Facility Data Drives Funding and $450 Million Capital Program

Presenters:

John Strybos, PE

Kyle LeBlanc, PE, CFM, LEED GA

ALAMO COLLEGES DISTRICT

Lockwood, Andrews & Newnam, Inc.
A LEO A DALY COMPANY

Course Description

It's that time of year again**. *Time to submit the annual budget for facilities to the finance director.* **This is a struggle every year for facilities managers because it can often be a shot in the dark. Capital planning for the facilities inventory is also a decision that many facility and construction directors are involved in; serving as the trusted advisor for their enterprise.

But where do we begin? What factors drive our financial decisions for annual and capital planning of the physical space? Can moving from a subjective to an objective position help? Using a data-driven method to facilities management and planning provides a defensible approach to making the case for annual needs and capital financial decisions.

In this presentation, Alamo Colleges will share the story of how harnessing the data about their facilities has led to a threefold increase in their annual preventive maintenance budget over the past five years and the passage of a $450 million Bond Program in 2017.

Course Overview

Goal

To create positive changes in how the facility inventory is managed; from annual maintenance to capital expenditures.

Purpose

To help solve facility planning and budgeting problems. Facility data, paired with well-communicated needs, help drive decisions of stakeholders.

Course Overview

Plan

Use the seven questions of asset management to provide the framework in developing a phased strategy to manage, fund, and communicate facility inventory needs.

Lay groundwork and gain momentum for the need to collect useful data about enterprise owned and operated facilities.

Use facility data to establish and evaluate amounts needed for annual preventive maintenance budgets and capital budget expenditures; forecast the relationship between funding and the effect on facility conditions.

Lead the process in communicating annual preventive maintenance and capital expenditure needs with stakeholders.

Course Overview

Learning Objectives

1. Attendees will learn what role the Facility Condition Assessment (FCA) plays in gaining a true understanding of the facility inventory.

2. Attendees will learn how to use the FCA to forecast annual preventive maintenance budgets.

3. Attendees will learn how metrics from the FCA and other data-driven considerations influence the Capital Planning process.

4. Attendees will learn how moving towards a data-driven approach made a difference for Alamo Colleges in increasing the annual preventive maintenance budget and influenced decision making in the development of their Capital Improvement Projects.

THE ALAMO COLLEGES USED PRINCIPLES OF ASSET MANAGEMENT TO INCREASE PM FUNDING FROM **$1.3** MILLION TO **$18.5 MILLION** OVER 10 YEARS AND PASSED A **$450 MILLION** BOND PROGRAM IN 2017

Facility Data Drives Funding and $450 Million Capital Program

THE SEVEN QUESTIONS OF ASSET MANAGEMENT

Phase 1: Assessment

01 — **WHAT** DO WE HAVE?

02 — **WHAT** IS IT WORTH?

03 — **WHAT** IS ITS CONDITION?

Phase 2: Planning

04 — **WHAT** DO WE NEED TO TAKE ACTION?

05 — **WHEN** DO WE NEED TO TAKE ACTION?

06 — **HOW MUCH** WILL IT COST?

Phase 3: Funding

07 — **HOW** WILL WE FINANCE IT?

Facility Data Drives Funding and $450 Million Capital Program

Session Agenda

Introduction to Alamo Colleges & Principles of Asset Management

Phase 1: Assessment
Collecting the Data

Phase 2: Planning
Transforming the Financial Outlook using Data

Phase 3: Funding
Annual and Capital

Alamo Colleges

Alamo Colleges District Overview

Facilities and Construction Management

Portfolio Overview

Alamo College District

→ Founded in 1945 when St. Phillip's College and San Antonio Junior College Formed the San Antonio Union Junior College District

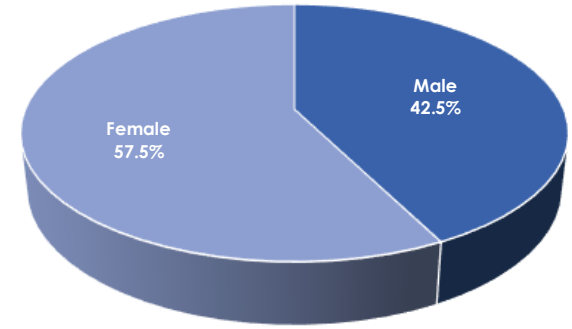**The District is Comprised of Five Colleges**

→ San Antonio College

→ St. Phillip's College

→ Palo Alto College

→ Northwest Vista College

→ Northeast Lakeview College

Alamo College District Enrollment

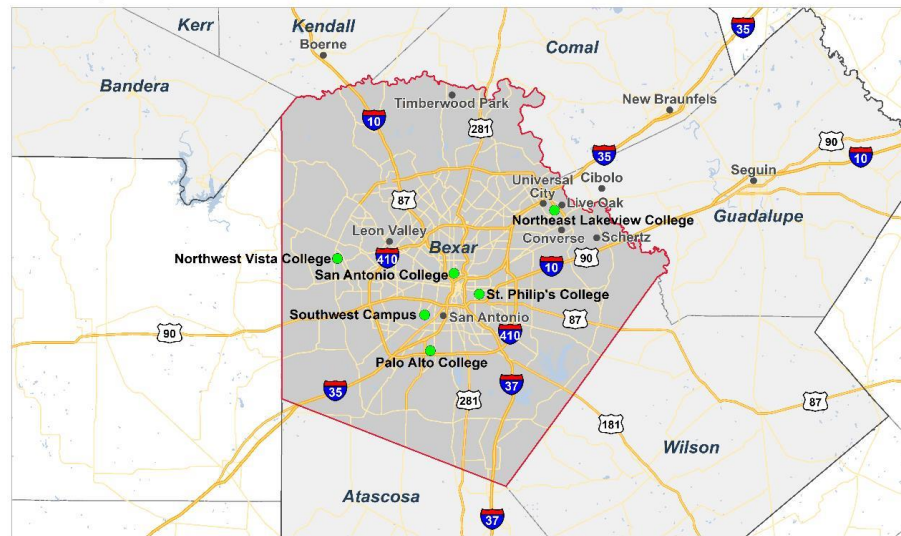⇢ Alamo College Total Enrollment (Fall 2017): 58,837 Student

⇢ **Student Makeup**
  » 57.5% Female
  » 42.5% Male

  » 80.5% Part-Time Students
  » 19.5% Full-Time Students
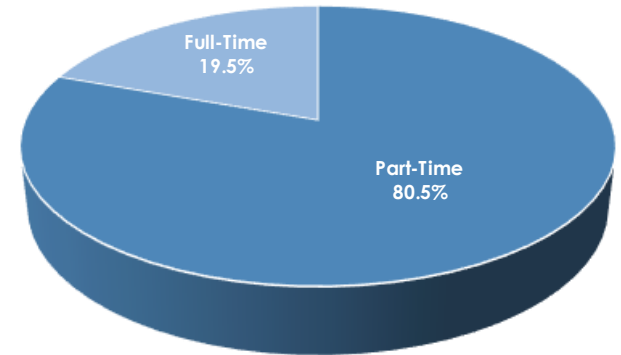
Alamo Colleges District

Alamo Colleges District
Bexar County, TX

Legend

Alamo Colleges District (Bexar County, TX)
Alamo Colleges Service Area

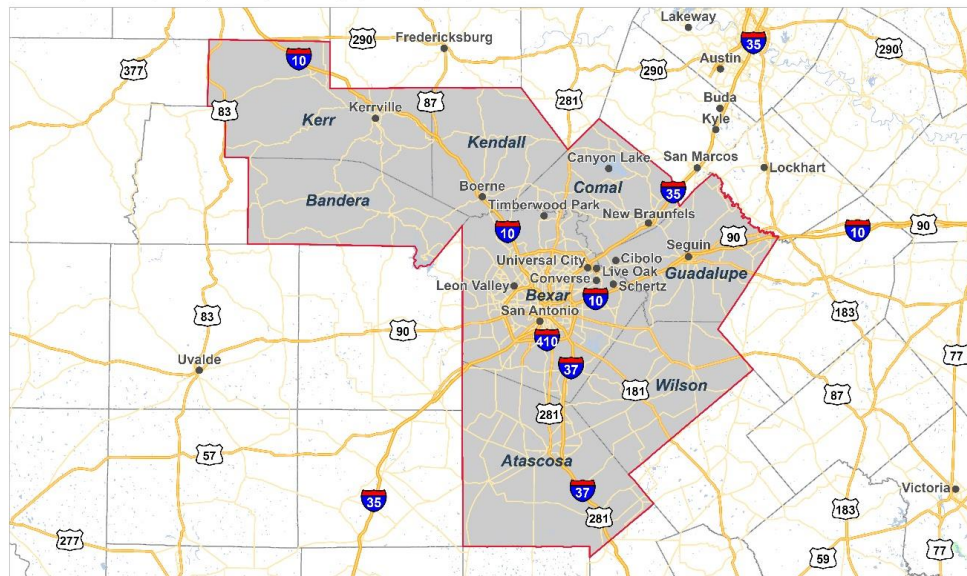Source: ESRI and Facility Programming and Consulting

Information shown hereon is a graphical representation only and based upon available information. Facility Programming and Consulting cannot be responsible for consequences resulting from error or omission in the information and graphical representations made hereon.

