

# Statewide School Infrastructure Study

Progress Update

*April 2024*





# Agenda

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# Your Speakers



**Steve Ezikian**

*Executive Director*  
School Finance Research  
Foundation

Project Role:  
Executive Director



**Kristin Mixon**

*Vice President*  
Plante Moran  
Realpoint

Project Role:  
Overall Program  
Manager



**Jeff Atkins**

*Project Executive*  
Barton Malow  
Builders

Project Role:  
Facility Assessment  
Lead



**Steven Gunther**

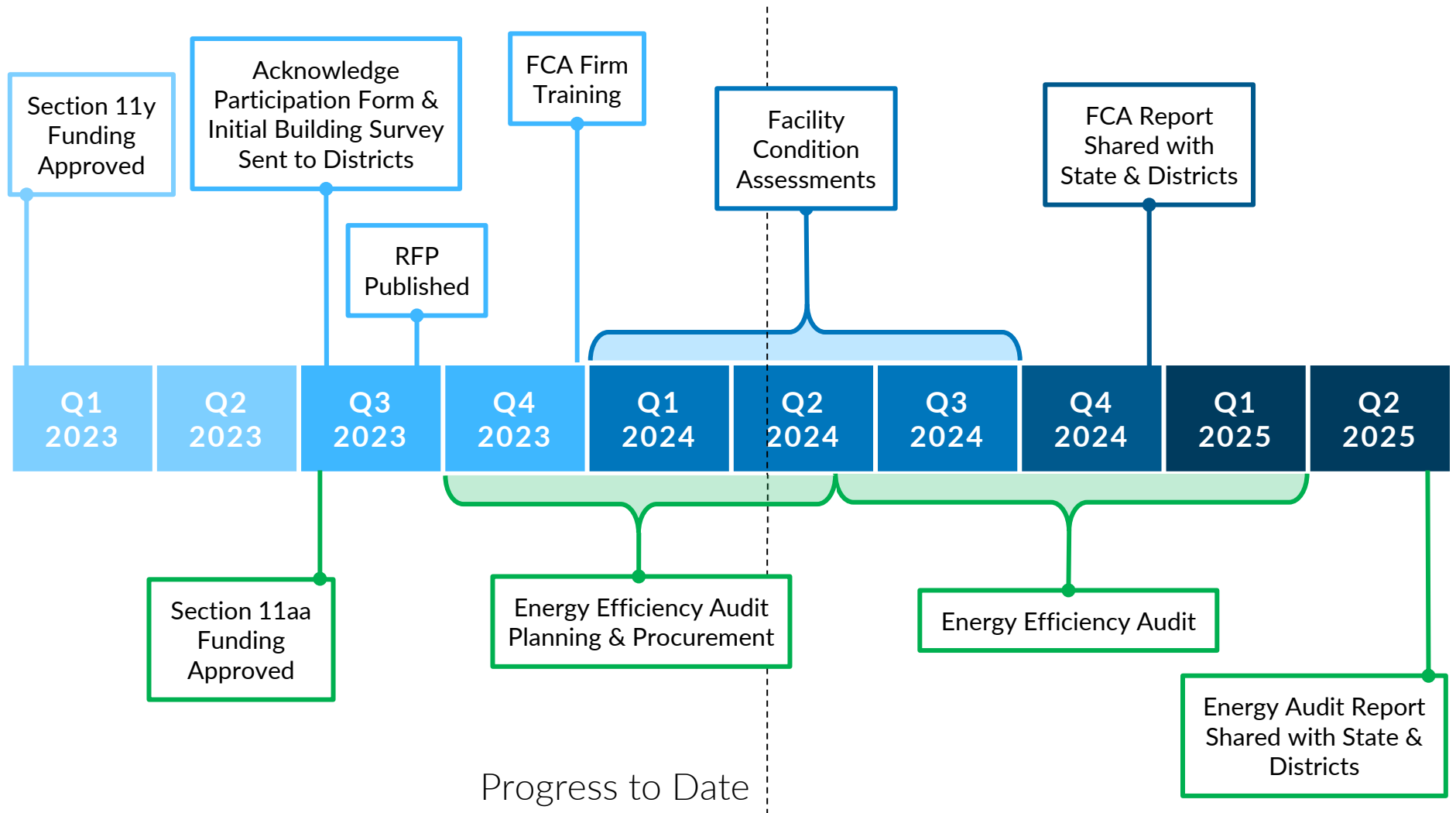
*Mechanical Engineer*  
Strategic Energy  
Solutions

