



WCPSS Long-Range School Building Plan

2008-09 Update

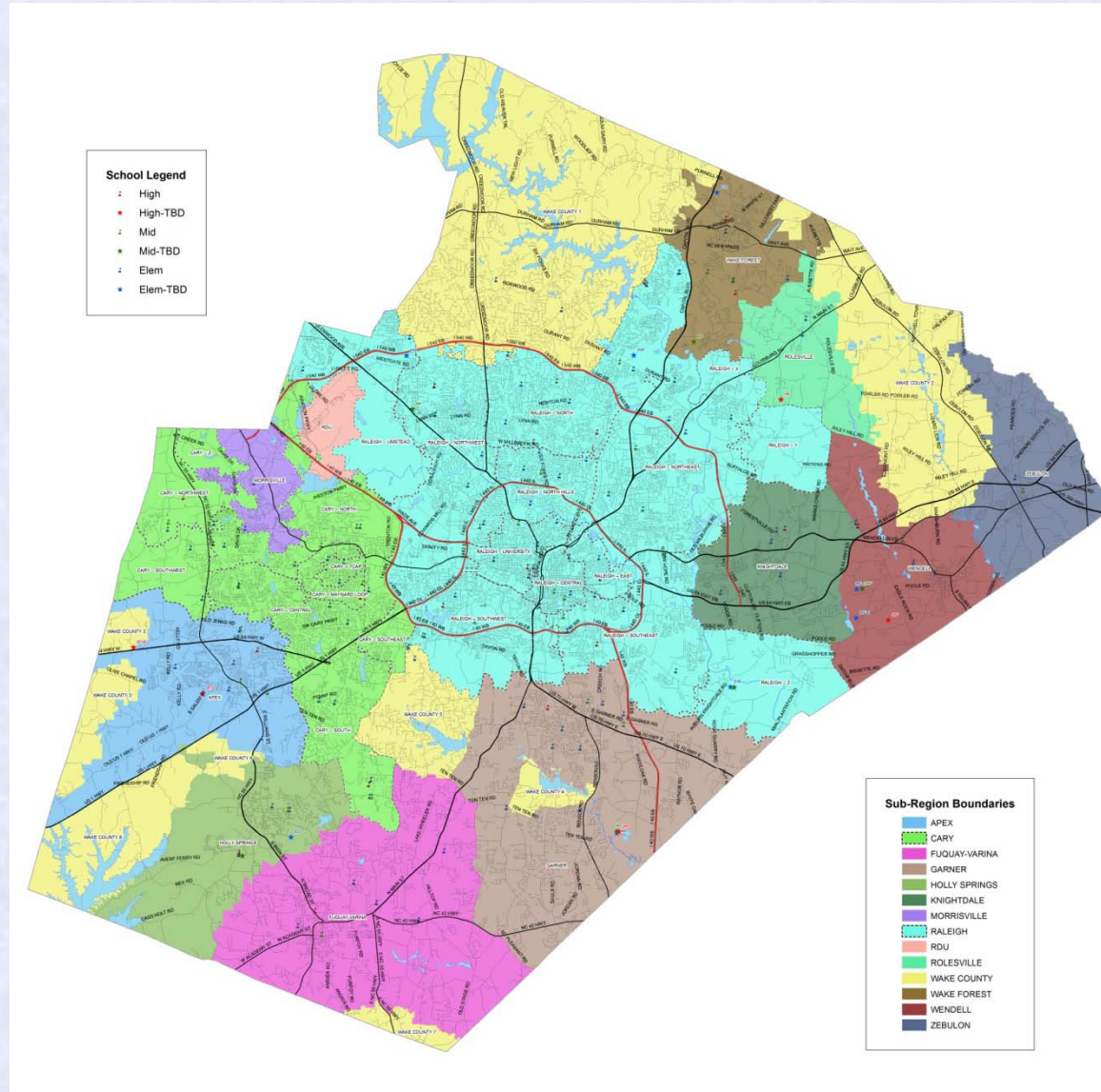
*Wake County Planning Directors
Morrisville, NC
May 15, 2009*

Presented by:

