FLORIDA BUILDING COMMISSION

RECOMMENDATIONS ON MILESTONE STRUCTURAL INSPECTION REQUIREMENTS

Ron DeSantis, Governor
Melanie Griffin, DBPR Secretary
James R. Schock P.E., C.B.O., Chairman

December XX, 2022

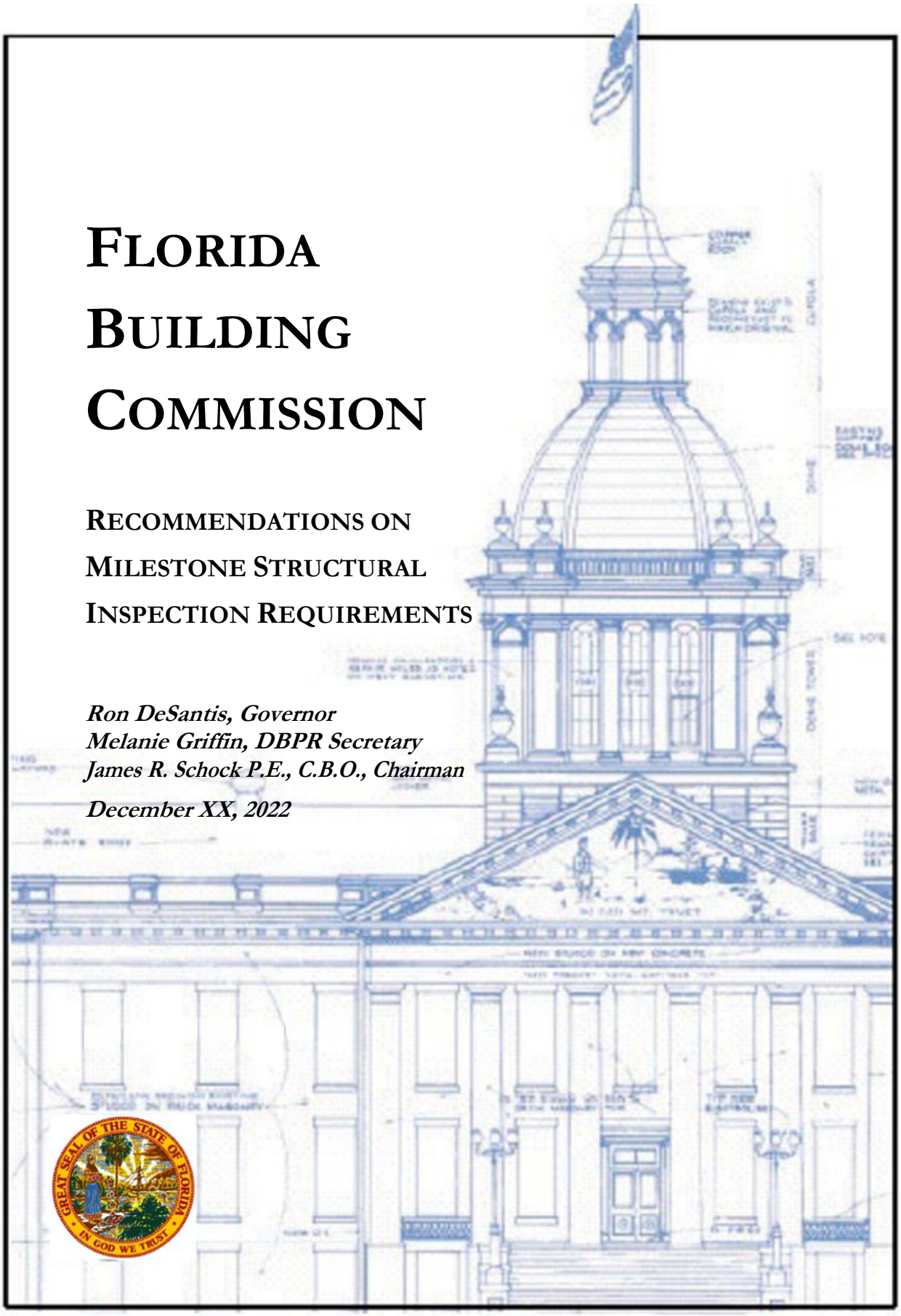

Table of Contents

I. Introduction

On June 24, 2021, the Champlain Towers South condominium building in Surfside, Florida, partially collapsed, resulting in the deaths of 98 people. The causes of the collapse are currently being investigated by a team from the National Institute of Standards and Technology.

In response to this tragedy, the Florida Legislature unanimously passed Senate Bill 4-D (2022) in a special session in May 2022. The bill created section 553.899, Florida Statutes, which required mandatory structural inspections for condominium and cooperative buildings. These "milestone inspections" are required when buildings reach a certain age, depending on their distance from the coastline. Buildings are first subjected to a visual, qualitative assessment of their structural condition; if signs of substantial structural deterioration are found, then a second phase of inspection to fully assess the structural soundness of the building and confirm its safety is required.

Section 553.899, Florida Statutes, directs the Florida Building Commission to complete two assignments. The first assignment requires the Commission to "review the milestone inspection requirements under this section and make recommendations, if any, to the Legislature to ensure inspections are sufficient to determine the structural integrity of a building." The second assignment requires the Commission, in consultation with the State Fire Marshal, to "provide recommendations to the Legislature for the adoption of comprehensive structural and life safety standards for maintaining and inspecting all types of buildings in this state that are three stories or more in height."

To complete the two assignments, the Chairman of the Florida Building Commission created the Existing Building Inspection Workgroup (EBIWG). The EBIWG is comprised of 16 members who have experience in structural engineering, architecture, building inspection and plan review, building materials, building management, and other related fields; five of the members are also currently-serving members of the Florida Building Commission. For the first assignment, the Chairman of the Florida Building Commission tasked the EBIWG with evaluating the milestone inspection requirements put into place by section 553.899, Florida Statutes, and to make recommendations to the Commission to ensure that the milestone inspection requirements actually achieve the Legislature's goal of maintaining the safety and structural integrity of condominium and cooperative buildings in the State of Florida. The EBIWG met multiple times to discuss the milestone inspection requirements and the issues surrounding implementation of the program. The workgroup solicited public opinion and provided opportunity for public testimony at its meetings, and engaged in a *consensus-building process* to identify potential recommendations that had a broad base of support. These *consensus recommendations* were then provided to the Florida Building Commission for its consideration, and the Commission subsequently voted to approve the recommendations contained within this report. A description of the workgroup's consensus-building process and each of the workgroup's consensus recommendations has been italicized and linked throughout this report for ease of access.

II. Recommendations

A. Implementation

[*I.1, V.2, V.6*]
As an overarching principle, the Commission believes that it would be more efficient and practical to develop the milestone inspection program via the rulemaking process, which would make it easier to modify in response to new research, data, developments, and stakeholder input. The Commission recommends that the Legislature grant the Commission rulemaking authority and charge it to establish a minimum Building Inspection Safety Program/Milestone Inspection Program within the Florida Building Code, Existing Building volume. The minimum Building Inspection Safety Program/Milestone Inspection Program would contain milestone inspection requirements, standardized inspection forms, checklists, and provide other baseline guidance and minimum requirements, which could be further strengthened at the local level by jurisdictions which choose to do so.

This approach would have the benefit of using the Commission's existing consensus-building process to develop an inspection scheme with input from impacted stakeholders, including building owners and local building departments, and house the requirements in the Florida Building Code, which should increase the ease of use for local jurisdictions.

B. Changes to Statutory Language and Other General Issues

1. Coastal and Inland Structures

[*III.3*]
The Commission recommends removing the distinction between coastal and inland structures at the present time, until there is evidence to support their being treated differently. Preliminary data from a Commission-funded research project by the University of Florida (UF) assessing the 40 year building recertification programs in Miami-Dade and Broward counties suggests that there may not be an appreciable difference in the levels of degradation observed between coastal and inland structures, and that it may not warrant the additional administrative and economic burdens of treating them differently.

[*I.2, V.5*]
If the Legislature wishes to maintain the coastal/inland dichotomy, then the Commission recommends that the method for determining the structure's distance to the coast be simplified, in order to assist local jurisdictions in determining which classification applies to each building. The Commission recommends that this be done by either:

- Tasking the Commission with developing, or facilitating the development of an official coastal map or other means of determining a structure's distance from the coast, or

- Using the Coastal Construction Control Line as the measuring point to determine the structure's distance from the coast.

2. Inspection Due Dates

[*III.1*]
There appear to be ambiguities or potential omissions pertaining to when the initial milestone inspections are due for certain buildings. The provisions of the law essentially provide:

- If a condominium or cooperative building is three stories or more in height, it must have a milestone inspection performed by December 31 of the year in which it reaches 30 years of age, and every ten years thereafter.
- If the building is located within three miles of a coastline, it must have a milestone inspection performed by December 31 of the year in which it reaches 25 years of age, and every ten years thereafter.
- If a milestone inspection is required and the building's certificate of occupancy was issued on or before July 1, 1992, then the building's initial milestone inspection must be performed before December 31, 2024.

The current language of the law essentially provides a grace period for performing the required inspections for buildings which were issued a certificate of occupancy on or before July 1, 1992; such structures must have their inspections performed by December 31, 2024. However, it appears that a structure with a certificate of occupancy issued on July 2, 1992, would have to have its milestone inspection performed by December 31, 2022, as it would not be covered by the grace period. It is unclear whether this was the intent of the Legislature.

Additionally, the grace period appears to contemplate addressing noncoastal structures. For coastal structures with certificates of occupancy issued after July 1, 1992, whose initial 25 year milestone inspections would have been due as early as 2017, it is unclear when their initial inspections are required. The Commission recommends that the Legislature clarify these requirements.

3. Other Issues

The Commission recommends making the following additional changes:

- [*II.3*] Removing the term "service life" from the statute and instead using "life of the building."

- [*II.1*] Changing "load-bearing walls" to "load-bearing elements," and refer to the definitions found in Chapter 2 of the Florida Building Code, Existing Building, rather than section 627.706, Florida Statutes. The definitions for these terms in the Florida Building Code would be updated to match those found in section 627.706, Florida Statues.

- [*II.4*] Alternatively, changing "load-bearing walls" to "load-bearing elements," but maintain the reference to section 627.706, Florida Statutes.

- [*III.2*] Requiring that a Phase 2 progress report with an estimated timeline for completion be submitted within 180 days after submitting a Phase 1 report, when a Phase 2 report is required.

C. Inspections

Subsection 553.899(8), Florida Statutes, specifies what Phase 1 and Phase 2 inspection reports must contain, at a minimum. The Commission recommends that a standardized form be utilized, and that the following additional items be included:

[*VI.1*] Phase 1 Reports	[*VI.2*] Phase 2 Reports
• Name of the Condo or Coop entity, along with contact information • Name and contact information of the licensed individual(s) conducting the inspection • General condition rating and any specific detail observations, along with any recommendations for each inspection category listed in the inspection criteria • Optional area for other notes and comments • Date(s) survey was conducted • Date of report • The report must provide instruction if a Phase 2 inspection is required and if the need is of such a critical nature that it is time-sensitive. • The report must provide an overall qualitative structural assessment of the building.	• Name of the Condo or Coop entity, along with contact information • Name and contact information of the licensed individual(s) conducting the inspection • References cited under Phase 1 report for follow up • Date of report • Identify the damage and describe the extent of the repairs needed along with repair recommendations • Area(s) requiring additional inspection, as well as results of any testing • Manner and type of inspections preformed • Optional area for other notes and comments • Graded urgency of each recommended repair • Date(s) inspection was conducted • Identify any need for additional inspections

The Commission further recommends:

- [*V.1*] Adopting nationally-recognized testing protocols for Phase 2 inspections.

- [*IV.1*] Requiring the submission of a corrective action report to the local building official after required repairs have been made.

- [*V.4*] Requiring the authority having jurisdiction to store plans and related resources for buildings so that they are available when needed for milestone inspections, and to update those documents if relevant remodeling occurs.

