



# CHELMSFORD PUBLIC SCHOOLS

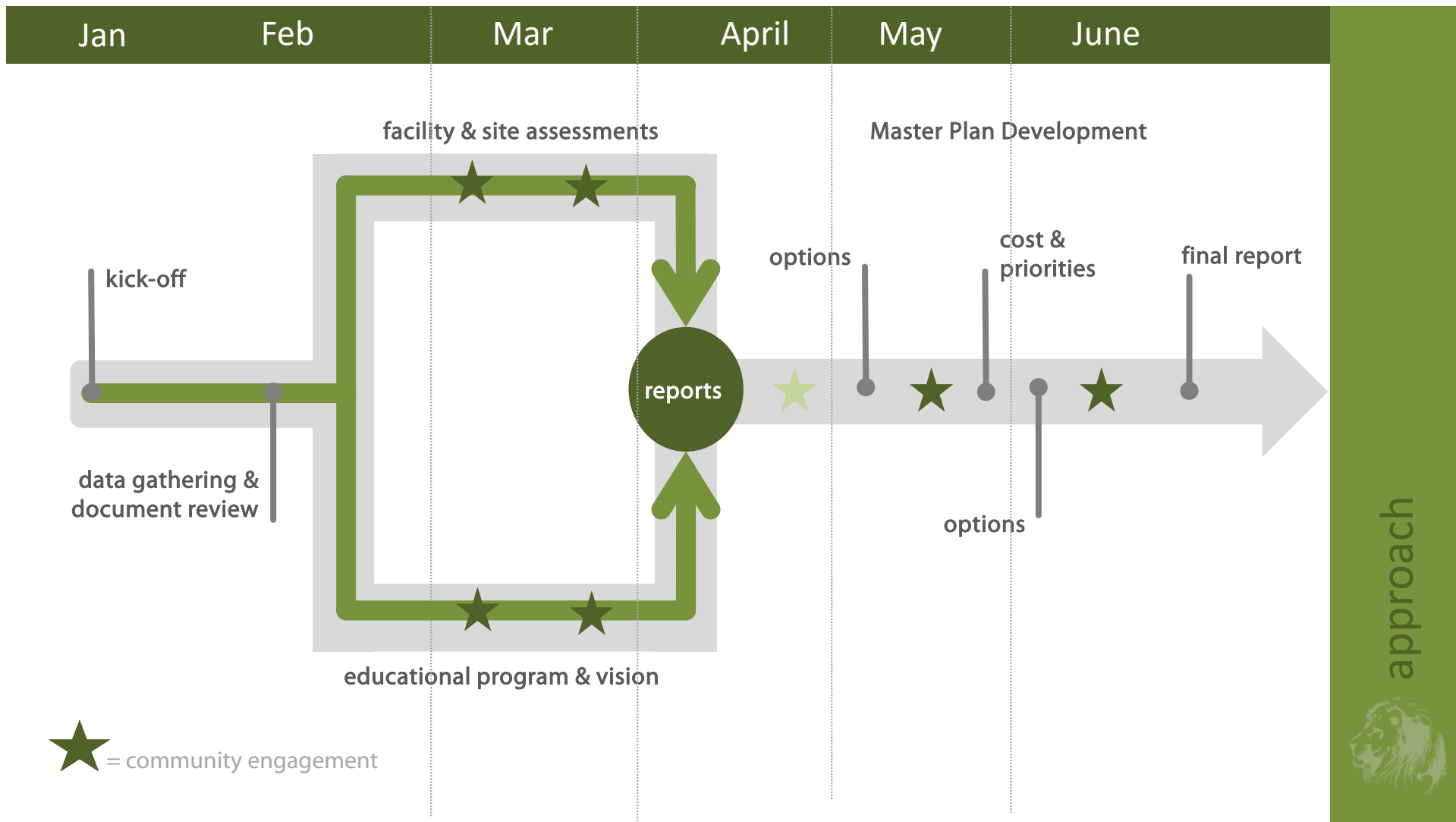
*Comprehensive Facilities Assessment*



## Visioning Session #3 – April 6<sup>th</sup>, 2016

- introductions
- overview of visioning
- facilities assessment review
- analysis overview
- summary of identified key issues
- ways to address the key issues
- grade reconfiguration exercise
- paper dolls / options diagramming exercise





- 1) visioning #1 – what does 21<sup>st</sup> Century learning look like in Chelmsford?
- 2) visioning #2 – what are the key master planning issues?
- 3) visioning #3 – how can we address the planning issues uncovered?
- 4) visioning #4 – presentation of options/ do the options respond to the needs of Chelmsford Public Schools?





visioning

#1

## Key Issues & Considerations

- Grade Configuration
- The Westlands School
- Full-day Kindergarten
- Traffic implications
- Neighborhood Schools
- Extended school year and day
- Class Size
- Parity across schools
- Parking and Site Circulation
- Accessibility
- Specialty spaces/ spaces for specialists/ address spaces that are shared by special education functions
- In-district special education program growth
- Thermal Comfort
- Building Systems: Electric/ HVAC/ Plumbing/ Kitchen
- Storage needs
- Administrative space/ district offices
- Athletic facilities
- Full-day/ ½ day pre-K
- ASD program space at the middle school and high school
- ELL program space



## 21<sup>st</sup> Century Trends Presentation

1. What questions do you have about trends in education?
2. What, if anything, from the presentation sparked excitement?
3. Describe some advantages/ disadvantages of:
  - a) Student collaboration
  - b) Experiential/ hands-on learning
4. How might these student experiences manifest themselves in Chelmsford?



