

Planning for the Future:

Status of Enrollment



December 12, 2011

Discussion Points

- Introduction of RSP & Associates
- Enrollment Model (RSP)
 - Sophisticated Forecast Model
 - Planning Areas
 - Model Components
 - Planning Areas
 - Issues and Assumptions
 - Past Enrollment
 - Baseline Data
- The Projections (RSP)
 - District
 - Elementary School
 - Middle School
 - High School
- Next Steps

About RSP – Visualizing Success



Robert Schwarz, AICP, REFP



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Mark Porter, ED.D



Susan Swift, Ph.D.

Founded in 2003

Professional planning and educational firm

Expertise in multiple disciplines

Over 20 years of planning experience

Over 50 years of education experience

Over 20 years of GIS experience

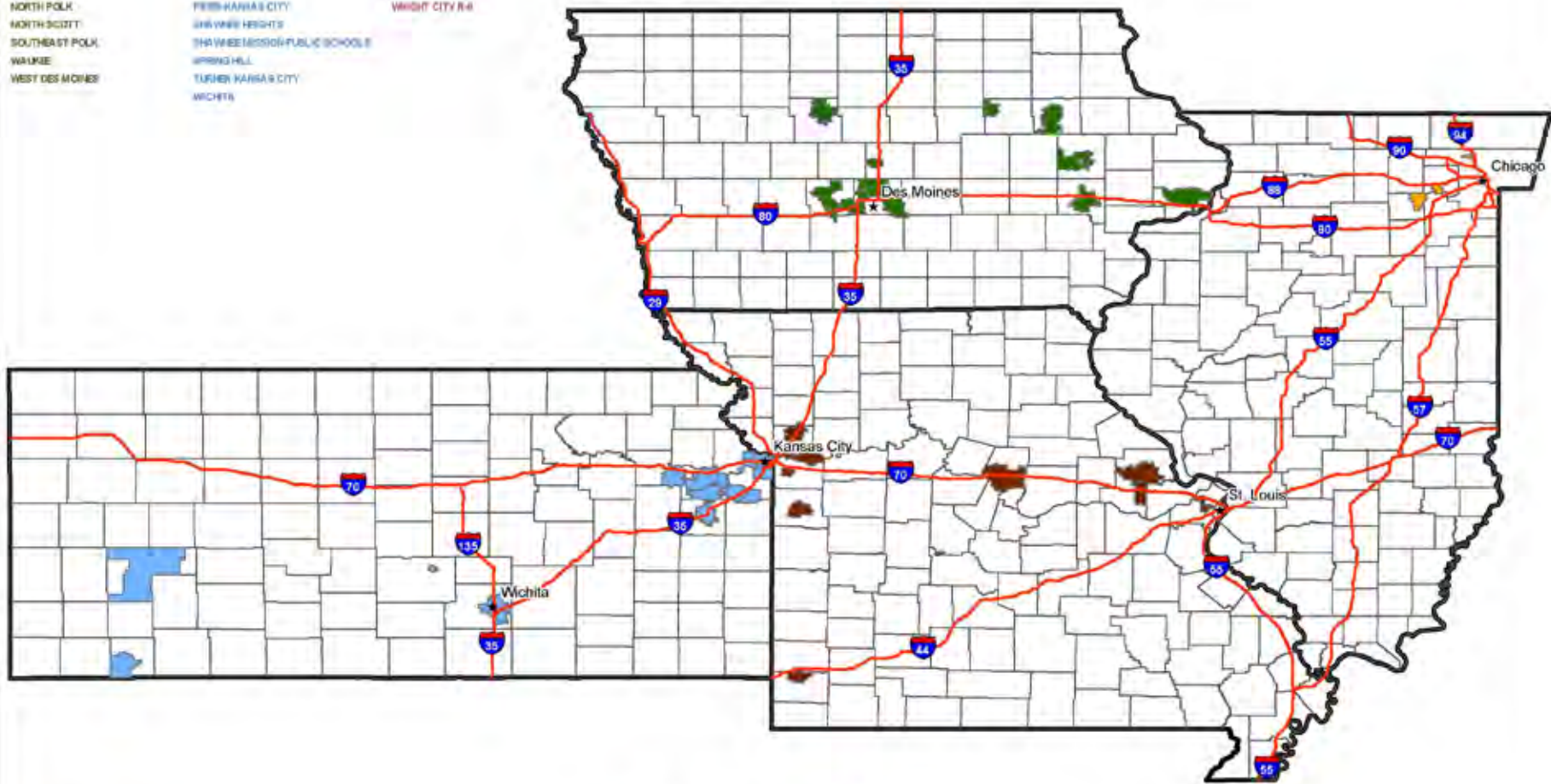
Clients in Arkansas, Iowa, Illinois, Kansas, Missouri, and North Dakota

Projection accuracy of 97% or greater

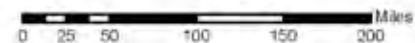
RSP & Associates - Clients

VISUALIZING SUCCESS

IOWA	ILLINOIS	KANSAS	MISSOURI	OTHER STATES
ADM	OLDSBORO	BALDWIN CITY	COLUMBIA	AR - NORTH LITTLE ROCK
AMES	WATERLOO	BEAUMONT	DAMON R-IV	ND - WEST FARGO
ANKENY	WATERLOO	OGEMUN	FORT OSAGE I	ND - BISMARCK PUBLIC SCHOOLS
BETTENDORF		ELDON	HARRISONVILLE I	
CEDAR FALLS		ELDON	KEARNEY I	
CEDAR RAPIDS		GARDNER CITY	LADUE	
FORT DOUGLASS		HANDSOME ROBERTSON	NORTH KANSAS CITY I	
INDEPENDENCE		HUTCHINSON PUBLIC SCHOOLS	PATTONVILLE R-II	
IOWA CITY		KANSAS CITY	RAYTOWN C-2	
JOHNSON		LAWRENCE	TROY R-II	
LEWIS & CLARK		LIBERAL	UNIVERSITY CITY	
NORTH POLK		OTTAWA	WIGHT CITY R-I	
NORTH WYOMING		PEEBLESVILLE		
SOUTHWEST POLK		WINDY HILLS		
WAUKESHA		SHAWNEE MISSION PUBLIC SCHOOLS		
WEST DES MOINES		SPRING HILL		
		TURNER KANSAS CITY		
		WICHITA		



- ★ Major City
- Interstate
- County Boundary
- State Boundary
- IA - Clients
- IL - Clients
- KS - Clients
- MO - Clients



Map Created December 2011

Who is Involved / How it Begin

School District

- Administration

County/City/Others

- City of Bismarck
- Burleigh County
- Realtors
- Developers
- Assessor

Special Considerations

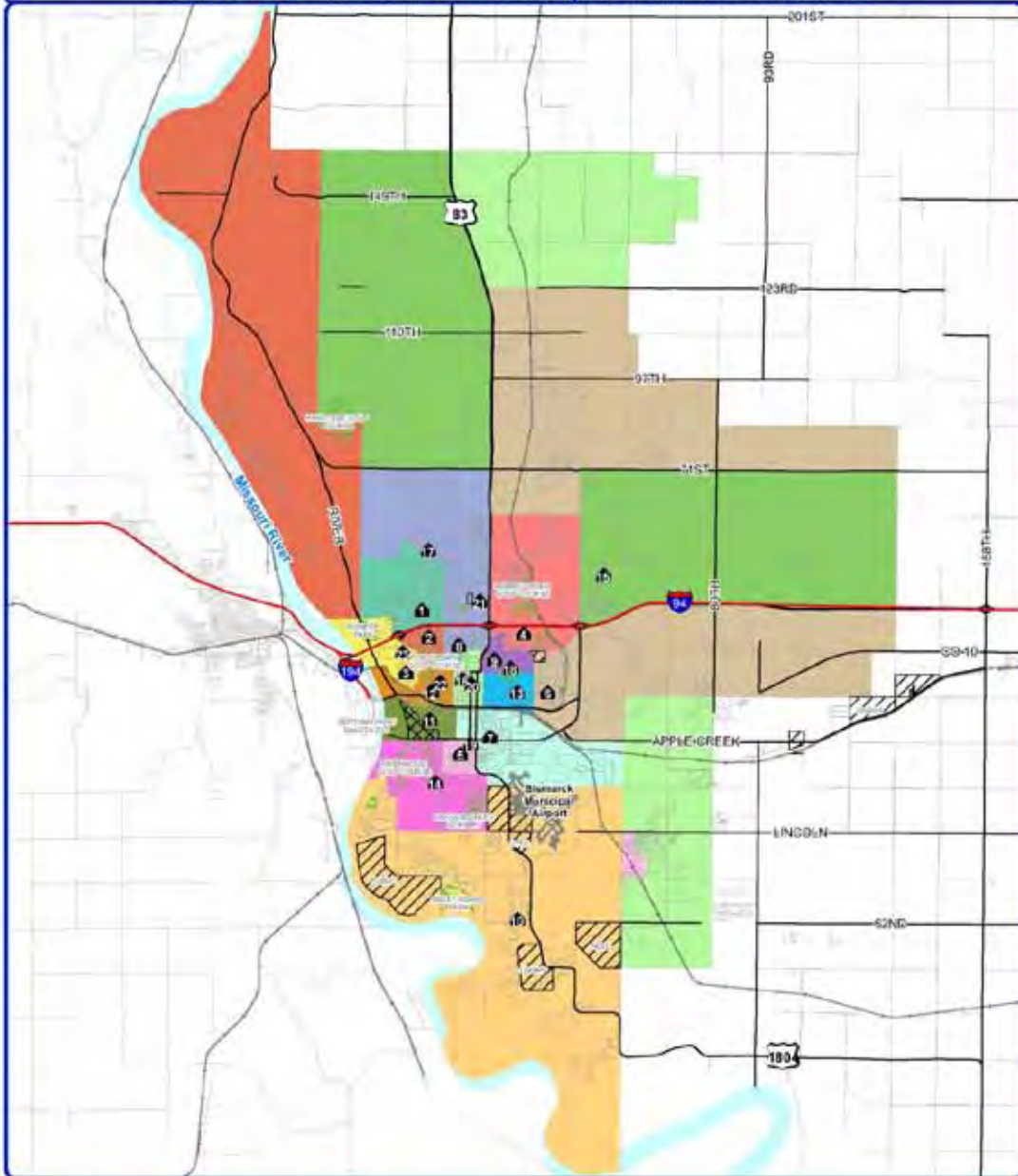
- Existing District Programming
- Capacity of Facilities
- Future Educational programming
- Pupil to Teacher Ratios (Staffing)

