

BALTIMORE COUNTY PUBLIC SCHOOLS

DATE: May 24, 2005

TO: **BOARD OF EDUCATION**

FROM: Dr. Joe A. Hairston, Superintendent

SUBJECT: **PUPIL YIELD FACTOR STUDY**

ORIGINATOR: J. Robert Haines, Deputy Superintendent, Business Services

RESOURCE

PERSON(S): Don Dent, Executive Director, Department of Planning and Support Operations
Ghassan Shah, Planning Administrator, Office of Strategic Planning
Matthew Cropper, GIS Manager, DeJong Incorporated
Dunbar Brooks, Data Development Manager, Baltimore Metropolitan Council

RECOMMENDATION

That the Board of Education approve the recommended Pupil Yield Factors.

A pupil yield factor is a number used to approximate how many BCPS school-age children may be expected from a new housing development. The current yield factors were developed in 1993.

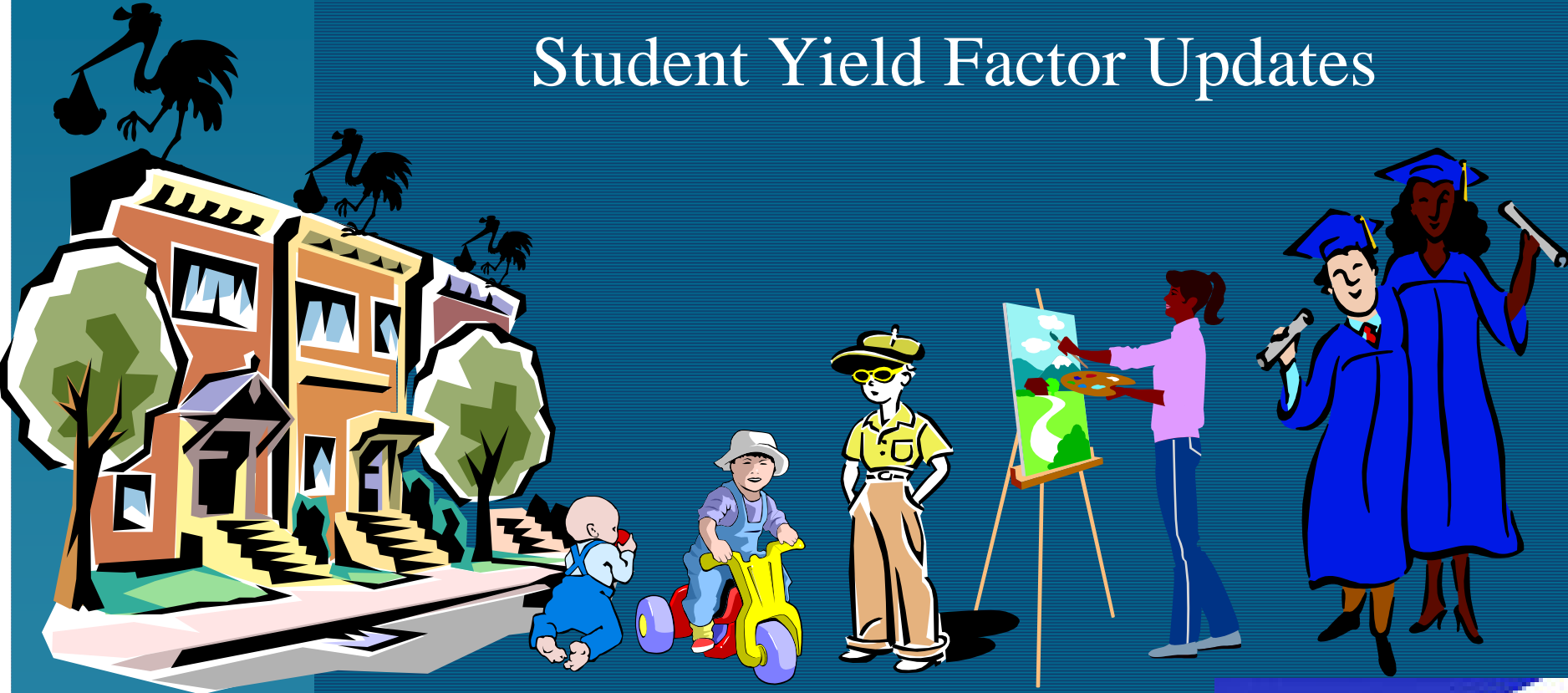
In May 2004, DeJong Incorporated and the Baltimore Metropolitan Council were hired to update pupil yield factors for the Baltimore County Public Schools. Using modern technology, an analysis of pupil yield factors was completed for new and existing housing developments in Baltimore County.

