

2025 Report Card for America's Infrastructure

Schools

May 20, 2026



Agenda

- Overview of ASCE Report Card
- Panel Perspectives
- Q&A



Presentation FYI

- Webinar is being recorded
- Recording and slides will be made available
- Attendee input via typed questions
- Send any technical issues/questions through the chat function



Speakers



Mary Filardo
Executive Director,
21st Century
Schools Fund



Pamela Loeffelman
K-12 Education
Leader, Senior
Principal,
DLR Group



Bill Bradley
Principal, Practice
Leader Education,
Stantec



Ally Talcott
Executive Director,
Build America's
School
Infrastructure
Coalition (BASIC)














Greg DiLoreto
ASCE Committee
on America's
Infrastructure





ASCE
2025 REPORT CARD
FOR AMERICA'S INFRASTRUCTURE

2025 Report Card for America's Infrastructure

 AVIATION	D+	 PARKS AND RECREATION	↑ C-
 BRIDGES	C	 PORTS	↑ B
 BROADBAND	NEW C+	 RAIL	↓ B-
 DAMS	↑ D+	 ROADS	↑ D+
 DRINKING WATER	C-	 SCHOOLS	D+
 ENERGY	↓ D+	 SOLID WASTE	C+
 HAZARDOUS WASTE	↑ C	 STORMWATER	D
 INLAND WATERWAYS	↑ C-	 TRANSIT	↑ D
 LEVEES	↑ D+	 WASTEWATER	D+

America's Cumulative Infrastructure Grade



C

A	EXCEPTIONAL
B	GOOD
C	MEDIOCRE
D	POOR
F	FAILING

What the Grades Mean



MEDIOCRE
Requires attention



EXCEPTIONAL
Fit for the future



POOR
At risk



GOOD
Adequate for now



FAILING/CRITICAL
Unfit for purpose

Methodology

CAPACITY

OPERATION AND MAINTENANCE

CONDITION

PUBLIC SAFETY

FUNDING

RESILIENCE

FUTURE NEED

INNOVATION

Investment Gap

Infrastructure System	TOTAL NEEDS	FUNDED	FUNDING GAP
AVIATION	\$310	\$197	\$113
BRIDGES	\$538	\$165	\$373
BROADBAND	\$61	\$61	\$0
DAMS	\$185	\$20	\$166
DRINKING WATER	\$670	\$361	\$309
ENERGY	\$1,886	\$1,308	\$578
HAZARDOUS & SOLID WASTE	\$162	\$146	\$16
INLAND WATERWAYS & PORTS	\$45	\$32	\$13
LEVEES	\$97	\$7	\$91
PUBLIC PARKS	\$106	\$62	\$44
RAIL	\$145	\$113	\$32
ROADS	\$2,233	\$1,549	\$684
SCHOOLS	\$1,100	\$671	\$429
TRANSIT	\$618	\$466	\$152
WASTEWATER + STORMWATER	\$983	\$293	\$690
TOTALS	\$9,139	\$5,450	\$3,689

\$3.7
Trillion
needed



CURRENT
FUNDING

FUNDING
GAP



**Sustaining
Investment**



**Prioritizing
Resiliency**

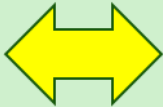
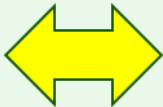



**Advancing
Policy &
Innovation**

Grading Schools

2021 Grade = D+




2025 Grade = D+

Criteria	Change	Why?
Capacity		Localized mismatches in areas w. high growth/limited capacity v. areas w. declining/stagnant growth/high capacity; enrollment estimates recent and expected show minimal growth
Condition		Data is scarce (GAO report used for report last updated in 2020); average age of facilities is 49 years old; lead in school pipes largely unknown – ten states w. testing; 16 others tested some districts – few data available
Funding and Operations & Maintenance		76% of capital expenses went to new construction vs 7% land & existing structures; small level COVID aid went to school capex; asset management is minimal

Grading Schools

2021 Grade = D+

2025 Grade = D+

Criteria	Change	Why?
Future Need		Per 21 data, US short \$85B annually to maintain schools in state of good repair, up from \$60B in 2016; estimated 13,700 air conditioning units needed totaling \$40B
Public Safety		55% of students use private vehicles for pick-up/drop-off prompting increased risk/needs; IJJA added funds to national SRTS TA set-aside from \$850m/yr to \$1.4-1.5B/yr
Resilience and Innovation		Schools increasingly impacted by "heat day" closures; In 2023, 74% of school districts met FCC benchmark on broadband speed per student, up from 55% 2 years prior.

Recommendations to Raise the Grade

Funding & Financing

- Explore alternative financing (ex. lease models, flexible ownership) to support school construction
- Increase funding and streamline regulations for Safe Routes to School projects
- Expand technical assistance for safer campus access (walking, biking, driving)
- Update GAO school facility conditions assessment to reflect current needs

Recommendations to Raise the Grade

Planning & Data

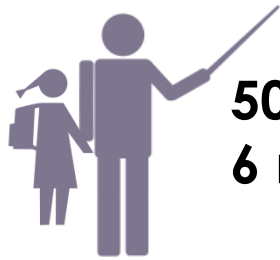
- Strengthen district-level capital planning for climate resilience and modern codes
- Use life-cycle cost analysis to optimize total project costs (capex + O&M)
- Establish predictable, equitable funding for school infrastructure
- Improve federal–state coordination on facility assessments and maintenance
- Expand national data on school conditions, investment needs, and risks



Massive

PK-12 Public Education Infrastructure

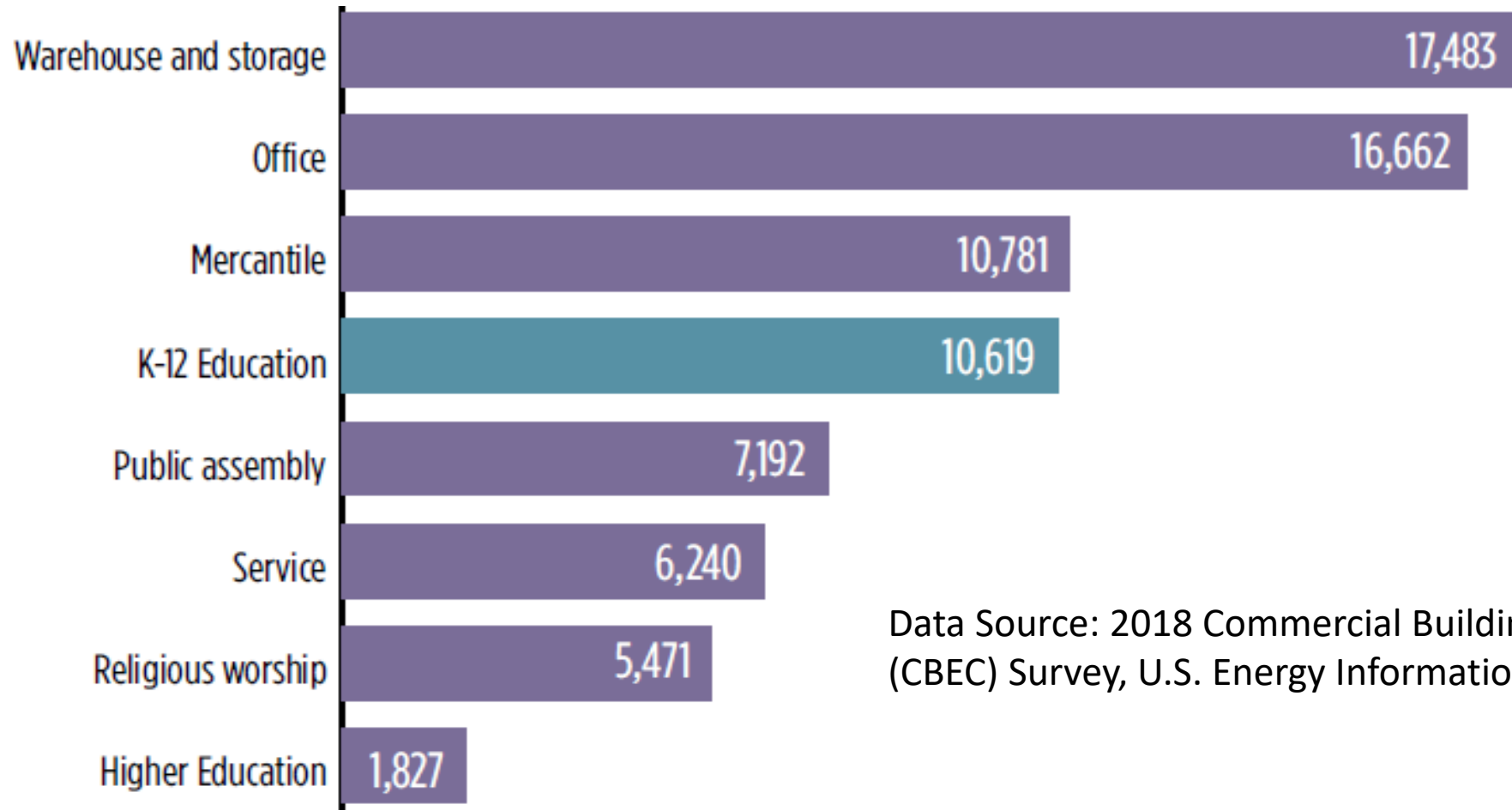
8.3 Billion square feet of Public PK-12 District Buildings



50 million students
6 million adults



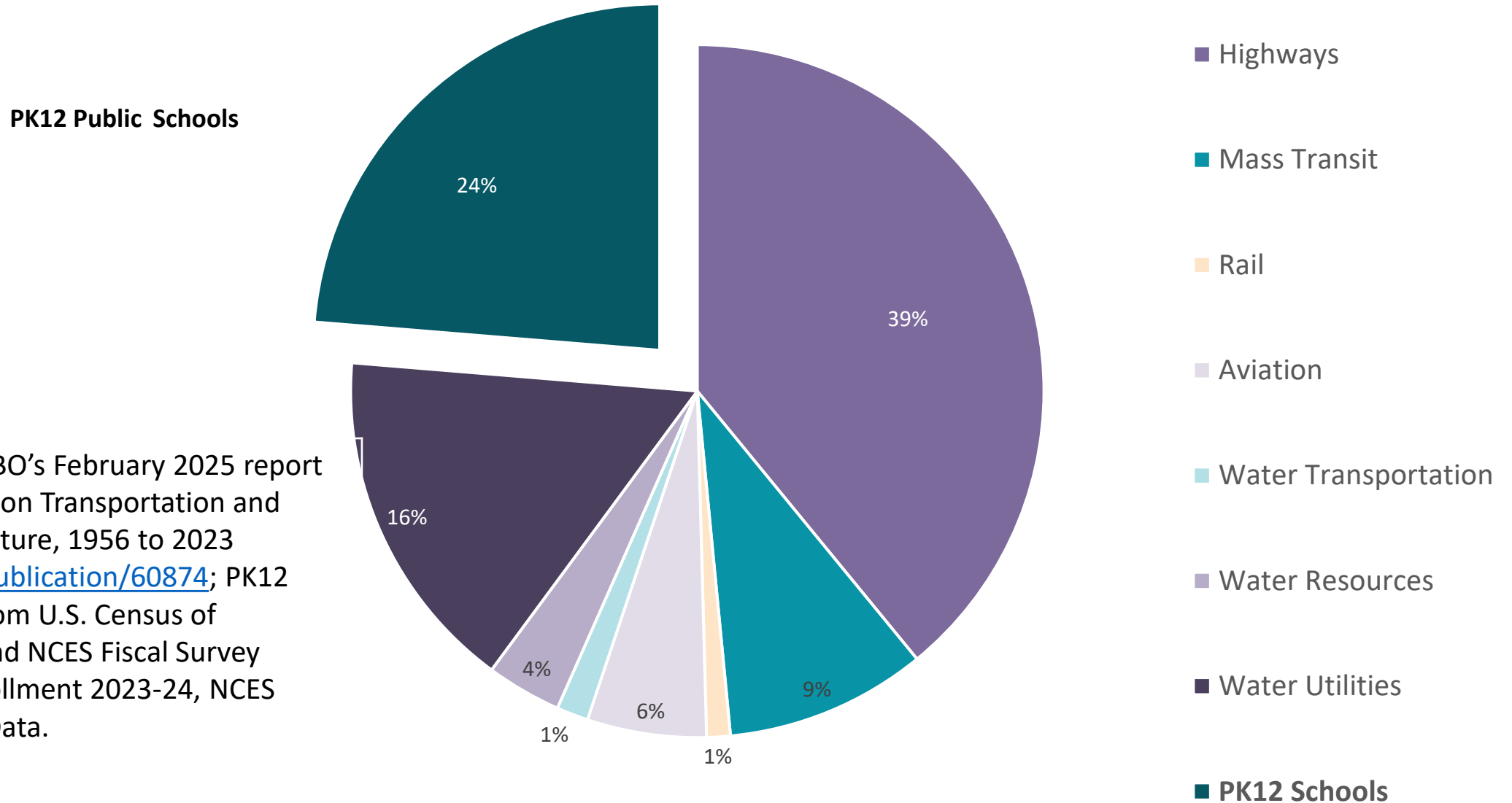
100,000 public schools



Data Source: 2018 Commercial Building Energy Consumption (CBECE) Survey, U.S. Energy Information Agency;

PK12 Public Schools are 24% of All U.S. Infrastructure Capital Outlay

U.S. Infrastructure Capital Outlay Spending FY14 to FY2023

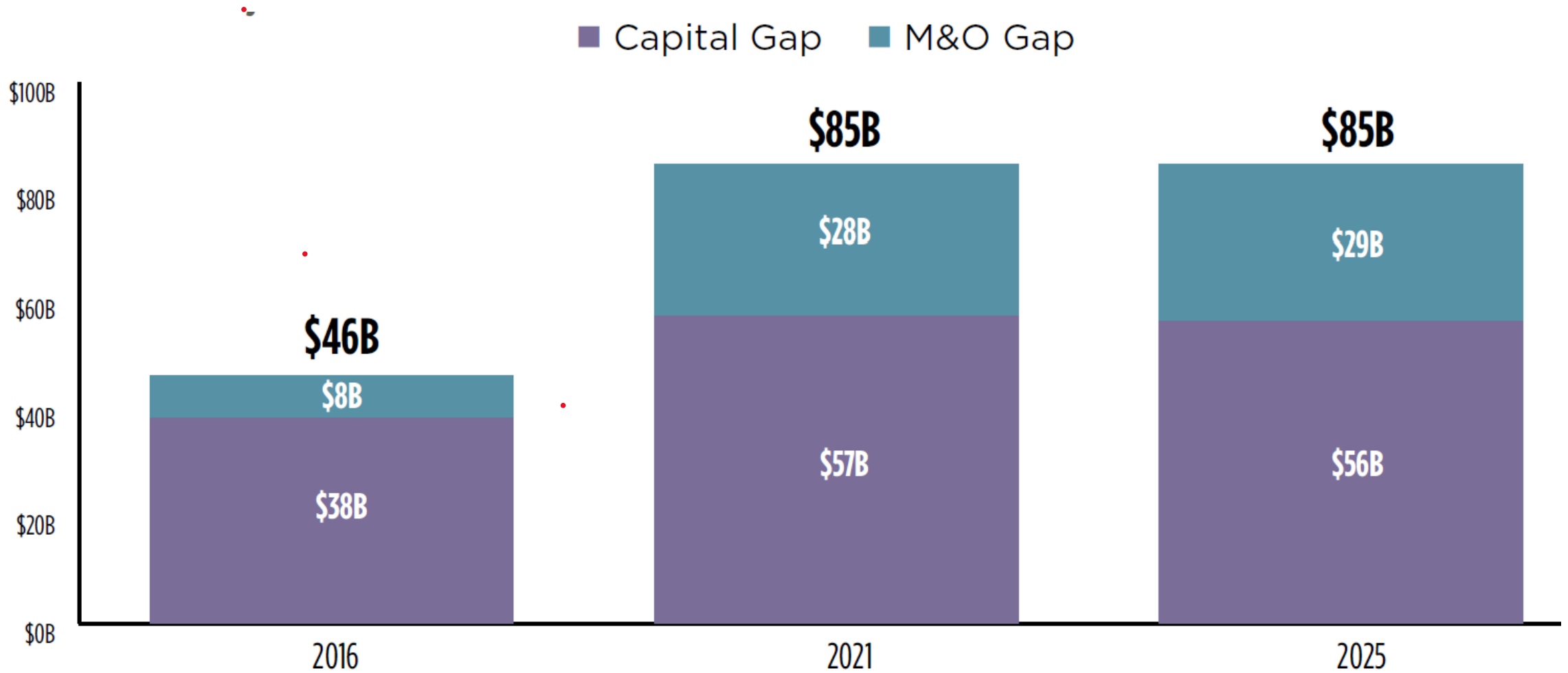


Data Sources: CBO's February 2025 report [Public Spending on Transportation and Water Infrastructure, 1956 to 2023](https://www.cbo.gov/publication/60874); PK12 capital outlay from U.S. Census of Governments and NCES Fiscal Survey FY2014-23; enrollment 2023-24, NCES Common Core Data.