Good News - District GIS data means all cost savings will be realized

Collaboration

Three Key Things About the District

- Enrollment is projected to increase over the next five years
- Capacity for each building has to be determined to better understand how to alleviate potential capacity issues
- The district is likely going to deal with inadequate facility space in locations where enrollment is most highly concentrated



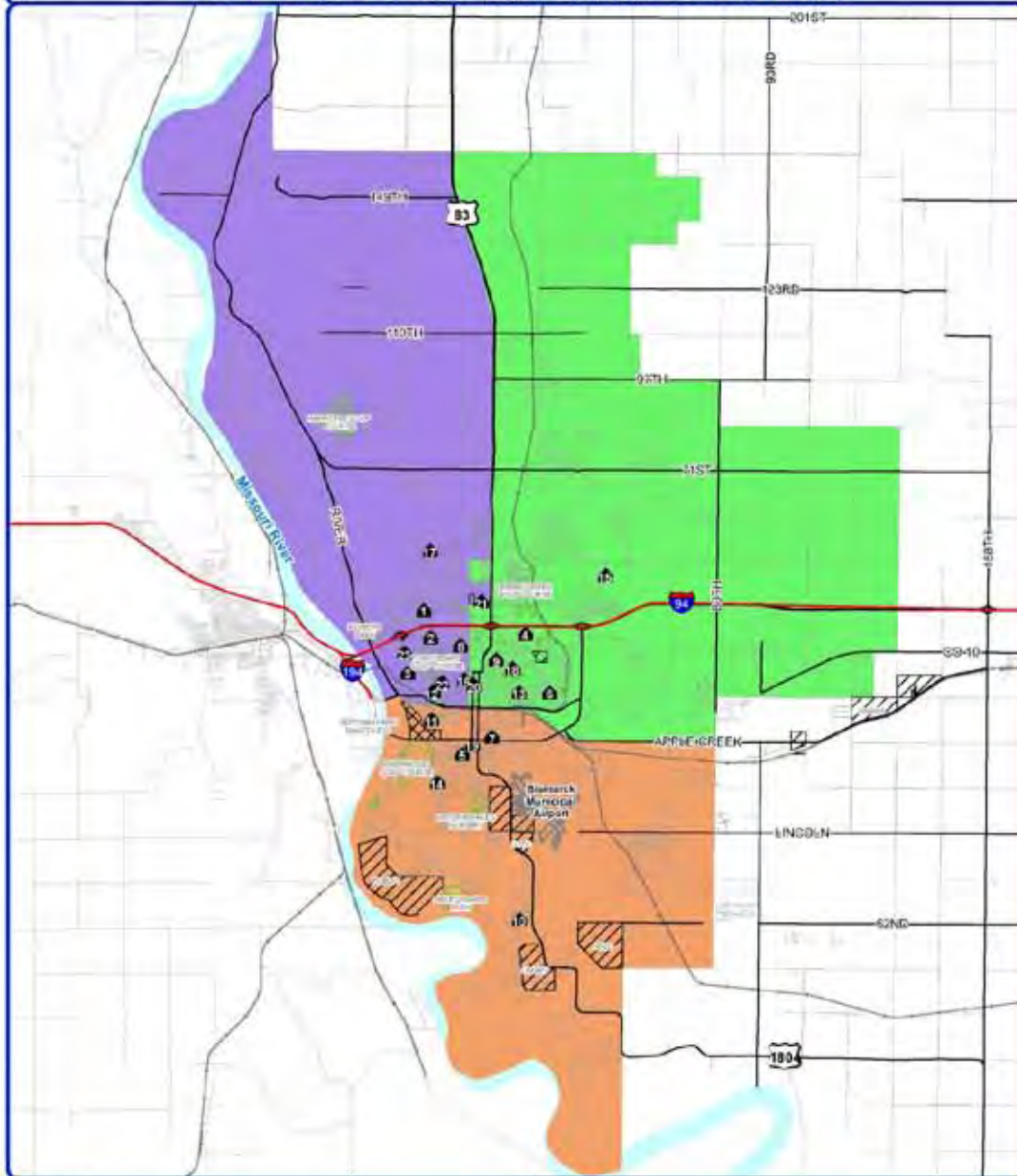
Elementary Attendance Area Map

- District Boundary (purple)
- Major Streets
- Major Parks
- Elementary Attendance Areas

List of Schools		
1. Central Elementary School	6. James Elementary School	17. Horizon Middle School
2. Central Elementary School	10. Prairie Rose Elementary School	18. Omaha Middle School
3. Highland Acres Elementary School	11. Niagara Elementary School	19. Wacker Middle School
4. Miller Elementary School	12. Ashwood Elementary School	20. Bismarck High School
5. Mass Elementary School	13. South Elementary School	21. Century High School
7. Murray Elementary School	14. Southern Elementary School	22. South Central High School
8. Myrtle Elementary School	15. Sunset Elementary School	23. Career Academy/BTC
9. Northridge Elementary School	16. Van Moore Elementary School	

- Schools
- Golf
- Park
- Zoo
- Other





Middle School Attendance Area Map

- District Boundary (purple)
- Major Streets
- Major Parks
- Middle School Attendance Areas
- Elementary schools that feed into the middle schools

- List of Schools
- | | |
|-------------------------------------|---------------------------------|
| 1. Central Elementary School | 8. Pioneer Elementary School |
| 2. Central Elementary School | 9. Frank Rose Elementary School |
| 3. Highland Acres Elementary School | 10. Riverside Elementary School |
| 4. Miller Elementary School | 11. Roosevelt Elementary School |
| 5. Moses Elementary School | 12. East Elementary School |
| 6. Murphy Elementary School | 13. Solheim Elementary School |
| 7. Myers Elementary School | 14. Curless Elementary School |
| 8. Northridge Elementary School | 15. Will Moon Elementary School |

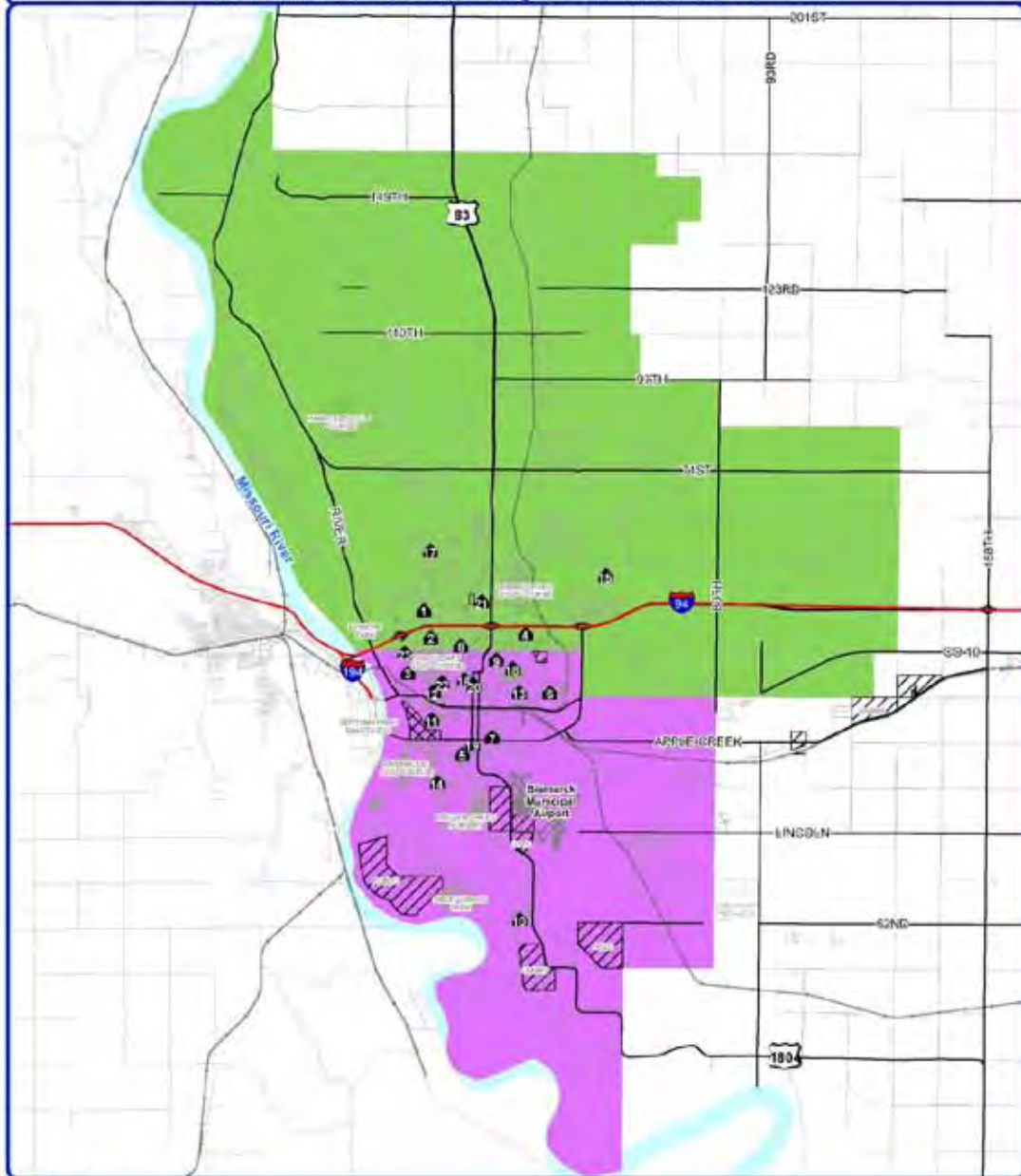
- | |
|-------------------------------|
| 17. North Middle School |
| 18. North Middle School |
| 19. West Middle School |
| 20. Bismarck High School |
| 21. Century High School |
| 22. South Central High School |
| 23. Career Academy/CTC |