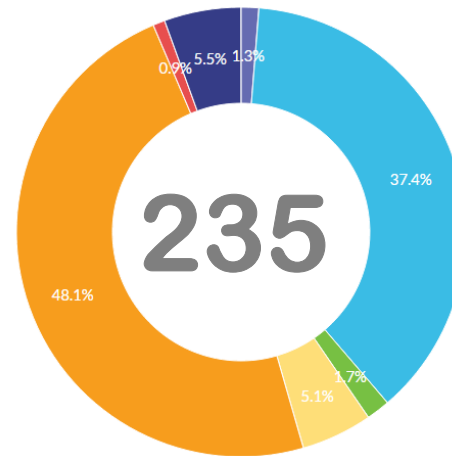
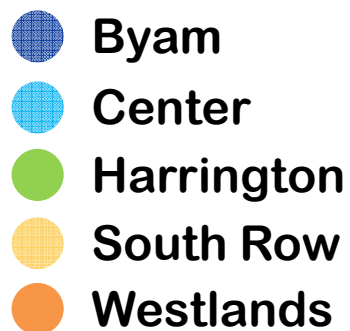
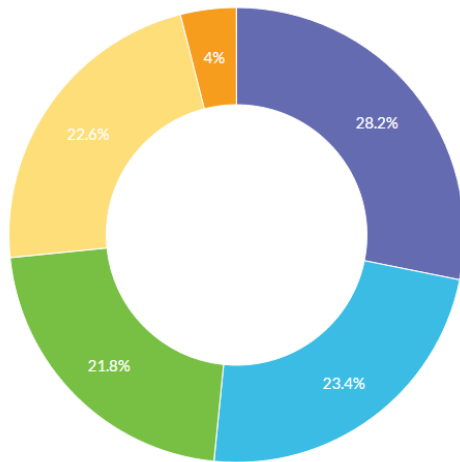
## 21<sup>st</sup> Century Trends Presentation

### Repeated Themes Include:

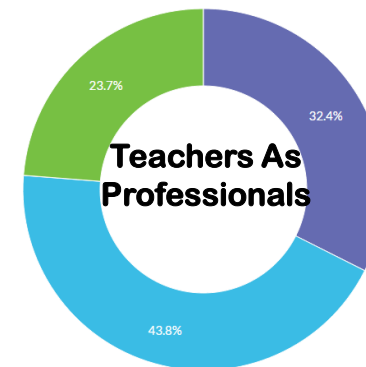
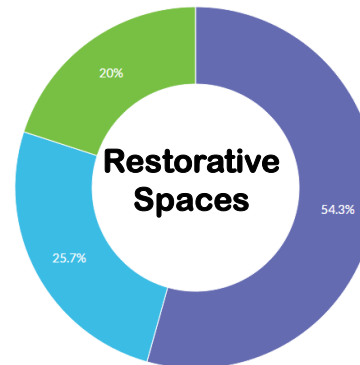
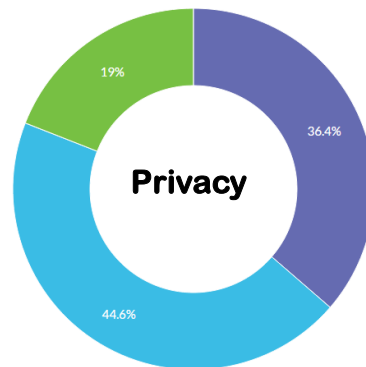
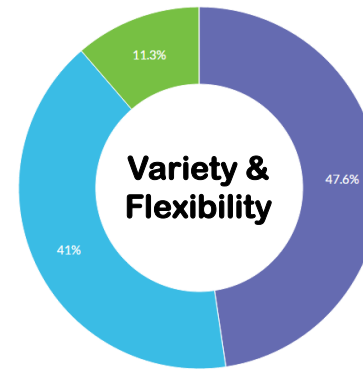
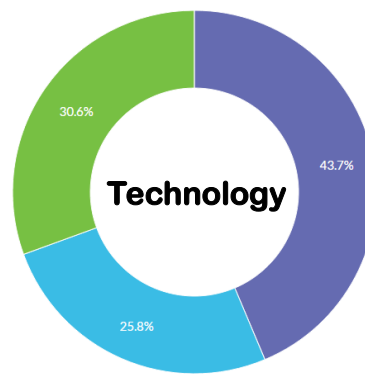
- The need for flexible space
- Desire for more variety in instructional environments...more than just classrooms
- Need for professional development
- Keeping up with technology is a challenge
- Special education
- Remember Pre-K
- What is the cost associated with change?