D. Professional Qualifications

In order for the milestone inspections to achieve the Legislature's purpose, they must be performed by individuals with the appropriate training and expertise to identify potential structural safety issues. Subsection 553.899(7), Florida Statutes, currently provides that a licensed architect or engineer may perform both phases of a milestone inspection.

It would be beneficial to seek input from the licensing boards for engineers and architects to determine whether special certification or experience should be required in order to perform Phase 2 inspections, or in order to perform inspections on threshold buildings. The Florida Building Code does not impose professional qualification requirements, and the Commission believes that any such requirements pertaining to milestone inspections should originate via statute or through promulgation by rule by the respective licensing boards.

Since the qualification of the inspectors is a significant factor in the overall efficacy of the inspection regime, however, as a starting point the Commission recommends the following options for consideration:

- [*IV.1*] Requiring that all corrective work be inspected by a professional engineer with a special inspector certification.

- [*IV.2*] For non-threshold buildings, allowing Phase 1 and Phase 2 milestone inspections to be completed by a professional engineer or architect, with all corrective action reports being signed and sealed by the professional engineer or architect.

- [*IV.4*] Alternatively, requiring all Phase 2 inspections to be performed by a professional engineer with either a structural engineer or special inspector certification.

- [*IV.7*] Requiring Phase 1 inspections to be carried out by a professional engineer or architect who has experience designing the structural components of buildings and inspecting the structural components of existing buildings.

- [*IV.6*] For threshold buildings, a professional engineer performing inspections or preparing reports must be qualified as a special inspector.

- [*IV.5*] Specifying that when an architect or professional engineer is required, the services may be provided by a team of professionals with an architect or professional engineer acting as a Registered Design Professional in Responsible Charge, with all work and reports required to be signed and sealed by the appropriate, qualified team member.

- [*II.2*] Utilizing the ASCE 11-99 Guidelines for Structural Condition Assessment of Existing Buildings as a baseline for providing a reasonable standard of care when performing milestone inspections.

- [*IV.3*] Providing a definition of the term “milestone inspector” in statute, for clarity.

III. Conclusion

The inspection of existing buildings for the purpose of ensuring their structural integrity and safety is a complex topic that involves many different professional disciplines, and the intersection of different levels of state and local government.

The Commission, by design, is comprised of members representing many of these interrelated fields and disciplines, and the recommendations provided in this report reflect the consideration of many of the practical implications of carrying out all facets of such an inspection regimen.

Some of the recommendations are more important than others; most could be achieved through multiple possible means (for example, by statute, through rulemaking, or via local ordinance). The Commission hopes that the foregoing report is of use to the Legislature when deciding how to proceed with this important topic.

James R. Schock P.E., C.B.O.
Chairman, Florida Building Commission

IV. Appendix

EXITING BUILDING INSPECTION WORKGROUP'S OPTIONS ACCEPTABILITY RANKING RESULTS — FOR INCLUSION AS THE WORKGROUP'S RECOMMENDATIONS TO THE FLORIDA BUILDING COMMISSION
UNANIMOUSLY ADOPTED 4 OCTOBER 2022

ASSIGNMENT 1 (PHASE 1 OF PROJECT)
SECTION 553.899, F.S. - MANDATORY STRUCTURAL INSPECTIONS FOR CONDOMINIUM AND COOPERATIVE BUILDINGS

ASSIGNMENT 1 SUMMARY

The Florida Building Commission shall review the milestone inspection requirements under this section and make recommendations, if any, to the Legislature to ensure inspections are sufficient to determine the structural integrity of a building. The Commission must provide a written report of any recommendations to the Governor, the President of the Senate, and the Speaker of the House of Representatives by December 31, 2022.

WORKGROUP PROCESS

During the meetings, Workgroup members were asked to develop and rank options using a 4-Point acceptability ranking scale. Once ranked for acceptability, options with a ≥ 3.0 average ranking (75%) were considered consensus recommendations for inclusion in the Workgroup's final package of recommendations to the Commission. In addition, the Workgroup voted unanimously in support of the package of consensus recommendations at their 13 September 2022 meeting. During the 4 October 2022 meeting the Workgroup will finalize their recommended consensus recommendations, and recommend the Commission approve the draft *Florida Building Commission's Recommendations on Milestone Structural Inspection Requirements* report, incorporating the Existing Building Inspection Workgroup's Recommendations.

The proposed options were ranked, each in turn using the following scale:

ACCEPTABILITY RANKING SCALE	***4 = Acceptable*** *I agree*	***3 = Acceptable,*** *I agree with* ***minor reservations***	***2 = Not Acceptable, I*** *don't agree unless* ***major reservations*** *addressed*	***1 = Not Acceptable***

MEETING FACILITATION

Meetings were facilitated, and options ranking worksheets prepared by Jeff Blair from Facilitated Solutions, LLC. Information at: http://facilitatedsolutions.org.

WORKGROUP'S CONSENSUS RECOMMENDATION

ACTION TAKEN 04 OCTOBER 2022: The Workgroup voted unanimously (14 – 0 in favor) to adopt the Workgroup's final package of consensus ranked options*, and to recommend the Commission approve the draft Florida Building Commission's Recommendations on Milestone Structural Inspection Requirements, incorporating the Existing Building Inspection Workgroup's Recommendations.

** All options that received an average ranking of ≥ 3.0 (75%).*

OPTIONS RANKING RESULTS DOCUMENT ORGANIZATION

- The Options Ranking Results are organized into 4 Sections.
- **Section 1 (page 3):** Consensus level ranked options are organized into 6 Topical Categories.
- **Topical Categories: I.** Procedural Recommendations, **II.** Definitions, **III.** Timeframe for Inspections, **IV.** Qualifications for Inspectors, **V.** Inspection Standards/Checklists, and **VI.** Local Governments/Report Submittal.
- For each Topical Category, ranked options achieving an average ranking of ≥ 3.0 (75%) are numbered from highest to lowest ranking starting with "1."
- There were a total of 24 consensus ranked options.
- **Section 2 (page 10):** Options that were initially consensus ranked but replaced by an alternate option(s).
- **Section 3 (page 13):** Options that were ranked but achieved < 75% Support are organized into the same 6 Topical Categories and lettered from highest to lowest ranking starting with "A."
- **Section 4 (page 21):** Options that are outside the scope of Assignment 1 are listed and organized by topic.

SECTION 1 – CONSENSUS LEVEL OPTIONS

I. PROCEDURAL RECOMMENDATIONS (2)

OPTIONS ACHIEVING A CONSENSUS LEVEL OF SUPPORT: ≥75% SUPPORT

Option 1 – Ranked 4.00) Recommend that instead of making changes to the Law the Legislature charge the Building Commission with rulemaking to further define the inspection criteria and process implementation as outlined in Section 553.899, F.S.

Option 2 – Ranked 3.43) Coastline Mapping. The commission should include or facilitate the coastline maps for the entire state.

II. DEFINITIONS OPTIONS (4)

OPTIONS ACHIEVING A CONSENSUS LEVEL OF SUPPORT: ≥75% SUPPORT

Option 1 – Ranked 3.71) Specific Statutory and/or Rule Language Change. (FBCB 2020 S2 passages provided as example below and mirrors the updates to SB-4D) To ensure that the milestone inspections sufficiently determine the structural integrity of a building, the current wording of SB-4D 553.899(2)(a) and FBCB 2020 S2 Section 110.9.2(a) should be updated to enclose pre-defined phrases in quotations, to only reference FBC Definitions, and correct the term "load-bearing walls" to reflect the wording of the term as defined in FBCEB, as follows.
(a) "Milestone inspection" means a structural inspection of a building, including an inspection of "load-bearing ~~walls~~ elements", ~~and the~~ "primary structural members", and "primary structural systems" ~~as those terms are defined in s. 627.706, Florida Statutes~~ as defined by FBCEB Chapter 2, *The FBC Existing Buildings Chapter 2 should then be updated to copy/paste the referenced definitions from FS 627.706, and to clarify the definition of "primary structural member" to include "and/or" as shown within the "Relevant Background Information" section of this Recommendation.*

This recommendation is also to update 553.899(7)(a) and FBCB Section 110.9.7.1 as follows, for consistent use of terms:
110.9.7.1. For phase one of the milestone inspection, a licensed architect or engineer authorized to practice in this state shall perform a visual examination of habitable and nonhabitable areas of a building, including the inspection of items described within Section 110.9.2(a) ~~major structural components of a building~~, and provide a qualitative assessment of the structural conditions of the building. If the architect or engineer finds no signs of substantial structural deterioration to any building components under visual examination, phase two of the inspection, as provided in Section 110.9.7.2, is not required. An architect or engineer who completes a phase one milestone inspection shall prepare and submit an inspection report pursuant to Section 110.9.8.

Option 2 – Ranked 3.43) Standard of Care. Use the ASCE 11-99 Guidelines for Structural Condition Assessment of Existing Buildings (1) as a standard for assessments for providing a reasonable standard of care.

Option 3 – Ranked 3.36) **Specific Statutory and/or Rule Language Change.** Drop the term "Service Life" from Statute.

Option 4 – Ranked 3.14) **Specific Statutory and/or Rule Language Change.** To ensure that the milestone inspections sufficiently determine the structural integrity of a building, the current wording of SB-4D 553.899(2)(a) and FBCB 2020 S2 Section 110.9.2(a) should be updated to enclose pre-defined phrases in quotations, and correct the term "load-bearing walls" to reflect the wording of the term as defined in FBCEB, as follows.
(a) "Milestone inspection" means a structural inspection of a building, including an inspection of "load-bearing ~~walls~~ elements", as defined by FBCEB Chapter 2, and the "primary structural members" and "primary structural systems", as ~~those terms are~~ defined in s. 627.706, Florida Statutes,…"

This recommendation is also to update 553.899(7)(a) and FBCB Section 110.9.7.1 as follows, for consistent use of terms:
110.9.7.1. For phase one of the milestone inspection, a licensed architect or engineer authorized to practice in this state shall perform a visual examination of habitable and nonhabitable areas of a building, including the inspection of items described within Section 110.9.2(a) ~~major structural components of a building~~, and provide a qualitative assessment of the structural conditions of the building. If the architect or engineer finds no signs of substantial structural deterioration to any building components under visual examination, phase two of the inspection, as provided in Section 110.9.7.2, is not required. An architect or engineer who completes a phase one milestone inspection shall prepare and submit an inspection report pursuant to Section 110.9.8.

III. Timeframe for Inspections Options (3)

Options Achieving A Consensus Level of Support: ≥75% Support

Option 1 – Ranked 3.93) **Specific Statutory and/or Rule Language Change.** **Section 110.9.4.** If a milestone inspection is required under this section and the building's certificate of occupancy was issued on or before July 1, 1992, for non-coastal buildings or July 1, 1997 for coastal buildings, the building's initial milestone inspection must be performed before December 31, 2024 and every 10 years thereafter. If the date of issuance for the certificate of occupancy is not available, the date of issuance of the building's certificate of occupancy shall be the date of occupancy evidenced in any record of the local building official.

Option 2 – Ranked 3.71) **Specific Statutory and/or Rule Language Change.** **Section 110.9.6.** Within 180 days after receiving the written notice under Section 110.9.5, the condominium association or cooperative association must complete phase one of the milestone inspection. For purposes of this section, completion of phase one of the milestone inspection means the licensed engineer or architect who performed the phase one inspection submitted the inspection report by e-mail, United States Postal Service, or commercial delivery service to the local enforcement agency. If required, a Phase 2 progress report with an estimated timeline for completion, must be submitted within 180 days after submitting the Phase 1 report.

Option 3 – Ranked 3.69) Have only one initial timeline for the first milestone inspection of 30 years. This may be adjusted based on further UF research.

IV. Qualifications for Inspectors Options (7)

Options Achieving A Consensus Level of Support: ≥75% Support

Option 1 – Ranked 3.62) All corrective work inspections: all corrective work must be permitted through the Building Official and be inspected by a Professional Engineer with a Special Inspector certification. The final correction report must be submitted to the Building Official and sealed by the special inspector and approved by the milestone phase 2 inspector if they are not the same person. The permit must be finalized by the Building Official.

