

Executive Summary

New Rochelle School Capacity Study

FINAL REPORT

October 13th, 2015

Executive Summary

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1/ Scope of Work Overview (WXY Approach)

PHASE I:
**BASELINE ENROLLMENT
PROJECTION &
SCHOOL CAPACITY ANALYSIS**

PHASE II:
**ANALYSIS OF NEW
DEVELOPMENT IMPACTS &
SCHOOL CAPACITY REASSESSMENT**

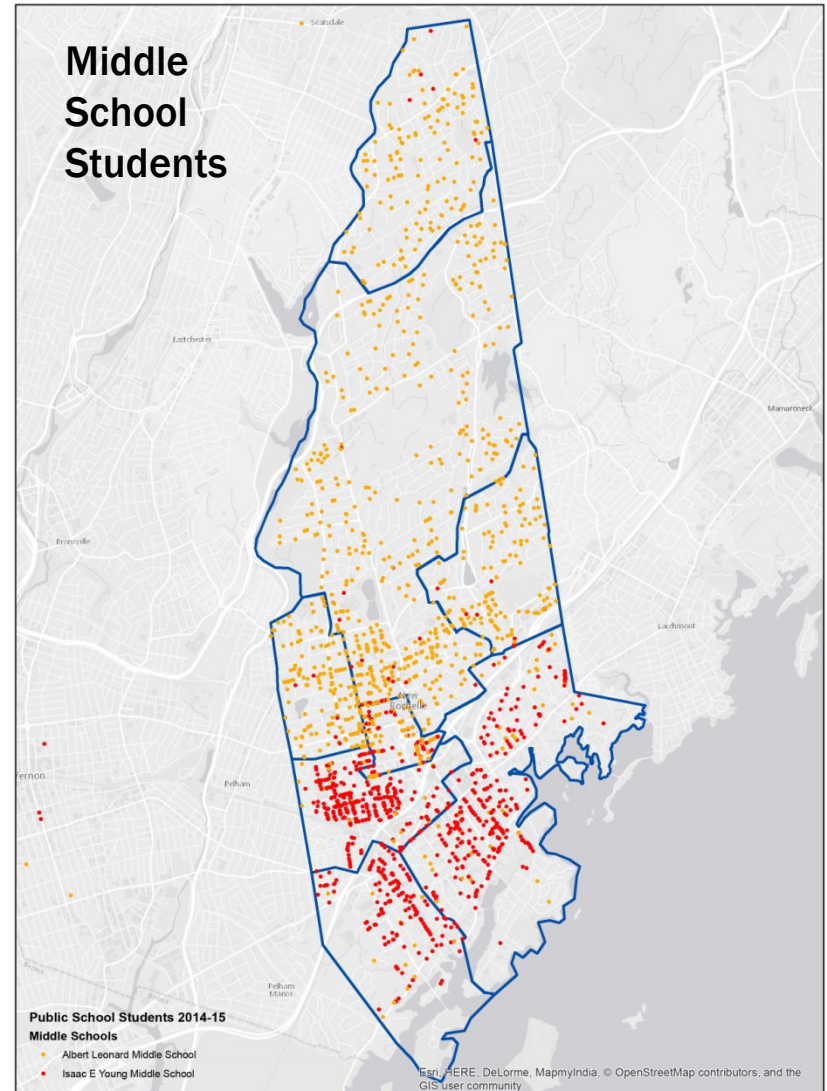
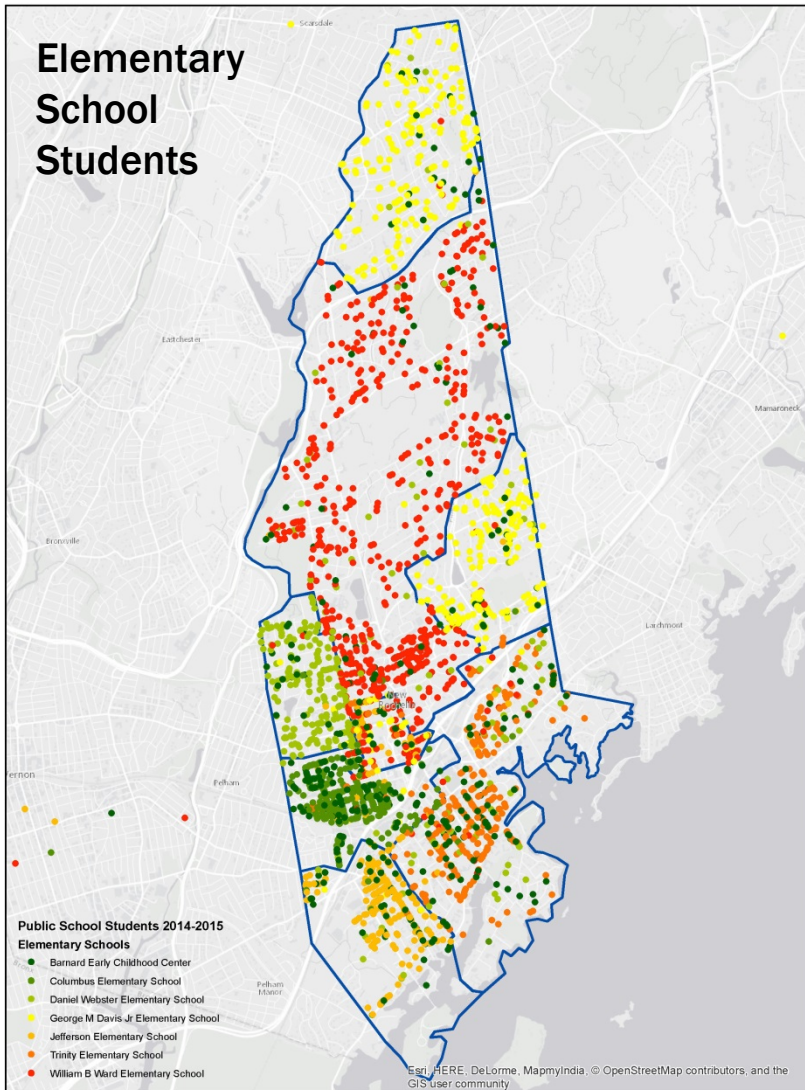
**FINAL
IMPACTS
REPORT**