Project Role:  
Energy Audit Lead



# Schedule

The SFRF is championing two distinct initiatives: Section 11y - a Statewide School Infrastructure Study and Section 11aa - a Statewide Energy Efficiency Audit for K-12 Schools.

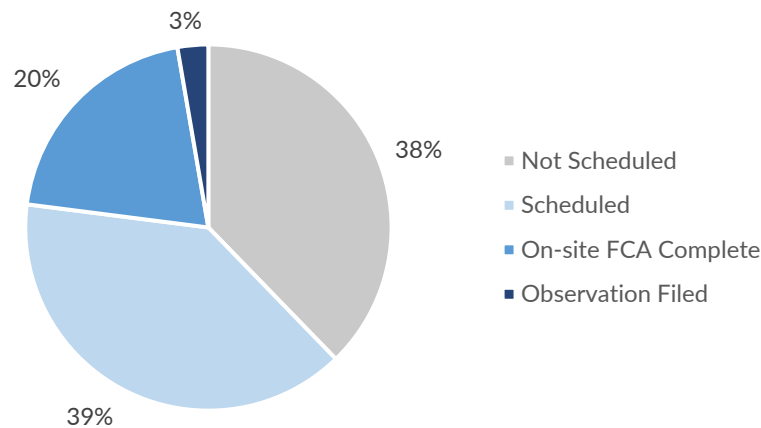


# FCA Progress Update

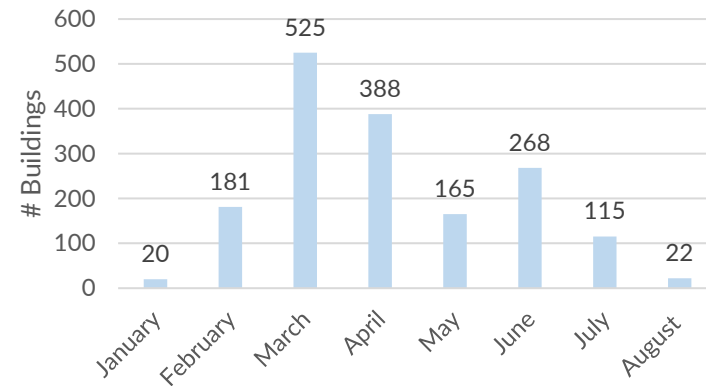
Firms will be contacting Districts to schedule remaining on-site assessments