Alamo Colleges Services Area

Alamo Colleges Service Area
Atascosa, Bandera, Bexar, Comal, Guadalupe, Kendall, Kerr, and Wilson Counties

Legend

0 5 10 20 30 Miles
Source: ESRI and Facility Programming and Consulting

Alamo Colleges Service Area

The Alamo Colleges Service Area consists of Atascosa, Bandera, Bexar, Comal, Guadalupe, Kendall, Kerr, and Wilson Counties. The Area includes 39 independent school districts and is home to five college locations. - Alamo Colleges District, Department of Communications

FACILITY PROGRAMMING AND CONSULTING

Information shown hereon is a graphical representation only and based upon available information. Facility Programming and Consulting cannot be responsible for consequences resulting from error or omission in the information and graphical representations made hereon.

Alamo College District

→ Diversified College Campuses

» Academic and Workforce Related Training

» St. Philip's College

» San Antonio College

→ Academic

» Palo Alto College

» Northwest Vista College

» Northeast Lakeview College
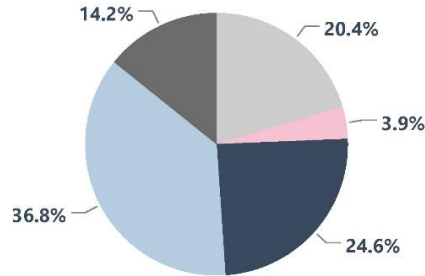
Alamo College District Background Statistics

FACILITY PROGRAMMING AND CONSULTING

Market Summary

Alamo College Service Area, 2019 ⌄ 2019 ESRI Report

Population by Age Cohort

● 0-14 ● 15-17 ● 18-34 ● 35-64 ● 65 Plus

- 14.2%
- 20.4%
- 3.9%
- 24.6%
- 36.8%

Total Population

2,146,100 2010

3,000,500 2029

2,549,000 ▶ 1.6% 2019 CAGR (2019-29)

Population Age 18-64

2010	1,331,200
2019	1,565,400
2029	1,799,000

▶ 1.4% CAGR (2019-29)

Educational Attainment

No High School	14.1%
High School Degree or Equivalent	26.1%
Some College, No Degree	22.5%
Associates Degree	8.4%
Bachelor's Degree	18.5%
Graduate Degree	10.4%

Households and Income

909,400 Households

$57,100 Median HH Income

$195,200 Median Home Value
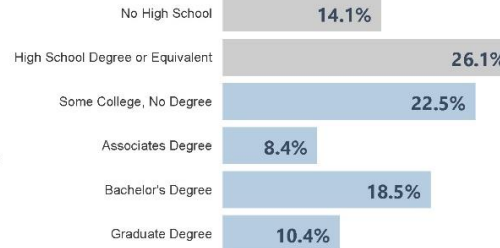
Race and Ethnicity

● White ● Other ● Black ● Asian

- 7.2%
- 2.6%
- 16.9%
- 73.3%

55.6% Hispanic Origin

72.5 Diversity Index
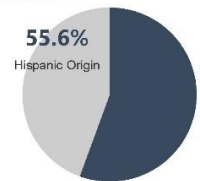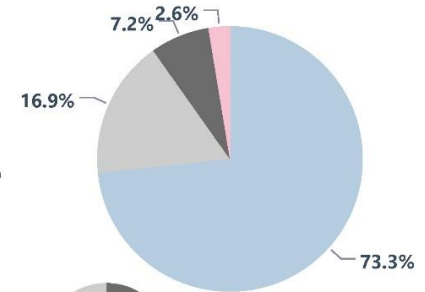
NOTE: Persons of Hispanic Origin may be of any race. | The Diversity Index measures the probability that two people from the same area will be from different race / ethnic groups. A Diversity Index increases from 0 to 100 as the population is evenly divided into two or more race / ethnic groups.

Alamo College District Background Statistics

FACILITY PROGRAMMING AND CONSULTING

Market Summary

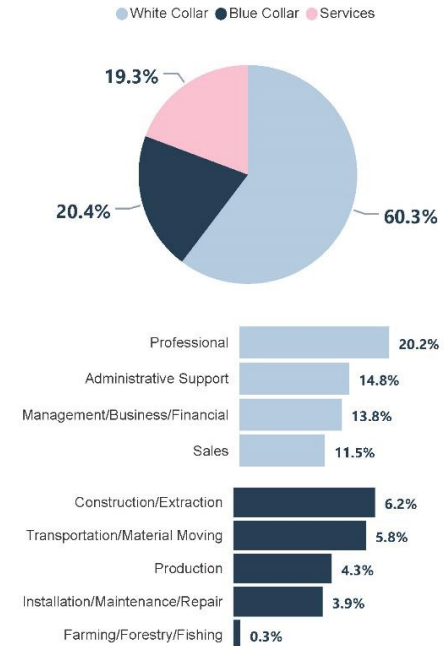Alamo College Service Area, 2019   2019 ESRI Report | Page 2 of 2

An estimated **73,830** businesses are located within the Market Area in 2019 and they employed approximately **925,400** workers.

In terms of employment, the **Health Care & Social Assistance** sector was the largest in the Market Area with approximately **141,700** workers. This sector accounted for an estimated **6110** businesses.

Business and Employment

Sector	Percent	Businesses	Employment	Percent
Health Care	8.3%	6,110	141,700	15.3%
Retail	14.2%	10,470	133,400	14.4%
Accommodation	8.8%	6,490	116,000	12.5%
Education	2.5%	1,830	82,900	9.0%
Professional	8.5%	6,280	65,600	7.1%
Other Serivces	11.7%	8,670	53,800	5.8%
Construction	7.4%	5,470	50,100	5.4%
Manufacturing	3.0%	2,190	45,000	4.9%
Finance	5.5%	4,050	41,500	4.5%
Wholesale	3.1%	2,280	31,800	3.4%
Real Estate	6.3%	4,630	29,700	3.2%
Government	1.7%	1,220	29,600	3.2%
Administrative	3.4%	2,530	27,100	2.9%
Transportation	1.6%	1,170	23,600	2.6%
Entertainment	1.8%	1,340	20,500	2.2%
Information	1.8%	1,340	19,700	2.1%
Unclassified	9.4%	6,970	5,000	0.5%
Headquarters	0.2%	180	3,000	0.3%
Utilities	0.1%	100	2,300	0.2%
Mining	0.2%	170	1,800	0.2%
Agriculture	0.5%	370	1,300	0.1%

Occupations

White Collar   Blue Collar   Services

19.3%
20.4%
60.3%

Professional	20.2%
Administrative Support	14.8%
Management/Business/Financial	13.8%
Sales	11.5%
Construction/Extraction	6.2%
Transportation/Material Moving	5.8%
Production	4.3%
Installation/Maintenance/Repair	3.9%
Farming/Forestry/Fishing	0.3%

Alamo Colleges

→ Facilities and Construction Management
   » Construction Management
   » Facilities Maintenance and Operation

Mission Statement:
To provide reliable, cost-effective, customer-centered operations and construction services that minimize the environmental impact of daily operations through energy management and sustainability practices.

Alamo College District Project Support

⇢ Provide IDIQ Contracts for Planning and Architectural / Engineering Services from which the Colleges may Select, Saving Time in Planning and Design and Allowing More Funds to be Allocated for Construction

⇢ Provided In-House Project Leadership from the Project Outset to Efficiently Transition Project from Owner to Project Management

   » Leadership is Housed at the Colleges

   » Project Managers have Direct Knowledge of the College and the Project Requirements

Alamo College District

November 2005

- $450 Million Facilities CIP
- 24 New Buildings
- 1.3 Million Square Feet of Facilities

May 2017

- → $450 Million Facilities CIP
- → Over 20 existing facilities will be affected
- → Over 15 projects of new building construction
  - » Includes Training Centers
    - Southside Education and Training Center
    - Northwest Education and Training Center

Alamo College District Project Support

→ **Current Facilities Portfolio**

  » 204 Buildings in Inventory (Owned)

  » 5.3 MM Square Feet of Facilities (Owned)

  » Construction date range: **1901 to new**

Facility Data Drives Funding and $450 Million Capital Program

Koehler Cultural Center at San Antonio College: 1901

San Antonio College Victory Center: 2018

Alamo Colleges Facility Portfolio

→ **What didn't we know in 2011?**

» Replacement Values of Facilities

» Facility Needs

» Conditions of Facilities

» Long-term Outlook

Our Need:
Facility Condition Assessment

Phase 1: Assessment

What do we have?

What is it worth?

What is its condition?

Facility Condition Assessment

⇢ **What is it?**

⇢ **Why did we need it?**

⇢ **What do we get from it?**

Phase 1: Assessment

01 WHAT DO WE HAVE?

02 WHAT IS IT WORTH?

03 WHAT IS ITS CONDITION?

Facility Data Drives Funding and $450 Million Capital Program

Facility Condition Assessment

⇢ **Importance**

» Relative "score" for portfolio comparison

» Focus effort, prioritize attention

» Objective approach

Facility Condition Assessment

⇢ **Methodology**
  » Professional Architects
  » Professional Engineers
  » Multi-Discipline Data Collection
  » Observation – Non Destructive
  » Interview with Site Personnel

Facility Data Drives Funding and $450 Million Capital Program

Facility Condition Assessment

→ **Methodology**

  » Building Systems Based

  » Quantified Information

  » Ability to Collect Electronically

  » Photo Repository

  » RS Means-Based Cost Information

Facility Condition Index (FCI) and Requirement Index (RI)

Low FCI and RI = Good
Indicates better condition than others with a higher FCI and RI.