FEEDBACK

- + Residential Multipliers
- + Receipt of RDRXR Scenarios
- + Analysis of Facility Impacts
- + Mitigation Measures

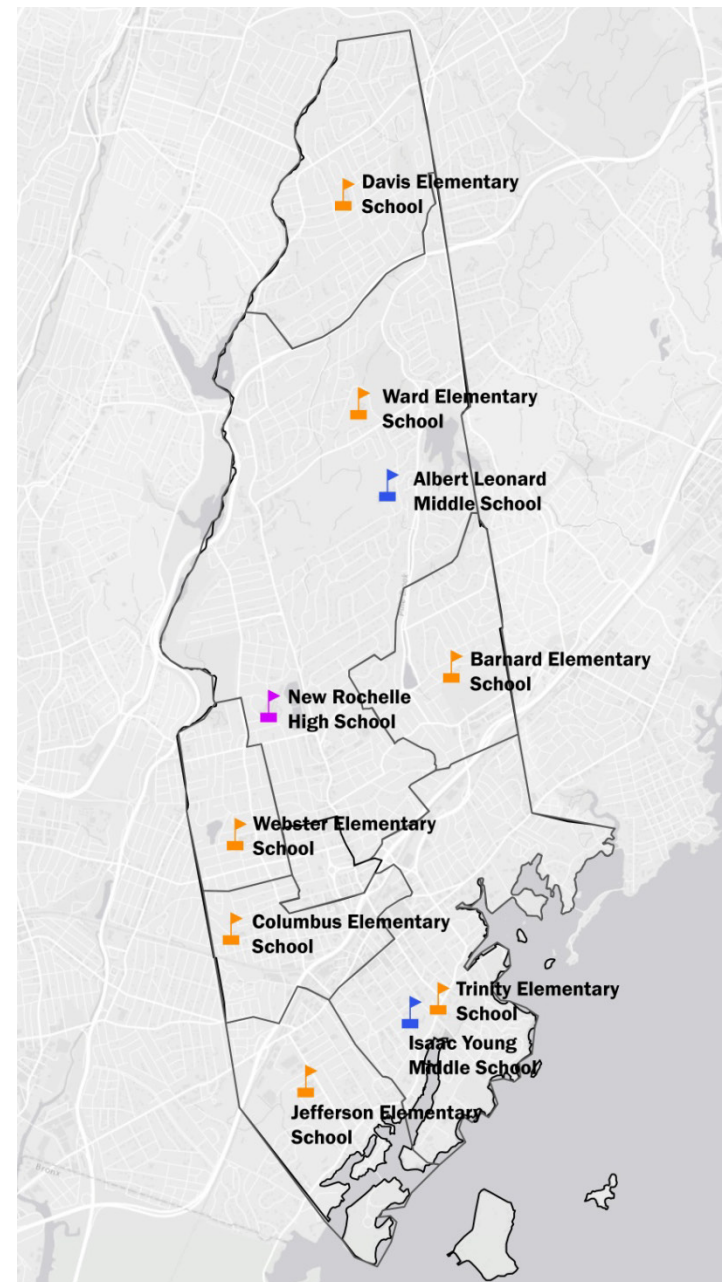
FEEDBACK

2/ Baseline Enrollment Projection: Geocoded Data



2/ Baseline Enrollment Projection: Methodology

- Geocoded public school student data
- Excel-based 10 year enrollment projection model; Carrying forward observed attrition and participation rates between 2010-2011 and 2014-2015, by school zone and grade
- Produced moderate, high and low baseline enrollment projections (“Natural Growth”)
- Final projection: “Natural Growth” + New Development Scenario (via multipliers)
- Assumes no change in *patterns* of enrollment



2/ Baseline Enrollment Projection: Conclusions

- **There has been 3% elementary school growth in recent years (2010-2014); High school and middle schools grew, but at a slower rate (2% and 0.8%) in recent years**
- **Elementary school enrollment is projected to stabilize at 1% growth for the next 5 years and no growth for the period 2019-2024**
- **High school and middle school is projected to grow 3.6% and 7.0% over the next 5 years: growth is due to students already in the system**
- **The rate of growth slows for the period 2019-2024, but both middle school and high school will continue to grow**

3/ School Capacity Analysis: Methodology

- **WXY staff conducted school facility site visits; Tabulated room sizes, seats and usage for general, ancillary, and differentiated classrooms;**
- **Received classroom planning/seat usage reports and max class size policy**
- **10-year baseline enrollment projection fed into “tipping point” capacity model by school and by grade**
- **Identified schools with grade-level capacity issues: specific grades near or at capacity, or over capacity (i.e. reaching a “tipping point”)**
- **Investigated classroom utilization for those schools, assessing recent alterations and opportunities for future classroom optimization**
- **Further analysis of exterior expansion opportunities and site constraints for schools identified**

3/ School Capacity Analysis: “Tipping Point” Model

2022-23		K	1st	2nd	3rd	4th	5th	Total
SAMPLE	Regular Education Total	123	126	134	149	126	133	791
	Total Student Projection	123	126	134	150	132	134	799
	Number of Classes	5	5	6	6	5	6	33
	Max class size	25	25	25	25	25	25	-
	Students of Differentiated Classes	0	0	0	1	6	1	8
	Differentiated Classes					1	1	2
	All Classrooms Created	5	5	6	6	6	7	35
	Seats Remaining	2	-1	16	1	-1	17	34
2023-24		K	1st	2nd	3rd	4th	5th	Total
	Regular Education Total	113	126	134	150	131	128	782
	Total Student Projection	123	126	134	150	132	134	799
	Number of Classes	5	5	5	6	6	6	33
	Max class size	25	25	25	25	25	25	-
	Students of Differentiated Classes	10	0	0	0	1	6	17
	Differentiated Classes					1	1	2
	All Classrooms Created	5	5	5	6	7	7	35
	Seats Remaining	12	-1	-9	0	19	22	43