95% LEA Participation  
34 Michigan-based firms

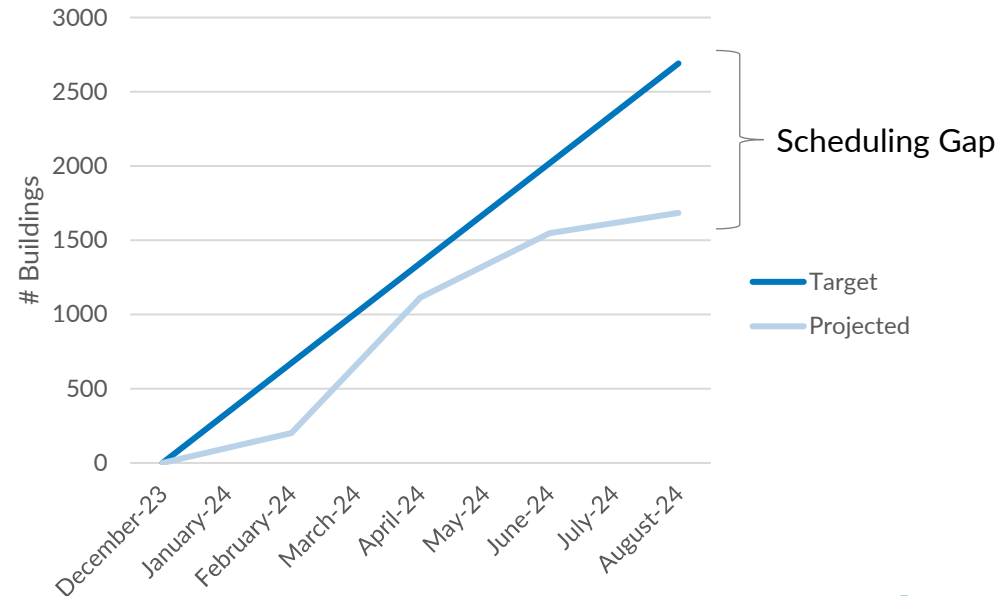
On-Site FCA Progress to Date



On-Site FCA Outlook

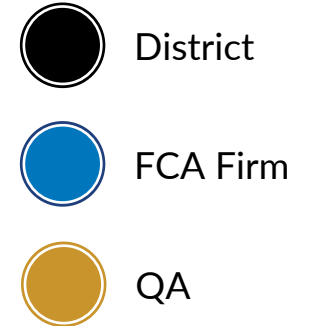


Target Schedule vs Projected

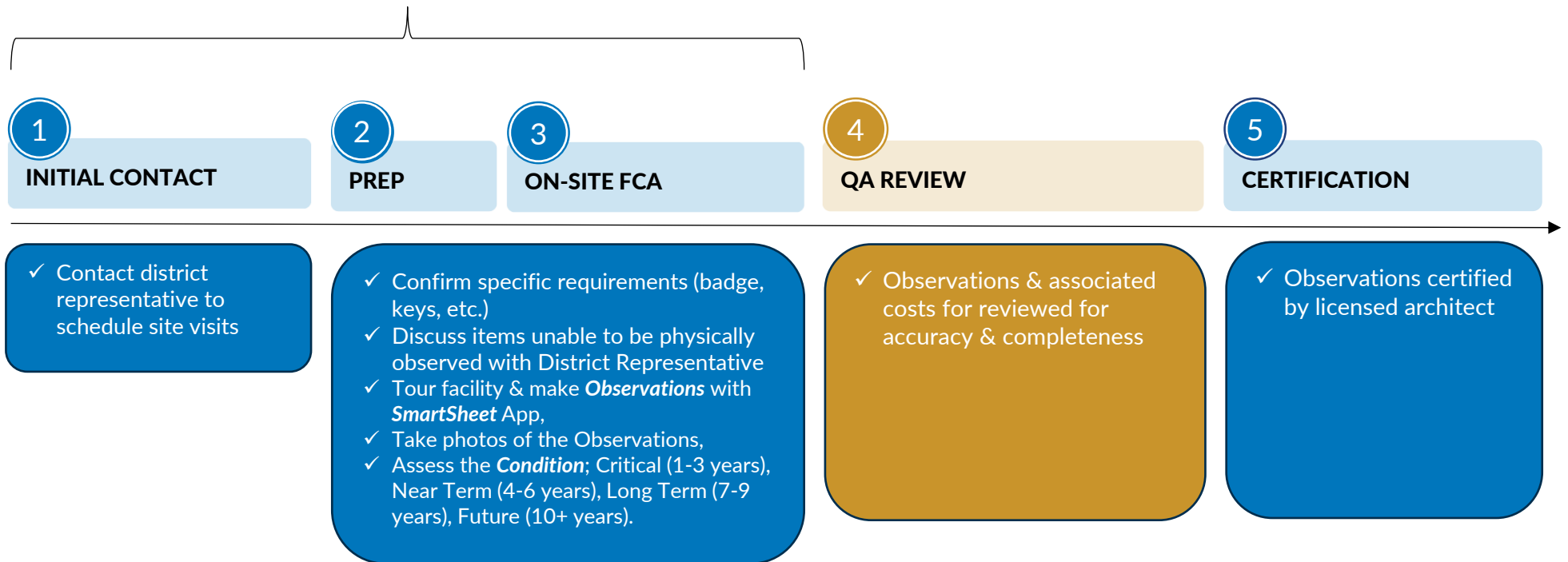


# FCA Walkthrough

## Step by Step Process



### District Representative Coordination



# FCA Walkthrough

SAMPLE

Observations collected to inform cost of capital improvements over the next 10 years

