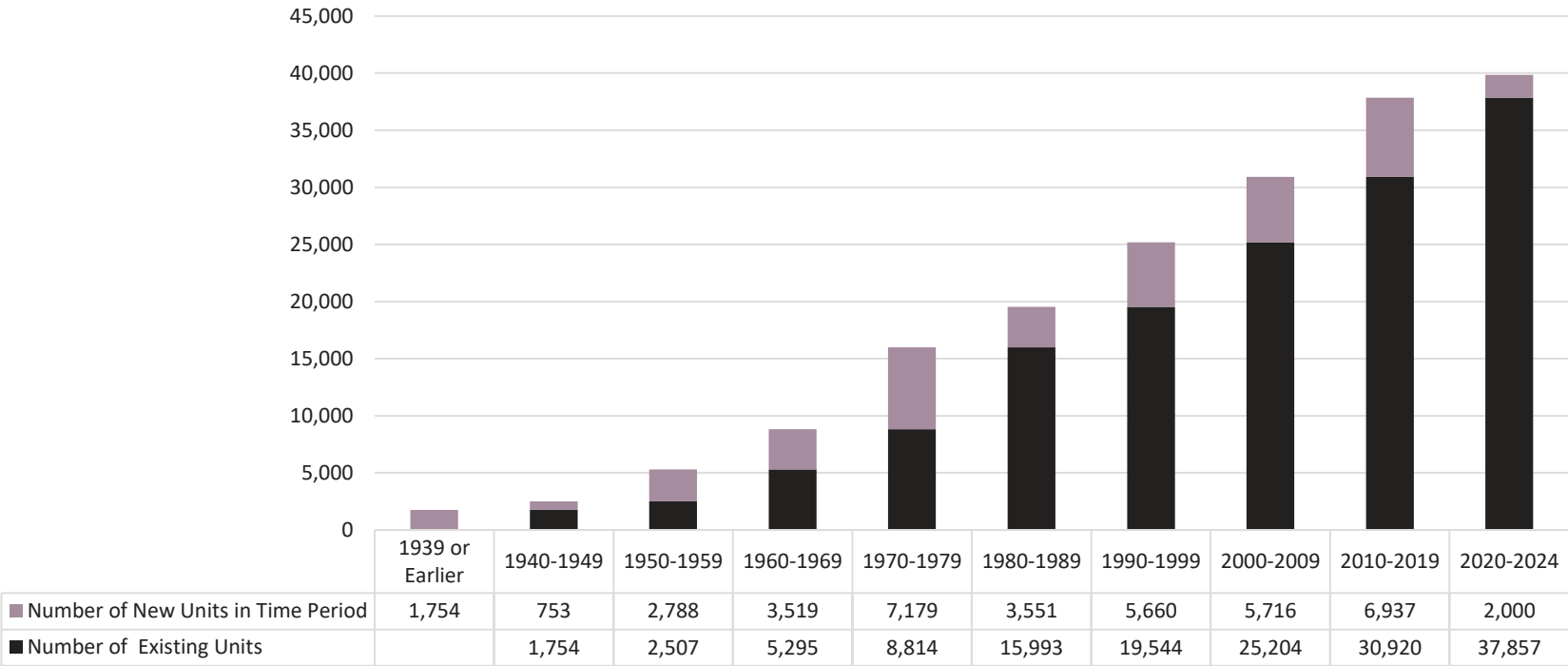
Development Activity Over Time



Observations:

- 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 (694 per year) is higher than from 2000 to 2009 (572 per year)
- The decade with the most units built was 1970 to 1979
- The average year for all units built was 1987
- Four years into the current decade, the district has seen 2,000 new units built