Public School Infrastructure Spending	M&O Expenditures		Facilities Capital Outlay		M&O and Facilities Capital Outlay	
	FY2019-2023 (2024\$)	FY2024	FY2014-2023 (2024\$)	FY2024	FY2014-2023 (2024\$)	FY2024
Annual Average	\$74.4 B	\$77.3 B	\$82.3 B	\$103 B	\$156.7 B	\$180.3 B
Per Student	\$1,527	\$1,667	\$1,617	\$2,221	\$3,144	\$3,888
Per Gross Sq Ft	\$8.82	\$9.31	\$9.25	\$12.41	\$18.07	\$21.72



Annual PK-12 Facility Spending Gaps



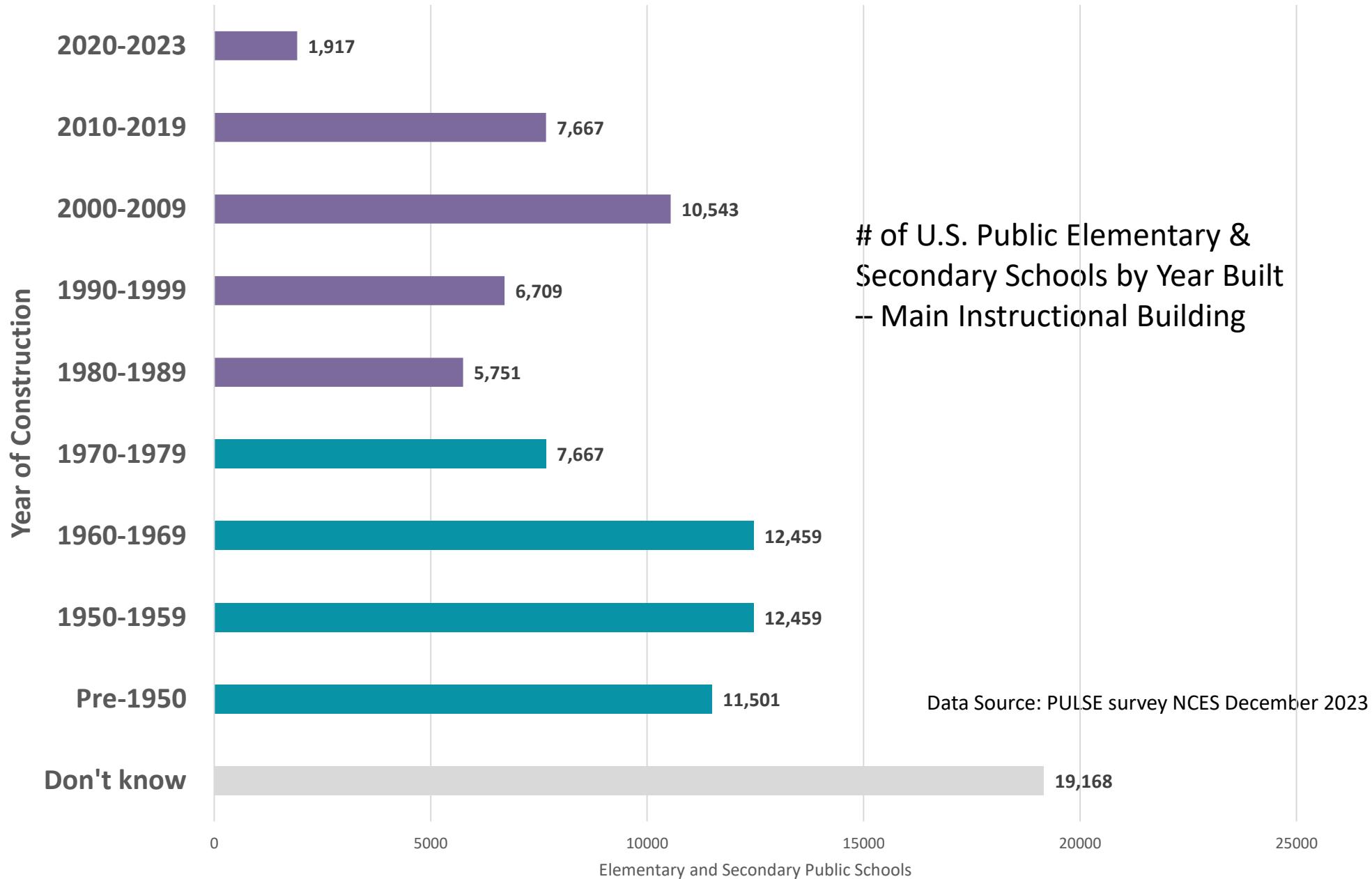
Data Source: State of our Schools Reports, 2016, 2021, 2025 available at www.21csf.org



Complex

Conditions, Standards, Processes, and Funding

Deteriorated PK-12 Public School Facilities



Evolving Facility Standards



Innovative Learning
Environments



Healthy & safe places
to occupy



Secure from human
threats



Centers of
community

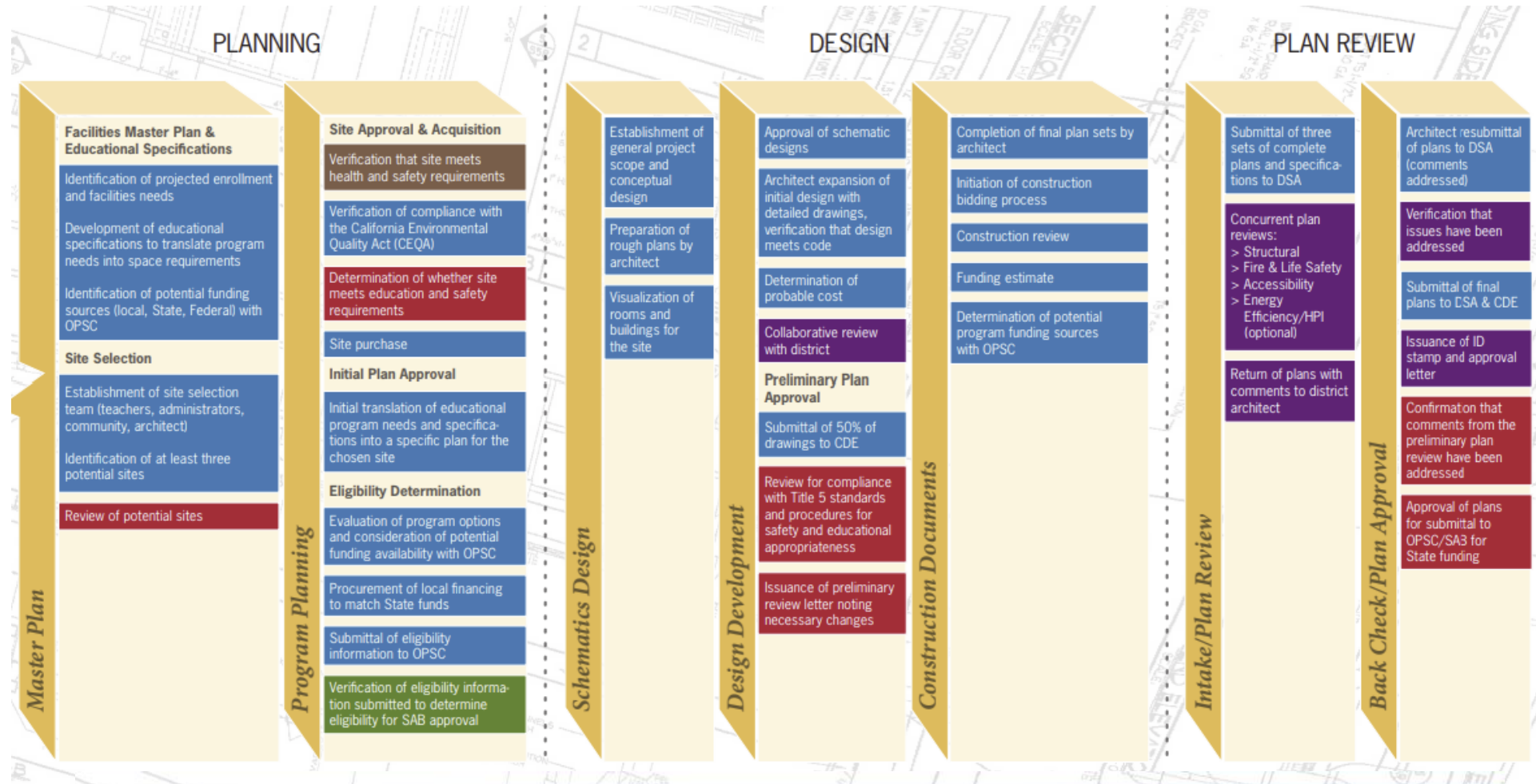


Environmentally
responsible



Resilient to natural
disasters

Complex Processes: Planning and Design



CALIFORNIA SCHOOL DISTRICT (DISTRICT)
includes School Board, Superintendent, Architect,
Construction Manager, Contractor & Engineers



DIVISION OF THE STATE ARCHITECT (DSA)



OFFICE OF PUBLIC SCHOOL CONSTRUCTION (OPSC)
STATE ALLOCATION BOARD (SAB)

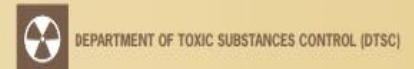
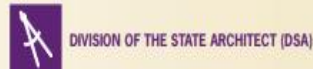
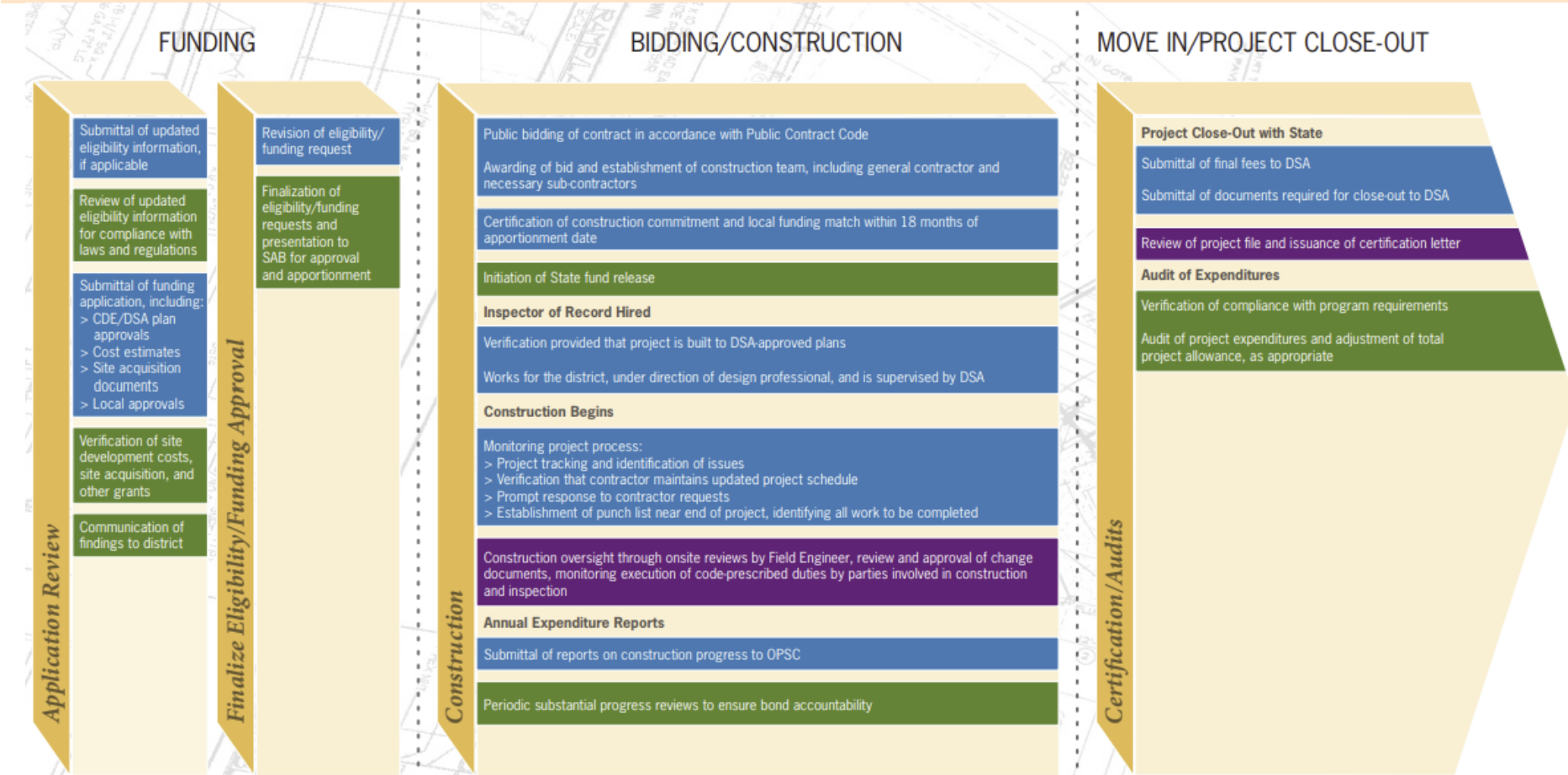


CALIFORNIA DEPARTMENT OF EDUCATION (CDE)



