

**AMPHITHEATER**

*P u b l i c S c h o o l s*

# Facilities Condition and Capital Plan

# Definitions

- Facility Condition Assessment (FCA)
  - An inspection method used to document the condition of a facility
  - Based on an on-site physical assessment
  - Verifies building system components and conditions
  - Used to determine facility capital renewal and deferred capital needs



# Definitions

- Facility Condition Index (FCI)
  - A measure used to represent the physical condition of a facility as compared to its replacement value
  - Measures and estimates the cost for repair and / or replacement of deficiencies when divided by the replacement cost of a building
  - Results in an index expressed as a percentage
  - The higher the FCI score, the worse the facilities condition

$$\text{FCI} = \frac{\text{Repair and Renewal Needs}}{\text{Current Replacement Value}}$$



# Definitions

- Facility Condition Index (FCI)

Rating	NACUBO Guildline	Report Guildline
Good	0.0 - 5.0%	0.0 - 15.0%
Fair	5.1 - 10.0%	15.1 - 30.0%
Poor	10.1 - 100%	30.1 - 100%



# Definitions

- Current Replacement Value (CRV)
  - The hypothetical cost of rebuilding or replacing an existing facility
  - Determined by multiplying the gross area of the facility by a square foot cost schedule model
  - Excludes one time construction costs and owner's soft costs (architect, permits, grading, utility connections, steel, furnishings)
- CRV = \$170.00 per square foot in 2015
  - Inflated 3% per year
  - 2016 CRV = \$175
  - STEM School actual = \$172.40 (- 1.5%)



# Definitions

- Life Cycle
  - Expected life of equipment and building systems
  - Used to calculate depreciated life expectancy of systems
  - Based on Arizona School Facilities Board system life expectancies



# Purpose

- Perform assessment of all facilities to develop a current FCA database that can be used to support funding decisions
- Identify facility deficiency budgets that can be prioritized and categorized to maximize repair/replace efficiencies
- Establish FCI as prioritization tool to quantify each building's current condition and future funding needs
- Develop facility system renewal cost forecasts for site infrastructure and building systems component life-cycle
  - Short Term of five years
  - Long Term of five additional years



# Objectives Achieved

- Collated relevant existing building data, including prior assessments and preventive maintenance inspection reports
- Updated the facility inventory of fixed assets and completed an assessment of facility conditions
- Developed a comprehensive facilities condition assessment database and facility condition index methodology
- Prepared 5 and 10 year capital plans
- Oriented facilities management personnel to complete facilities assessments and maintain fixed assets database using accepted industry best practices



# Data Base Demonstration



# Assessment Benefits

- The data reports conditions and capital renewal requirements
- Procurement savings - Renewal data provides statistically derived future funding requirements to proactively plan projects
- Leveled procurement - The database's projections identifies horizontal procurement opportunities (grouping contracts by trade) or bundling deficiencies vertically (grouping contracts by building)
- Ranked needs - The FCI index provides a ranking and potential "worst first" method for execution of renewal needs



# Assessment Benefits

- Automated budget - The database cost data is derived from the current cost of similar projects and local construction costs - updated each year
  - Assign priorities to each deficiency to determine its urgency
  - Enhanced determination on when repair/renovation should be scheduled
  - Priorities set to determine which projects will be done with limited funding
- Are the numbers real? (Cost projections completed in Sep 2014)
  - 2016 CRV = \$175
  - STEM School – estimated \$175 per sq. ft. / actual \$172.40 (- 1.5%)
  - Harelson Roofing – estimated \$43,883 / actual \$42,077 (-4.1%)
  - CDO Chiller – estimated \$160,038 / actual \$166,157 (+3.8%)
  - AHS 800 wing roofing – estimated \$42,642 / actual \$46,900 (+9.9%)



# Current and Forecast Needs

- The following table summarizes the capital investment needed in District facilities, by general facility class, to address the immediate (year 1) needs that were documented in the 2015 assessment:

Facility Asset Class	Gross Area	Current Replacement Value	Current Needs (2015)	2015 FCI
<b>District Wide</b>	<b>2,579,725</b>	<b>438,553,250</b>	<b>17,001,191</b>	<b>16.54%</b>
Elementary Schools	773,037	131,416,290	4,045,079	15.10%
Middle Schools / K-8	693,085	117,824,450	3,666,989	15.79%
High Schools	918,109	156,078,530	8,909,733	19.39%
Administrative and Support	195,494	33,233,980	379,390	11.54%
Good 0% - 15%	Fair 15.1 - 30%	Poor > 30%		



# Current and Forecast Needs

- A 5 and 10 year total cost is also provided below:

Facility Asset Class	Gross Area	Current Replacement Value	2015 FCI	Short Term Needs (2015-20)	Long Term Needs (2021-25)	Total Needs (2015-25)
<b>District Wide</b>	<b>2,579,725</b>	<b>438,553,250</b>	<b>16.54%</b>	<b>45,412,832</b>	<b>30,441,474</b>	<b>75,854,306</b>
Elementary Schools	773,037	131,416,290	15.10%	11,844,595	8,189,875	20,034,470
Middle Schools / K-8	693,085	117,824,450	15.79%	10,751,538	7,799,722	18,551,260
High Schools	918,109	156,078,530	19.39%	12,770,059	12,770,059	34,058,298
Administrative and Support	195,494	33,233,980	11.54%	1,681,818	1,681,818	3,210,278



# Facility Condition

- The 25 school and non-school sites and their associated buildings used as administrative, special purpose, transportation, maintenance, support, or warehouses, are in overall "Fair" condition with a combined weighted facility condition index (FCI) of 16.54%.

Facility Asset Class	Overall FCI	Number of Sites	Gross Area	Good FCI 0% - 15.0%		Fair FCI 15.1% - 30.0%		Poor FCI > 30.1%	
				Count	Gross Area	Count	Gross Area	Count	Gross Area
District Wide	16.54%	25	2,579,725	10	670,763	15	1,908,962	-	-
Elementary Schools	15.10%	11	773,037	6	417,670	5	355,367	-	-
Middle Schools / K-8	15.79%	5	693,085	1	124,977	4	568,108	-	-
High Schools	19.39%	3	918,109	-	-	3	918,109	-	-
Administrative and Support	11.54%	6	195,494	3	128,116	3	67,378	-	-



# Current Deficiencies

Deferred capital replacement of life-cycle expired building systems and unfunded capital repairs and renovations represent a budget year 2015 deficiency of approximately \$17,001,188

What do we need?

Data shown on next two slides



Building System	Current Deficiencies	Short Term Needs	Long Term Needs	Total Needs
	2015	2015 - 2020	2021 - 2025	Ten Year
<b>TOTAL</b>	<b>17,001,188</b>	<b>45,412,832</b>	<b>30,441,474</b>	<b>75,854,306</b>
<b>Site Structures</b>				
Parking Lots / Drives	915,457	2,056,671	526,309	<b>2,582,980</b>
Gates and Fencing	45,220	421,908	61,143	<b>483,052</b>
Walkways and Patios	69,648	263,484	268,520	<b>532,004</b>
Athletic Courts	439,234	497,367	423,942	<b>921,309</b>
Exterior Bleachers	-	-	264,128	<b>264,128</b>
<b>Exterior Surfaces</b>				
Exterior Enclosure	-	445,574	695,975	<b>1,141,549</b>
Eaves and Overhangs	52,402	736,589	392,084	<b>1,128,673</b>
Exterior Doors	75,636	395,495	700,661	<b>1,096,155</b>
Exterior Windows	22,441	309,046	244,420	<b>553,465</b>
<b>Interior Surfaces</b>				
Interior Brick and Steel	-	157,396	311,199	<b>468,595</b>
Drywall	43,948	193,987	262,874	<b>456,862</b>
Flooring	324,607	923,146	365,902	<b>1,289,048</b>
Tile	9,748	227,677	151,698	<b>379,374</b>
Ceilings	72,307	639,024	332,188	<b>971,212</b>
Interior Doors	6,718	143,652	16,981	<b>160,633</b>
Operable Walls	63,442	218,402	55,989	<b>274,391</b>
Built in furniture	49,816	186,702	115,953	<b>302,655</b>
Interior Windows	-	69,599	9,322	<b>78,921</b>
<b>Roofing</b>				
Roof Sytem	737,168	2,971,922	2,890,402	<b>5,862,324</b>
Flashings and curbing	434,162	1,635,759	2,004,473	<b>3,640,232</b>
Drains	26,304	707,808	1,242,572	<b>1,950,381</b>
<b>Grounds</b>				
Turf	246,407	284,317	-	<b>284,317</b>
Non-turf	167,275	224,540	-	<b>224,540</b>
Plant Materials	169,598	201,557	40,066	<b>241,623</b>
Athletic Fields	143,709	157,077	-	<b>157,077</b>
Playgrounds	53,777	174,738	16,170	<b>190,908</b>
Drainage	124,705	147,438	-	<b>147,438</b>
Trees	121,028	148,729	-	<b>148,729</b>
<b>Irrigation</b>				
Turf Irrigation	-	4,603	275,514	<b>280,117</b>
Non-turf Irrigation	-	20,022	248,505	<b>268,527</b>
Plant Material irrigation	-	15,017	207,964	<b>222,981</b>
Athletic Field Irrigation	-	1,492	208,902	<b>210,393</b>
Wells	2,195	37,322	60,619	<b>97,941</b>
Tree Irrigation	-	10,760	141,272	<b>152,032</b>