Once approved, by the Board, the yield factors will be provided to the Baltimore County Office of Planning, to support the Adequate Public Facilities Ordinance.

JRH/dd

Baltimore County Public Schools

Student Yield Factor Updates



Prepared by:

DeJong & Associates

Baltimore Metropolitan Council

Baltimore County Public Schools Office of Strategic Planning



Definition

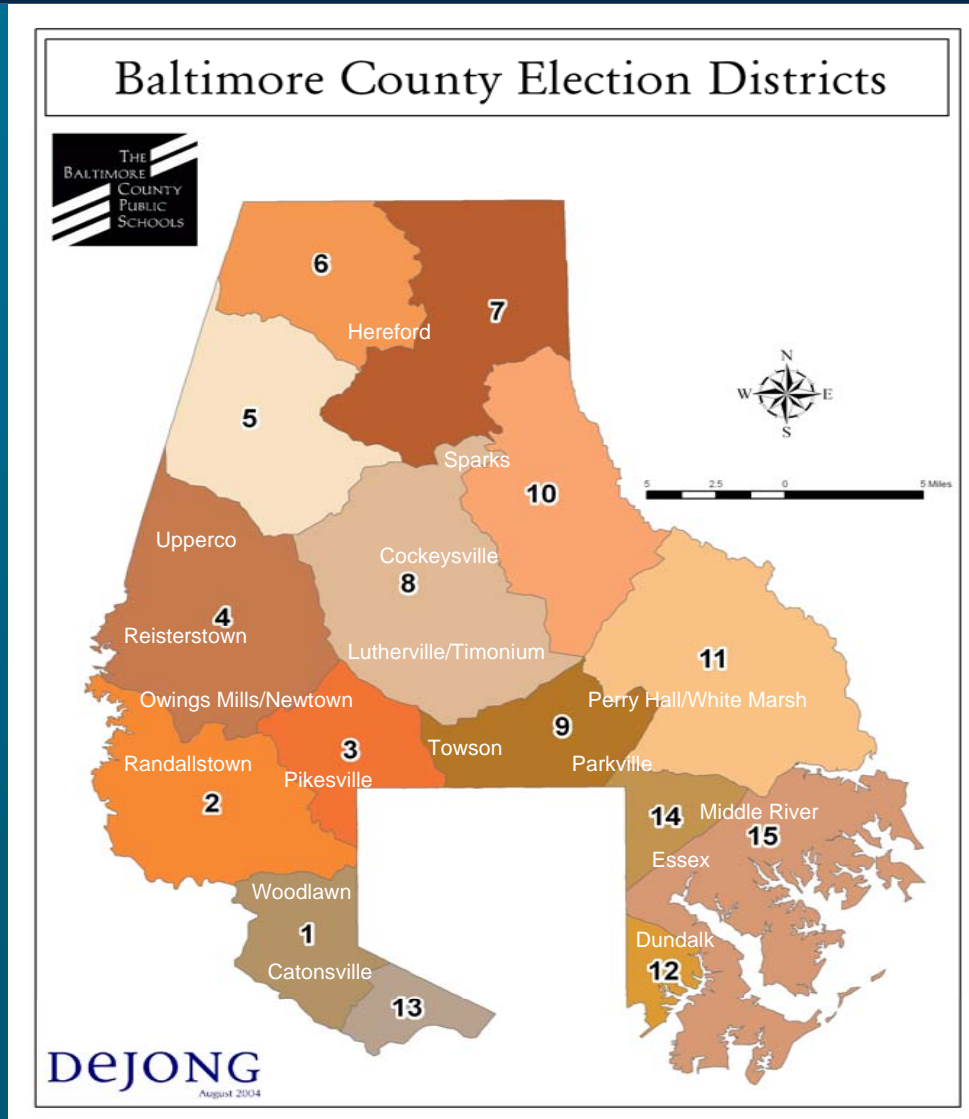
- A student yield factor is a number used to approximate how many BCPS school-aged children may be expected from a new housing development

Characteristics

Student yield factors are:

