VISUALIZING SUCCESS

Dickinson PUBLIC SCHOOLS

Planning for the Future

19/20 Enrollment & Boundary Analysis
Presentation April 22, 2020

RSP

Discussion Points

- Introduction
- Enrollment and Demographics (Part One)
  - Key Considerations
  - Maps: Planning Areas and Attendance Areas
  - Sophisticated Forecast Model (SFM)
  - Demographics
  - Past Enrollment and Change
  - Baseline Maps and Data
- Development (Part Two)
  - Population, Development, and Enrollment Trends
  - Yield Rate of Students
  - Maps and Data
- Enrollment Projections (Part Three)
  - Past, Current, Future Enrollment
  - Building Projections
  - Projections and Capacity
- Moving Forward (Part Four)
  - Next Steps
  - Boundary Options

Who We Are

- Founded in 2003
- Professional educational planning firm
- Expertise in multiple disciplines
- Over 20 Years of planning experience
- Over 80 years of education experience
- Over 20 years of GIS experience
- Clients in Arkansas, Iowa, Illinois, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, and Wisconsin
- Projection accuracy of 97% or greater

Planning

Robert Schwarz
CEO, AICP, REFP, ALEP, CEFP

Educators

Clay Guthmiller
Education Planner

Jay Harris
Education Planner

David Stoakes
Education Planner, EdD

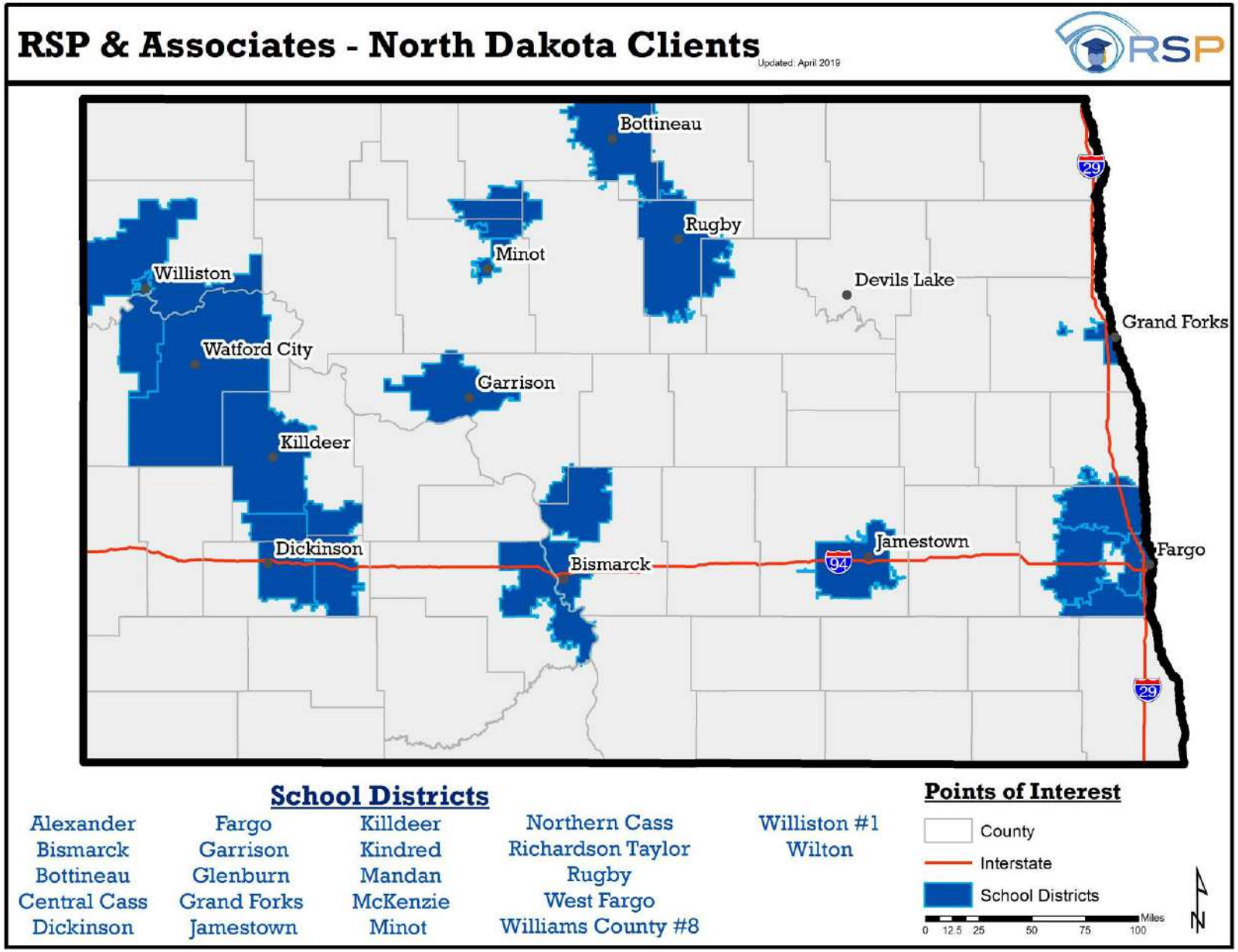
Dave Wilkerson
Education Planner, PhD

GIS Analyst

Tyler Link
GIS Analyst, GISP

Brandon Sylvester
GIS Analyst, GISP Candidate

Our Clients


RSP & Associates - North Dakota Clients
Updated: April 2019
RSP
Bottineau
Rugby
Minot
Williston
Devils Lake
Grand Forks
Watford City
Garrison
Killdeer
Dickinson
Bismarck
Jamestown
Fargo
29
94
School Districts
Alexander
Bismarck
Bottineau
Central Cass
Dickinson
Fargo
Garrison
Glenburn
Grand Forks
Jamestown
Killdeer
Kindred
Mandan
McKenzie
Minot
Northern Cass
Richardson Taylor
Rugby
West Fargo
Williams County #8
Williston #1
Wilton
Points of Interest
County
Interstate
School Districts
0 12.5 25 50 75 100
Miles

Expectations

Below are some key points to think about as you examine how the analysis looked at creating a planning tool for making decisions:

- Project timeline a result of ensuring student data could represent as close as possible the Official Count with attributes that would allow RSP to forecast enrollment at a parcel level geography
- The findings were not focused on supporting or contradicting any past internal or outsourced studies – the analysis is based on data, data, and more data
- The study factored in many different data sets to provide data driven analysis that is the foundation to the RSP Statistical Forecast Model (SFM)
- Enrollment change in the community is influenced by but not limited to: the birth rate, demographics, types of development and housing affordability
- 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
- This analysis is based on the same grade configuration and educational programming expectations the patrons have for each student
- 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
- 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

Making It Happen

School District

- Dickinson Public Schools

County, City & Others

- Dunn County
- Stark County
- City of Dickinson
- NDOT
- United States Geological Survey
- Census Bureau/ Esri

Thank you!

***Disclaimer**: The data utilized in the analysis is the best available information each of the entities could provide at the time of the study.*

Key Point:
Accurate projections are a result of the local entities providing quality data.

Part One:
Enrollment & Demographics

Key Considerations

Enrollment:

- Enrollment is projected to increase over the next five years annually between +140 to +190 students (+3.5% to +4.4%) (Greatest increase in secondary)
- The Five-Year Outlook by grade level is shown below:
  - District increases by nearly 900 students (+321.6%) (Annual Range: +3.5% to +4.4% a year)
  - Elementary increases by about 400 students (+18.8%) (Annual Range: +1.8% to +5.7% a year)
  - Middle School increases by about 250 students (+27.1%) (Annual Range: +0.5% to +11.4% a year)
  - High School increases by nearly 250 students (+22.5%) (Annual Range: +1.3% to +6.0% a year)
- Migration of students impacts the ability of the district to experience the future enrollment growth forecasted

Capacity:

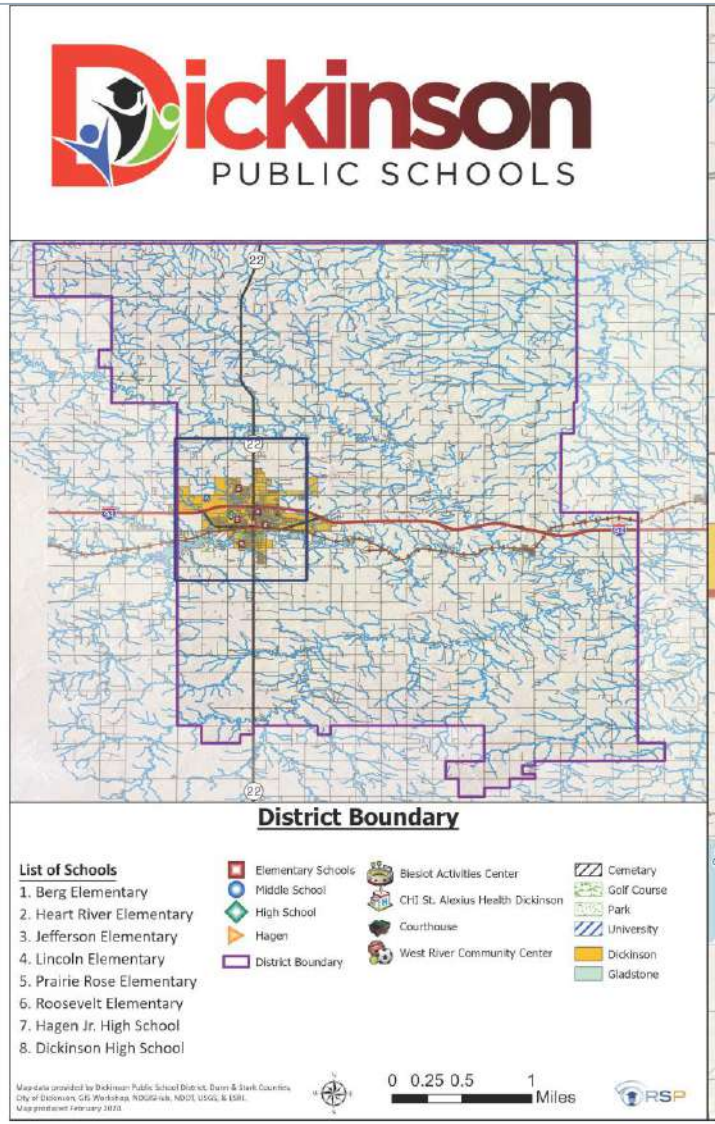
- Elementary: All elementary schools will likely exceed their student capacity during the 5-year projections
- Middle School: by 2024/25 will exceed its student capacity
- High School: By 2021/22 will exceed its student capacity

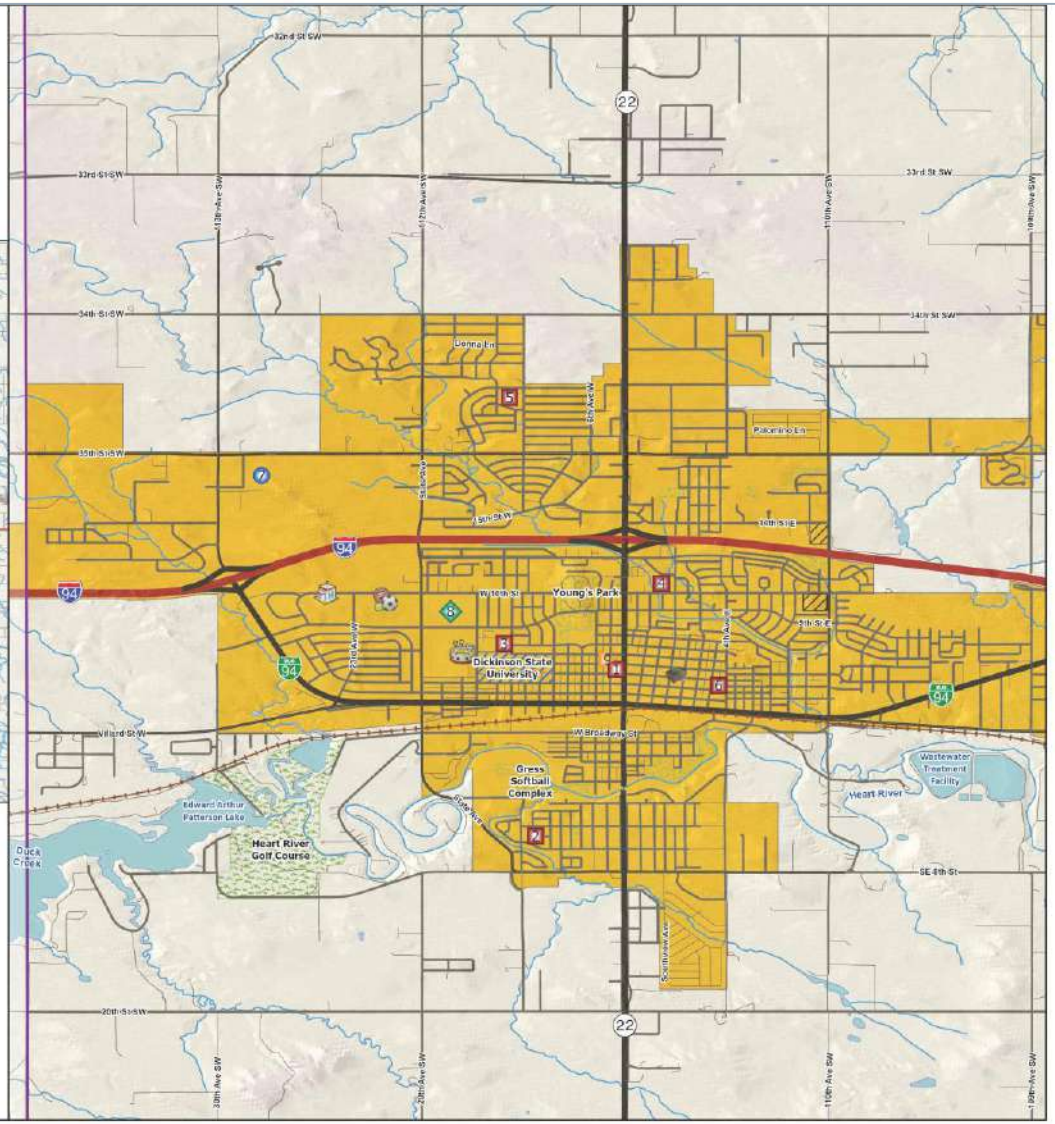
Development:

- There are areas of land throughout the district which could develop – most probable areas are north of I-94
- Some infill development will happen in the older, core area, but most development likely on the north side of the city
- The city anticipates between 50 and 100 new single-family permits a year and more multi-family when the vacancy rate influences the need for additional units