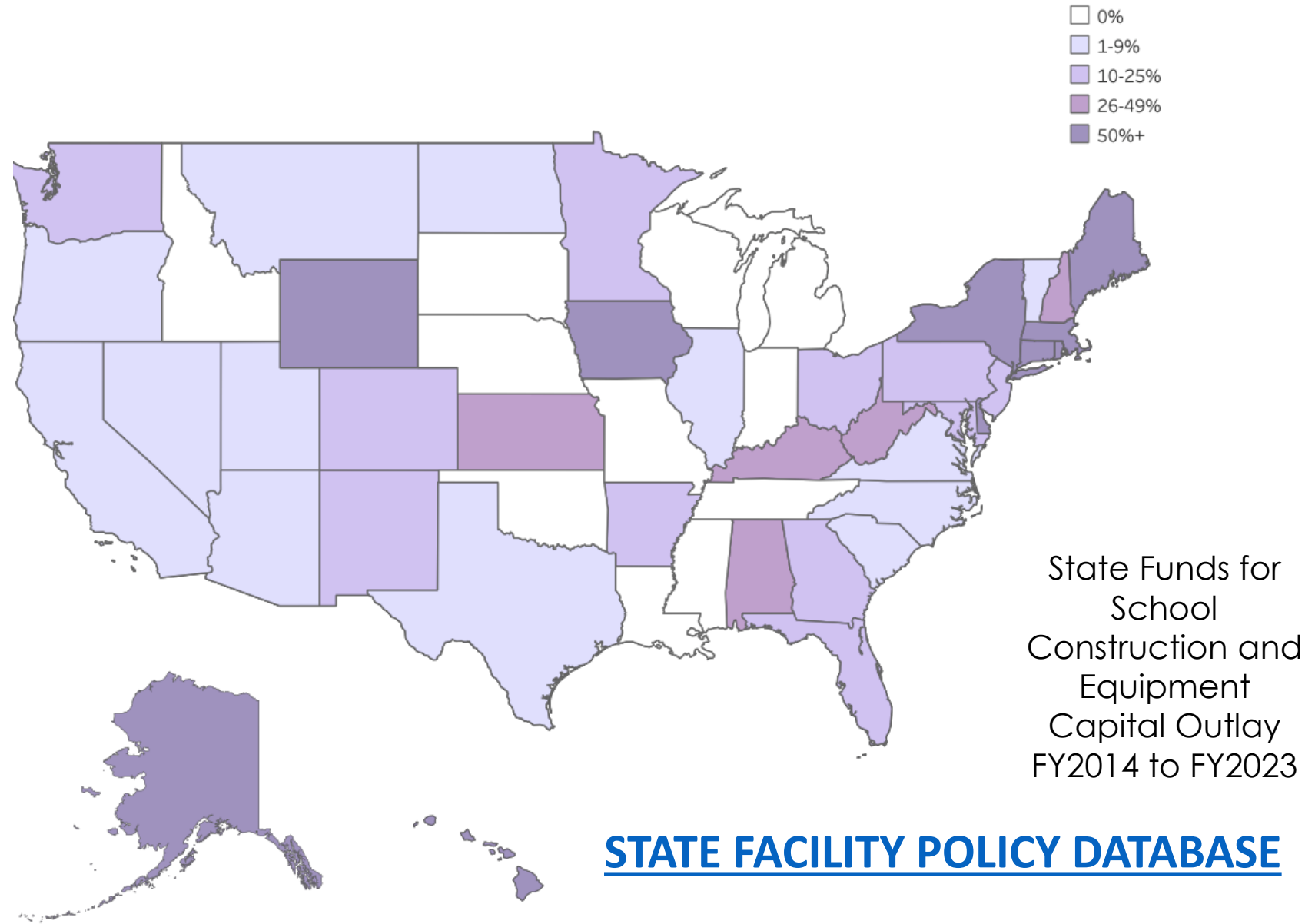
DEPARTMENT OF TOXIC SUBSTANCES CONTROL (DTSC)

Funding, Bidding, Construction, Move-in, Close-out



Varied and complex state policy roles and responsibilities

State capital revenue to districts varies widely, with only 13 states providing over 25% of facilities capital outlay





Path Forward

Modern public schools by 2050

What is needed to raise the school infrastructure grade

- **Shared Vision**

- Modern public school facilities for all by 2050

- **Capacity**

- Civic will and commitment
- Governmental plans, policies, and budgets
- Industry and labor expertise

- **Stable, Sufficient, and Equitable M&O and Capital Funding**

- \$5.8 trillion for capital and M&O/\$242 billion every year over 24 years
- On track for \$3.8 trillion/\$157 billion every year
- Gap of \$2 trillion/\$85 billion every year

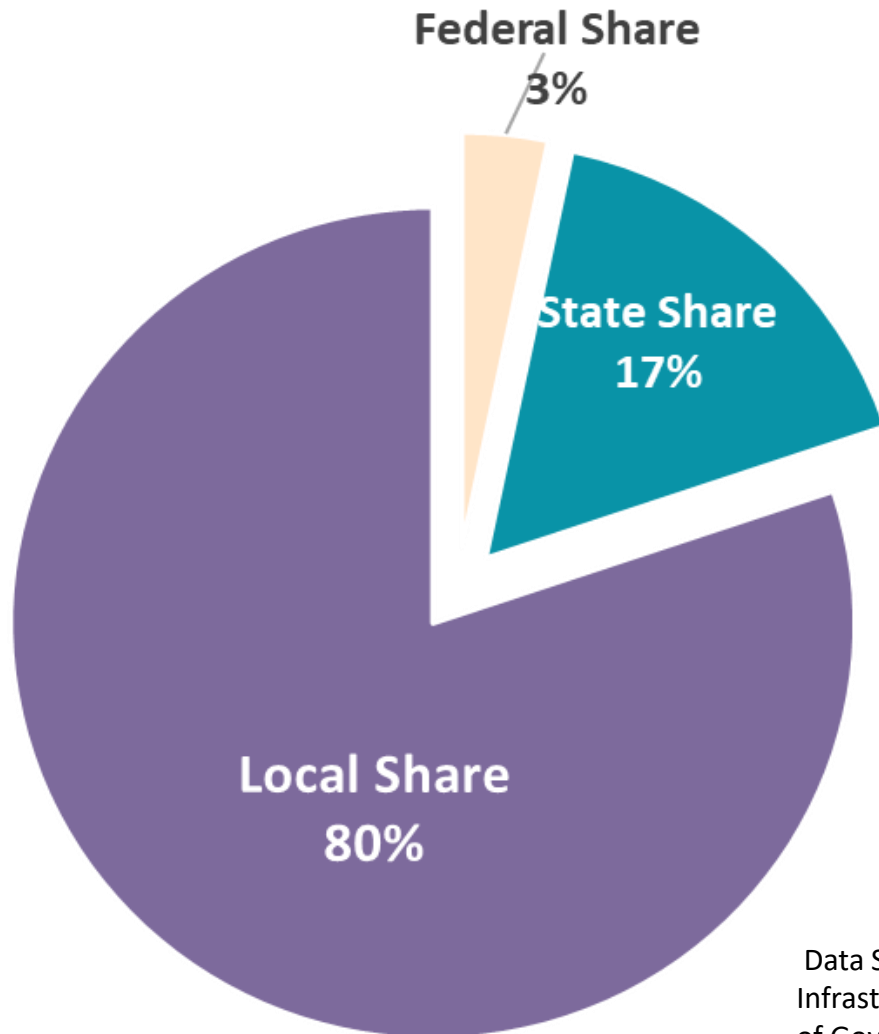
The plans and capacity to modernize public school buildings and grounds for all children and communities.

Build capacity to get more from current \$\$

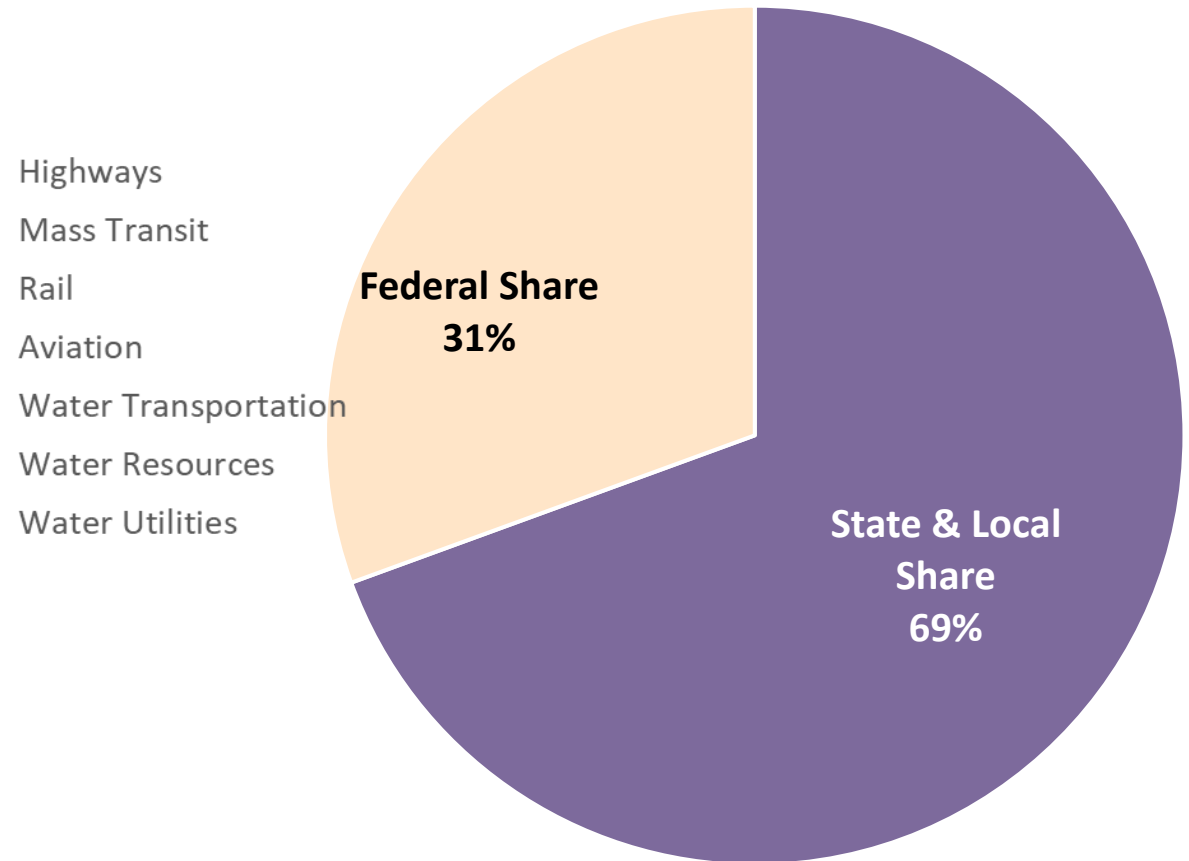
- **Improve management and labor practices** for facility operations, maintenance, and repairs
- Undertake **comprehensive modernization** projects, rather than piecemeal ones
- **Make government policy and industry practice reforms** to get better value for M&O and capital investment funding
- Explore **governance and space efficiencies** for PK12 buildings and grounds

Stable, Adequate, and Fair Funding

Who paid for public education capital outlay FY2014-23 (2024\$)



Who paid for other infrastructure capital outlay FY2014-23 (2023\$)



Data Sources: CBO's February 2025 report Public Spending on Transportation and Water Infrastructure, 1956 to 2023 www.cbo.gov/publication/60874; PK12 capital outlay from U.S. Census of Governments and NCES Fiscal Survey FY2014-23; enrollment 2023-24, NCES Common Core Data.

Call for success cases...

Send examples of facilities management policy and practice that illustrate how to get a better return for facility spending and investments. <https://school-infrastructure.org/contact-us/>



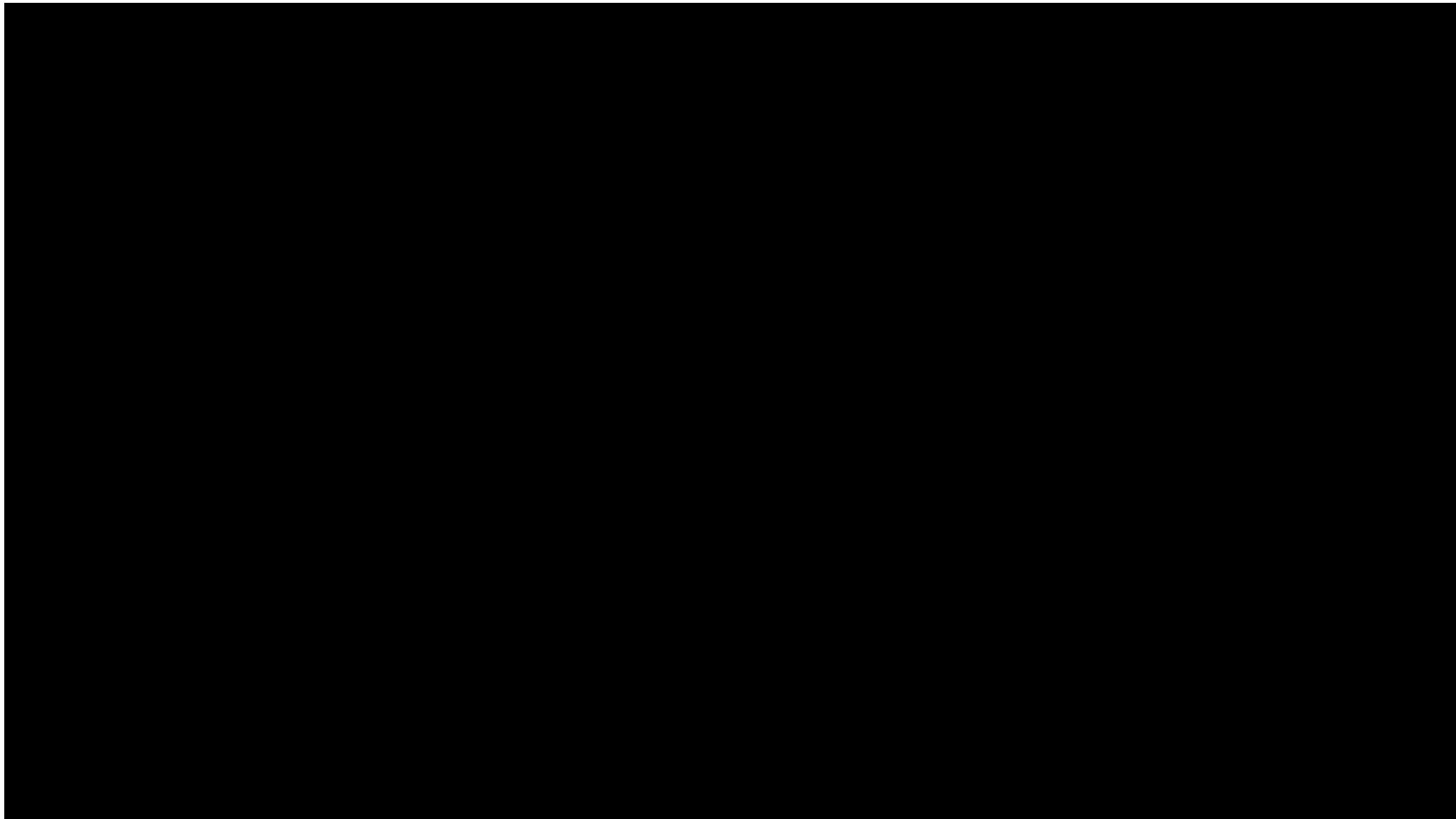
- ✓ Assessments
- ✓ Facility Plans
- ✓ Stakeholder Engagement Processes
- ✓ M&O Training Programs
- ✓ Data Management Tools
- ✓ Procurement Protocols
- ✓ Efficiencies in Financing