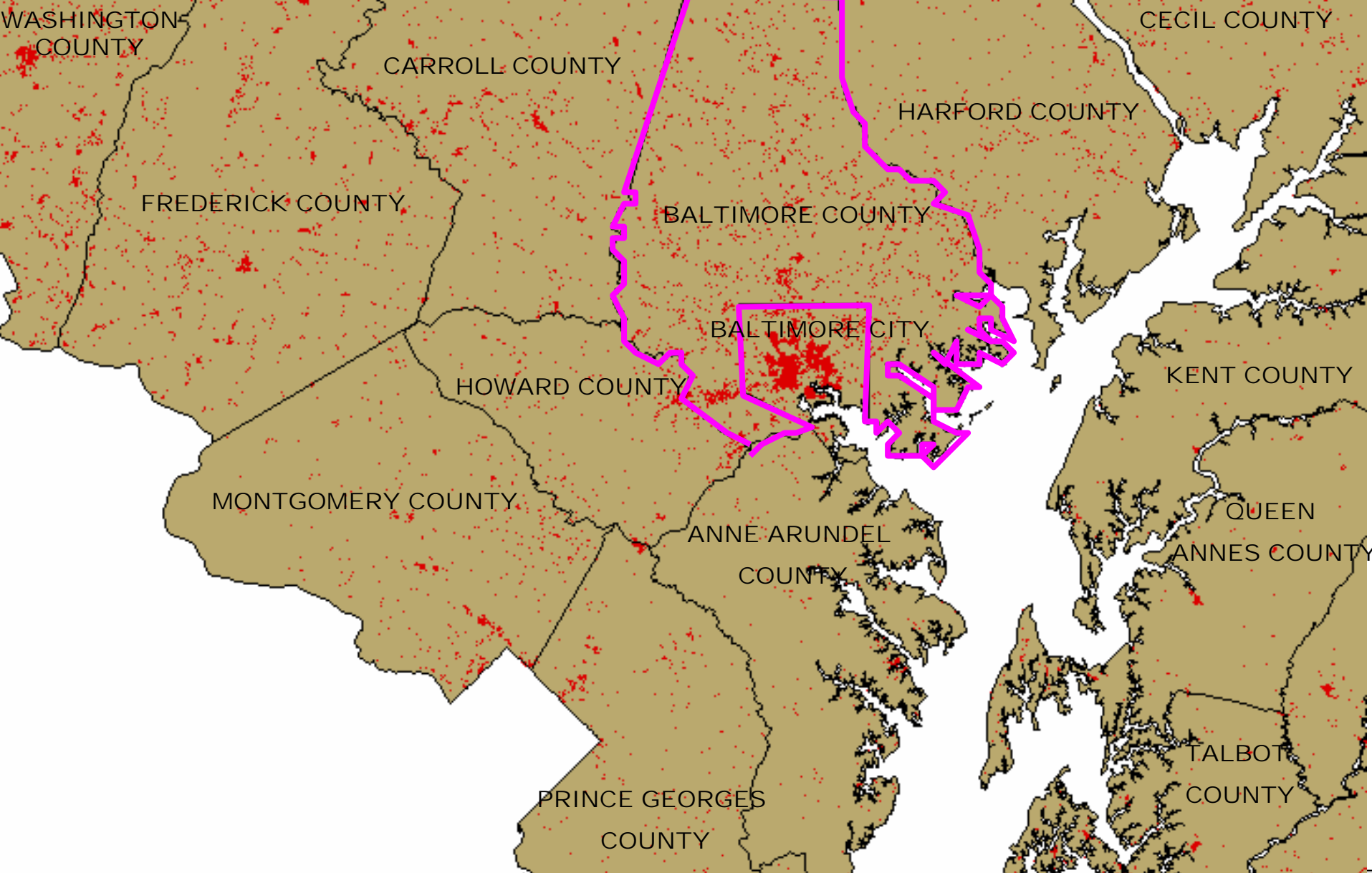
- Specific to elementary, middle, and high school students
- Specific to housing type (single family detached [SFD], single family attached [SFA], multifamily, condominium, apartment)
- Calculated in Baltimore County based on the 15 election districts
- Provided to the Baltimore County Office of Planning by the Baltimore County Public Schools as per Baltimore County Adequate Public Facilities legislation