**Operations Research and Education Laboratory,
ITRE @ NCSU
and
Wake County Public School System**



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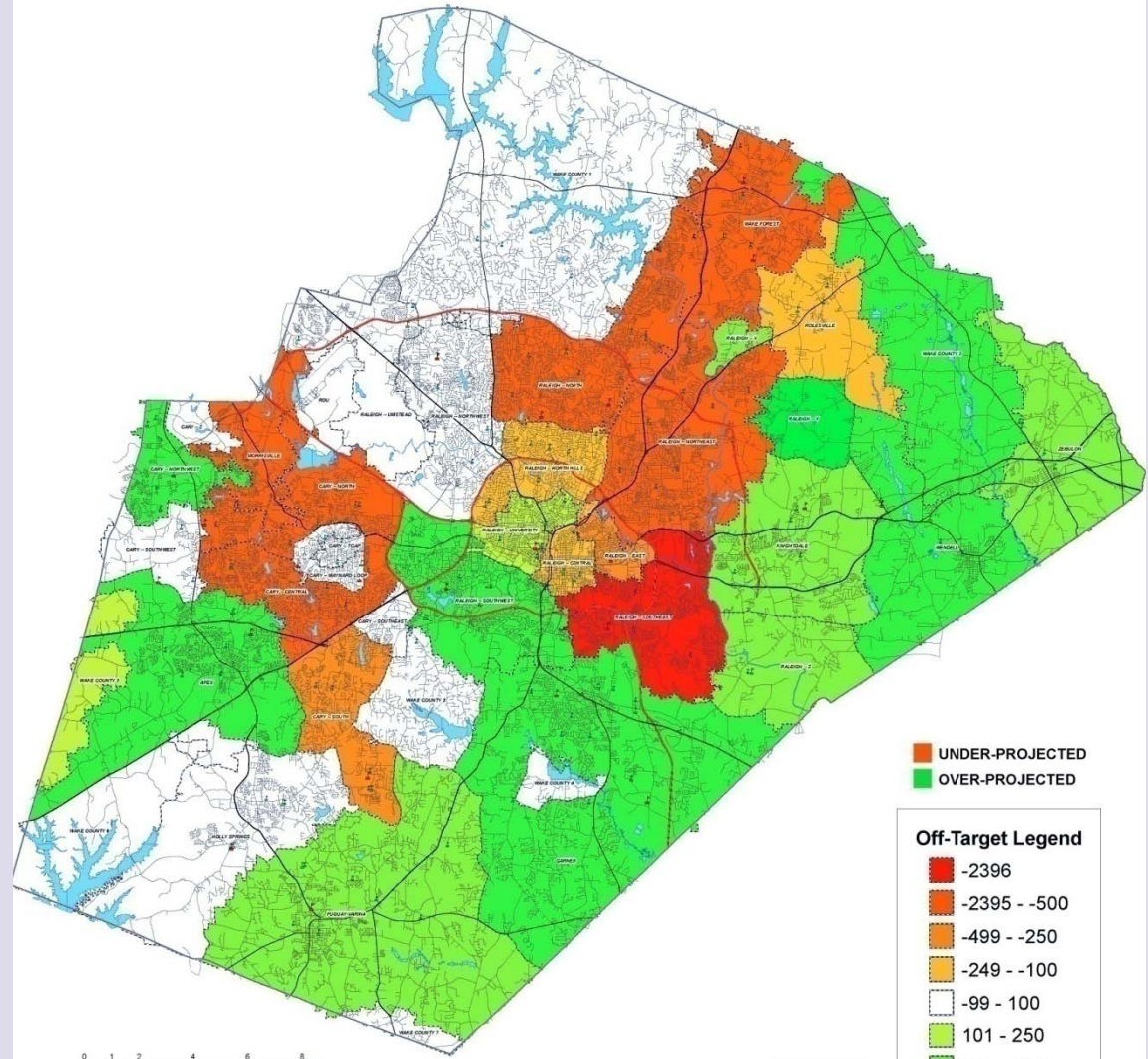
- Fall 2005 – Land Use data collection
- Spring 2006 – Student Potential Distribution Model (**SPDM**)
- Summer 2006 – Optimal target areas for future school sites
- Fall 2006 – CIP 2006: Blueprint for Excellence (~ \$1B program, ~ **\$676M for growth**)
- SY 2006-07 and 2007-08 – Off-target analysis, review optimal target areas, refine SPDM

Off-Target Analysis by SubRegion

2008 K-12 ('05 proj.)
vs.
2008 K-12 actual

WCPSS Long-Range School Building Plan Update 2008-09
2008-09 Off-Target Map - SubRegion Level

Off-target data method as: PROJECTED 2005 - ACTUAL 2008
2008 system-wide over-projection occurred proportionally by Subregion. This recordation does not represent SPDM distribution characteristics.