ASCE MAKING THE GRADE: SCHOOLS

A 2050 PRECEDENT





EDUCATIONAL FACILITY MASTER PLAN

driven by bi-partisan budget act

VIDE Educational Facility

Master Plan - Home

1 Table of Contents

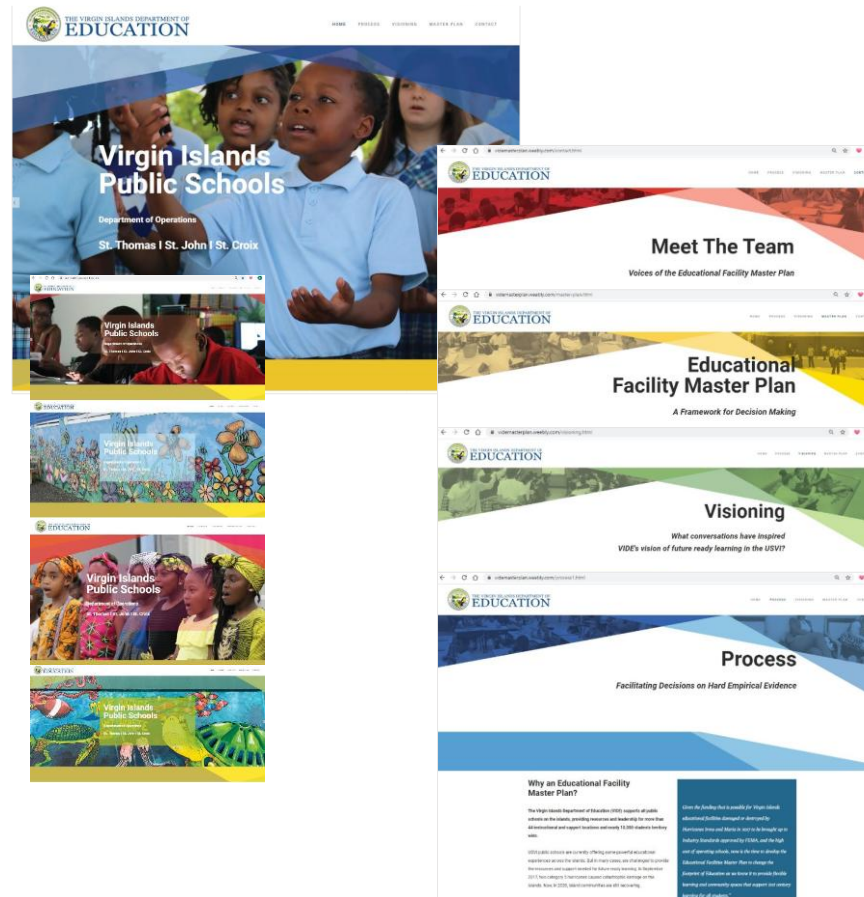
2 A FEMA Process

3 Educational Visioning

4 A Facilities Master Plan

5 Contact:

ploeffelman@dlrgroup.com

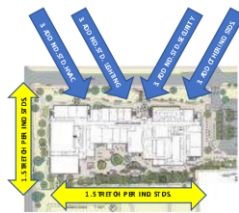


FEMA FUNDING AS PER INDUSTRY STANDARDS

driven by bi-partisan budget act

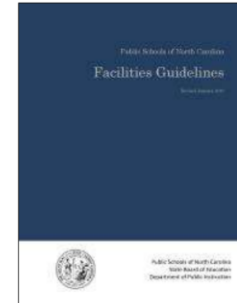
Application of Education Industry Standards - Four-Step Process

- STEP 1** - Determine the New Area of the Buildings by Applying Industry Standards to the Existing Buildings (Bottom-Up Approach)
 - Adjust areas of existing program elements
 - Add areas for new program elements
- STEP 2** - Validate the New Area with the NCDPI Capacity Calculation Worksheet (Top-Down Approach)
- STEP 3** - Select Systems and Components to Integrate into the Design of Each Building
 - HVAC
 - Lighting
 - Security
 - Other systems and components
- STEP 4** - Develop a CEF for Each Building Based on the New Area and Systems/Components Selection.



STEP 1 - Determine the New Area (SF) of the Buildings Using a Bottom-Up Approach

- Use the Approved Industry Standard: "Facilities Guidelines" by the North Carolina Department of Public Instruction - governs required program element and associated areas
- Start with the Existing Building Program
- Establish the Required Program Elements
- Adjust Existing Room Sizes Based on the Education Industry Standard
- Add Program Elements (Rooms) to Align with Education Industry Standards
- Determine the Overall Gross Area (SF) of the Facility by Applying Grossing Factors per the Education Industry Standard



STEP 2 - Validate the New Area with a Top-Down Approach

First, determine the number of required teaching stations for a given school design capacity using the NCDPI School Capacity Worksheet shown to the right. Second, develop the associated school space program for the number of teaching stations required as shown on the next slide.

MIDDLE SCHOOL CAPACITY WORKSHEET			
School Name:		School Code:	
		Number of Teaching Stations	64 Optimal Capacity
Capacity Generating Spaces:	Sixth - Eighth grade classrooms (1.5 sq ft per student)	X 26 =	
	Self-contained exceptional education	X 10 =	
New Capacity Spaces:	Art classrooms	X 0 =	0
	Band/Music classrooms	X 0 =	0
	Resource/Full-Output classrooms	X 0 =	0
	PE/Physical Education rooms	X 0 =	0
	Pre-orientation rooms	X 0 =	0
	Special Education classrooms	X 0 =	0
	Computer rooms	X 0 =	0
		TOTAL	

STEP 2 (cont'd) - Validate the New Area with a Top-Down Approach

Using the calculated number of teaching stations and school capacity, reference the NCDPI industry standards and the typical middle school space profiles to build out the program of spaces and associated areas required in the school.

MIDDLE SCHOOL (K-8)	TYPICAL SPACE PROFILE
Classroom	1.5 sq ft per student
Art classroom	1.5 sq ft per student
Band/Music classroom	1.5 sq ft per student
Resource/Full-Output classroom	1.5 sq ft per student
PE/Physical Education room	1.5 sq ft per student
Pre-orientation room	1.5 sq ft per student
Special Education classroom	1.5 sq ft per student
Computer room	1.5 sq ft per student
Self-contained exceptional education	1.5 sq ft per student
Other spaces	1.5 sq ft per student

STEP 3 - Apply Industry Standards to Building Systems & Components

- RS Means automatically accounts for building code items and quantifies in its pre-built building SF models. Industry Standard items must be selected and applied individually.
- Over 40 separate documents are included in the approved Education Industry Standards from which the Applicant may choose to implement in the new campus design.
- The most impactful systems and components are:
 - HVAC
 - Lighting
 - Windows
 - Security
 - Fire Suppression



STEP 4 - Develop a CEF Based on the Application of Industry Standards

Summary TEMPLATE			
Complete Project List for Construction	Completed	Estimated	Cost
PART A - Base Load for Construction Work to Include:	1.5	1.5	1.5
A.1. Personnel Area	1.5	1.5	1.5
A.2. Non-Permitted Job Specific Area (PSP Area)	1.5	1.5	1.5
PART B - General Requirements and General Conditions:	1.5	1.5	1.5
B.1. General Requirements	1.5	1.5	1.5
B.2. General Conditions	1.5	1.5	1.5
PART C - Construction Time Contingency (Energy and Construction):	1.5	1.5	1.5
C.1. Schedule/Design Phase Scope Contingency	1.5	1.5	1.5
C.2. Facility or Project Contingency	1.5	1.5	1.5
C.3. Access, Storage, and Hoisting Contingency	1.5	1.5	1.5
C.4. Construction of Utility/Non-Constructive	1.5	1.5	1.5
PART D - General Conditions/Precedent and Profile:	1.5	1.5	1.5
D.1. General Conditions/Precedent/Profile/Utility	1.5	1.5	1.5
D.2. General Conditions/Precedent/Profile/Utility/Precedent	1.5	1.5	1.5
D.3. Construction/Profile	1.5	1.5	1.5
PART E - Total Available Allowance	1.5	1.5	1.5
PART F - Plan Review and Construction Permit Costs:	1.5	1.5	1.5
F.1. Plan Review/Permit	1.5	1.5	1.5
F.2. Construction/Permit Fees	1.5	1.5	1.5
PART G - Applicant's Reserve for Construction	1.5	1.5	1.5

A 2050 PRECENT

lessons learned

Lessons Learned from working on federal definitions for “prudent replacement” and “industry standards” as defined by the Bipartisan Budget Act for USVI and Puerto Rico over the last 5 years:

- Research informed standards on building elements that engage result in better learning outcomes therefore better returns on investment.
- Context and culture must be included in any outcome in order to include local practices on everything from curriculum to operating procedures and funding.
- The combination of robust guidelines (or criteria) linked to federal funding that supports the gap in communities in need be it because of events such as Hurricanes Irma and Maria or the Palisades fire or the Joplin tornado or because of long term economic distress in the community and aspirational approaches to teaching and learning with the tenacity to enforce these higher standards will ensure better investments, better outcomes.

Consistent Results:

Schools (17)
Schedules, Students (n=7,000)
Teachers (n=745)
Grade Level (6-12)
Geographic Region (USA + Canada)
Gender or Demographics



Findings:

The design of space, as self-reported by both students and teachers, recognizes a difference in perceptions that results in students' academic engagement performance that is increased significantly, statistically.

p < .0001 omega findings

the more students believed that the building's design affected them positively, the higher their engagement was likely to be.

students /self-reported



What was the research question?

Can we demonstrate that the design of the built environment for grades 9-12 impacts student academic engagement levels?

ALTERATIONS VERSUS MODERNIZATION

used to inform space curricula alignment indicators



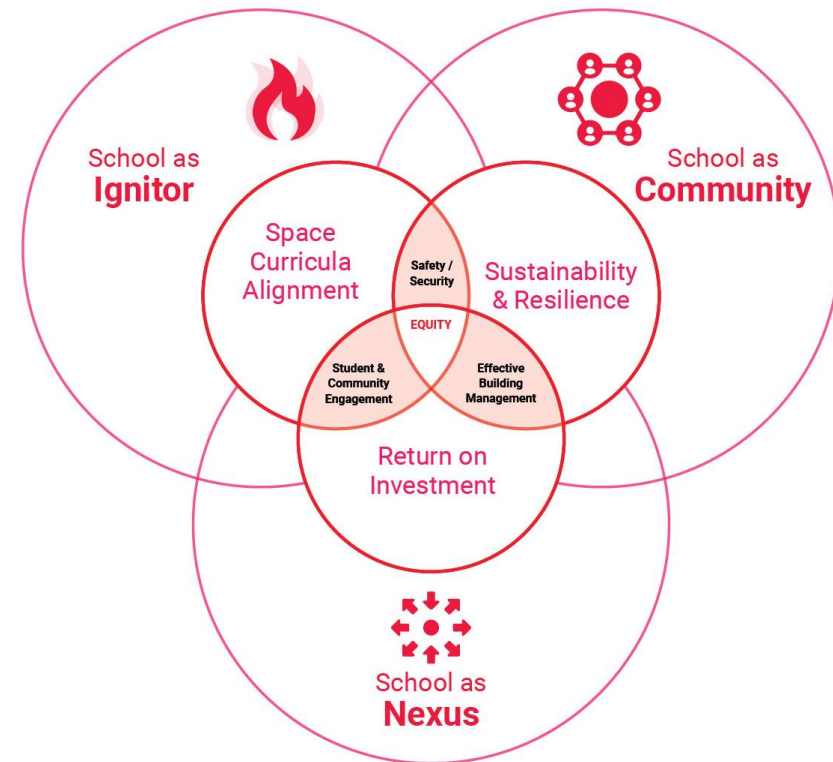
In January 2020, 25 schools across St. Croix, St. Thomas and St. John were toured. These visits allowed the opportunity to see the campuses in operation, and to meet with the principals and vice principals to get a better understanding of the needs of each school.



GUIDING PRINCIPLES

balanced with a new framework for education

-  **Whole Child**
-  **Equity**
-  **Addressing the Needs of All Students & Integrating Technology**
-  **Using Technology to Assess the Impact of Practices**
-  **Health, Safety & Security**
-  **Cultural, Local & Economic Competence and Resilience**
-  **Integrated Design, Assessment, Operation & Management**



“The Virgin Islands Department of Education embraces ALL students and empowers them to achieve their fullest potential.”

VIDE Vision Statement

TEACHING & LEARNING

an inquiry-based curriculum



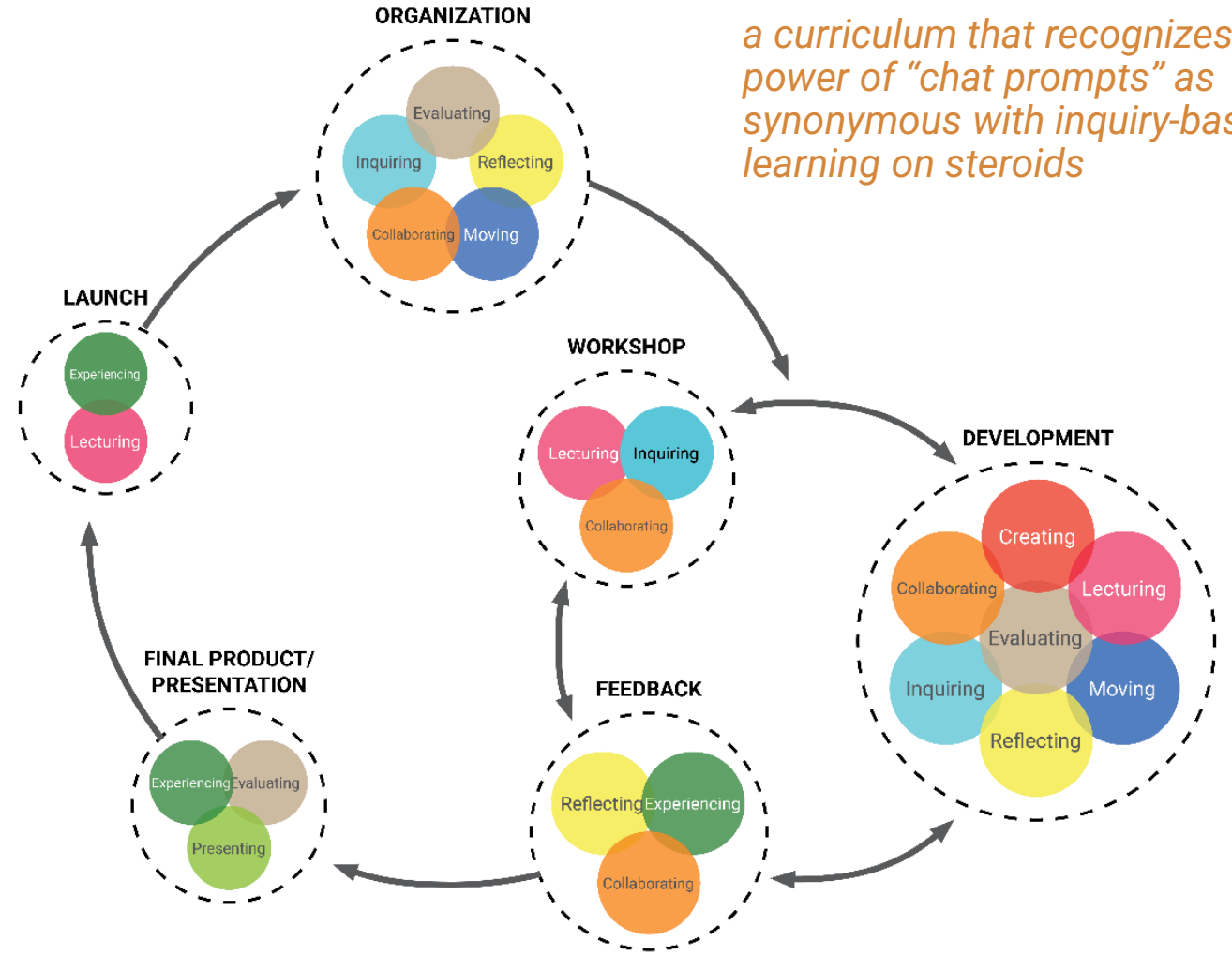
IB INQUIRY-BASED TEACHING

IB INQUIRY-BASED TEACHING

(Project/problem-based, Challenge Based, Play-based, STEM, Design Thinking, etc.)