Baltimore County Election Districts

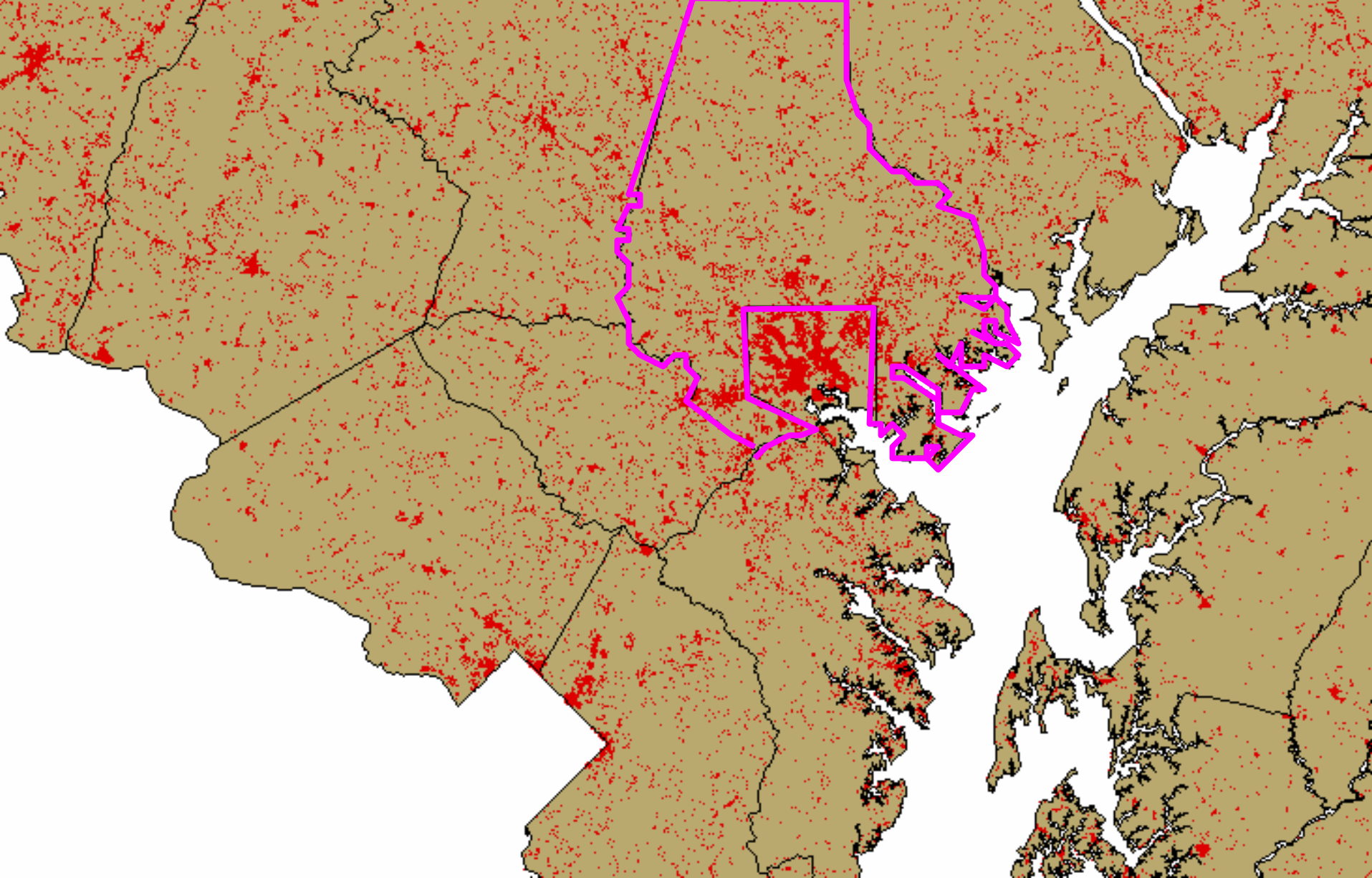


Caveats

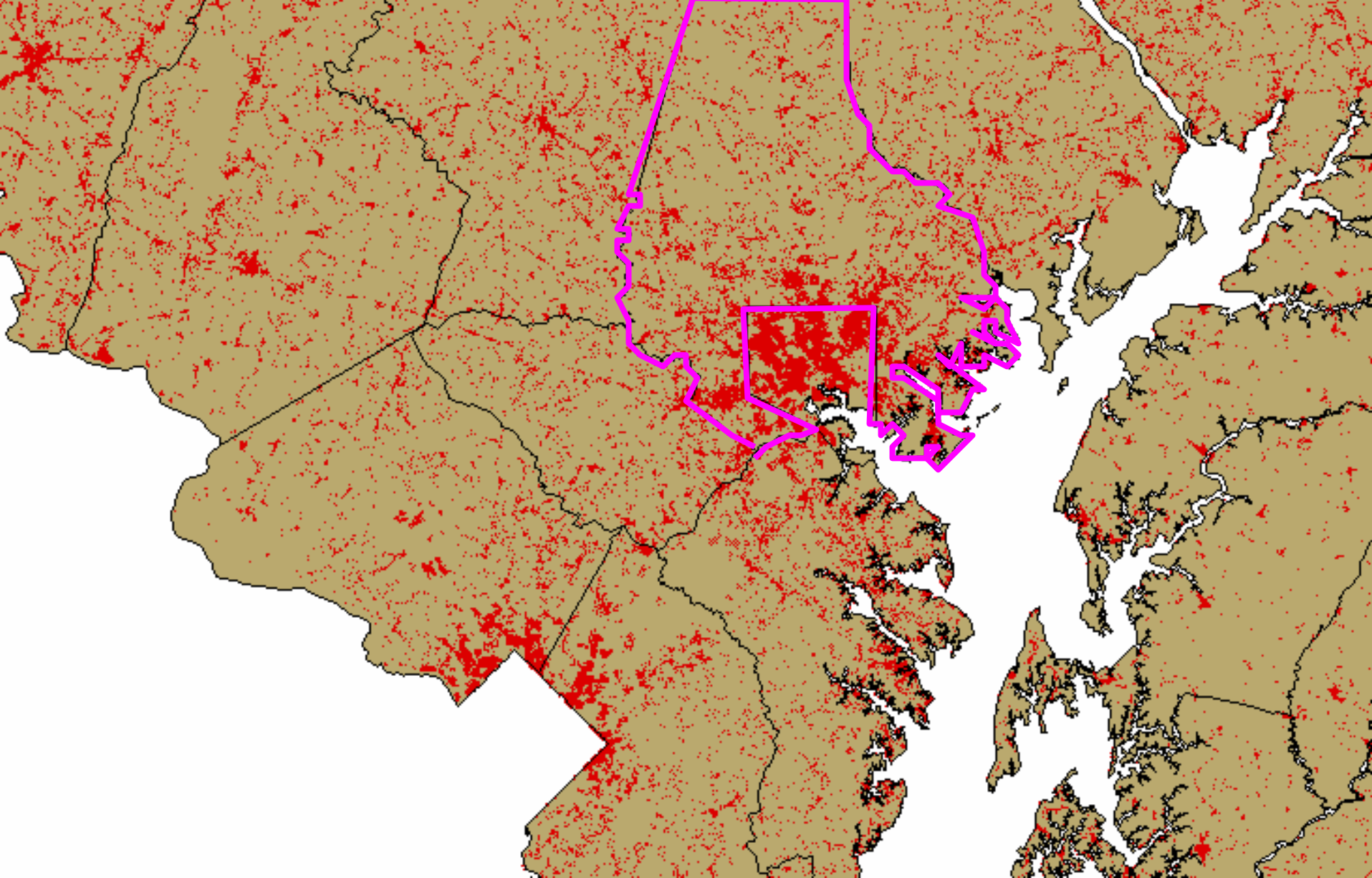
- All housing types do not exist in each election district
- High density does not necessarily mean high student yield
- Yield factors are not time-dependant
 - There is no way to know when children will arrive
 - Projects can encounter permit, environmental, and construction delays
- Due to improved methodology and different development samples, old yield factors cannot be compared to new yield factors