- Schools
- | | |
|--|---------|
| | Schools |
| | Golf |
| | Park |
| | Zoo |
| | Other |

0 0.5 1 Miles

RSP
Bismarck Public Schools

Data provided by Bismarck Public Schools, South Dakota Department of Transportation, USGS, and ESRI. Map Created November 2021



High School Attendance Area Map

- District Boundary (purple)
- Major Streets
- Major Parks
- High School Attendance Areas

List of Schools

1. Central Elementary School	9. Pioneer Elementary School	17. Harlan Middle School
2. Grinnell Elementary School	10. Prins Rosa Elementary School	18. Simla Middle School
3. Highland Acres Elementary School	11. Riverside Elementary School	19. Wachter Middle School
4. Miller Elementary School	12. Roosevelt Elementary School	20. Bismarck High School
5. Moses Elementary School	13. Sarah Elementary School	21. Century High School
6. Murphy Elementary School	14. Sothorn Elementary School	22. South Central High School
7. Myers Elementary School	15. Sunrise Elementary School	23. Career Academy/BTC
8. Appleidge Elementary School	16. WB Moore Elementary School	

Schools

	Schools
	Golf
	Park
	Zoo
	Other



Sophisticated Forecast Model

This is the central focus of everything RSP does. The model will be 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 reports and maps to better understand demographic trends, school utilization, and the timing of construction projects.

Built-Out

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

- S = The number of students, either an actual count or a projected count
- x = A subscript denoting a planning area
- c = Grade level
- t = Time
- GC = Growth component, either modeling enrollment increase or decrease based on historical information, expressed as a student enrollment ratio of cohort c in planning area x

Developing

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

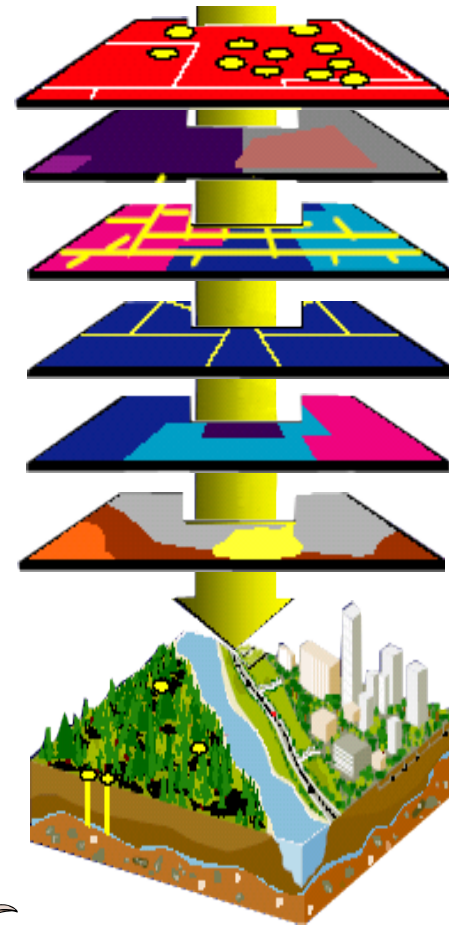
Where

$$BP_{t, x} = \frac{CP_x * BT_x}{\bar{a} CP_x * BT_x} * CT$$

- S = The number of students, either an actual count or a projected count
- x = A subscript denoting a planning area
- c = Grade level
- t = Time
- BP = Building permit forecast as given by the 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 a planning area
- CT = Building permit control total forecast

Model Components

- Cohort Growth
- External Growth
- Kindergarten Change
- Economic Scenarios



STUDENTS/PEOPLE

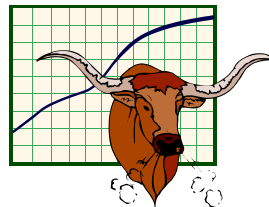
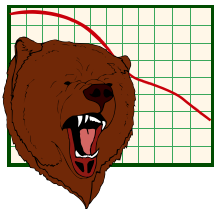
DEVELOPMENT

STREETS

ATTENDANCE AREAS

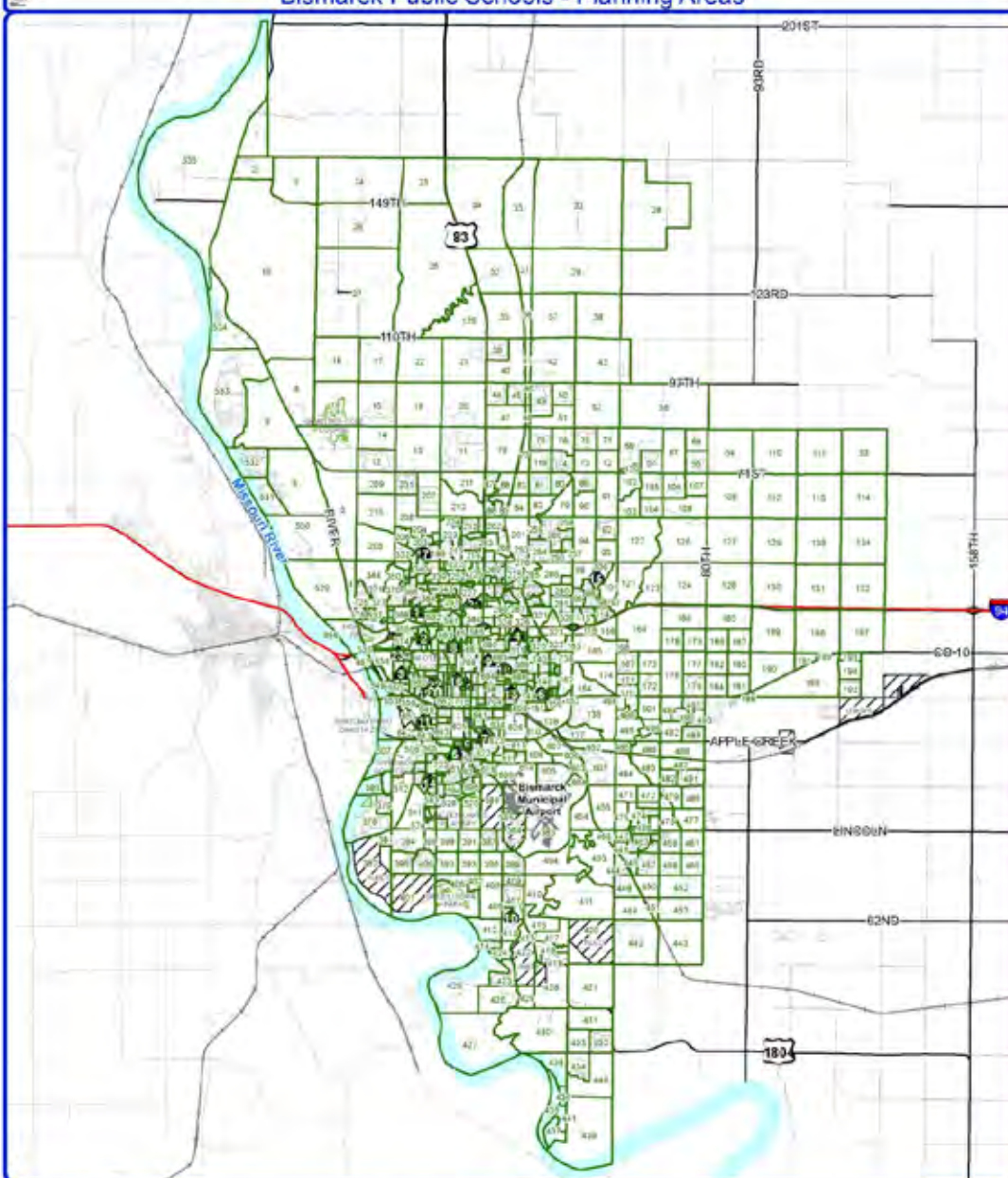
CITY

COUNTY



Planning Area Map

- Natural and Manmade Features
- Follows Attendance Areas
- Type of Development (SF, MF, Dup, TH)
- Green lines represent the Planning Areas RSP created



