

## **Agenda**

- 1. Introductions
- 2. Project Background
- 3. School Committee Guiding Principles
- 4. Redistricting & Demographic Process & Workflow
- 5. Student Distribution
- 6. Timeline/Next Steps
- 7. Questions/Feedback





# Introductions

## **The Redistricting Team**

#### **Shrewsbury School Committee Representatives**

- Sandra Fryc, School Committee, Chairperson
- Jon Wensky, School Committee, Vice Chairperson

#### **Shrewsbury Public School Staff**

- Joe Sawyer, Superintendent of Schools
- Patrick Collins, Asst. Superintendent for Finance and Operations
- Tiffany Ostrander, Principal, Calvin Coolidge School
- Bryan Mabie, Principal, Spring Street School





## **The Redistricting Team**

#### **Parent Representatives**

- Shannon Creedon, Parent, Walter J. Paton School
- Rajesh Velagapudi, Parent, Floral Street School
- Christine Jasinski, Parent, Calvin Coolidge School
- Terrick Andey, Parent, Beal Early Childhood Center
- Sanam Zaer, Parent, Spring Street School

#### **AppGeo (Consultant)**

- Kate Hickey, Principal in Charge
- Priya Sankalia, Project Manager
- Ashley Tardif, Geospatial Analyst

#### **RLS Demographics (Consultant)**

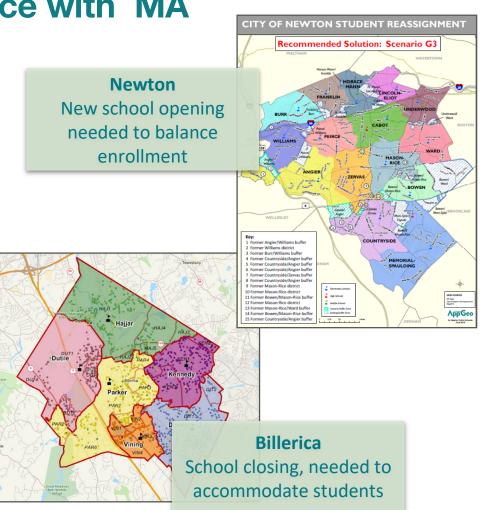
Bob Scardamalia





AppGeo's Experience with MA School Districts

Lexington Increased enrollment and need for balancing classroom sizes **ESTABROOK** 527 560 (+33) FISKE 528 564 (+36) **HASTINGS** 437 440 (+3) HARRINGTON 457 463 (+6) BRIDGE 575 BOWMAN 651 (+76) 592 638 (+46)



Weymouth

Low enrollment;

need a strategy for

elementary and

middle school

configurations

# RLS Demographics (Bob Scardamalia) Experience



- 20 years as Chief Demographer for the State of New York
- Adjunct Professor at State University of New York at Albany
- Served on numerous state and national advisory committees for *Census* Bureau and Federal Statistics Agencies
- Authored number of books on changing demographics in the US including 'Aging in America'
- Has been producing local area population projections for more than 3 decades

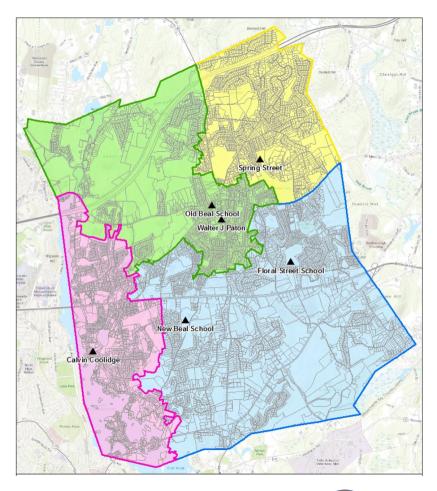




# Project Background

# **Project Goals & Objectives**

- Beal Early Childhood Center being replaced by a new 790 seat K-4 elementary school
- Realign all elementary schools into K-4 configuration
- Create scenarios to reduce enrollment at all elementary schools to relieve overcrowding and assign students to new Beal School
- Develop and use district projections to evaluate and adjust scenarios







# Why do we need a redistricting plan?

- Enrollment Growth
  - Historical and projected enrollment growth
- Overcrowded Schools/Lack of space for allied arts and specialized spaces
  - O Spring, Paton, and Coolidge
- Providing access to full day kindergarten for all students
  - Only 24 Massachusetts schools districts don't have full day kindergarten for all of their students
- Planned new housing developments
  - Edgemere and The Pointe at Hills Farm
- New Beal under construction





# **Capacity/Target**

	Current Co	nfiguration			Target Con	figuration	
School	Core Classrooms	Actual Enrollment	Config	School	Core Classrooms	Target Enrollment	Config - K-4
Coolidge	19	405	FDK-4	Coolidge	15	308	3 sections
Paton	16	362	FDK-4	Paton	15	308	3 sections
Spring	17	351	FDK-4	Spring	15	308	3 sections
Floral	32	723	1-4	Floral	30	608	6 sections
	Sub Total	1841			Sub Total	1532	
Beal ECC	13	311	HDK, FDK & 1	New Beal	40	790	8 sections
	Total	2152		Total		2322	

The target configuration projects enrollment growth out to 2025 with all classroom averages within school committee guidelines by grade level. This plan also provides a parity of spaces across all elementary schools.