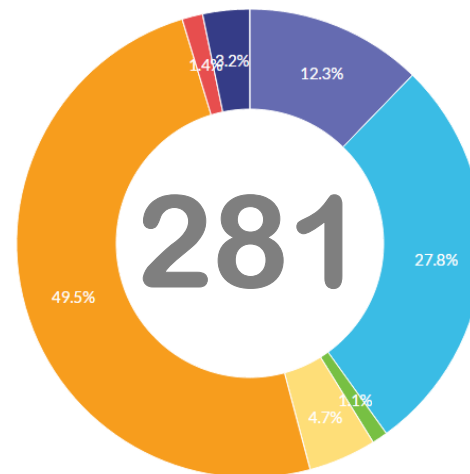
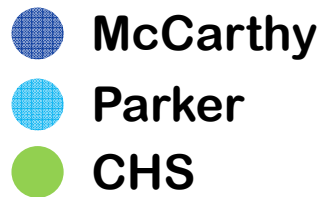
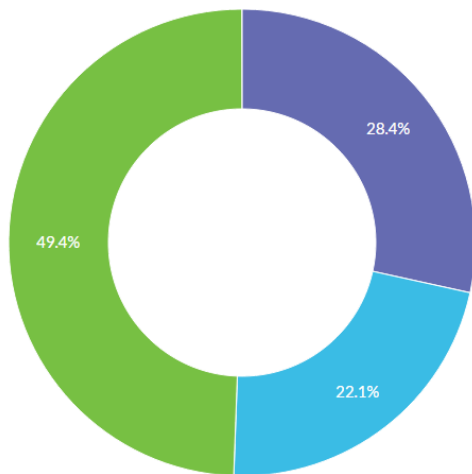
# Educational Effectiveness Evaluation Survey – Elementary Schools



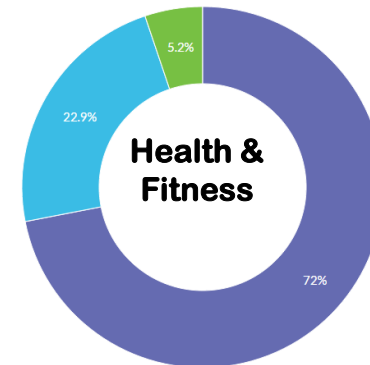
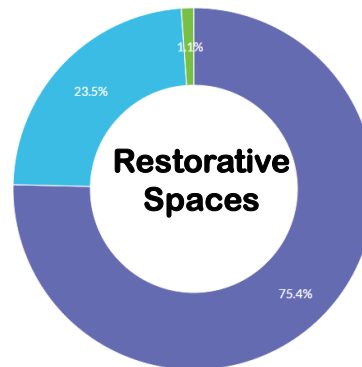
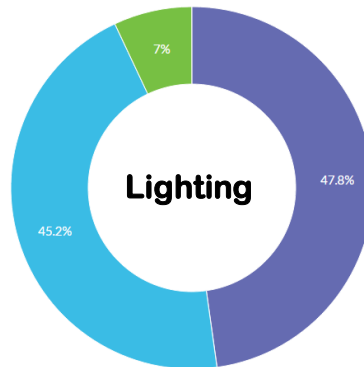
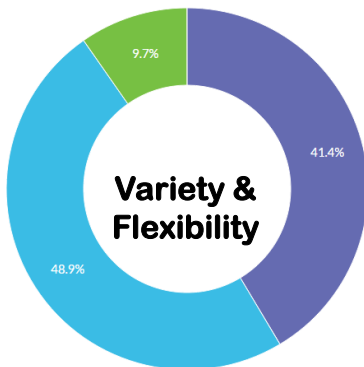
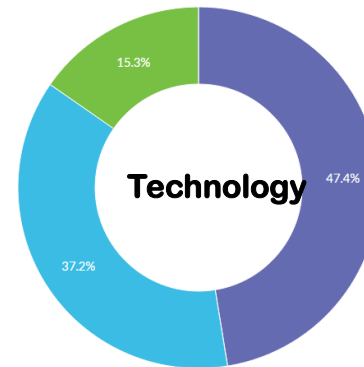
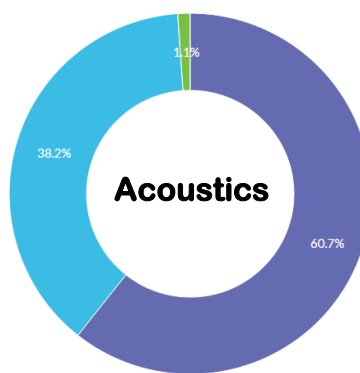
# Educational Effectiveness Evaluation Survey – Elementary Schools



# Educational Effectiveness Evaluation Survey – Middle & High Schools



# Educational Effectiveness Evaluation Survey – Middle & High Schools





visioning

#2

## Key Master Plan Issues

1. Full Day Kindergarten
2. Location of Pre-Kindergarten
3. Grade Configuration
4. School Size
5. School Count
6. Neighborhood Schools



## Key Master Plan Issues

### Repeated Themes Include:

- Full-Day Kindergarten has more advantages than disadvantages
- Neighborhood schools exist and PTOs are strong but it is OK to consider other organizational models
- Consensus around considering Early Childhood or Early Elementary model
- Generally willing to consider alternative grade configurations
- Strong desire for parity at MS's



