



# **Morton District 709, IL Planning Model Utilization Assessment**

**January 2015**



**UTILIZATION ASSESSMENT**

The utilization percentage of a school can be found by dividing the enrollment by the capacity, or the formula is:

$$\text{Utilization} = \text{Enrollment} / \text{Capacity}$$

An assessment of the Morton District 709's utilization has been performed using the calculated capacities along with the forecasted enrollment per the 2013-14 Demographic Study. The 2013-14 forecast results by grade cohort are as follows:

**Morton District 709: Total District Forecasted Enrollment**

	Capacity	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	2022-23	2023-24
<b>Total: K-6</b>	<b>1563</b>	1308	1342	1380	1445	1498	1530	1577	1593	1624	1633	1597	1603	1617	1612	1606
<b>Total: 7-8</b>	<b>618</b>	420	422	406	415	425	420	404	446	476	477	545	564	522	524	542
<b>Total: 9-12</b>	<b>1132</b>	1003	1008	989	949	923	909	918	905	894	926	932	970	1071	1086	1110
<b>Total: K-12</b>	<b>3313</b>	2731	2772	2775	2809	2846	2859	2899	2944	2994	3036	3074	3137	3210	3222	3258

The table below shows the utilization, or percent full, of spaces based on the existing school grade cohorts. So there is a utilization factored for K-6 (elementary schools), 7-8 grades (junior high school), and 9-12 grades (high school).

The table's cells are color coded based on utilization. Anything below 70% is shaded green, between 70-89% is yellow, 90-99% is orange, and over 100% is red.

This table shows that, as a whole, schools used to educate K-6 grade students will become over utilized by 2015-16. Junior High school space serving 7-8 grades is forecasted to be below 70% utilization through 2015-16, with a moderate increase in utilization after 2015-16. High School space will continue to tighten up in terms of utilization, as the existing high school (serving 9-12 grade) will climb from 86% in 2014-15 up to 98% in 2023-24.

**Morton District 709: Forecasted Utilization**

Config	Capacity	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	2022-23	2023-24
<b>Total: K-6</b>	<b>1563</b>	84%	86%	88%	92%	96%	98%	101%	102%	104%	104%	102%	103%	103%	103%	103%
<b>Total: 7-8</b>	<b>618</b>	68%	68%	66%	67%	69%	68%	65%	72%	77%	77%	88%	91%	84%	85%	88%
<b>Total: 9-12</b>	<b>1132</b>	89%	89%	87%	84%	82%	80%	81%	80%	79%	82%	82%	86%	95%	96%	98%
<b>Total: K-12</b>	<b>3313</b>	82%	84%	84%	85%	86%	86%	88%	89%	90%	92%	93%	95%	97%	97%	98%

The table below depicts the individual school level utilization forecast (using the 2013-14 Demographic Study results). The same color code schema was used on this table as the prior table. You can see that all elementary schools are currently over capacity or nearing overutilization. Grundy and Lincoln both dip below 100% at various times in the forecast, but they are still forecasted to be at or over capacity through the life of the forecast.

**Elementary School Utilization Forecast by School (K-6 Grade Cohort)**

Name	Capacity	Config		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	2022-23	2023-24
Brown	344	K-6	Enrollment	299	316	323	330	333	346	357	367	371	369	361	357	350	341	334
			Utilization	87%	92%	94%	96%	97%	101%	104%	107%	108%	107%	105%	104%	102%	99%	97%
Grundy	406	K-6	Enrollment	319	331	335	361	376	383	388	394	405	411	383	391	399	401	400
			Utilization	79%	82%	83%	89%	93%	94%	96%	97%	100%	101%	94%	96%	98%	99%	99%
Jefferson	354	K-6	Enrollment	307	307	311	319	337	340	362	381	399	413	420	423	429	422	415
			Utilization	87%	87%	88%	90%	95%	96%	102%	108%	113%	117%	119%	119%	121%	119%	117%
Lincoln	459	K-6	Enrollment	383	388	411	435	452	461	470	451	449	440	433	432	439	448	457
			Utilization	83%	85%	90%	95%	98%	100%	102%	98%	98%	96%	94%	94%	96%	98%	100%

In sum, if the district were to continue to operate their buildings with the same grade cohorts, elementary school space is forecasted to be over 100% utilized beginning in 2015-16 school year. The Junior High school is operating at a comfortable utilization currently, but they will begin to feel a continued 'tightening' of space through 2023-24. The High School is operating at 86% of utilization as of 2014-15, and is expected to increase to 98% utilized by 2023-24.