3/ School Capacities with Baseline (Natural) Growth

Elementary Schools (25 seat max per classroom)

Davis and Trinity Elementary hit a *tipping point* in the natural growth projection, each requiring 1 additional classroom beyond currently available configurations. Ward and Webster are *at capacity*, but do not reach a tipping point. Barnard, Jefferson and Columbus Elementary schools have some additional capacity.

Middle Schools (30 seat max per classroom)

No tipping points are reached. Albert Leonard Middle School has *capacity constraints* in 2021, but future baseline enrollment can be managed in current school facilities.

High School (30 seat max per classroom)

New Rochelle High School reaches a *tipping point* in 2020, requiring 1-3 additional classrooms.

4/ Residential Multipliers: Overall Methodology

Census-Based Public Use Microdata Sample (PUMS) data was used to create multipliers that are carefully customized to the New Rochelle development context. Multipliers are customized to New Rochelle by using:

- Targeted PUMS query tailored to present day New Rochelle demographics and future downtown development product
- Latest 2009-2013 American Community Survey PUMS data (Rutgers multipliers are based on 2000 Census PUMS)
- Validated against ACTUAL public school student generation rates by apartment type, as observed in three New Rochelle developments:
 - La Rochelle/Avalon on the Sound (Rental units)
 - Halstead/Avalon on the Sound East (Rental units)
 - Trump Plaza (Condo sales)

4/ Residential Multipliers

New Rochelle Public School Student Generation Rates for Apartment (or multi-family) Buildings

Public School Students per 100 Occupied Housing Units by Unit Type
PUMS-Based; Buildings with 10+ units and incomes \$50K+ and/or rent \$1,200+;
Built since 2000

Suburban NYC (Westchester, Rockland, Nassau, Fairfield, Hudson and Bergen counties)

				<u>Public School</u>
	<u>K-5</u>	<u>Middle</u>	<u>HS</u>	<u>Student Total</u>
Studio	0.00	0.00	0.00	0.00
1BR	0.61	0.29	0.47	1.36
2BR	9.16	2.53	2.38	14.07
3BR	13.88	2.12	5.35	21.33

* Based on a customized PUMS Census query, adjusted to the New Rochelle development context