Defined:
FCI is an index of facility condition based on the cost of deferred maintenance requirements relative to the building replacement value.

$$FCI = \frac{\text{requirement costs}}{\text{building replacement value}}$$

$$RI = \frac{\text{all requirement costs} + \text{5 year outlook}}{\text{building replacement value}}$$

Facility Condition Index (FCI) and Requirement Index (RI)

Subjective Rating

Excellent	Good		Fair to Poor	

FCI or RI "Score"

| 0% | 5% | 10% | 50% | 100% |
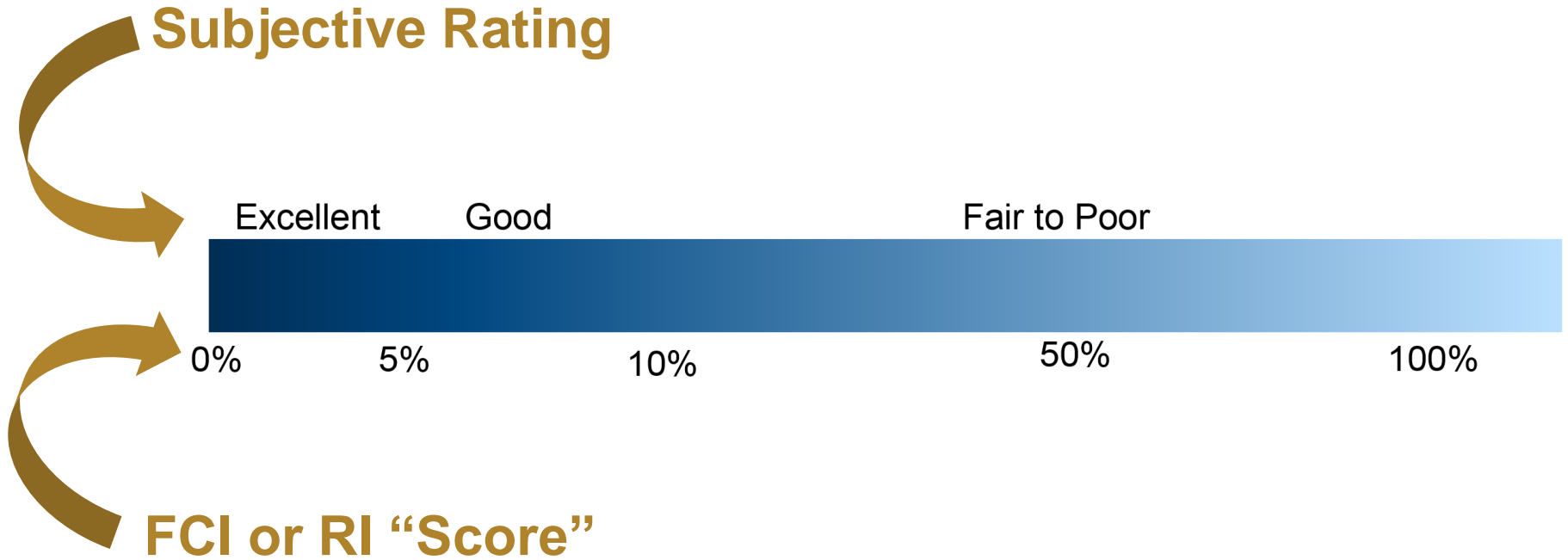
FCI Explained: House Example

Value = $100,000

FCI Explained: House Example
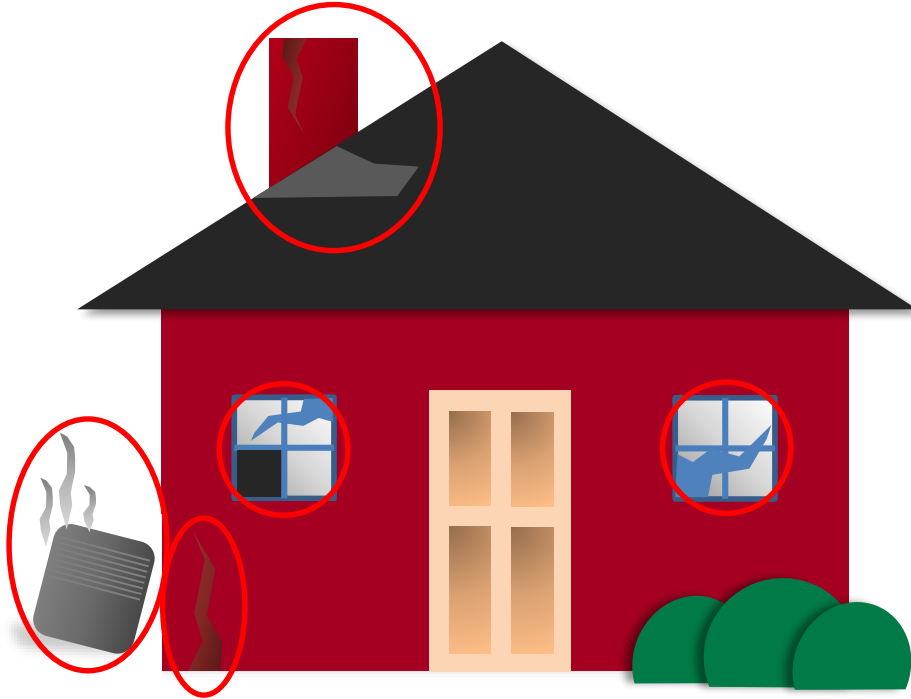
Requirements = $15,000
Value = $100,000

FCI = 15%

Data Output

⇢ **Facility Portfolio Overview**

- » 5.3 MM Square Feet of Facilities
- » ~$1.12 B total asset Replacement Value
- » Current Facility Condition Index of 15.4% (District-Wide) in 2018

⇢ **Facility-related Data, Metrics**

⇢ **Annual Presentation**

Phase 2: Planning

What do we need to take action?

When do we need to take action?

How much will it cost?

Annual Reporting: FCI Metrics

Campus	Size (SF) 2016	FCI 2013	2014	2015	2016
DIS	156,513	9.1%	10.1%	10.4%	13.6%
NLC	393,296	0.8%	1.1%	1.1%	1.1%
NVC	838,485	1.3%	1.1%	1.1%	1.3%
PAC	565,161	5.7%	6.2%	6.2%	21.3%
SAC	2,009,228	12.4%	12.8%	12.8%	14.7%
SPC	783,699	12.8%	13.8%	13.7%	17.3%
SWC	467,633	9.4%	11.9%	11.7%	12.8%
Total	5,214,015	8.3%	8.9%	8.9%	12.7%

Annual Reporting: Priority Breakdown
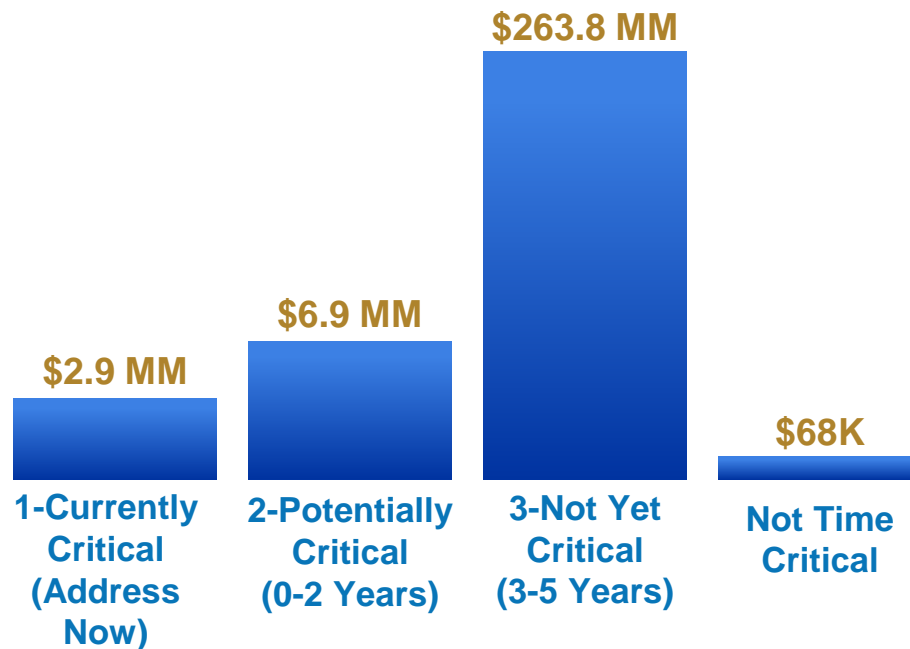
Bar chart showing priority breakdown:
- 1-Currently Critical (Address Now): $2.9 MM
- 2-Potentially Critical (0-2 Years): $6.9 MM
- 3-Not Yet Critical (3-5 Years): $263.8 MM
- Not Time Critical: $68K