New V.S. Existing Units by Decade Built

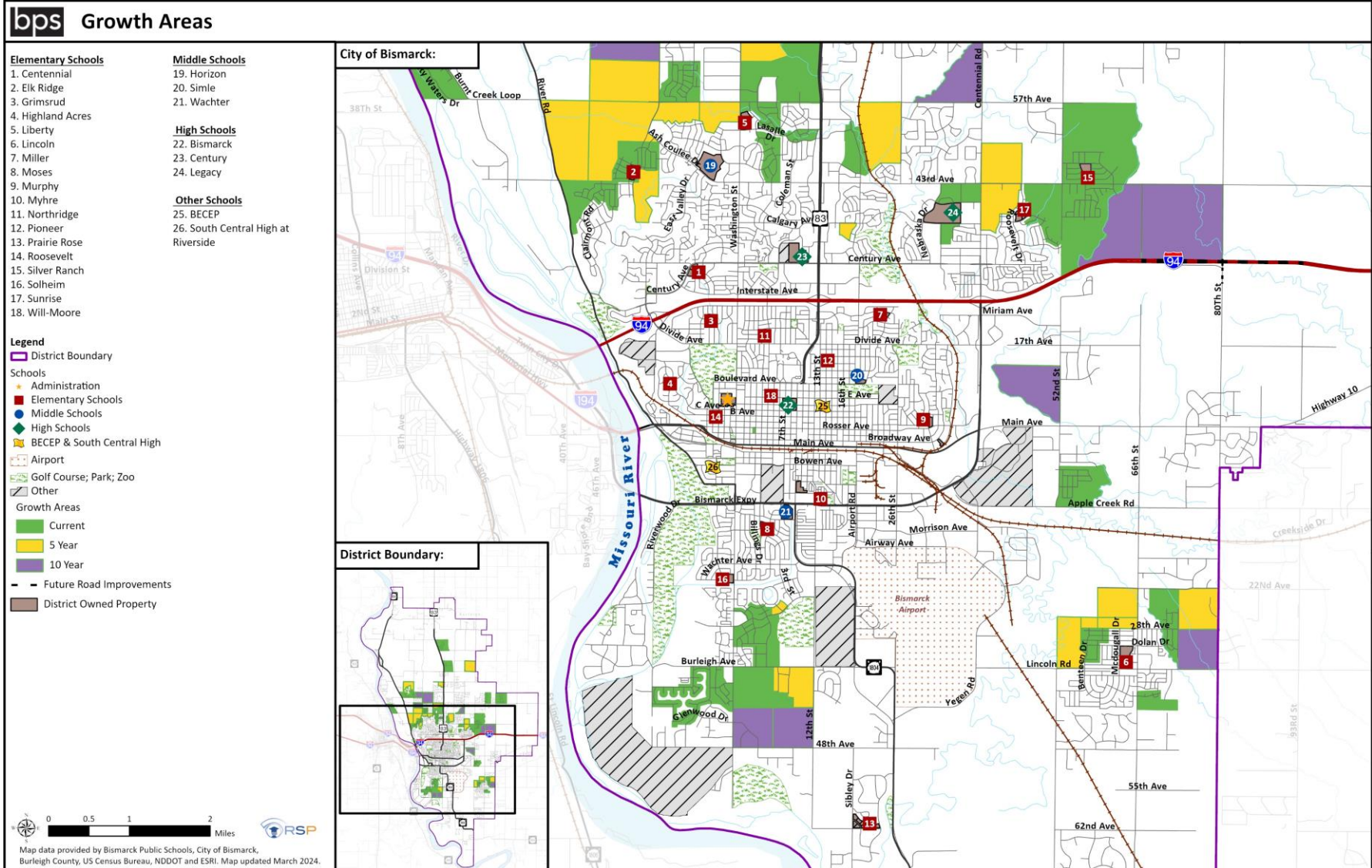


Source: Burleigh County and ESRI

Growth Area Map



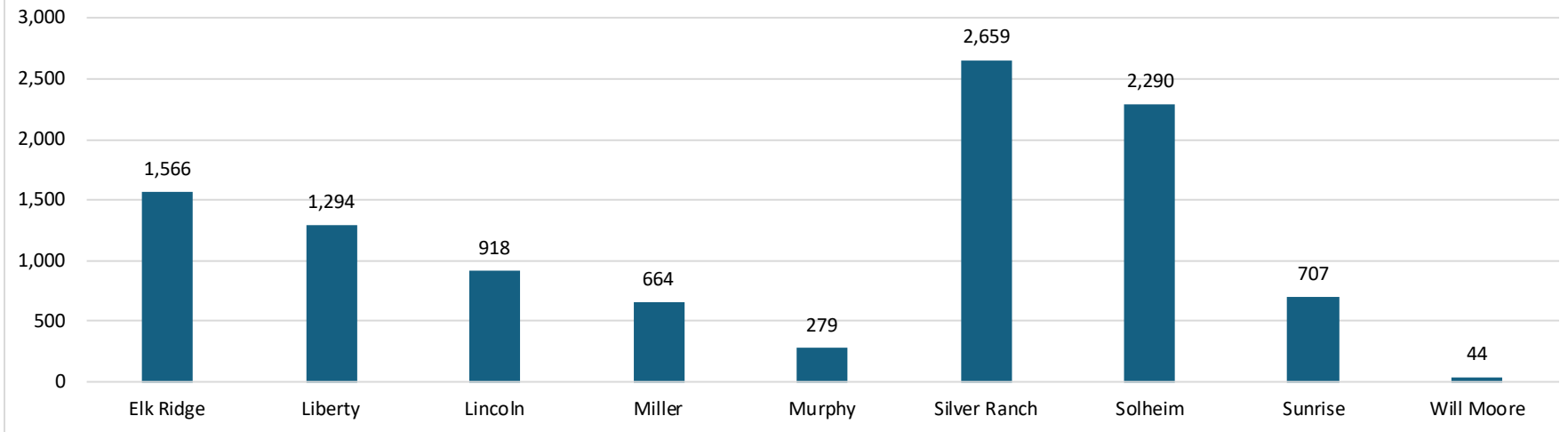
Maps updated 04/08/24



Development Table (Overview)



Potential Units by Elementary Boundary



Source: City of Bismarck, Burleigh County

Growth Areas (RSP Plan Area Names)	Existing Units	Potential Units
Current Total	2,733	4,501
5 Year Total	28	2,396
10 Year Total	31	3,524
Grand Total	2,792	10,421

Source: City of Bismarck and Burleigh County

Main Takeaway: Over 10,000 potential units were identified in this study for development. Around 4,500 units are in stages of current development. Silver Ranch and Solheim elementary boundaries have the most potential units residing in their boundaries.

Observations

- Table has been created to illustrate the type and amount of potential development over the next 10 years
- The speed in which any developments are built are influenced by who owns the property, access to infrastructure, and economic indicators
- Developments planned for 55+ are not included as growth areas
- 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 areas that could develop within 5-years
 - Purple: identifies areas that could develop within 10-years

Development Observation and Conclusion



Over 10,000 units identified for potential development within the next 10+ years



Building activity has been stable the past couple of years

- Opportunities of residential growth still exist monitor local factors that may affect development timing and economic outlook to gauge how the new decade of residential growth will play out



Single-family residential has the highest propensity to have school aged students, yield rates of this development type are higher than that of multi-family

- Single-family units are being developed at a higher rate than multi-family – 2023 saw 197 single-family units built and 256 multi-family units built