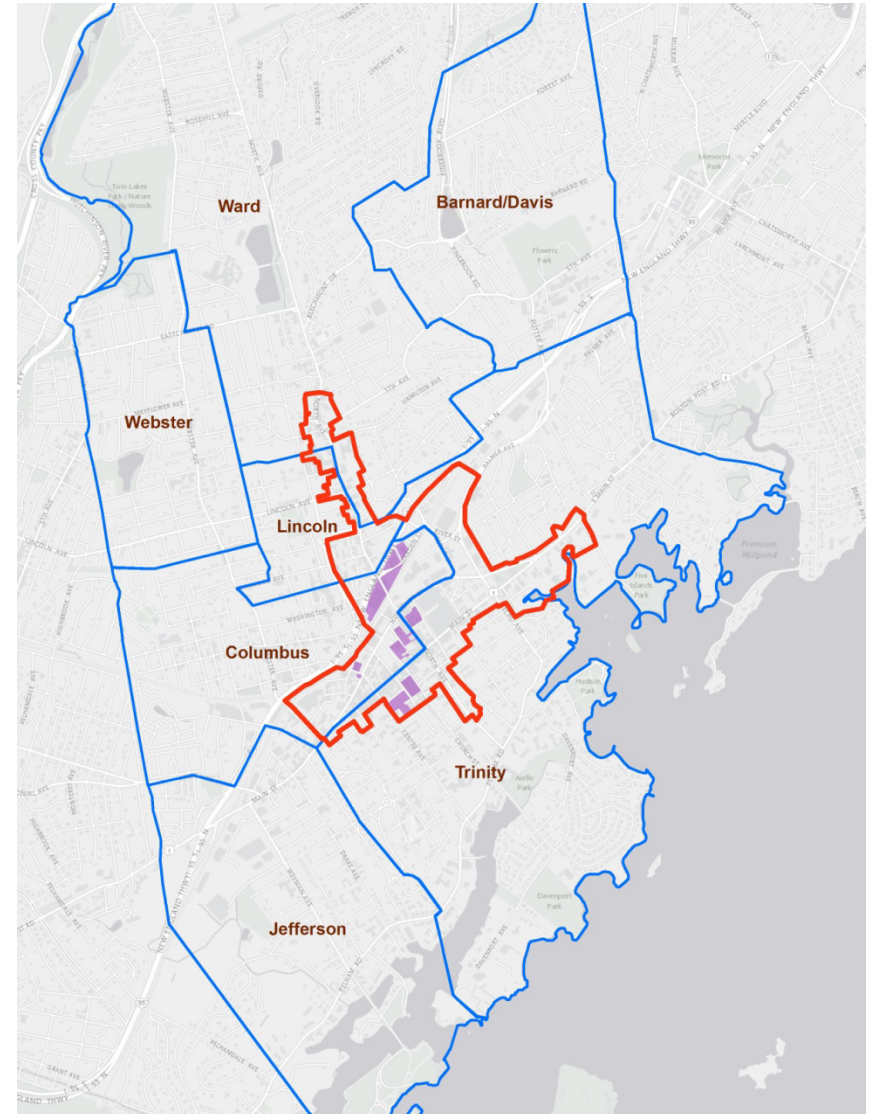
5/ RDRXR Development Scenario

RDRXR Final Scenarios								
Total Units	5,500	5,500	0		Units per district			
Type	% of units	# of units	Multiplier	# Students	Lincoln	Ward	Columbus	Trinity
Studio	20%	1,120	0	0	80	40	650	350
1BD	50%	2,730	0	38	120	20	1,590	1,000
2BD	20%	1,080	0	152	60	30	640	350
3BD	10%	570	0	121	80	20	320	150
Totals				312	340	110	3,200	1,850

- The unit breakdown is classified so that a 1 bedroom apartment + den is considered a 2 bedroom, and a 2 bedroom + den is considered a 3 bedroom.
- Unit type breakdown is assumed to be consistent across school zones
- New units are concentrated in the Columbus and Trinity zones

5/ Downtown Development Rezoning Area

- The Downtown Development Zone will intersect the Trinity, Columbus, Ward and Lincoln school zones, with development sites and units concentrated in Trinity and Columbus school zones.
- For the Lincoln school zone, school projections follow current selection patterns, which are primarily: Ward, Davis, and Jefferson (over 75%)



5/ RDRXR Development Scenario

The final development scenario from RDRXR is reproduced on the next slide, with the New Rochelle PUMS-based multipliers applied and the resulting student generation numbers summarized by school zone. The final student generation numbers include a basic application of the multipliers to the unit breakdown (in black), as well as a +20% scenario (Reasonable Worst-Case Development Scenario), to account for potential variations in student generation.

The +20% student generation scenario (in yellow) is the basis of our detailed school facility impacts analysis. The four school zones included in this analysis (Lincoln, Ward, Columbus and Trinity) represent the four zones that will be affected by the downtown development rezoning district.