District Boundary

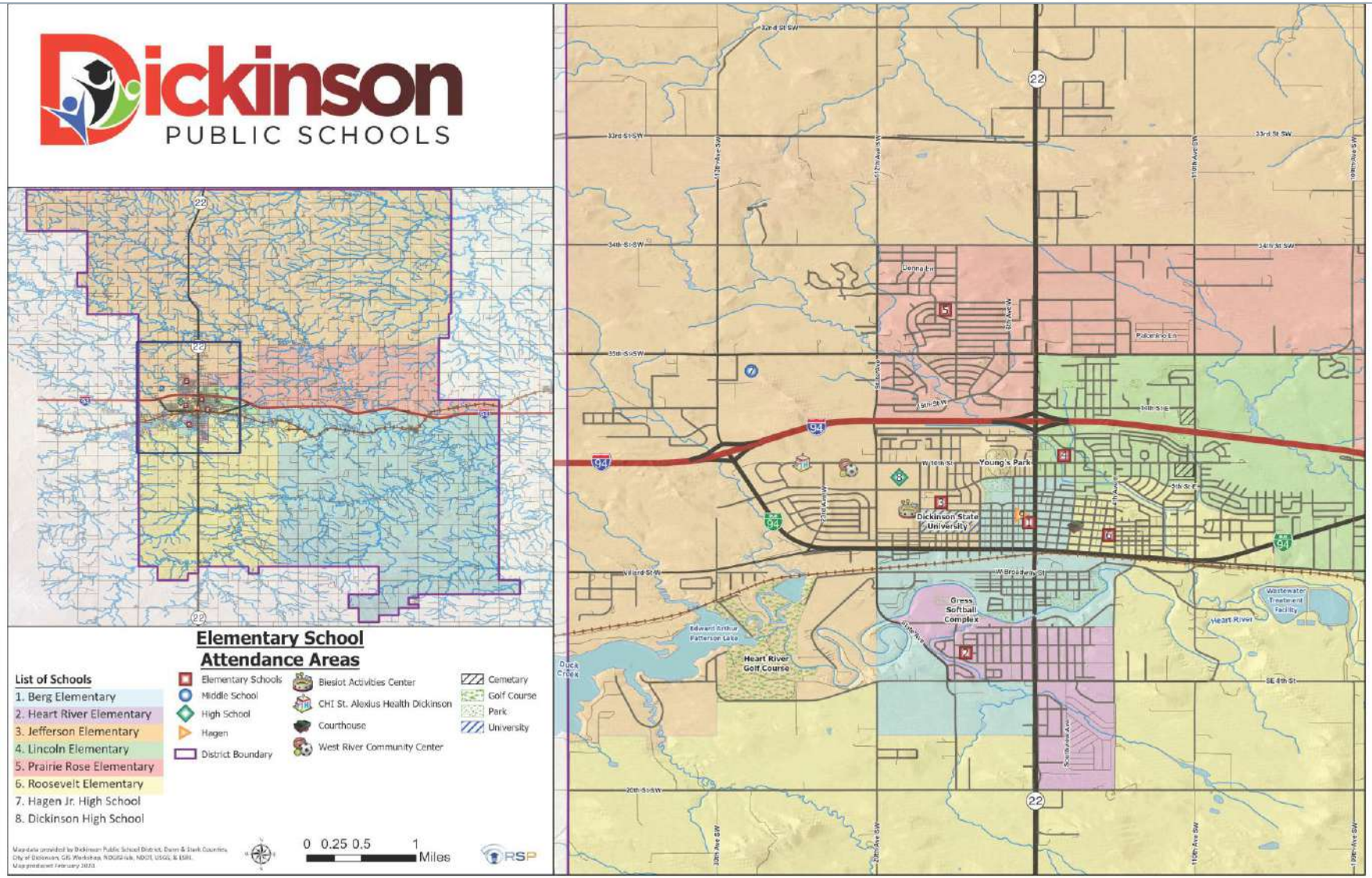
- ❑ District Boundary (Purple Line)
- ❑ Major Streets
- ❑ Major water features & cultural features
- ❑ Municipality Limits
  - Dickinson (Orange)
  - Gladstone (Green)





Elementary Attendance Areas

- District Boundary (Purple Line)
- Major Streets
- Major water features & cultural features
- Attendance Areas
  - Berg (Blue)
  - Heart River (Purple)
  - Jefferson (Orange)
  - Lincoln (Green)
  - Prairie Rose (Red)
  - Roosevelt (Yellow)

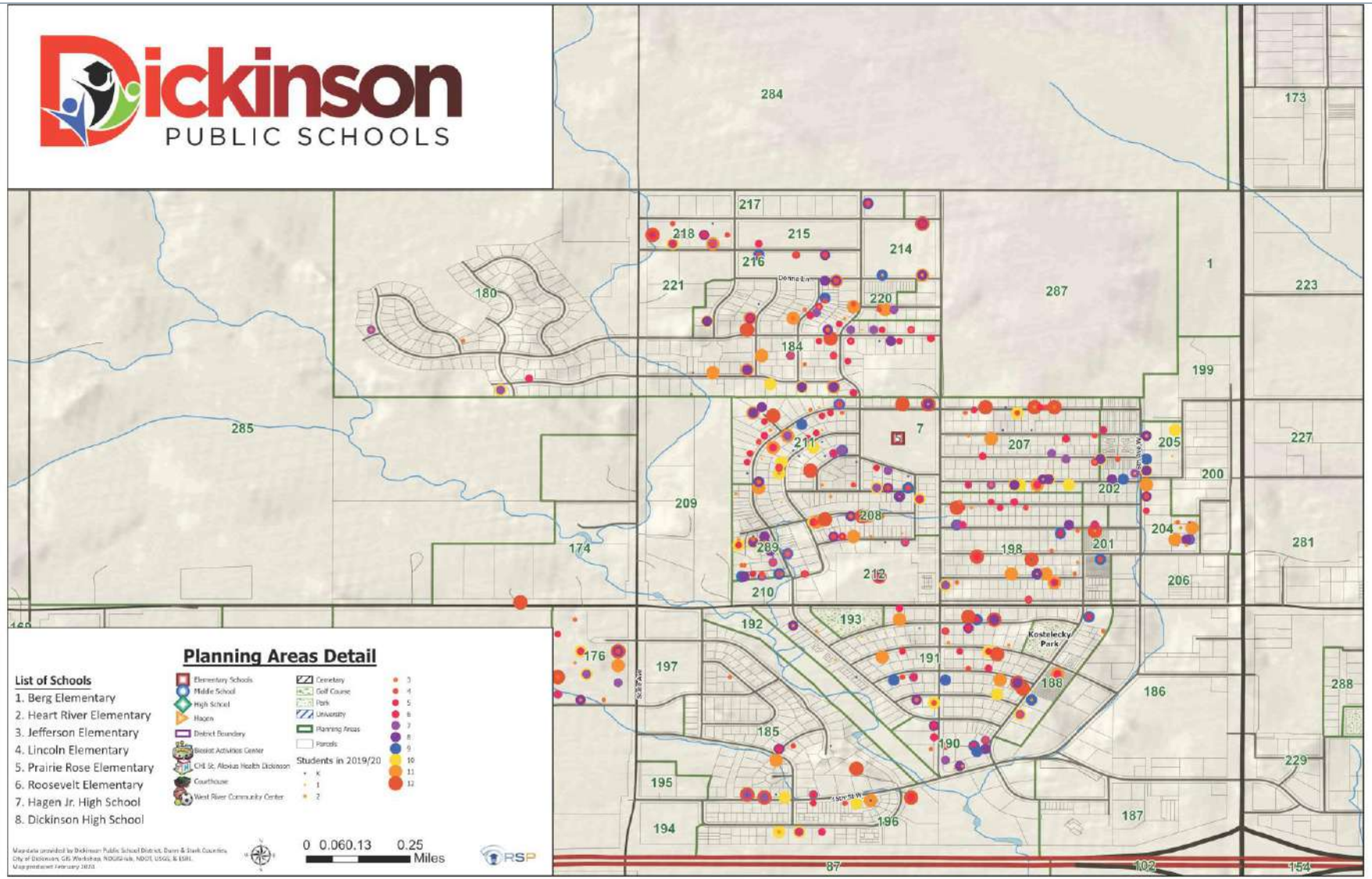


Planning Areas

- Land Use (Residential, Commercial, Industrial)
- Residential Density (Single-Family, Mobile Home, Duplex, Apartment)
- Natural and Manmade Features (Rivers, Creeks, Railroads, Streets)
- Nearly 300 planning areas monitored for demographic, development, and enrollment data sets

Detailed Planning Areas

- Zoomed in view of Planning Areas (Green Line) and Prairie Rose Elementary
- Displays the power of GIS data & Information
- See where students are located by grade in relation to streets, subdivisions, and parcels
- Illustrates how the planning areas are tied to development types at the parcel level



Sophisticated Forecast Model

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.

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:

$$BP_{t, x} = \left(\frac{(CP_x)\,(BT_x)\,(A_x)}{\sum x\,(CP_x)\,(BT_x)\,(A_x)} \right) * CT$$

Over 300 Planning Areas are statistically analyzed in the district

Let:

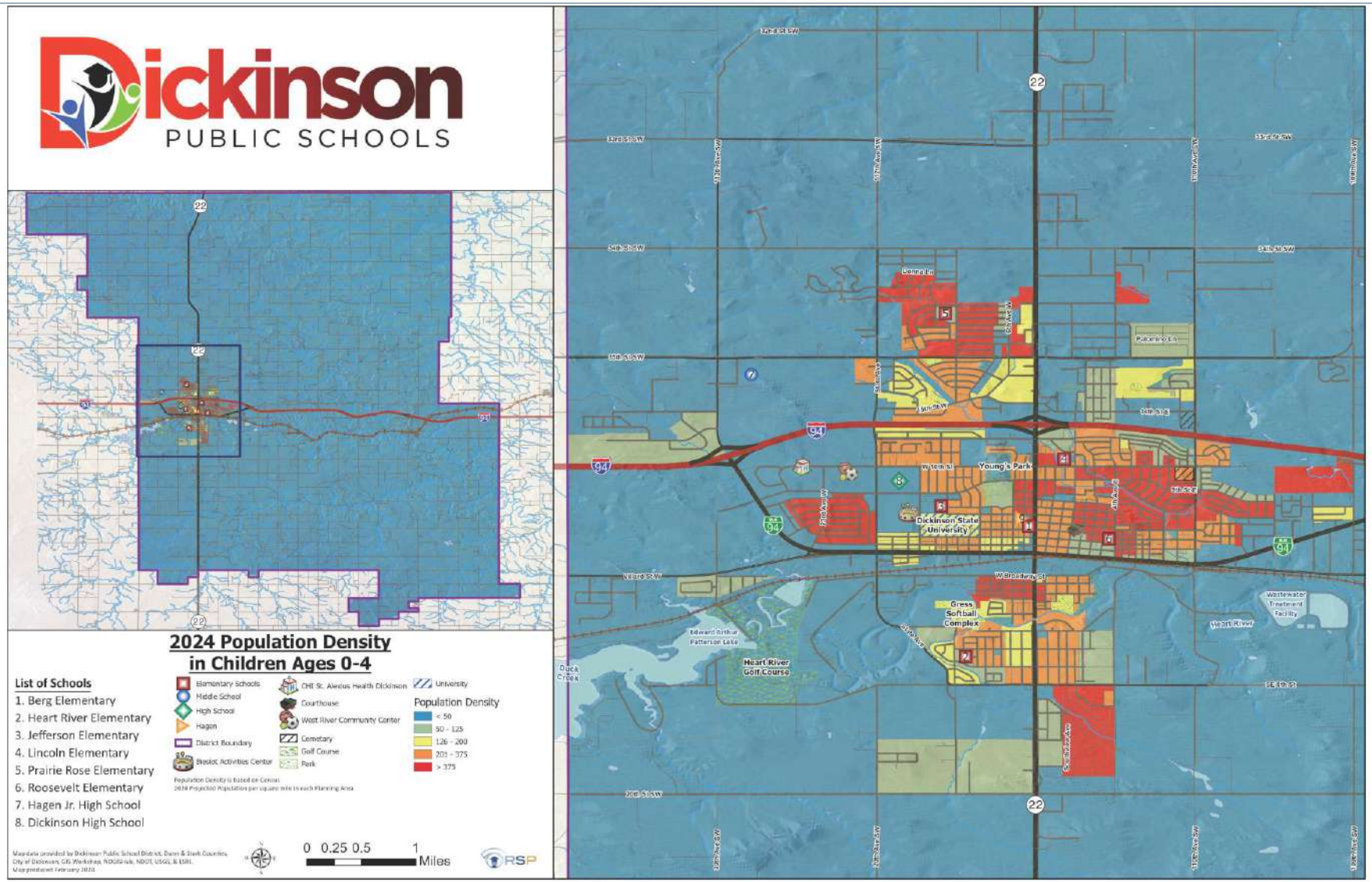
S	=	The number of students, either an actual count or a projected count
x	=	A subscript denoting an attendance area in the School District
c	=	Grade level
t	=	Time (Years)
BP	=	Building permit forecast as given by the Building Permit Allocation Model (BPAM) model
Rc, x	=	Student enrollment ratio of cohort c in planning area x
CP	=	Capacity of a planning area as expressed by available housing units
BT	=	Building history trend of a planning area
A	=	An index which models the likelihood of development
CT	=	Building permit control total forecast

RSP SFM Detail

- The important factor concerning the RSP SFM is that it is a Social Science not an exact science; it identifies behavior trends to determine the propensity of them to be recreated:
- The value of the RSP SFM is how our team creates and analyzes the geography at a planning area level for any commonality which will help produce an accurate forecast
- Some of the variables examined for each planning area (but not limited to):
  - Natural Cohort (District data)
  - Planning Area Subdivision Lifecycle (RSP variable)
  - Value of Homes (County assessor data)
  - Type of Residential unit (SF, MF, DUP, TH, Resort, etc.) (County assessor data)
  - Year units were built (County assessor data)
  - 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 (CIP) (County and City data)
  - Future Developments (County and City data)
  - In-Migration of students (District data)
  - Out-Migration of students (District data)

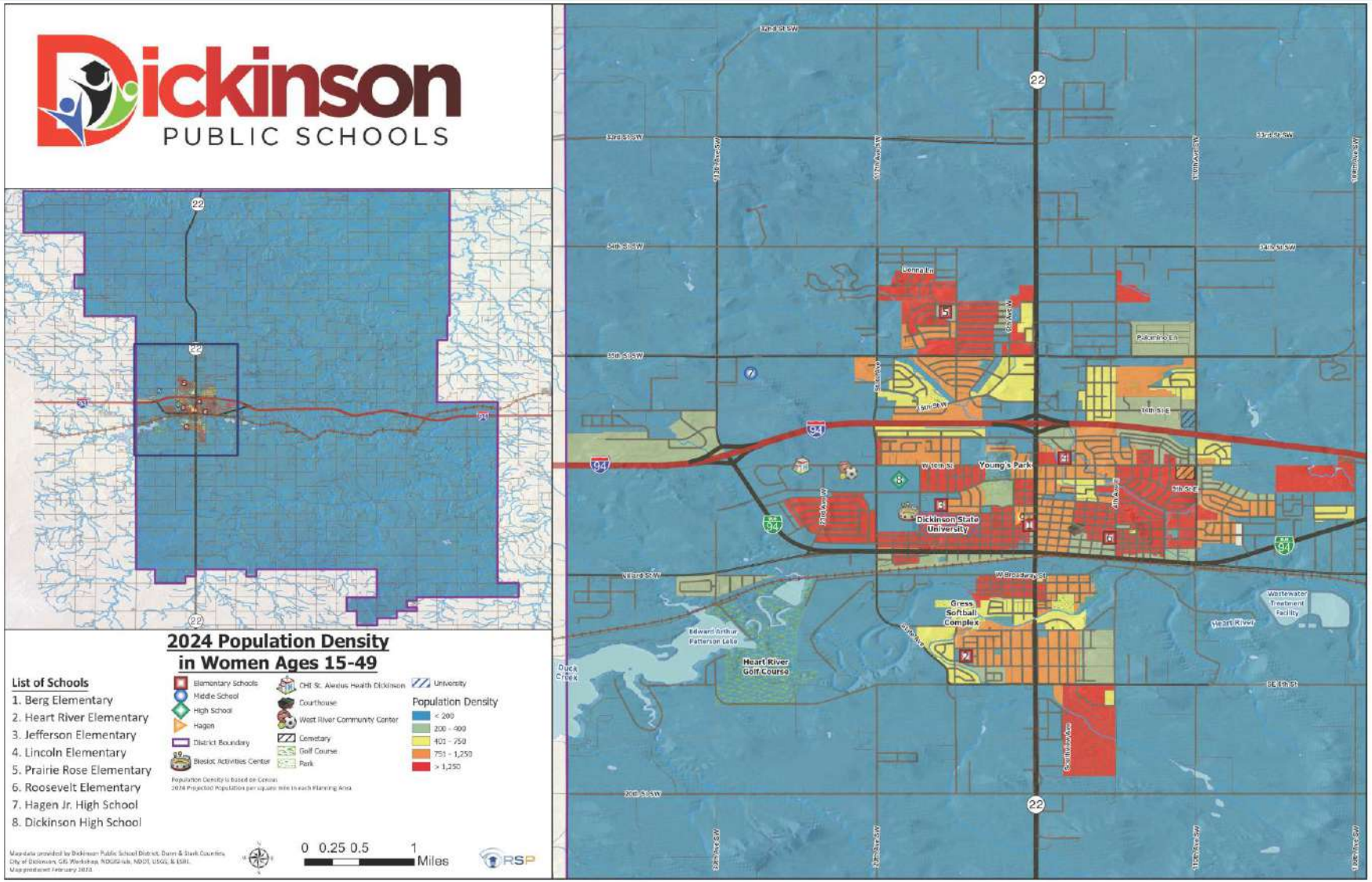
Population 0-4, 2024

- Depicted by Census Block Group with 2024 estimates
- Density weighted by land area of each Block Group
- Red areas have greatest density, Blue have the least density
- This data helps benchmark the projection model choices for future student enrollment



Population Women 15-49, 2024

- Depicted by Census Block Group with 2024 estimates
- Density weighted by land area of each Block Group
- Red areas have greatest density, Blue have the least density
- This data helps benchmark the projection model choices for future student enrollment



District Demographics

Population
Annual Rate; Percentage Change

2000-2010: 0.92%
2010-2019: 3.44%
2019-2024: 2.81%

Housing
Annual Rate; Percentage Change

2000-2010: 1.21%
2010-2019: 4.35%
2019-2024: 1.54%

Income
Per Capita; Percentage Change

2019-2024: 1.55%
Increase

Workforce
Unemployment Rate

2019: 3.7%
Higher than State of North Dakota average

NOTES:

Overall the District is experiencing an Increase in population and housing, at a slower rate than the previous five years.