Annual Reporting: System Types

$273.8 MM
Total Identified Requirements

- Furniture, Fixtures & Equipment 1.8%
- Structural/ Envelope 11.8%
- Interiors/ Finishes 19.0%
- Mechanical/ Electrical/ Plumbing 67.0%
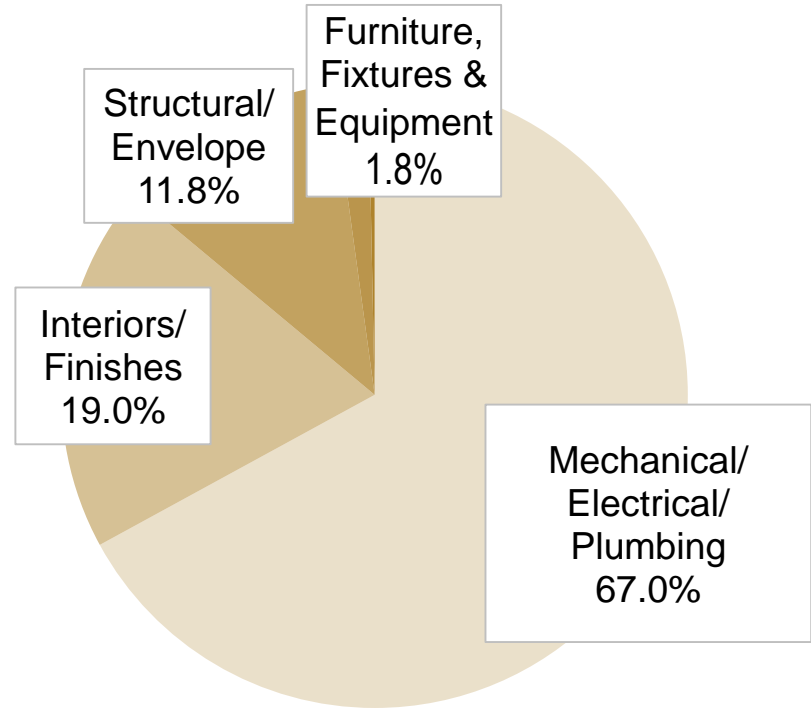
Annual Reporting: System Types

$273.8 MM
Total Identified Requirements

System Type	Priority 1 & 2	Priority 3	Total Estimated Cost
Mechanical / Electrical/ Plumbing	$ 2,305,885	$ 181,246,882	$ 183,552,767
Interiors / Finishes	$ 1,907,747	$ 50,123,027	$ 52,030,774
Structural/Envelope	$ 5,646,286	$ 26,608,448	$ 32,254,734
Furniture, Fixtures & Equipment	$ 234	$ 5,041,622	$ 5,041,856
Special Construction	$ -	$ 882,771	$ 882,771
Total	**$ 9,860,152**	**$ 263,902,750**	**$ 273,762,902**

Annual Reporting: Top 30 Example

176 Buildings

85% of Inventory (Owned)

62%
$144.8 MM

Top 30 Buildings

38%
$87.0 MM

206 Buildings

$231.8 MM
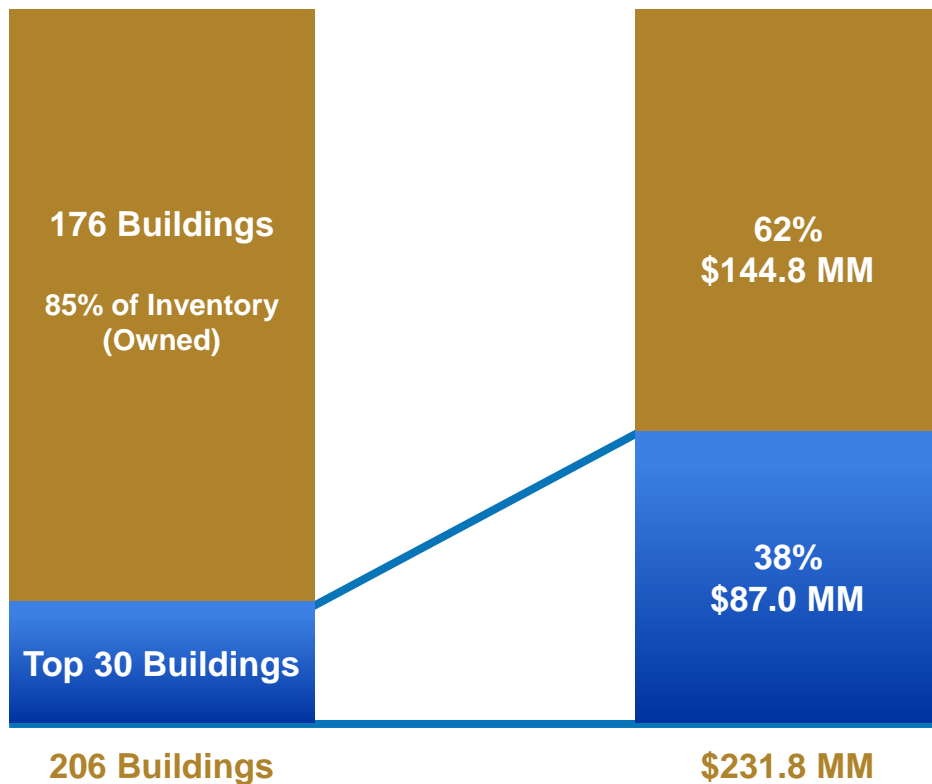
Transforming the Financial Outlook

→ **Facilities Department Funding History**
  » Preventive Maintenance (PM) Budgets

→ **Using data to tell the story**
  » Deferred Maintenance
  » Preventive Maintenance
  » Plan with data forecasting

→ **2017 Capital Improvements Program**
  » $450 MM Bond

Facilities Department Funding History

*Historical 2006-2011 Replacement values estimated based on Present Replacement Value, construction dates, and an estimated annual 3.5% inflation rate. Replacement values for 2012 - 2018 from record data and projected Future Replacement Value of Alamo Colleges' Facilities which are Owned, Leased, part of a Partnership, or under consideration for Ownership.
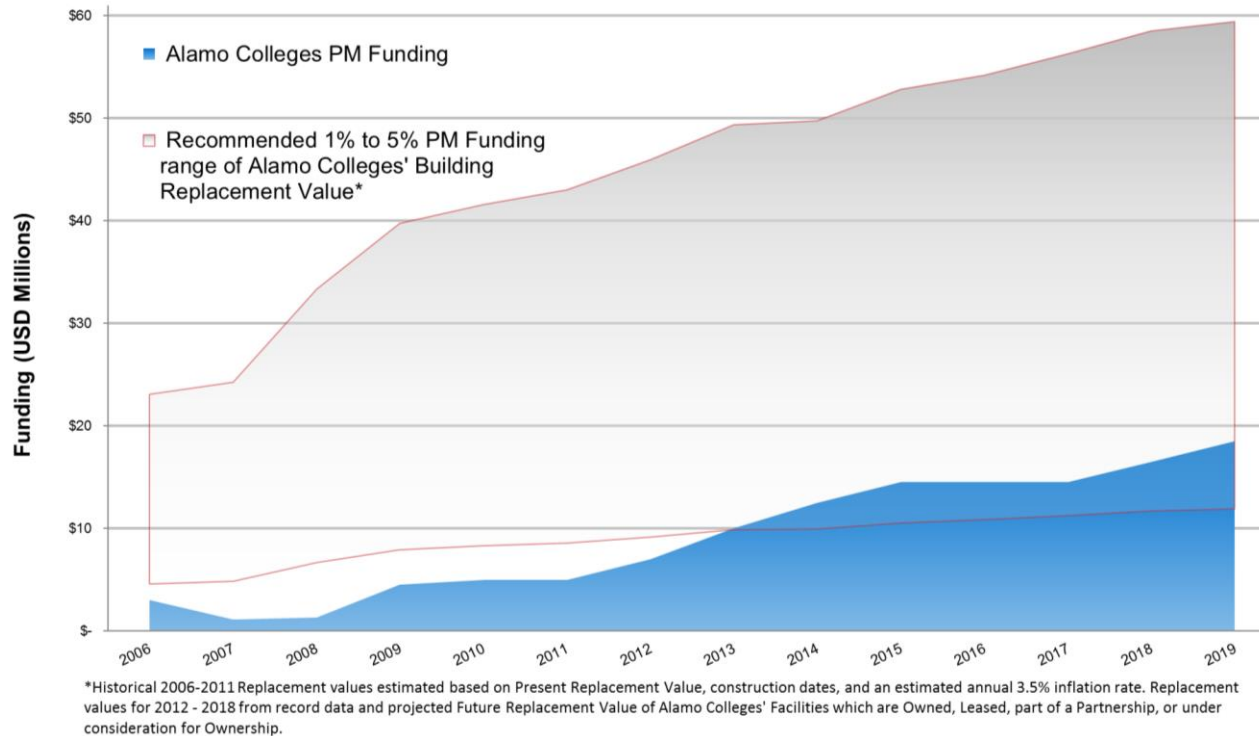
Funding Scenarios versus FCI
Funding Range 1% to 5%
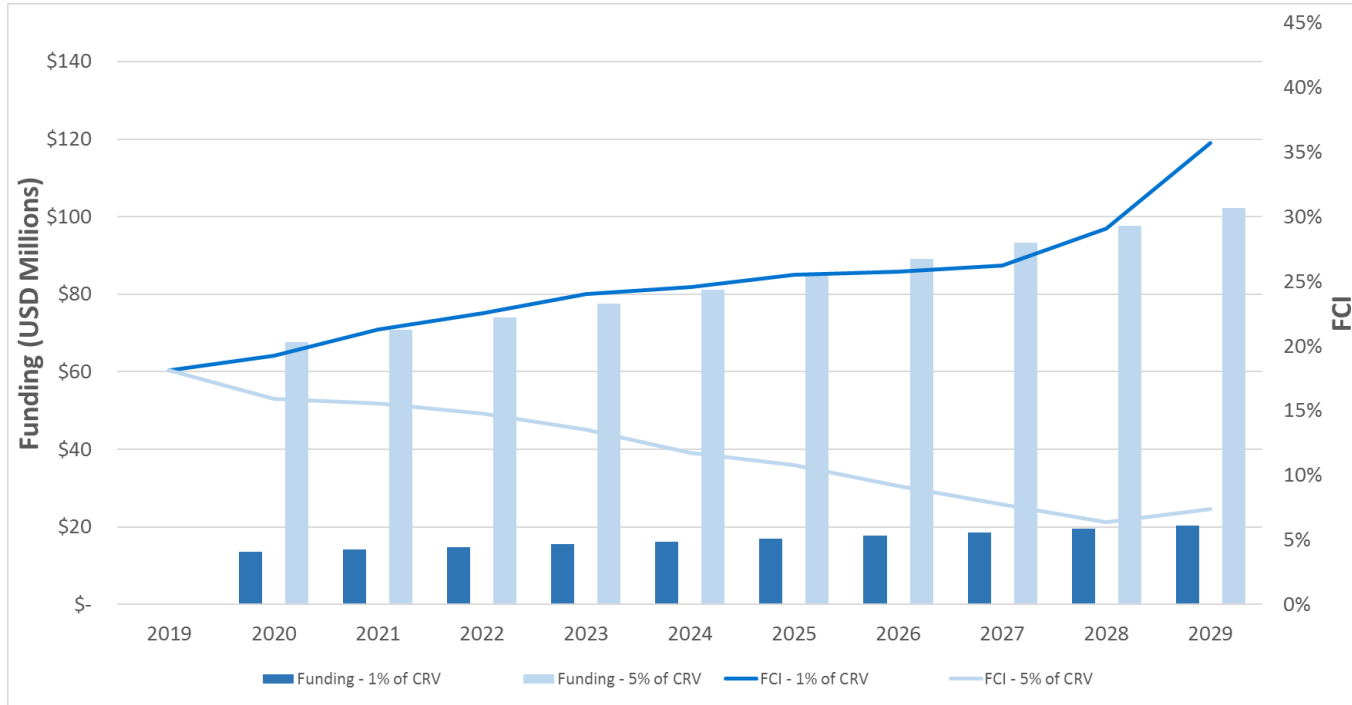
Funding Scenarios versus FCI