- Tracking the types of development is important to understand the yield rate of students for every part of the community – there are varying yield rates with all developments



Growth areas are mostly located north of I-94 – the northwest corridor will continue to have the most potential for future growth (Silver Ranch and Solheim elementary boundaries)

Residential development will continue if the housing product is affordable and have active residential projects – infrastructure connectivity also plays a role in the desirability and timing of residential development. Potential for a slight decrease in unit production with a national election year (2024).

As of February 2023, 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



PART 3 PROJECTIONS

- Past, Current, & Future Enrollment
- Building Projections



RSP Projection Outlook

Historical Context:

- The last projection model for Bismarck Public Schools was completed by RSP during the 2021/22 School year
- The 2021/22 projections were 99.7% accurate for the 2022/23 school year and 98.0% accurate for the 2023/24 school year
- Since the 2021/22 projections, several factors and trends have changed making the 2023/24 projection model slightly different than before. Some of these key changes are listed below

Trends

- Increasingly greater cohort loss from 9th grade to 12th grade
 - In 2021/22 the average loss across these grade was -33 students
 - In 2023/24 the average loss across these grades is -57 students
- Kindergarten class size
 - Kindergarten class size has been decreasing each year since 2021/22
 - In 2021/22 the average K class size was expected to come in between 1,100 and 1,200 for the next projected 5 years
 - In 2023/24 the average K class size is expected to come in between 990 and 1,060 for the next projected 5 years
- Building activity
 - In 2021/22 there were over 6,200 units available to be built in the next 10+ years
 - In 2023/24 there are over 10,000 units available to be built in the next 10+ years