Description - Combined	Location	Description - Combined	Location	Assessment	Quantity	Unit	Observation Notes	Age
C2010 Handrails (code compliant)	at on	A1010 Foundations	exterior perimeter	Future (10+ Years)	1300	LNFT	no settling observed - RD	2001
D1010 Elevators & Lifts		A1030 Slab on Grade	general observation throughout school	Future (10+ Years)	21325	SQFT	no settling observed - JA	2001
D2010 Toilet or Urinal	group	Tunnels	near boiler room	Future (10+ Years)	100	LNFT	no standing water, or signs of previous flooding	2001
D2010 Toilet or Urinal	lower group	B1010 Floor Construction	above ceiling in classroom 101, 2nd floor above	Future (10+ Years)	11325	SQFT	no visible issues with structural steel framing	2001
D2010 Toilet or Urinal	group	B1020 Roof Construction	above ceiling in classroom 202	Future (10+ Years)	21325	SQFT	no visible issues with steel framing or decking	2001
D2010 Flush Valve	lower group	B1020 Canopies	at main front entrance	Near-Term (4-6 Years)	500	SQFT	steel columns have rust/corrosion at bottom due to water, heavy salting	2001
D2010 Sink	group	B2010 Exterior Walls (block)	gymnasium	Future (10+ Years)	26000	SQFT	no visible cracks or settling	2001
D2010 Sink	n/a	B2010 Exterior Walls (brick)	front entry	Critical (1-3 Years)	1000	SQFT	tuckpointing needed at front entry due to heavy salting	2001
D2010 Faucet	throu	B2010 Exterior Walls (metal, non-insulated)	cafeteria	Future (10+ Years)	600	SQFT	minor fading	2001
D2018 Drinking Fountain		B2010 Exterior Walls (metal, insulated)	at upper portion of gym	Future (10+ Years)	2000	SQFT	no visible issues	2001
D2020 Domestic Water Distribution		B2010 Exterior Walls (plaster/EIFS)	at classroom exterior doors	Near-Term (4-6 Years)	999	SQFT	damage in several locations due to vandalism	2001
D2020 hot water heater	boile	B2016 Exterior Soffits	at gym & cafeteria exterior doors	Future (10+ Years)	200	SQFT	good condition	2001
D2030 Sanitary Waste	throu	B2020 Exterior Windows	classrooms	Future (10+ Years)	624	SQFT	good condition, operable, dual pane	2001
D2040 Rain Water Drainage (roof conductors)	gym	B2030 Exterior Doors, numbered	all exterior doors	Critical (1-3 Years)	39	EACH	doors are not numbered	2001
D2040 Rain Water Drainage (roof conductors)	throu	B2030 Exterior Doors, hollow metal	receiving, gym, cafeteria	Near-Term (4-6 Years)	7	EACH	rusting / damage to frames	2001
D2040 Rain Water Drainage (roof conductors)	exce	B2030 Exterior Doors, FRP/aluminum	classrooms, main entry, egress corridors	Future (10+ Years)	31	EACH	good condition	2001