# facilities assessments

## scope of work

- Chelmsford High School
- Parker Middle School
- McCarthy Middle School
- Byam Elementary School
- Harrington Elementary School
- Center Elementary School
- South Row Elementary School
- Westlands School
- 101 Mill Road
- School Administration

















1. Site / Civil
2. Site & Building Accessibility
3. Building Envelope & Exterior Building Elements
4. Interior Architectural Elements
5. Accessibility Throughout Building
6. Structural Building Components
7. Mechanical Equipment / Heating & Cooling
8. Electrical Supply / Distribution and Equipment
9. Plumbing Supply / Distribution and Equipment
10. Fire Protection
11. Hazardous Materials
12. Functional Use of Building





1		Site & Civil
2		Site Accessitibility / Entrance / Play Areas
3		Exterior Building Elements
4		Interior Architectural Elements
5		Aceesibiltiy / Teaching Spaces / Restrooms
6		Structural Elements

7		Mechanical
8		Electrical
9		Plumbing
10		Fire Protections
11		Hazardous Material Abatement
12		Functional Use of the Space

# LEGEND



Excellent



Good Condition



Fair / Maintenance Needed















Repair / Replace Over Time








Poor Condition / Failure /  
Does Not Exist





Site & Civil	Site Accessibility / Entrance / Play Areas	Exterior Building Elements	Interior Architectural Elements	Accessability / Teaching Spaces / Restrooms	Structural Elements	Mechanical	Electrical	Plumbing	Fire Protections	Hazardous Material Abatement	Functional Use of the Space
1	2	3	4	5	6	7	8	9	10	11	12
											

KEY

-  Excellent
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2. Separated entrance



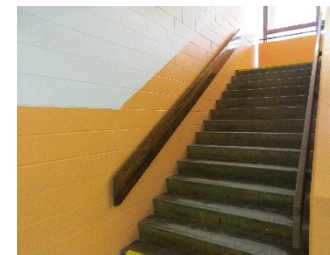
3. Cracks in walls



4. Cracks in walls



5. Non Accessible



5. Non Accessible



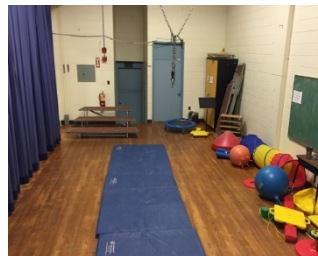
7. New Boilers



8. Ungrounded switchgear



12 Storage















12 Stage for OT



12. Classroom



1		Site & Civil
2		Site Accessitibility / Entrance / Play Areas
3		Exterior Building Elements
4		Interior Architectural Elements
5		Aceesibiltiy / Teaching Spaces / Restrooms
6		Structural Elements

7		Mechanical
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<b>LEGEND</b>		Excellent		Repair / Replace Over Time
		Good Condition		Poor Condition / Failure / Does Not Exist
		Fair / Maintenance Needed		



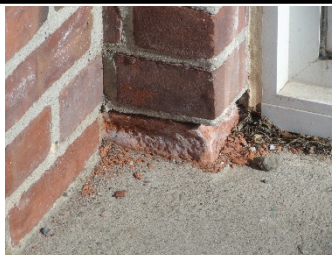
Site & Civil	Site Accessibility / Entrance / Play Areas	Exterior Building Elements	Interior Architectural Elements	Accessiblity / Teaching Spaces / Restrooms	Structural Elements	Mechanical	Electrical	Plumbing	Fire Protections	Hazardous Material Abatement	Functional Use of the Space
1	2	3	4	5	6	7	8	9	10	11	12
●	●	●	●	●	●	●	●	●	●	●	●

KEY

- Excellent
- Good Condition
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2. Ramps



3. Repairs needed



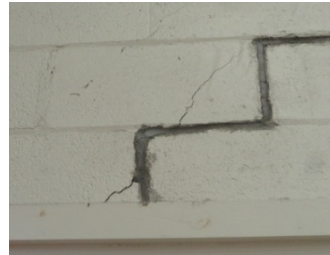
3. Repairs needed



5. Good accessibility



6. Repairs needed



6. Repairs needed



7. New Boilers









7. HW Piping is Original











12. Storage



12 Classroom size

1		Site & Civil
2		Site Accessibility / Entrance / Play Areas
3		Exterior Building Elements
4		Interior Architectural Elements
5		Accessability / Teaching Spaces / Restrooms
6		Structural Elements

7			Mechanical
8			Electrical
9			Plumbing
10			Fire Protections
11			Hazardous Material Abatement
12			Functional Use of Space

# LEGEND



Excellent



Good Condition



Fair / Maintenance Needed



Repair / Replace Over Time



Poor Condition / Failure /  
Does Not Exist





	Site & Civil	Site Accessibility / Entrance / Play Areas	Exterior Building Elements	Interior Architectural Elements	Accessability / Teaching Spaces / Restrooms	Structural Elements	Mechanical	Electrical	Plumbing	Fire Protections	Hazardous Material Abatement	Functional Use of the Space
	●	●	●	●	●	●	●	●	●	●	●	●
1	2	3	4	5	6	7	8	9	10	11	12	