- List of Schools**
- | | | |
|-------------------------------------|------------------------------------|-------------------------------|
| 1. Central Elementary School | 9. Pioneer Elementary School | 17. Horizon Middle School |
| 2. Central Elementary School | 10. Prairie Rose Elementary School | 18. Simla Middle School |
| 3. Highland Acres Elementary School | 11. Riverside Elementary School | 19. Westar Middle School |
| 4. Nile Elementary School | 12. Roosevelt Elementary School | 20. Bismarck High School |
| 5. Moses Elementary School | 13. Savin Elementary School | 21. Century High School |
| 6. Murphy Elementary School | 14. Schaller Elementary School | 22. South Central High School |
| 7. Myers Elementary School | 15. Sunrise Elementary School | 23. Career Academy @ TC |
| 8. Northridge Elementary School | 16. Will Moon Elementary School | |

- Schools**
- Schools
 - Planning Areas
 - Golf
 - Park
 - Zoo
 - Other

0 0.5 1 2 Miles

RSP
Regional School Planning

Data provided by Bismarck Public Schools, North Dakota Department of Transportation (SDOT), and SDOT. Map Created November 2011

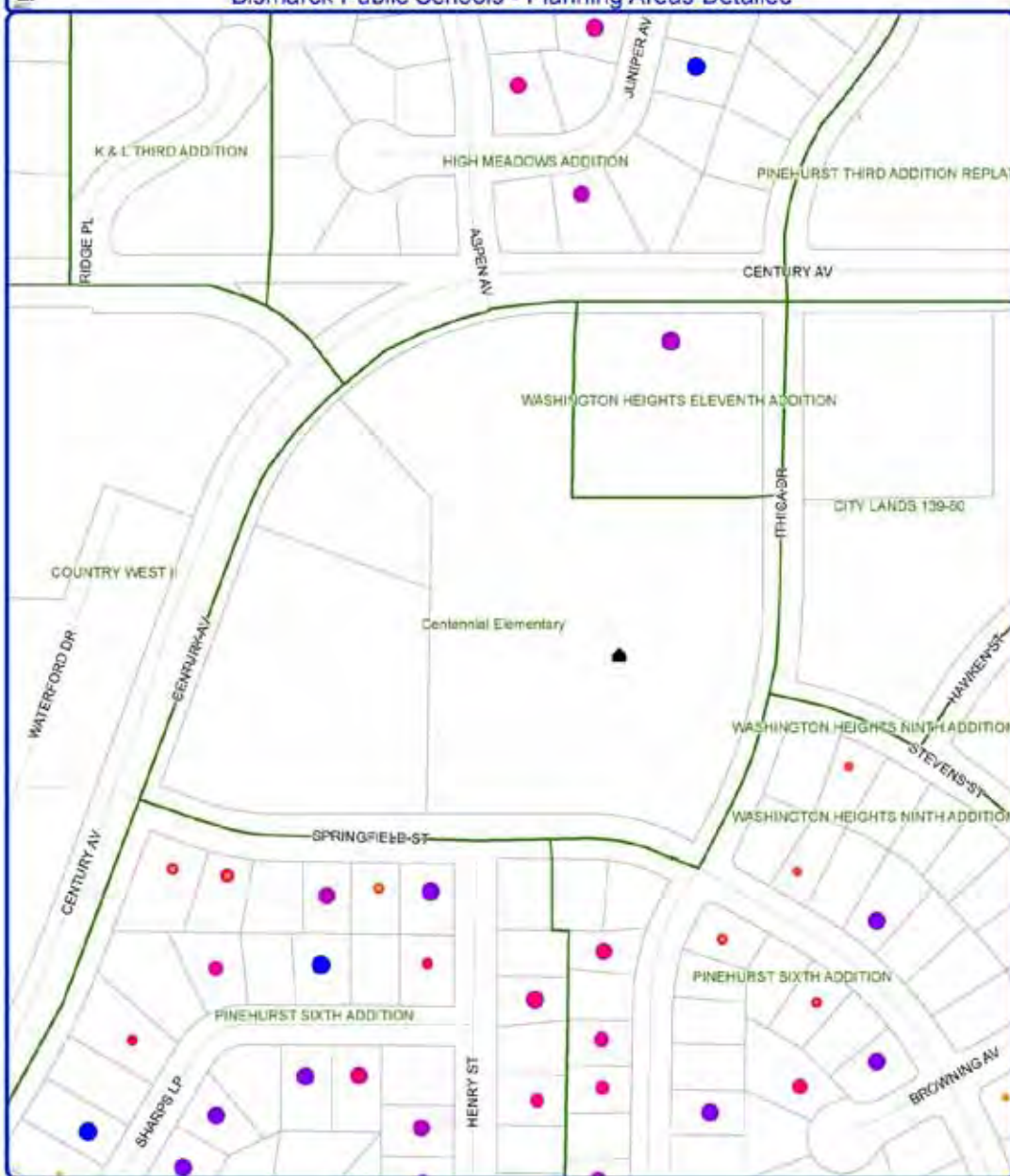
Planning Area Definition

An area of land defined by one of the following:

- By Land Use (Residential, Commercial, Industrial)
- By Residential Density (Single-Family, Mobile Home, Duplex, Apartment)
- By Natural Features (Rivers and Creeks)
- By Manmade Features (Railroad and Roads)

Planning Area Detail Map

- Show the power of GIS information
- See where students are located in relation to streets, subdivisions, parcels
- Illustrates how the planning areas are tied to the parcel



- List of Schools**
- | | | |
|-------------------------------------|---------------------------------|-------------------------------|
| 1. Colonial Elementary School | 8. Flinn Elementary School | 17. Helton Middle School |
| 2. Dimmock Elementary School | 9. Pella Rose Elementary School | 18. Sibley Middle School |
| 3. Highland Acres Elementary School | 10. Riverside Elementary School | 19. Wadler Middle School |
| 4. Miller Elementary School | 11. Roosevelt Elementary School | 20. Bismarck High School |
| 5. Moses Elementary School | 12. Sells Elementary School | 21. Century High School |
| 6. Murphy Elementary School | 13. Saffers Elementary School | 22. South Central High School |
| 7. Myers Elementary School | 14. Sunlike Elementary School | 23. Career Academy/BTC |
| 8. Northgate Elementary School | 15. Van Mader Elementary School | |

• K	• 5	• 10
• 1	• 6	• 11
• 2	• 7	• 12
• 3	• 8	□ Parcels
• 4	• 9	□ Planning Areas

© 2011 RSP
 Data provided by Bismarck Public Schools, South Dakota Department of Transportation, USGS, and ESRI. Map Created November 2011

Issues Addressed in Model

- Housing market changes
- Economic conditions
- Infrastructure Enhancements
- Future residential growth patterns
- Demographic trends
- Enrollment trends

Assumptions For Future

- The recession will likely last through 2011 and into 2012 but not have as large of an impact on the local economy as other areas of the country
- Mortgage interest should likely remain below 6%
- Subprime loans will be kept in check
- The rate of foreclosures should decline over the next five years
- Recirculation of existing homes will remain stable
- Final Platted developments in existing developments will continue to develop
- Unemployment rates will remain below 12%
- Nonresidential developments continue to be built to meet employment demand and need
- Fuel prices will remain below \$4.00
- Private and Parochial school enrollment remains stable

If more of these variables track toward being positive for the district – likely will start moving toward the high projections – the converse can also occur – midpoint projection is what the district should use for planning purposes.

Past School Enrollment

Year	K	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th	Total
2005/06	672	703	760	731	771	732	747	845	791	874	915	885	895	10,321
2006/07	809	722	751	797	775	826	775	798	865	809	861	854	800	10,442
2007/08	769	830	735	773	809	805	841	828	804	888	800	827	816	10,525
2008/09	841	773	834	758	800	815	824	856	835	840	868	779	791	10,614
2009/10	821	820	766	836	750	807	815	837	872	842	805	825	768	10,564
2010/11	850	823	827	780	839	756	806	855	839	902	850	803	842	10,772
2011/12	936	848	850	833	787	851	767	819	837	849	902	824	798	10,901

Source: Bismarck Public Schools

Pig in the Snake Effect

Largest class in 2011/12 – Kindergarten (936)

Smallest class in 2011/12 – 6th grade (767)

Graduating senior class smaller than the next year incoming Kindergarten class

Enrollment provided by the district

Past School Enrollment Change

From	To	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
2005/06	2006/07	137	50	48	37	44	55	43	51	20	18	-13	-61	-85
2006/07	2007/08	-40	21	13	22	12	30	15	53	6	23	-9	-34	-38
2007/08	2008/09	72	4	4	23	27	6	19	15	7	36	-20	-21	-36
2008/09	2009/10	-20	-21	-7	2	-8	7	0	13	16	7	-35	-43	-11
2009/10	2010/11	29	2	7	14	3	6	-1	40	2	30	8	-2	17
2010/11	2011/12	86	-2	27	6	7	12	11	13	-18	10	0	-26	-5
3-Yr Avg		31.7	-7.0	9.0	7.3	0.7	8.3	3.3	22.0	0.0	15.7	-9.0	-23.7	0.3
3-Yr Wavg		49.3	-3.8	14.7	8.0	3.2	9.2	5.2	22.0	-5.7	16.2	-3.2	-20.8	1.3