0 1 2 4 6 8 Miles

School Legend
 # High
 # Mid
 # Elem

Off-Target Legend

- UNDER-PROJECTED
- OVER-PROJECTED

This map was created by WCPSS GIS. Title: WCPSS Off-Target Map. January 10, 2009.

SPDM 2008-09 Update

- Summer 2008 – Process review
- Fall 2008 – Land Use data collection
- Jan-Feb 2009 – SPDM
- Jan 31, 2009 – SPDM Projections: Draft 1
- Mar 4, 2009 – SPDM Projections: Final
- Mar 2009 – Optimal target areas for future school sites

SPDM 2008-09 Update

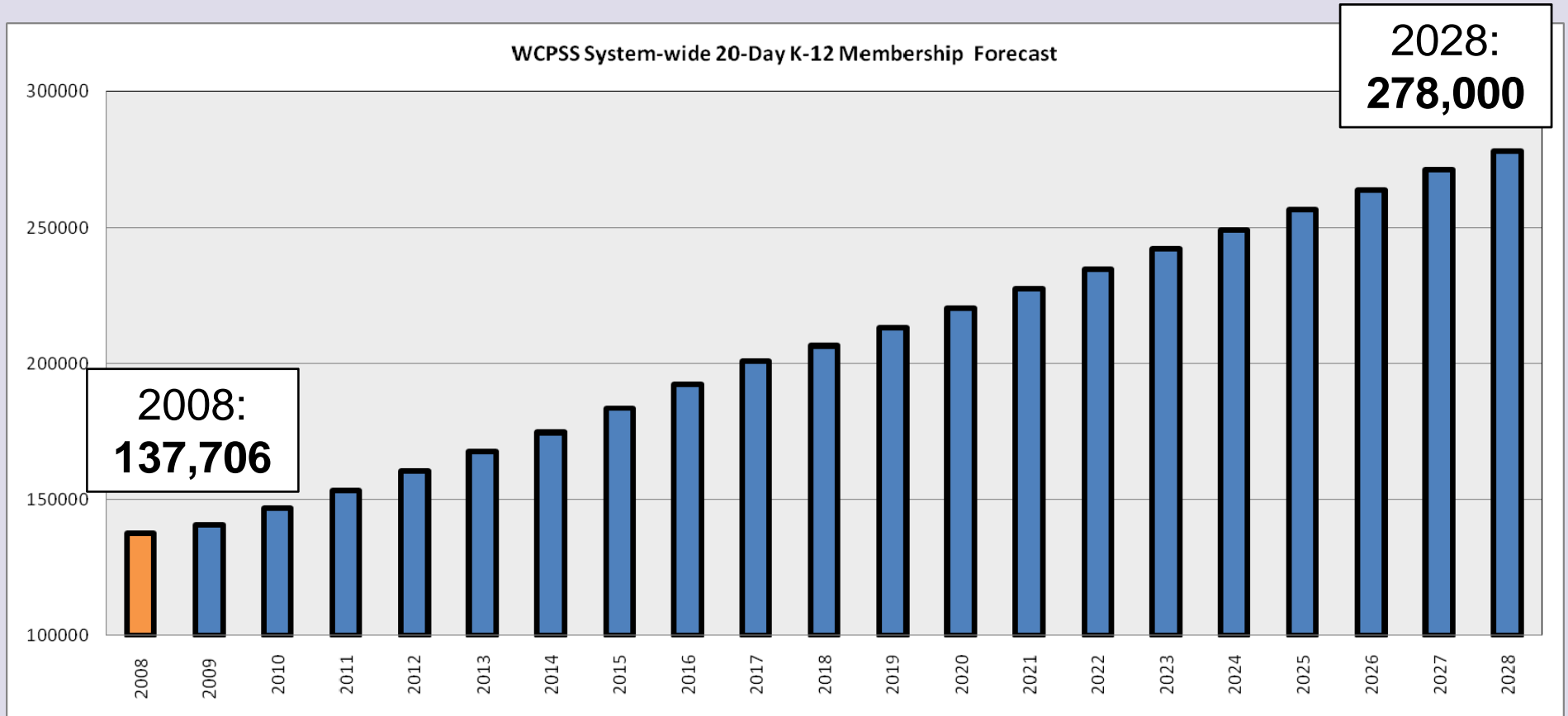
Data Collection Changes

- Streamlined Process:
 - Parcel Profile Decision Engine
 - Residential Build-out Timeline
 - Review Off-Target Planning Regions