Building System	Current Deficiencies	Short Term Needs	Long Term Needs	Total Needs
	2015	2015 - 2020	2021 - 2025	Ten Year
<b>Plumbing</b>				
Waterheaters	961,084	1,239,315	1,440,355	2,679,670
Domestic Water	944,453	1,322,072	974,290	2,296,362
Gas Distribution	738,270	1,289,744	399,878	1,689,622
Fixtures and Valves	391,953	609,596	538,329	1,147,925
Backflows	372,511	601,930	357,060	958,990
Trap and Septic Systems	373,763	565,848	322,405	888,253
Swimming Pools	-	2,351	-	2,351
Disposal Lift Stations	121,718	141,642	73,219	214,861
<b>HVAC</b>				
Boilers	377,346	1,364,196	684,914	2,049,110
Chillers	409,690	2,338,647	1,931,158	4,269,805
Cooling Towers	191,613	1,442,177	59,792	1,501,969
Energy Management	462,897	726,081	943,084	1,669,165
Fan Coils	186,593	630,596	363,275	993,871
Heat Pumps	266,655	364,749	92,369	457,118
Heating Systems	120,028	384,338	191,670	576,008
Package Refrigeration	909,965	2,723,051	1,206,775	3,929,826
Mulizone Systems	128,083	455,017	413,853	868,870
Split Systems	53,907	611,963	623,454	1,235,417
Evaporative Coolers	119,184	181,692	134,729	316,421
<b>Electrical</b>				
Switchgear	1,313,561	2,673,655	1,455,947	4,129,602
Transformers	660,170	1,990,972	406,074	2,397,046
Interior Lighting	330,261	1,357,088	740,373	2,097,460
Exterior Lighting	492,126	1,003,316	441,875	1,445,191
Emergency Lighting	489,345	998,886	333,927	1,332,813
Recepticals	91,419	494,953	291,947	786,900
Dimmers Systems	124,830	254,901	-	254,901
Emergency Generators	-	-	88,919	88,919
Inverters	87,730	87,730	9,241	96,972
<b>Special Systems</b>				
Fire Alarms	875,699	1,548,142	1,460,241	3,008,383
Fire Sprinklers	375,627	530,673	687,251	1,217,924
Clocks	240,966	408,185	363,864	772,048
Access Control	20,595	310,265	122,843	433,107
Intercoms	265,392	412,064	460,545	872,609
Intrusion Alarms	49,111	87,129	-	87,129
<b>Special Equipment</b>				
Bleachers	-	444,007	33,385	477,392
Elevators and Lifts	-	508,389	67,294	575,683
ADA Door Openers	7,287	226,682	118,808	345,490
Lockers	-	147,926	15,933	163,859
Stage Rigging	-	68,161	-	68,161
Skylighting	13,734	134,067	10,475	144,543
Kilns	16,671	101,819	46,177	147,995