# School Committee Guiding Principles

# **School Committee Guiding Principles**

- Ensure educational needs are met
  - Student educational needs will be met regardless of school assignment.
- Ensure availability of dedicated instructional spaces.
  - Student population must be distributed so that each school has sufficient, appropriate, dedicated instructional spaces.
- Emphasize "neighborhood school" approach.
  - O School assignments will be determined by drawing attendance zone boundaries and should emphasize a "neighborhood school" approach by prioritizing geographic proximity of home to school for walkability and efficient transportation, while keeping geographic entities intact. Neither a parental "school choice" model nor a lottery for school enrollment will be used.





# **School Committee Guiding Principles**

#### Consider student demographics

 Student demographics should be taken into account when redistricting school attendance zones.

#### Account for future development/growth in the plan

 Future potential population growth should be considered when establishing attendance zones.

#### Minimize change

 Changes of school assignments for existing students should be minimized to the greatest extent possible within the context of the other priorities.

#### Work with other district initiatives

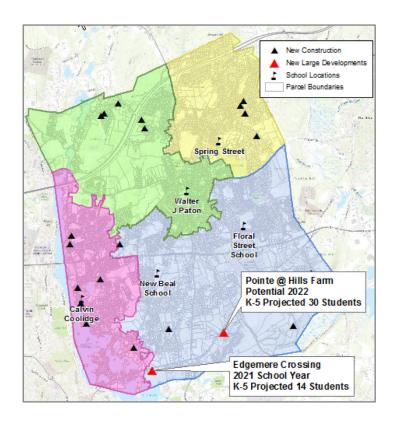
 The redistricting process should work in concert with other district initiatives where possible.

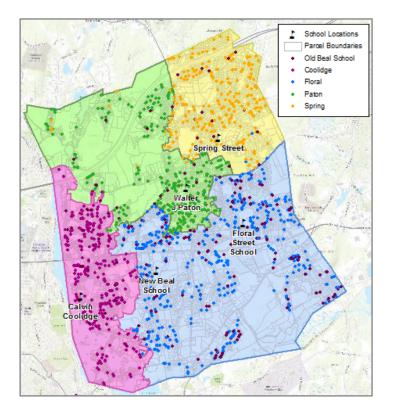


# Redistricting Process & Workflow

# **Data Gathering & Analysis**

Current student locations were geocoded. Additional background information was mapped including planned developments, sale history, land use, student demographics etc.

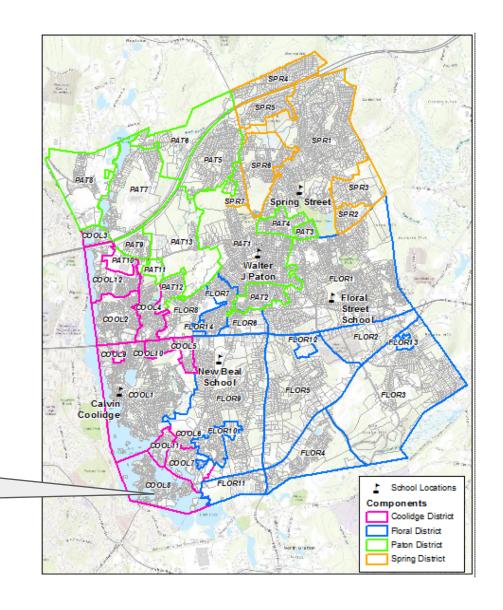




# Components as Scenario Building Blocks

- Components are building blocks or tools to build scenarios.
- These were delineated collaboratively with significant input from the committee, with intimate knowledge of the town.

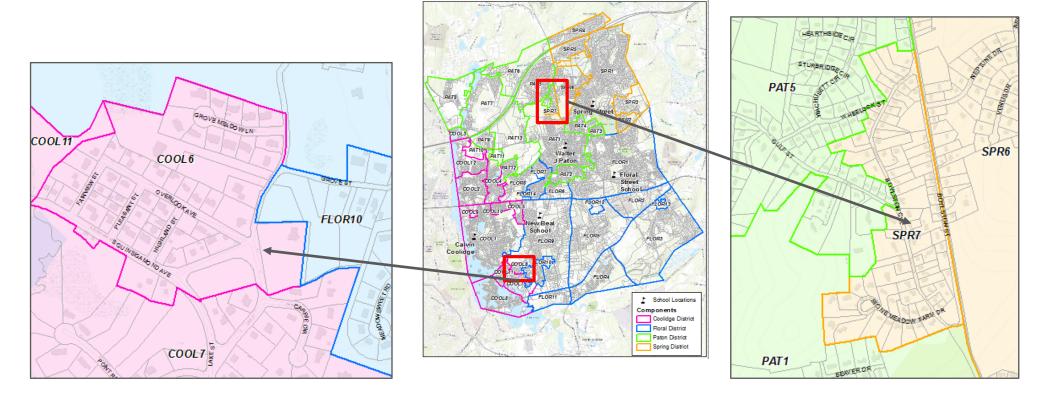
For example, Edgemere is a component labeled "Coolidge 8"