KEY

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2. Parking & Access



3. Repairs needed



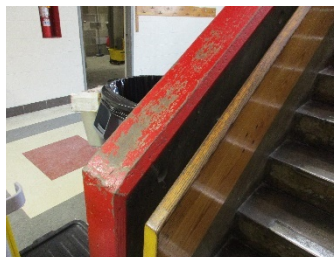
3. Repairs needed



4. Repairs needed



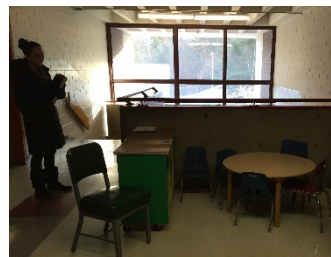
4. Repairs needed



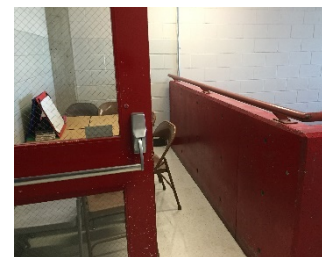
5. Not ADA



7. Original piping



12. Teaching in hall















12. Teaching in hall



12 Teaching spaces



1		Site & Civil
2		Site Accessitibility / Entrance / Play Areas
3		Exterior Building Elements
4		Interior Architectural Elements
5		Aceesibiltiy / Teaching Spaces / Restrooms
6		Structural Elements

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# LEGEND



Excellent



Good Condition



Fair / Maintenance Needed



Repair / Replace Over Time



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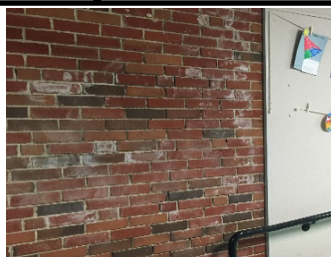
Site & Civil	Site Accessibility / Entrance / Play Areas	Exterior Building Elements	Interior Architectural Elements	Accessiblity / Teaching Spaces / Restrooms	Structural Elements	Mechanical	Electrical	Plumbing	Fire Protections	Hazardous Material Abatement	Functional Use of the Space
1	2	3	4	5	6	7	8	9	10	11	12



1. Ponding / drainage



1. Drainage



4. Repairs needed



5. ADA accessibility



7. Updated boilers



7. Condenser Pump leak



12. Teaching in hall



12. Storage in hall



5 ADA accessibility



















south row elementary school



#### KEY

- Excellent
- Good Condition
- Fair / Maintenance Needed
- Repair / Replace Over Time
- Poor Condition / Failure / Does Not Exist

1		Site & Civil
2		Site Accessibility / Entrance / Play Areas
3	 	Exterior Building Elements
4		Interior Architectural Elements
5		Aceesibiltiy / Teaching Spaces / Restrooms
6		Structural Elements

7	 	Mechanical
8	 	Electrical
9	 	Plumbing
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# LEGEND



Excellent



Good Condition



Fair / Maintenance Needed















Repair / Replace Over Time



Poor Condition / Failure /  
Does Not Exist





Site & Civil	Site Accessibility / Entrance / Play Areas	Exterior Building Elements	Interior Architectural Elements	Accessability / Teaching Spaces / Restrooms	Structural Elements	Mechanical	Electrical	Plumbing	Fire Protections	Hazardous Material Abatement	Functional Use of the Space
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#### KEY

-  Excellent
-  Good Condition
-  Fair / Maintenance Needed
-  Repair / Replace Over Time
-  Poor Condition / Failure / Does Not Exist



2. Parking & Access



3. Repairs needed



3. Repairs needed



3. Repairs needed



4. Repairs needed



5. Not ADA for age group



7. New boilers



7. Original HW pump










8. Original branch circuits












11. Abatement

westlands community center



1		Site & Civil
2		Site Accessibility / Entrance / Play Areas
3	 	Exterior Building Elements
4		Interior Architectural Elements
5		Aceesibilitiy / Teaching Spaces / Restrooms
6		Structural Elements

7	 	Mechanical
8	 	Electrical
9	 	Plumbing
10		Fire Protections
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**LEGEND**



Excellent



Good Condition



Fair / Maintenance Needed



Repair / Replace Over Time



Poor Condition / Failure /  
Does Not Exist



Site & Civil	Site Accessibility / Entrance / Play Areas	Exterior Building Elements	Interior Architectural Elements	Accessibilty / Teaching Spaces / Restrooms	Structural Elements	Mechanical	Electrical	Plumbing	Fire Protections	Hazardous Material Abatement	Functional Use of the Space
1	2	3	4	5	6	7	8	9	10	11	12
Yellow circle	Yellow circle	Yellow circle	Yellow circle	Yellow circle	Green circle	Green circle	Red circle	Yellow circle	Red circle	Green circle	Yellow circle

KEY

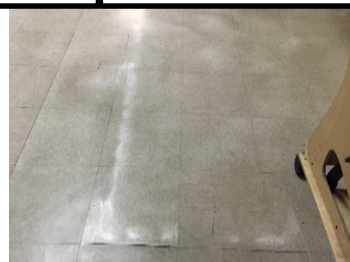
- Green circle: Excellent
- Light green circle: Good Condition
- Yellow circle: Fair / Maintenance Needed
- Orange circle: Repair / Replace Over Time
- Red circle: Poor Condition / Failure / Does Not Exist