What Happened

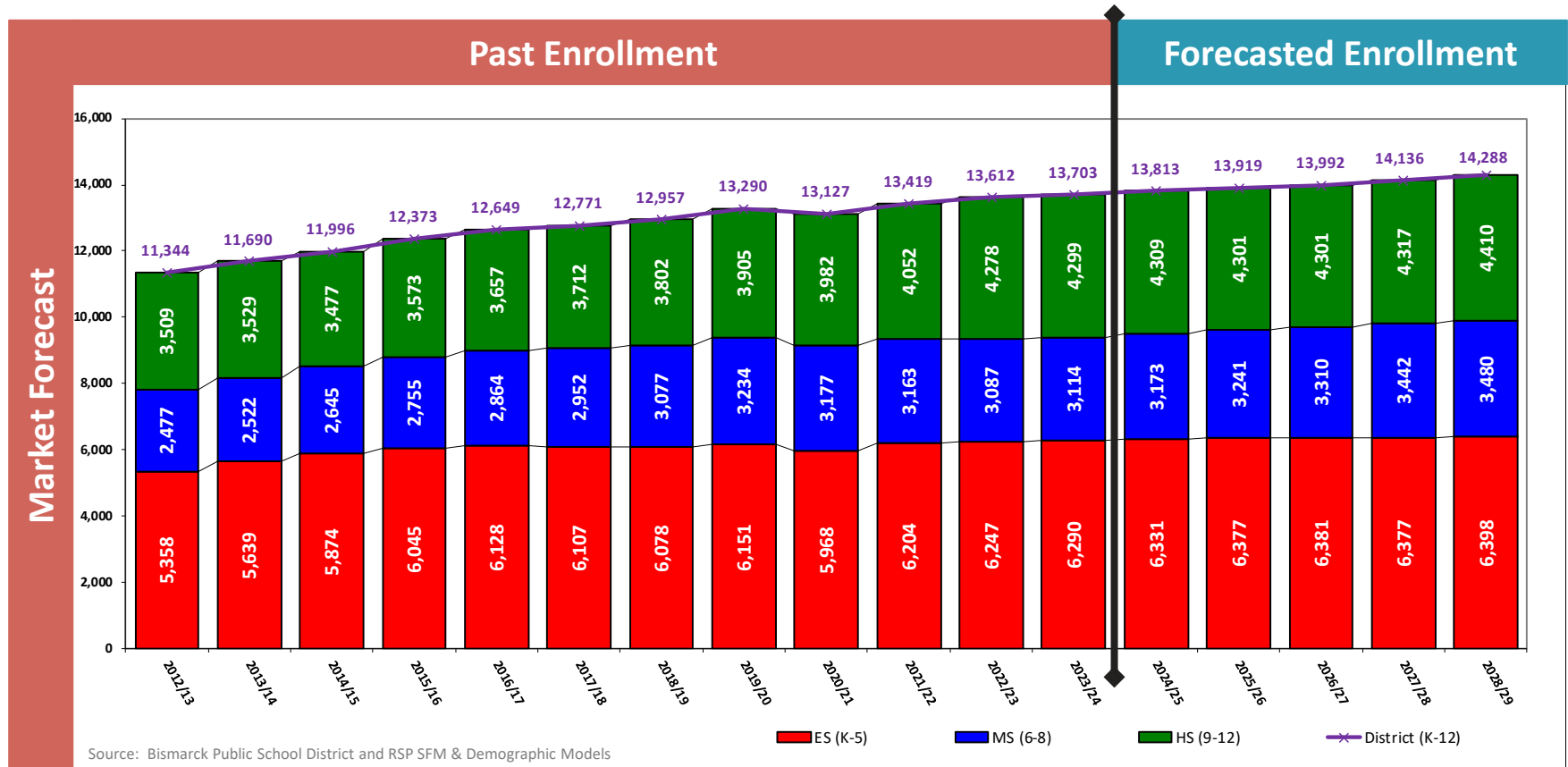
- Two new elementary schools opened in 2022/23 (Elk Ridge Elementary and Silver Ranch Elementary)
- Birth rates have been declined almost 5% since 2021 making it more unlikely for large classes to enter the school system

Forecast Outlooks

- In 2021/22 the most growth was expected to occur at the elementary level with over 10% growth expected by 2026/27. Due to smaller kindergarten class sizes, migration pattern changes, and cohort trends the elementary school is now expected to grow by only 0.8% by 2028/29
- Most of the growth is now expected to occur at the middle school level with enrollment increasing by 11.7% by 2028/29
- The largest classes are currently located at the high school level (averaging 1,075 students per grade), by 2028/29 the largest classes are expected to be located at the Middle school level (averaging 1,160 students per grade)