# **Components as Scenario Building Blocks**

 Close attention was paid to neighborhoods and natural boundaries when identifying the components.  A total of 46 components were delineated giving us flexibility

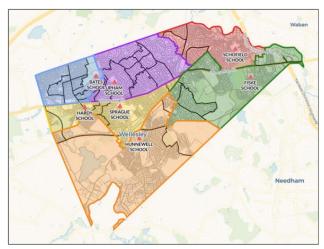


# **Scenario Building Process (Examples)**

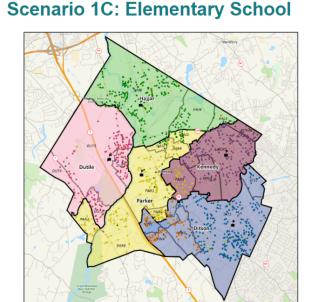
Scenarios are being built collaboratively using the components. A scenario consists of new district boundaries created as a combination of components. Every scenario is presented with capacity

and demographic information.

**Upham Map 4** 



Wellesley Public Schools



cenario Change and Scenario Totals - by Grade										
District	K Change	1 Change	2 Change	3 Change	4 Change					
Ditson	+12	+34	+32	+29	+29					
Dutile	0	0	0	0	0					
Hajjar	-7	-6	-6	-5	-3					
Kennedy	+8	+8	+6	+16	+8					
Parker	+2	+1	+1	-8	-1					
District	Future Grade K	Future Grade 1	Future Grade 2	Future Grade 3	Future Grade 4					
Ditson	96	107	121	111	126					
Dutile	51	45	46	43	49					
Hajjar	71	68	71	75	63					

Scenario Totals - by District											
District	K Thru 4	Total Capacity	Percent Capacity	Capacity with Modulars	% Capacity	% Low Income					
Ditson	561	660	85%		%	15%					
Dutile	235	200	118%	300	78%	13%					
Hajjar	348	420	83%	460	76%	15%					
Kennedy	313	320	98%	340	92%	11%					
Parker	409	480	85%		%	15%					

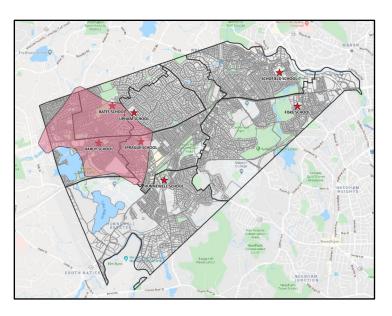
Billerica Public Schools

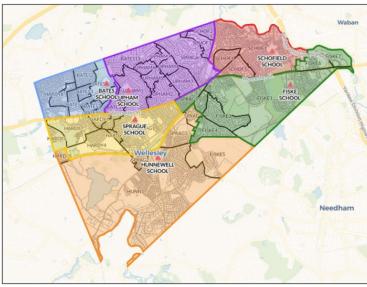




#### **Scenario Evaluation Process**

Each scenario is evaluated against the *school committee guiding principles*, by identifying pros and cons. Additional details including projections, changes by grade, walkability, drivability are used for evaluation with a strong emphasis on *keeping neighborhoods* intact and *balancing projected enrollment* across all schools.