In a growing community housing and population should have a correlation and on the surface indicate a general housing supply/demand.

The type of residential unit is not known in these numbers or how affordable the units are so more analysis required.

Income is projected to increase over one percent by 2024.

Unemployment is higher than the State of North Dakota & U.S. average.

Source: US Census, Esri BAO

Stark County Birth Information

Stark County North Dakota Live Births and Kindergarten 5-Years Later

Fiscal Year	# Live Births	Birth Change	% Birth Change	School Year	# Kdg	Kdg-Live Birth	Change
2008/09	342			2013/14	293	-49	-14.3%
2009/10	357	15	4.4%	2014/15	336	-21	-5.9%
2010/11	374	17	4.8%	2015/16	311	-63	-16.8%
2011/12	455	81	21.7%	2016/17	321	-134	-29.5%
2012/13	507	52	11.4%	2017/18	357	-150	-29.6%
2013/14	563	56	11.0%	2018/19	374	-189	-33.6%
2014/15	688	125	22.2%	2019/20	413	-275	-40.0%
2015/16	701	13	1.9%				
2016/17	646	-55	-7.8%				
2017/18	713	67	10.4%				
2018/19	699	-14	-2.0%				
3-Year Average	686.00	-0.67					
3-Year Weighted Average	694.83	6.17					

CHI Hospital Live Birth data is from July 1st to June 30th

NOTE: The number of Kindergarten students five years later is one variable to understand the transiency of a community

Source: CHI Health Center and Dickinson Public School

Demographics Information

- The number of live births at CHI Health is 104.4% greater in 2018/19 than it was in 2008/09
- From 2008/09 through 2014/15 the number of Kindergarten students 5-years later has been less than the live births – likely a result of the surrounding area outside the district having more families utilizing the hospital
- The stabilization in Kindergarten students from live births from 2014/15 to 2018/19 is likely an impact of the transiency of this region that is impacted by the oil industry
- Statistically, in order to have 500 or more kindergarten students, the district will need to retain 75% or more of the live births

Past School Enrollment

Enrollment By Grade

Year	K	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Total	Change
2011/12	233	219	243	198	204	219	179	196	169	174	210	183	219	2,646	2,646
2012/13	264	246	238	259	199	230	234	197	213	185	186	219	184	2,854	208
2013/14	293	283	277	269	285	226	244	251	213	226	207	206	222	3,202	348
2014/15	336	297	287	294	266	284	245	239	256	234	246	225	213	3,422	220
2015/16	311	312	305	281	285	256	282	239	236	259	248	241	208	3,463	41
2016/17	321	267	306	282	264	277	247	258	230	238	258	207	233	3,388	-75
2017/18	357	324	269	329	289	266	294	258	279	244	255	258	217	3,639	251
2018/19	374	344	311	271	316	286	286	283	261	275	245	234	219	3,705	66
2019/20	413	360	334	318	278	313	310	286	289	271	290	240	244	3,946	241

Source: Dickinson Public Schools Student Data from 2011/12 to 2019/20

Note: Approximately 40 students at SWCHS and Success Academy not shown in this table

Table Explanation:

- Largest class in 2019/20 - Kdg (413)
- Smallest class in 2019/20 – **11th grade** (240)
- Graduating senior class smaller than the incoming Kindergarten class
- Largest Grades Ever:
  - Elementary: Kdg, 1st, 2nd, and 5th
  - Middle School: 6th, 7th, and 8th
  - High School: 10th and 12th

DISCLAIMER: All past student data is exported from the district student database allowing the ability to do robust statistical analysis by student geography. The student database export will not always align perfectly with the Official Count (Statistical 99% or greater match by grade)

Past School Enrollment Change

Change By Grade from the Previous Year

From	To	K K	K 1st	1st 2nd	2nd 3rd	3rd 4th	4th 5th	5th 6th	6th 7th	7th 8th	8th 9th	9th 10th	10th 11th	11th 12th	Change Total	Change Percent
2011/12	2012/13	31	13	19	16	1	26	15	18	17	16	12	9	1	208	7.9%
2012/13	2013/14	29	19	31	31	26	27	14	17	16	13	22	20	3	348	12.2%
2013/14	2014/15	43	4	4	17	-3	-1	19	-5	5	21	20	18	7	220	6.9%
2014/15	2015/16	-25	-24	8	-6	-9	-10	-2	-6	-3	3	14	-5	-17	41	1.2%
2015/16	2016/17	10	-44	-6	-23	-17	-8	-9	-24	-9	2	-1	-41	-8	-75	-2.2%
2016/17	2017/18	36	3	2	23	7	2	17	11	21	14	17	0	10	251	7.4%
2017/18	2018/19	17	-13	-13	2	-13	-3	20	-11	3	-4	1	-21	-39	66	1.8%
2018/19	2019/20	39	-14	-10	7	7	-3	24	0	6	10	15	-5	10	241	6.5%
3-Yr Avg		30.7	-8.0	-7.0	10.7	0.3	-1.3	20.3	0.0	10.0	6.7	11.0	-8.7	-6.3	186.0	5.2%
3-Yr Wavg		31.2	-10.8	-9.0	8.0	0.3	-2.2	21.5	-1.8	7.5	6.0	10.7	-9.5	-6.3	184.3	5.1%

Source: Dickinson Public Schools Student Data from 2011/12 to 2019/20

Note: Approximately 40 students at SWCHS and Success Academy not shown in this table

Table Explanation (All data calculations from above table):

- Largest average K-12 class cohort increase – 5th to 6th grade (+20)
- Largest average K-12 class cohort decrease – 10th to 11th grade (-9)
- Most grades have the propensity to cohort increase each year
- Kindergarten to 5th grade cohort 3-Year average is 30 students larger
- 6th to 8th grade cohort 3-Year average is 22 students larger
- 9th to 12th grade cohort 3-Year average is 17 students larger

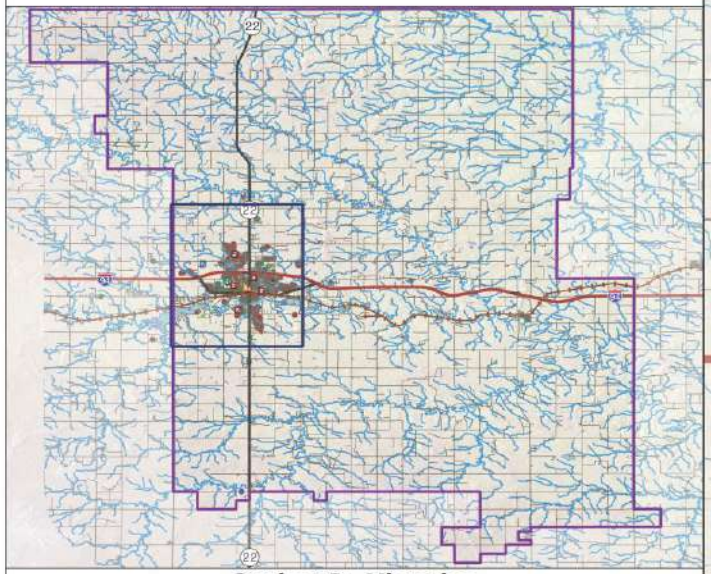
DISCLAIMER: All past student data is exported from the district student database allowing the ability to do robust statistical analysis by student geography. The student database export will not always align perfectly with the Official Count (Statistical 99% or greater match by grade)

Student In-Migration

- 2019/20 students who are in 1st through 12th grade that were not attending the District in 2018/19 as Kindergarten through 11th grade
- Who is new to the district this year?

- 382 new students in 2016/17
- 474 new students in 2017/18
- 432 new students in 2019/20

Dickinson PUBLIC SCHOOLS



Student In-Migration

List of Schools
1. Berg Elementary
2. Heart River Elementary
3. Jefferson Elementary
4. Lincoln Elementary
5. Prairie Rose Elementary
6. Roosevelt Elementary
7. Hagen Jr. High School
8. Dickinson High School

Elementary Schools
Middle School
High School
Hagen
District Boundary
Biesiot Activities Center
CHI St. Alexius Health Dickinson
Courthouse
West River Community Center
Cemetery
Golf Course
Park
University

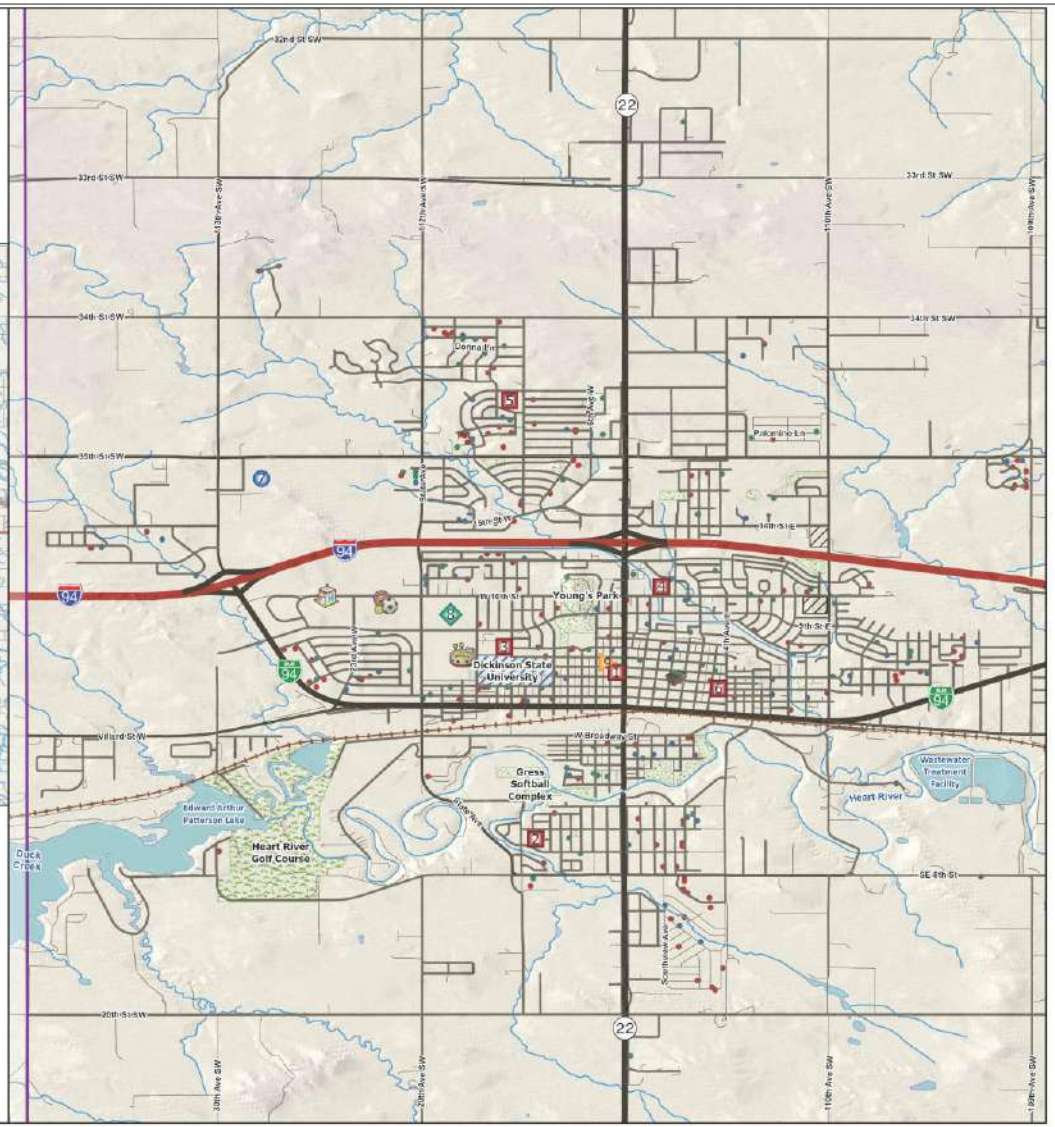
Student In-Migration
- Elementary School (1-5): +201
- Middle School (6 - 8): +102
- High School (9-12): +129

In-Migration is defined as Students in Grades 1-12 that are attending the District in 2019/20 but were not attending the District in 2018/19.

Map data provided by Dickinson Public School District, Dunn & Stark Counties, City of Dickinson, GIS Workshop, NDGIS Hub, NDDOT, USGS, & ESRI.
Map produced February 2020.