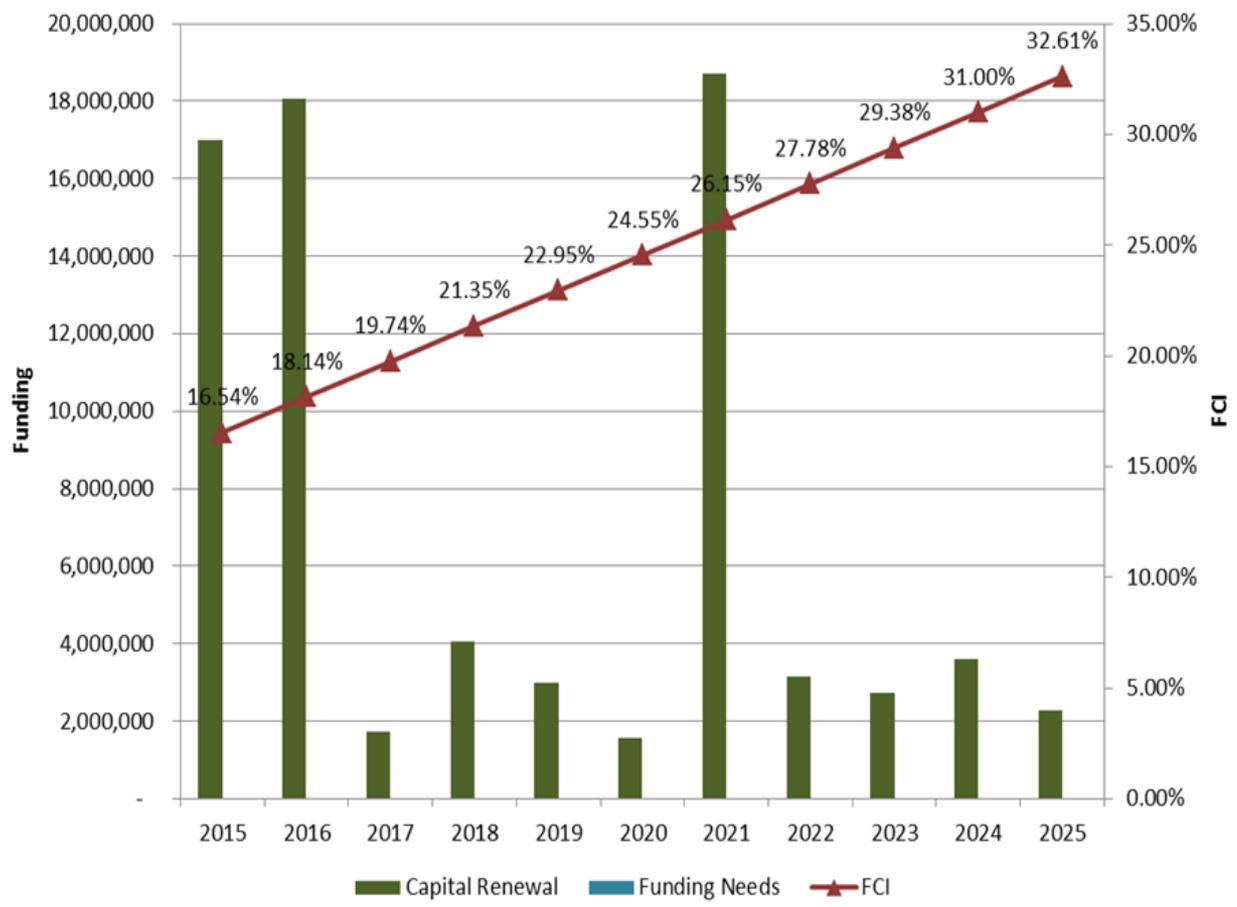
# 2015-2025 CAPITAL FUNDING SCENARIOS

- Referring to the facility assessment summary, the total short term (2015-2020) and long-term period (2021-2025) funding needs are \$75,854,306. In the analyses shown on the following slides, the facility condition data developed during the assessment was used to produce four funding scenarios:



# Scenario 1: Do nothing

None of the current or forecasted renewal needs are funded

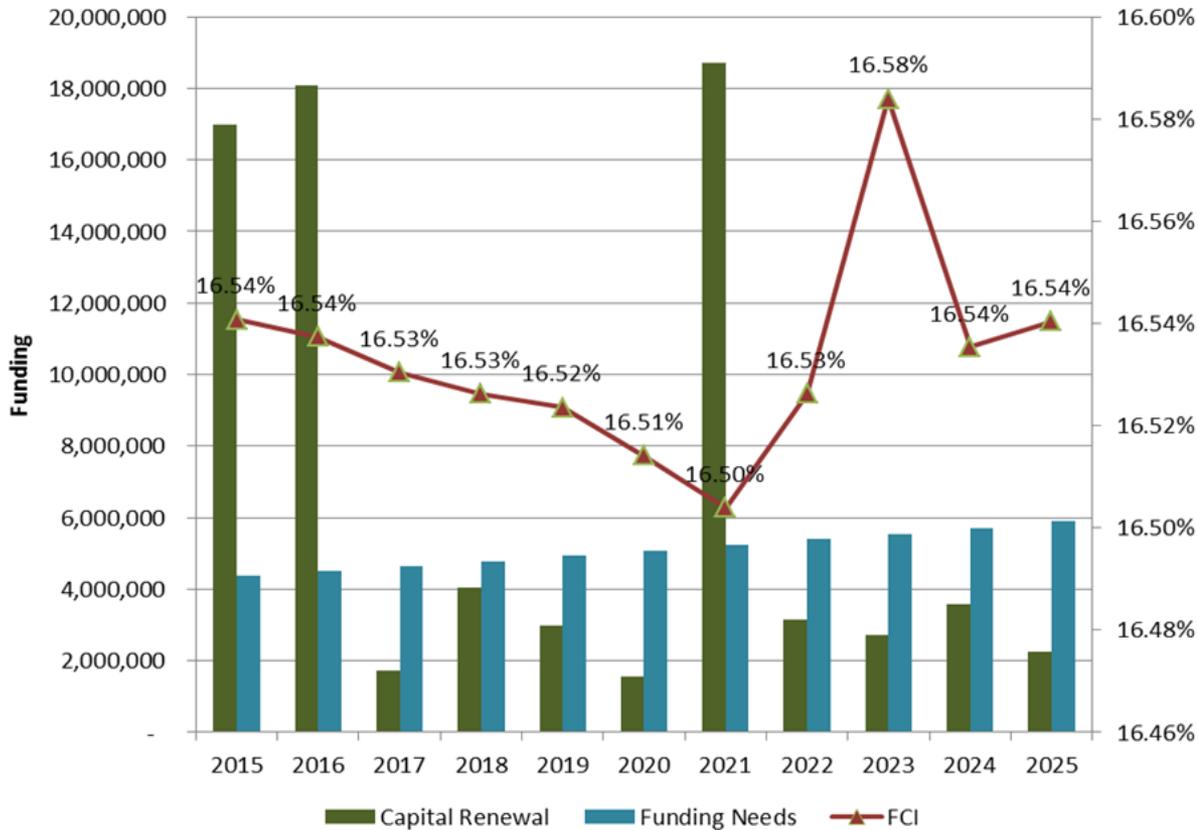


Year	Capital Renewal	Funding Needs	FCI
2015	17,001,191	-	16.54%
2016	18,078,213	-	18.14%
2017	1,734,952	-	19.74%
2018	4,055,450	-	21.35%
2019	2,979,368	-	22.95%
2020	1,563,658	-	24.55%
2021	18,708,652	-	26.15%
2022	3,144,857	-	27.78%
2023	2,733,584	-	29.38%
2024	3,587,650	-	31.00%
2025	2,266,731	-	32.61%
<b>Total</b>	<b>75,854,306</b>	<b>-</b>	