Past, Current, & Future Enrollment



Observations:

- Enrollment Change – Overall enrollment increase forecasted to be almost 14,300 students by 2028/29
- Future kindergarten will likely be between 1,000 and 1,080 students
- District increases by 585 students (+4.3%) (Annual Range: +2.2% to +4.3% a year)
- Elementary increases by 108 students (+1.7%) (Annual Range: -0.1% to +0.7% a year)
- Middle School increases by 366 students (+11.8%) (Annual Range: +1.1% to +4.0% a year)
- High School increases by 111 students (+2.6%) (Annual Range: -0.2% to +2.2% a year)

Projection Notes & Clarifications

Past Enrollment is shown three different ways:

1. Reside (Based on where a student Resides in relation to the attendance area – includes Open Enrollment)
2. Attend (Based on what school the student is attending includes Open Enrollment)
3. Reside/Attend (Subset of Reside to know how many of the Reside attend the school based on the attendance area they are assigned to)

Projections are shown two ways:

1. Reside (Based on where a student Resides in relation to the attendance area – includes Open Enrollment)
2. Attend (Based on what school the student is attending includes Open Enrollment)

Capacity

- Provided by district administration
- Orange shading is where the capacity exceeds the Capacity Target
- Green shading is where the capacity is less than 70% Capacity Target
- Should be annually examined to ensure appropriate education space is available

Other Items

- Enrollment Grade Configuration in Student Forecast Model (K-5, 6-8, 9-12)
- Burleigh Graded Elementary schools (Manning, Apple Creek, Menoken, Naughton, and Sterling) are assumed to follow district policy and will continue trends of attending Bismarck Public Schools
- The Spring 2022 boundary analysis did help resolve capacity challenges in the southern portion of the district



Bismarck High School Feeder

Market Forecast

Bismarck Public School Projections By School (Based on Student Reside)

School	Capacity Target	Enrollment Type (Past)	Past School Enrollment			Projections Based on Residence					Projected Enrollment Capacity %				
			2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2024/25	2025/26	2026/27	2027/28	2028/29
Lincoln Elementary K to 5th	802	Reside/Attend	648	631	627										
		Reside	665	653	636	642	652	645	645	650	80%	81%	80%	80%	81%
		Attend	655	647	635	642	650	643	643	648	80%	81%	80%	80%	81%
Moses Elementary K to 5th	446	Reside/Attend	307	302	333										
		Reside	332	358	357	360	374	389	380	363	81%	84%	87%	85%	81%
		Attend	334	370	362	364	380	395	386	369	82%	85%	89%	87%	83%
Myhre Elementary K to 5th	356	Reside/Attend	254	210	236										
		Reside	282	266	259	266	264	270	271	278	75%	74%	76%	76%	78%
		Attend	285	253	257	260	260	266	267	274	73%	73%	75%	75%	77%
Prairie Rose Elementary K to 5th	178	Reside/Attend	109	125	128										
		Reside	112	129	133	135	131	114	117	112	76%	74%	64%	66%	63%
		Attend	117	135	134	136	135	118	121	116	76%	76%	66%	68%	65%
Solheim Elementary K to 5th	580	Reside/Attend	520	531	575										
		Reside	545	570	587	616	625	640	654	674	106%	108%	110%	113%	116%
		Attend	532	554	577	610	612	627	641	661	105%	106%	108%	111%	114%
Will Moore Elementary K to 5th	268	Reside/Attend	206	163	188										
		Reside	225	187	209	215	215	216	216	203	80%	80%	81%	81%	76%
		Attend	233	204	203	213	221	222	222	209	79%	82%	83%	83%	78%
Wachter Middle 6th to 8th	1,200	Reside/Attend	1,039	946	979										
		Reside	1,115	1,009	1,013	1,017	1,067	1,111	1,190	1,242	85%	89%	93%	99%	104%
		Attend	1,065	1,002	1,007	1,010	1,046	1,090	1,169	1,221	84%	87%	91%	97%	102%
Bismarck High 9th to 12th	1,600	Reside/Attend	1,136	1,203	1,258										
		Reside	1,244	1,314	1,341	1,389	1,392	1,378	1,361	1,396	87%	87%	86%	85%	87%
		Attend	1,240	1,338	1,370	1,401	1,408	1,394	1,377	1,412	88%	88%	87%	86%	88%
Bismarck Feeder School Totals															
Elementary Total	2,630	Reside	2,161	2,163	2,181	2,234	2,261	2,274	2,283	2,280	85%	86%	86%	87%	87%
Middle School Total	1,200	Reside	1,115	1,009	1,013	1,017	1,067	1,111	1,190	1,242	85%	89%	93%	99%	104%
High School Total	1,600	Reside	1,244	1,314	1,341	1,389	1,392	1,378	1,361	1,396	87%	87%	86%	85%	87%
Bismarck Feeder School Totals	5,430	Reside	4,520	4,486	4,535	4,640	4,720	4,763	4,834	4,918	85%	87%	88%	89%	91%