0 0.25 0.5 1 Miles

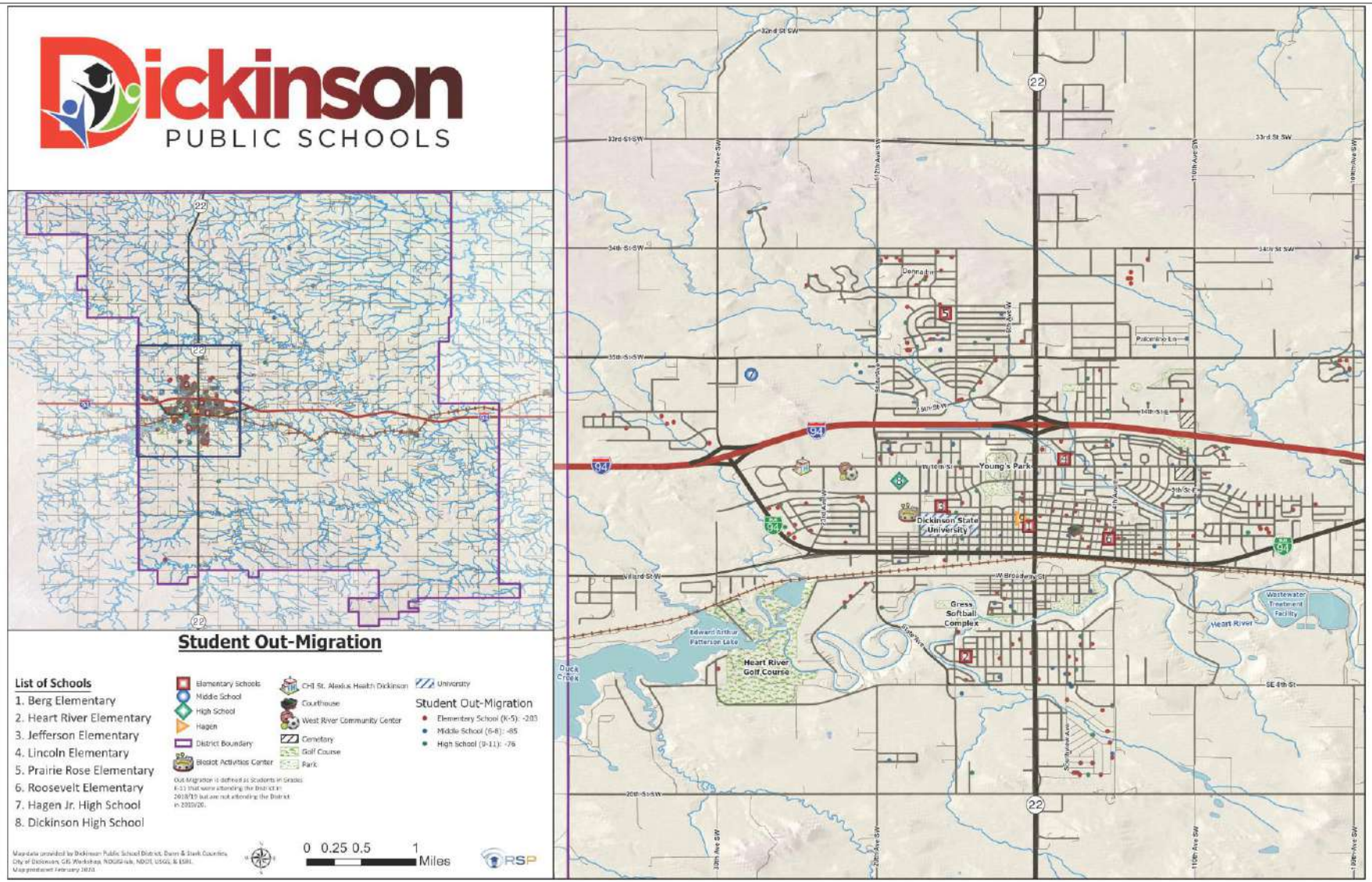
RSP



Student Out-Migration

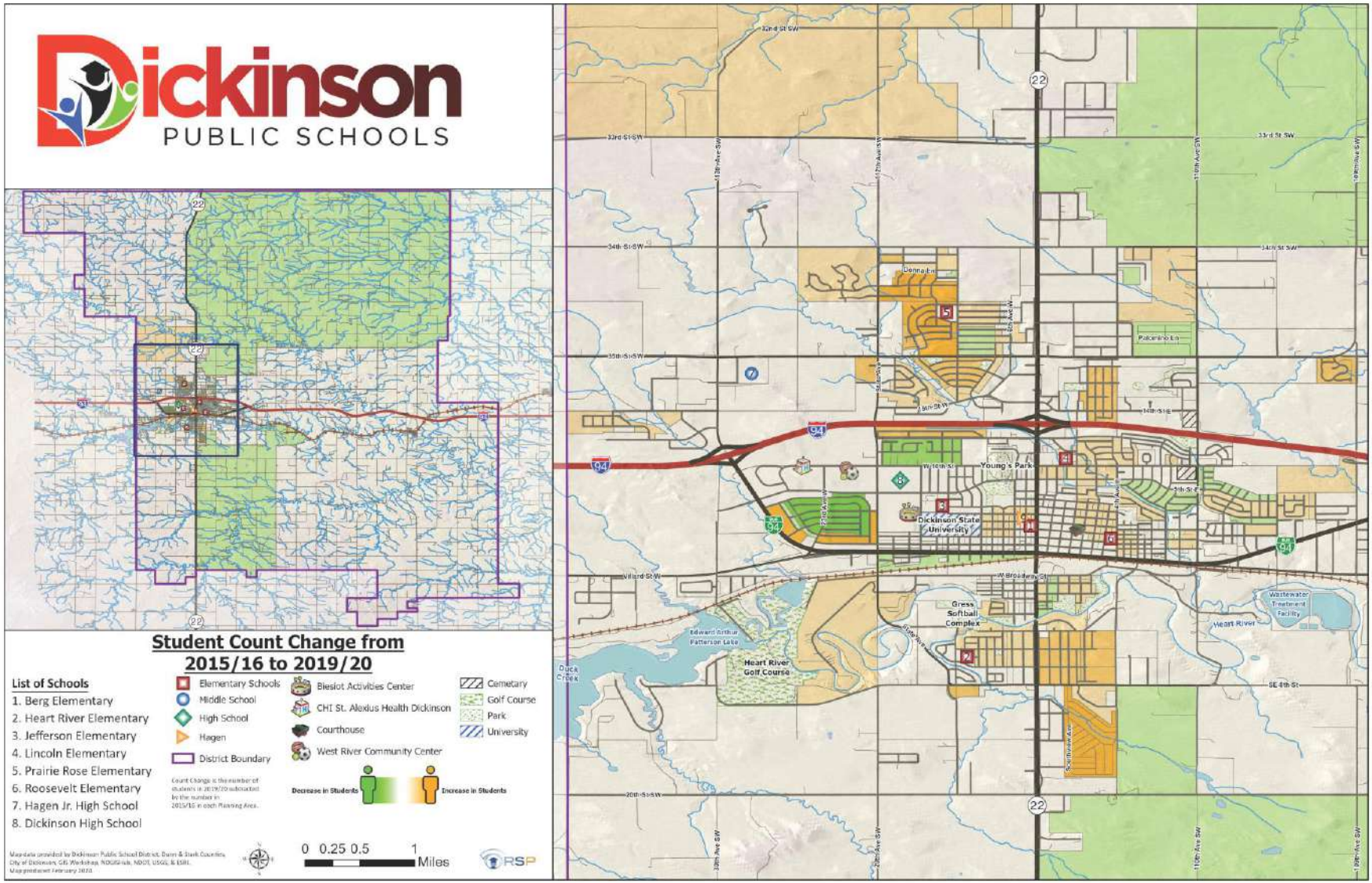
- Students attending the district in 2018/19 who were in Kindergarten through 11th grade that did not attend in 2019/20 as 1st through 12th graders

- 339 students left the district in **2016/17**, **Total Migration** +135
- 364 students left the district in **2019/20**, **Total Migration** +68



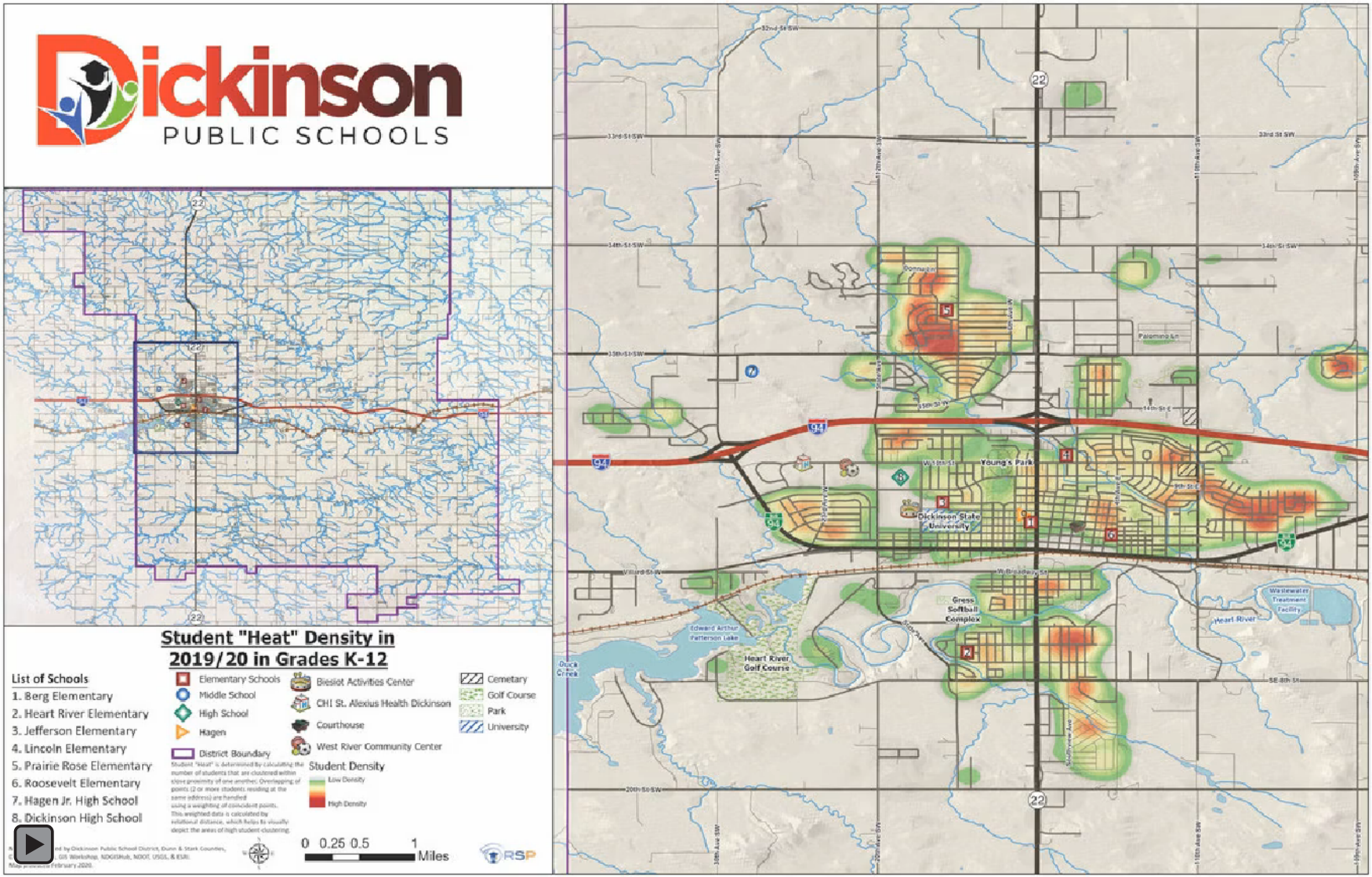
Student Count Change

- Depicts student movement at each Planning Area from **2015/16** to **2019/20**
- **Orange** areas experienced an increase since **2015/16, Green** areas experienced a decrease, **White** areas had no net change of students between **2015/16** to **2019/20**
- New developments have a greater propensity to have more students in future years



Student "Heat" Density

- Red areas depict highest density of students, Gray as lowest student density
- Overlapping points (2 or more students) are handled using a weighting of coincident points
- This analysis helps with understanding student population and geographic proximity to schools
- Some new areas do not necessarily lead to similar yield rates of like developments



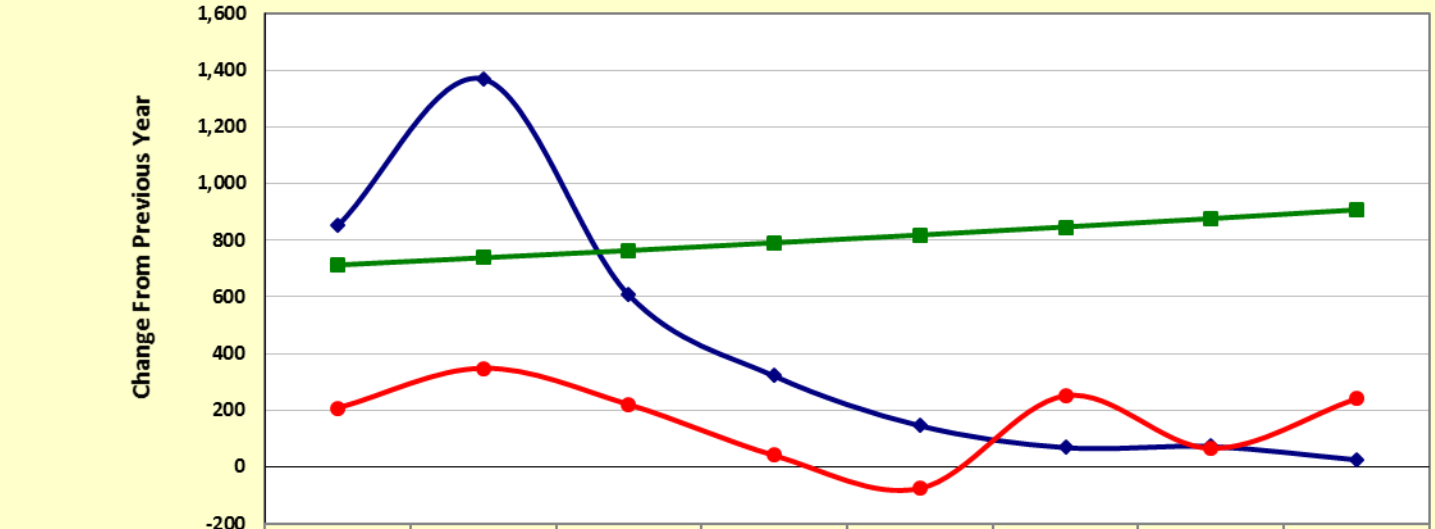
Enrollment Conclusions

The following are some general enrollment observations;

- The district has maintained contiguous boundaries for elementary schools
- RSP & Associates monitors over 300 planning areas for demographic, development, and enrollment data sets
- Direct correlation between women in childbearing ages (15-49) and where children (0-4) reside will need to be monitored for demographic shifts
- Enrollment tends to increase from grade to grade each year at each level
  - Large increases happen from 5th to 6th
  - Large decreases happen from 11th to 12th grade
- Larger elementary school grades typically result in larger Middle and High school grades
  - Middle school projected to be greater than 1,000 students by 2023/24
  - High School projected to be greater than 1,200 students by 2023/24
- Greatest student density in the city limits of Dickinson
  - Around Prairie Rose Elementary
  - East of Heart River Elementary
  - East of Roosevelt Elementary
- Least student density in the rural areas
- The largest grades since 2011/12 student data:
  - Elementary: Kdg, 1st, 2nd, and 5th
  - Middle School: 6th, 7th, and 8th
  - High School: 9th, and 12th
- Total migration of students in grades K-12 continues to be an overall increase, making it a greater propensity for future enrollment increase

Part Two:
Development

Population, Development, Enrollment



	2011 to 2012	2012 to 2013	2013 to 2014	2014 to 2015	2015 to 2016	2016 to 2017	2017 to 2018	2018 to 2019
Building Trend	851	1368	607	322	147	70	74	27
Population Change	714	739	764	791	818	846	875	905
Enrollment Change	208	348	220	41	-75	251	66	241

Source: Census, Dunn and Stark County, Dickinson Public Schools, and RSP & Associates, LLC

Benchmark data to determine if there is a correlation between:

- Population change
- Building activity
- School enrollment

Graphic Explanation

- Census data indicates an increasing population (Range: 800 to 900 people, Census estimates annual 2.81% increase)
- Building trend indicates there has been steady new residential activity (5-Year Average 128 units a year – lower last 3 years)
- Student Enrollment growth has fluctuated the last five years (Range -75 to +260 students)
- Households moving into the district do not have the typical household demographics resulting in cohort changes that are very dynamic – new building and student change have a statistical correlation
- New development is poised to be vibrant over the next five years there are likely to bring more new students
- Older areas of the community have the propensity for demographic trend change if they remain affordable