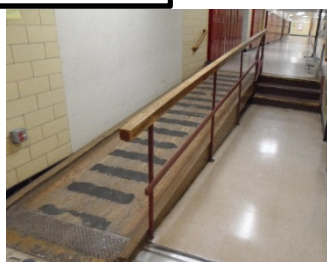
3. Repairs needed



3. Repairs needed



4. Repairs needed



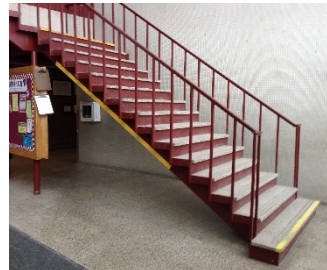
5. Repairs needed



5. Not ADA compliant



2. Not front entrance



5. Not ADA









7 . New Boilers












7. Room AC units



9. Inoperable mixing valve

1		Site & Civil
2		Site Accessibility / Entrance / Play Areas
3		Exterior Building Elements
4		Interior Architectural Elements
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6		Structural Elements

7	 	Mechanical
8	 	Electrical
9	 	Plumbing
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# LEGEND



Excellent



Good Condition



Fair / Maintenance Needed



Repair / Replace Over Time



Poor Condition / Failure /  
Does Not Exist





Site & Civil	Site Accessibility / Entrance / Play Areas	Exterior Building Elements	Interior Architectural Elements	Accessiblity / Teaching Spaces / Restrooms	Structural Elements	Mechanical	Electrical	Plumbing	Fire Protections	Hazardous Material Abatement	Functional Use of the Space
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1. Repairs needed



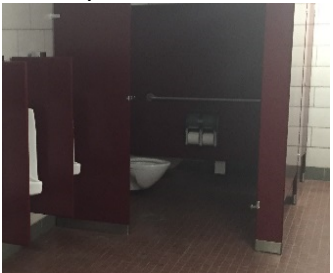
3. Repairs needed



4. Repairs needed



5. Corrections needed



5. Not ADA



8. Original panels



8 . Emergency Power










12. Storage












4. Repairs needed

parker middle school



1		Site & Civil
2		Site Accessibility / Entrance / Play Areas
3		Exterior Building Elements
4	 	Interior Architectural Elements
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**LEGEND**



Excellent



Good Condition



Fair / Maintenance Needed



Repair / Replace Over Time



Poor Condition / Failure /  
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Site & Civil	Site Accessibility / Entrance / Play Areas	Exterior Building Elements	Interior Architectural Elements	Accessability / Teaching Spaces / Restrooms	Structural Elements	Mechanical	Electrical	Plumbing	Fire Protections	Hazardous Material Abatement	Functional Use of the Space
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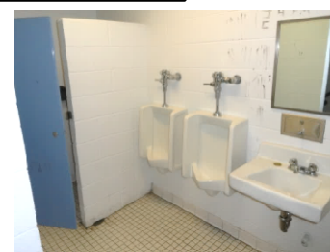
2. Accessible parking



3. Repairs needed



4. Repairs needed



5. Non compliant



7. Repairs needed



8. Updated panels



8. Original panels



8 . Emergency Shower



12. Conference Room



12. Classrooms

Chelmsford high school



# analysis overview



# speculative analysis

- core academic
- special education
- art / music / drama
- voc. & technology
- health & PE
- dining & food service
- medical
- administration
- custodial
- media center



level 1

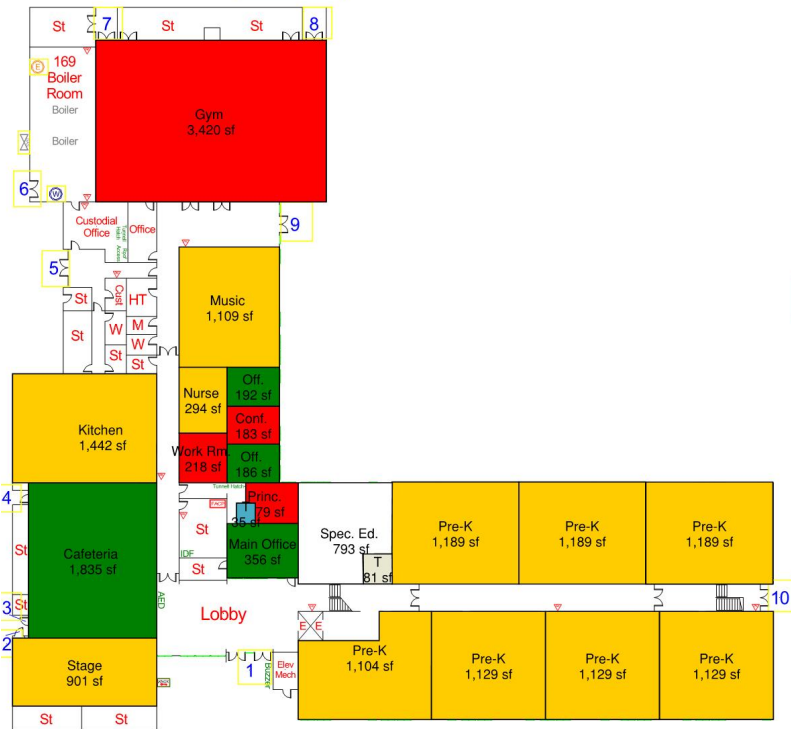


level 2

westlands analysis – pk-k center



# msba comparative analysis



level 1



level 2

undersized (<90%)
  aligned (90%-110%)
  oversized (>110%)