Option 2 – Ranked 3.50) Non-Threshold Buildings. Phase 1 and Phase 2 milestone inspections may be completed by a Florida Professional Engineer or Architect. All Corrective action reports must be signed and sealed by the Professional engineer or Architect.

Option 3 – Ranked 3.29) Specific Statutory and/or Rule Language Change. (FBCB 2020 S2 passages provided below and mirrors the updates to SB-4D). To ensure that the milestone inspections sufficiently determine the structural integrity of a building, the current wording of SB-4D 553.899(2) and FBCB 2020 S2 Section 110.9.2 should be reorganized to provide the description of an inspector as its own term, "milestone inspector", referencing the purpose of the "milestone inspection", and update such references within the remainder of the text, as follows:

(a) "Milestone Inspector" means a licensed architect or engineer authorized to practice in this state and capable of performing the "milestone inspection" for the purposes of attesting to the life safety and adequacy of the structural components of the building, by determining if substantial structural deterioration is present as defined herein, and, to the extent reasonably possible, determining the general structural condition of the building as it affects the safety of such building, including a determination of any necessary maintenance, repair, or replacement of any structural component of the building. In accordance with Section 110.9, the Milestone Inspector must develop the Phase 1 and/or Phase 2 milestone inspection plan(s) in order to fulfill the purpose of the "milestone inspection", and perform the Phase 1 and/or Phase 2 on-site inspections in order to achieve the milestone inspection's purpose.

(~~a~~b) "Milestone inspection" means a structural inspection of a building, including an inspection of load-bearing walls and the primary structural members and primary structural systems, as those terms are defined in s. 627.706, Florida Statutes, by a Milestone Inspector as defined herein. ~~licensed architect or engineer authorized to practice in this state for the purposes of attesting to the life safety and adequacy of the structural components of the building and, to the extent reasonably possible, determining the general structural condition of the building as it affects the safety of such building, including a determination of any necessary maintenance, repair, or replacement of any structural component of the building.~~ The purpose of such inspection is to determine if there is substantial structural deterioration as defined herein, in accordance with Section 110.9.7, and is not to determine if the condition of an existing building is in compliance with the Florida Building Code Building or the firesafety code.

(~~b~~c) "Substantial structural deterioration" means substantial structural distress that negatively affects a building's general structural condition and integrity. The term does not include surface imperfections such as cracks, distortion, sagging, deflections, misalignment, signs of leakage, or peeling of finishes unless the licensed engineer or architect performing the phase one or phase two inspection determines that such surface imperfections are a sign of substantial structural deterioration in accordance with Section 110.9.7.

Subsequently, the below passages can also be updated to simply say "Milestone Inspector" and reference the "milestone inspection" definition:

110.9.6. Within 180 days after receiving the written notice under Section 110.9.5, the condominium association or cooperative association must complete phase one of the milestone inspection. For purposes of this section, completion of phase one of the milestone inspection means the Milestone Inspector ~~licensed engineer or architect~~ who performed the phase one inspection submitted the inspection report by e-mail…

110.9.7. A milestone inspection consists of two phases:

110.9.7.1. For phase one of the milestone inspection, a Milestone Inspector ~~a licensed architect or engineer authorized to practice in this state~~ shall perform a visual examination of habitable and nonhabitable areas of a building, including the inspection of items described within Section 110.9.2(b) ~~major structural components of a building~~, and provide a qualitative assessment of the structural conditions of the building. If the Milestone Inspector ~~architect or engineer~~ finds no signs of substantial structural deterioration to any building components under visual examination, phase two of the inspection, as provided in Section 110.9.7.2, is not required. A Milestone Inspector ~~An architect or engineer~~ who completes a phase one milestone inspection shall prepare and submit an inspection report pursuant to Section 110.9.8.

110.9.7.2. A phase two of the milestone inspection must be performed if any substantial structural deterioration is identified during phase one. A phase two inspection may involve destructive or nondestructive testing at the **Milestone** Inspector's direction. The inspection may be as extensive or as limited as necessary to fully assess areas of structural distress in order to confirm that the building is structurally sound and safe for its intended use and to recommend a program for fully assessing and repairing distressed and damaged portions of the building. When determining testing locations, the Milestone Inspector must give preference to locations that are the least disruptive and most easily repairable while still being representative of the structure. A~~n~~ **Milestone** Inspector who completes a phase two milestone inspection shall prepare and submit an inspection report pursuant to Section 110.9.8.

110.9.8. Upon completion of a phase one or phase two milestone inspection, the Milestone Inspector ~~architect or engineer~~ who performed the inspection must submit a sealed copy of the inspection report with …

Option 4 – Ranked 3.23) All Phase 2 Inspections must be performed by a Professional Engineer with either SE or SI designation (Section 553.899 (7) (b) Phase 2 inspection).

Option 5 – Ranked 3.21) When an Architect or Professional Engineer is required, they can be a team of professionals with an Architect or Professional Engineer acting as a *Registered Design Professional in Responsible Charge*. All work and reports must be signed and sealed by the appropriate, qualified team member.

Option 6 – Ranked 3.08) When the building is a threshold building as defined in the FBC, the engineer conducting the inspection and preparing the report must also be qualified as a Special Inspector by the State of Florida DBPR.

Option 7 – Ranked 3.00) Qualifications to Perform Inspections: Phase One: a licensed architect or professional engineer, who has experience designing the structural components of buildings and inspecting structural components of existing buildings.

V. Inspection Standards/Checklist Options (6)

Options Achieving A Consensus Level of Support: ≥75% Support

Option 1 – Ranked 3.86) Phase 2. Require, when testing and at the discretion of the design professional, the use of scientific testing protocols for Phase 2 inspections in addition to visual inspection techniques for determining the structural integrity of a building.
NDT Protocols for existing buildings are as follows for Phase 2 including but not limited to:
1. ASTM F1869 – Chloride test for concrete
2. ASTM C876 (half-cell) – Scan of concrete at a depth of 6" to measure rebar deterioration
3. ASTM C1153- Thermography
4. ASTM D8231 modified – Electronic Leak Detection of membrane roofing
5. AAMA 511 – Pressure Testing of Fenestrations
6. ASTM D4580 – Delam roller for Stucco and Concrete
7. Non-destructive tests and load tests referenced in ASCE 11.

Option 2 – Ranked 3.70) **Specific Statutory and/or Rule Language Change.** Delete the term "~~Recertification~~" and replace with "Building Safety Inspection." Recertification sets an incorrect expectation. (553.899 (2) terms).

Option 3 – Ranked 3.62) Inspections Criteria. Request the Legislature give the Florida Building Commission rule-making authority to establish a minimum Building Safety Inspection Program (use language in law milestone) and add it to the Florida Building Code for Existing Buildings which may be amended using the existing Local Technical Amendment process providing it does not reduce the baseline requirements. (Such Technical amendments should not be subject to the existing sunset provisions of the Law). In addition to Inspector Qualifications, Reporting, and Definitions the baseline requirements shall address the following:

- Through rule-making the Commission shall establish a Building Safety Inspection program. They may use but not limited to Miami-Dade and Broward programs (excluding Electrical) as guidance document as well as other appropriate information.
- Reporting documents shall be standardized and be adaptable to electronic reporting.
- Provide an overall condition assessment such as Good, Fair, Poor; along with the ability to provide a descriptive narrative and Photographs.
- Include but not limited to the following inspection areas:
  - Load bearing walls,
  - Primary structural Members,
  - Primary structural systems,
  - Structural components of means of egress,
  - Roofing,
  - Balcones,
  - Post Tension Slabs and Anchorage,
  - Sealants, Curtain Walls, Storefronts, Window installation, Flashing and Building Cladding,
  - Foundations investigating excessive settlement or ground subsidence etc.,
  - Review of existing construction documents, permits and inspection records check for non-approved changes,
  - Review of Maintenance records, and,

- Inspection of any flood protective measures such as seawalls or floodproofing provisions.

Option 4 – Ranked 3.38) Ensure Existing Plans/Resources Access.

- House in building departments (AHJ), so resources/plans are available when needed for inspections, etc.
- Avoid duplication of researching available construction documents.
- Updating the documents if remodeled.

Option 5 – Ranked 3.23) Use the Coastal Construction Control Line (CCCL) as the line from which to measure the three-miles in from the coast; see line 229 of SB 4-D.

Option 6 – Ranked 3.00) Develop a new Chapter (Chapter 18) within the FBCEB 2020 as a Supplement, to include the FBCB 110.9 information as well as universal baseline guidance and minimum requirements for mandatory milestone inspections. The Chapter should define common terminology, condition ratings, and minimum requirements applicable to all building sizes and construction materials relative to mandatory milestone inspections. Within this recommendation, it is proposed to call the new Chapter, "FBCEB Chapter 18 Guideline for Mandatory Milestone Inspections", and to include the below Sections at a minimum:

Section 1801 Purpose & Scope
Section 1802 Definitions, Symbols, and Notations
Section 1803 General Requirements
Section 1804 Structural Integrity
Section 1805 Phase 1 Milestone Inspection Minimum Requirements
Section 1806 Phase 2 Milestone Inspection Minimum Requirements
Section 1807 Referenced Standards

VI. Local Governments/Report Submittal Options (2)

Options Achieving A Consensus Level of Support: ≥75% Support

Option 1 – Ranked 3.85) Phase 1 Milestone Inspection Report. Information to be included in the Phase 1 report:

- Name of the Condo or Coop entity along with contact information
- Name and contact information of the licensed individual(s) conducting the inspection
- Provision for signature and seal of the licensed individual conducting the inspection
- General condition rating and any specific detail observations along with any recommendations for each inspection categories listed in the inspection criteria
- Optional area for other notes and comments
- Date(s) survey was conducted
- Date of report
- The final phase 1 report must be submitted to the Jurisdiction for record purposes and to establish if a need for further action is necessary.
- The report must provide instruction if a Phase 2 inspection is required and if the need is of such a critical nature that it is time sensitive.
- The report must provide an overall qualitative structural assessment of the building.

Option 2 – Ranked 3.77) Phase 2 Milestone Inspection Report. Information to be included in the Phase 2 report:

- Name of the Condo or Coop entity along with contact information
- Name and contact information of the licensed individual(s) conducting the inspection
- Provision for signature and seal of the licensed individual conducting the inspection
- References cited under Phase I report for follow up
- Date of report
- Identify the damage and describe the extent of the repairs needed along with repair recommendations
- Area(s) requiring added inspection as well as results of any testing
- Manner and type of inspections preformed
- Optional area for other notes and comments
- Graded urgency of each recommended repair
- Date(s) inspection was conducted
- State if it is unsafe or dangerous condition
- Identify any needs for additional inspections
- Submit a corrective action report after repairs are made.

SECTION 2 – CONSENSUS SUPPORTED OPTIONS REPLACED BY ALTERNATE OPTIONS

I. PROCEDURAL RECOMMENDATIONS

None.

II. DEFINITIONS OPTIONS

None.

III. TIMEFRAME FOR INSPECTIONS OPTIONS

OPTIONS ACHIEVING A CONSENSUS LEVEL OF SUPPORT: ≥75% SUPPORT REPLACED BY REVISED AND/OR COMBINED OPTIONS

Option Initially Ranked 3.30) Have only one initial timeline for the first milestone inspection (25 or 30 years).

Option Initially Ranked 3.21) Eliminate the 25-year inspection requirement for buildings that are within 3 miles of the coastline.

IV. QUALIFICATIONS FOR INSPECTORS OPTIONS

None.

V. INSPECTION STANDARDS/CHECKLIST OPTIONS REPLACED

OPTIONS ACHIEVING A CONSENSUS LEVEL OF SUPPORT: ≥75% SUPPORT REPLACED BY REVISED AND/OR COMBINED OPTIONS

Option Initially Ranked 3.42) Ensure Existing Plans/Resources Access.