D2023 Backflow Preventor	reoa	B2034 Overhead Doors	adjacent to receiving	Long-Term (7-9)	1	EACH	fair condition, some slight damage	2001
D3022 Hydronic Plumbing	boile	single point of visitor entry	front entry	Future (10+ Years)	1	ALLO	typical secure entry with access control and forced direction into main office for visitors	2019
D3020 Heating Generating System (boiler, small)	outs	D4030 Fire Extinguishers	adjacent to front door	Future (10+ Years)	1	LPSM		2015
D3020 Heating Generating System (boiler, small)	outs	D5010 Electrical Service & Distribution	above media center	Critical (1-3 Years)	4000	SQFT	previous cracking repairs visible	2001
D3040 Exhaust fans	lowe	D5010 Electrical panels	gym, cafeteria	Future (10+ Years)	10000	SQFT	recently replaced	2020
D3040 Exhaust fans	toilet	D5020 exterior building lighting	front	Future (10+ Years)	3350	SQFT	good condition	2001
D3050 rooftop units (RTU), small	abov	D5020 exterior building lighting	class door	Future (10+ Years)	100	SQFT	signs of previous condensation	2001
D3050 rooftop units (RTU), large	abov	D5020 Exit & Emergency Lighting	front lobby	Long-Term (7-9)	100	SQFT	recently replaced	2017
D3050 air handling unit (AHU)	abov	D5037 Fire Alarm System	north classroom wing	Future (10+ Years)	4000	SQFT	recently replaced	2017
D3050 unit vents (UV)	class	D5031 mass notification system	corridor to gymnasium	Long-Term (7-9)	200	SQFT	slight cracking	2001
D3050 unit heater	at fr	D5038 security cameras (interior)	throughout school	Future (10+ Years)	25000	SQFT	no issue, just needs to be repainted	2001
D3050 unit vents (UV)	com							
D3050 unit heater	throu							
D3060 Controls & Instrumentation	abov							
D3030 Cooling Generating System (condensing unit)								
D4010 Sprinklers	corri							
D4030 Fire Extinguishers	near							
D5010 Electrical Service & Distribution	cust							
D5010 Electrical panels	gym							
D5020 exterior building lighting	front							
D5020 exterior building lighting	class door							
D5020 Exit & Emergency Lighting	throu							
D5020 exterior building lighting	main							
D5020 Exit & Emergency Lighting	rece							
D5037 Fire Alarm System	offic							
D5031 mass notification system	PA s							
D5038 security cameras (interior)	only							
D5031 mass notification system	intersections							
D5038 security cameras (interior)	only at some corridor intersections	Critical (1-3 Years)	20000	SQFT			older cameras	2011