5/ Projected Students from New Development

RDRXR Scenarios by School Zone		New Rochelle PUMS-Based Multipliers				Students Generated by School Zone and Level (with +20% Reasonable Worst-Case Development Scenario)									
									+ 20%			-20%			
Unit Type	Lincoln	K-5	Middle	HS	Total	Lincoln	K-5	Middle	HS	K-5	Middle	HS	K-5	Middle	HS
<i>Studio</i>	80	0.00	0.00	0.00	0.00		0	0	0	0	0	0	0	0	0
<i>1 BD</i>	120	0.01	0.00	0.00	0.01		1	0	1	1	0	1	1	0	0
<i>2 BD</i>	60	0.09	0.03	0.02	0.14		5	2	1	7	2	2	4	1	1
<i>3 BD</i>	80	0.14	0.02	0.05	0.21	27	11	2	4	13	2	5	9	1	3
SUM	340					Total	17	4	6	21	4	8	14	3	5
Unit Type	Ward	K-5	Middle	HS	Total	Ward	K-5	Middle	HS	K-5	Middle	HS	K-5	Middle	HS
<i>Studio</i>	40	0.00	0.00	0.00	0.00		0	0	0	0	0	0	0	0	0
<i>1 BD</i>	20	0.01	0.00	0.00	0.01		0	0	0	0	0	0	0	0	0
<i>2 BD</i>	30	0.09	0.03	0.02	0.14		3	1	1	3	1	1	2	1	1
<i>3 BD</i>	20	0.14	0.02	0.05	0.21	9	3	0	1	3	1	1	2	0	1
SUM	110					Total	6	1	2	7	1	2	5	1	2
Unit Type	Columbus	K-5	Middle	HS	Total	Columbus	K-5	Middle	HS	K-5	Middle	HS	K-5	Middle	HS
<i>Studio</i>	650	0.00	0.00	0.00	0.00		0	0	0	0	0	0	0	0	0
<i>1 BD</i>	1590	0.01	0.00	0.00	0.01		10	5	7	12	6	9	8	4	6
<i>2 BD</i>	640	0.09	0.03	0.02	0.14		59	16	15	70	19	18	47	13	12
<i>3 BD</i>	320	0.14	0.02	0.05	0.21	180	44	7	17	53	8	21	36	5	14
SUM	3200					Total	113	28	40	135	33	48	90	22	32
Unit Type	Trinity	K-5	Middle	HS	Total	Trinity	K-5	Middle	HS	K-5	Middle	HS	K-5	Middle	HS
<i>Studio</i>	350	0.00	0.00	0.00	0.00		0	0	0	0	0	0	0	0	0
<i>1 BD</i>	1000	0.01	0.00	0.00	0.01		6	3	5	7	3	6	5	2	4
<i>2 BD</i>	350	0.09	0.03	0.02	0.14		32	9	8	38	11	10	26	7	7
<i>3 BD</i>	150	0.14	0.02	0.05	0.21	95	21	3	8	25	4	10	17	3	6
SUM	1850					Total	59	15	21	71	18	25	47	12	17

6/ School Facility Impacts from New Development (Summary)

- Future public elementary school enrollment can be absorbed at Columbus and Ward Elementary, as well as the Lincoln zone feeder elementary schools.
- Trinity Elementary will face significant capacity issues, however, compounded by new development.
- Public middle school enrollment growth can be absorbed at both Albert Leonard and Isaac Young.
- Albert Leonard will experience capacity constraints in the next decade, but these constraints are attributed to natural growth.
- New Rochelle High School will face significant capacity issues in the next decade, compounded by new development.

NOTE: ANALYSIS ONLY INCLUDES SCHOOLS/ZONES AFFECTED BY THE REZONING

6/ School Facility Impacts from New Development

TRINITY ELEMENTARY

- Our capacity model shows that Trinity will receive 59-71 additional students with new Trinity zone development, and 3-4 students from Lincoln zone development.
- Trinity will be 49 seats (3 classrooms) over capacity total, with approximately 66% attributable to new development.
- Approximately 1 new classroom is needed with natural growth, 2 additional classrooms are needed with new development (3 total).
- Mitigation measures include: Expansion at Trinity; New school construction; Targeted redistricting to redistribute seats between Trinity and the adjacent elementary school zones.