Student Yield Rate (SF)

Single Family (SF)

Schools	2011	2012	2013	2014	2015	2016	2017	2018	2019	Avg
Berg Elementary School	0.1	0.09	0.09	0.09	0.1	0.11	0.1	0.11	0.12	0.1
Heart River Elementary School	0.14	0.14	0.17	0.18	0.18	0.19	0.2	0.23	0.22	0.18
Jefferson Elementary School	0.19	0.19	0.2	0.19	0.19	0.18	0.17	0.18	0.18	0.18
Lincoln Elementary School	0.18	0.18	0.19	0.2	0.22	0.21	0.21	0.2	0.22	0.2
Prairie Rose Elementary School	0.2	0.2	0.23	0.22	0.2	0.21	0.23	0.23	0.23	0.22
Roosevelt Elementary School	0.12	0.13	0.14	0.15	0.15	0.16	0.16	0.16	0.18	0.15
District (K-5):	**0.16**	**0.16**	**0.16**	**0.16**	**0.17**	**0.17**	**0.17**	**0.17**	**0.17**	**0.17**

Sources: Dickinson Public Schools, Dunn & Stark Counties

Note: Approximately 40 students at SWCHS and Success Academy not shown in this table

Single Family Table Explanation

- Depicts elementary (K-5) enrollment and the corresponding yield rate for 100 housing units
- Single-Family residential average (.17) has a been consistent over the past decade (17 K-5 students for every 100)
- Adding newer housing inventory typically can increase the yield rate
  - The Heat map assists in understanding how that has changed over time (Page 25)
  - Residential unit activity provides the basis for timeline and where units likely are built (Page 32)
  - Between 2011 and 2019 there were approximately 1,143 single family units added to the building inventory

DISCLAIMER: All past student data is exported from the district student database allowing the ability to do robust statistical analysis by student geography. The student database export will not always align perfectly with the Official Count (Statistical 99% or greater match by grade)

Student Yield Rate (MF)

Multi-Family (MF)

Schools	2011	2012	2013	2014	2015	2016	2017	2018	2019	Avg
Berg Elementary School	0.06	0.06	0.09	0.07	0.07	0.08	0.08	0.08	0.09	0.07
Heart River Elementary School	0.09	0.1	0.12	0.13	0.12	0.12	0.13	0.13	0.14	0.12
Jefferson Elementary School	0.06	0.07	0.04	0.04	0.06	0.05	0.07	0.08	0.1	0.06
Lincoln Elementary School	0.08	0.07	0.06	0.08	0.08	0.09	0.15	0.16	0.16	0.1
Prairie Rose Elementary School	0.06	0.05	0.06	0.07	0.06	0.07	0.09	0.08	0.1	0.07
Roosevelt Elementary School	0.08	0.08	0.09	0.1	0.11	0.1	0.1	0.13	0.13	0.1
District (K-5):	**0.07**	**0.07**	**0.07**	**0.07**	**0.08**	**0.08**	**0.08**	**0.08**	**0.09**	**0.08**

Sources: Dickinson Public Schools, Dunn & Stark Counties

Note: Approximately 40 students at SWCHS and Success Academy not shown in this table

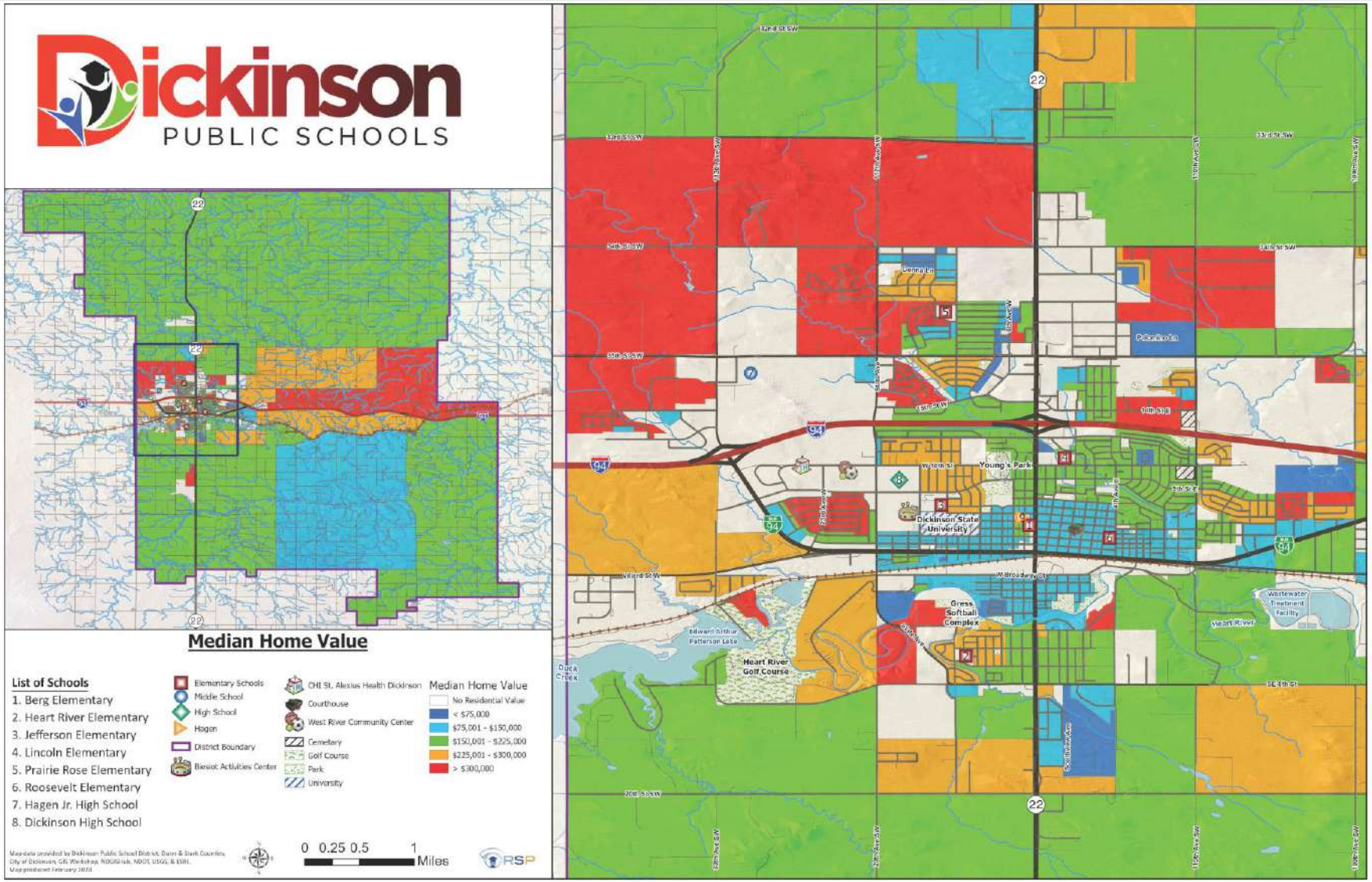
Multi-Family Table Explanation

- Multi-family consists of any residential unit that would be classified as Townhome, Duplex, Apartment, and mobile home – basically everything other than single-family
- Depicts elementary (K-5) enrollment and the corresponding yield rate for 100 housing units
- Single-Family residential average (.17) has a higher student yield rate when compared to Multi-Family residential (.08) within the district. (17 K-5 students for every 100 units versus 08 K-5 students for every 100 units)
- Multi-Family residential average (.08) has a been consistent over the past decade
- Adding newer housing inventory typically can increase the yield rate
  - The Heat map assists in understanding how that has changed over time (Page 25)
  - Residential unit activity provides the basis for timeline and where units likely are built (Page 32)
  - Between 2011 and 2019 there were approximately 2,323 multi-family units added to the building inventory

DISCLAIMER: All past student data is exported from the district student database allowing the ability to do robust statistical analysis by student geography. The student database export will not always align perfectly with the Official Count (Statistical 99% or greater match by grade)

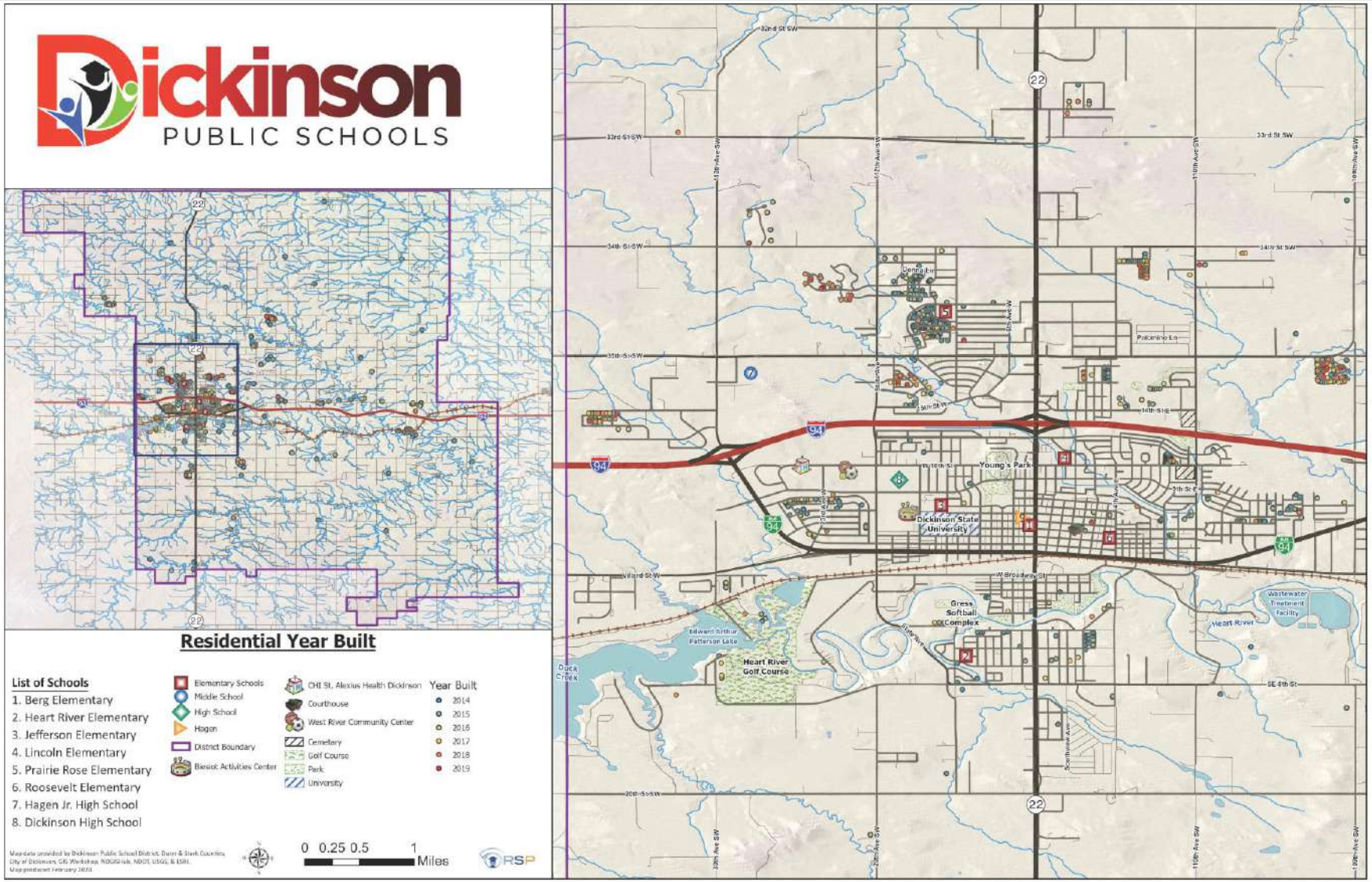
Median Home Value

- Based on assessed Home Value as provided and maintained by the county assessor's office
- Home values correlated to socio-economic status – new areas tend to be the least affordable
- Areas shaded in Orange and Red have the greatest Median Home Value, Blue represents the greatest affordability