Model Changes

- SubRegion Resolution
- Data-driven Build-out Curve

2009-2028 Wake County K-12 Forecast



2009 – 2018 “Economic Cycle” + 2019 – 2028 OREd Linear Forecast

SPDM Stats – E/M/H




2005 SPDM Projected:

	2006-07	2007-08	2008-09
Elem	48.50%	48.86%	48.90%
Mid	22.88%	22.63%	22.74%
High	28.62%	28.50%	28.36%

Actual:

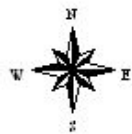
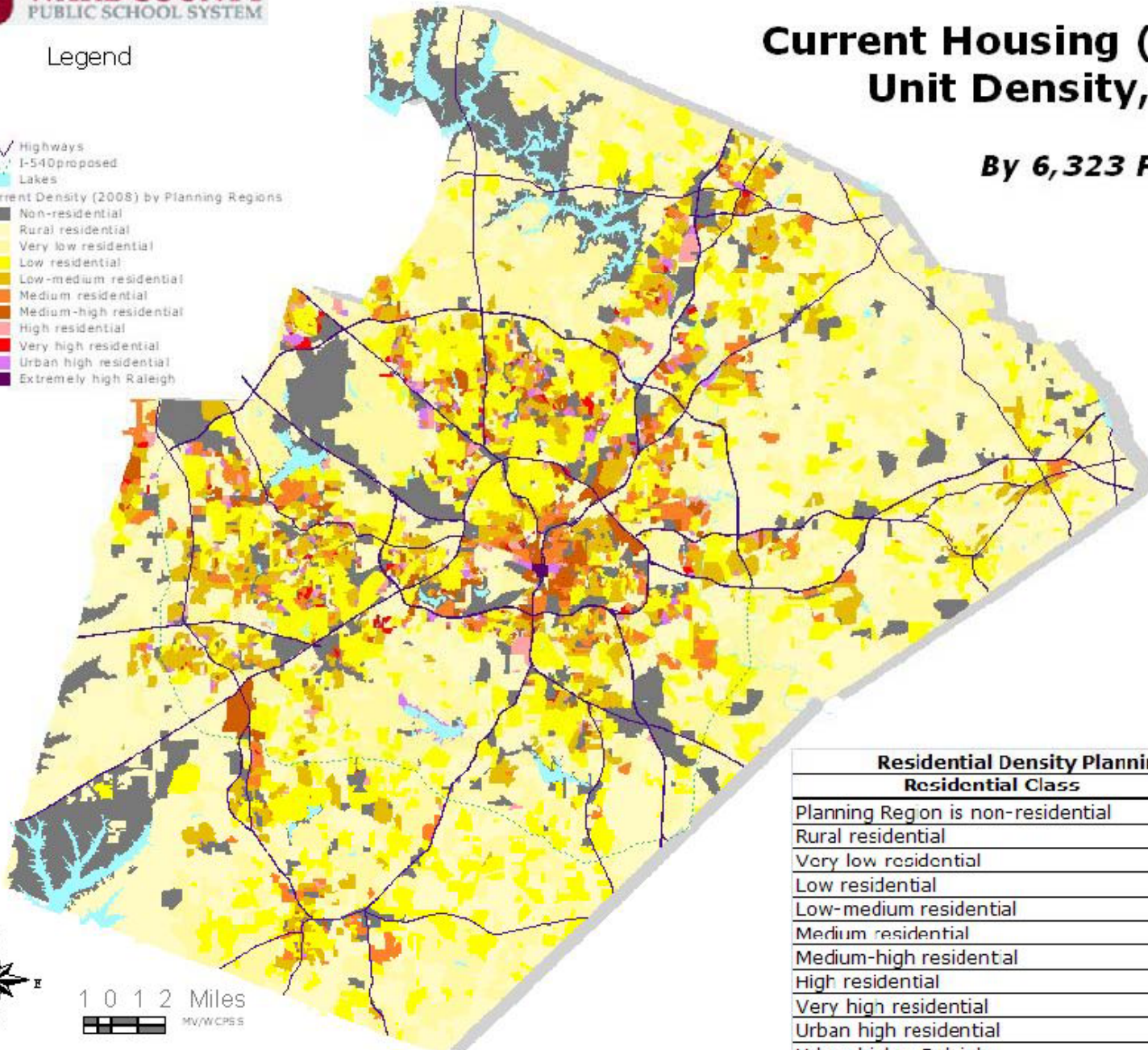
	2006-07	2007-08	2008-09
Elem	48.72%	49.01%	49.02%
Mid	22.67%	22.37%	22.45%
High	28.61%	28.62%	28.52%