Option Initially Ranked 3.25) Use Miami-Dade County's General Considerations and Guidelines and the Structural Report Template (except the electrical guidelines and template) as the minimum reporting for compliance with the reports described in Section 553.899, F.S.*(Note: the specific language/document was provided)*

Option Initially Ranked 3.25) Use the 22-point inspection procedure listed in FBPE October 2021 Newsletter article – A Look at Building Recertification… by John C. Pistorino, P.E., S.I. *(Note: the specific language was provided)*

Option Initially Ranked 3.23) FBC to create a standard fillable form for Phase I inspections for use by the licensed professional retained which would include:

- Name of the Condo or Coop entity along with contact information
- Name and contact information of the licensed individual(s) conducting the survey

- Provision for signature and seal of the licensed individual conducting the survey
- Specific areas detailing observations and any recommendations
  - These can be structural, waterproofing and related areas of concern
- Optional area for other notes and comments
- Date(s) survey was conducted
- Date of report

Option Initially Ranked 3.17) FBC to create standard fillable form for Phase II inspections for use by the licensed professional retained which would include:

- Name of the Condo or Coop entity along with contact information
- Name and contact information of the licensed individual(s) conducting the survey
- Provision for signature and seal of the licensed individual conducting the survey
- References cited under Phase I report for follow up
- Area(s) requiring added inspection as well as results of testing deemed necessary
  - Provision for recommended repairs, if needed, as well as definition of extent and identification of such areas
- Optional area for other notes and comments
- Graded urgency of each recommended repair
- Date(s) inspection was conducted
- Date of report

Option Initially Ranked 3.12) Use Broward County's Board of Rules and Appeals Policy #05-05 – Building Safety Inspection Program, including General Considerations & Guidelines for Building Safety Inspections *(Note: an electronic copy of the Final document was provided)*

Option Initially Ranked 3.00) Note whether deficiencies are found in conditioned or unconditioned spaces.

Option Initially Ranked 3.00) Structural Inspection includes: (553.899 (7) (a) and (b) Phase 1 and 2 inspection):

- Roofing,
- Balcones,
- Post Tension Slabs and Anchorage,
- Caulking, Curtain Walls, Window installation, Flashing and Building Cladding,
- Foundations investigating excessive settlement or ground subsidence,
- Review of existing construction documents, permits and inspection records check for non-approved changes,
- Review of Maintenance records,
- Inspection of any flood protective measures such as seawalls or floodproofing provisions.

Option Initially Ranked 3.00) Include guidelines/minimum requirements for Structural Assessments of Existing Buildings within the FBC Existing Building, by means of an additional Chapter and/or Appendix. The "checklist" and other introductory/baseline information would be included within this Chapter/Appendix. The purpose of this suggestion is to clearly organize Assessment Requirements separate from other Repair/Alteration information. This clear organization can establish a baseline consensus for all engineers, so we all have a common "starting point" for our assessment, vocabulary, and overall understanding of the assessment's purpose. The provided information should be "universal" to

each assessment, and should not pigeonhole or micromanage the engineer beyond the baseline consensus. Within the new Chapter/Appendix, provide the following information, at a minimum (presented below in no particular order). Note that when other Standards/Codes are referenced or paraphrased within my below suggestions, it is my suggestion that the FBC adopt the language or something similar to it. I am not suggesting that the FBC contain paraphrases or references to other Codes/Standards. *(Note: the specific language was provided)*

VI. Local Governments/Report Submittal Options

Options Achieving A Consensus Level of Support: ≥75% Support Replaced By Revised and/or Combined Options

Option Initially Ranked 3.50) The final report must be submitted to the Jurisdiction for record purposes and to establish if a need for further action is necessary. The report must provide instruction if a phase 2 inspection is required. The report must provide a qualitative structural assessment of the building.
If required by the phase 1 inspection destructive or nondestructive testing may be required.

- Recommend a program to fully address the repairs
- Submit the Phase 2 Report to the jurisdiction
  - Seal the report
  - Manner and type of inspections preformed
  - Identify the damage and describe the extent of the repairs needed along with repair recommendations
  - State if it is unsafe or dangerous condition
  - Identify any needs for additional inspections
- Submit a corrective action report after repairs are made (553.899 (8) reporting).

Option Initially Ranked 3.42) Suggested post-repair report to document repairs completed as well as verification of post-work inspection by licensed professional and/or local Building Department if permits were required.

SECTION 3 - ASSIGNMENT 1 OPTIONS NOT ACHIEVING A CONSENSUS LEVEL OF SUPPORT: < 75 SUPPORT

I. PROCEDURAL RECOMMENDATIONS

OPTIONS NOT ACHIEVING A CONSENSUS LEVEL OF SUPPORT: < 75% SUPPORT

None.

II. DEFINITIONS OPTIONS

OPTIONS NOT ACHIEVING A CONSENSUS LEVEL OF SUPPORT: < 75% SUPPORT

Option A – Ranked 2.93) Remove the term "*Substantial Structural Deterioration*" as the threshold for determining when a Phase 2 Inspection is required, and replace with language along the lines of: "If after the Phase 1 Inspection is completed the engineer finds that the structural system has been weakened, then a Phase 2 Inspection is required."

Option B – Ranked 2.21) Define "Durability" based on consensus documents.

Option C – Ranked 1.93) Define Service Life of a building based on existing consensus documents.

III. TIMEFRAME FOR INSPECTIONS OPTIONS

OPTIONS NOT ACHIEVING A CONSENSUS LEVEL OF SUPPORT: < 75% SUPPORT

Option A – Ranked 2.57) Require a 25-year milestone for all buildings to simplify the enforcement efforts for the building departments.

IV. QUALIFICATIONS FOR INSPECTORS OPTIONS

OPTIONS NOT ACHIEVING A CONSENSUS LEVEL OF SUPPORT: < 75% SUPPORT

Option A – Ranked 2.92) Structural Safety Inspections of Threshold Buildings or Structure: All phase 1 milestone inspection of a threshold building or structure as defined above may be completed by a Professional Engineer or Architect. All phase 2 milestone inspections of a Threshold building or structure must be by a Professional Engineer with a Special Inspector certification or a board-certified Structural Engineer.

Option B – Ranked 2.92) Structural Safety Inspection of non-threshold buildings or Structure: All Phase 1 and phase 2 inspections of non-threshold buildings must be performed by a licensed Professional Engineer or Architect.

Option C – Ranked 2.78) Qualifications to Perform Inspections: Phase Two: a licensed architect or professional engineer, who has a minimum of: (a) ten years of experience designing the primary structural components of buildings, and (b) a minimum of five years inspecting structural components of existing buildings of a similar size, scope, and type of construction.

Part of Option C) Qualifications to perform inspections: 10 years of experience in design, and five years of experience in inspection of similar type structures for those performing Phase 2 inspections.
Part of Option C) Require that All Professional Engineers and Architect must be actively licensed and in good standing with their appropriate licensing boards

Option D – Ranked 2.29) Define the Qualifications for Engineers that are able to perform Phase 1 and Phase 2 Structural Assessments based on the updated Miami Dade Ordinance Chapter 8* in conjunction with the FBPE Structural Recognition Program (https://fbpe.org/licensure/structural-engineering-recognition-program/). Consider if it should be named/tracked as a Structural Building Assessment License/Specialty/Certificate/Inspector.

**Miami Dade Ordinance Chapter 8 updated language as of 6/1/22:*
A.) The structural portion of such report must be prepared by a Professional Engineer registered in the State of Florida specializing in structural design.
B.) The electrical portion of such written report must be prepared by a Professional Engineer registered in the State of Florida specializing in electrical design.
C.) A self-qualification letter shall be submitted as part of the structural report for threshold buildings, stating that the engineer is a practicing structural engineer and has worked with buildings equivalent to the building being certified and shall be accompanied by proof of the engineer's state Department of Business and Professional Regulation (DBPR) structural specialization [*and/or FBPE Structural Engineer Recognition*]."

Option E – Ranked 2.23) Define the Qualifications for Engineers that are able to perform Structural Assessments, and consider if it should be named/tracked as a Structural Building Assessment License/Specialty/Certificate/Inspector. The definition of the qualifications can be listed within the FBC Existing Building or suggested to Legislature to be defined within the Florida Statutes, similar to Threshold Inspectors. The below suggestion considered qualifications we would expect from Structural Building Assessors. The range of qualifications below can be easily applied to existing engineers as well as future engineers, without forcing anyone to take an exam or get a Masters degree. *(Note: the specific language was provided)*

Option F – Ranked 2.07) Threshold Buildings: All Phase 1 milestone inspections must be performed by a Florida Architect or Professional Engineer. All Phase 2 inspections shall be performed by a Professional Engineer with either 10 years of verifiable experience involving structural design and inspections or a professional engineer with a Special Inspector designation issued by the Board of Professional Engineers. All Corrective action reports must be signed and sealed by the Professional engineer conducting the phase 2 inspection and the Special Inspector.

Option G – Ranked 1.93) Threshold Buildings. All Phase 1 and 2 milestone inspections shall be performed by a Professional Engineer with either 10 years of verifiable experience involving structural design and inspections or a professional engineer with a Special Inspector designation issued by the Board of Professional Engineers. All Corrective action reports must be signed and sealed by the Professional engineer conducting the Phase 2 inspection and the Special Inspector.

Option H – Ranked 1.86) Minimum Requirements. Consider utilizing the following criteria to qualify Engineers to be able to perform Phase 1 and Phase 2 Structural Assessments:
A. Professional Engineering License in the State of Florida for at least 4 years.
B. In addition to the above requirement, meet at least three of the following criteria:

- Master's degree in Civil Engineering (must have emphasis in Structures) from a program that has an EAC/ABET-accredited program in Civil Engineering or Structural Engineering at the undergraduate or graduate level.
- Pass the NCEES 16-hour Structural Exam
- Structural Design Background Type A: EOR New Design
- Structural Design Background Type B: EOR Repair/Renovation Design
- Structural Design Background Type C: Design Engineer New & Repair Design
- Structural Assessment Background Type A: EOR Assessment
- Structural Assessment Background Type B: Design Engineer Assessment

C. See Specific Language provided for definitions of terms."

V. Inspection Standards/Checklist Options

Options Not Achieving a Consensus Level of Support: < 75% Support

Option A – Ranked 2.86) BROAD TRIGGER:
110.9.7. A milestone inspection consists of two phases:
110.9.7.1. For phase one of the milestone inspection, a licensed architect or engineer authorized to practice in this state shall perform a visual examination of habitable and nonhabitable areas of a building, including the major structural components of a building, and provide a qualitative assessment of the structural conditions of the building. If the architect or engineer finds no signs of substantial structural deterioration to any building components under visual examination, phase two of the inspection, as provided in Section 110.9.7.2, is not required. In cases where during phase one, the Milestone Inspector determines that a visual, qualitative examination of the building **is not sufficient** to determine signs of substantial structural deterioration, then a phase two inspection per Section 110.9.7.2 is required in order for the Milestone Inspector to further conduct exploration, analysis, and/or testing as needed (e.g. GPR, removal of drywall, computational analysis, load testing, etc.). An architect or engineer who completes a phase one milestone inspection shall prepare and submit an inspection report pursuant to Section 110.9.8.

Option B – Ranked 2.83) Define "*Standard of Care*" (Section 553.899 (2) terms).

Option C – Ranked 2.77) Encourage a load test ("insitu load test") on each structure (at discretion of the design professional).

Option D – Ranked 2.77) To ensure that the milestone inspections address buildings that are exposed to saltwater at an earlier age (25 years), the Legislature should consider revising the 25-year milestone inspection requirement in SB-4D 553.899(3) and FBC 2020 S2 110.9.3 to apply to buildings that are located between the uppermost water table's saltwater interface boundary and the coastline as defined by s. 376.031, rather than a 3-mile offset of the coastline. If acceptable, the Legislature should charge FDEP, USGS, and/or Other Agencies with compiling the existing saltwater interface line maps within PDF and ArcGIS, and publish a Statewide map as soon as possible. The building officials and building owners can then use the maps to easily locate the affected buildings. See the figures from ArcGIS and SFWMD within the Relevant Background Information section at the end of this recommendation for screenshots of the existing maps.