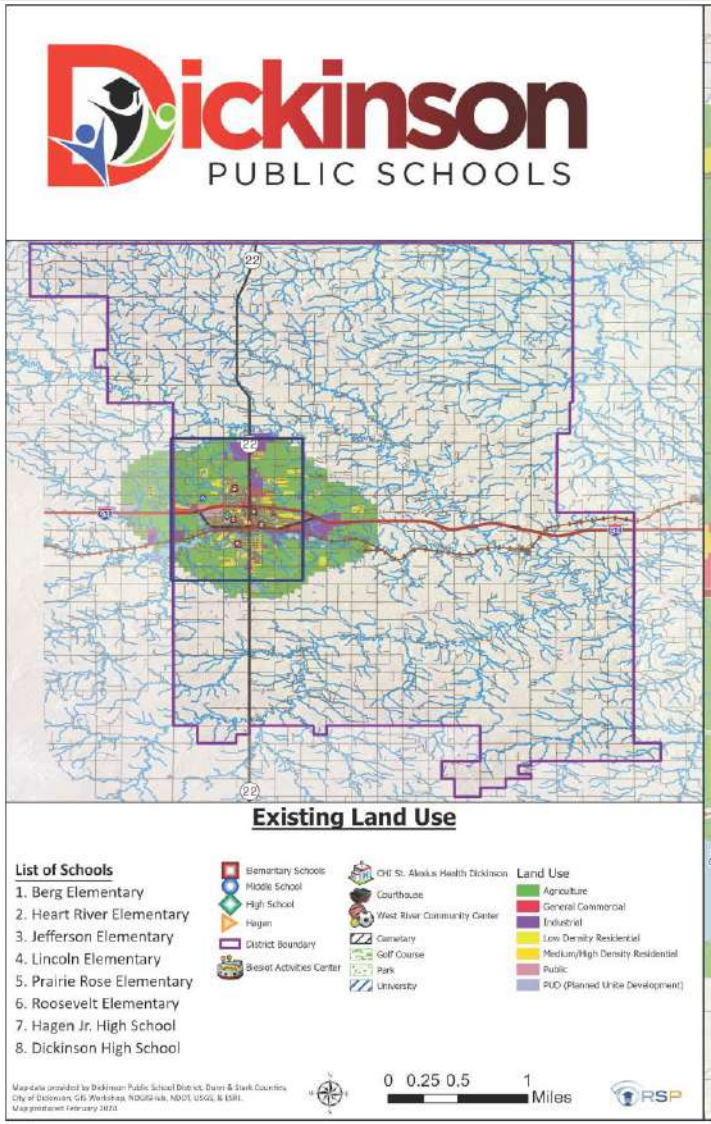
Residential Year Built

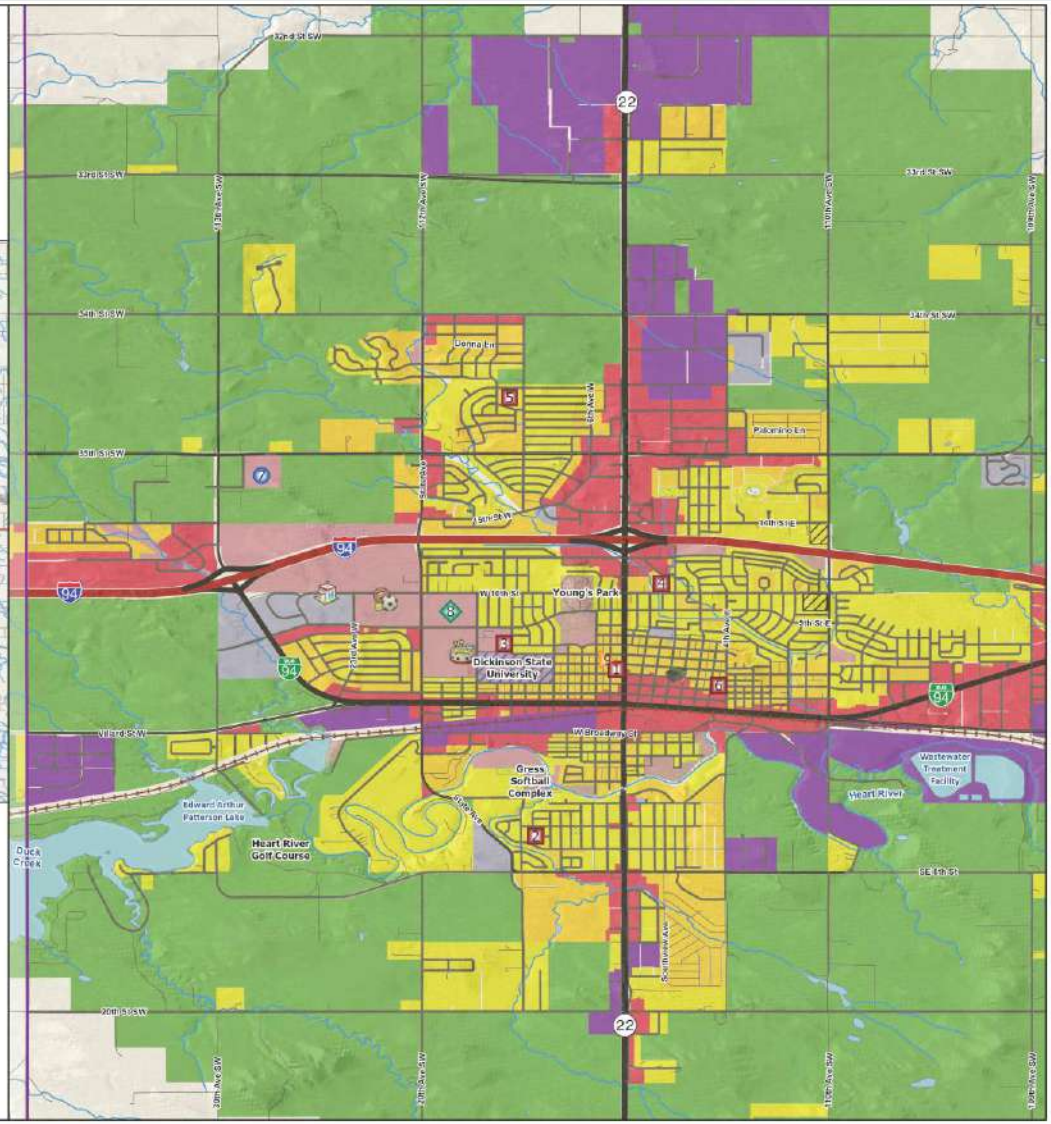
- Reveals the build out and timing of residential development within the district
- Some new areas do not necessarily lead to similar yield rates of like developments
- While areas may be platted for residential it may take several years for houses to be built and new student residents to move in



Existing Land Use

- Identifies the current type of land use
- Illustrates where employment centers are located (Purple and Red)
- Yellow and Orange areas represent residential
- Green agricultural areas have the highest propensity to be rezoned into another use

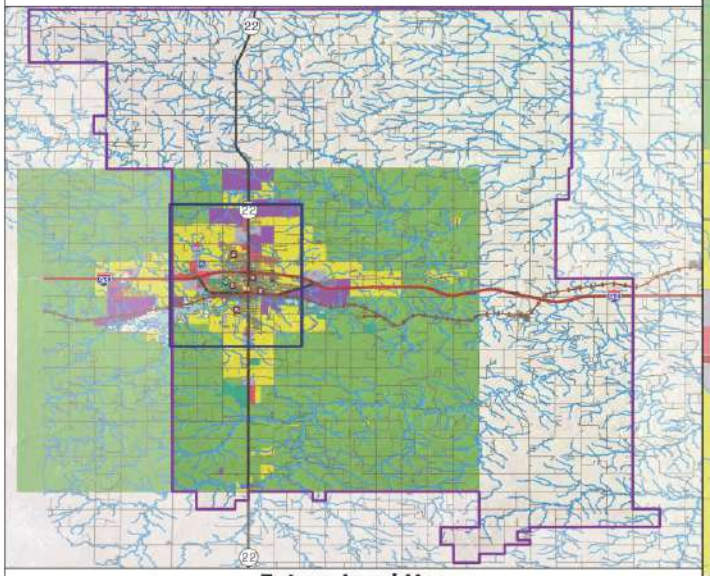




Future Land Use

- Identifies the current type of land use
- Illustrates where employment centers are located (Purple and Red)
- Yellow areas represent residential
- Green agricultural areas have the highest propensity to be rezoned into another use

Dickinson PUBLIC SCHOOLS



Future Land Use

List of Schools

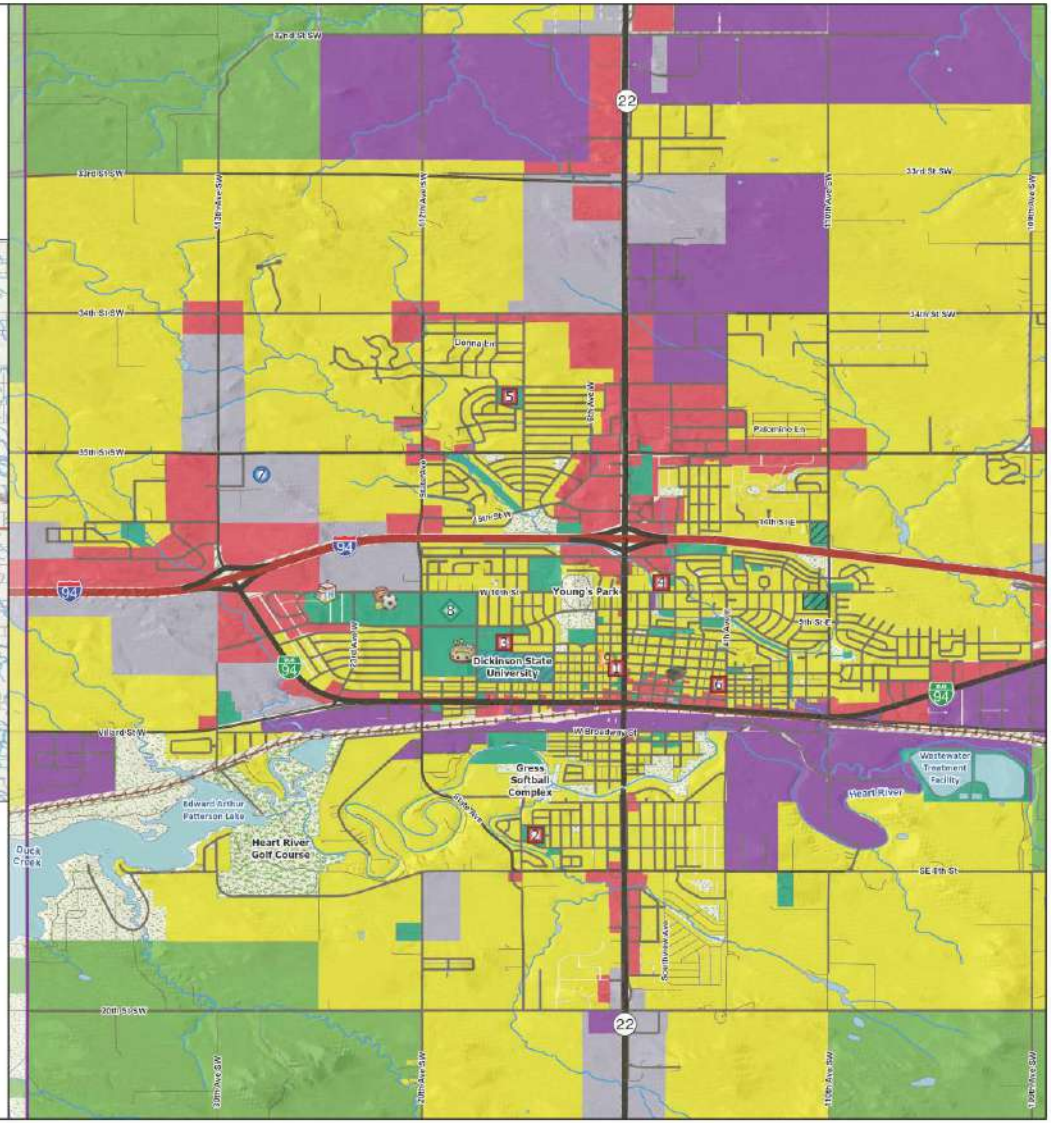
1. Berg Elementary
2. Heart River Elementary
3. Jefferson Elementary
4. Lincoln Elementary
5. Prairie Rose Elementary
6. Roosevelt Elementary
7. Hagen Jr. High School
8. Dickinson High School

Elementary Schools
Middle School
High School
Hagen
District Boundary
Bieber Activities Center
CHI St. Alexius Health Dickinson
Courthouse
West River Community Center
Cemetary
Golf Course
Park
University

Land Use
Agricultural
Commercial
Industrial
Mixed Use
Parks/Recreation
Public/Civic
Residential
Transportation

0 0.25 0.5 1 Miles

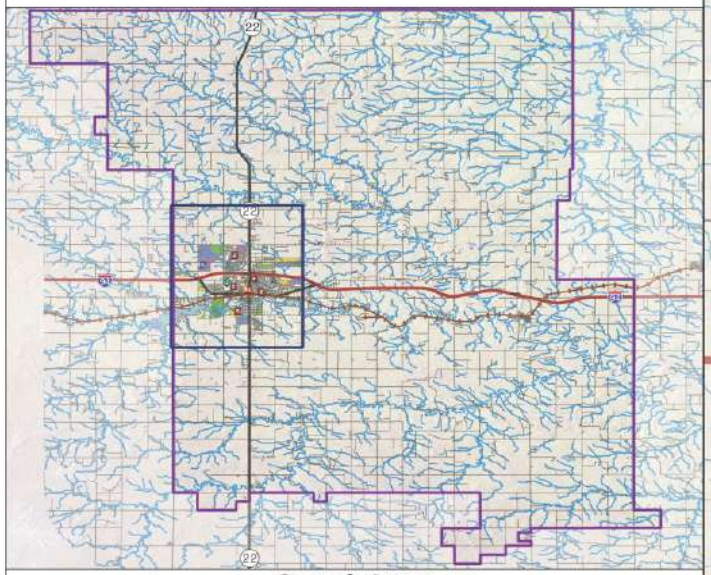
RSP



Growth Areas

- Identifies where development activity is happening (Green)
- Identifies possible areas that could develop (Yellow and Purple)
- The market and property owners desire to build guides the timing of development
- Other properties not shown might develop while some shown might not develop

Dickinson PUBLIC SCHOOLS



Growth Areas

List of Schools
1. Berg Elementary
2. Heart River Elementary
3. Jefferson Elementary
4. Lincoln Elementary
5. Prairie Rose Elementary
6. Roosevelt Elementary
7. Hagen Jr. High School
8. Dickinson High School

Elementary Schools
Middle School
High School
Hagen
District Boundary
Biesiot Activities Center
CHI St. Alexius Health Dickinson
Courthouse
West River Community Center
Cemetery
Golf Course
Park
University

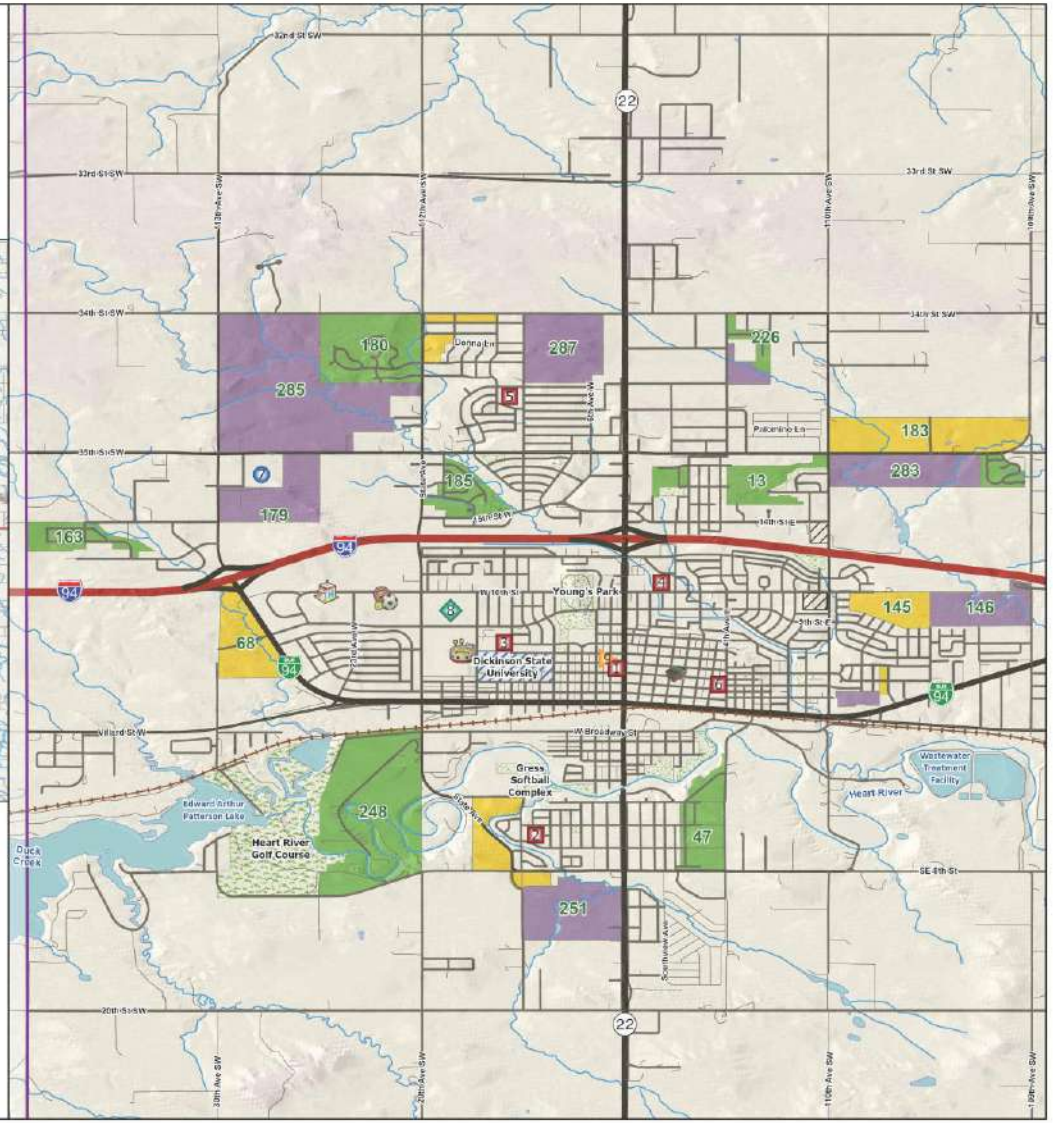
Growth Areas
Current
5 Year
10 Year

Population growth Areas are defined as areas that display a high propensity for growth; however, development is not guaranteed. Additionally, it is possible that areas not designated for growth may develop.