Source: RSP & Associates, LLC-March 2024

- Note 1: Student Projections are based on the residence of the student.
- Note 2: The Enrollment Model is based on a Head count of students by Planning Area at each facility
- Note 3: Transfers between Facilities are shown with Attend Projections
- Note 4: The Enrollment Model assumes ES(K-5) MS(6-8) and HS (9-12)
- Note 5: Each planning area is assigned the 2023/24 boundary
- Note 6: School capacity provided by the District
- Note 7: Reside is based on the student home address
- Note 8: Attend is based on which facility the student attends
- Note 9: Res/Att (Reside/Attend) are the students who reside in the attendance area that they have chosen to attend

School Utilization Legend

Over 100% Capacity Target

Under 70% Capacity Target

Feeder School Legend

Bismarck High Feeder

Century High Feeder

Legacy High Feeder

Students attending South Central High School are not shown in this table

Century High School Feeder

Updated 3/13/2024



Market Forecast

Bismarck Public School Projections By School (Based on Student Reside)

School	Capacity Target	Enrollment Type (Past)	Past School Enrollment			Projections Based on Residence					Projected Enrollment Capacity %				
			2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2024/25	2025/26	2026/27	2027/28	2028/29
Centennial Elementary K to 5th	446	Reside/Attend	455	344	373										
		Reside	487	377	390	388	378	349	363	359	87%	85%	78%	81%	80%
		Attend	474	382	393	386	377	348	362	358	87%	85%	78%	81%	80%
Elk Ridge Elementary K to 5th	535	Reside/Attend	0	478	512										
		Reside	0	515	533	542	530	559	550	569	101%	99%	104%	103%	106%
		Attend	0	482	514	529	513	542	533	552	99%	96%	101%	100%	103%
Grimsrud Elementary K to 5th	268	Reside/Attend	274	128	156										
		Reside	304	149	160	157	155	165	154	149	59%	58%	62%	57%	56%
		Attend	285	155	171	171	154	164	153	148	64%	57%	61%	57%	55%
Highland Acres Elementary K to 5th	134	Reside/Attend	181	85	94										
		Reside	190	91	94	89	89	84	86	82	66%	66%	63%	64%	61%
		Attend	196	101	105	99	98	93	95	91	74%	73%	69%	71%	68%
Liberty Elementary K to 5th	625	Reside/Attend	599	460	470										
		Reside	615	483	478	475	481	481	489	496	76%	77%	77%	78%	79%
		Attend	625	496	491	487	493	493	501	508	78%	79%	79%	80%	81%
Northridge Elementary K to 5th	535	Reside/Attend	412	382	409										
		Reside	426	423	425	413	414	410	391	397	77%	77%	77%	73%	74%
		Attend	433	420	421	410	414	410	391	397	77%	77%	77%	73%	74%
Roosevelt Elementary K to 5th	156	Reside/Attend	105	97	104										
		Reside	114	106	111	113	111	112	113	106	72%	71%	72%	72%	68%
		Attend	118	121	116	116	119	120	121	114	74%	76%	77%	78%	73%
Horizon Middle 6th to 8th	1,200	Reside/Attend	1,032	999	1,031										
		Reside	1,057	1,041	1,051	1,096	1,136	1,156	1,192	1,173	91%	95%	96%	99%	98%
		Attend	1,068	1,043	1,056	1,103	1,142	1,162	1,198	1,179	92%	95%	97%	100%	98%
Century High 9th to 12th	1,600	Reside/Attend	1,259	1,320	1,321										
		Reside	1,360	1,425	1,391	1,361	1,383	1,383	1,437	1,501	85%	86%	86%	90%	94%
		Attend	1,333	1,428	1,403	1,380	1,379	1,379	1,433	1,497	86%	86%	86%	90%	94%
Century Feeder School Totals															
Elementary Total	2,699	Reside	2,136	2,144	2,191	2,177	2,158	2,160	2,146	2,158	81%	80%	80%	80%	80%
Middle School Total	1,200	Reside	1,057	1,041	1,051	1,096	1,136	1,156	1,192	1,173	91%	95%	96%	99%	98%
High School Total	1,600	Reside	1,360	1,425	1,391	1,361	1,383	1,383	1,437	1,501	85%	86%	86%	90%	94%
Century Feeder School Totals	5,499	Reside	4,553	4,610	4,633	4,634	4,677	4,699	4,775	4,832	84%	85%	85%	87%	88%