Legend

-  Highways
-  I-540 proposed
-  Lakes
- Current Density (2008) by Planning Regions
 -  Non-residential
 -  Rural residential
 -  Very low residential
 -  Low residential
 -  Low-medium residential
 -  Medium residential
 -  Medium-high residential
 -  High residential
 -  Very high residential
 -  Urban high residential
 -  Extremely high Raleigh

Current Housing (Dwelling) Unit Density, 2008

By 6,323 Planning Regions












1 0 1 2 Miles
MV/W/CPS S

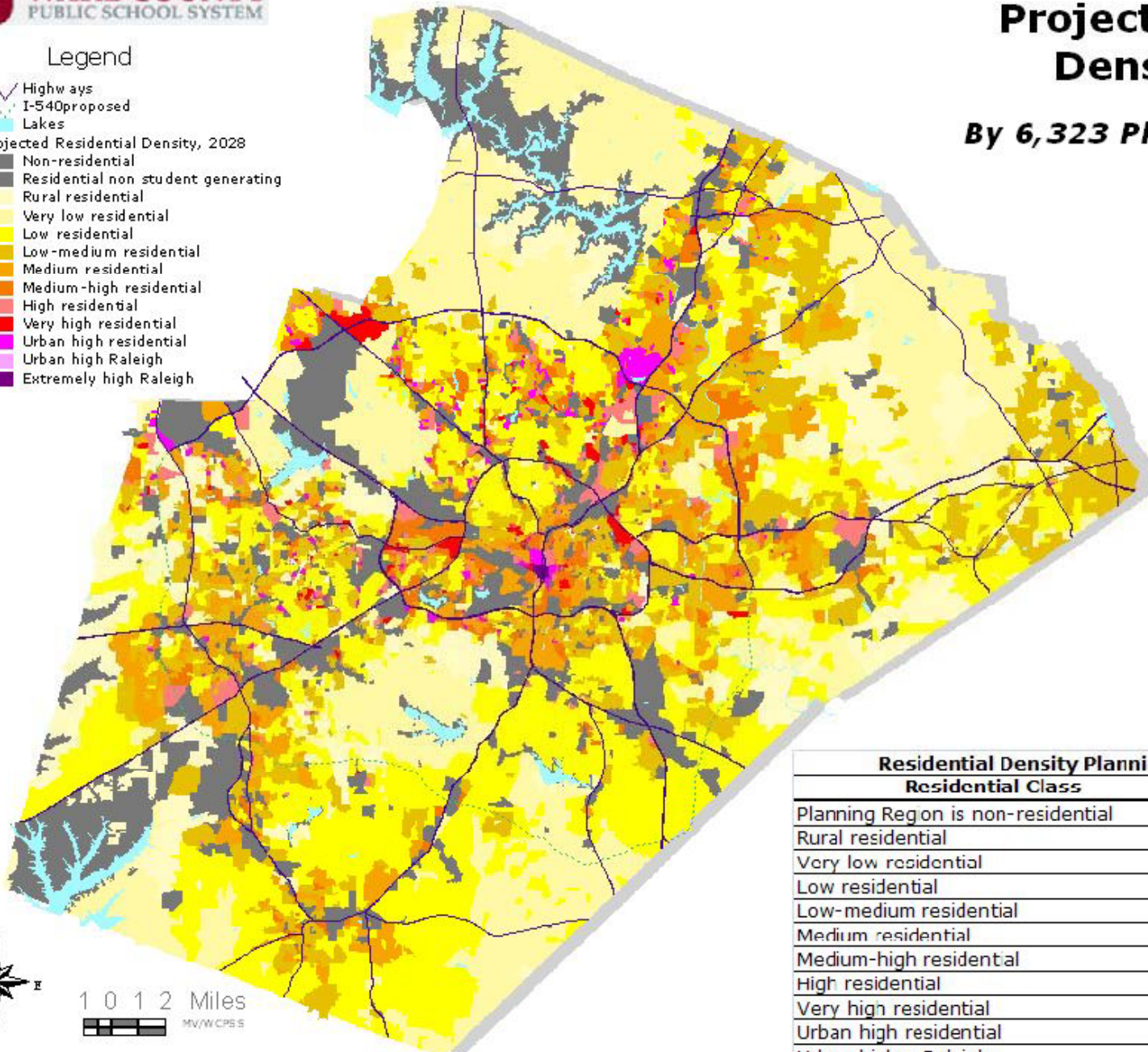
Residential Density Planning Region Profiles	
Residential Class	Residential Density
Planning Region is non-residential	N/A
Rural residential	Under 0.50 du/ac
Very low residential	0.51 - 1.00 du/ac
Low residential	1.01 - 3.00 du/ac
Low-medium residential	3.01 - 5.00 du/ac
Medium residential	5.01 - 8.00 du/ac
Medium-high residential	8.01 - 12.00 du/ac
High residential	12.01 - 16.00 du/ac
Very high residential	15.01 - 20.00 du/ac
Urban high residential	Over 20.00 du/ac
Urban high - Raleigh	20.01 - 40.00 du/ac
Extremely high - Raleigh	Over 40 du/ac