Map data provided by Dickinson Public School District, Dunn & Stark Counties, City of Dickinson, GIS Workshop, NDGIS Hub, NDDOT, USGS, & ESRI.
Map produced February 2020

0 0.25 0.5 1 Miles

RSP



Developments In Progress

The following are the developments that were known at the time of the analysis (Acres and/or Units);

- Current

PAID	Planning Area Name	Development Type	Existing Units	Potential Units
13	Diamond Acres East	SF	0	130
47	Southview Homes	SF	69	200
50	Riverfront North Dakota LLC	SF	3	25
163	West Ridge 3rd	SF	25	90
180	Koch Meadows	SF	18	131
181	Sundance Cove	SF	59	45
184	Wahl St	SF	131	18
185	Prairie Creek	SF	55	76
226	Lyons Ave	SF	32	20
288	Diamond Acres West	SF	10	23

Notes:

- Continue to track annexations and developments to understand the timing and type of developments that could be built as the development environment could change to address the local market demand
- The developments shown in the table are what is known at the time of this study – how fast they develop are guided by the local economics and desire of the developer/builder to build the developments
- Other developments could come online as they go through the city development process

Development Conclusions

The following are some general development observations:

- There are many locations for future development on both the North and South side of Dickinson
- Residential development has slowed from what it was five years ago
  - Appears many people are in a wait and see about what could or will happen with the oil industry to determine how quickly new development may occur
  - Competition with the other areas of the country make it difficult for new development to happen
  - Mortgage interest rates likely will remain below 6% (increasing over time)
  - Recirculation of existing homes will be healthy
  - The city has indicated development opportunities exist where there are over 1,000 units that could be built that have access to available infrastructure
- Economic stability with oil and agriculture will determine how quickly the community will grow
  - Seems to have adjusted for a new normal of having price per barrel of oil at about $50.00
  - Fuel prices will remain between $2.00 and $4.00 for the foreseeable future
  - New oil technologies allow for more wells drilled in closer proximity and access to greater yields
- There are abundant residential development opportunities available within the District boundary

If more of these variables track toward being positive for the District – Could potentially exceed "Likely RSP Projection" – the converse can also occur – "Likely RSP Projection" is what the District should use for planning purposes.

Part Three:
Enrollment Projections

Projection Notes

Elementary

- Projected: 2,007
- Actual: 2,016
- Accuracy: 99.6%

Middle School

- Projected: 856
- Actual: 885
- Accuracy: 96.7%

High School

- Projected: 1,048
- Actual: 1,045
- Accuracy: 99.7%

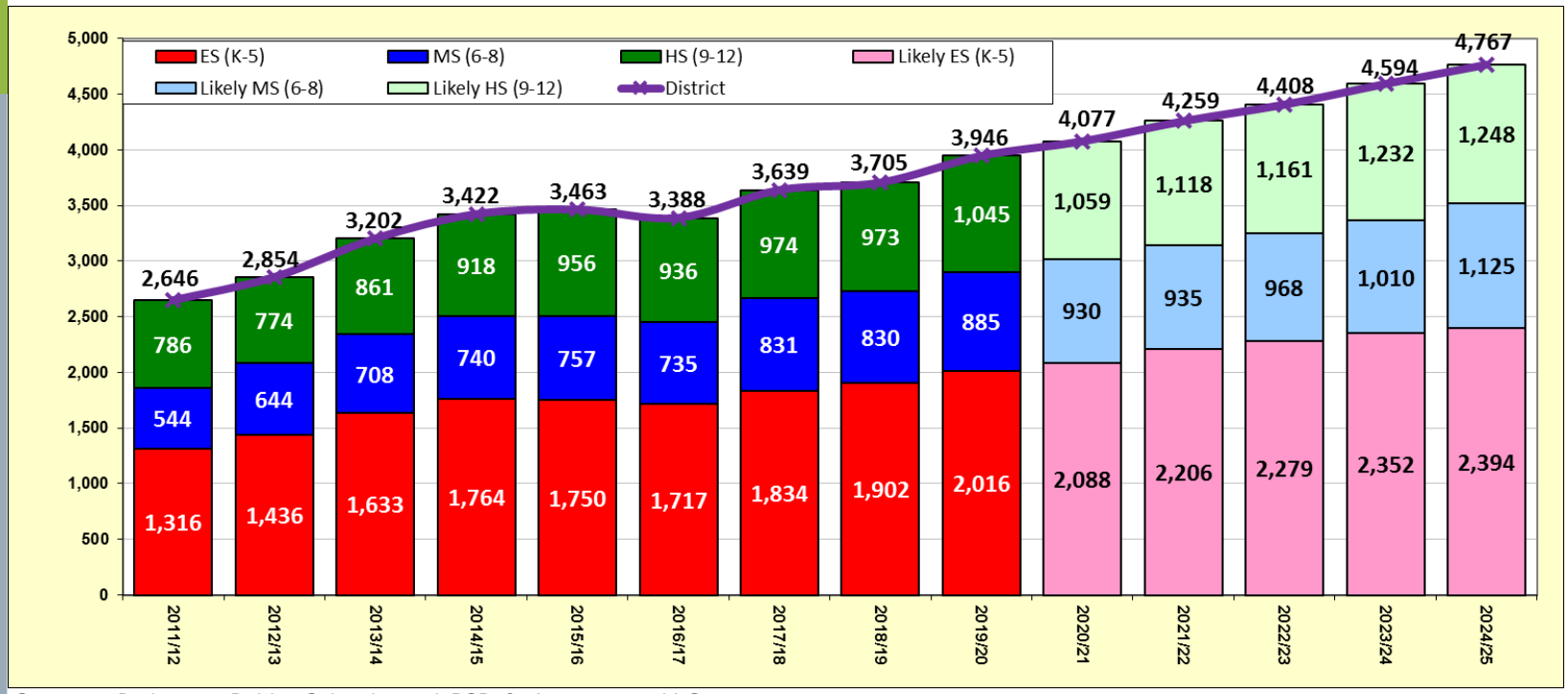
District

- Projected: 3,911
- Actual: 3,946
- Accuracy: 99.1%

Notes:

- This accuracy is the 2nd year of the 2017/18 RSP Projections
- Demographic shifts with millennials impacting future enrollment (Jobs, Jobs, Jobs)
- Inconsistency with county address data resulted in many rural area students being placed out of the district boundary
- Many areas of the community having significant demographic shifts influencing changes in enrollment (type of households not generating similar yield rates of students
- A good portion of analysis spent on making sure the county and city data sets provided the appropriate fields for the RSP analysis

Past, Current, Future Enrollment



Source: Dickinson Public Schools and RSP & Associates, LLC

Note: Approximately 40 students at SWCHS and Success Academy not shown in this table

Enrollment Future Described:

- Enrollment Change – Overall enrollment increase forecasted to be near 4,800 students by 2024/25
- Significant increase at the middle school projected in 2024/25 when the 2019/20 1st grade class (Largest 1st grade ever) will be 6th graders
- Next Five Year Enrollment Change Outlook:
  - District increases by nearly 900 students (+321.6%) (Annual Range: +3.5% to +4.4% a year)
  - Elementary increases by about 400 students (+18.8%) (Annual Range: +1.8% to +5.7% a year)
  - Middle School increases by about 250 students (+27.1%) (Annual Range: +0.5% to +11.4% a year)
  - High School increases by nearly 250 students (+22.5%) (Annual Range: +1.3% to +6.0% a year)

DISCLAIMER: All past student data is exported from the district student database allowing the ability to do robust statistical analysis by student geography. The student database export will not always align perfectly with the Official Count (Statistical 99% or greater match by grade)

Projection Notes

Projections Clarification:

- 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 one way:
  1. Reside (Based on where a student Resides in relation to the attendance area: 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 (K-5, 6-8, 9-12)
  - Open enrollment trends are assumed to follow district policy and will continue like those trends during the projection time frame
  - Students meeting the following categories are not part of the analysis:
    - SWCHS, Success Academy

Building Projections

School	Student Location	Past Enrollment 2017/18	Past Enrollment 2018/19	Past Enrollment 2019/20	Future Enrollment By Student Residence 2020/21	2021/22	2022/23	2023/24	2024/25
Berg Elementary	Res/Att	0	150	237					
Capacity 270	Reside	0	219	246	235	250	261	279	289
Grades K-5	Attend	0	186	248					
Heart River Elementary	Res/Att	204	216	258					
Capacity 270	Reside	256	272	267	290	313	320	336	334
Grades K-5	Attend	288	272	269					
Jefferson Elementary	Res/Att	237	310	391					
Capacity 405	Reside	323	399	412	424	439	444	460	479
Grades K-5	Attend	371	362	405					
Lincoln Elementary	Res/Att	156	282	368					
Capacity 405	Reside	217	355	382	387	396	418	426	436
Grades K-5	Attend	383	361	385					
Prairie Rose Elementary	Res/Att	347	349	431					
Capacity 540	Reside	426	405	450	483	518	549	564	573
Grades K-5	Attend	523	443	458					
Roosevelt Elementary	Res/Att	175	194	244					
Capacity 270	Reside	323	252	259	269	290	287	287	283
Grades K-5	Attend	269	278	251					
Rural Elementary	Res/Att	0	0	0					
Capacity 0	Reside	289	0	0	0	0	0	0	0
Grades K-5	Attend	0	0	0					
Dickinson Middle School	Res/Att	831	830	885					
Capacity 1,050	Reside	831	830	885	930	935	968	1,010	1,125
Grade 6-8	Attend	831	830	885					
Dickinson High School	Res/Att	974	948	1,009					
Capacity 1,100	Reside	974	973	1,045	1,091	1,150	1,193	1,264	1,280
Grades 9-12	Attend	974	948	1,009					
ELEMENTARY TOTAL	Res/Att	1,119	1,501	1,929					
Capacity 2,160	Reside	1,834	1,902	2,016	2,088	2,206	2,279	2,352	2,394
Grades PreK-5	Attend	1,834	1,902	2,016					
MIDDLE SCHOOL TOTAL	Res/Att	831	830	885					
Capacity 1,050	Reside	831	830	885	930	935	968	1,010	1,125
Grades 6-8	Attend	831	830	885					
HIGH TOTAL	Res/Att	974	948	1,009					
Capacity 1,100	Reside	974	973	1,045	1,091	1,150	1,193	1,264	1,280
Grades 9-12	Attend	974	973	1,045					
DISTRICT K-12 TOTALS	Res/Att	2,924	3,279	3,823					
Capacity 4,310	Reside	3,639	3,705	3,946	4,109	4,291	4,440	4,626	4,799
Grades K-12	Attend	3,639	3,705	3,946					

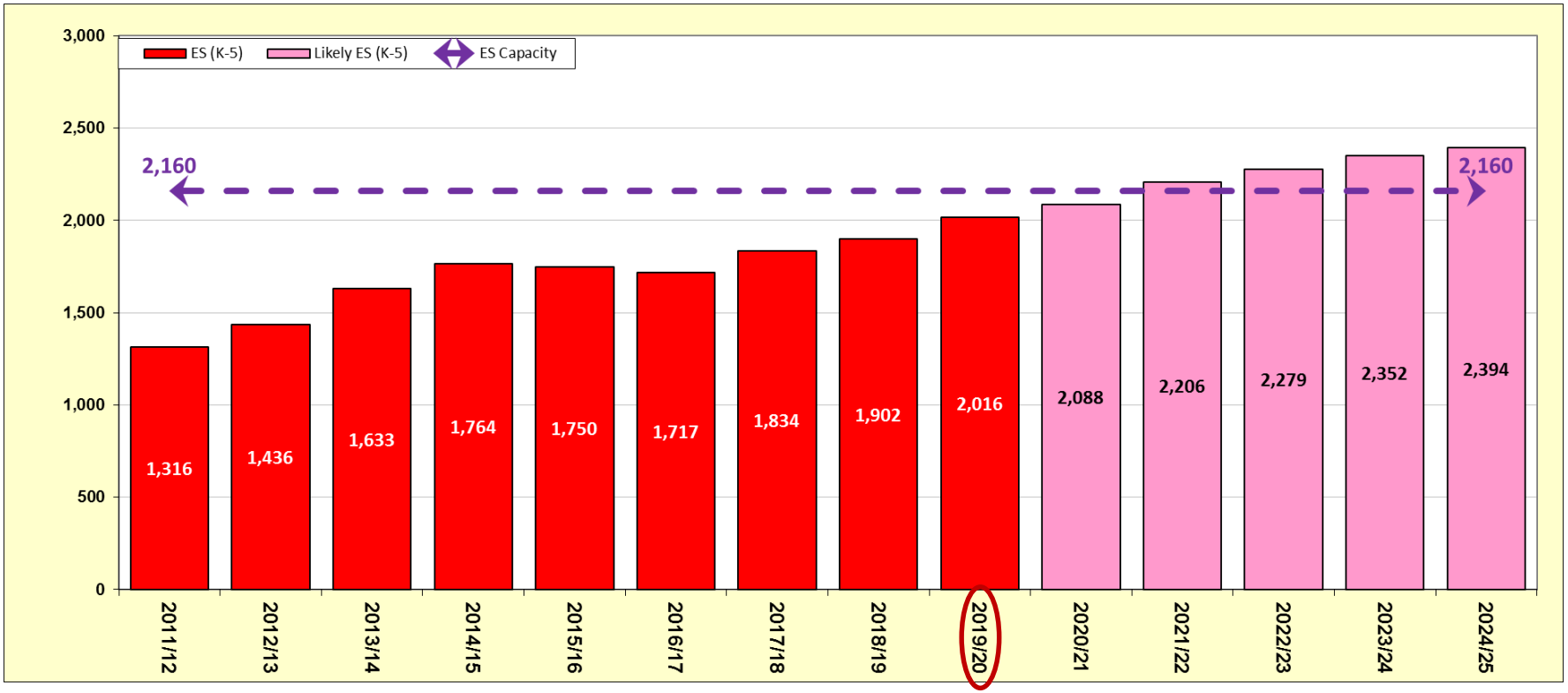
Source: RSP & Associates, LLC - March 2020

Exceed Building Capacity

Note: Approximately 40 students at SWCHS and Success Academy not shown in this table

DISCLAIMER: All past student data is exported from the district student database allowing the ability to do robust statistical analysis by student geography. The student database export will not always align perfectly with the Official Count (Statistical 99% or greater match by grade)