Option E – Ranked 2.75) Life Safety elements deterioration in Phase 1 Guard/Hand rail Fire Escape Means of Egress Ensure Inspections are Sufficient to determine structural integrity.

Option F – Ranked 2.69) Minimum Adoptive Ordinance. This option is based on the same process used when the commission place mandatory flood requirements into the Florida Building Code and provided a sample minimum flood ordinance which could be adopted and modified to reflect any higher standards the Jurisdiction wished to adopt. Example: you may require structural members, load bearing walls, structural systems, roofs and balconies as mandatory and water intrusion items as higher standards which may be adopted locally. This allows for smaller less populated jurisdictions to adopt according to their needs.

Option G – Ranked 2.60) Criteria for inspection of concrete structure. During visual inspections of concrete structures, a minimum of 20% of the areas having exterior concrete slab systems with column to slab interfaces, shall be visually evaluated from above and underneath. If visual evaluation cannot take place, these areas shall be scanned with infrared thermography equipment by a person competent in measuring and analyzing the results obtained therein. After either type of evaluation, an assessment shall be made by the inspector as to any void spaces or crack growth present at the measured areas. If void spaces or corrosion is noted in either visual or infrared testing, then a percentage deduction in strength of the connection in correlation to the observed amount of corrosion or void spaces shall be made by the inspector during the phase 1 assessment.

Option H – Ranked 2.57) BROAD, CONDITION TRIGGER:
110.9.7. A milestone inspection consists of two phases:
110.9.7.1. For phase one of the milestone inspection, a licensed architect or engineer authorized to practice in this state shall perform a visual examination of habitable and nonhabitable areas of a building, including the major structural components of a building, and provide a qualitative assessment of the structural conditions of the building. If the architect or engineer finds no signs of substantial structural deterioration to any building components under visual examination, phase two of the inspection, as provided in Section 110.9.7.2, is not required. In cases where during phase one, the Milestone Inspector determines that **there are conditions which prevent** a visual, qualitative examination of the building for signs of substantial structural deterioration**, such as the presence of undocumented prior repairs and/or renovations, and/or inadequate building historical information,** then a phase two inspection per Section 110.9.7.2 is required in order for the Milestone Inspector to further conduct exploration, analysis, and/or testing as needed (e.g. GPR, removal of drywall, computational analysis, load testing, etc.). An architect or engineer who completes a phase one milestone inspection shall prepare and submit an inspection report pursuant to Section 110.9.8.

Option I – Ranked 2.50) Time limit for emergency mitigation measures. If the inspector finds a phase 2 assessment is necessary, there shall be a deadline placed by the inspector as to the time limit of any recommended emergency mitigation measures to be made by the responsible party. Further, if 90 days passes and the inspector's recommendation for phase 2 mitigation has not taken place, the inspector is no longer expected to be responsible for the assessment or mitigation of the structure and the AHJ may have cause to revoke the certificate of occupancy of the building to ensure corrective measures are taken.

Option J – Ranked 2.42) Maintenance Plan from First Occupancy. Start existing building inspection programs from first occupancy (not until milestone inspections).

Option K – Ranked 2.23) BROAD, CONTEXT TRIGGER:
110.9.7. A milestone inspection consists of two phases:
110.9.7.1. For phase one of the milestone inspection, a licensed architect or engineer authorized to practice in this state shall perform a visual examination of habitable and nonhabitable areas of a building, including

the major structural components of a building, and provide a qualitative assessment of the structural conditions of the building. If the architect or engineer finds no signs of substantial structural deterioration to any building components under visual examination, phase two of the inspection, as provided in Section 110.9.7.2, is not required. In cases where during phase one, the Milestone Inspector determines that **the building's condition, history, or layout prevent** a visual, qualitative examination of the building for signs of substantial structural deterioration, then a phase two inspection per Section 110.9.7.2 is required in order for the Milestone Inspector to further conduct exploration, analysis, and/or testing as needed (e.g. GPR, removal of drywall, computational analysis, load testing, etc.). An architect or engineer who completes a phase one milestone inspection shall prepare and submit an inspection report pursuant to Section 110.9.8.

Option L – Ranked 2.17) (FBCB 2020 S2 passages provided below and mirror the updates to SB-4D)
To ensure that the milestone inspections sufficiently determine the structural integrity of a building, the current wording of SB-4D 553.899(7)(a)&(b) and FBCB 2020 S2 110.9.7.1 and 110.9.7.2 need to be updated to trigger a Phase 2 inspection when there are building conditions which will inherently prevent or obstruct an Inspector from reasonably assessing if there is Substantial Structural Deterioration utilizing the Phase 1 visual, qualitative inspection, as described below.
110.9.7. A milestone inspection consists of two phases:
110.9.7.1. For phase one of the milestone inspection, a licensed architect or engineer authorized to practice in this state shall perform a visual examination of habitable and nonhabitable areas of a building, including the major structural components of a building, and provide a qualitative assessment of the structural conditions of the building. If the architect or engineer finds no signs of substantial structural deterioration to any building components under visual examination, phase two of the inspection, as provided in Section 110.9.7.2, is not required. If any of the below conditions are present at the start of or over the course of the initial phase one inspection, then a phase two inspection per Section 119.9.7.2 is required.

a. Absence of complete as-built plans
b. Existing Structural Conditions which differ from and/or overload the original Structural Design Intent
c. Discovery of Structural Design Defects
d. Undocumented, Unsealed, and/or Unpermitted Prior Repairs
e. Undocumented interior/exterior cladding/paint conditions prior to most recent application/installation
f. Discontinuity of Load Path
g. Repairs which require substantial shoring

An architect or engineer who completes a phase one milestone inspection shall prepare and submit an inspection report pursuant to Section 110.9.8.
110.9.7.2. A phase two of the milestone inspection must be performed if any substantial structural deterioration is identified during phase one and/or any of the items listed in 110.9.7.1 are present. A phase two inspection may involve destructive or nondestructive testing at the inspector's direction. The inspection may be as extensive or as limited as necessary to fully assess areas of structural distress in order to confirm that the building is structurally sound and safe for its intended use and to recommend a program for fully assessing and repairing distressed and damaged portions of the building. When determining testing locations, the inspector must give preference to locations that are the least disruptive and most easily repairable while still being representative of the structure. An inspector who completes a phase two milestone inspection shall prepare and submit an inspection report pursuant to Section 110.9.8.
110.9.8. Upon completion of a phase one or phase two milestone inspection, the architect or engineer who performed the inspection must submit a sealed copy of the inspection report with a separate summary of, at minimum, the material findings and recommendations in the inspection report to the condominium

association or cooperative association, and to the building official of the local government which has jurisdiction. The inspection report must, at a minimum, meet all of the following criteria:
(a) Bear the seal and signature, or the electronic signature, of the licensed engineer or architect who performed the inspection.
(b) Indicate the manner and type of inspection forming the basis for the inspection report.
(c) Identify any substantial structural deterioration, within a reasonable professional probability based on the scope of the inspection, describe the extent of such deterioration, and identify any recommended repairs for such deterioration.
(d) State whether unsafe or dangerous conditions, as those terms are defined in the Florida Building Code, were observed.
(e) Recommend any remedial or preventive repair for any items that are damaged but are not substantial structural deterioration.
(f) Identify and describe any items requiring further inspection.
(g) Identify which, if any, conditions listed in Section 110.9.7.1 were present (phase one and phase two), and how they were addressed and/or remedied (phase two).

Option M – Ranked 2.14) SPECIFIC, LOAD TRIGGER:
110.9.7. A milestone inspection consists of two phases:
110.9.7.1. For phase one of the milestone inspection, a licensed architect or engineer authorized to practice in this state shall perform a visual examination of habitable and nonhabitable areas of a building, including the major structural components of a building, and provide a qualitative assessment of the structural conditions of the building. If the architect or engineer finds no signs of substantial structural deterioration to any building components under visual examination, phase two of the inspection, as provided in Section 110.9.7.2, is not required. In cases where during phase one, the Milestone Inspector determines that **there are undocumented prior repairs and/or renovations which create existing conditions that differ from and/or overload the**
original structural design intent, then a phase two inspection per Section 110.9.7.2 is required in order for the Milestone Inspector to further conduct exploration, analysis, and/or testing as needed (e.g. GPR, removal of drywall, computational analysis, load testing, etc.). An architect or engineer who completes a phase one milestone inspection shall prepare and submit an inspection report pursuant to Section 110.9.8.

Option N – Ranked 2.08) Define the "Coastline" as the distance from the coast of all saltwater and/or brackish water bodies, or as per existing consensus documents.

Option O – Ranked 2.08) Inspection of Concrete. When using infrared or looking at voids to determine a comfortable amount of cracks, inspect concrete using requirements of ACI 201, ASCE 11-99**.**

Option P – Ranked 2.00) As part of an inspection of waterfront (not beachfront) buildings, fitting the criteria, located on waterways, (generally canals and the intercostal waterway) an inspection shall be performed of the seawall or tidal flood barrier. A tidal flood barrier is defined as; any structure or shoreline feature including, but not limited to, Banks, Berms, Green-Grey Infrastructure, Seawalls, Seawall Caps, upland stem walls, or other infrastructure that impedes tidal waters from flowing onto adjacent property or public right-of-way and located within or along a Tidally Influenced Area. This definition is not meant to include Rip-Rap, derelict erosion control structures, or permeable earthen mounds that do not provide an impermeable water barrier to tidal flooding.

Option Q – Ranked 1.92) Elevated Slabs Inspections. Require inspectors to "rely on a statistician to determine an appropriate random survey of the building that would offer 90% certainty of that the investigation captured the representation of the building." (In lieu of 20% of the slab/column area being checked).

Option R – Ranked 1.86) SPECIFIC, LOAD & CONTEXT -BASED TRIGGERS:
110.9.7. A milestone inspection consists of two phases:
110.9.7.1. For phase one of the milestone inspection, a licensed architect or engineer authorized to practice in this state shall perform a visual examination of habitable and nonhabitable areas of a building, including the major structural components of a building, and provide a qualitative assessment of the structural conditions of the building. If the architect or engineer finds no signs of substantial structural deterioration to any building components under visual examination, phase two of the inspection, as provided in Section 110.9.7.2, is not required. In cases where during phase one, the Milestone Inspector determines **that any of the following conditions are present, and that such condition(s) prevent** a visual, qualitative examination of the building for signs of substantial structural deterioration, then a phase two inspection per Section 110.9.7.2 is required in order for the Milestone Inspector to further conduct exploration, analysis, and/or testing as needed (e.g. GPR, removal of drywall, computational analysis, load testing, etc.).

h. Absence of construction documents
i. Existing Structural Conditions which differ from and/or overload the original Structural Design Intent
j. Undocumented, Unsealed, and/or Unpermitted Prior Repairs and/or Renovations
k. Undocumented interior/exterior cladding/paint conditions prior to most recent application/installation
l. Inadequate load path of lateral and/or vertical system
m. Need for repairs which will require substantial shoring

An architect or engineer who completes a phase one milestone inspection shall prepare and submit an inspection report pursuant to Section 110.9.8.

Option S – Ranked 1.73) Consider a base line structural inspection using Non-Destructive testing at CO. This can be used to evaluate how the structure is ageing over time.

Option T – Ranked 1.15) Require a load test ("insitu load test") on each structure.