**PLANNING MODELS**

The following tables reflect the utilization outlooks if various facility planning changes were considered. There are four (4) models that are being explored, where each model differs in terms of grade cohorts served at buildings and new construction.

**ELEMENTARY SCHOOLS: K-4 vs. K-5**

Elementary schools in Morton are currently serving grades K-6, and the table on the bottom of the prior page shows that every elementary school is nearing or over 100% of utilization. The school district acknowledges the capacity constraints at the elementary level and are in the midst of exploring facility planning options to address the elementary overcrowding in addition to several other facility related issues within the district.

Utilization < 70%
Utilization between 70%-90%
Utilization between 90%-99%
Utilization 100% or greater

The two (2) tables below show the forecasted building utilization if the district were to consider a K-4 or K-5 grade model for elementary schools. The same color scale to show utilization ranges is used in the following tables, and the color key is shown to the left.

**K-4 Elementary Schools**

The table below reflects the elementary school utilization if the schools were to serve K-4 grade enrollment.

Elementary School Utilization Forecast by School (K-4 Grade Cohort)																		
Name	Capacity	Config		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	2022-23	2023-24
Brown	344	K-4	Enrollment	210	227	226	241	246	257	260	262	258	252	243	237	233	228	223
			Utilization	61%	66%	66%	70%	72%	75%	76%	75%	73%	71%	69%	68%	66%	65%	
Grundy	406	K-4	Enrollment	225	232	237	263	276	272	278	283	255	260	268	273	273	271	267
			Utilization	55%	57%	58%	65%	68%	67%	68%	70%	63%	64%	66%	67%	67%	67%	66%
Jefferson	354	K-4	Enrollment	219	220	225	229	247	252	269	286	295	296	303	300	295	290	285
			Utilization	62%	62%	64%	65%	70%	71%	76%	81%	83%	84%	86%	85%	83%	82%	81%
Lincoln	459	K-4	Enrollment	273	285	310	329	348	329	324	315	306	298	301	309	315	320	325
			Utilization	59%	62%	68%	72%	76%	72%	71%	69%	67%	65%	66%	67%	69%	70%	71%

This table above indicates that the elementary schools will all have relief through the life of the forecast if they were to serve the K-4 grade cohort. Jefferson Elementary school peaks at the highest utilization of 86% in 2019-20, but then tapers back down to 81% at the end of the forecast. This table does indicate that if the district were to pursue a K-4 grade cohort for elementary schools, there may not be a need to redistrict attendance boundaries because there are no major imbalances.

There could be some minor redistricting to relieve/balance Jefferson's enrollment but only if the district feels that 86% (or 300 students) is too high for that building. Given that they have historically operated with over 300 students, it appears that redistricting may not be essential.

**K-5 Elementary Schools**

The table below shows the elementary school utilization forecast if the schools were to serve K-5 grade population.

Elementary School Utilization Forecast by School (K-5 Grade Cohort)																		
Name	Capacity	Config		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	2022-23	2023-24
Brown	344	K-5	Enrollment	258	269	273	285	288	303	310	315	316	309	302	295	289	282	277
			Utilization	75%	78%	79%	83%	84%	88%	90%	92%	92%	90%	88%	86%	84%	82%	81%
Grundy	406	K-5	Enrollment	272	282	285	312	327	330	328	342	344	318	323	333	336	335	333
			Utilization	67%	69%	70%	77%	81%	81%	84%	85%	78%	80%	82%	83%	83%	82%	
Jefferson	354	K-5	Enrollment	261	265	264	278	287	299	314	334	349	357	357	366	360	354	348
			Utilization	74%	75%	75%	79%	81%	84%	89%	94%	99%	101%	101%	103%	102%	100%	98%
Lincoln	459	K-5	Enrollment	324	336	361	383	398	410	388	386	377	368	362	369	377	384	391
			Utilization	71%	73%	79%	83%	87%	89%	85%	84%	82%	80%	79%	80%	82%	84%	85%

The table above shows that, although moving 6<sup>th</sup> grade from the elementary schools does provide relief, it does not resolve all of the overcrowding issues that exist at the elementary school level. Brown Elementary school will be in the 90% utilization range but then taper down to the low 80% range. Jefferson Elementary school, however, continues to become overcrowded and goes over 100% utilization by 2018-19. If schools were to serve K-5 enrollment as the table shows, it is possible that redistricting could be considered to balance out the utilization among the schools with the goal of keeping them all in the 'yellow'.