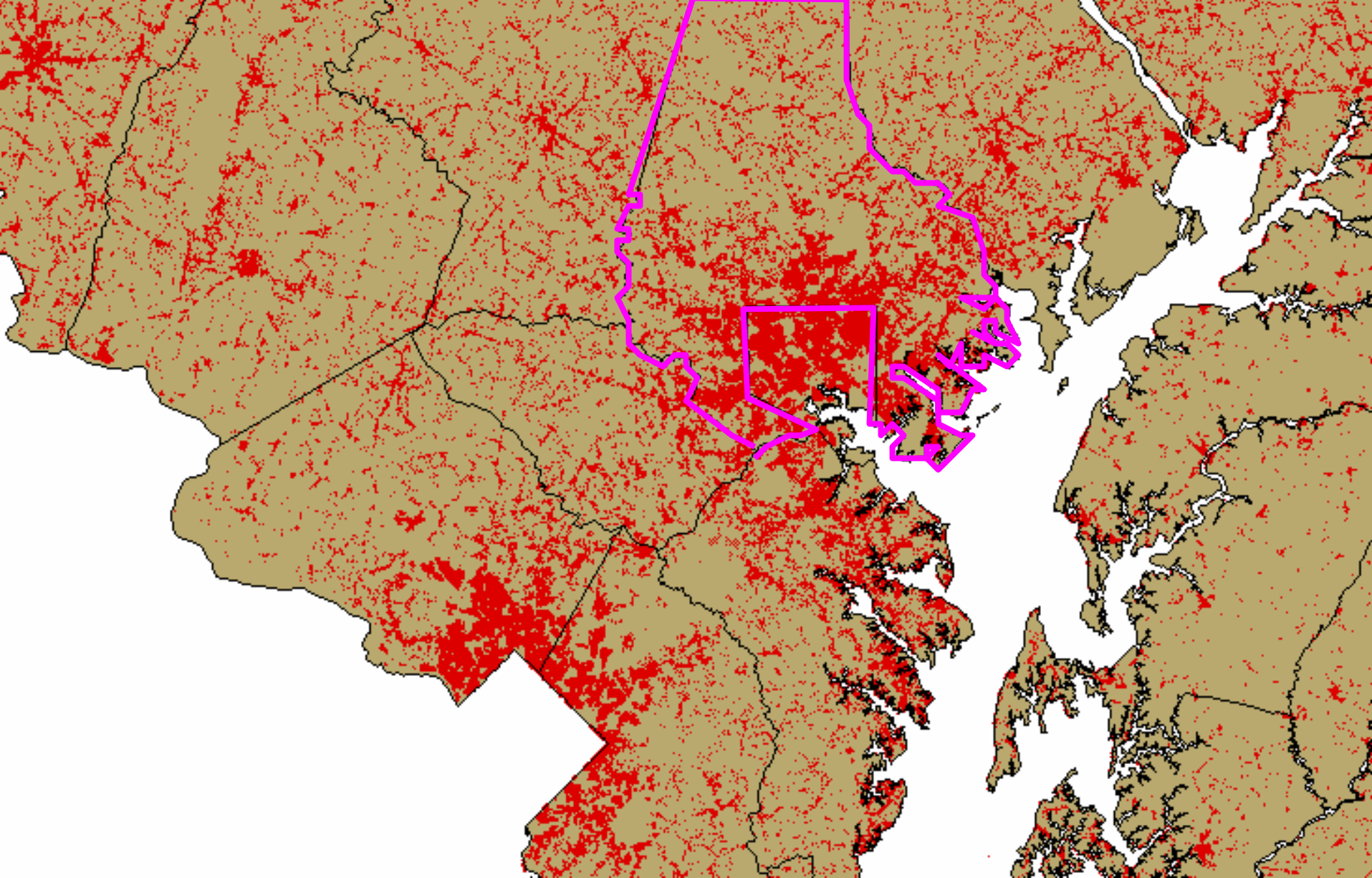
Household Development Patterns Before
1900



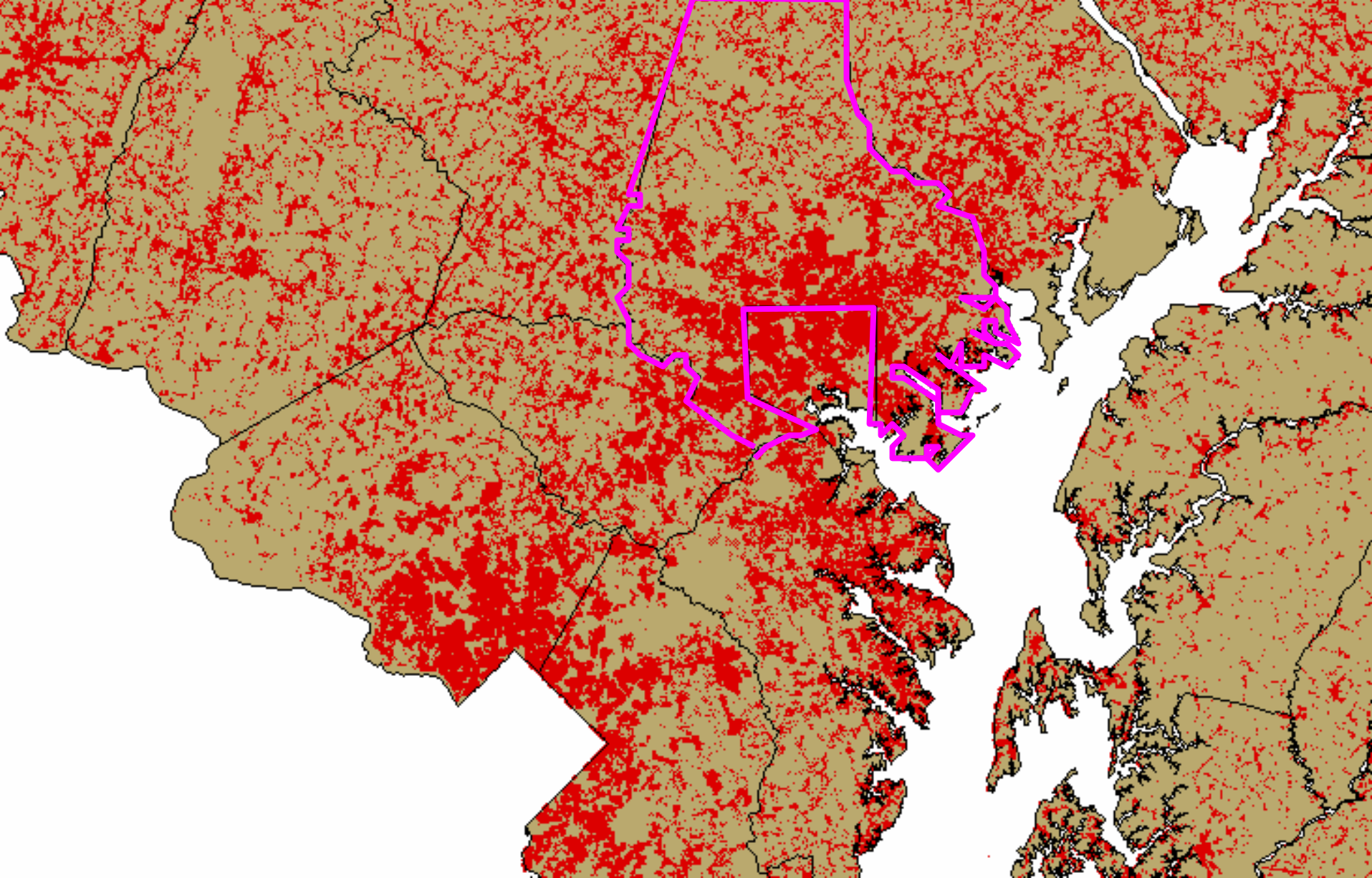
Household Development Patterns up to
1920