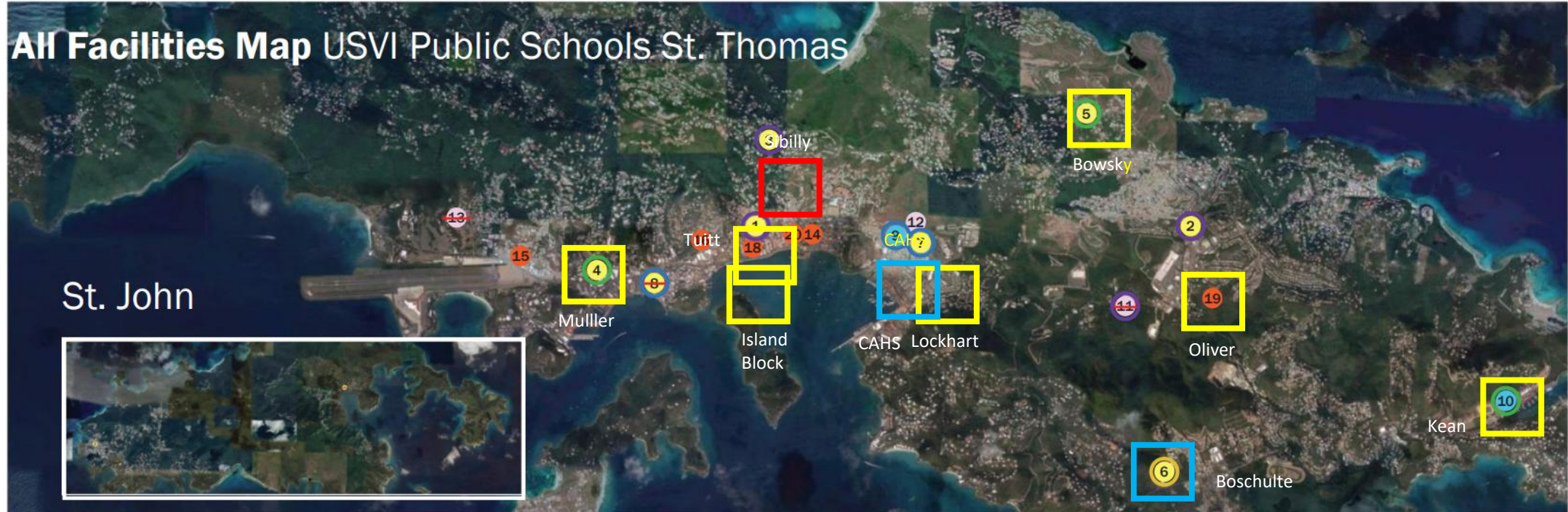
A dynamic form of active learning that begins with inquiry, problems, or scenarios. Students then identify, investigate, and research issues and respond to challenges or complex problems.

DLR Group
LEARNING
connections. flashcards



a curriculum that recognizes the power of “chat prompts” as synonymous with inquiry-based learning on steroids

ST THOMAS/ST JOHN



- 1. Jane E. Tuitt Elementary School
- 2. Joseph Gomez Elementary School
- 3. Joseph Sibilly Elementary School
- 4. Ulla F. Muller Elementary School**
- 5. Yvonne E. Milliner-Bowsky Elementary
- 6. Bertha C. Boschulte Middle School
- 7. Lockhart Elementary School
- 8. Addelita Cancryn Junior High School

- 9. Charlotte Amalie High School**
- 10. Ivanna Eudora Kean High School

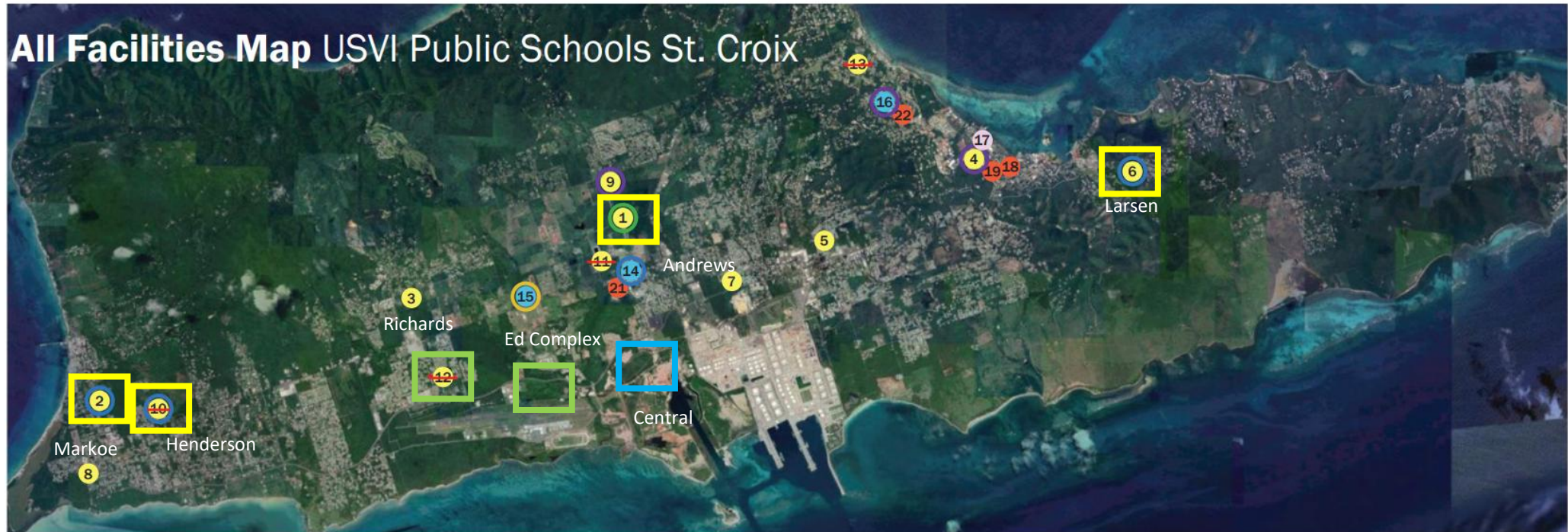
Adult ED

- School
- 11. Edith L. Williams Alternative Academy
- 12. Wheatley Skills Center
- 13. Gladys A. Abraham Elementary School

STT/STJ Sites

- 2 High School's
- 1 Alt High School
- 1 PreK12
- 5 PreK8's
- 2 ECC's
- 1 Administration

ST CROIX



- 1. Alfredo Andrews Elementary School**
- 2. Claude O. Markoe Elementary School
- 3. Eulalie Rivera Elementary School
- 4. Juanita Gardine Elementary School
- 5. Lew Muckle Elementary School
- 6. Pearl B. Larsen Elementary School
- 7. Ricardo Richards Elementary School

- 8. Arthur A. Richards Junior High School**
- 9. John H. Woodson Junior High School
- 10. Alexander Henserson Elementary School
- 11. Charles Emanuel Elementary School
- 12. Evelyn M. Williams Elementary School
- 13. Elena L. Christian Junior High School

- 14. St. Croix Central High School**
- 15. St. Croix Educational Complex High School
- 16. Positive Connections Alternative Education

STX Sites

- 2 High School's
- 5 PreK8's
- 1 Administration

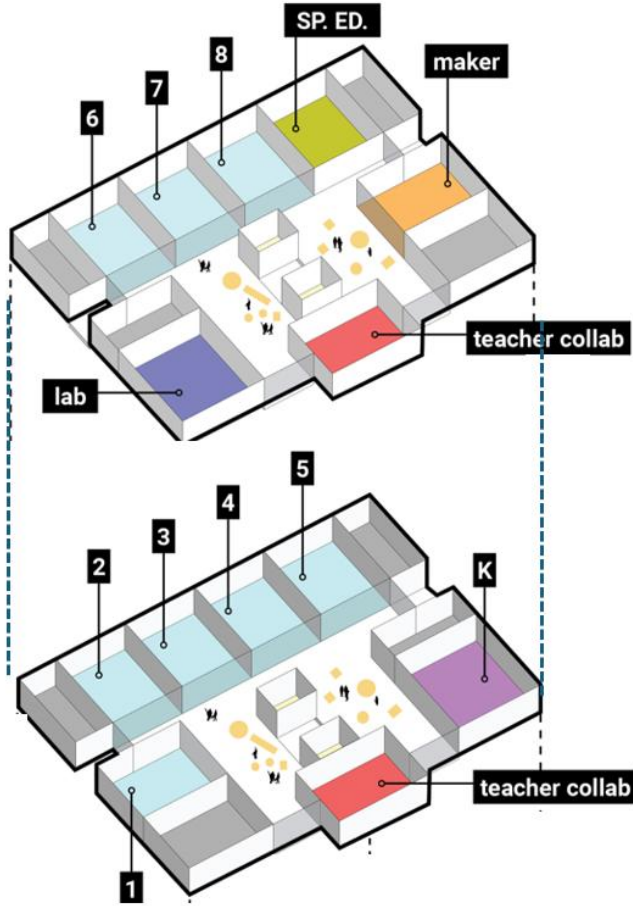






UTILIZING THE KIT OF PARTS

small learning communities



All the future PreK-8's are based on Small Learning Community (SLC's) that are a two-story block. . Many have been programmed at 1070 with the option to defer one of the SLC block for a resulting population of approximately 725 students. The configurations have also been updated from the Master Plan to be more universal for all age groups and to allow maximum flexibility in grade configurations.

Elementary Core Academic

Learning Suite -- Classroom w/RR (Kinder)	1	1,100	1,100	1	25	25
Learning Suite -- Classroom (1st-5th)	5	850	4,250	5	30	150
Flex Classroom	1	800	800			
Resource Classroom						
Open Collaboration Space	1	1,000	1,000			
Maker Space	0	400	0			
Small Group Instruction	2	200	400			
Teacher Planning	1	600	600			
Learning Suite Storage	1	400	400			
Student Restrooms	2	300	600			
Staff Restroom	1	50	50			
Custodial	1	100	100			
Shared Outdoor Learning Space #1						
			9,300 sf			

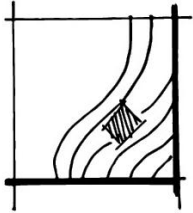
Middle School Core Academic

MS Learning Suite-- Classroom (6th-8th)	3	850	2,550	3	30	90
MS Learning Suite-- Science Lab	1	1,000	1,000	1	30	30
Flex Classroom	1	800	800			
Resource Classroom						
Open Collaborative Space	1	800	800			
Maker Space	1	300	300			
Small Group Instruction	2	200	400			
Teacher Planning	1	400	400			
Learning Suite Storage	1	300	300			
Student Restrooms	2	300	600			
Staff Restroom	1	50	50			
Custodial	1	100	100			
SPED			1,000		20	20
Maker Space			1,000		30	30
			9,300 sf			
			18,600 sf			345
General Building Area: Walls, Partitions, Mech. Elec., Circulation:				(25% of Gross)		
			4,650 sf	*Based on industry standards that include outdoor circulation		
Total Building Area (Gross Square Feet- GSF):						
			23,250 sf			

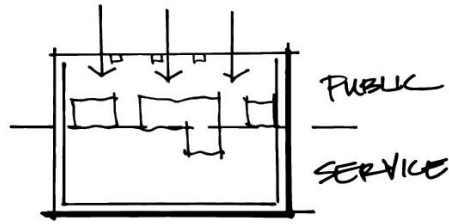
VERNACULAR ARCHITECTURE

the built language of the USVI

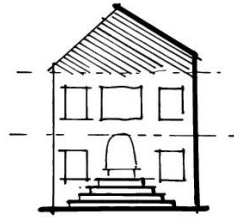
How might this language inform a learning community?



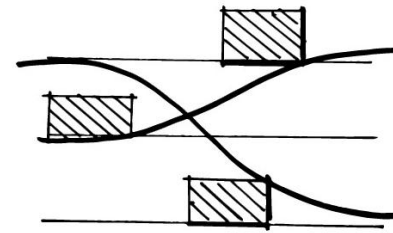
Topography & Site Orientation



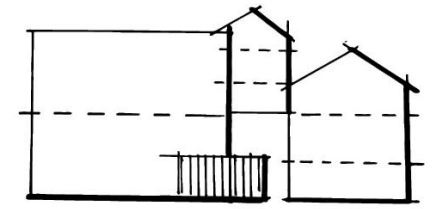
A Civic Presence



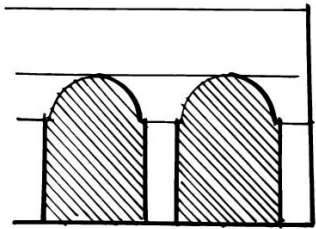
An Arrival Sequence



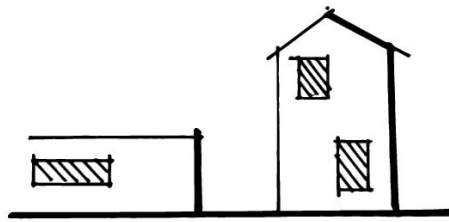
Pathways, Patios, & Courtyards



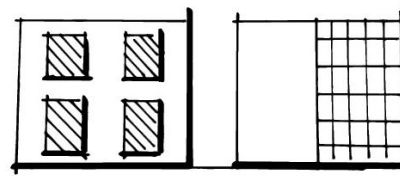
Volumes & Forms



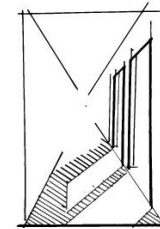
Solids & Voids



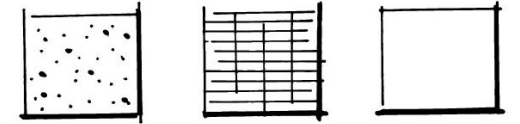
Horizontals & Verticals



Punched Openings, Shutters
& Curtain Walls



Light & Shadow



Scale, Materials,
Texture & Color

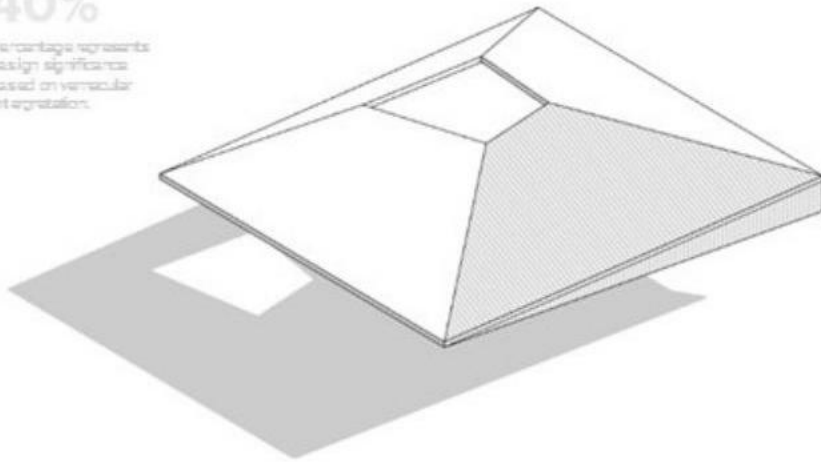
ARTHUR RICHARDS PREK-8 LANGUAGE OF DESIGN

a kit of parts

No Roof with Double

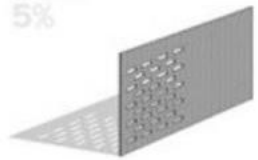
40%

Percentage represents design significance based on vernacular integration.