Current Annual Funding Projections
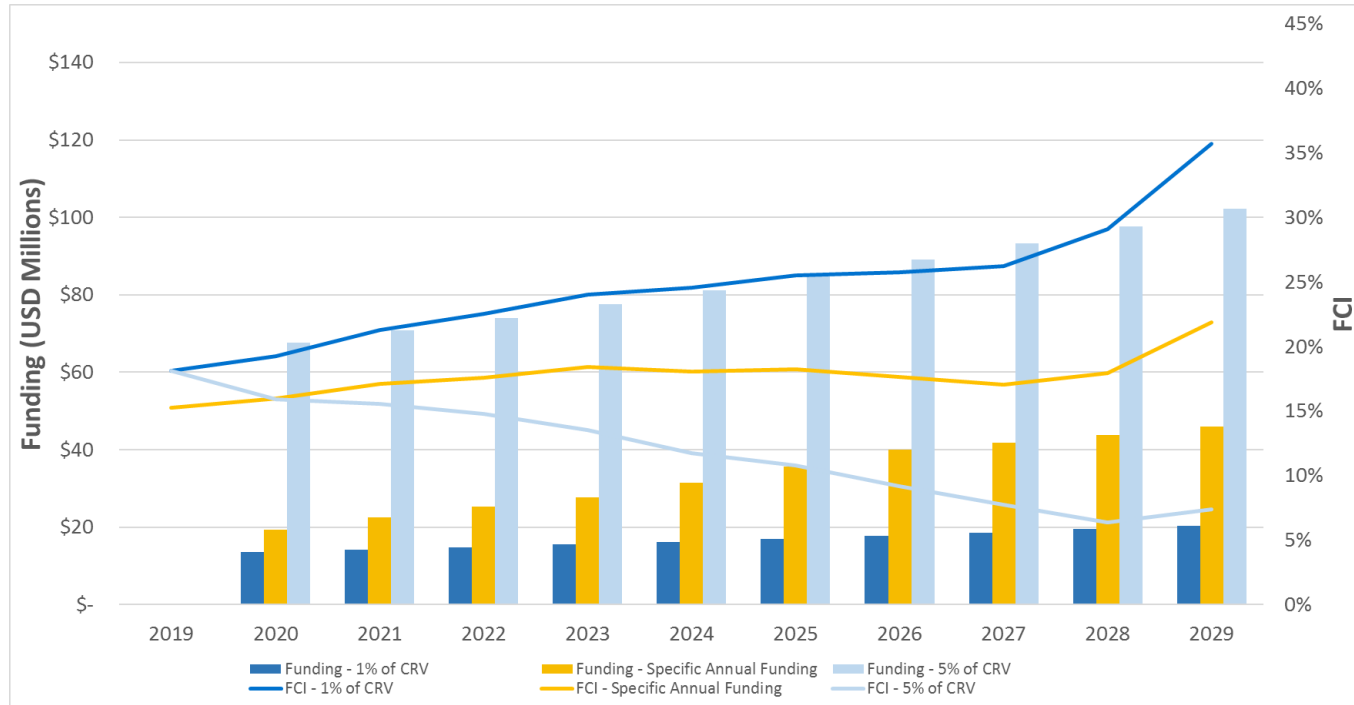
Funding Scenarios versus FCI

Maintain versus Zero Funding
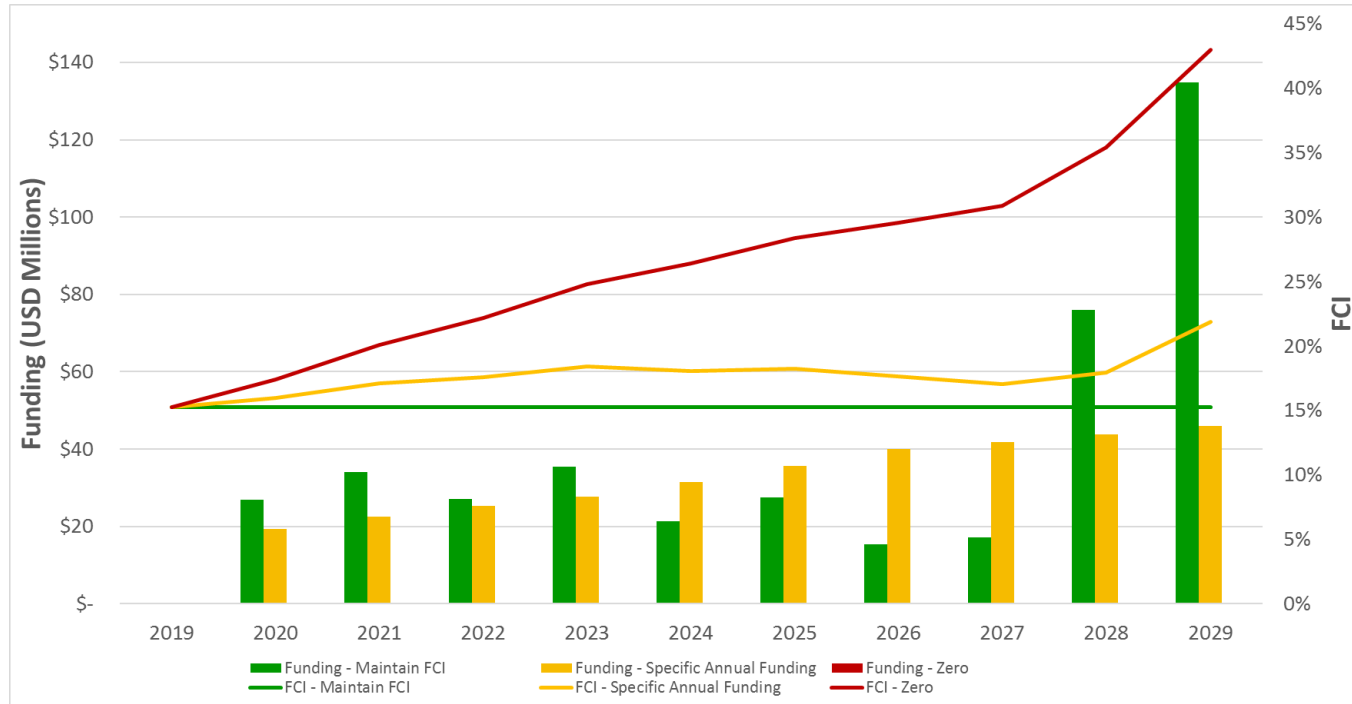
Facility Portfolio Age Breakdown

→ Over 50% of portfolio will be 10 to 24 Years old in 10 Years from 2018

→ System renewal needs are imminent

Age Range of Buildings	Number of Buildings	GSF in Age Range	% of Total (GSF)
Greater than 50 Years Old	40	1,281,087	22%
Between 25 and 50 Years Old	37	1,133,614	20%
Between 10 and 24 Years Old	74	1,747,028	30%
Less Than 10 Years Old	73	1,633,931	28%
Total	**224**	**5,795,660**	**100%**

Phase 3: Funding

How will we finance it?