Source: OR/Ed. Lab. countywide_projections_030409, based on Wake County Municipal Planners' Land-Use Projections, 2008 Update

Projected Housing Density, 2028

By 6,323 Planning Regions

- Legend**
-  Highways
 -  I-540 proposed
 -  Lakes
 - Projected Residential Density, 2028**
 -  Non-residential
 -  Residential non student generating
 -  Rural residential
 -  Very low residential
 -  Low residential
 -  Low-medium residential
 -  Medium residential
 -  Medium-high residential
 -  High residential
 -  Very high residential
 -  Urban high residential
 -  Urban high Raleigh
 -  Extremely high Raleigh



1 0 1 2 Miles



MV/WCPSS

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SPDM Stats – SGP

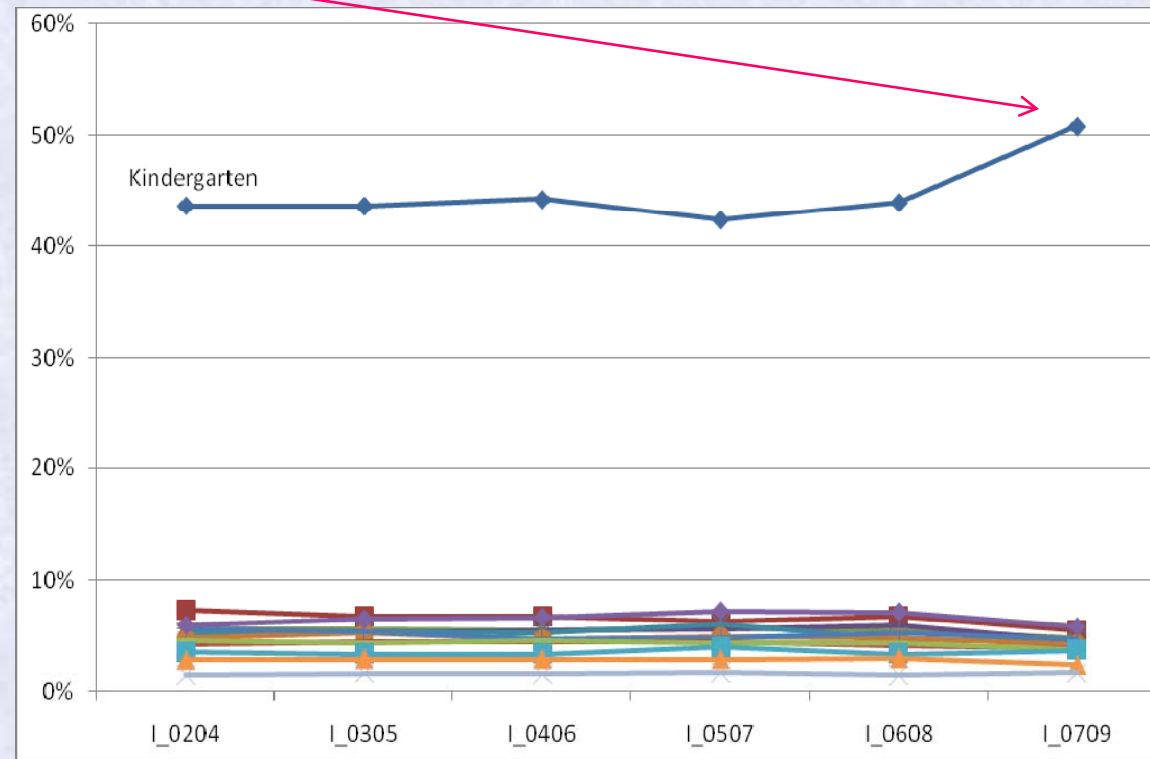
Mean SGP (std/dev ac)