The following pages will explore district-wide facility planning models, and some have the elementary schools as K-5 and some have them as K-4 buildings. The model assumptions will clarify what grades are served and construction assumptions.



**MODEL 1**

Model 1 assumptions are as follows:

- Build New High School for 1200 students
- Current High School used as 5-8 Junior High School
- Elementary Schools become K-4

**Morton District 709: Model 1 Enrollment**

	Capacity	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	2022-23	2023-24
Total: K-4	1563	927	964	998	1062	1117	1110	1131	1146	1114	1106	1115	1119	1116	1109	1100
Total: 5-8	1132	801	800	788	798	806	840	850	893	986	1004	1027	1048	1023	1027	1048
Total: 9-12	1200	1003	1008	989	949	923	909	918	905	894	926	932	970	1071	1086	1110
Total: K-12	3895	2731	2772	2775	2809	2846	2859	2899	2944	2994	3036	3074	3137	3210	3222	3258

**Morton District 709: Model 1 Utilization (K-4, 5-8, 9-12)**

	Capacity	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	2022-23	2023-24
Total: K-4	1563	59%	62%	64%	68%	71%	71%	72%	73%	71%	71%	71%	72%	71%	71%	70%
Total: 5-8	1132	71%	71%	70%	70%	71%	74%	75%	79%	87%	89%	91%	93%	90%	91%	93%
Total: 9-12	1200	84%	84%	82%	79%	77%	76%	77%	75%	75%	77%	78%	81%	89%	91%	93%
Total: K-12	3895	70%	71%	71%	72%	73%	73%	74%	76%	77%	78%	79%	81%	82%	83%	84%

This model shows that the elementary overcrowding will be resolved, and total elementary school utilization remains near 70% for the life of the forecast. District-wide utilization also remains below 85% through the life of the forecast. The Junior High school (assumed to operate in the existing high school) utilization will continue to steadily increase, ending at 93% at the end of the forecast. High School utilization tops off at 93% as well at the end of the forecast.

**MODEL 2**

Model 2 assumptions are as follows:

- Build New High School for 1200 students
- Current High School used as 6-8 Junior High School
- Elementary Schools stay as K-5

**Morton District 709: Model 2 Enrollment**

	Capacity	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	2022-23	2023-24
Total: K-5	1563	1115	1152	1183	1258	1300	1342	1340	1377	1386	1352	1344	1363	1362	1355	1349
Total: 6-8	1132	613	612	603	602	623	608	641	662	714	758	798	804	777	781	799
Total: 9-12	1200	1003	1008	989	949	923	909	918	905	894	926	932	970	1071	1086	1110
Total: K-12	3895	2731	2772	2775	2809	2846	2859	2899	2944	2994	3036	3074	3137	3210	3222	3258

**Morton District 709: Model 2 Utilization (K-5, 6-8, 9-12)**

	Capacity	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	2022-23	2023-24
Total: K-5	1563	71%	74%	76%	80%	83%	86%	86%	88%	89%	87%	86%	87%	87%	87%	86%
Total: 6-8	1132	54%	54%	53%	53%	55%	54%	57%	58%	63%	67%	70%	71%	69%	69%	71%
Total: 9-12	1200	84%	84%	82%	79%	77%	76%	77%	75%	75%	77%	78%	81%	89%	91%	93%
Total: K-12	3895	70%	71%	71%	72%	73%	73%	74%	76%	77%	78%	79%	81%	82%	83%	84%

This model is the same as Model 1, except elementary schools operate as K-5 schools and the Junior High school only serves 6-8 grades. The table suggests that, from a district-wide perspective, utilization may be more balanced if the Junior High schools only served 6-8 grades. Elementary school utilization is higher in this model and remains near 90%, but the Junior High school utilization does not go over 90%. Since the elementary schools currently serve K-6 grade students, the district could consider implementing the grade cohort changes in a phased-in manner. This could be done by taking 6<sup>th</sup> grade out initially and then move 5<sup>th</sup> grade out later if/when utilization issues exist. High School utilization is the same as Model 1, where there is relief with the new construction but utilization continues to climb to over 90% in the out-years.