Option Not Ranked – Only needed if an associated option had achieved a consensus ranking) ***ADDITIONALLY****, regardless of which Trigger Option above is selected, the below items need to be updated to reflect the changes in 110.9.7.1:*
110.9.7.2. A phase two of the milestone inspection must be performed if any substantial structural deterioration is identified during phase one and/or when triggered by the conditions described within Section 110.9.7.1 are present. A phase two inspection may involve destructive or nondestructive testing at the inspector's direction. The inspection may be as extensive or as limited as necessary to fully assess areas of structural distress in order to confirm that the building is structurally sound and safe for its intended use and to recommend a program for fully assessing and repairing distressed and damaged portions of the building. When determining testing locations, the inspector must give preference to locations that are the least disruptive and most easily repairable while still being representative of the structure. An inspector who completes a phase two milestone inspection shall prepare and submit an inspection report pursuant to Section 110.9.8.
110.9.8. Upon completion of a phase one or phase two milestone inspection, the architect or engineer who performed the inspection must submit a sealed copy of the inspection report with a separate summary of,

at minimum, the material findings and recommendations in the inspection report to the condominium association or cooperative association, and to the building official of the local government which has jurisdiction. The inspection report must, at a minimum, meet all of the following criteria:

(a) Bear the seal and signature, or the electronic signature, of the licensed engineer or architect who performed the inspection.

(b) Indicate the manner and type of inspection forming the basis for the inspection report.

(c) Identify any substantial structural deterioration, within a reasonable professional probability based on the scope of the inspection, describe the extent of such deterioration, and identify any recommended repairs for such deterioration.

(d) State whether unsafe or dangerous conditions, as those terms are defined in the Florida Building Code, were observed.

(e) Recommend any remedial or preventive repair for any items that are damaged but are not substantial structural deterioration.

(f) Identify and describe any items requiring further inspection.

(g) When applicable, identify the items which triggered a phase two inspection (phase one report), and how each item was addressed and/or remedied (phase two report).

VI. Local Governments/Report Submittal Options

Options Not Achieving A Consensus Level of Support: < 75% Support

None.

SECTION 4 - ASSIGNMENT 2 (PHASE 2 OF PROJECT) OPTIONS/ISSUES

Assignment 2 Summary. The Florida Building Commission shall consult with the State Fire Marshal to provide recommendations to the Legislature for the adoption of comprehensive structural and life safety standards for maintaining and inspecting all types of buildings and structures in this state that are three stories or more in height. The commission shall provide a written report of its recommendations to the Governor, the President of the Senate, and the Speaker of the House of Representatives by December 31, 2023.

SCOPE OPTIONS

This topic is outside of the scope of Phase 1 (Assignment 1). These options will be retained for consideration during Phase 2 (Assignment 2).

- Apply the Milestone Inspection requirements to all buildings in Florida which exceed 10 occupants and are greater than 2,000 square feet (at the very minimum all threshold buildings should be included). Detached one- and two-family dwellings and townhouses not more than three stories above grade should be exempt.
- Apply the Milestone Inspection requirements to all buildings in Florida which exceed 10 occupants and are greater than 2,000 square feet (at the very minimum all threshold buildings should be included). Detached one- and two-family dwellings and townhouses not more than three stories above grade should be exempt.
- **Qualifications to perform inspections:** Phase One: a licensed architect or professional engineer, who has experience designing the structural components of buildings and inspecting structural components of existing buildings.
- **Qualifications to perform inspections:** Phase Two: a licensed architect or professional engineer, who has a minimum of: (a) ten years of experience designing the primary structural components of buildings, and (b) a minimum of five years inspecting structural components of existing buildings of a similar size, scope, and type of construction.
- Require that the structural integrity reserve studies be kept for a minimum of 50 years.
- **Section 553.899, F.S. Mandatory Structural Inspections for Condominium and Cooperative Buildings Comments:**
  - Line 195: revise "condominium and cooperative buildings" to "all buildings"
  - Lines 223 and 224: revise "a condominium association under chapter 718 and a cooperative association under chapter 719" to "all buildings"
  - Lines 230 and 231: revise "condominium association or cooperative association" to "building owner"
  - Lines 235 and 236: revise "condominium association or cooperative association" to "building owner"
  - Lines 238 and 239: revise "condominium association or cooperative association" to "building owner"
  - Lines 253 and 254: revise "condominium association or cooperative association" to "building owner"
  - Lines 257 and 258: revise "condominium association or cooperative association" to "building owner"

- Line 266: Between "in this state" and "shall perform" insert the following ": who has experience designing the structural components of buildings and inspecting structural components of existing buildings."
- Line 289: insert before "An inspector" the following "A phase two inspector shall be a Licensed Architect or Professional Engineer (PE) who has a minimum of: (a) ten years of experience designing the primary structural components of buildings, and (b) a minimum of five years inspecting structural components of existing buildings of a similar size, scope, and type of construction.
- Line 317: revise "The association" to "The building owner"
- Line 318-319: after "each" insert "tenant, ownership team,"
- Line 331: after "that" insert "an owner,"

- The program should apply to <u>all</u> buildings, not just Condominiums and Cooperatives. Buildings do not age or deteriorate based on ownership.
- Add electrical inspections as well as structural inspections to the <u>safety</u> inspection program.

OUTSIDE THE SCOPE OF SECTION 553.899, F.S. OPTIONS

- Insurance Availability and Cost.
- **Section 718.111 F.S. Comments:** Line 447: revise "15 years" to "50 years" *(need to keep reserve study for some time past the first 30-year inspection).*
- **Section 719.104, F.S. Comments:** Lines 1797 and 1815: revise "15 years" to "50 years."

INSPECTION STANDARDS/CHECKLIST OPTIONS

- Create electronic inspection form and submission system. ***Ranked 3.75 on 08/09/22***
- Standardize response options.
- Standardize condition assessment categories.
- Integrate with database for tracking and reporting.
- Standardize Inspection Form.
- Life Safety elements deterioration in Phase 1: Guard/Hand Rail, Fire Escape, and Means of Egress.

PROCEDURAL RECOMMENDATIONS OPTIONS

- The Florida Legislature should charge the Florida Building Commission with developing and maintaining the standards for all existing building inspections, in addition to Condominiums and Cooperative buildings, and that these standards be adopted into the Florida Building Code.

Assessment of Inspection Reporting and Building Conditions in South Florida (Miami-Dade and Broward Counties)

Draft Final Report

May 16, 2022

Florida Department of Business and Professional Regulation
Florida Building Commission

and

Engineering School of Sustainable Infrastructure and Environment (ESSIE)
University of Florida (UF)

Jennifer A. Bridge, Ph.D. – PI
Christopher Ferraro, Ph.D., P.E. – Co-PI
Thomas Sputo, Ph.D., P.E., S.E, S.I. – Co-PI
Forrest Masters, Ph.D., P.E. – Co-PI

Executive Summary

The objectives of this study were to assess the implementation and outcomes of the 40-year building inspection programs in Broward and Miami-Dade Counties, provide recommendations on improved inspection, data collection, and maintenance of records, and to survey building departments across Florida to determine what type of building safety inspection programs are under consideration, if any. Data aggregation and analysis of information contained in structural inspection reports associated with the 40-year inspection programs in each county were required to fulfill the primary objectives of this study. While the counties issue the inspection program guidance and forms, building departments in individual jurisdictions are responsible for administering the inspection program and maintaining relevant records.

To achieve a representative sample of inspection reports for analysis, reports were requested from five municipalities in each of Broward and Miami-Dade Counties. These municipalities were selected based on their relative size and number or relevant building types, as well as guidance from County Board of Rules and Appeals representatives. Within the selected municipalities, a sampling of building addresses was compiled to achieve a reasonable distribution of building use, age, and number of stories. Inspection records for 261 buildings were received, resulting in over 300 inspection reports for analysis.

While inspectors use the same basic inspection template and guidelines (with some differences between the two counties), a large amount of variation was observed in the inspection reports, especially in how deficiencies were classified and the level of report completeness. To ensure consistent data extraction from the inspection reports, a spreadsheet was developed with sections and fields corresponding to the standard structural inspection forms. Data field inputs were then standardized with dropdown menus to enable data aggregation for analysis. As a result, some interpretation by the research team was required to map the variable inspector-provided data to the fixed categories in the spreadsheet. Some of the reports reviewed did not include adequate information or they deviated too far from the inspection guidelines to enable an overall assessment of the structure.

Two-thirds of the inspection reports reviewed were generated within two years from when they were due; however, 13% of inspections were still not conducted after five years. The results of the data analysis shows that roughly a quarter of buildings assessed for their 40-year inspection required some type of repair. Further analysis indicates a slightly higher rate of required repairs for buildings closer to the coast. 85% of the buildings in the dataset are reinforced concrete. At 40 years, 23% of these buildings had a general concrete condition reported as fair or poor and 22% had visible corrosion. Furthermore, 17% had balconies in fair or poor condition, though balconies are not a specific section for assessment in the inspection report. Analysis of subsequent 10-year anniversary inspection report datasets (50-year, 60-year, etc.), show that later inspections report lower rates of required repairs and visible corrosion than the initial 40-year inspections. These results indicate that the structures benefit from the maintenance and repairs required as a result of defect identification during the 40-year inspections and highlight the positive impact of age-based building inspection programs on building safety.

Based on the findings in this study, several recommendations are made to streamline the inspection process, provide more standardization and relevant detail in the inspection reports, and ensure accurate and accessible building inspection records. The recommendations include: 1) the addition of fields in the inspection form for the specific assessment of balconies and guards, as well as additional detail on roof systems and condition, 2) the creation of an electronic inspection form that standardizes inspector condition assessments and provides automated reporting quality control, and 3) the integration of inspection reporting with a comprehensive database for managing inspection notices, reports, recertifications, and permits. Additional recommendations include research to further investigate the appropriate timeline for the initiation of inspections for buildings on the coast and the investigation and incorporation of nondestructive testing methods to enable the assessment of hidden defects, such as reinforcement corrosion, during the inspection process. It should be noted that several of the building departments included in this study are actively working toward improving the administration of their building inspection and recertification programs and some of the recommendations in this study are aligned with their ongoing efforts.

A survey of building officials throughout the State of Florida was distributed to capture whether inspection programs similar to the 40-year recertification programs in Miami-Dade and Broward Counties are being carried out or considered for adoption in other Florida building jurisdictions. At the time of the survey (October and November 2021) there were no jurisdictions in Florida with building age-based inspection or recertification programs outside of Broward and Miami-Dade Counties. Only 14% of these jurisdictions reported having problems with buildings older than 40 years. However, several building departments are planning to or considering implementing such programs and at least one (the City of Boca Raton) has since adopted an inspection program.

Table of Contents

List of Figures

1 Introduction and Background

1.1 Project Objectives

The recent collapse of the Champlain Towers South in Surfside, Florida highlights the need for a broad assessment of building inspection and maintenance practices in the State of Florida. The goal of this project was to conduct a preliminary assessment of the 40-year inspection reports for non-exempt structures in Miami-Dade and Broward Counties to provide a broad account of the reported condition of the region's building inventory and insight on how inspections are conducted and how reports are recorded and maintained. The goal for these data was to build the foundation for a comprehensive assessment of current building structural inspection practices that could be used to develop recommendations for new inspection practices to enhance the safety of Florida's building stock. An additional objective of this project was to assess whether inspection programs similar to the 40-year recertification programs in Miami-Dade and Broward Counties are being carried out or considered for adoption in other Florida building jurisdictions.

The scope of work for this project consisted of six tasks and accompanying deliverables:

- Task 1: Scope assessment
- Task 2: Data classification methodology development
- Task 3: Data aggregation and classification
- Task 4: Data analysis
- Task 5: Inspection recommendations
- Task 6: Statewide inspection survey

1.2 Building Inspection Programs

At the initiation of this study, the only age-based building inspection programs in Florida were in Miami-Dade and Broward County. Section 6 of this report, provides information on considerations for such programs in the rest of Florida. The 40-year building inspection programs in Miami-Dade and Broward Counties are similar; however, they vary in their histories and current implementation. In Miami-Dade County, the 40-year Building Recertification code has been in place since 1976 while the Broward County 40-year Building Safety Inspection Program was initiated in 2006 and fully phased in by 2011. Both codes exempt minor buildings, single-family residences, and duplexes. In Miami-Dade County buildings less than 2,000 sq. ft. are exempt while in Broward County buildings less than 3,500 sq. ft. are exempt. In both counties, inspections are required every ten years following the first 40-year inspection. Both counties require inspectors to be either a Professional Engineer or Registered Architect licensed in the State of Florida. There is currently no qualification program or requirement for inspectors beyond licensure in either county.