#### **Upham Map 7**

#### Residential Properties in Assigned District Under, 0.5, 1, and 2 miles from School

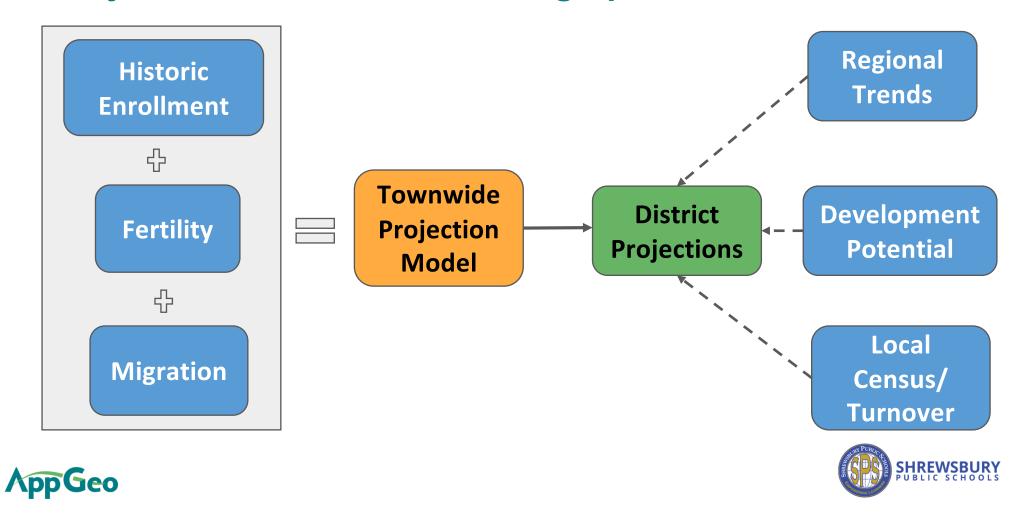
District	% Under 1/2 Mile	% Under 1 Mile	% Under 2 Miles
Bates	15%	54%	100%
Fiske	20%	30%	58%
Hunnewell	14%	70%	98%
Schofield	29%	84%	100%
Sprague	20%	69%	96%
Upham	12%	50%	93%

District	% Under 1/2 Mile	% Under 1 Mile	% Under 2 Miles
Current Scenario	22%	61%	90%
Scenario 5	17%	56%	91%
Scenario 6	17%	57%	93%
Scenario 7	18%	58%	91%





# **Projected Enrollments & Demographics**



## **Projecting Enrollments**

# Components of Change Module

#### **Data Inputs**

- Census Population
- Births by Age of Mother
- Total Calendar Year Births
- Deaths by Age

#### **Data Outputs**

- Survival Rates for Projections and Net Migration Calculation
- Fertility Patterns
- Total Fertility Rate
- Migration Patterns
- Crude Migration Rate

# Population Projections Module

#### **Data Inputs**

- Census Population
- Survival Rates
- Fertility Patterns
- Total Fertility Rate
- Migration Rates
- Crude Migration Rate

#### **Data Outputs**

- Total Population Summary
- Age/Sex Detail
- Projected Births
- Deaths
- Migrants

# Enrollment Projections Module

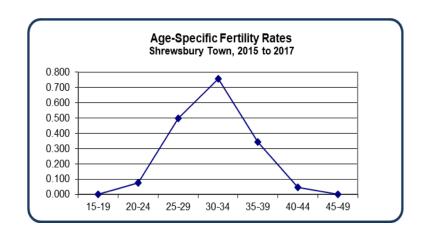
#### **Data Inputs**

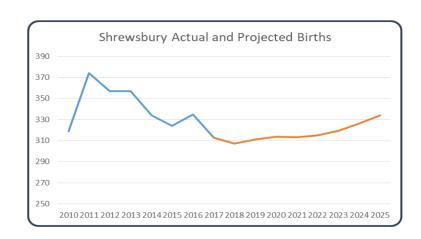
- Enrollment History by Grade and School
- Birth History for Shrewsbury
- Projected Births

#### **Data Outputs**

- Grade Progression Ratios
- Birth to Kindergarten/First Grade Ratio
- Projected Enrollment by Grade and School

## **Fertility Analysis and Births**



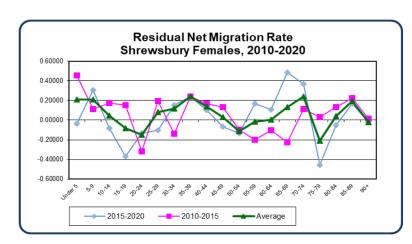


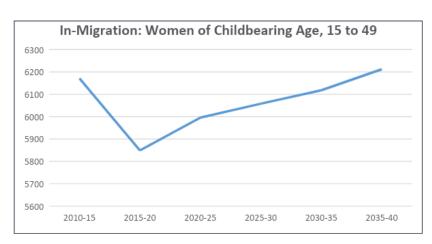
		Projected Total Fertility Rate								
	2010-15	2015-20	2020-25	2025-30	2030-35	2035-40				
Shrewsbury Town	1.72	1.69	1.70	1.72	1.72	1.72				

#### **Fertility Assumptions**

- There will be continued delay of marriage and childbearing
- Peak fertility rates are in the 25-29 and 30-34 ages and are projected to continue
- U.S. births declined by 1% in 2019 to 3.75 million, the lowest since 1985
- Birth rates fell for women in their 20's and early 30's rising for those in their early 40's

# **Migration Analysis and Female Migrants**





			Projected Crude Migration Rate									
		2010-15	2015-20	2020-25	2025-30	2030-35	2035-40					
Shrewsbury	Male	5.50	5.50	6.00	6.00	6.00	6.00					
	Female	5.00	5.00	5.50	6.00	6.00	6.00					