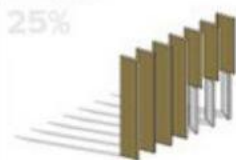
Blue Brick Pattern

5%



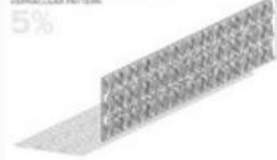
Blue Brick (Deep Slats)

25%



METAL SCREEN WITH CUSTOM CUT-OUT VERNACULAR PATTERN

5%



Use of color for highlighting program and wayfinding

10%



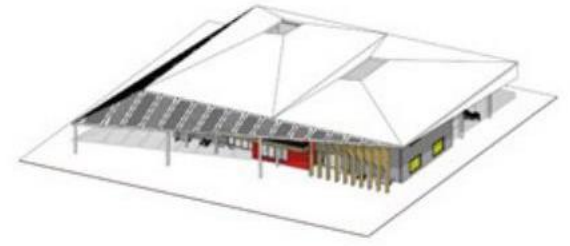
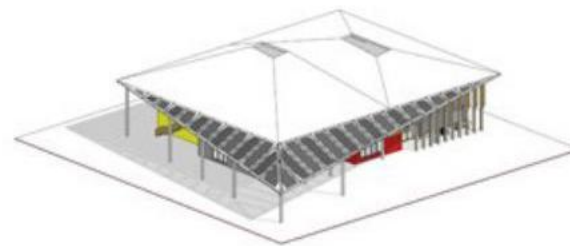
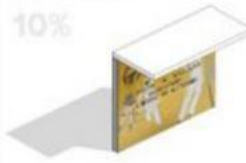
Typical Exterior Enclosure with window openings

5%



Mixed Materials of finished facade

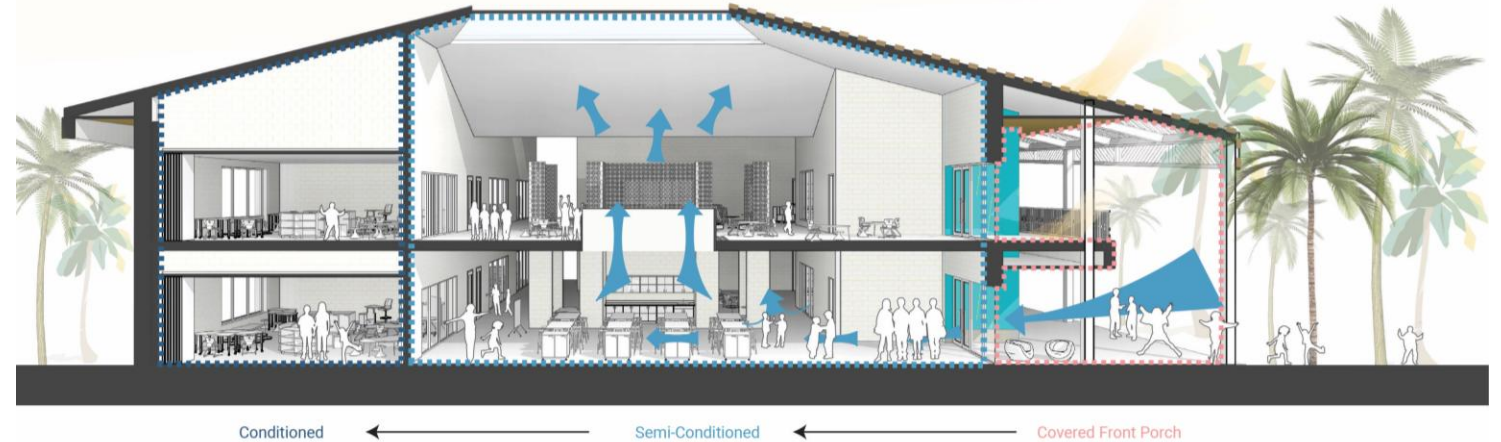
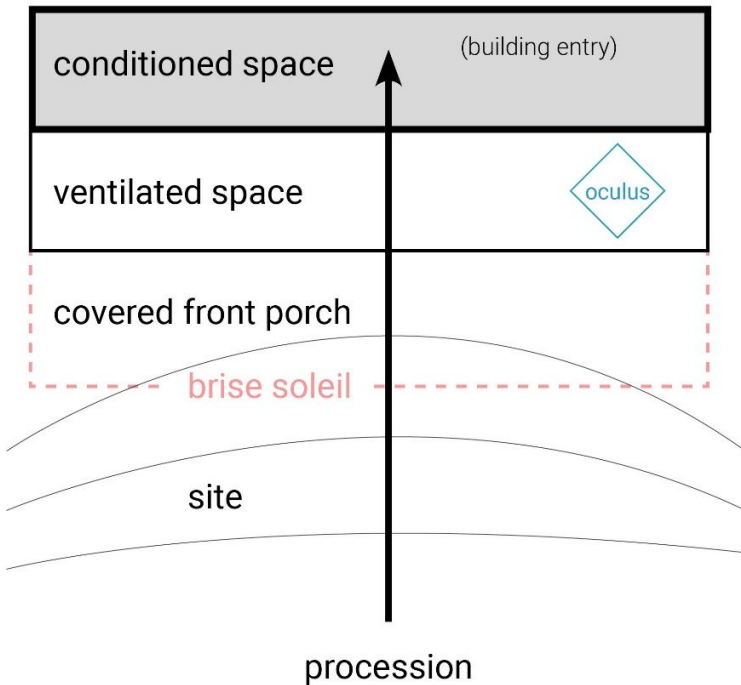
10%



OPERATIONAL CONCERNS

conditioned versus unconditioned spaces

Arthur Richards PreK-8 | St. Croix

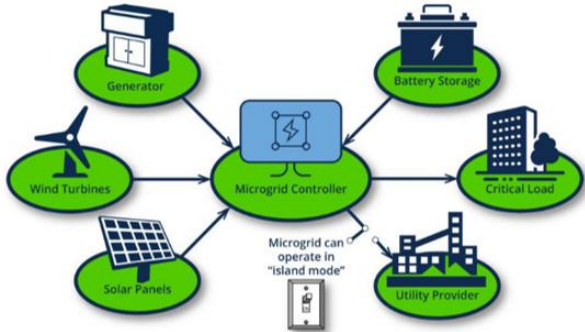


RESILIENCE AS A DRIVER

microgrids

Net Zero K-12 Virgin Island Department of Education Microgrid system Design Guide School Capacity Matrix

Project Name	Priority (1 being greatest)	Address	Bridging Documents as Precedence	Square Footage	Number of Students	Proposed Risk Category	WVEMA Identified Hurricane Safe Rooms	Safe Room/ Occupants	PV DC Capacity Campus kW	Annual Production MWh	Estimated Max Export (kW)	Battery Capacity Campus kWh	Safe Room	Shelter	Site Primary Voltage	Transformer(s) Size	Transformer planned or existing	Notes	
New Construction																			
STX																			
Arthur Richards	1	13 Mount Pleasant, Frederiksted, St Croix 00840, USVI	X	130,000	704	IV	X	300	659	1,141	462	3000	Yes		13,800	1,500	Planned	Values from Construction docs. Same battery serves both purposes	
Andrews	3	6694-C-08, BED #1, St Croix 00850, U.S. Virgin Islands		136,128	750	IV	X		604	997	423	3000	Yes		13,800	1,500	Planned		
Henderson	3	73 Concordia Rd, Frederiksted, St Croix 00840, U.S. Virgin Islands	X	102,400	575	IV		300	455	751	319	2000		Yes	13,800	1,500	Planned		
Markoe	3	7175 Mars Hills, Frederiksted, St Croix 00840, U.S. Virgin Islands	X	136,128	750	IV	X	300	593	978	415	3000	Yes		13,800	1,500	Planned		
Larsen	3	7, Christianssted, St Croix 00820, U.S. Virgin Islands		156,128	1070	IV	X	300	693	1,143	485	3000	Yes		13,800	2,000	Planned		
Central	1	BEH #1 827, St Croix 00841, U.S. Virgin Islands	X	185,000	1200	IV	X	600	822	1,356	575	4000	Yes		13,800	2,500	Planned		
STI/STJ																			
Tutt	2	8307-1-03 Charlotte Amalie, St Thomas, USVI		70,000	375	IV			311	513	218	1500			13,800	750	Planned		
Oliver	2	374 Palmetto, Bld #148, Anna's Retreat, St Thomas 00802, U.S. Virgin Islands		70,000	375	IV	X		311	513	218	1500	Yes		13,800	750	Planned		
CAHS	1	8 and 9 Alton Adams Sr Dr Charlotte Amalie St Thomas, U.S. Virgin Islands 00802	X	235,000	1200	IV	X	600	1,044	1,723	731	1250	Yes		13,800	5,000	Planned	(2) 2500 kVA xfmrs Separate batteries for gym and other buildings. No solar in base bid. Solar is estimate of NZE	
Kean	2	1 & 2 Estate Navazeth, Red Hook, St Thomas 00802, U.S. Virgin Islands		147,215	900	IV		600	654	1,079	458	3000		Yes	13,800		Planned		
Edith Williams (Alt Ed)	3	St Thomas, 4406 Womansouth Bivener Hwy, Charlotte Amalie, St Thomas 00802, U.S. Virgin Islands	X by SLA	35000	140	IV			155	256	109	800		Yes	13,800		Planned		
Sprauve	1	Parcel No. 6A, 19 Cruz Bay Quarter Estate Catherineberg / Herman Farm, St. John, United States Virgin Islands	X	115000	550	IV	X	300	600	999	480	3000	Yes		13,800	1,000	Planned		
Renovation Exist.																			
STX																			
Ed Complex	3	35E2-4G3, Centerline Rd, St Croix 00820, U.S. Virgin Islands	X by SLA	200,000	1200	III	X		600*	888	1,465	622	4000	Yes		13,800			
Buildings 2 and 3 only															13,800				
STI/STJ																			
Boschulte	1	9-1 & 12A, Bovoni Rd, Estate Bovoni, St Thomas 00802, U.S. Virgin Islands	X	125,000	1070	III	X		X/600*	888	1,465	622	4000	Yes		13,800			
*Stand alone safe room.																			
Lockhart*	2	838M+P63, Estate Thomas, St Thomas 00802, U.S. Virgin Islands	X	165,000	1070	III Exist/IV New			300	1,173	1,935	821	3500	Yes	13,800	2,500	planned	Appears to have more solar than net zer at EUJ 25	
*Includes some new construction and some renovation.																			
Bowsky	2	3432+V1CR, Mandal, St Thomas 00802, U.S. Virgin Islands		113,978	750	III Exist/IV New	X	300	506	835	354	2500	Yes		13,800				
Sibilly	3	3323+P8 Charlotte Amalie, St Thomas, USVI		25,000	150	Exist	X	300	111	183	78	500	Yes		13,800		300		






The Virgin Islands Department of Education embraces ALL students and empowers them to achieve their fullest potential.



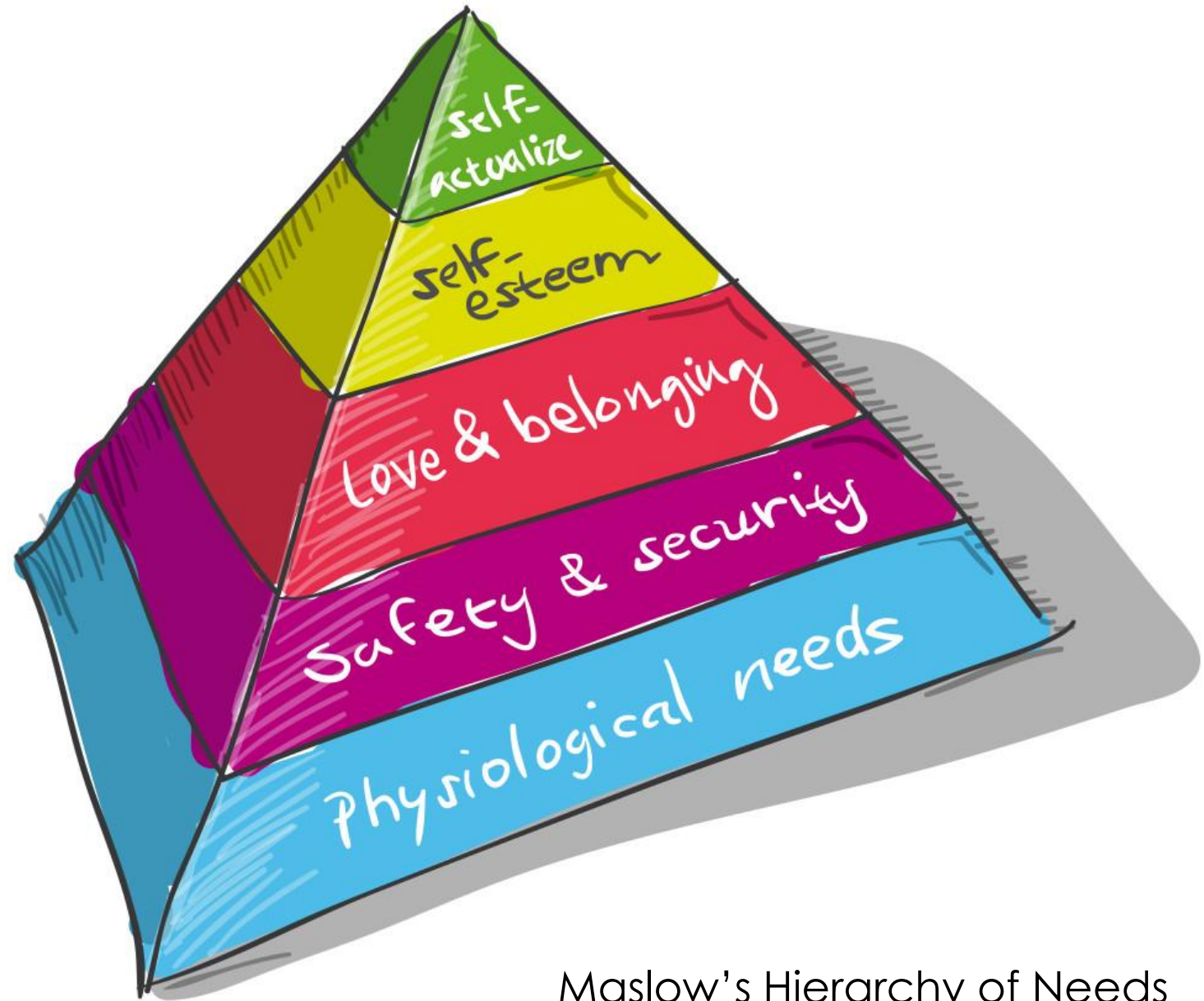
THE VIRGIN ISLANDS DEPARTMENT OF
EDUCATION



The Role of Architecture in Education



What is the role of architecture in education?



Maslow's Hierarchy of Needs


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Perceptions about the Role of Architecture in Education.