## pk - k capacity analysis, current enrollment

### Pre-K-K Center Space Needs\*

432 total students  
7 Pre-K sections  
17 kindergarten sections  
24 sections total

\* *Pre-K enrollment = 132*  
*132 students / 18 students per section = 7.3 sections*

*Kindergarten enrollment = 300*  
*300 / 18 students per section = 16.6 sections*

*Total Pre-K + K students = **432 students***  
*Total Pre-K +K sections= **24 sections***

### Westlands Capacity\*\*

216 student capacity  
7 Pre-K sections  
5 kindergarten sections  
12 sections total

\*\* *7 sections Pre-K x 18 students per section = 126 students*  
*5 sections K x 18 students per section = 90 students*

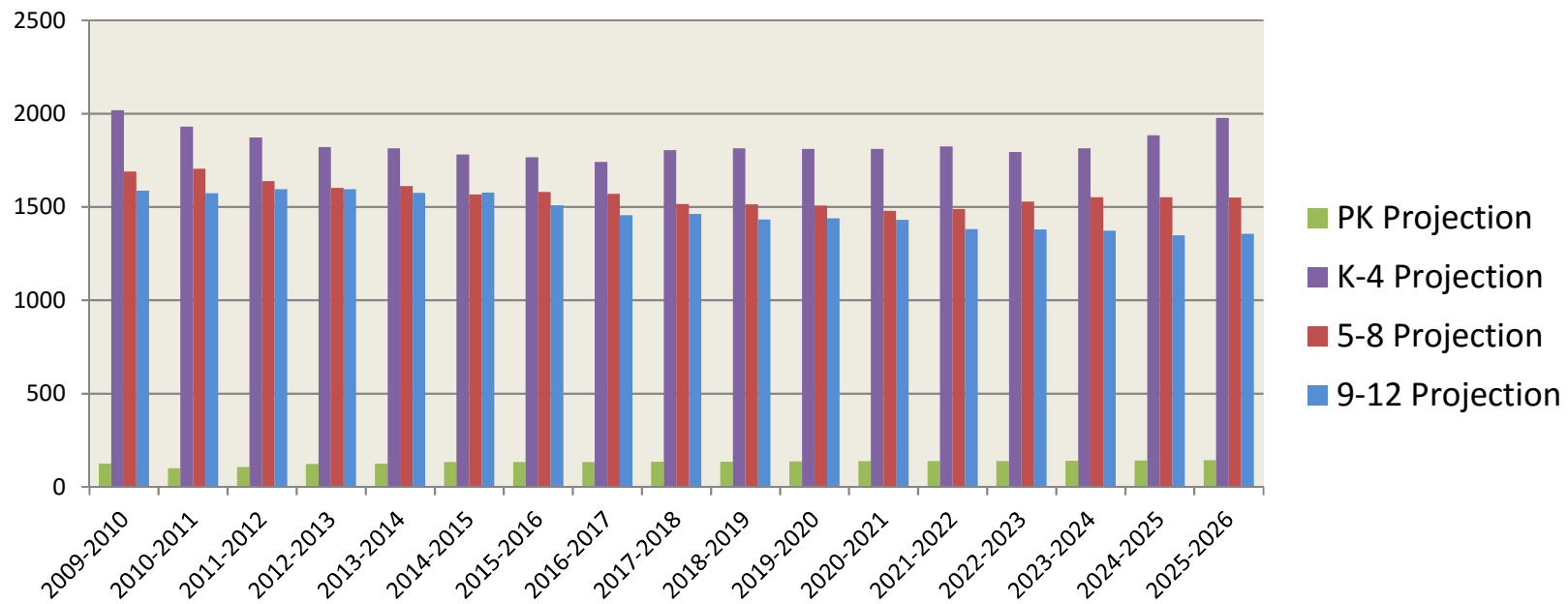
*Total Pre-K + K students = **216 students***



## enrollment analysis

### Grade Grouping Projections

Data from NESDEC, Jan 2016



PK-12 Projection



## enrollment analysis

	2015- 2016	2016- 2017	2017- 2018	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023	2023- 2024	2024- 2025	2025- 2026
PK-12 Projection	4987	4900	4913	4894	4892	4857	4831	4838	4877	4923	5023
PK Projection	132	133	134	135	136	137	138	138	140	141	142
K-4 Projection	1766	1741	1803	1814	1811	1811	1824	1793	1813	1884	1976
5-8 Projection	1580	1570	1515	1513	1507	1479	1489	1528	1552	1551	1549
9-12 Projection	1509	1456	1461	1432	1438	1430	1380	1379	1372	1347	1356