# Example Deliverables

## State vs District Reports

EXAMPLE DISTRICT

### District Overview

Building	Critical (1-4yrs)	Near Term (5-9yrs)	Long Term (10+yrs)	Total Capital Need
ABC High School	\$500,000	\$1,500,000	\$2,500,000	\$4,500,000
ABC 9th Grade Center	\$11,400,170	\$5,979,022	\$5,196,110	\$22,635,302
ABC Middle School	\$4,350,134	\$11,845,030	\$3,415,000	\$19,610,164
ABCD Middle School	\$9,470,992	\$13,247,259	\$12,050,336	\$34,768,587
ABC Elementary School	\$11,655,294	\$2,700,576	\$12,164,821	\$26,520,691
ABCD Elementary School	\$9,240,193	\$2,208,983	\$6,728,578	\$18,177,754
<b>ABC School District Total</b>	<b>\$46,678,783</b>	<b>\$37,480,870</b>	<b>\$42,054,845</b>	<b>\$126,214,498</b>

## District Reports

*At the conclusion of this study, each participating LEA will receive district & building level summaries.*

EXAMPLE SCHOOL

### ABC High School

Building Category	Sub-Category	Critical (1-4yrs)	Near Term (5-9yrs)	Long Term (10+ yrs)	Total Capital Need
A-Substructure	A10-Foundation	\$25,000	\$75,000	\$125,000	\$225,000
	A20-Basement	\$15,000	\$45,000	\$75,000	\$135,000
	<b>Substructure Subtotal</b>	<b>\$40,000</b>	<b>\$120,000</b>	<b>\$200,000</b>	<b>\$360,000</b>
B-Shell	B10-Substructure	\$10,000	\$30,000	\$50,000	\$90,000
	B20-Exterior Closure	\$40,000	\$120,000	\$200,000	\$360,000
	B30-Roofing	\$50,000	\$150,000	\$250,000	\$450,000
	<b>Shell Subtotal</b>	<b>\$100,000</b>	<b>\$300,000</b>	<b>\$500,000</b>	<b>\$900,000</b>
C-Interiors	C10-Interior Construction	\$60,000	\$180,000	\$300,000	\$540,000
	C20-Staircases	\$30,000	\$90,000	\$150,000	\$270,000
	C30-Interior Finishes	\$35,000	\$105,000	\$175,000	\$315,000
	<b>Interiors Subtotal</b>	<b>\$125,000</b>	<b>\$375,000</b>	<b>\$625,000</b>	<b>\$1,125,000</b>
D-Services	D10-Conveying Systems	\$40,000	\$120,000	\$200,000	\$360,000
	D20-Plumbing	\$25,000	\$75,000	\$125,000	\$225,000
	D30-HVAC	\$15,000	\$45,000	\$75,000	\$135,000
	D40-Fire Protection	\$10,000	\$30,000	\$50,000	\$90,000
	D50-Electrical	\$5,000	\$15,000	\$25,000	\$45,000
	<b>Services Subtotal</b>	<b>\$95,000</b>	<b>\$285,000</b>	<b>\$475,000</b>	<b>\$855,000</b>
E-Equipment & Furnishings	E10-Equipment	\$5,000	\$15,000	\$25,000	\$45,000
	E20-Furnishings	\$10,000	\$30,000	\$50,000	\$90,000
	<b>Equipment &amp; Furnishings Subtotal</b>	<b>\$15,000</b>	<b>\$45,000</b>	<b>\$75,000</b>	<b>\$135,000</b>
F-Special Construction & Demo	F10-Special Construction	\$10,000	\$30,000	\$50,000	\$90,000
	F20-Selective Demo	\$20,000	\$60,000	\$100,000	\$180,000
	<b>Special Construction &amp; Demo Subtotal</b>	<b>\$30,000</b>	<b>\$90,000</b>	<b>\$150,000</b>	<b>\$270,000</b>
G-Building Sitework	G10-Site Preparation	\$25,000	\$75,000	\$125,000	\$225,000
	G20-Site Improvements	\$30,000	\$90,000	\$150,000	\$270,000
	G30-Site Utilities	\$15,000	\$45,000	\$75,000	\$135,000
	G40-Site Electrical	\$15,000	\$45,000	\$75,000	\$135,000
	G50-Other Site Construction	\$10,000	\$30,000	\$50,000	\$90,000
	<b>Building Sitework Subtotal</b>	<b>\$95,000</b>	<b>\$285,000</b>	<b>\$475,000</b>	<b>\$855,000</b>
	<b>ABC High School Total</b>	<b>\$500,000</b>	<b>\$1,500,000</b>	<b>\$2,500,000</b>	<b>\$4,500,000</b>