#### **Migration Assumptions**

- 5-Year estimates have a lot of noise.
- The average and smoothing adds to the stability of the pattern
- This age pattern of migration is held constant through the projection period (2040)
- Highest female in-migration is in the 25 to 49 year age range
- The Crude Migration Rate is used to guide the assumption of future migration

## **Shrewsbury Town Projection Results, 2010 to 2040**

Shrewsbury	2010	2015	2020	2025	2030	2035	2040
<b>Total Population</b>	35,608	37,663	39,495	41,573	43,999	46,354	48,564
Female Population	18,243	19,080	19,832	20,740	21,874	22,973	23,956
Females 15 to 49	8,409	8,334	8,354	8,520	8,800	9,211	9,817
<b>Total 5-Year Births</b>		1,740	1,662	1,809	2,071	2,237	2,275

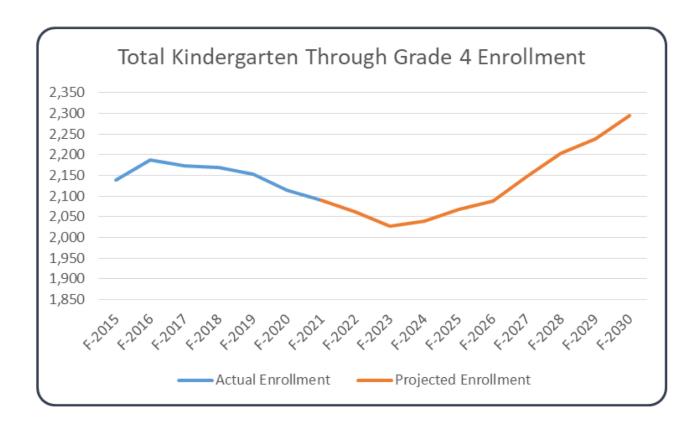
#### **Summary For Change Between 2020 and 2040**

- Shrewsbury population is projected to increase by 23.0 percent
- The female population is projected to increase by 20.8 percent
- Women of childbearing age are projected to increase by 17.5 percent
- Births are projected to increase by 36.9 percent





# **Shrewsbury Enrollment Projections**



F-2015	2,139
F-2016	2,188
F-2017	2,174
F-2018	2,170
F-2019	2,152
F-2020	2,114
F-2021	2,089
F-2022	2,062
F-2023	2,027
F-2024	2,039
F-2025	2,069
F-2026	2,089
F-2027	2,147
F-2028	2,203
F-2029	2,238
F-2030	2,295





# **Enrollment Model – Grade Progression Ratios Students Moving Through the System**

	C	urrent E	nrollmer	nt and Bi	rths			
Birth Year	2010	2011	2012	2013	2014	2015		
Births	319	374	357	357	334	324		
School Year	F-2015	F-2016	F-2017	F-2018	F-2019	F-2020		
Kindergarten	355	388	355	351	363	350		
Grade 1	425	418	424	424	426	410		
Grade 2	446	459	437	447	439	438		
Grade 3	439	460	476	454	469	436		
Grade 4	474	463	482	494	455	486		
Total K-4	2139	2188	2174	2170	2152	2120		
Grade Progression Ratio							3-Yr Avg	
Birth to K(B/K)	1.113	1.037_	0.994	0.983	1.087	1.080	1.200	1.150
K to Grade 1 (G1 / K)		1.177	1.093	1.194	1.214	1.129	1.179	1.079
Grade 1 to 2 (G2 / G1)		1.080	1.045	1.054	1.035	1.028	1.039	1.039
Grade 2 to 3 (G3 / G2)		1.031	1.037	1.039	1.049	0.993	1.027	1.02
Grade 3 to 4 (G4 / G3)		1.055	1.048	1.038	1.002	1.036	1.025	1.025

#### Note:

The Birth to Kindergarten 3-Yr Average has been increased by 0.15 to factor in new full-time kindergarten for Fall 2021 Beginning in Fall 2022, the 3-Yr Average is increased by 0.10 as a reduction from the first year increase

# Floral Grade Progression and Projection Example

Birth Year (6 years)	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Births Total		363	319	374	357	357	334	324	335	313	324	352	348	352	359	369	381
Enrollment Yr	F-2014	F-2015	F-2016	F-2017	F-2018	F-2019	F-2020	F-2021	F-2022	F-2023	F-2024	F-2025	F-2026	F-202 <b>7</b>	F-2028	F-2029	F-2030
Floral Portion 43.7%	L	159	139	163	156	156	146	142	146	137	142	154	152	154	157	161	166
Kindergarten (Bir 5yr)	_						_										
Grade 1	192	179	203	186	185	185	195	175	181	169	175	190	188	190	194	199	206
Grade 2	187	202	190	212	200	179	183	197	177	183	171	177	192	190	192	196	201
Grade 3	217	187	209	192	213	208	170	183	197	177	183	171	177	192	190	192	196
Grade 4	197	219	190	216	197	216	215	174	187	202	181	187	175	181	196	194	196
Total	793	787	792	806	795	788	763	729	742	730	709	725	731	753	772	781	799
Grade Progression								3-Yr Avg									
Birth to G1		1.128	1.456	1.138	1.186	1.186	1.336	1.236									
Grade 1 to 2	_	1.052	1.061	1.044	1.075	0.968	0.989	1.011									
Grade 2 to 3		1.000	1.035	1.011	1.005	1.040	0.950	0.998									
Grade 3 to 4		1.009	1.016	1.033	1.026	1.014	1.034	1.025									