# Scenario 2: Maintain current FCI

= 16.54% "fair" funding only the annual forecasted capital renewal

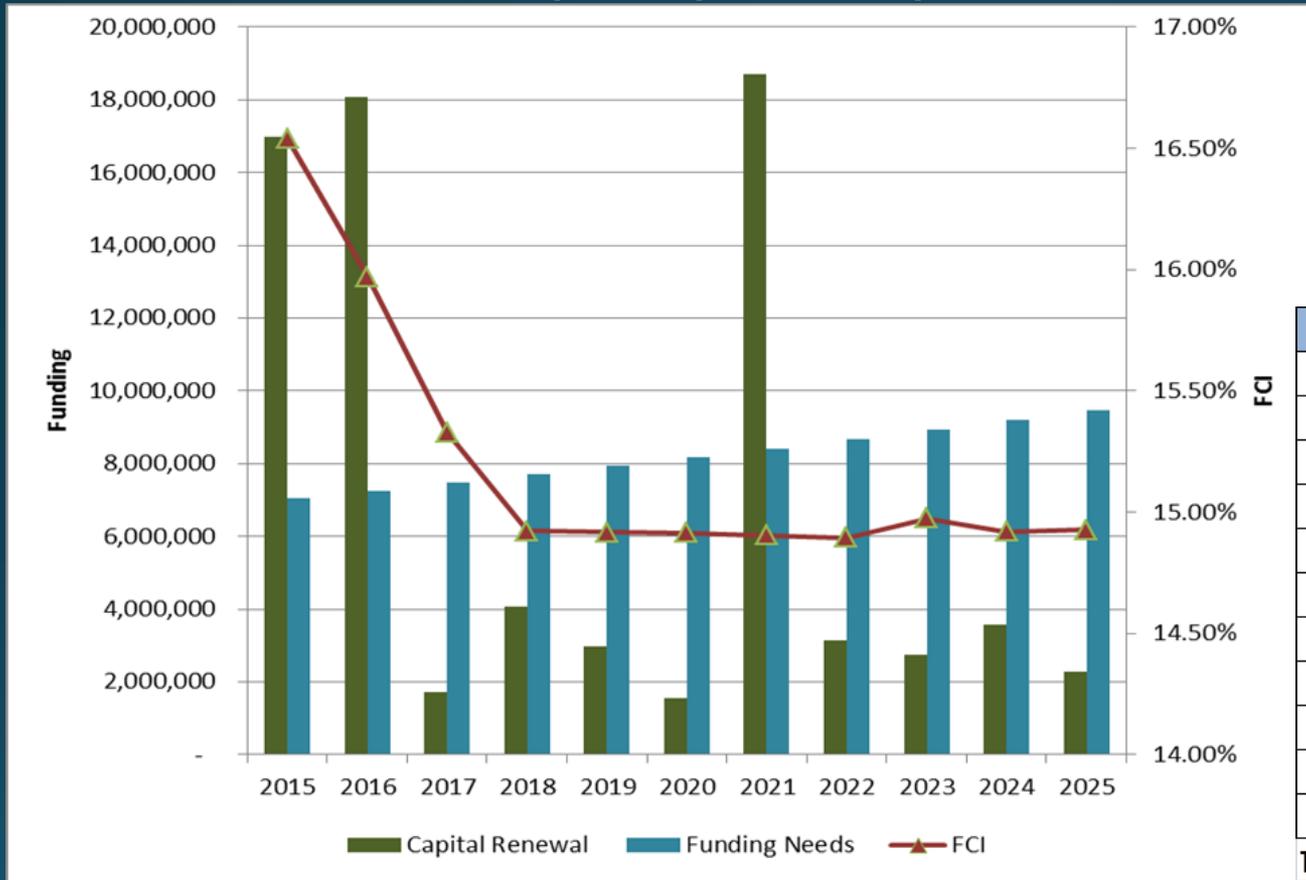


Year	Capital Renewal	Funding Needs	FCI
2015	17,001,191	4,385,533	16.54%
2016	18,078,213	4,517,098	16.54%
2017	1,734,952	4,652,611	16.53%
2018	4,055,450	4,792,190	16.53%
2019	2,979,368	4,935,955	16.52%
2020	1,563,658	5,084,034	16.51%
2021	18,708,652	5,236,555	16.50%
2022	3,144,857	5,393,652	16.53%
2023	2,733,584	5,555,461	16.58%
2024	3,587,650	5,722,125	16.54%
2025	2,266,731	5,893,789	16.54%
<b>Total</b>	<b>75,854,306</b>	<b>56,169,004</b>	