**MODEL 3**

Model 3 assumptions are as follows:

- Build New Junior High School for 1200 5-8 grade students
- Current High School stays as 9-12 building
- Elementary Schools become K-4

**Morton District 709: Model 3 Enrollment**

	Capacity	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	2022-23	2023-24
Total: K-4	1563	927	964	998	1062	1117	1110	1131	1146	1114	1106	1115	1119	1116	1109	1100
Total: 5-8	1200	801	800	788	798	806	840	850	893	986	1004	1027	1048	1023	1027	1048
Total: 9-12	1132	1003	1008	989	949	923	909	918	905	894	926	932	970	1071	1086	1110
Total: K-12	3895	2731	2772	2775	2809	2846	2859	2899	2944	2994	3036	3074	3137	3210	3222	3258

**Morton District 709: Model 3 Utilization (K-4, 5-8, 9-12)**

	Capacity	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	2022-23	2023-24
Total: K-4	1563	59%	62%	64%	68%	71%	71%	72%	73%	71%	71%	71%	72%	71%	71%	70%
Total: 5-8	1200	67%	67%	66%	67%	67%	70%	71%	74%	82%	84%	86%	87%	85%	86%	87%
Total: 9-12	1132	89%	89%	87%	84%	82%	80%	81%	80%	79%	82%	82%	86%	95%	96%	98%
Total: K-12	3895	70%	71%	71%	72%	73%	73%	74%	76%	77%	78%	79%	81%	82%	83%	84%

Model 3 builds a new Junior High School for 5-8 grade students, or 1200 student capacity. Elementary schools operate as K-4 schools and the high school is unchanged. This table reflects the levels of relief at the elementary school that were described in Model 1. The Junior High school remains below 90% through the life of the forecast as a 5-8 grade 1200 capacity building. The high school experiences the same utilization trend as the existing tables on page 1 show, where enrollment will continue to increase up to 1110 students in 2023-24, or 98% utilization. Utilization of the high school under the model is nearing 100% and it is likely that additional measures will be needed in the out-years to address the overcrowding of high school students if this model were implemented.

**MODEL 4**

Model 4 assumptions are as follows:

- Build New Junior High School for 900 6-8 grade students
- Current High School stays as 9-12 building
- Elementary Schools stay as K-5

**Morton District 709: Model 4 Enrollment**

	Capacity	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	2022-23	2023-24
Total: K-5	1563	1115	1152	1183	1258	1300	1342	1340	1377	1386	1352	1344	1363	1362	1355	1349
Total: 6-8	900	613	612	603	602	623	608	641	662	714	758	798	804	777	781	799
Total: 9-12	1132	1003	1008	989	949	923	909	918	905	894	926	932	970	1071	1086	1110
Total: K-12	3595	2731	2772	2775	2809	2846	2859	2899	2944	2994	3036	3074	3137	3210	3222	3258

**Morton District 709: Model 4 Utilization (K-5, 6-8, 9-12)**

	Capacity	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	2022-23	2023-24
Total: K-5	1563	71%	74%	76%	80%	83%	86%	86%	88%	89%	87%	86%	87%	87%	87%	86%
Total: 6-8	900	68%	68%	67%	67%	69%	68%	71%	74%	79%	84%	89%	89%	86%	87%	89%
Total: 9-12	1132	89%	89%	87%	84%	82%	80%	81%	80%	79%	82%	82%	86%	95%	96%	98%
Total: K-12	3595	76%	77%	77%	78%	79%	80%	81%	82%	83%	84%	86%	87%	89%	90%	91%

Model 4 is similar to Model 3 in that the new construction is for the Junior High school and high school is left as-is. The difference is that the Junior High school in Model 4 is designed to serve 6-8 grades (instead of 5-8 grade in Model 3) with a capacity of 900 students. The 5<sup>th</sup> grade stays in the elementary schools in Model 4. For elementary schools, the same utilization considerations exist as in Model 2. Junior High School utilization steadily increases and tops at around 800 students (or 89%) at the end of the forecast. High School utilization is the same as described in Model 3.