Bradley, William Scott

This dissertation was conducted to examine perceptions held by those who influence schoolhouse design about the role of architecture in education. Eleven informants--regionally and/or nationally respected educators, architects, and educational consultants--were interviewed and asked what they perceive to be the role of architecture in education. Very generally, the informants agreed that architecture should "enhance" education; however, they varied greatly on what they meant by "enhance." Five metaphors were developed to describe the role of architecture in education: (1) as a facility: the architecture should provide the school's basic operational necessities; (2) as a place: the architecture should provide a meaningful context for the learning experience; (3) as a signpost: the architecture should communicate implicitly that which may otherwise be communicated explicitly; (4) as a textbook: the architecture should reinforce the curriculum at primary, secondary, and tertiary levels; and (5) as an agent: the architecture should be a medium that affects change. Those informants closest to the field of education and furthest from the field of architecture were more concerned with providing basic operational necessities than other considerations. In contrast, those informants furthest from the field of education and closest to the field of architecture were less concerned with providing basic operational necessities and more concerned with applying architecture in creative ways to address issues in education. The dissertation concludes that these goals need not be in opposition to one another and that the metaphors are not mutually exclusive; the more of the metaphors that can be incorporated into the designs of schools, the richer the educational experience could potentially be. (Contains 49 references.) (Author/EV)

Descriptors: [Architects](#), [Architecture](#), [Attitudes](#), [Education](#), [Educational Facilities Design](#)

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ERIC Number: ED471377

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Publication Date: 1996-May

Pages: 135

Abstractor: N/A

ISBN: N/A

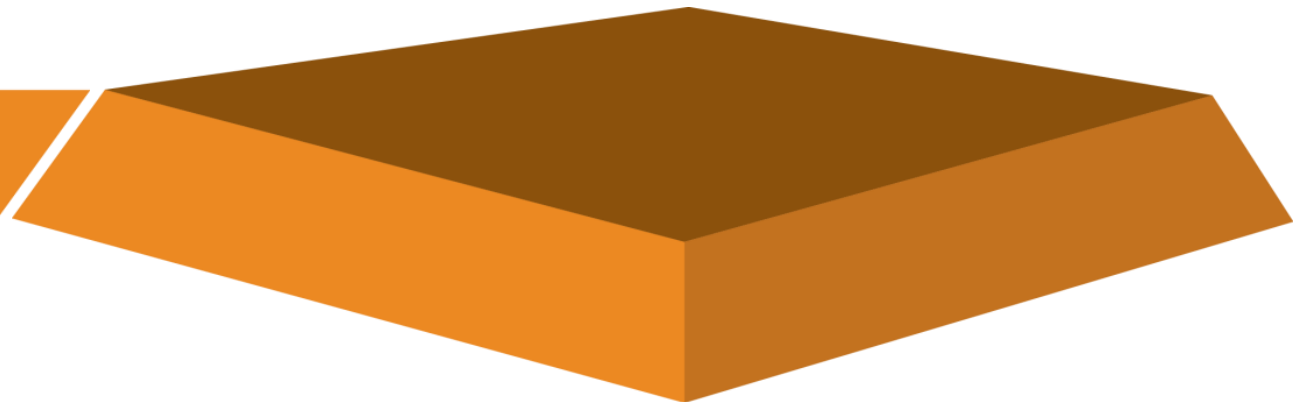
ISSN: N/A

EISSN: N/A

1 Space

Fundamentally,
architecture
defines space...

1 Space



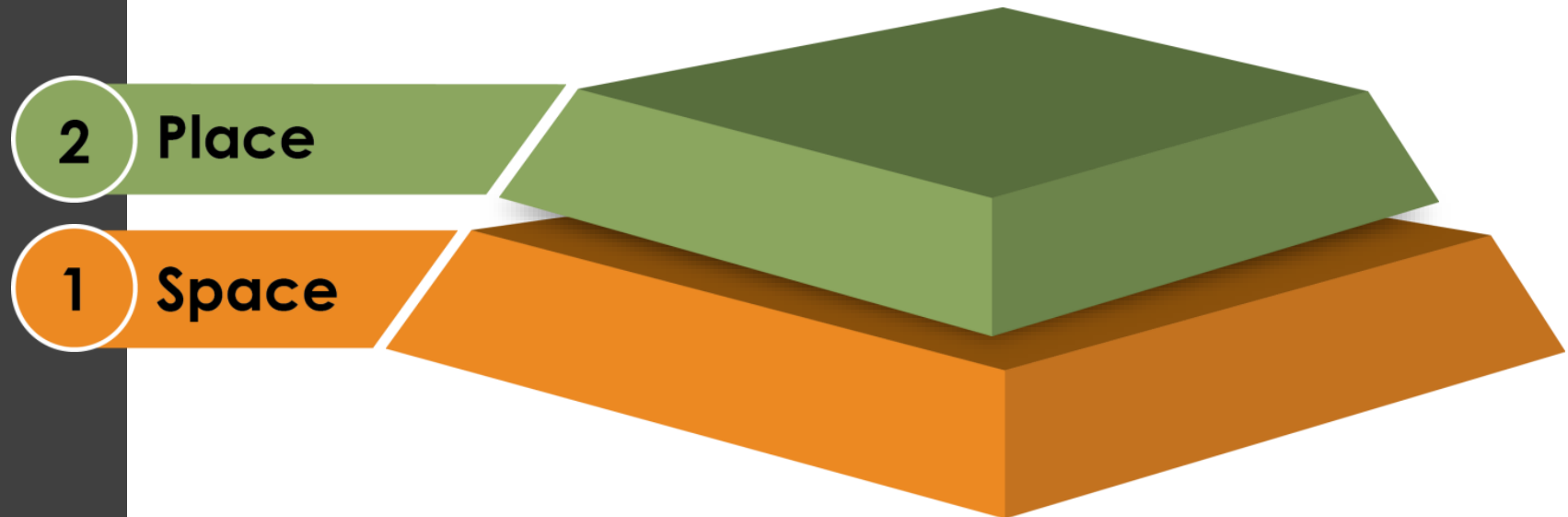
1 Space



Goochland Elementary School, Goochland County, VA
Stantec Architecture

2 Place

...and that space should compliment, reflect, enhance the place in which it's set.



2 Place

Is it a school?

Or is it a prison?

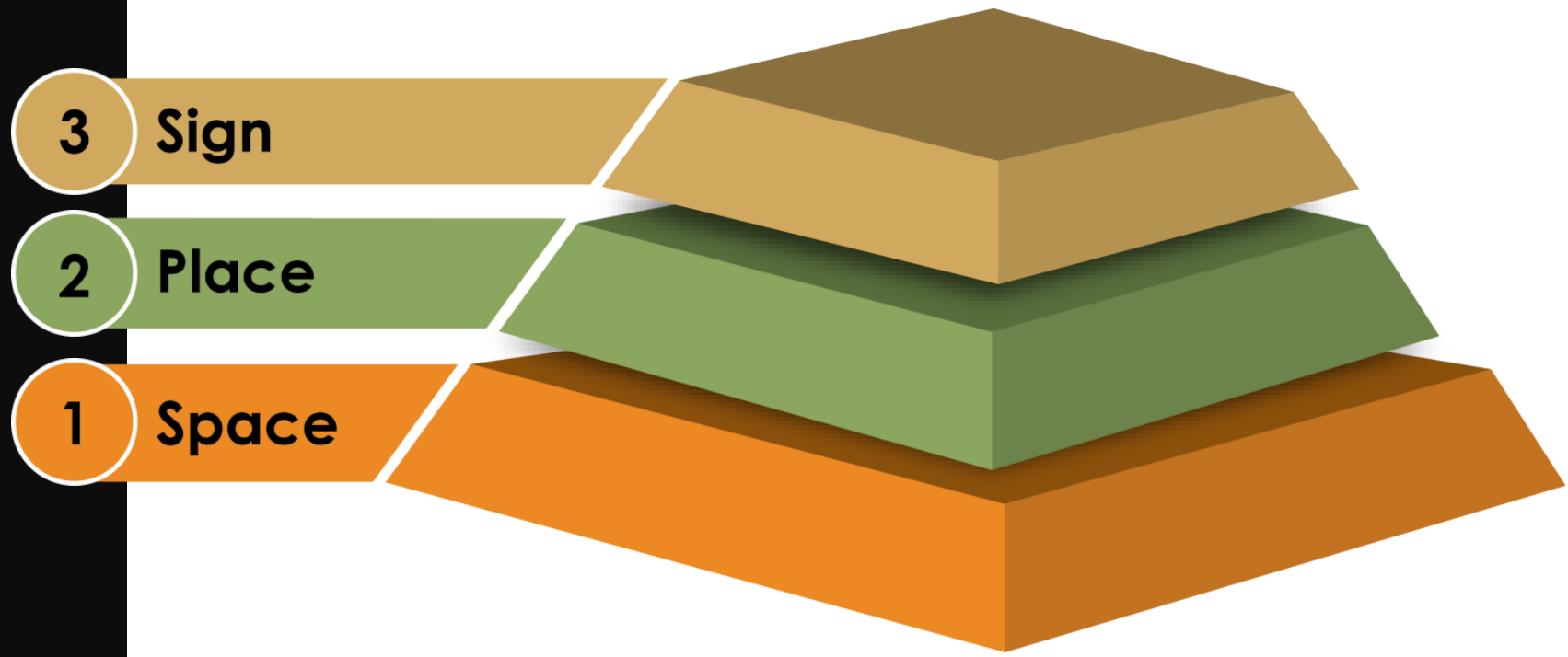


2 Place



3 Sign(al)

Architecture is intuitive.



3 Sign(al)



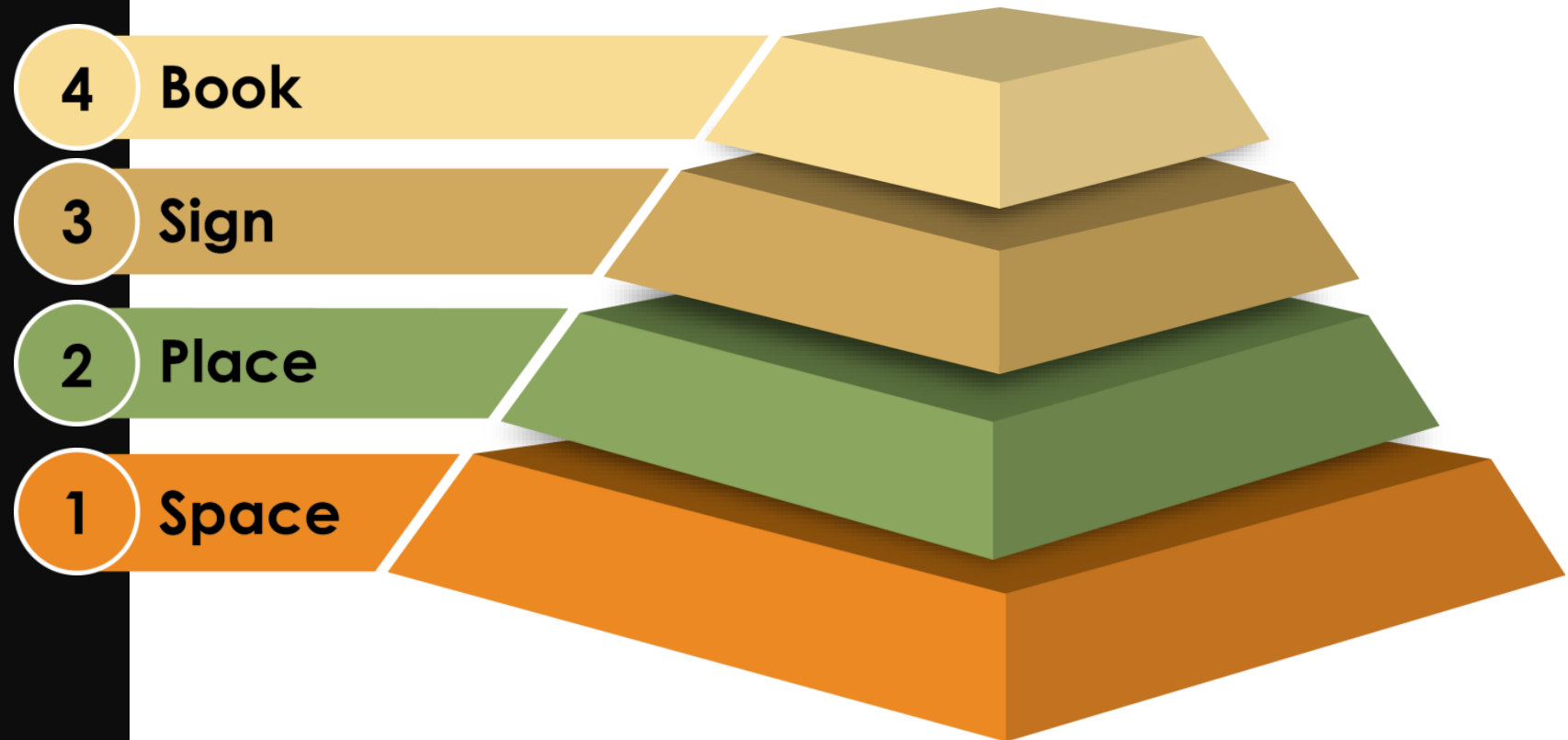
3

Signal



4 Book

Architecture reads like a book.