# Scenario 3: Fund to improve to FCI

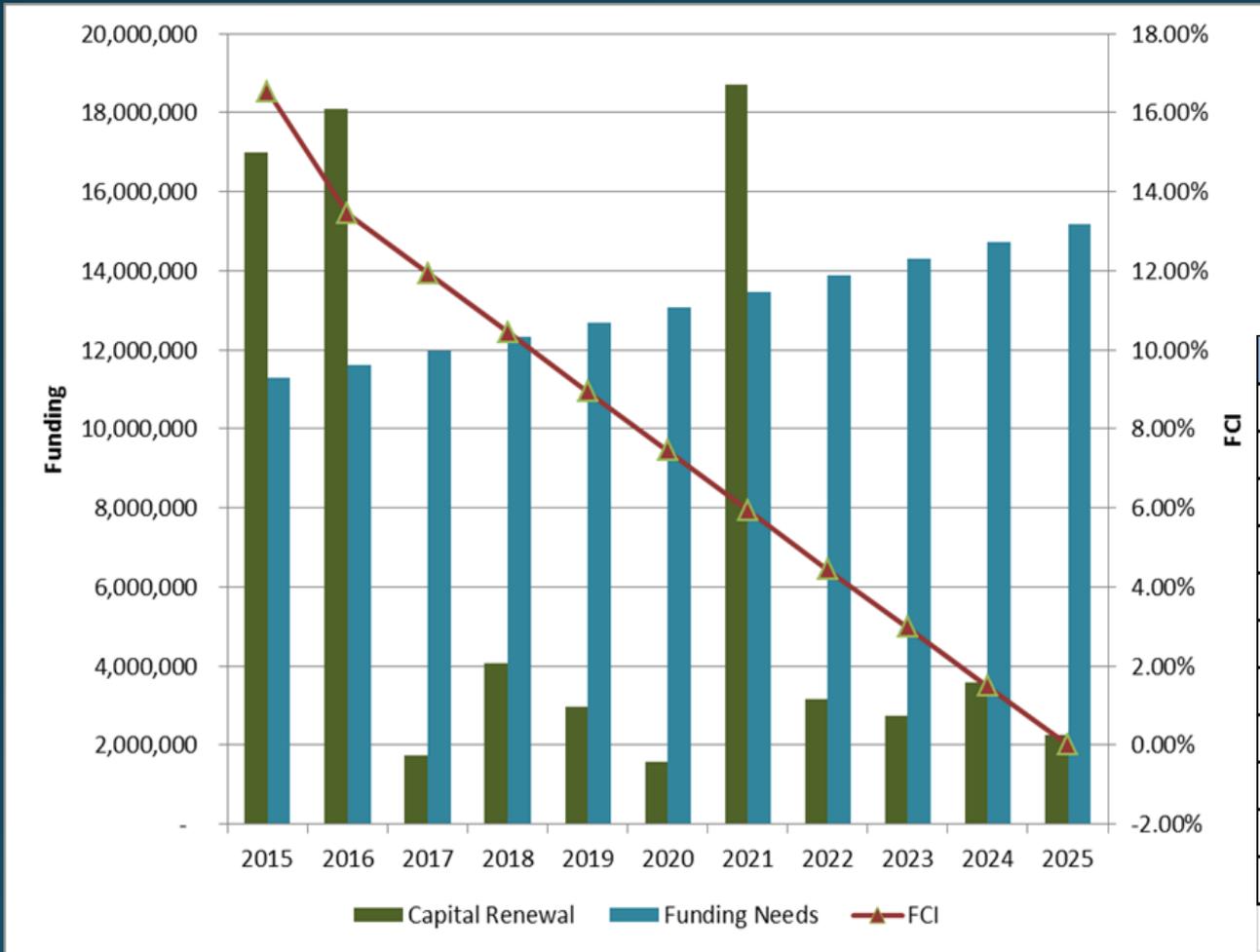
= 14.9% "good" funding to address on-going capital renewal needs plus partially deferred capital needs



Year	Capital Renewal	Funding Needs	FCI
2015	17,001,191	7,047,375	16.54%
2016	18,078,213	7,258,797	15.97%
2017	1,734,952	7,476,560	15.33%
2018	4,055,450	7,700,857	14.92%
2019	2,979,368	7,931,883	14.92%
2020	1,563,658	8,169,839	14.92%
2021	18,708,652	8,414,934	14.91%
2022	3,144,857	8,667,382	14.90%
2023	2,733,584	8,927,404	14.97%
2024	3,587,650	9,195,226	14.92%
2025	2,266,731	9,471,083	14.93%
<b>Total</b>	<b>75,854,306</b>	<b>90,261,341</b>	