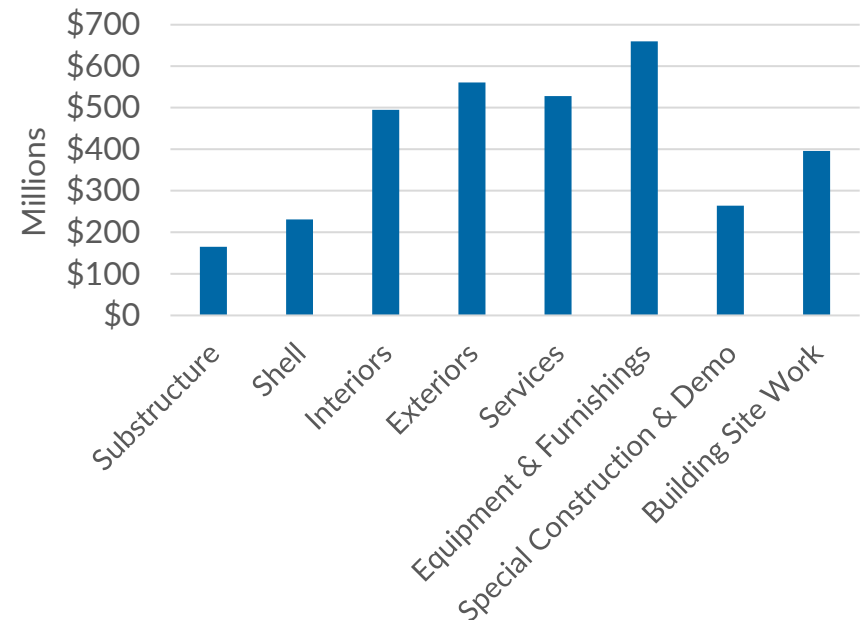
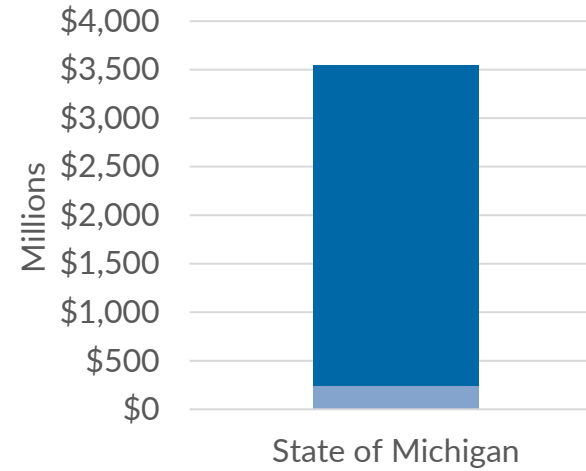
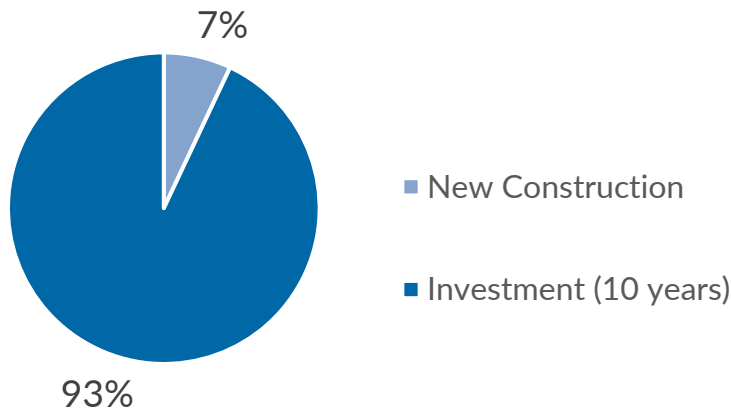


# Example Deliverables

## State vs District Reports

### State Report

- ✓ Total Potential Investment Need
  - ✓ Critical, Near Term, Long Term
- ✓ Total Potential New Construction Need
- ✓ Trends in building component upkeep/needs



# Energy Efficiency Audit

## On-site audits will begin in June

The Energy Audit will assess the opportunity for efficiency and cost savings in Michigan Schools. Participating schools will be positioned to seek available federal funding and potential state funding for the installation of energy efficient building systems.

**78%** LEA Participation  
**12** Michigan-based firms



### Analysis

- Benchmarking/Establish Target Estimate Savings
- Identification of Energy Savings Opportunities
- Solar Readiness Analysis