PK-12 Projection



## enrollment analysis – target enrollment

	2015- 2016	2016- 2017	2017- 2018	2018- 2019	2019- 2020	2020- 2021	2021- 2022	2022- 2023	2023- 2024	2024- 2025	2025- 2026
PK-12 Projection	4987	4900	4913	4894	4892	4857	4831	4838	4877	4923	5023
PK Projection	132	133	134	135	136	137	138	138	140	141	142
K-4 Projection	1766	1741	1803	1814	1811	1811	1824	1793	1813	1884	1976
5-8 Projection	1580	1570	1515	1513	1507	1479	1489	1528	1552	1551	1549
9-12 Projection	1509	1456	1461	1432	1438	1430	1380	1379	1372	1347	1356

PK-12 Projection



## target enrollment

PK enrollment = 142 students / 18 students per section = **8 sections**  
K enrollment = 377 students / 18 students per section = **21 sections**  
1 enrollment = 417 students / 23 students per section = **18 sections**  
2 enrollment = 406 students / 23 students per section = **18 sections**  
3 enrollment = 396 students / 23 students per section = **17 sections**  
4 enrollment = 380 students / 23 students per section = **17 sections**

**8 total PK sections**

**99 total K-4 sections**





## target enrollment

5 enrollment = 371 stdts / 23 stdts per /.71 utilization = **23** teach stations

6 enrollment = 386 stdts / 23 stdts per /.71 utilization = **24** teach stations

7 enrollment = 412 stdts / 23 stdts per /.71 utilization = **25** teach stations

8 enrollment = 411 stdts / 23 stdts per /.71 utilization = **25** teach stations

**97 total 5-8 teaching stations**

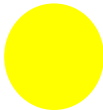






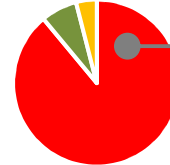


## target enrollment

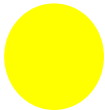
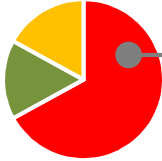
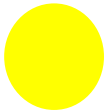





9 enrollment = 337 stdts / 23 stdts per /.71 utilization = **21** teach stations  
10 enrollment = 381 stdts / 23 stdts per /.71 utilization = **23** teach stations  
11 enrollment = 371 stdts / 23 stdts per /.71 utilization = **23** teach stations  
12 enrollment = 420 stdts / 23 stdts per /.71 utilization = **26** teach stations

**93 total 9-12 sections**



	Existing Enrollment	Target Enrollment	Capacity by GSF	Capacity by Classroom Count	Facility Condition	MSBA Instructional Space Comparative Analysis – Room by Room
Byam ES	473	520	346	463		 34% are under by 10% or more
Center ES	430	488	310	440		 35% are under by 10% or more
Harrington ES	465	530	346	486		 37% are under by 10% or more
South Row ES	392	438	310	394		 89% are under by 10% or more



	Existing Enrollment	Target Enrollment	Capacity by GSF	Capacity by Classroom Count	Facility Condition	MSBA Instructional Space Comparative Analysis – Room by Room
McCarthy MS	864	864	928	800		 67% are under by 10% or more
Parker MS	717	717	650	572		 53% are under by 10% or more
Chelmsford High School	1509	1509	1785	1470		 84% are under by 10% or more
Westlands School	132* *Pre-K only	142* *Pre-K only	206** **Assumes K-4	330** **Assumes K-4		 95% are under by 10% or more



visioning

#3

key issues –  
findings to date

- Instruction happening in temporary construction
- Missing and/or inappropriate space use
- South row most overcrowded ES
- Parker MS overcrowded
- McCarthy undercrowded
- High School undercrowded
- Westlands School to K-4 would increase ES capacity but would displace Pre-K and all Community Ed programs
- Enrollment expected to swing back up over next decade
- Interest in more variety and flexibility of instructional space
- Grade re-configuration may:
  - Allow Pre-K to exist as part of an elementary school
  - Relieve some overcrowding
- Most instructional spaces within District are more than 10% undersized relative to MSBA guidelines





## **Summary of key identified issues:**

- **Accommodate Full-day kindergarten**
- **Consider alternate PK location**
- **Overcrowding conditions exist at elementary schools, middle schools, and high school**
- **Special education space and inappropriate space use exist at all schools**
- **Temporary construction exists at South Row ES, Parker MS, and McCarthy MS**
- **Physical building conditions are satisfactory but will need investment**



master plan  
toolbox

## **Ways to address key identified issues:**

- **New building construction**
- **Addition(s)**
- **Renovation(s)**
- **Grade reconfiguration**
- **Redistricting**
- **Schedule change**
- **Modular construction**



dinner  
break

# grade reconfiguration exercise

Place your dot between the grades  
where you feel a natural  
developmental break occurs.

café style  
discussion

What are the advantages and disadvantages of the “short list” of potential grade configurations?



straw.pole  
of options

paper dolls/  
options diagramming

reporting  
out

next  
steps

- 1) Town Meeting April 25<sup>th</sup>
- 2) Visioning #4 May 4<sup>th</sup>, 4-8PM
- 3) Public Meeting #3 June 14<sup>th</sup>, 7PM

thank  
you