#### Notes:

#### 3-Yr Average of school percentage of total enrollment

School totals do not reflect actual enrollment history of Floral as some Grade 1 students are assigned to Beal School each year





# Other Factors Influencing Redistricting

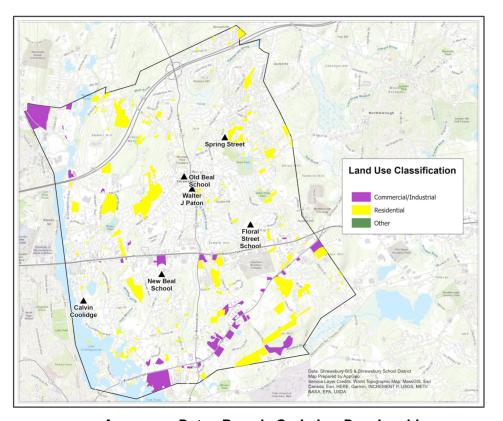
## **Development Potential**

- 1. No significant development planned
  - a. Future plans for the town focus is on senior and affordable housing
  - b. Most of the large subdivisions were built in the 90s and 2000s
  - c. Handful of subdivisions being built but only 3-5 single family homes
- 2. Sewer access
  - a. There is a cap on the amount of volume that can be sent to the Westborough plant
  - b. Rte 20 overlay allows for extension but 20 acre lots are limited
- 3. No land remaining
  - a. If it is available it is restricted by wetlands etc.





# **Development Potential**



Zoning District

Apartment

Commercial-Business

Limited Commercial-Business

Limited Gffice-Research

Limited Office-Research

Limited Industrial

Multi-Family Residental 1

Multi-Family Residental 2

Office-Research

Residence B-1

Residence B-1

Residence B-1

Residence B-2

Rural A

Rural B

New Beal

School

South

Femple

School

Shrewsbust

Femple

School

South

Femple

School

Colivin

Coolidge

Nourse

School

Colivin

Coolidge

Nourse

School

Colivin

Coolidge

Nourse

School

Colivin

Coolidge

Residence B-2

Rural A

Rural B

Nourse

School

Colivin

Coolidge

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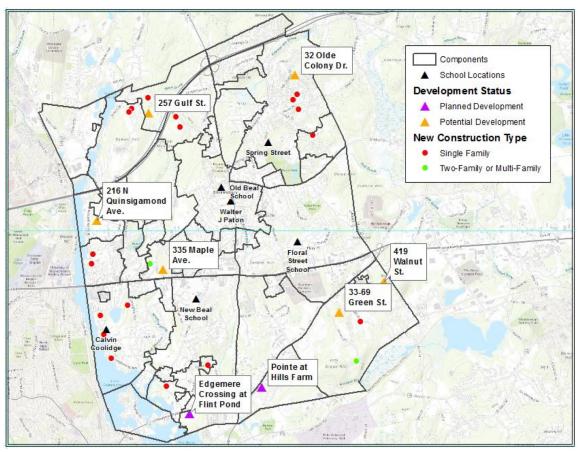
Assessors Data - Parcels Coded as Developable

Zoning for Developable Parcels





## **Development Potential**





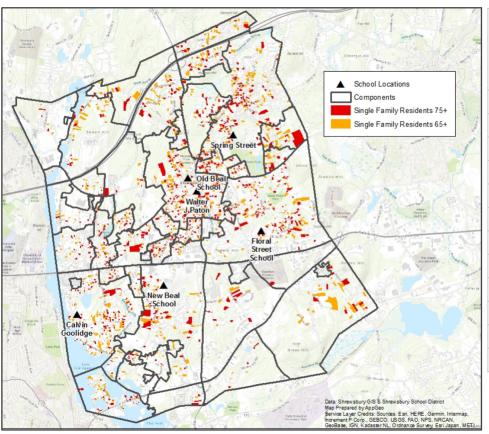
#### **Planned Developments**

- 1. Edgemere Crossing
- 2. Pointe at Hills Farm

#### **Potential Developments**

- 1. 335 Maple Ave (24 acres) mixed use
- Walnut St 2 lots with potential
- 3. 32 Olde Colony Dr issues with property wetlands
- 4. 257 Gulf St (28 acres) wetlands and difficult terrain
- 5. 216 N Quinsigamond (9 acres)
- 6. 33-69 Green St potential senior housing SHREWSBURY