Apex	1.25
Cary	1.43
Fuquay-Varina	0.66
Garner	0.64
Holly Springs	1.42
Knightdale	1.07
Morrisville	1.72
Raleigh	1.36
Rolesville	0.54
Wake Forest	1.19
Wendell	0.58
Zebulon	0.51
Non-Urban	0.31

SPDM Stats – Kindergarten

2007-08 – 2008-09 Incoming Distribution:

K	1	2	3	4	5	6	7	8	9	10	11	12
0.509	0.054	0.048	0.046	0.045	0.042	0.047	0.038	0.037	0.056	0.037	0.024	0.017



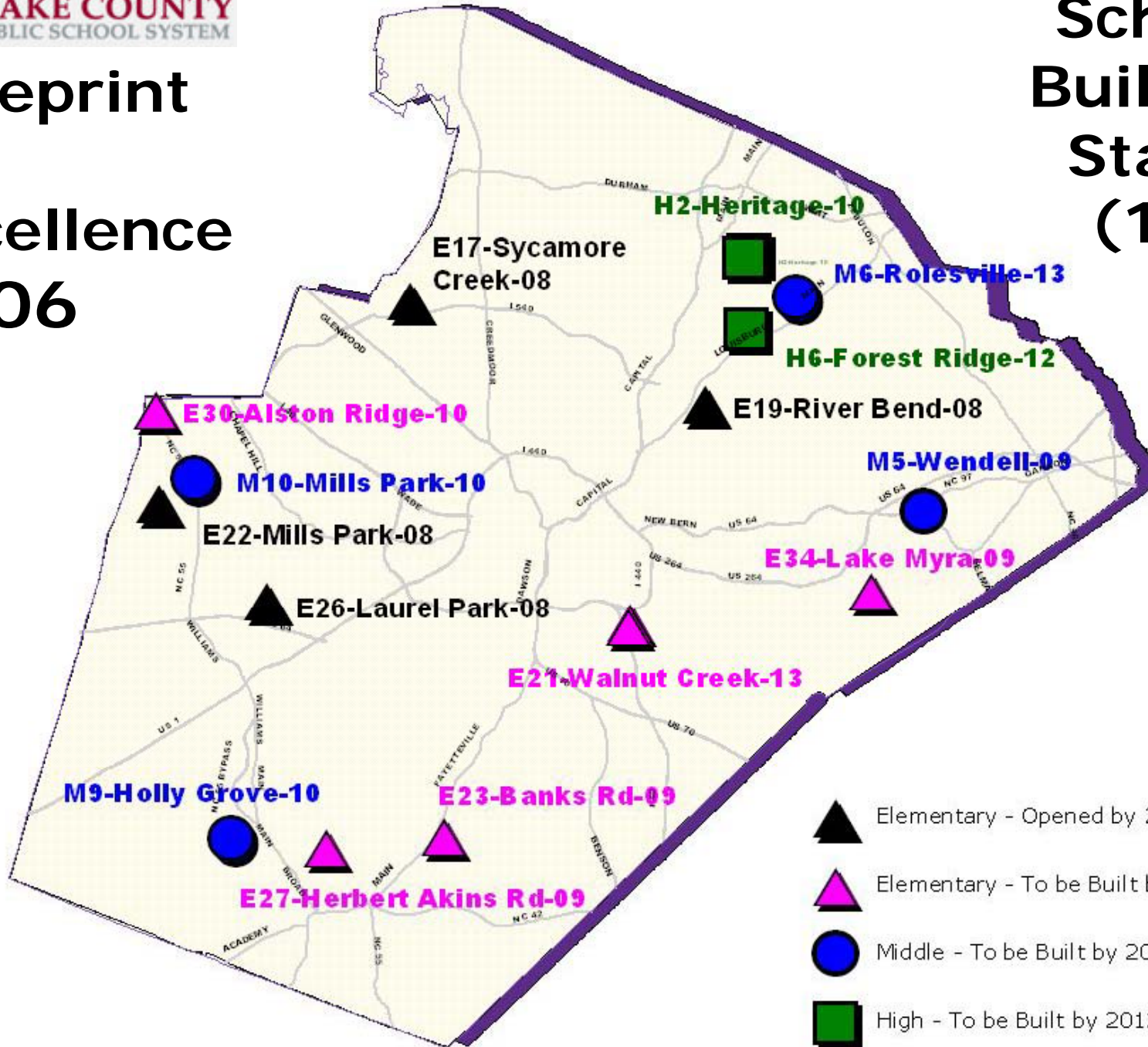
2009-2028 SubRegion K-12 Projections

SubRegion	Actual	Projected				
	2008	2013	2016	2019	2022	2028
APEX	8623	10554	11935	13155	14446	16923
CARY -- CENTRAL	8832	9753	10415	10765	11262	12406
CARY -- MAYNARD LOOP	1655	1829	1978	2045	2142	2362
CARY -- NORTH	4998	5563	5934	6158	6458	7187
CARY -- NORTHWEST	2086	2895	3417	3824	4173	4828
CARY -- SOUTH	4195	4730	5133	5386	5679	6283
CARY -- SOUTHEAST	631	716	801	851	893	991
CARY -- SOUTHWEST	1415	2138	2718	3055	3274	3668
CARY -- TCAP	736	830	901	937	985	1085
FUQUAY-VARINA	7899	10005	11808	13203	14540	16844
GARNER	8658	9817	11155	13167	16007	21385
HOLLY SPRINGS	5480	7031	8219	9145	10053	11981
KNIGHTDALE	4124	5438	7392	9635	11603	15508
MORRISVILLE	2570	3264	3648	3830	4054	4613
RALEIGH -- CENTRAL	2341	2834	3201	3419	3659	4278
RALEIGH -- EAST	1935	2117	2249	2342	2512	2927
RALEIGH -- NORTH	10484	11494	12304	12906	13768	15839
RALEIGH -- NORTH HILLS	3289	3603	3860	4014	4225	4705