Annual Funding

⇢ Growth over a period of 10 years

⇢ Recurring story of needs

Facilities Department Funding History

2008

- Approximately 4.1 MM Square Feet
- $1.3 MM in annual PM Funding
- Estimated $667 MM Replacement Value
- 0.2% of Facility Replacement Value

2013

- Approximately 5.6 MM Square Feet
- $10.0 MM in annual PM Funding
- Estimated $987 MM Replacement Value
- 1.0% of Facility Replacement Value

2019

→ Approximately 5.7 MM Square Feet

→ $18.5 MM in annual PM Funding

→ Estimated $1.2 B Replacement Value

→ 1.6% of Facility Replacement Value

PM Funding Disparity (2008)
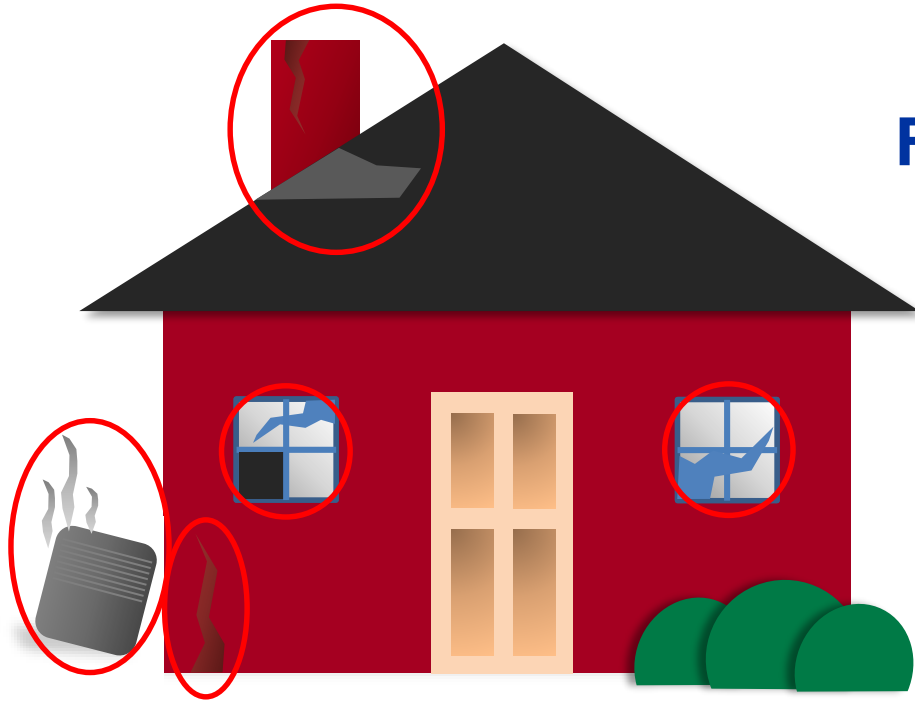
Funding Amount = 0.2%
_____
Value = $667 MM

Funding $100 K House with $195

Facility Data Drives Funding and $450 Million Capital Program

PM Funding Disparity (2013)
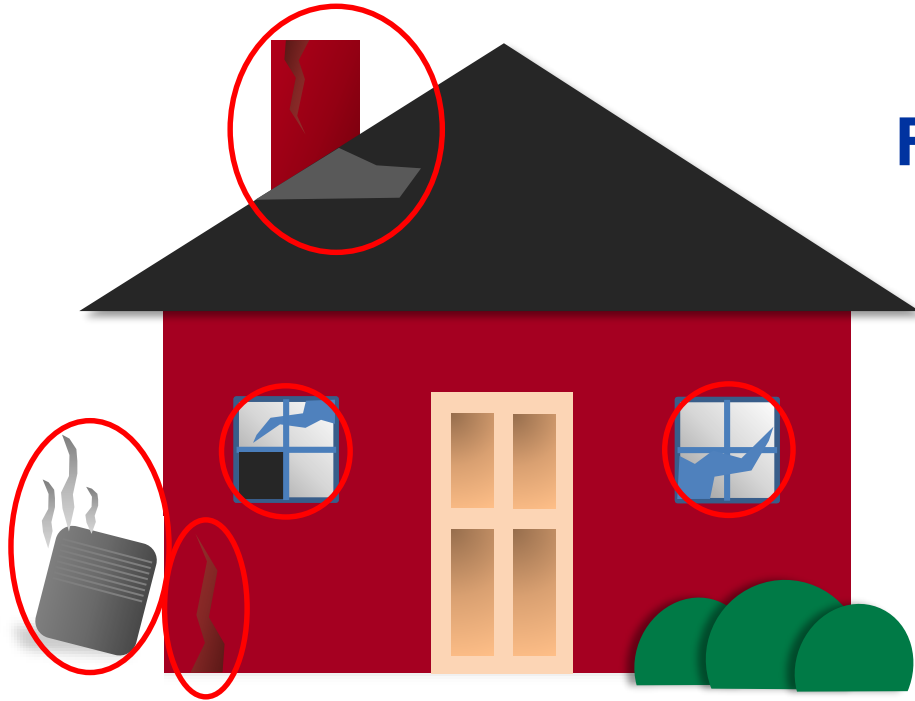
Funding Amount = $\dfrac{1.0\%}{\text{Value} = \$987\ \text{MM}}$

Funding $100 K
House with $1,000

PM Funding Disparity (2019)
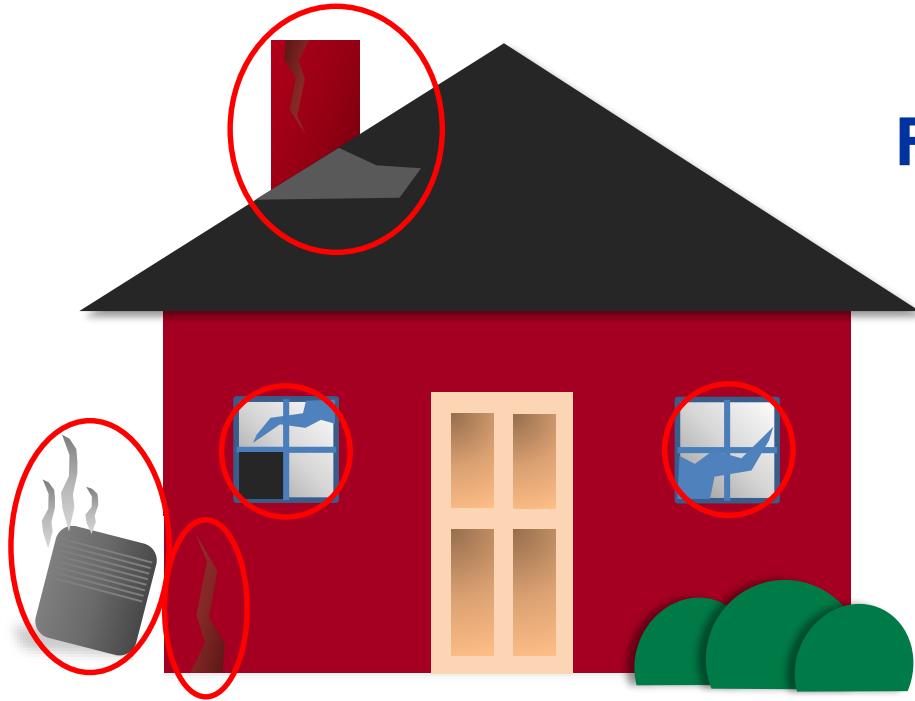
Funding Amount = 1.6%
Value = $1.2 B

Funding $100 K
House with $1,557

Facilities Department Funding History

Alamo Colleges PM Funding

Recommended 1% to 5% PM Funding range of Alamo Colleges' Building Replacement Value*

*Historical 2006-2011 Replacement values estimated based on Present Replacement Value, construction dates, and an estimated annual 3.5% inflation rate. Replacement values for 2012 - 2018 from record data and projected Future Replacement Value of Alamo Colleges' Facilities which are Owned, Leased, part of a Partnership, or under consideration for Ownership.

Facilities Department Funding History

*Historical 2006-2011 Replacement values estimated based on Present Replacement Value, construction dates, and an estimated annual 3.5% inflation rate. Replacement values for 2012 - 2018 from record data and projected Future Replacement Value of Alamo Colleges' Facilities which are Owned, Leased, part of a Partnership, or under consideration for Ownership.

2017 Capital Improvements Program

- Facility Projects
- Growth
- Stakeholder Engagement

- CIP was inevitable

2017 Capital Improvements Program

→ **Facility Projects** *based on years of consideration*
  - FCI score
  - Facility Age
  - Total funding needs
  - Facility function

2017 Capital Improvements Program

Alamo Colleges Enrollment

Year	Enrollment
2005	52,781
2015	65,559
2020	77,925
2025	86,336
2030	95,990
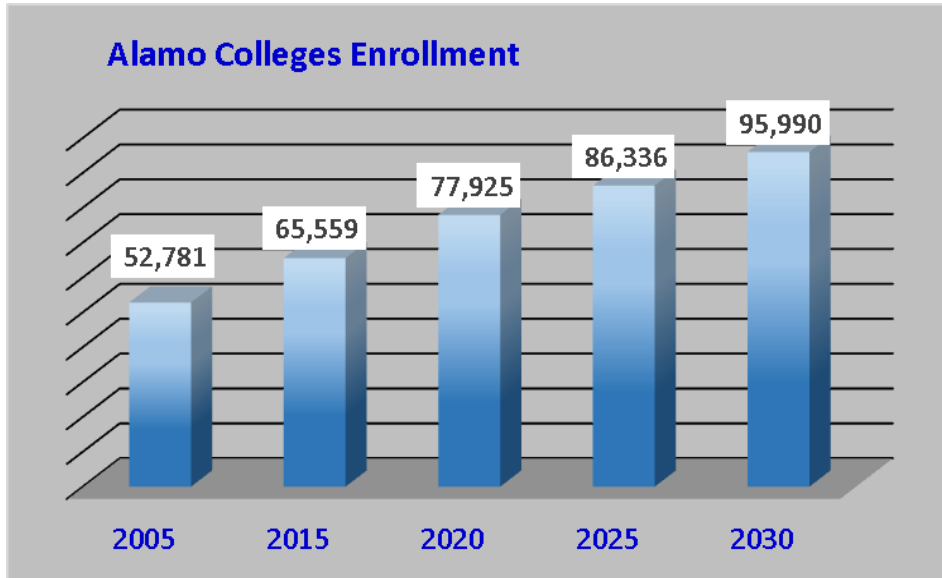
⇢ **Growth**