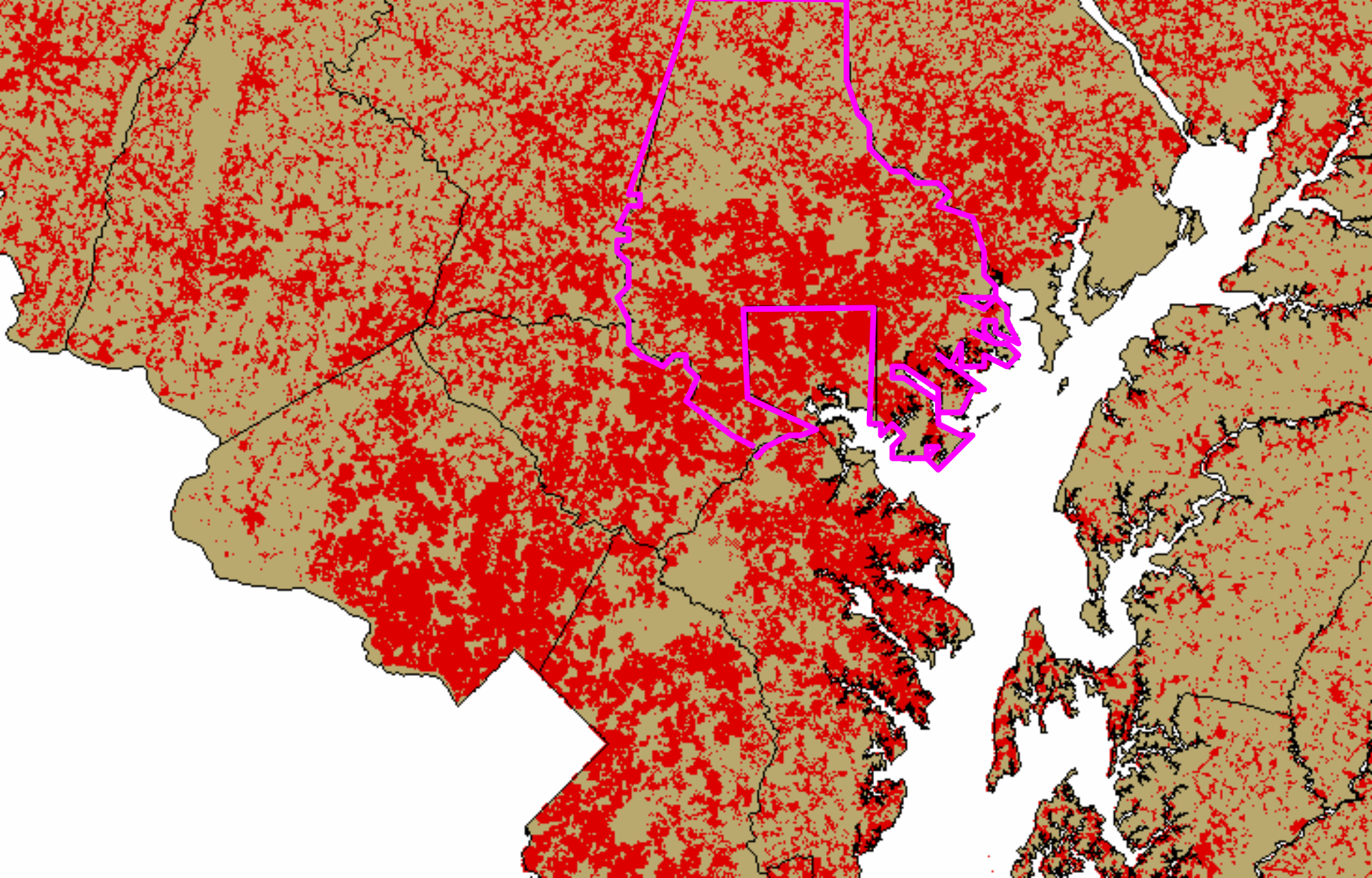
Household Development Patterns up to
1940