NOTE: ANALYSIS ONLY INCLUDES SCHOOLS AFFECTED BY THE REZONING

6/ School Facility Impacts from New Development

NEW ROCHELLE HIGH SCHOOL

- New Rochelle High School will receive 69-83 new students with new development.
- New Rochelle High School will be 163 seats (4-5 classrooms) over capacity total, with approximately 50% attributable to new development.
- Mitigation measures include: Expansion at New Rochelle High School; New high school construction.

NOTE: ANALYSIS ONLY INCLUDES SCHOOLS AFFECTED BY THE REZONING

6/ School Facility Impacts from New Development

COLUMBUS ELEMENTARY

- Columbus Elementary will receive 113-135 additional students with new development, and 1-2 students from Lincoln zone development.
- Columbus Elementary does not reach a tipping point before 2025, but the classrooms will be filled to capacity after new development.

WARD ELEMENTARY

- Ward Elementary will receive 6-7 additional students with new development, and 5 students from Lincoln zone development.
- Ward does not reach a tipping point before 2025, but classrooms will be near capacity after new development and natural enrollment growth.

NOTE: ANALYSIS ONLY INCLUDES SCHOOLS AFFECTED BY THE REZONING

6/ School Facility Impacts from New Development

ALBERT LEONARD MIDDLE SCHOOL

- Albert Leonard will receive 1-2 additional students with new development.
- The baseline (natural growth) projection shows that Albert Leonard will reach its outer capacity by 2025. However, future capacity issues are not triggered by new development.

ISAAC YOUNG MIDDLE SCHOOL

- Isaac Young will receive 45-53 additional students with new development.
- Even with new development and natural enrollment growth, Isaac Young has significant remaining capacity in 2025.

NOTE: ANALYSIS ONLY INCLUDES SCHOOLS AFFECTED BY THE REZONING

7/ Potential Mitigation Measures (Summary)

1. Trinity Elementary

- **Option 1A:** Existing School Expansion
- **Option 1B:** New Elementary School Construction
- **Option 1C:** Targeted re-districting for Trinity zone

2. New Rochelle High School

- **Option 2A:** Existing School Expansion
- **Option 2B:** New High School Construction

7/ Mitigation Measures Cost Assessment

Plan-Based Method (PBM)

- Commonly used for public facilities that have adopted plans or engineering studies to guide capital improvements.
- Total cost of new facility space is divided by the total number of students the facility space can serve to calculate a *cost per unit of demand*, multiplied by the amount of demand (students generated) per apartment unit.
- Performs best within a 3-5 year planning horizon.
- May generate greater mitigation fees than Incremental Expansion Method.

Incremental Expansion Method (IEM)

- Most commonly used for school capital improvements because it provides the greatest flexibility for planning and implementation, especially when future demand is uncertain or when development horizons will exceed 5 years.
- Not dependent on “Tipping Point” analysis.
- A “per student” cost is established for each type of school, facility based on the School District’s current “Level of Service” (LOS). Typical metrics for LOS include acreage per student or square footage per student, and are based on district averages. The District’s unique LOS cost per student is multiplied by the students generated per apartment unit.

7/ Mitigation Measures Cost Assessment

- Any mitigation fee assessment will require additional information from the School District and School Board, including either a cost estimate for the construction of a new school facility or school expansion, or school construction costs per square foot for typical elementary, middle, and high schools in New Rochelle.
- WXY recommends the Incremental Expansion Method approach, so as to minimize risks to the School District if demand does not meet expectations, and in case plans for a new public facility are not confirmed within the next 3-5 years. In this case, the mitigation fees collected can be disbursed at the School District's discretion for any required capital improvements.

Thank you