RALEIGH -- NORTHEAST	13520	16063	18106	19591	21402	25498
RALEIGH -- NORTHWEST	6218	6920	7530	7916	8351	9345
RALEIGH -- SOUTHEAST	9398	11043	12255	13156	14171	16672
RALEIGH -- SOUTHWEST	4653	5406	5944	6289	6758	8144
RALEIGH -- UMSTEAD	2509	2978	3346	3649	3940	4473
RALEIGH -- UNIVERSITY	1651	1811	1913	1977	2079	2316
RALEIGH -- X	149	295	427	547	674	907
RALEIGH -- Y	440	1302	1832	2150	2424	2943
RALEIGH -- Z	481	668	838	962	1079	1519
ROLESVILLE	1133	2686	4024	5005	5961	6980
WAKE COUNTY 1	5685	6742	7562	8195	8928	10375
WAKE COUNTY 2	1104	1609	2121	2640	3166	4188
WAKE COUNTY 3	97	143	182	217	248	301
WAKE COUNTY 4	126	167	200	228	252	289
WAKE COUNTY 5	1407	1643	1810	1928	2055	2355
WAKE COUNTY 6	50	71	92	116	150	256
WAKE COUNTY 7	312	392	466	528	588	693
WAKE FOREST	5859	7166	8115	8972	10052	12256
WENDELL	2183	2988	4030	5383	6355	7585
ZEBULON	1541	2925	4592	5785	6434	7353
TOTAL	138467	167631	192454	213070	234800	278262

OR/Ed. 2008-09 SPDM Update,
March 4, 2009

Blueprint for Excellence 2006

School Building Status (15)



2009-2028 SubRegion K-12 Projections

SubRegion Growth

2009-2028 Growth “Hot Spots”

Hot Spot Analysis



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Presentation materials available:

*[http://www.wcpss.net/
demographics/](http://www.wcpss.net/demographics/)*



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