Household Development Patterns up to
1960



Household Development Patterns up to
1980



Household Development Patterns through
2000

New Yield Factors by Election District

2004 Pupil Yield Factors

Housing Type	1st District			2nd District			3rd District			4th District			5th District		
	Elem.	Mid.	High	Elem.	Mid.	High	Elem.	Mid.	High	Elem.	Mid.	High	Elem.	Mid.	High
Multi-Family Rented	.025	.018	.016	.061	.018	.025	.014	.010	.019	.212	.079	.098	-	-	-
Multi-Family Owned	.054	.050	.025	.050	.017	.025	.022	.011	.019	.036	.015	.034	-	-	-
Single-Family Attached Rented	-	-	-	.330	.133	.150	.045	.007	.035	.135	.076	.142	-	-	-
Single-Family Attached Owned	.198	.081	.089	.167	.082	.088	.100	.043	.078	.173	.081	.100	-	-	-
Single Family Detached	.239	.134	.124	.238	.131	.183	.137	.120	.196	.265	.164	.211	.178	.137	.210
Housing Type	6th District			7th District			8th District			9th District			10th District		
	Elem.	Mid.	High	Elem.	Mid.	High	Elem.	Mid.	High	Elem.	Mid.	High	Elem.	Mid.	High
Multi-Family Rented	-	-	-	-	-	-	.007	.000	.021	-	-	-	-	-	-
Multi-Family Owned	-	-	-	-	-	-	.015	.006	.011	.018	.024	.042	-	-	-
Single-Family Attached Rented	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Single-Family Attached Owned	-	-	-	-	-	-	.080	.049	.064	.118	.061	.103	-	-	-
Single Family Detached	.350	.198	.232	.235	.183	.252	.192	.081	.103	.139	.089	.170	.282	.116	.195
Housing Type	11th District			12th District			13th District			14th District			15th District		
	Elem.	Mid.	High	Elem.	Mid.	High	Elem.	Mid.	High	Elem.	Mid.	High	Elem.	Mid.	High
Multi-Family Rented	.059	.024	.034	.196	.100	.108	-	-	-	.107	.029	.040	-	-	-
Multi-Family Owned	.012	.007	.007	-	-	-	.089	.046	.025	-	-	-	.029	.000	.038
Single-Family Attached Rented	.162	.076	.082	.561	.212	.242	-	-	-	-	-	-	-	-	-
Single-Family Attached Owned	.168	.081	.083	.284	.165	.199	.239	.115	.108	.233	.099	.108	-	-	-
Single Family Detached	.234	.155	.188	.143	.048	.190	.260	.128	.240	.240	.100	.161	.260	.140	.212

Example

A development in Owings Mills may be proposed for 50 single-family homes (sold to own).

The District 4 yield for single family homes (owned) is :

Elementary: .173

Middle: .081

High: .100

Multiply the proposed units by the yield:

Elementary: $50 \times .173 = 8.65$ rounded to 9

Middle: $50 \times .081 = 4.05$ rounded to 4

High: $50 \times .100 = 5$

This development would likely yield 9 elementary students, 4 middle students, and 5 high school students at full buildout.

Next Steps

- Yield factors shared with Baltimore County Office of Planning
- Developers must use these yield factors when applying for permits through the Office of Planning