Source: Bismarck Public Schools

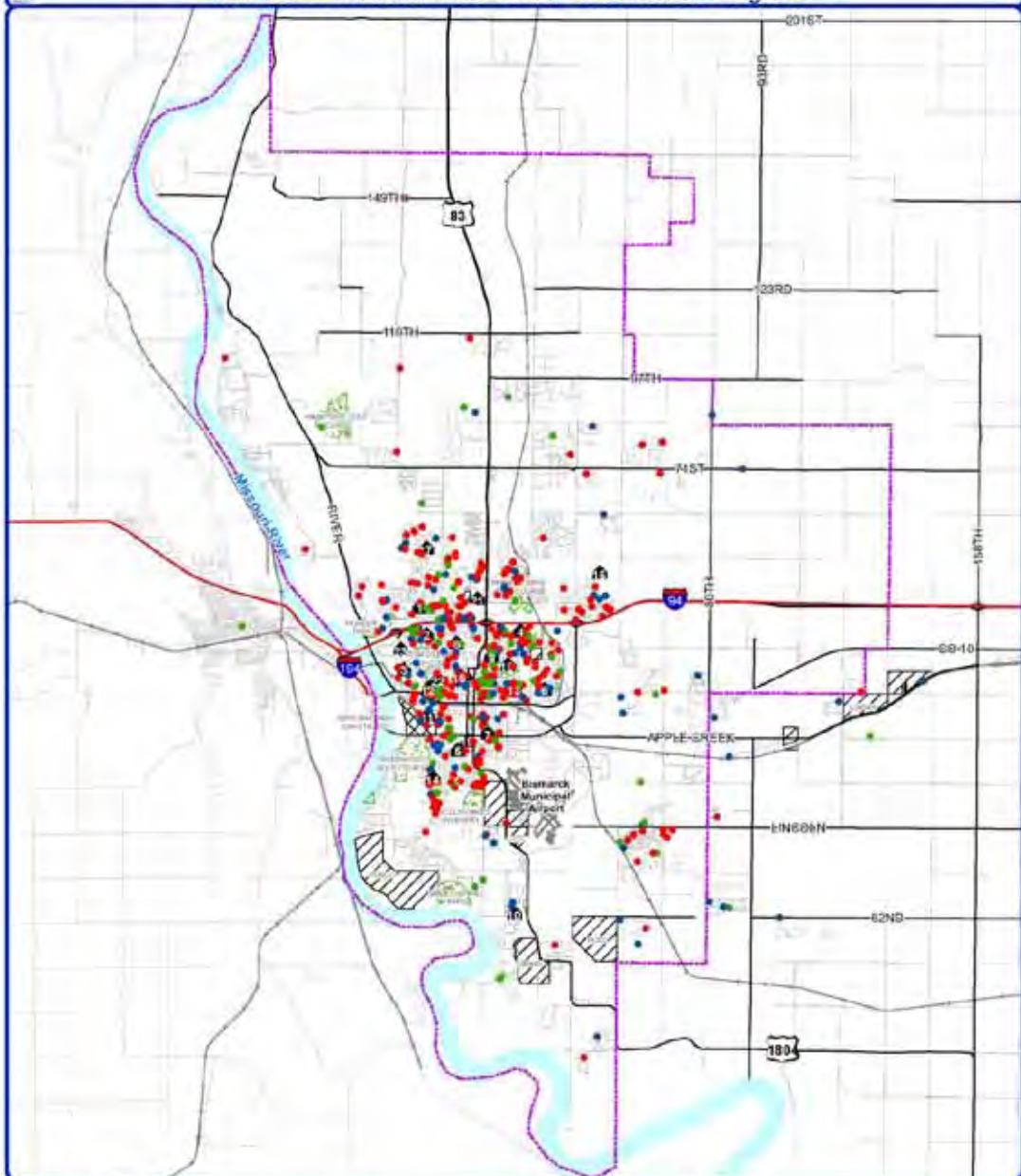
Largest average class increase – Kindergarten to 1st grade (31.7)

Largest average class decrease – 10th to 11th grade (-23.7)

Propensity to have cohort increase students from year to year in nearly all grades

Enrollment provided by the district

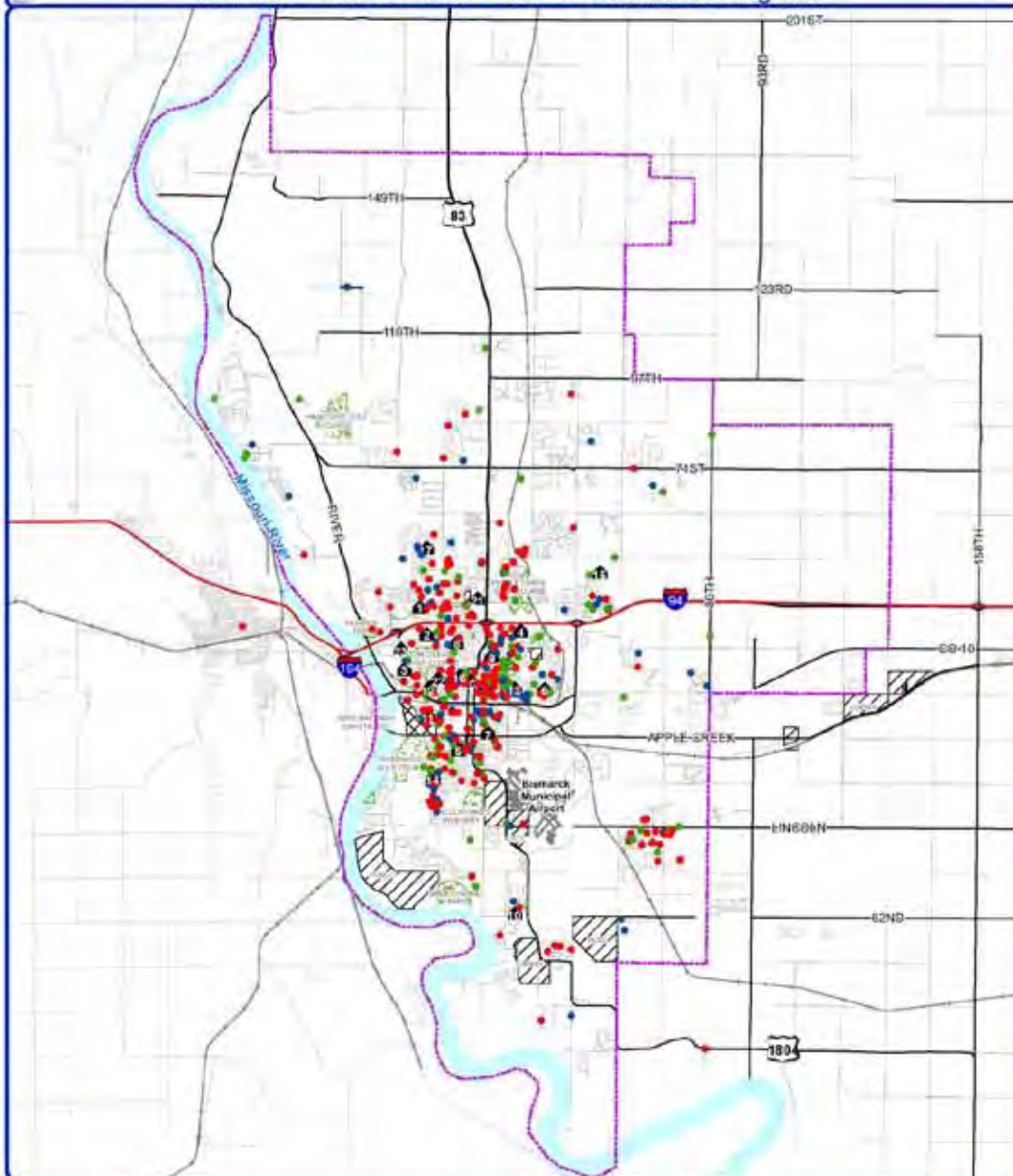
In-Migration Map



- 2011/12 students who are in 1st through 12th grade that were not attending the district in 2010/11 as kindergarten through 11th grade
- Who is new to the District that was not attending the previous year
- Are there any clusters?
- Is it related to a particular type of Development (SF, MF, Dup)?
- Is it related to changes in the community?
- Is it related to perceptions of a school building?

List of Schools 1. Central Elementary School 2. Grand Elementary School 3. Highland Acres Elementary School 4. Miller Elementary School 5. Moses Elementary School 6. Muzzy Elementary School 7. Nyren Elementary School 8. Northridge Elementary School 9. Pioneer Elementary School 10. Pratts Row Elementary School 11. Riverside Elementary School 12. Roosevelt Elementary School 13. Savak Elementary School 14. Solheim Elementary School 15. Sunrise Elementary School 16. Van Moore Elementary School 17. Horizon Middle School 18. Sims Middle School 19. Wacker Middle School 20. Bismarck High School 21. Century High School 22. South Central High School 23. Deere Academy/OTC			Students ● 1-6 +434 ● 10-12 +124 ● 7-9 +100 [Purple Outline] District Boundary	Schools [Green Grid] Golf [Green Wavy] Park [Cross-hatch] Zoo [Diagonal Lines] Other	0 0.5 1 2 Miles In Migration is defined as students in Grades 1-12 new to the district from the previous year. Data provided by Bismarck Public Schools, South Dakota Department of Transportation, USGS, and ESRI. Map Created November 2011.
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Out-Migration Map



- students attending the district in 2010/11 who were in kindergarten through 11th grade that are not attending in 2011/12 as 1st through 12th grade
- Who was in the District that is not attending the current year
- Are there any clusters?
- Is it related to a particular type of Development (SF, MF, Dup)?
- Is it related to changes in the community?
- Is it related to perceptions of a school building?