# Scenario 4: Target improving to achieve an FCI = 0.00% “like new”



Year	Capital Renewal	Funding Needs	FCI
2015	17,001,191	11,281,379	16.54%
2016	18,078,213	11,619,820	13.44%
2017	1,734,952	11,968,414	11.94%
2018	4,055,450	12,327,467	10.44%
2019	2,979,368	12,697,291	8.95%
2020	1,563,658	13,078,210	7.45%
2021	18,708,652	13,470,556	5.95%
2022	3,144,857	13,874,673	4.45%
2023	2,733,584	14,290,913	2.98%
2024	3,587,650	14,719,640	1.48%
2025	2,266,731	15,161,229	0.00%
<b>Total</b>	<b>75,854,306</b>	<b>144,489,591</b>	



# Site Needs and FCI Scores

Site Needs Assessment	Gross Square Footage	Current Replacement Value	2015 Needs	2015 FCI	Short Term Needs (2015 - 2020)	Long Term Needs (2021 - 2025)	Total Needs (2015 - 2025)
<b>District Wide</b>	<b>2,579,725</b>	<b>438,553,250</b>	<b>17,001,191</b>	<b>16.54%</b>	<b>45,412,832</b>	<b>30,441,474</b>	<b>75,854,306</b>
Amphi HS	329,706	56,050,020	4,214,502	20.79%	7,957,579	5,867,011	13,824,590
AMS	124,977	21,246,090	459,728	9.77%	841,894	1,277,811	2,119,705
CDO	315,809	53,687,530	3,728,950	20.84%	8,402,387	4,750,914	13,153,301
Copper Creek	106,000	18,020,000	481,615	15.03%	1,723,028	1,192,587	2,915,615
Coronado	140,313	23,853,210	401,284	15.43%	1,914,110	1,707,806	3,621,916
Cross	121,372	20,633,240	921,295	17.37%	1,785,725	2,063,401	3,849,126
Donaldson	47,410	8,059,700	582,505	21.75%	1,648,998	370,672	2,019,670
El Hogar / Land Lab	18,504	3,145,680	137,677	18.80%	296,100	144,558	440,658
Harelson	57,311	9,742,870	223,380	14.95%	626,177	708,250	1,334,427
Holaway	66,009	11,221,530	218,577	11.25%	453,708	773,812	1,227,520
Ironwood Ridge	272,594	46,340,980	966,281	16.01%	4,928,273	2,152,134	7,080,407
Keeling	69,748	11,857,160	360,500	14.81%	941,457	588,891	1,530,348
La Cima	106,000	18,020,000	391,827	16.54%	1,729,684	1,277,635	3,007,319
Mesa Verde	49,571	8,427,070	512,095	17.36%	1,055,292	372,553	1,427,845
Nash	68,491	11,643,470	184,178	14.87%	700,565	1,155,769	1,856,334
Painted Sky	69,935	11,888,950	462,565	17.36%	1,483,288	445,517	1,928,805
Prince	76,671	13,034,070	155,459	13.11%	1,037,724	1,193,763	2,231,487
Rillito	42,570	7,236,900	13,118	5.61%	47,549	357,978	405,527
Rio Vista	79,440	13,504,800	187,274	9.57%	533,870	318,331	852,201
Walker	82,451	14,016,670	676,931	18.87%	1,640,488	1,069,730	2,710,218
Wilson	200,423	34,071,910	1,492,855	18.44%	4,480,125	1,473,069	5,953,194
Transportation/Food Service	28,936	4,919,120	63,381	16.51%	329,593	241,597	571,190
Wetmore	38,902	6,613,340	64,563	14.89%	571,777	260,576	832,353
Facilities Services	46,644	7,929,480	-	5.05%	1,040	547,416	548,456
Warehouse Graphics/Printing	19,938	3,389,460	100,651	18.90%	282,401	129,693	412,094



# Questions