District-wide utilization is tighter in Model 4, because the new construction adds 300 fewer seats than other models. As a result, the district could expect district-wide utilization to reach/exceed 90% by the end of the forecast period.



**MODEL 5**

Model 5 assumptions are as follows:

- Build four (4) classroom additions on each of the elementary schools.
  - Elementary schools remain as K-6 grade config.
  - Class size of 23 students was used, which is the average class size among K-6 classes.
  - Equates to 92 added seats to each elementary school
- Current Junior High School stays as 7-8 building
- Current High School stays as 9-12 building

Elementary School Utilization Forecast by School (K-6 Grade Cohort with assumed Elementary classroom additions)																		
Name	Capacity	Config		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	2022-23	2023-24
Brown	436	K-6	Enrollment	299	316	323	330	333	346	357	367	371	369	361	357	350	341	334
			Utilization	69%	72%	74%	76%	76%	79%	82%	84%	85%	85%	83%	82%	80%	78%	77%
Grundy	498	K-6	Enrollment	319	331	335	361	376	383	388	394	405	411	383	391	399	401	400
			Utilization	64%	66%	67%	72%	76%	77%	78%	79%	81%	83%	77%	79%	80%	81%	80%
Jefferson	446	K-6	Enrollment	307	307	311	319	337	340	362	381	399	413	420	423	429	422	415
			Utilization	69%	69%	70%	72%	76%	76%	81%	85%	89%	93%	94%	95%	96%	95%	93%
Lincoln	551	K-6	Enrollment	383	388	411	435	452	461	470	451	449	440	433	432	439	448	457
			Utilization	70%	70%	75%	79%	82%	84%	85%	82%	81%	80%	79%	78%	80%	81%	83%

Note: Model 5 Assumes a 4 classroom (or 92 seat) expansion at each building. An average class size of 23 students was used to factor the added classroom space.

Model 5 shows that by building classroom additions at all four (4) elementary schools will bring capacity relief. Jefferson, however, will reach over 90% in the life of the forecast and peak at around 96% utilization. Another challenge to consider with this model is the limited size of core spaces in the elementary schools. For example, Lettie Brown ES is already challenged with core space constraints as it only has 1 bathroom for students in the entire facility. In addition to limited bathrooms and the added pressure that will be added with building 4 added classrooms, many of the schools are facing overcrowding in other spaces such as cafeterias and gymnasiums. If the district were to pursue Model 5, they must also consider expanding core spaces such as bathroom, cafeteria, and gym space within the buildings as well.

Morton District 709: Model 5 Utilization (K-6 w/ added classrooms, 7-8, 9-12)																
	Capacity	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	2022-23	2023-24
<b>Total: K-6</b>	<b>1931</b>	68%	69%	71%	75%	78%	79%	82%	82%	84%	85%	83%	83%	84%	83%	83%
<b>Total: 7-8</b>	<b>618</b>	68%	68%	66%	67%	69%	68%	65%	72%	77%	77%	88%	91%	84%	85%	88%
<b>Total: 9-12</b>	<b>1132</b>	89%	89%	87%	84%	82%	80%	81%	80%	79%	82%	82%	86%	95%	96%	98%
<b>Total: K-12</b>	<b>3681</b>	74%	75%	75%	76%	77%	78%	79%	80%	81%	82%	84%	85%	87%	88%	89%

The table above shows the total K-6 utilization as well as 7-8 and 9-12 grade utilization under Model 5. This indicates that utilization issues overall will be resolved in the short-term, but High School utilization will continue to increase to nearly 100% by the end of the forecast period. Also, Model 5 does not address any facility related challenges at the Junior High and High School levels. For instance, the district's Junior High School is a very old building and is in need of modernization if students remain in the building. The site size is also smaller than typical Junior High School campuses.

It is likely that is Model 5 is the option that is chosen, the district will need to address the needs of Junior and High School facilities in the near future as well as an added cost.