<p>List of Schools</p> <ul style="list-style-type: none"> 1. Central Elementary School 2. Grand Elementary School 3. Highland Acres Elementary School 4. Miller Elementary School 5. Moses Elementary School 6. Muzzy Elementary School 7. Nyren Elementary School 8. Northridge Elementary School 9. Pioneer Elementary School 10. Pratts Row Elementary School 11. Riverside Elementary School 12. Roosevelt Elementary School 13. Savick Elementary School 14. Solheim Elementary School 15. Sunrise Elementary School 16. Van Moore Elementary School 17. Horizon Middle School 18. Santa Middle School 19. Wacker Middle School 20. Bismarck High School 21. Century High School 22. South Central High School 23. Deere Academy/OTC 	<p>Students</p> <ul style="list-style-type: none"> • K-6 -411 • 10-11 -131 • 7-9 -169 □ District Boundary 	<p>Schools</p> <ul style="list-style-type: none"> ■ Golf ■ Park ■ Zoo ■ Other 	<p>0 0.2 0.4 0.6 0.8 1 MILE</p> <p>RSP Bismarck Public Schools</p> <p><small>Out Migration is defined as students in Grades K-11 in the previous year who are not attending in the current year. Data provided by Bismarck Public Schools, North Dakota Department of Transportation, 2008, and ESRI. Map Created November 2011</small></p>
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Baseline Demographic Data

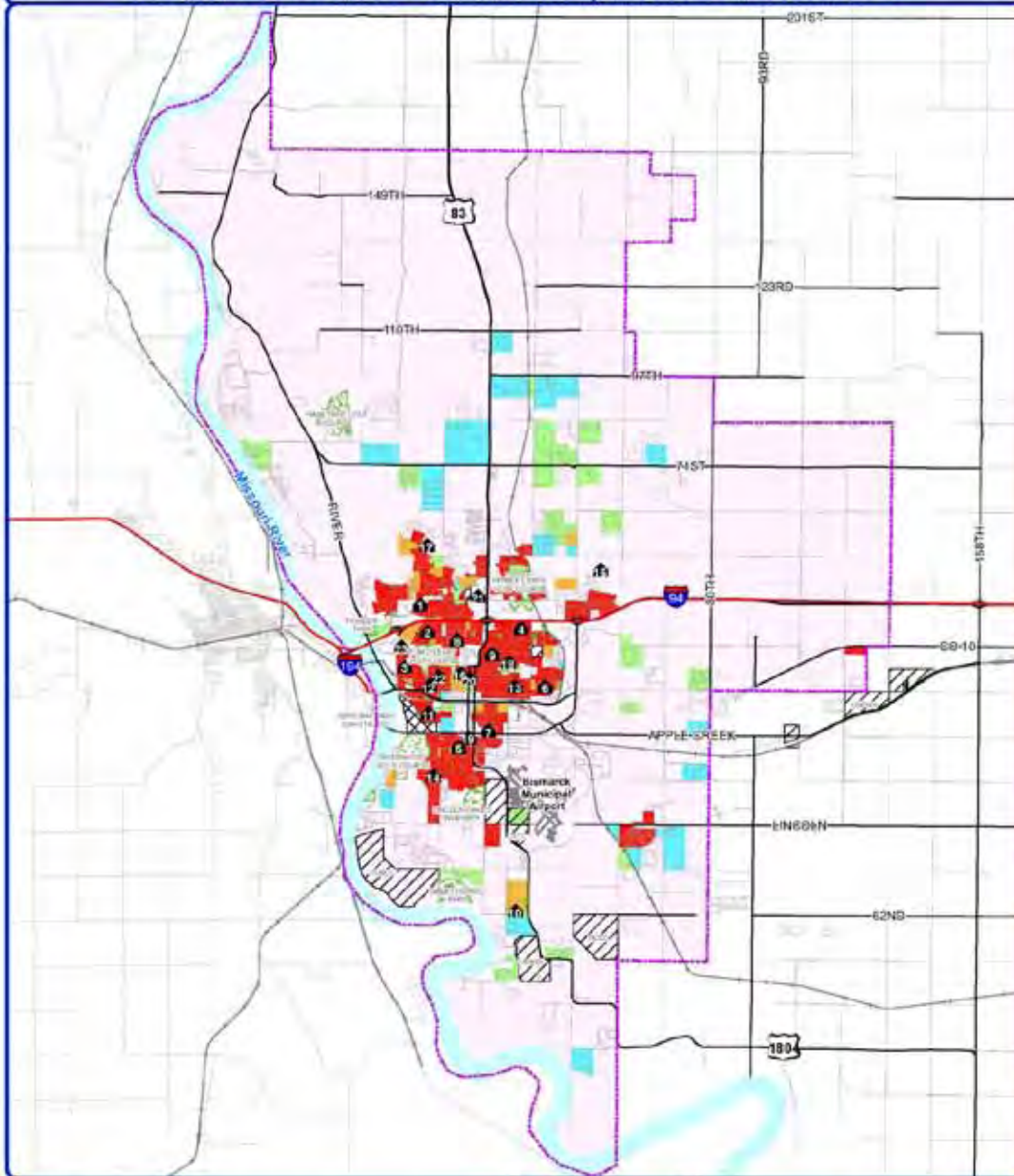
Known Information

- Current Enrollment is over 10,900 students
- New residential permits greater averaging more than 400 units per year
- Average Household Size in 2015 is projected to be 2.3 (range from 1.7 to 3.0)
- Census Population within Bismarck Public Schools by 2015 nearly 6,000 (> 83,000)
- Census Female Population within Bismarck Public Schools by 2015 over 800 (>25,000)
- Census 0-4 Year Old Population within Bismarck Public Schools by 2015 over 300 (>5,000)

Source: ESRI Business Analyst Online from Census Data

Other things to Consider

- Building Permits – New Residential Development is anticipated to be very vibrant
- Average Household Size should increase with younger families relocating to Bismarck
- Younger aged households have a greater propensity for school aged children
- Economic outlook is anticipated to be very good (more employment)



Student Density 2005/06 Map

- Students are geocoded (address matched to a location)
- Planning Areas populated by student location
- Patterns should somewhat follow residential inventory

- List of Schools**
- | | | |
|-------------------------------------|------------------------------------|-------------------------------|
| 1. Central Elementary School | 8. Fisher Elementary School | 17. Horizon Middle School |
| 2. Ormrod Elementary School | 10. Prairie Rose Elementary School | 18. Steve Middle School |
| 3. Highland Acres Elementary School | 11. Riverside Elementary School | 19. Wacker Middle School |
| 4. Lake Elementary School | 12. Rowland Elementary School | 20. Bismarck High School |
| 5. Moore Elementary School | 13. Cassak Elementary School | 21. Century High School |
| 6. Murphy Elementary School | 14. Graham Elementary School | 22. South Central High School |
| 7. Myers Elementary School | 15. Sunrise Elementary School | 23. Denver Academy/BTC |
| 8. Northridge Elementary School | 16. Will More Elementary School | |

Schools

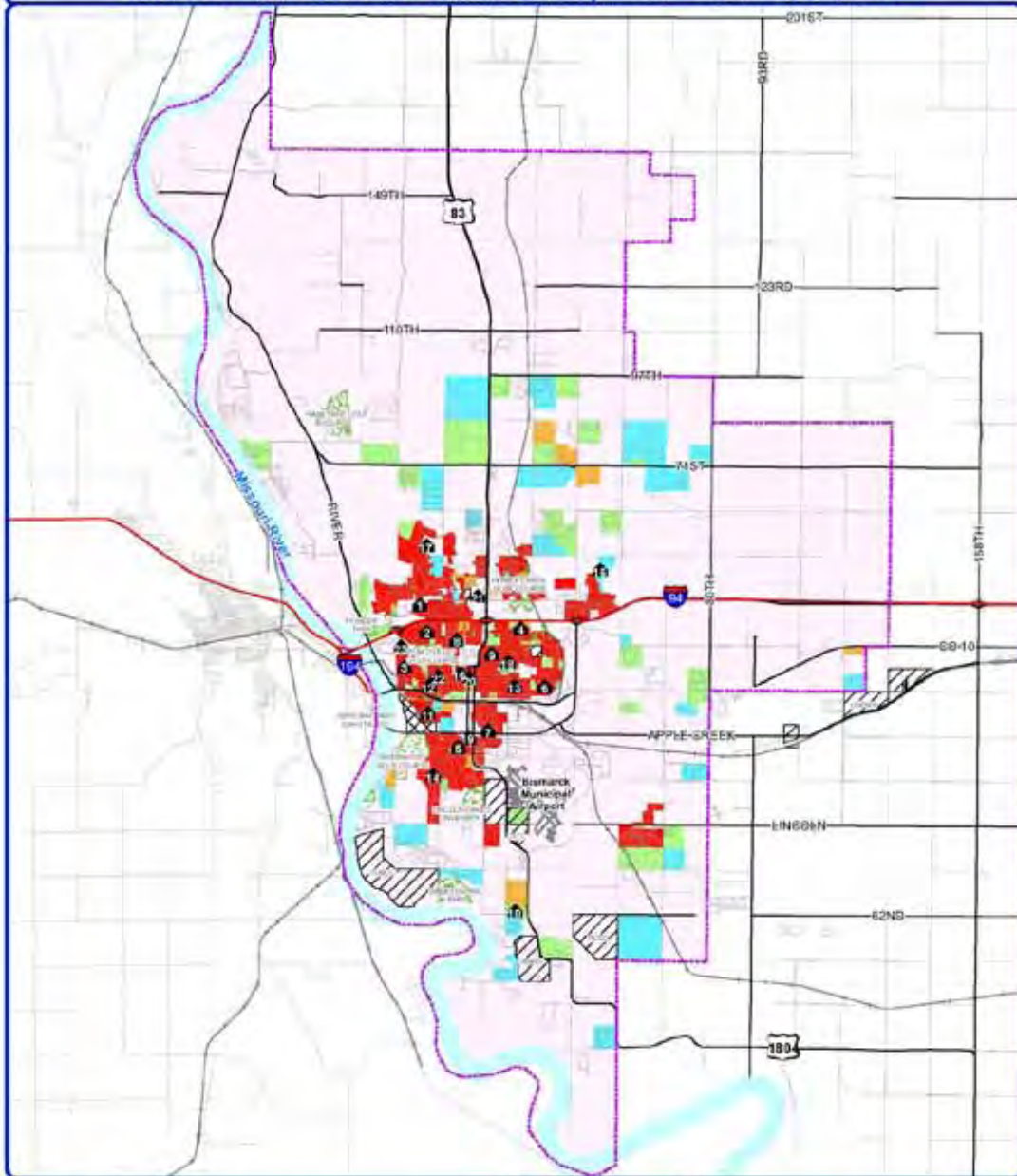
- Schools
- District Boundary
- Golf
- Park
- Zoo
- Other