The Boards of Rules and Appeals in each county issue the guidelines and inspection forms for the programs. The general inspection forms for both counties are in Appendix A. In Broward County there are 32 jurisdictions – 31 municipalities and unincorporated Broward County. Each year, the Broward County Board of Rules and Appeals (BORA) staff generates a list of properties that are due for their 40-year or 10-year anniversary inspection. The list is distributed to each jurisdiction in June, who then have the responsibility to notify building owners and follow up on the inspection process. In contrast, the 34 jurisdictions in Miami-Dade County (33

municipalities and Unincorporated Miami-Dade) are responsible for generating their own list of properties (based on property appraiser information) due for recertification each year and administering the program. Inspection reports and recertification outcomes are maintained by the individual jurisdictions; neither county has historically collected nor maintained records at the county level associated with the inspection programs.

2 Project Scope

2.1 Scope Assessment

With tens of thousands of buildings in the 40-year inspection programs across both Broward and Miami-Dade Counites, project scope definition was driven by the need to achieve a manageable but representative sample size of buildings for which inspection reports would be requested and analyzed. While the initial motivation for this project was the collapse of a high-rise condominium on the coast, the research team wanted to ensure that a broad range of structural types, heights, ages, and locations were also captured in this study. An initial goal to obtain approximately 2% of the available inspection reports was set, with a plan to reassess this goal once the times for accessing and processing the reports were determined.

The research team met with representatives from each county (Broward County Board of Rules and Appeals and Miami-Dade County Board and Code Administration Division) to solicit input on approaches to requesting records from the jurisdictions and managing the scope of the project. The representatives provided suggestions on which municipalities to reach out to first, based on size and relevant building stock. Each county provided a contact list for relevant building department staff in each jurisdiction, as well as an introduction letter to be used in initiating contact with them. Miami-Dade County provided an Excel spreadsheet generated by the property appraiser with information for all properties in the county, both exempt and non-exempt. Broward County BORA provided several Excel spreadsheets (one corresponding to each year of the program since inception in 2006) with a list of non-exempt addresses due for inspection in the respective year.

Following meetings with county staff and preliminary assessment of the furnished spreadsheets, it was determined that requests for inspection records would be made to the municipalities with the largest number of non-exempt buildings in addition to those with a higher percentage of high-rise structures near the coastline. Emails were sent to the Building Official or inspection program contact in each jurisdiction to request information regarding their inspection program and availability of records. For the responsive building departments, follow-up discussions sought any additional city-specific guidance on methods for acquiring relevant inspection reports while maintaining a reasonable size record requests (both to limit the burden on city staff and ensure appropriate scope of this project).

To select the subset of addresses for the municipalities of interest in both counties, exempt addresses were eliminated, in addition to addresses with land and building uses irrelevant to this project (e.g., mobile home parks, golf courses, agricultural). Approximately 2.0% of the resulting properties in each of the selected municipalities were required to fulfill the initial project goal of 300 inspection reports. These lists were compiled by selecting addresses to achieve a representative distribution of building use, age, and number of stories. (Note that number of stories were determined from additional data pulled from Google Maps and the

Property Appraisers site when not available in the provided data). In some cities with a higher proportion of coastal high-rise condominiums, a higher percentage of these buildings was included in the request.

2.2 Record Availability and Acquisition

In Broward County, inspection records were requested from Deerfield Beach, Fort Lauderdale, Hallandale Beach, Hollywood, and Pompano Beach and in Miami-Dade County inspection reports were requested from Coral Gables, Hialeah, Miami, Miami Beach, and Sunny Isles Beach. Depending on the guidance received from building department personnel, some requests were made to and fulfilled directly by the building department, while others were made through a standard records request and processed by the city clerk's office. Some municipalities requested fees for the reports. The first requests for data started in November 2021 and the most recent requests, to date, were made in February 2022.

There was an average of 42 days between the request for records and the receipt of the reports or notice of report unavailability. Some of the municipalities completed their response to the request with a number of reports missing or with incomplete responses. Reasons provided for missing reports were most often that the inspection and/or recertification is overdue and thus no inspection report exists. In other cases, missing reports were simply noted as "unavailable" with no reason provided.

Table 1 summarizes the number of buildings for which inspection reports were requested and received by county, as well as the average number of days between report request and receipt (or notice of unavailability).

Table 1. Inspections reports requested and inspection records received by county.

	Broward	**Miami-Dade**	**Total**
Number Requested	116	224	340
Number Received	78	183	**261**
Percent Received	67%	82%	77%
Average Days to Receive Reports	45	41	42

Most of the inspection reports received were scanned copies of printed paper documents. It is not known whether the documents were scanned as part of the records request made for this project or if they are scanned and stored electronically as part of regular record keeping. A few municipalities were able to provide records in a few days, indicating that the records may have been kept electronically.

There was a mix of detail provided in the responses by different municipalities. Some included only the completed inspection form, without an accompanying report and/or photos, while other records were extensive and include all correspondence, permits, and follow-up inspections. The preliminary inspection form (prior to repairs being made, if required) was adequate for this

project; however, supplementary information was useful in cases where the inspection report responses were inconsistent or incomplete.

For some properties, the municipality only sent the final recertification letter without any inspection report or only provided documentation of the notification for required inspection. In cases where buildings were found to have structural deficiencies requiring repairs, some municipalities only provided the final inspection report (after repairs have been made), making it difficult to record the original deficiencies. For some municipalities in Miami-Dade County, multiple inspection reports were sent for some buildings, including the 40-year inspection and subsequent 10-year anniversary inspections (50-year, 60-year, etc.).

3 Data Classification

3.1 Approach

Property appraiser data and the standard inspection forms provided the general framework for the data categories developed for this project and a comprehensive Excel spreadsheet was created for data extraction and recording. The standard inspection report formats for Miami-Dade and Broward Counties (see Appendix A) are very similar but not identical. Although common inspection forms are in use in each county, the way that inspectors complete the forms and present the results has a tremendous amount of variation. The approach to the development of a data extraction methodology was to consistently capture relevant information on the building, inspector, inspection/recertification process, and structural condition with minimum possible interpretation. For this project, each data collection category was assigned fixed response options using dropdown menus so that the results could be aggregated for consistent data reporting and analysis. This approach enabled standardization of the inspection results but required the research team to make judgements for some inspection form responses. Careful documentation on how responses were standardized was part of the data extraction process.

3.2 Data Collection Spreadsheet

The Excel spreadsheet created for data collection was divided into sections based on the type of information being recorded. The first section in the spreadsheet captures all relevant information about the building (address, building use, year built, number of stories, etc.). The next two sections capture information about the inspection process (inspector name, inspector company, inspector qualifications, date building due for inspection, date of inspection, date of recertification, etc.). The largest section of the sheet captures information about the building and its condition as reported on the inspection forms. The data recording sections are as follows:

- Property Appraiser Data
- Inspection Program Information
- Inspection Reporting Data
- Inspection Form Data
    1. Description of Structure
    2. Present Condition of Structure
    3. Inspections
    4. Supporting Data
    5. Masonry Bearing Wall

6. Floor and Roof System
7. Steel Framing System
8. Concrete Framing System
9. Windows
10. Wood Framing

Most of the data reported in the inspection form is either the identification of the presence of a structural component or defect or identification of the condition of a structural component or defect. For these data fields, a dropdown menu in the data collection Excel sheet includes the value assignment options listed below. Examples of inspector responses being assigned these values is provided in parentheses, illustrating how the research team accounted for minor inconsistencies in inspection report responses.

- Good (overall good, good where visible, no noticeable damage, functional, adequate, satisfactory)
- Fair (fair to good, good/fair, good w/exceptions)
- Poor (fair to poor, needs repair)
- None (none visible, not significant, none noted, none observed, none evident, none noticed, not apparent)
- N/A
- No Data Reported ('X' given for a condition rating)

Additional dropdown menus were developed for data fields including building use, inspector title, primary structure type, window type, exterior cladding, and defect severity. Some reports indicated the presence of a defect with different severity in different locations. In these cases, the most severe defect was reported in the data collection spreadsheet, and the other degrees of severity were kept in notes.

4 Data Analysis Results

The aggregated inspection and building data were analyzed to generate statistics on reported building conditions and inspection practices for a wide range of building use, age, height, and location. This section provides information on the approach to the data analysis along with the resulting findings.

4.1 Dataset Information

4.1.1 Inspection Reports

A total of 302 inspection records make up the dataset for analysis in this study, though only 293 had enough information for subsequent analysis. Multiple reports were received for some building addresses. In some cases, inspection reports were provided for both before and after repairs and for some buildings all historical reports were included from different 10-year interval reporting periods (e.g., 40-year, 50-year, 60-year, etc.). When reporting on structural condition, only reports generated prior to repairs being made were used in analysis, when possible. The number of inspection reports prior to repairs for each inspection year that were evaluated in this study are shown in Table 2.

Table 2. Count of inspection report types, prior to repairs being made.

Inspection Report Type	Number of Reports for Inspection Prior to Repairs
40-Year	135
50-Year	78
60-Year +	73
Total	286

Several inspection reports were deemed too incomplete for analysis beyond the basic information about the building (e.g., information available from the property appraiser), as discussed in Section 4.2. As a result, not all analysis results provided in this report include data from all records. When relevant, the size of the dataset used in each analysis, N, is provided in the figure caption for the presented results.

4.1.2 Building Information

Reports were received for a total of 267 unique property addresses, with approximately 30% from Broward County and 70% from Miami-Dade County. Figure 1 shows the breakdown property addresses by municipality.

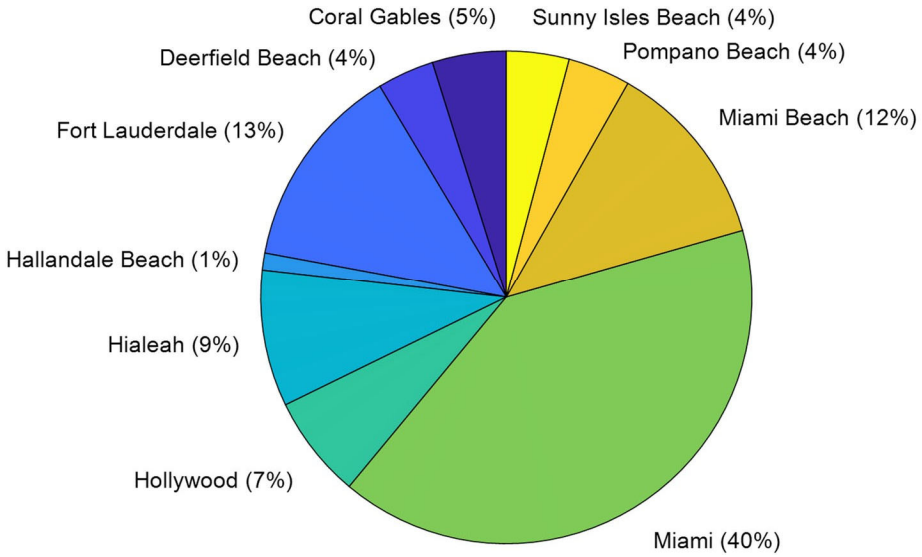

Figure 1. Buildings by municipality (N=267).

Figure 2 shows the building use categories represented by the buildings included in this study. Most of the buildings analyzed are residential condominiums or multifamily complexes.