Source: RSP & Associates, LLC -March 2024

Note 1: Student Projections are based on the residence of the student.

Note 2: The Enrollment Model is based on a Head count of students by Planning Area at each facility

Note 3: Transfers between Facilities are shown with Attend Projections

Note 4: The Enrollment Model assumes ES(K-5) MS(6-8) and HS (9-12)

Note 5: Each planning area is assigned the 2023/24 boundary

Note 6: School capacity provided by the District

Note 7: Reside is based on the student home address

Note 8: Attend is based on which facility the student attends

Note 9: Res/Att (Reside/Attend) are the students who reside in the attendance area that they have chosen to attend

School Utilization Legend

	Over 100% Capacity Target
	Under 70% Capacity Target

Feeder School Legend

	Bismarck High Feeder
	Century High Feeder
	Legacy High Feeder

Students attending South Central High School are not shown in this table



Legacy High School Feeder

Market Forecast

Bismarck Public School Projections By School (Based on Student Reside)

School	Capacity Target	Enrollment Type (Past)	Past School Enrollment			Projections Based on Residence					Projected Enrollment Capacity %				
			2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2024/25	2025/26	2026/27	2027/28	2028/29
Miller Elementary K to 5th	535	Reside/Attend	381	433	459										
		Reside	403	501	497	512	515	511	499	507	96%	96%	96%	93%	95%
		Attend	416	476	481	499	502	498	486	494	93%	94%	93%	91%	92%
Murphy Elementary K to 5th	625	Reside/Attend	535	341	352										
		Reside	585	391	380	382	397	402	393	389	61%	64%	64%	63%	62%
		Attend	571	392	373	378	390	395	386	382	60%	62%	63%	62%	61%
Pioneer Elementary K to 5th	268	Reside/Attend	249	165	174										
		Reside	279	195	190	180	185	174	172	162	67%	69%	65%	64%	60%
		Attend	277	212	202	184	194	183	181	171	69%	72%	68%	68%	64%
Silver Ranch Elementary K to 5th	535	Reside/Attend	0	357	390										
		Reside	0	401	404	418	424	421	444	457	78%	79%	79%	83%	85%
		Attend	0	361	393	408	407	404	427	440	76%	76%	76%	80%	82%
Sunrise Elementary K to 5th	625	Reside/Attend	627	434	441										
		Reside	640	452	447	428	437	439	440	445	68%	70%	70%	70%	71%
		Attend	653	486	462	439	458	460	461	466	70%	73%	74%	74%	75%
Simle Middle 6th to 8th	1,200	Reside/Attend	956	976	1,017										
		Reside	991	1,037	1,050	1,060	1,038	1,043	1,060	1,065	88%	87%	87%	88%	89%
		Attend	1,030	1,041	1,051	1,060	1,053	1,058	1,075	1,080	88%	88%	88%	90%	90%
Legacy High 9th to 12th	1,600	Reside/Attend	1,274	1,311	1,339										
		Reside	1,362	1,446	1,453	1,445	1,420	1,445	1,424	1,412	90%	89%	90%	89%	88%
		Attend	1,393	1,420	1,412	1,414	1,408	1,433	1,412	1,400	88%	88%	90%	88%	88%
Legacy Feeder School Totals															
Elementary Total	2,588	Reside	1,907	1,940	1,918	1,920	1,958	1,947	1,948	1,960	74%	76%	75%	75%	76%
Middle School Total	1,200	Reside	991	1,037	1,050	1,060	1,038	1,043	1,060	1,065	88%	87%	87%	88%	89%
High School Total	1,600	Reside	1,362	1,446	1,453	1,445	1,420	1,445	1,424	1,412	90%	89%	90%	89%	88%
Legacy Feeder School Totals	5,388	Reside	4,260	4,423	4,421	4,425	4,416	4,435	4,432	4,437	82%	82%	82%	82%	82%