0 - 60

- 0 - 60
- 61 - 100
- 101 - 200
- 201 - 300
- 300+

RSP

Student population data is the number of students per square mile in the Planning Area. Data provided by Bismarck Public Schools, North Dakota Department of Transportation, USGS, and ESRI. Map Created November 2011



- List of Schools**
- | | | |
|-------------------------------------|------------------------------------|-------------------------------|
| 1. Central Elementary School | 9. Pioneer Elementary School | 17. Horizon Middle School |
| 2. General Elementary School | 10. Prairie Rose Elementary School | 18. Grove Middle School |
| 3. Highland Acres Elementary School | 11. Riverside Elementary School | 19. Winkler Middle School |
| 4. Miller Elementary School | 12. Hazen Elementary School | 20. Bismarck High School |
| 5. Mead Elementary School | 13. Sasaki Elementary School | 21. Century High School |
| 6. Murphy Elementary School | 14. Sutherland Elementary School | 22. South Central High School |
| 7. Myers Elementary School | 15. Sunrise Elementary School | 23. Career Academy/BTC |
| 8. Northridge Elementary School | 16. Will Moore Elementary School | |

- Schools**
- 0 - 50
 - 51 - 100
 - 101 - 200
 - 201 - 300
 - >300
- Other**
- Districtboundary
 - Golf
 - Park
 - Zoo
 - Other

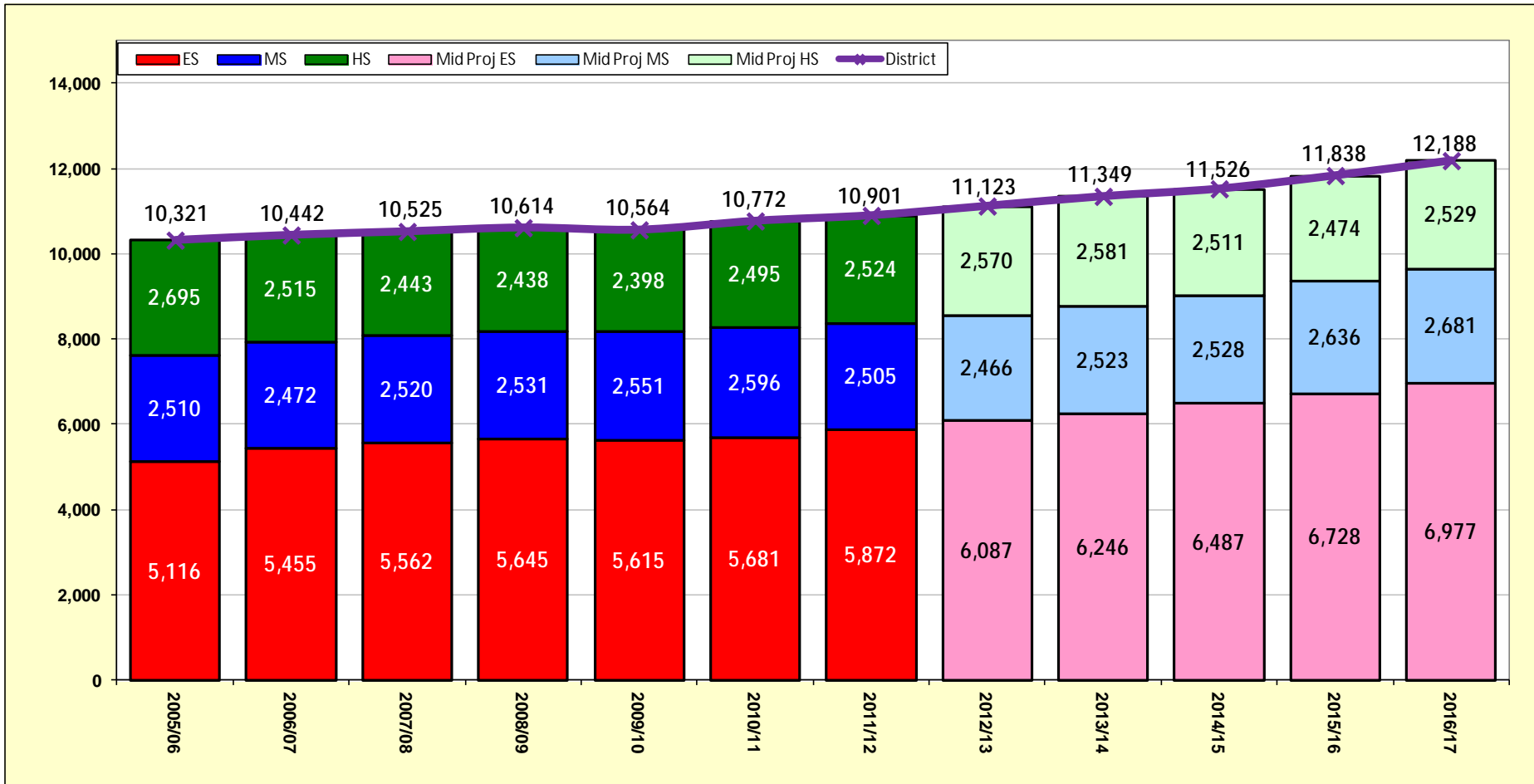
Scale: 0 50 100 Feet

Student population density is the number of students per square foot in the Planning Area. Data provided by Bismarck Public Schools, North Dakota Department of Transportation, USGS, and ESRI. Map Created November 2011

Student Density 2011/12 Map

- Students are geocoded (address matched to a location)
- Planning Areas populated by student location
- Patterns should somewhat follow residential inventory
- Increases happening in areas further from city center

Past, Current & Future Enrollment



Source: Bismarck Public School District and RSP SFM & Demographic Models

The above numbers are not the Certified Enrollment Count
 Does not include Home School, Private School, or Parochial School

District Level

School	Student Location	Past School Enrollment					Future Enrollment By Student Attendance					Future Enrollment By Student Residence				
		2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2012/13	2013/14	2014/15	2015/16	2016/17
ELEMENTARY TOTAL	Reside	5,562	5,645	5,615	5,681	5,872	6,087	6,246	6,487	6,728	6,977	6,087	6,246	6,487	6,728	6,977
Grades K-6	Attend	5,562	5,645	5,615	5,681	5,872										
MIDDLE TOTAL	Reside	2,520	2,531	2,551	2,596	2,505	2,466	2,523	2,528	2,636	2,681	2,466	2,523	2,528	2,636	2,681
Grades 7-9	Attend	2,520	2,531	2,551	2,596	2,505										
HIGH TOTAL	Reside	2,443	2,438	2,398	2,495	2,524	2,570	2,581	2,511	2,474	2,529	2,570	2,581	2,511	2,474	2,529
Grades 10-12	Attend	2,443	2,438	2,398	2,495	2,524										
DISTRICT K -12 TOTALS	Reside	10,525	10,614	10,564	10,772	10,901	11,123	11,349	11,526	11,838	12,188	11,123	11,349	11,526	11,838	12,188
Grades K-12	Attend	10,525	10,614	10,564	10,772	10,901										

Source: RSP & Associates, LLC - December 2011

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

Note 2: School Choice Options between Facilities are depicted in the Projections

Note 3: PreKindergarten students not in the enrollment projections

Note 4: Capacity of each facility provided by DLR Group

Note 5: Reside is based on the student address

Note 6: Attend is based on which facility the student attends

Note 7: Res/Att (Reside/Attend) is the student who resides in the attendance area that they attend

MIDPOINT PROJECTION SHOWN IN TABLE

Utilize Midpoint Projections for Planning Purposes

Elementary Level

School	Student Location	Past School Enrollment					Future Enrollment By Student Attendance					Future Enrollment By Student Residence				
		2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2012/13	2013/14	2014/15	2015/16	2016/17
Centennial Elementary Grades K-6	Res/Att	418	423	435	451	466										
	Reside	506	479	494	489	495	551	560	575	581	615	503	513	528	534	567
	Attend	508	504	524	528	547										
Grimsrud Elementary Grades K-6	Res/Att	212	217	204	208	208										
	Reside	267	264	259	257	252	304	313	330	345	356	260	270	287	301	312
	Attend	318	327	313	299	296										
Highland Acres Elementary Grades K-6	Res/Att	67	66	72	69	77										
	Reside	90	87	86	81	97	149	152	151	158	156	95	99	97	104	102
	Attend	143	140	147	142	147										
Miller Elementary Grades K-6	Res/Att	451	450	448	465	477										
	Reside	575	548	546	549	572	604	619	645	674	688	595	610	636	665	679
	Attend	519	521	536	560	580										
Moses Elementary Grades K-6	Res/Att	226	247	216	227	233										
	Reside	320	322	311	300	292	418	415	415	426	430	298	294	295	306	309
	Attend	423	437	413	430	408										
Murphy Elementary Grades K-6	Res/Att	387	402	419	421	473										
	Reside	488	516	525	517	576	562	576	598	604	622	588	602	625	630	649
	Attend	692	705	728	498	546										
Myhre Elementary Grades K-6	Res/Att	227	227	204	208	231										
	Reside	322	323	319	318	345	310	319	324	338	349	361	370	375	389	400
	Attend	335	323	293	279	288										
Northridge Elementary Grades K-6	Res/Att	420	435	431	476	532										
	Reside	554	569	586	632	675	658	712	765	843	948	719	773	826	903	1,009
	Attend	693	698	709	579	611										