» **Enrollment:** Alamo Colleges – Grew 24% since 2005, adding 12,700 students as of 2016

» **San Antonio:** Expected to grow 1,000,000 people by 2030

2017 Capital Improvements Program

Photo Credit: The Ranger Journalism-photography program at San Antonio College

⇢ **Stakeholder engagement**
  » Citizen Bond Committee
  » Citizens Oversight Committee

⇢ **Regional Center**
  » Bringing education to the student's "backyard"

2017 Capital Improvements Program

→ **Stakeholder Engagement** *based on years of input*
- – Education
- – Consensus
- – Annual presentations

2017 Capital Improvements Program

→ **Regional Centers**

  – Innovative strategy for Alamo Colleges

  – "Your neighborhood educator"

2017 Capital Improvements Program

→ **Recurring Themes of Project Prioritization**
- Provide Skilled Workforce
- Student Support to Completion
- Create Capacity for Students to Successfully Complete Training
- Replace/Renovate Aging & Underutilized Facilities

2017 Capital Improvements Program

⇢ **Recurring Themes of Project Prioritization**

FCI: Annual History and Post-CIP

Campus	Size (2018)	FCI						Post-CIP FCI (est. 2023)
		2013	2014	2015	2016	2017	2018	
DIS	156,513	9.1%	10.1%	10.4%	13.6%	15.1%	16.5%	0.0%
NLC	390,756	0.8%	1.1%	1.1%	1.1%	5.4%	6.9%	7.8%
NVC	876,790	1.3%	1.1%	1.1%	1.3%	5.0%	7.0%	6.5%
PAC	565,161	5.7%	6.2%	6.2%	21.3%	21.8%	22.3%	17.6%
SAC	2,011,678	12.4%	12.8%	12.8%	14.7%	16.3%	16.5%	17.5%
SPC	800,808	12.8%	13.8%	13.7%	17.3%	17.9%	20.0%	19.4%
SWC	467,665	9.4%	11.9%	11.7%	12.8%	13.1%	13.5%	28.4%
SETC								0.0%
NETC								0.0%
Total	**5,269,371**	**8.3%**	**8.9%**	**8.9%**	**12.7%**	**14.4%**	**15.4%**	**14.8%**

Campus Abbreviation Legend
DIS-District
NLC-Northeast Lakeview College
NVC-Northwest Vista College
PAC-Palo Alto College
SAC-San Antonio College
SPC-St. Philips College
SWC-Southwest Campus
NETC-Northwest Education and Training Center
SETC-Southside Education and Training Center

*2023 Projection does not factor in the effect of additional PM funding amounts paired with CIP Projects

Best Practices

→ **Facility Portfolio**

» Collect and maintain the data

- Annual updates based on project completion
- Living database

» Move from reactive to preventive

→ **Share the message**

» Simplify the story

» Report progress

Thank You

John Strybos, PE
Kyle LeBlanc, PE, CFM, LEED GA

This concludes SCUP Continuing Education Systems Course

Please take a moment to complete the evaluation form.
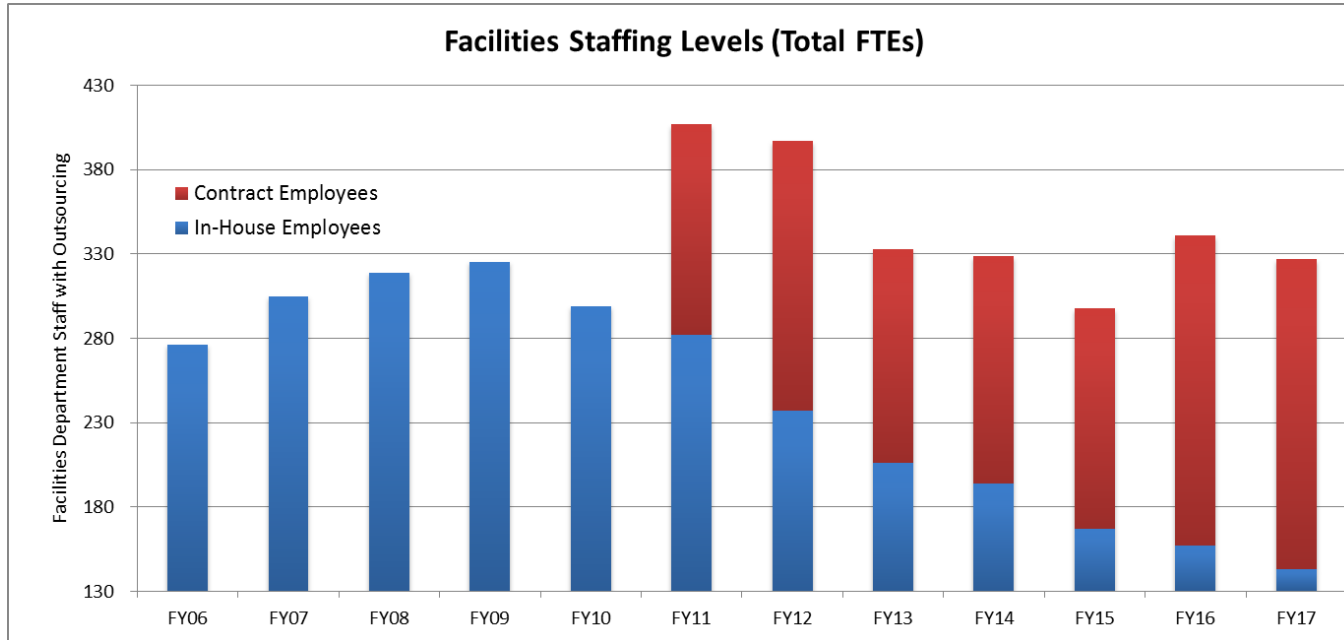
Strategic Initiatives (Appendix)

⇢ Data-driven approach to facilities management

⇢ Sustainability and Energy Savings

⇢ Personnel Outsourcing

⇢ GIS Mapping

Sustainability and Energy Savings

⇢ Solar panel installations

⇢ Energy conservation and greenhouse gas emissions reduction

⇢ Air quality optimization

⇢ Water conservation

⇢ Solid waste management

⇢ Exterior and hardscape management

⇢ 4-day workweek initiative

Personnel Outsourcing

→ Transitioning from in-house staffing to outsourcing

Facilities Staffing Levels (Total FTEs)

(Chart: Facilities Department Staff with Outsourcing, y-axis 130 to 430)

Legend:
- Contract Employees
- In-House Employees

x-axis: FY06, FY07, FY08, FY09, FY10, FY11, FY12, FY13, FY14, FY15, FY16, FY17

Personnel Outsourcing

→ Doing more with less

Category	Metric	FY17 (Size)	FY2017 Projected Efficiency	APPA Recommended
Housekeeping	GSF / FTE	5,412,175	30,751	22,500
Grounds Keeping	Acre / FTE	970	18	20
General Maintenance	GSF / FTE	5,412,175	55,796	50,000

Total building size listed includes Alamo Colleges' facilities which are Owned and Leased.
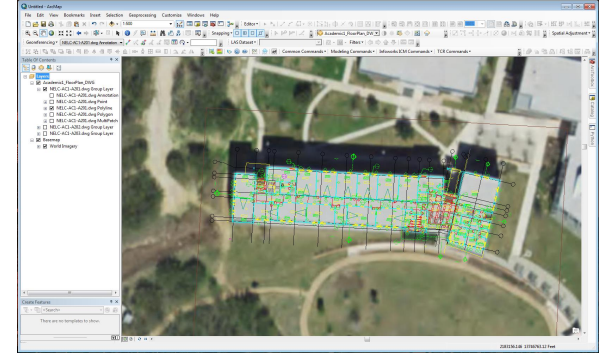
143 In-House Personnel

184 Contract Personnel

GIS Mapping Pilot: Northeast Lake View Campus (NLC)

→ **Phase 1**

  » Test and Implement ESRI Database

  » Convert Existing Data to GIS

→ **Based on ESRI Data Models**

  » Building Interior Space Data Model (BISDM)