Source: RSP & Associates, LLC -March 2024

- Note 1: Student Projections are based on the residence of the student.
- Note 2: The Enrollment Model is based on a Head count of students by Planning Area at each facility
- Note 3: Transfers between Facilities are shown with Attend Projections
- Note 4: The Enrollment Model assumes ES(K-5) MS(6-8) and HS (9-12)
- Note 5: Each planning area is assigned the 2023/24 boundary
- Note 6: School capacity provided by the District
- Note 7: Reside is based on the student home address
- Note 8: Attend is based on which facility the student attends
- Note 9: Res/Att (Reside/Attend) are the students who reside in the attendance area that they have chosen to attend

School Utilization Legend

Over 100% Capacity Target

Under 70% Capacity Target

Feeder School Legend

Bismarck High Feeder

Century High Feeder

Legacy High Feeder

Students attending South Central High School are not shown in this table

Projection Observations and Conclusion



Projection Overview

- District forecasted to increase by 585 students by 2028/29 (14,288 students total)
- Elementary School forecasted to increase by 108 students by 2028/29 (6,398 students total)
- Middle School forecasted to increase by 366 students by 2028/29 (3,480 students total)
- High School forecasted to increase by 111 students by 2028/29 (4,410 students total)

In the next 5 years, capacity challenges are expected at: Elk Ridge Elementary, Solheim Elementary, and Wachter Middle School

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

- District administration and the Board of Education annually review the enrollment, demographic, and development information presented
- Utilize the enrollment model to assist with planning for staffing needs at each facility for the following school year which will address how quickly areas are “Regreening” and “Emerging”
- The type of residential development and how affordable it is will determine likely location and number of students
- A national election and potential increase in mortgage interest loan rates will influence development activity
- 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
- Recent economic indicators have been in-flux (interest rates, housing prices, supply chain). Continued economic changes will impact the likelihood of new people moving into the district and increasing enrollment.
- RSP Enrollment forecasting is based on the best-known information at the time



PART 4 NEXT STEPS

- Moving Forward
- Next Steps & Key Considerations



Key Considerations

Driving Themes of Enrollment Forecast:

2023/24 Student population

Indicators:

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

Development Activity

Indicators:

- *Increasing and stable yield rates*
- *Building trends*
- *Potential new developments*

Migration Trends

Indicators:

- *Positive student migration*
- *Cohort growth year to year*

Challenges to Address:

- ❑ Elk Ridge Elementary, Solheim Elementary, and Wachter Middle School are forecasted to experience potential challenges with over-utilization of buildings (greater than 100% of capacity)
 - ✓ *Potential solutions: Elementary boundary adjustment, building addition, new building, portable/modular classrooms*
 - ✓ *Bismarck High feeder system and Century High feeder system have building over capacity*
- ❑ Grimsrud Elementary, Highland Acres Elementary, Murphy Elementary, Pioneer Elementary, Prairie Rose Elementary, Roosevelt Elementary and Sunrise Elementary are forecasted to experience potential challenges with under-utilization of buildings (less than 70% of capacity)
 - ✓ *Potential solutions: Elementary boundary adjustment, program location re-assignment, capacity utilization analysis*
 - ✓ *Smaller buildings tend to have more challenges with under utilization*

Key Considerations:

1. Number of live births in Burleigh County (continue to monitor)... *see page 14 & 15*
2. Size of outgoing senior class (smaller) compared to the incoming Kindergarten classes (larger)... *see page 16*
3. Migration trends (In-Migration tends to be more than Out-Migration)... *see page 18-19*
4. Development trends and timing of identified projects (10,000-unit potential over next ten years)... *see pages 32-34*
5. Updated trend and RSP outlook on projections... *see page 37*

Definitions

- 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
- 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
- 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
- Median Home Value: equal to the middle point of all reported home values from the assessor's office in the district