Source: RSP & Associates, LLC - December 2011

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

Note 2: School Choice Options between Facilities are depicted in the Projections

Note 3: PreKindergarten students not in the enrollment projections

Note 4: Capacity of each facility provided by DLR Group

Note 5: Reside is based on the student address

Note 6: Attend is based on which facility the student attends

Note 7: Res/Att (Reside/Attend) is the student who resides in the attendance area that they attend

MIDPOINT PROJECTION SHOWN IN TABLE

Utilize Midpoint Projections for Planning Purposes

Elementary Level (cont)

School	Student Location	Past School Enrollment					Future Enrollment By Student Attendance					Future Enrollment By Student Residence					
		2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2012/13	2013/14	2014/15	2015/16	2016/17	
Pioneer Elementary Grades K-6	Res/Att	150	159	155	159	163											
	Reside	214	219	222	211	221	285	301	317	325	323	223	239	255	263	261	
	Attend	299	302	300	287	276											
Prairie Rose Elementary Grades K-6	Res/Att	162	168	158	163	163											
	Reside	229	248	230	252	243	209	212	222	221	230	245	248	258	257	266	
	Attend	203	205	209	206	212											
Riverside Elementary Grades K-6	Res/Att	109	117	83	74	86											
	Reside	167	161	127	132	132	114	99	96	105	107	133	119	116	125	126	
	Attend	163	153	128	109	114											
Roosevelt Elementary Grades K-6	Res/Att	104	117	120	112	122											
	Reside	187	196	196	185	193	162	162	166	170	173	201	201	204	208	211	
	Attend	150	155	157	143	156											
Saxvik Elementary Grades K-6	Res/Att	174	206	187	193	178											
	Reside	277	309	298	296	278	258	264	265	273	272	289	295	295	304	302	
	Attend	268	281	263	257	252											
Solheim Elementary Grades K-6	Res/Att	365	385	363	362	378											
	Reside	468	490	462	454	465	540	543	541	537	548	472	475	473	468	479	
	Attend	511	534	516	526	532											
Sunrise Elementary Grades K-6	Res/Att	0	0	0	450	493											
	Reside	494	499	499	534	548	540	554	601	632	678	587	601	648	679	725	
	Attend	0	0	0	463	513											
Will Moore Elementary Grades K-6	Res/Att	243	269	276	283	298											
	Reside	404	415	455	474	488	422	442	474	497	483	517	538	570	593	579	
	Attend	337	360	379	375	394											

Source: RSP & Associates, LLC - December 2011

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

Note 2: School Choice Options between Facilities are depicted in the Projections

Note 3: PreKindergarten students not in the enrollment projections

Note 4: Capacity of each facility provided by DLR Group

Note 5: Reside is based on the student address

Note 6: Attend is based on which facility the student attends

Note 7: Res/Att (Reside/Attend) is the student who resides in the attendance area that they attend

MIDPOINT PROJECTION SHOWN IN TABLE

Utilize Midpoint Projections for Planning Purposes

Secondary Level

School	Student Location	Past School Enrollment					Future Enrollment By Student Attendance					Future Enrollment By Student Residence				
		2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2012/13	2013/14	2014/15	2015/16	2016/17
Horizon Middle <small>Grades 7-9</small>	Res/Att	674	699	665	709	679	889	874	877	907	901	815	800	803	833	827
	Reside	770	786	770	814	792										
	Attend	837	880	864	908	856										
Simle Middle <small>Grades 7-9</small>	Res/Att	725	697	711	737	697	815	851	850	902	954	899	934	933	985	1,037
	Reside	932	925	942	967	922										
	Attend	856	823	846	867	847										
Wachter Middle <small>Grades 7-9</small>	Res/Att	720	727	732	710	689	761	798	801	827	826	752	788	792	818	817
	Reside	818	820	839	815	791										
	Attend	827	828	841	821	802										
Bismarck High <small>Grades 10-12</small>	Res/Att	1,106	1,063	1,048	1,086	1,071	1,338	1,315	1,289	1,245	1,296	1,299	1,276	1,249	1,205	1,256
	Reside	1,338	1,298	1,253	1,291	1,282										
	Attend	1,397	1,357	1,326	1,344	1,315										
Century High <small>Grades 10-12</small>	Res/Att	825	877	885	946	994	1,232	1,266	1,223	1,229	1,233	1,271	1,305	1,262	1,268	1,273
	Reside	1,105	1,140	1,145	1,204	1,242										
	Attend	1,046	1,081	1,072	1,151	1,209										

Source: RSP & Associates, LLC - December 2011

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

Note 2: School Choice Options between Facilities are depicted in the Projections

Note 3: PreKindergarten students not in the enrollment projections

Note 4: Capacity of each facility provided by DLR Group

Note 5: Reside is based on the student address

Note 6: Attend is based on which facility the student attends

Note 7: Res/Att (Reside/Attend) is the student who resides in the attendance area that they attend

MIDPOINT PROJECTION SHOWN IN TABLE

Utilize Midpoint Projections for Planning Purposes

Beyond 5 Years Enrollment

Past, Current, and Future Enrollment From 2005/06 to 2021/22

Grade	School Year																
	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
K	672	809	769	841	821	850	936	912	949	962	1,016	1,049	976	1,000	1,012	977	990
1st	703	722	830	773	820	823	848	931	912	950	964	1,019	1,040	990	1,022	1,004	1,002
2nd	760	751	735	834	766	827	850	868	951	936	975	990	1,037	1,058	1,007	1,040	1,021
3rd	731	797	773	758	836	780	833	871	889	977	966	1,006	1,000	1,027	1,069	1,015	1,028
4th	771	775	809	800	750	839	787	847	879	901	989	981	994	1,004	1,042	1,073	1,019
5th	732	826	805	815	807	756	851	796	860	894	914	1,007	992	1,004	1,012	1,050	1,086
6th	747	775	841	824	815	806	767	861	804	866	905	925	994	999	1,011	1,019	1,036
7th	845	798	828	856	837	855	819	795	892	834	899	940	949	1,020	1,025	1,037	1,046
8th	791	865	804	835	872	839	837	819	795	891	834	900	934	949	1,030	1,005	1,049
9th	874	809	888	840	842	902	849	852	836	804	903	842	909	943	966	1,039	1,017
10th	915	861	800	868	805	850	902	852	855	840	808	908	839	909	943	962	1,035
11th	885	854	827	779	825	803	824	885	834	841	825	794	885	830	899	919	938
12th	895	800	816	791	768	842	798	834	892	830	841	827	784	886	831	883	920
K-6	5,116	5,455	5,562	5,645	5,615	5,681	5,872	6,086	6,244	6,486	6,729	6,977	7,033	7,082	7,175	7,178	7,182
7-9	2,510	2,472	2,520	2,531	2,551	2,596	2,505	2,466	2,523	2,529	2,636	2,682	2,792	2,912	3,021	3,081	3,112
10-12	2,695	2,515	2,443	2,438	2,398	2,495	2,524	2,571	2,581	2,511	2,474	2,529	2,508	2,625	2,673	2,764	2,893
District	10,321	10,442	10,525	10,614	10,564	10,772	10,901	11,123	11,348	11,526	11,839	12,188	12,333	12,619	12,869	13,023	13,187
Enrollment Change		121	83	89	-50	208	129	222	225	178	313	349	145	286	250	154	164

Sources: 2005/06 to 2011/12 Bismarck Public Schools
 ○ 2012/13 to 2016/17 RSP & Associates SFMP Projections from the 2011/12 Enrollment Report
 ● 2017/18 to 2021/22 RSP & Associates estimates based on past enrollment change factors

- By 2019/20 majority of grades should be greater than 1,000 students
- Growth potential dependent mostly on future kindergarten classes and propensity of students to remain in the district
- Other Factors include:
 - Enrollment Trends
 - Demographic Trends
 - Residential Growth Patterns
 - Economic Cycles
 - Attractiveness of the area (amenities, school district, employment, ect)

This is a planning tool to help determine future facility need. Enrollment should be monitored every year to ensure long range planning decisions are made in the time in which those facility needs are required.

Enrollment Conclusions



- District midpoint projected enrollment will increase through the next five school years
- The majority of enrollment increase will happen at the Elementary level
- The modeling used accounts for out of district and open enrolled students
- The greatest number of students in a grade are in the elementary
- Enrollment tends to increase from grade to grade
- Enrollment increases the most from Kindergarten classes
- Educational programming changes may result in a different annual cohort change between grades
- Enrollment increases have occurred in some of the older developed areas of the community
- Several schools will likely exceed building capacity at either the Attend or Reside midpoint projections
- An Enrollment Study will assist with balancing enrollment at facilities
- It is important that the district should continue to annually monitor enrollment trends

Next Steps

- DLR's finalization of what capacity is for each building to better know how well each building is currently utilized and potentially will be impacted in the future
- Start the discussion of how to better use available space in the district
- Determine the process to be used for Boundary Analysis
 - Number of Meetings
 - Who will be involved (Community, Administration, BOE, Committee)
 - Dates for meetings when plan will be implemented
- Communication to the community the next steps