### 2018 Census Data - Turnover



Component	Total Single Family Homes	Single Family Homes with 65+	Single Family Homes with 75+	% Single Family Homes with 65+	% Single Family Homes with 75+
COOL1	780	172	86	22%	11%
COOL6	45	14	8	31%	18%
COOL12	168	15	6	9%	4%
FLOR1	1220	205	111	17%	9%
FLOR2	4	1	1	25%	25%
FLOR5	234	18	12	8%	5%
PAT2	67	4	1	6%	1%
PAT4	153	48	27	31%	18%
PAT14	160	39	25	24%	16%
SPR1	1084	198	106	18%	10%
SPR4	154	26	8	17%	5%
SPR7	78	14	6	18%	8%

Examples of proportions of 65+ aged individuals in single family homes (1-2 person household) by component.

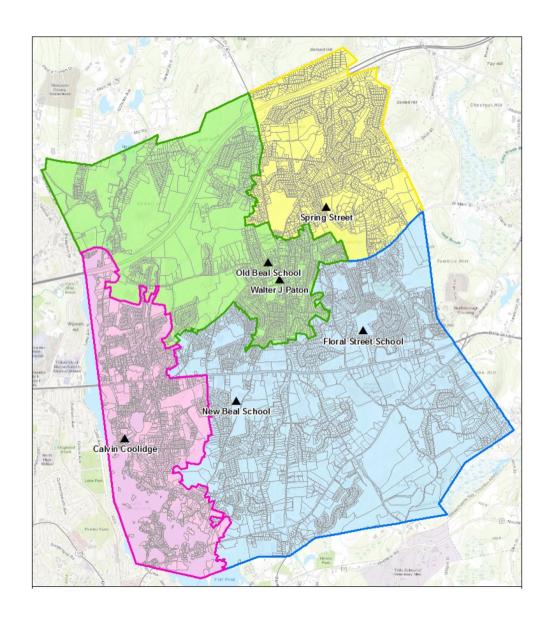




School
Districts/
Student
Distribution

# **Current Districts**

	K Thru 4	
School	Students	
"Old" Beal	312	
Coolidge	412	
Floral	722	
Paton	370	
Spring	350	



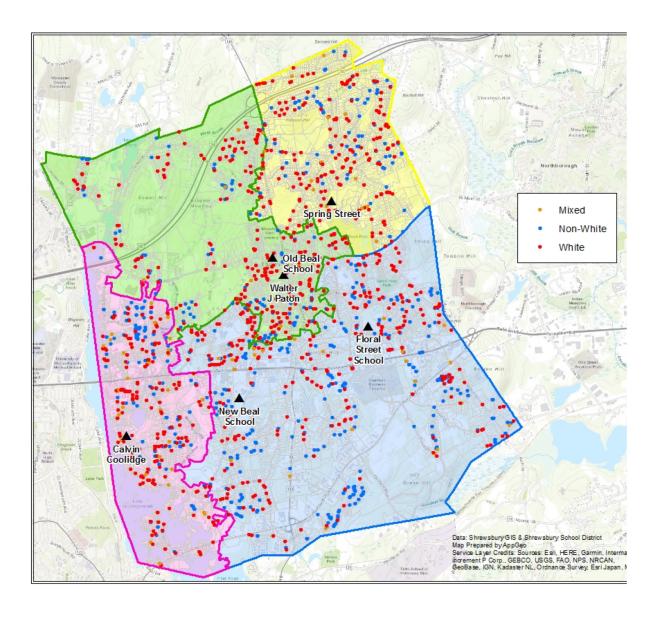
# Students K-4 Racial/Ethnic Distribution

School	% White	% Non White	% Mixed
"Old" Beal	37%	60%	4%
Coolidge	53%	39%	8%
Floral	42%	54%	4%
Paton	72%	24%	3%
Spring	65%	29%	6%

**White** - includes only students listed as White/Non-Hispanic or White/Hispanic

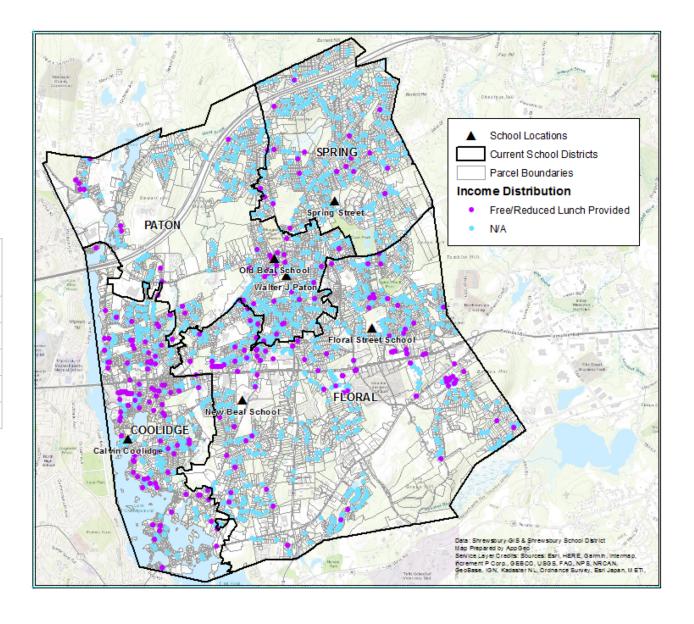
**Mixed** - includes students listed in categories that have both White and Non-White designations.