Elementary Enrollment and Capacity



Source: Dickinson Public Schools and RSP & Associates, LLC

Year by which a decision will be required to meet Capacity Need

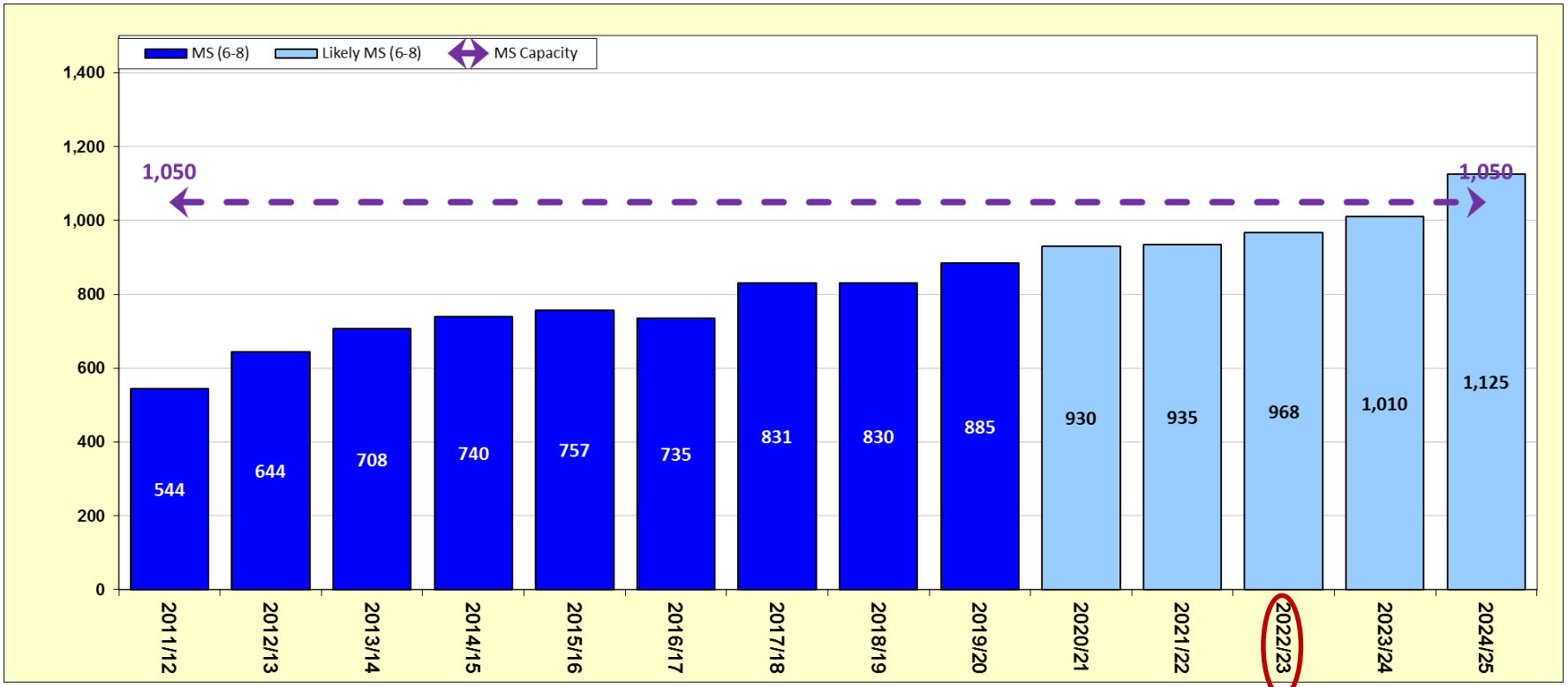
Note: Approximately 40 students at SWCHS and Success Academy not shown in this table

Comments:

- This graphic helps to ensure the enrollment and capacity conversation addresses all current and future programming need
- The district-wide Capacity for Elementary Schools will have challenges by 2021/22
- There will be capacity challenges at individual schools and the educational programming changes may impact how space can be best educationally utilized for students

DISCLAIMER: All past student data is exported from the district student database allowing the ability to do robust statistical analysis by student geography. The student database export will not always align perfectly with the Official Count (Statistical 99% or greater match by grade)

Middle School Enrollment and Capacity



Source: Dickinson Public Schools and RSP & Associates, LLC

Year by which a decision will be required to meet Capacity Need

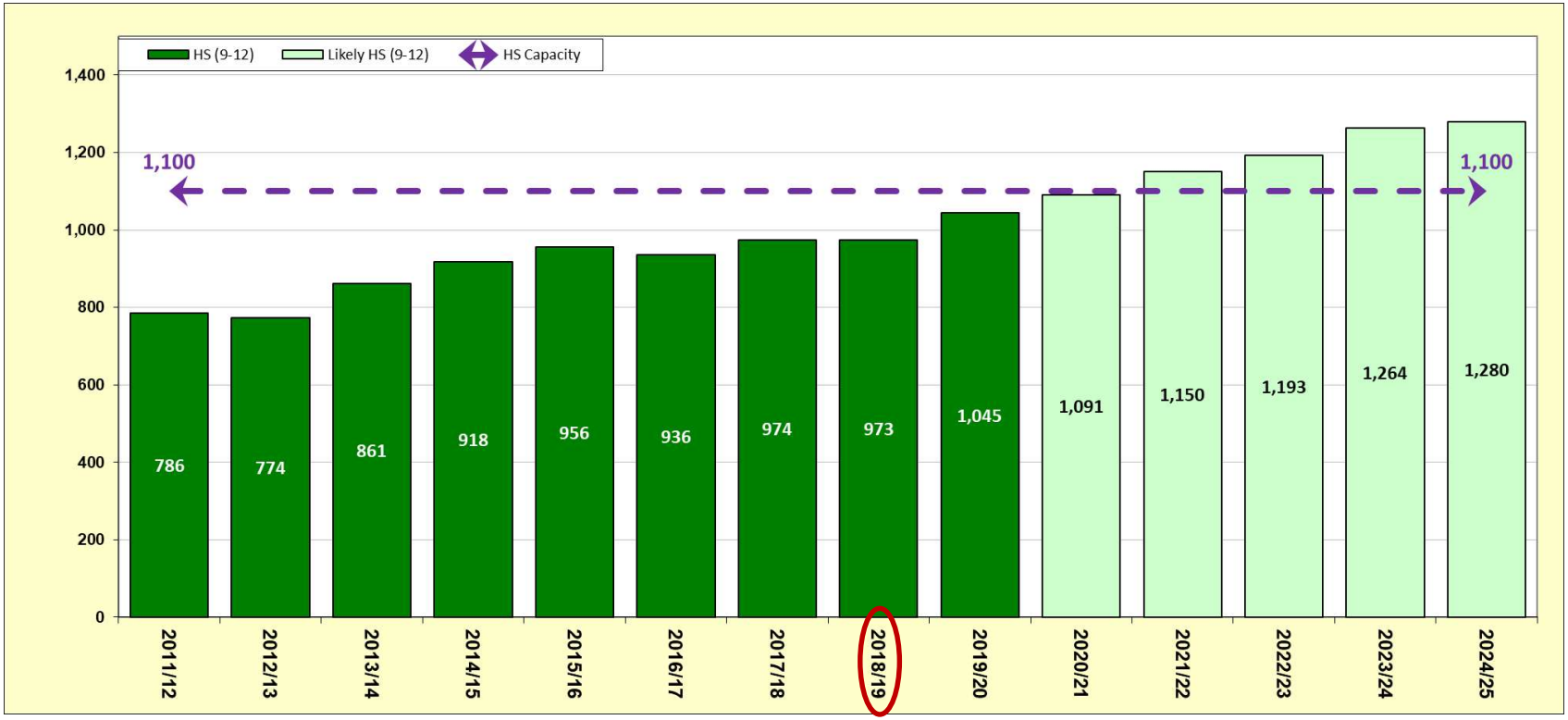
Note: Approximately 40 students at SWCHS and Success Academy not shown in this table

Comments:

- This graphic helps to ensure the enrollment and capacity conversation addresses all current and future programming need
- The district-wide Capacity for Middle School will have challenges by 2024/25
- Depending on the solution chosen, the district will likely need between 3 to 5 years to include decision making, planning, and implementation of a solution that will positively impact the student learning environment
- Solutions could be: grade configuration, ideal school size, additions, and/or new middle school building

DISCLAIMER: All past student data is exported from the district student database allowing the ability to do robust statistical analysis by student geography. The student database export will not always align perfectly with the Official Count (Statistical 99% or greater match by grade)

High School Enrollment and Capacity



Source: Dickinson Public Schools and RSP & Associates, LLC

Year by which a decision will be required to meet Capacity Need

Note: Approximately 40 students at SWCHS and Success Academy not shown in this table

Comments:

- This graphic helps to ensure the enrollment and capacity conversation addresses all current and future programming need
- The district-wide Capacity for high School will have capacity challenges by 2020/21
- Depending on the solution chosen, the district will likely need between 3 to 5 years to include decision making, planning, and implementation of a solution that will positively impact the student learning environment
- Solutions could be: grade configuration, ideal school size, additions, and/or new high school building

DISCLAIMER: All past student data is exported from the district student database allowing the ability to do robust statistical analysis by student geography. The student database export will not always align perfectly with the Official Count (Statistical 99% or greater match by grade)

Part Four:
Moving Forward

Next Steps

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

- District administration and the Board of Education further study the enrollment, demographic, and development information presented (Enrollment projected in 2024/25 to be about 4,800 students)
- Utilize the enrollment model to assist with planning for staffing need at each facility for the following school year which will address how quickly areas are "Regreening"
- The type of residential development and how affordable it is will determine likely location and number of students (Tracking of type of development important to knowing the impact of those trends)
- 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 (Emerging trends and demographic change)
- Determine the criteria to address capacity issues and timing for future school construction, remodeling, or new attendance areas
  - Plan for needed elementary capacity to be online within the next three years
  - Plan for secondary solutions that will address middle school and high school capacity challenges
- Continue to make decisions and communicate that information to the community so they can understand how educational opportunities will support College and/or Career Ready students
- RSP Enrollment forecasting is based on the best-known information at the time. COVID 19 has presented a challenge as it is unknown how this event may impact enrollment, demographics, and development trends in each individual school district. RSP has started with some of the short-term knowns to include social distancing and people working more from home environments, school closures, and no clear timeline for this pandemic to work its way through our communities. As a result, the RSP forecast may indicate some short-term decrease in residential development activity and economic uncertainty for the next year to 18 months. RSP is hopeful a cure, change in season, or other solution happens to decrease the potential negative outcomes and as such recommends our school district clients collaborate with RSP prior to the school year to best plan for the changes happening in your district.

Current Boundary Data
(Current K-5th Projections) (Current Attendance Areas)

- **Without additional elementary capacity and/or grade configuration change, there is not adequate district-wide elementary capacity nor building capacity at any of the elementary schools**
- There are other capacity challenges a the middle school and high schools which also need to be addressed in the long-range planning for having the appropriate educational spaces for students
- Solutions could include additions, portable structures, new schools, to possibly be in concert with a grade configuration change – each have positive and negative impacts
- Land that is currently available is east of the middle school (#10 on map) and south of Memorial Park (#11 on map)
- Current attendance areas are represented by the dotted lines on the map
- Current district grade configuration is K-5 (Elementary) 6-8 (Middle School), 9-12 (High School)

School	Capacity	Projections					2024/25
		2020/21	2021/22	2022/23	2023/24	2024/25	Capacity %
1. Berg Elementary School	270	235	250	261	279	289	107.0%
2. Heart River Elementary School	270	290	313	320	336	334	123.7%
3. Jefferson Elementary School	405	424	439	444	460	479	118.3%
4. Lincoln Elementary School	405	387	396	418	426	436	107.7%
5. Prairie Rose Elementary School	540	483	518	549	564	573	106.1%
6. Roosevelt Elementary School	270	269	290	287	287	283	104.8%
Total	2,160	2,088	2,206	2,279	2,352	2,394	110.8%

New Kindergarten Center
(K & 1st -5th Projections) (Current Attendance Areas)

- This solution builds a new Kindergarten center (likely location #11 on map) with capacity of 800 students
- The district grade configuration changes to K, 1-5 (Elementary), 6-8 (Middle School), 9-12 (High School)
  - Another capacity option to consider could be K, 1-6 (Elementary) 7-8 (Middle School), 9-12 (High School)
  - Another capacity option to consider could be K, 1-6 (Elementary) 7-9 (Middle School with an addition), 10-12 (High School)
- Attendance areas remain the same (Dotted lines represented on the map)
- Heart River will be slightly over capacity
- Another Capacity Option to consider could be to modify the Heart River attendance area, utilize portables, or build a small classroom addition
- Without utilizing one or in combination the above Another Capacity Option (Underlined) middle school and high school will still have capacity challenges

School	Capacity	Projections					2024/25
		2020/21	2021/22	2022/23	2023/24	2024/25	Capacity %
1. Berg Elementary School	270	235	250	222	236	238	88.1%
2. Heart River Elementary School	270	290	313	265	281	282	104.4%
3. Jefferson Elementary School	405	424	439	373	384	392	96.8%
4. Lincoln Elementary School	405	387	396	343	354	366	90.4%
5. Prairie Rose Elementary School	540	483	518	458	465	490	90.7%
6. Roosevelt Elementary School	270	269	290	243	241	238	88.1%
11. New Kindergarten Center	800	0	0	375	391	388	48.5%
Total	2,960	2,088	2,206	2,279	2,352	2,394	80.9%

New 5-6 School

(K -4th and 5th-6th Projections) (Current Attendance Areas)

- This solution builds a new 5-6 grade school (could be either #10 or #11 shown on the map)
- The district grade configuration changes to K-4 (Elementary), 5-6 (Intermediate) 7-8 (Middle School), 9-12 (High School)
  - Another capacity option to consider could be K-4 (Elementary) 5-6 (Intermediate), 7-9 (Middle School with an addition), 10-12 (High School)
- Attendance areas remain the same (Dotted lines represented on the map)
- Heart River will be slightly over capacity
- Another Capacity Option to consider could be to modify the Heart River attendance area, utilize portables, or build a small classroom addition
- Without utilizing one or in combination the above Another Capacity Option (Underlined) middle school and high school will still have capacity challenges

School	Capacity	Projections					2024/25
		2020/21	2021/22	2022/23	2023/24	2024/25	Capacity %
1. Berg Elementary School	270	235	250	232	233	238	88.1%
2. Heart River Elementary School	270	290	313	277	277	272	100.7%
3. Jefferson Elementary School	405	424	439	378	384	395	97.5%
4. Lincoln Elementary School	405	387	396	350	361	359	88.6%
5. Prairie Rose Elementary School	540	483	518	453	483	468	86.7%
6. Roosevelt Elementary School	270	269	290	241	237	233	86.3%
11. New 5-6 School	1,400	0	0	689	749	834	59.6%
Total	3,560	2,088	2,206	2,620	2,724	2,799	78.6%

Future K-5 Elementary School

(K-5th Projections) (Proposed Attendance Areas)

- This solution builds a new K-5 grade school (Likely location #10 shown on the map)
- The district grade configuration changes to K-5 (Elementary), 6-8 (Middle School), 9-12 (High School)
  - Another capacity option to consider could be K-6 (Elementary), 7-8 (Middle School with an addition), 9-12 (High School)
  - Another capacity option to consider could be K-6 (Elementary), 7-9 (Middle School with an addition), 10-12 (High School)
- Attendance areas change (Solid colors represented on the map)
- Without utilizing one or in combination the above Another Capacity Option (Underlined) middle school and high school will still have capacity challenges

School	Capacity	Projections					2024/25
		2020/21	2021/22	2022/23	2023/24	2024/25	Capacity %
1. Berg Elementary School	270	235	250	219	226	229	84.8%
2. Heart River Elementary School	270	290	313	239	250	253	93.7%
3. Jefferson Elementary School	405	424	439	331	352	349	86.2%
4. Lincoln Elementary School	405	387	396	361	366	372	91.9%
5. Prairie Rose Elementary School	540	483	518	449	454	464	85.9%
6. Roosevelt Elementary School	270	269	290	249	248	248	91.9%
10. Future K-5 Elementary School	600	0	0	434	452	479	79.8%
Total	2,760	2,088	2,206	2,282	2,348	2,394	86.7%

Boundary Option Comparison

Pros and Deltas (Considerations)

NEW KINDERGARTEN CENTER

PROS

- No boundary change-keep existing ES attendance areas
- All KDG students go to one school
- Relieves capacity at Elementary

DELTAS

- All KDG students go to one school-one additional building
- Heart River still over capacity
- Middle School is still over capacity
- High School is still over capacity

NEW 5-6 GRADE SCHOOL

PROS

- No boundary change change-keep existing ES attendance areas
- All 5th graders go to one school
- Relives capacity at Elementary and Middle School

DELTAS

- All 5th graders go to one school-one additional building transition
- Heart River still over capacity
- High School is still over capacity

NEW K-5 ELEMENTARY SCHOOL

PROS

- No Elementary school is over capacity
- Balances enrollment which will minimize having to do another boundary change

DELTAS

- Middle School is still over capacity
- High School is still over capacity
- Attendance areas will have to changed impacting many students

All options achieve the following

- ✓ Elementary Capacity Relief
- ✓ Boundaries with varying lasting duration
- ✓ Better balance of enrollment across district
- ✓ Plan for potential elementary enrollment growth

Notes