### Inputs

1. 12 Months Utility Bills (Jan-Dec 2023)
2. On-Site Observations



### Outputs

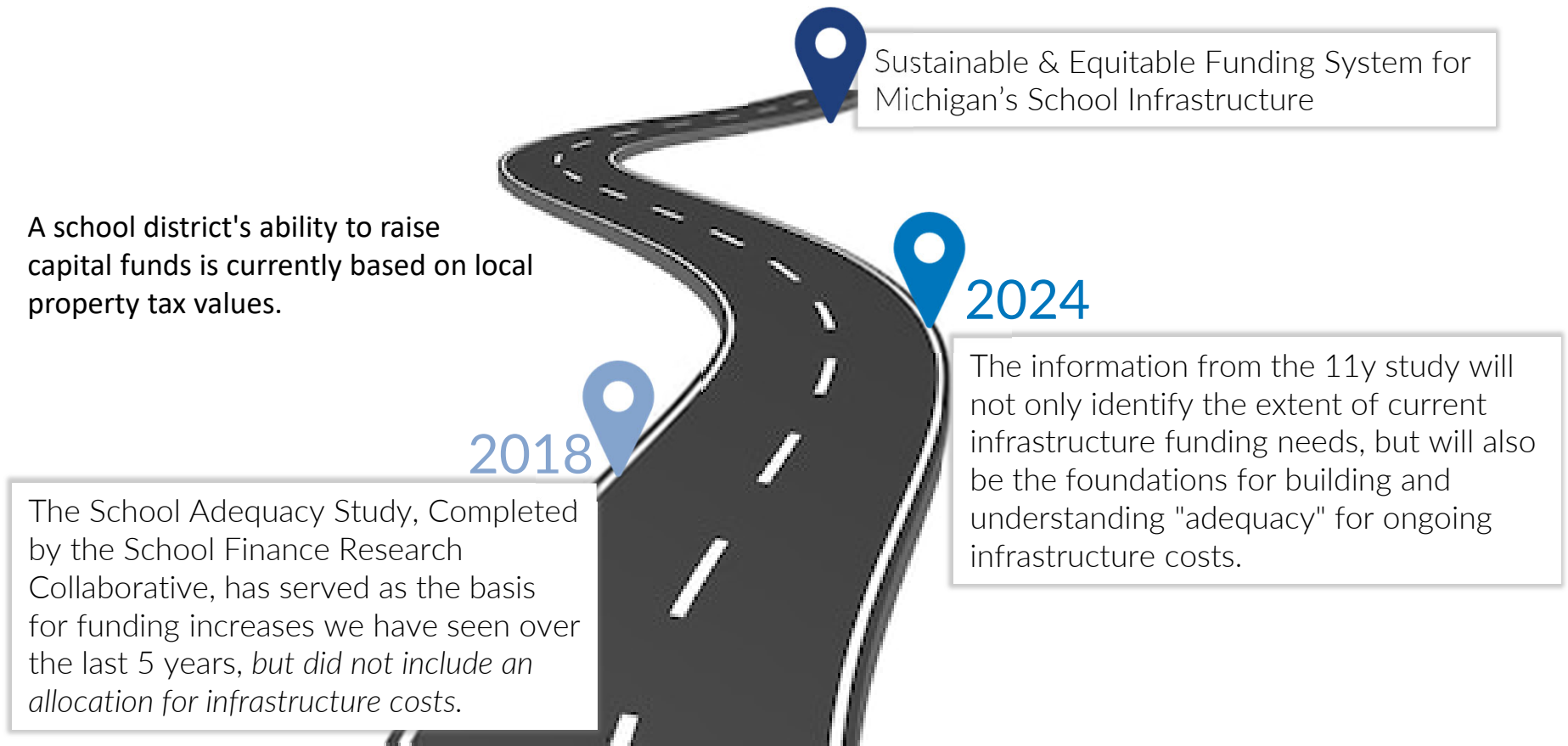
- ✓ Energy Efficiency Measures (EEMs) for the following building components:
  - Building Envelope and Weatherization
  - Plumbing
  - HVAC
  - Electrical (Internal and Exterior Lighting Only)
  - Utilities
  - Equipment & Appliances (Major Building Appliances Only)
- ✓ Solar Readiness Considerations (Rooftop, Greenspace, Parking Lost)

**\*Districts must upload on Smartsheet platform by May 31, 2024.**  
 On-site audits cannot be scheduled until this is complete.

# Long Term Vision

These initiatives will help inform the future of K-12 education in our State.

The Infrastructure study under Section 11y is only the first step in building a sustainable and equitable funding system for school infrastructure in the State of Michigan.



# Questions