**Non-White** - includes students with no White designation.



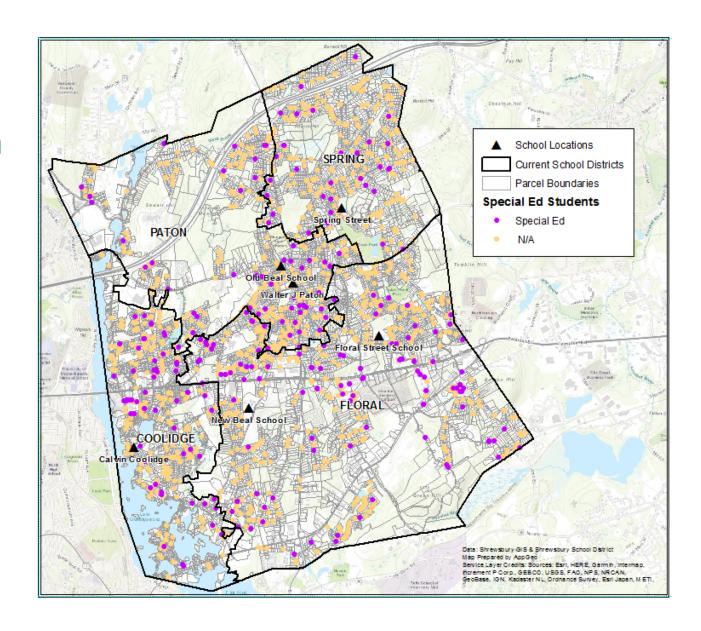
# Students K-4 Income Distribution

	% Free/Reduced	
School	Lunch	
"Old" Beal	16%	
Coolidge	32%	
Floral	15%	
Paton	11%	
Spring	7%	



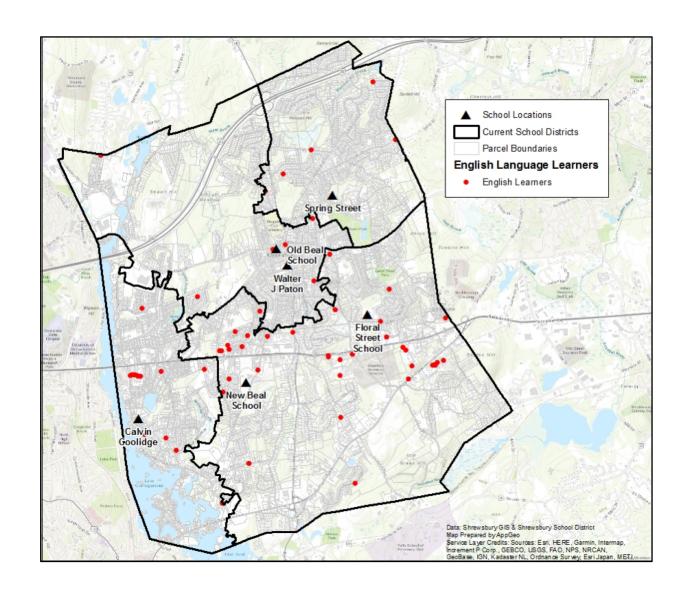
# Students K-4 Special Education Distribution

	% Special	
School	Education	
"Old" Beal	13%	
Coolidge	14%	
Floral	11%	
Paton	14%	
Spring	9%	



# Students K-4 English Learning Distribution

	% English	
School	Learners	
"Old" Beal	1%	
Coolidge	4%	
Floral	5%	
Paton	2%	
Spring	1%	



# Timeline/Next Steps

### **Timeline**

Data Gathering, Component Building, Population Analysis

Mar - Sept 2020

Incorporate Population
Projections; Demographer
Presentation; Public Forum
& School Committee
Presentations

Nov - Dec 2020

School Committee Final Vote

Feb 10, 2021



Oct - Nov 2020

Build, Review & Revise Scenarios; Demographic Projections Jan 2021

School Committee with Options; Public Feedback; Develop Final Scenario Mar - Jun 2021

Plan for Implementation; Communicate Plan to Community





## **Next Steps**

- The Redistricting Committee with assistance of AppGeo is building and evaluating several scenarios with Guiding Principles in mind.
- Next Virtual Public Forum January 12, 2020 @ 7:00 PM
  - The Redistricting Committee will present scenarios and solicit community feedback