4

Book



Reims Cathedral, Reims, France

4

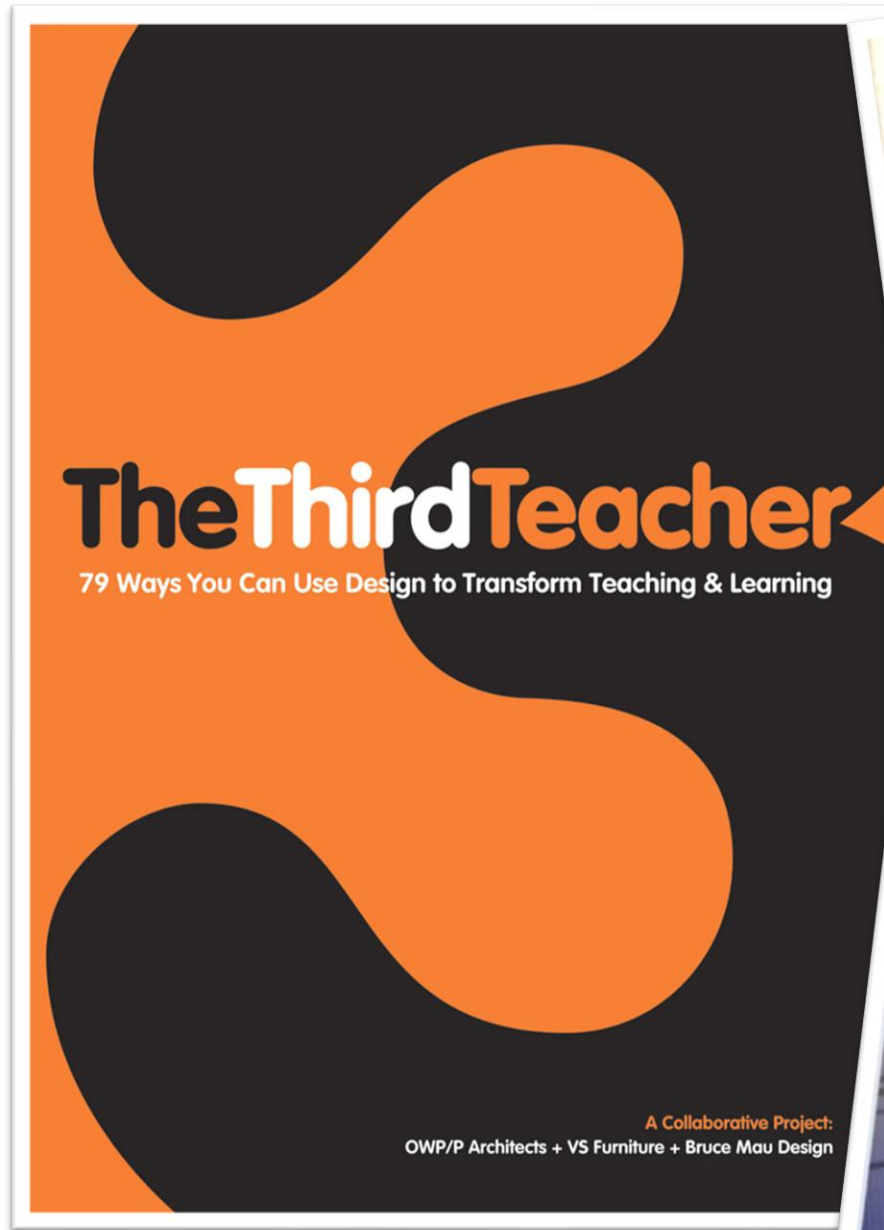
Book



Poquoson Elementary School, Poquoson, VA
VMDO Architects

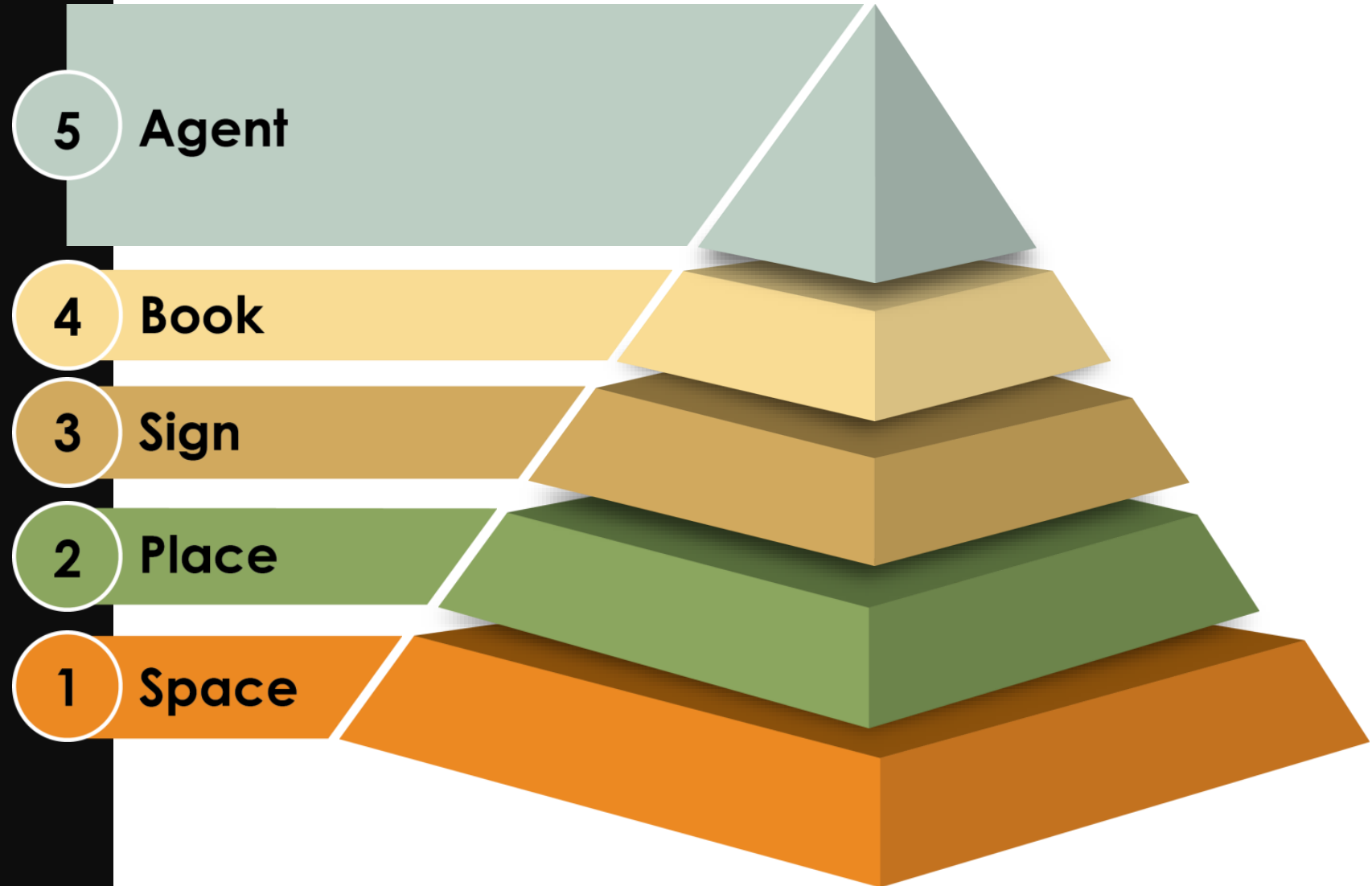
4 Book

...articulating materials and building systems to reinforce lessons in math, science, social studies, and history.



5 Agent

At its best, architecture can be an effective agent for change.



5 Agent



Academical Village at the University of Virginia, Charlottesville, VA
Thomas Jefferson

5

Agent



Crow Island Elementary School, Winnetka, IL
Perkins and Will + Eero Saarinen

5 Agent



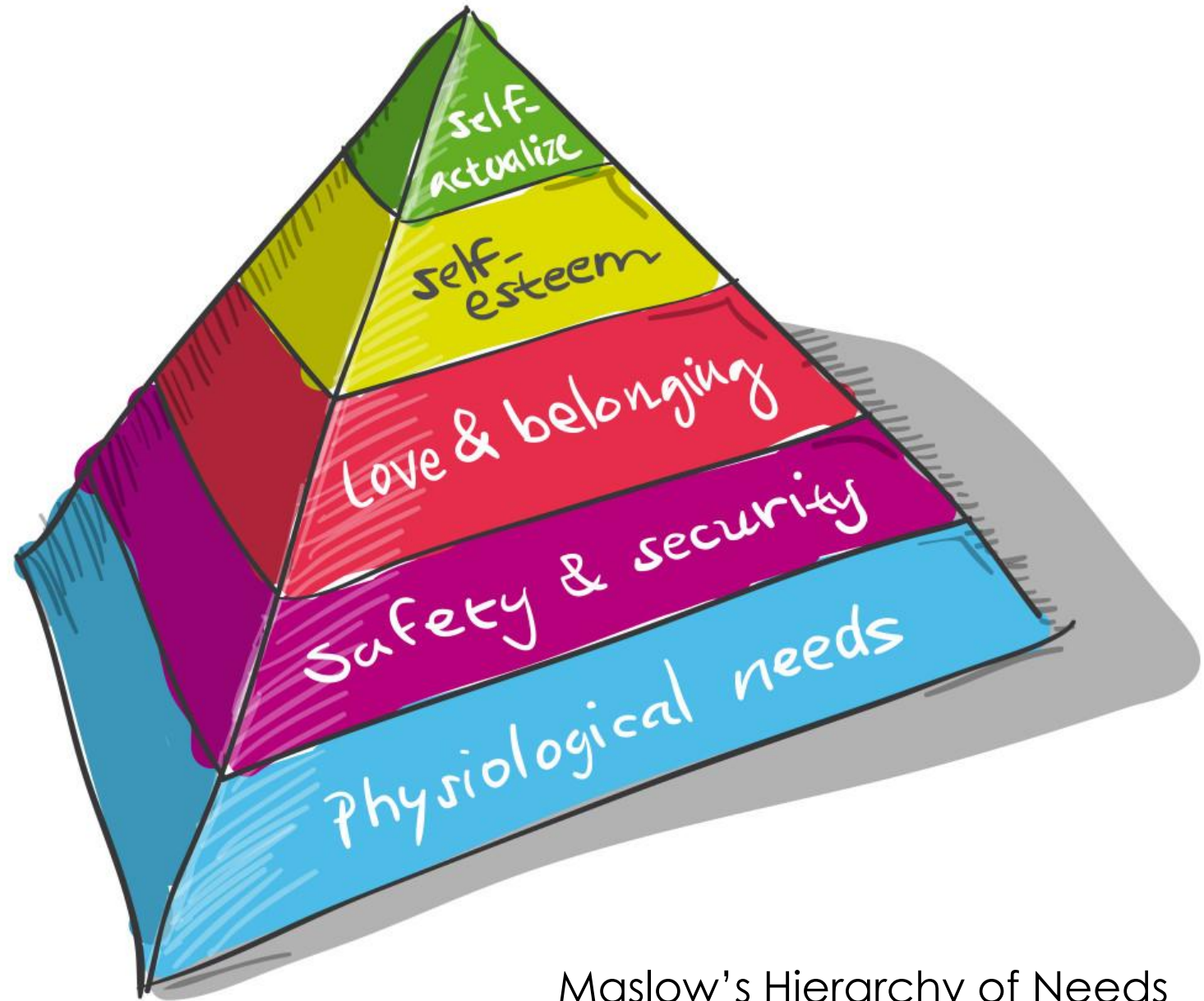
Frederick County Middle School, Frederick County, VA
Stantec Architecture



Self Actualization

the need to pursue and fulfill one's unique potential

the ability to influence thought, shape behavior, and affect positive change through the power of the process and the medium.



Maslow's Hierarchy of Needs

1 Design

Good design is often simpler and, done well, can actually save money.



2 P3

Mechanism for funding for both first and operational costs.



2

P3



2

P3



2

P3



2

P3



Sonia Sotomayor Middle School, Prince George's County, MD
Stantec Architecture | Gilbane | Fengate

2

P3



Sonia Sotomayor Middle School, Prince George's County, MD
Stantec Architecture | Gilbane | Fengate

2

P3



Drew-Freeman Middle School, Prince George's County, MD
Stantec Architecture | Gilbane | Fengate




2

Pros

- Fast delivery
- Upfront capital
- Cost optimization
- Risk transfer
- Cost certainty
- Schedule certainty
- Innovation potential
- Ability to bundle

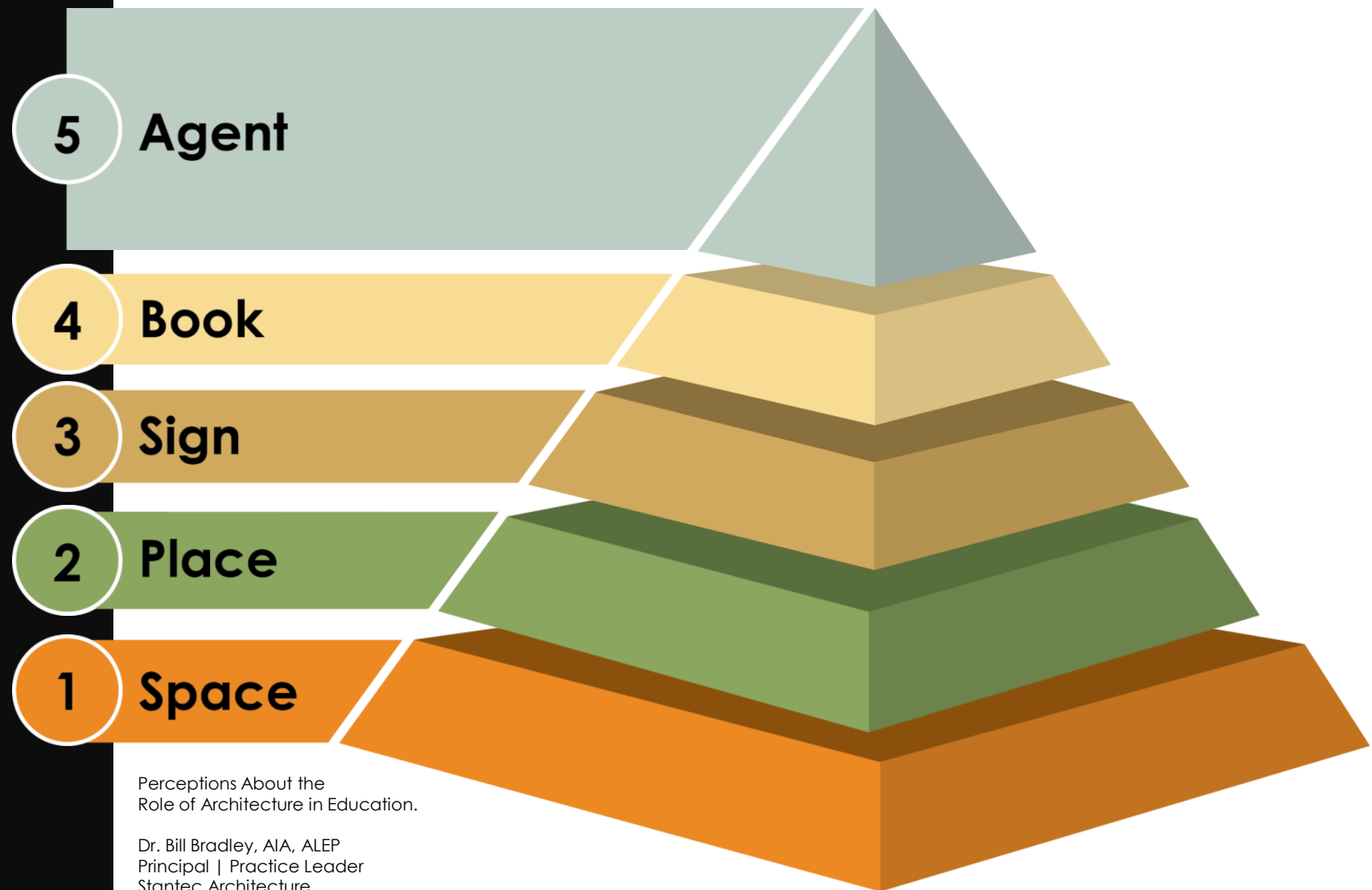
Cons

- Financing costs
- Long-term commitment
- Procurement complexity
- Contract complexity
- Reduced control
- Misalignment risk



The Role of Architecture in Education

How will you leverage the opportunities before you?



Perceptions About the Role of Architecture in Education.

Dr. Bill Bradley, AIA, ALEP
Principal | Practice Leader
Stantec Architecture



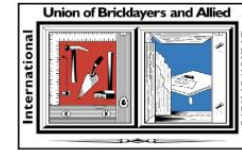
All communities deserve inspiring, safe, healthy, sustainable, & modern public-school buildings & grounds

BASIC is a diverse national coalition united in advocacy for a robust and reliable federal role in modernizing the nation's public-school facilities.

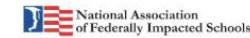
**Ally Talcott
Executive Director**



BASIC Members - Join Us



International Union of Painters and Allied Trades



Green Building Initiative



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D+...America's School Infrastructure Grade



ASCE validates what we already know: ***school buildings and grounds are infrastructure.***

But we need to convince Congress, because they don't think schools are...

Reasons We Lack Congressional Support

Some Members of Congress view school infrastructure as solely a state and local issue.

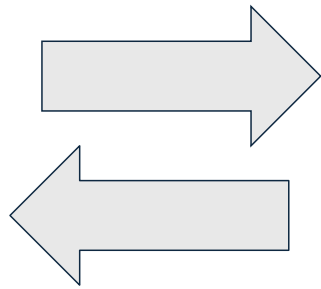
The issue is often narrowly defined as an education concern, but while facility condition affects educational outcomes, it is fundamentally an infrastructure issue.

School buildings and grounds are physical structures that impact students, educators, and the community daily.

BASIC's Role as a Coalition

Federal Advocacy

- Informing policymakers
- Finding common ground
- Creative policy solutions
- Protecting current wins
- Defensive advocacy
- Technical assistance



Public Awareness Campaign

- Inspiring the public to care about school buildings as community centers
- Educating the public about the direct impact of unhealthy buildings and learning loss
- Combating the negative narrative
- Understanding the messages that resonate
- Using those messages to advance policy

Questions?





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