  » Local Government Information Model
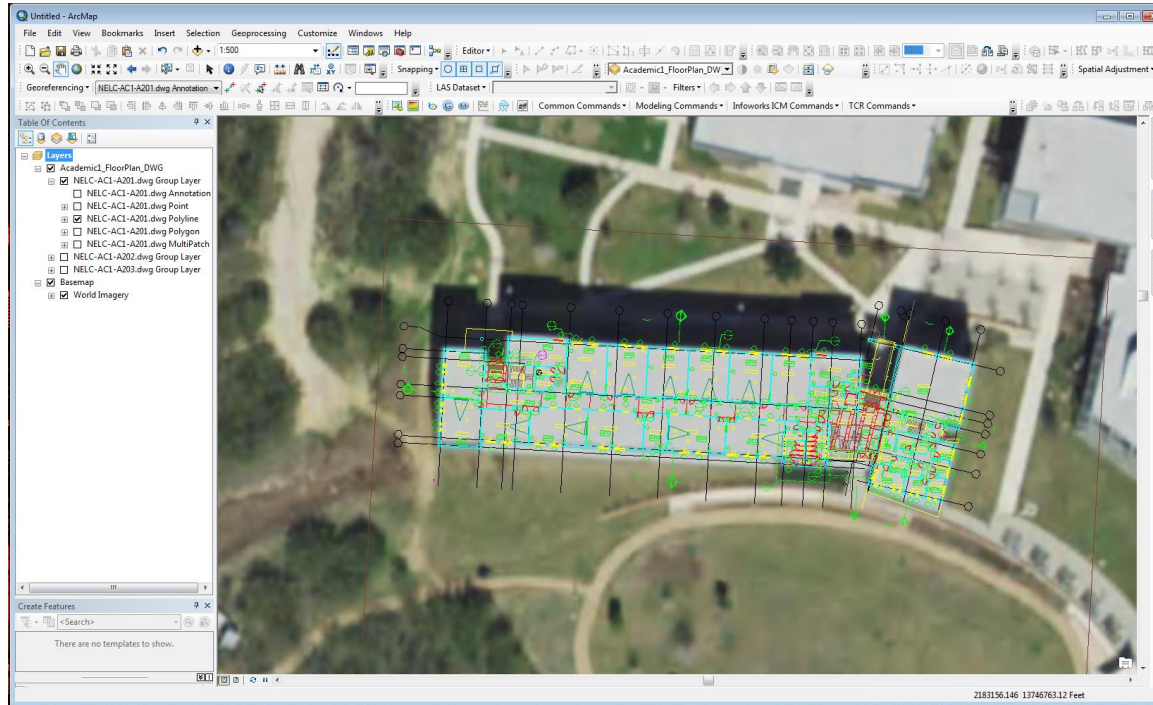
GIS Mapping Pilot: Northeast Lake View Campus (NLC)

- **Project Workflow**
  - » Incorporate Asset Data from Maximo to GIS
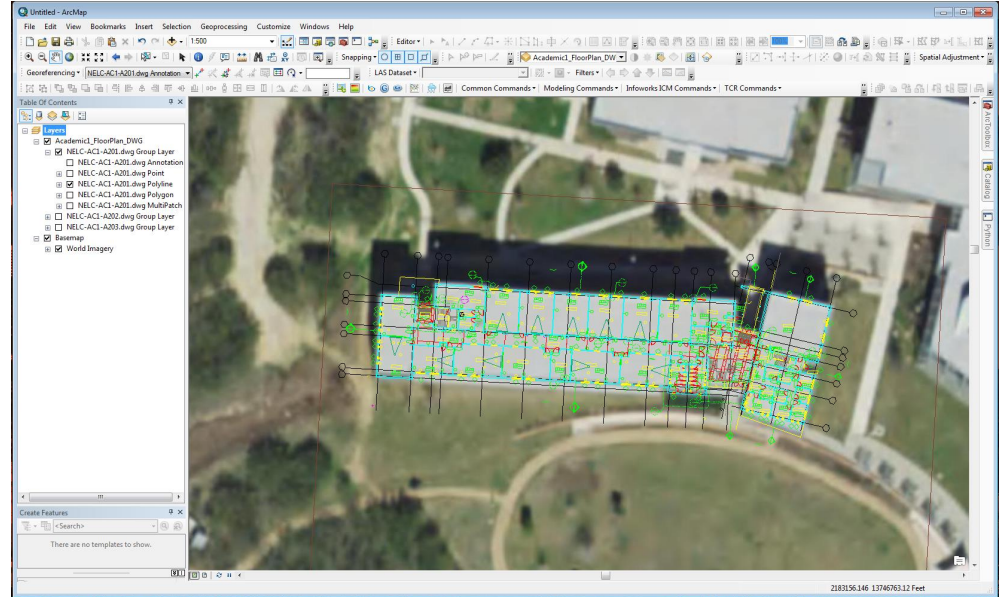 - » Georeference AutoCAD As-Built DWGs

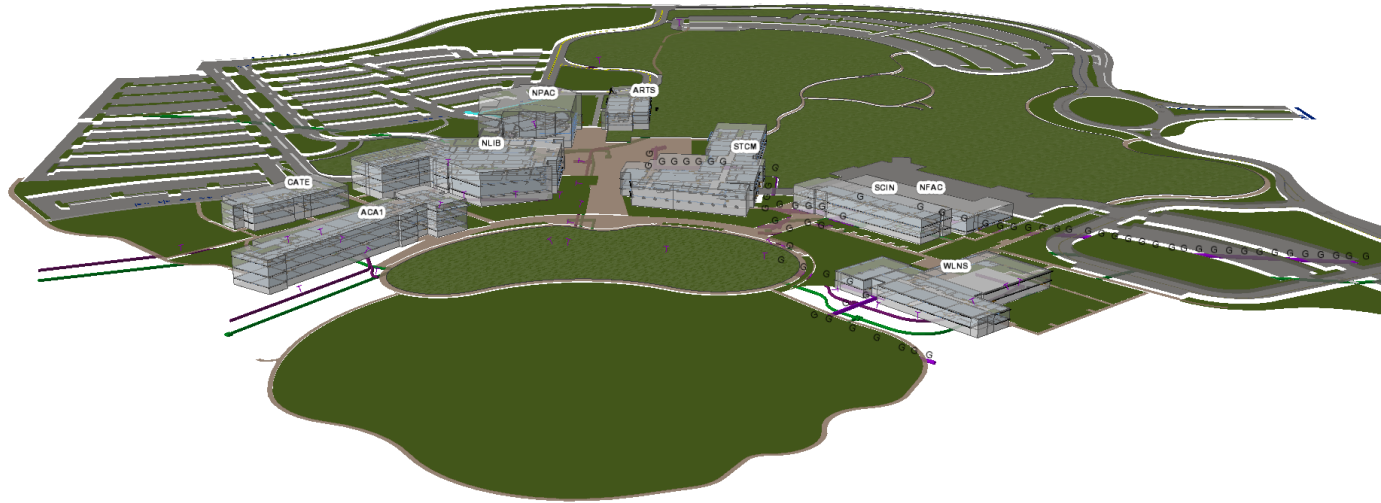- **Deliverables**
  - » Campus GIS

GIS Mapping Pilot: Northeast Lake View Campus (NLC)

GIS Mapping Pilot: Northeast Lake View Campus (NLC)

GIS Mapping Pilot: Northeast Lake View Campus (NLC)

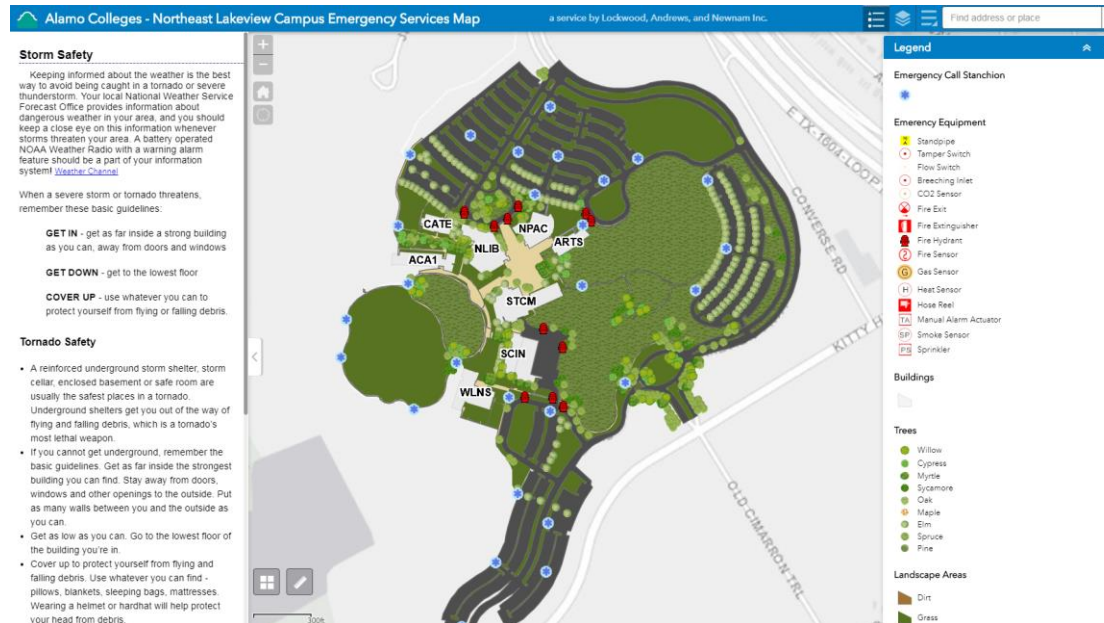# Best Practices

→ **Phase 2**

    » Develop service maps for NLC

- Tornado Shelter locations
- Emergency evacuation maps including building rally points
- Locations of OSHA confined spaces
- Fire Protection system

→ **Blending GIS and asset management**

→ **NVC Campus GIS**

GIS Mapping Pilot: Northeast Lake View Campus (NLC)

GIS Mapping Pilot: Northeast Lake View Campus (NLC)