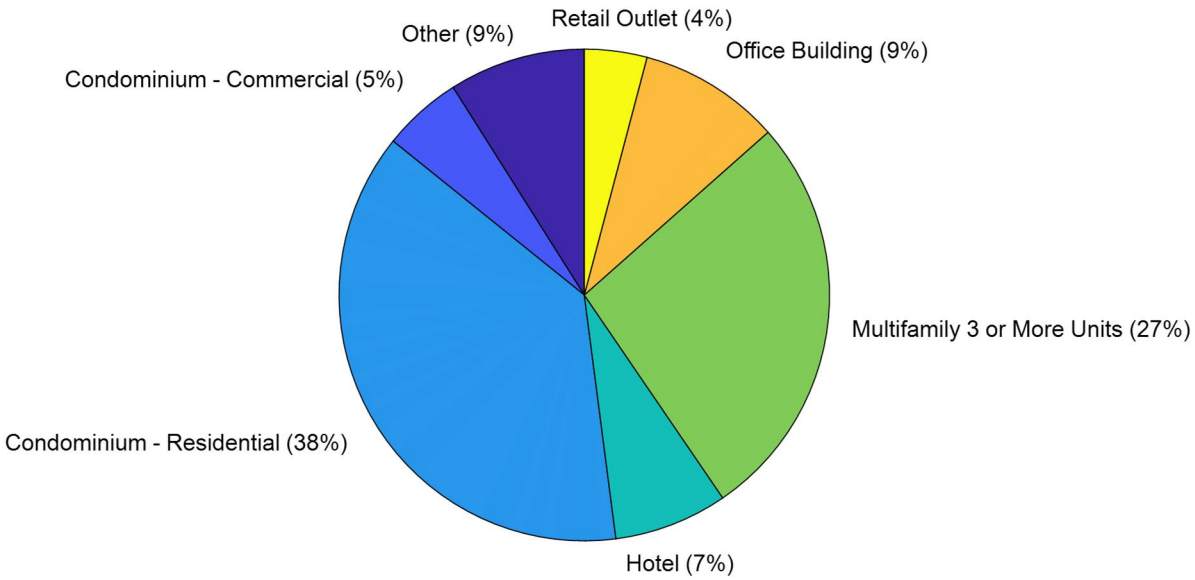

Figure 2. Building use category (N=267)

Figure 3 shows the distribution of buildings by year built, ranging from 1919 to 1981. The distribution of building story height is shown in Figure 4.

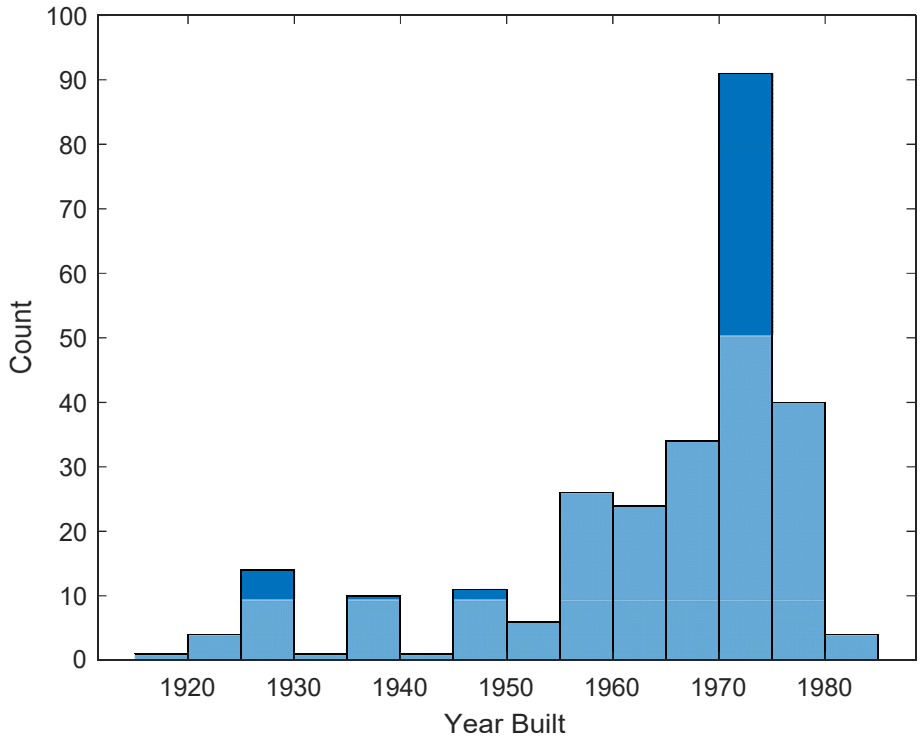

Figure 3. Distribution of buildings by year built (five-year increment).

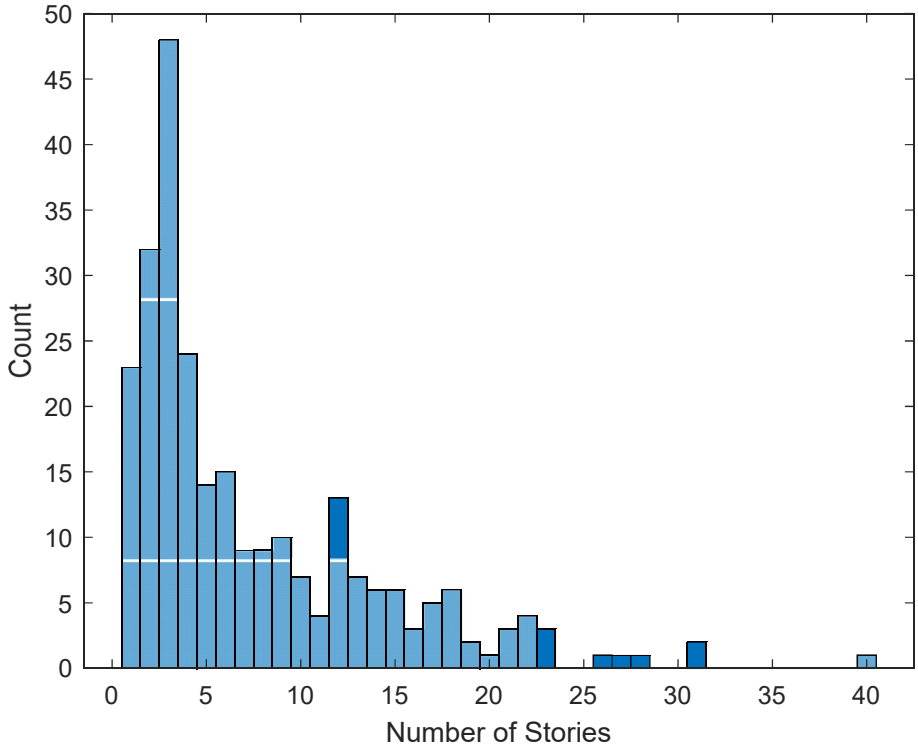

Figure 4. Distribution of buildings by number of stories.

As anticipated, a large majority of the structures included in this dataset are reinforced concrete frame, as illustrated in Figure 5.

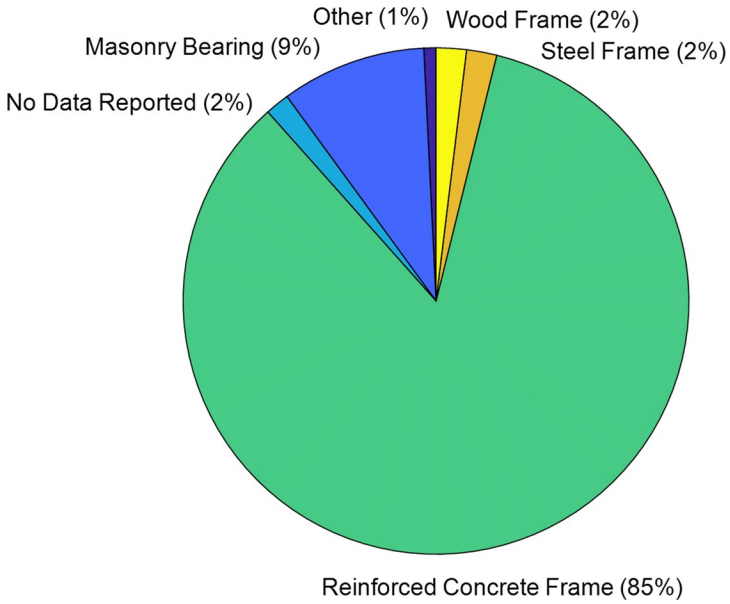

Figure 5. Primary structural type as reported in inspection reports (N=259).

4.1.3 Distance to the Coast

One of the considerations for the adoption of age-based building inspection programs in Florida is whether to impose different requirements for buildings closer to the coast, and thus subject to harsher conditions. These requirements may include an earlier age at which inspections are initiated (e.g., 25 years) and/or a shorter interval between subsequent inspections (e.g., five years instead of ten years). Some proposals for building age-based inspection programs in Florida use Interstate 95 (running north-south along the eastern coast of the state) as the dividing line to determine the age threshold for initial inspection, with buildings eastward of I-95 initiating inspections at an earlier age and/or with shorter inspection intervals. The distance of I-95 to the coast ranges from approximately 1.5 to over 10 miles throughout the state.

In this study, the coastline definition used to calculate the distance of each property to the coast is Florida's Coastal Construction Control Line (CCCL) as defined by the Florida Department of Environmental Protection (DEP) and shown in Figure 6.

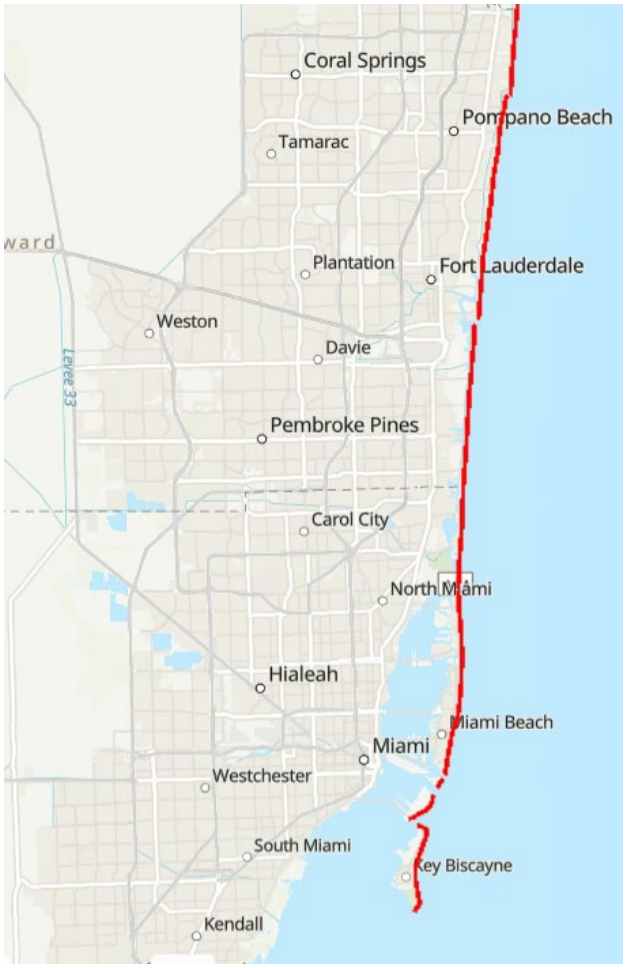

Figure 6. CCCL definition, shown in red
(Image from Florida DEP site: https://ca.dep.state.fl.us/mapdirect/).

To determine the distance to the coast (CCCL), each property address was converted to coordinates (latitude and longitude) using a mapping tool. The coordinates of the CCCL were

acquired from the Florida DEP website. Finally, the distance between the address coordinates and the CCCL line were determined using built-in MATLAB mapping toolbox functions.

The building distances to the coast were further binned for analysis: 1) less than 1,500 ft from the coast, 2) between 1,500 ft and 5,000 ft, and 3) greater than 5,000 ft. 1,500 feet was chosen as the first breakpoint since the 1999 South Florida Building Code defines the Coastal Building Zone as 1,500 feet landward of the CCCL. The second breakpoint was to define structures approximately one mile from the CCCL. Figure 7 shows the distance to the coast for buildings in this study according to the selected breakpoints.

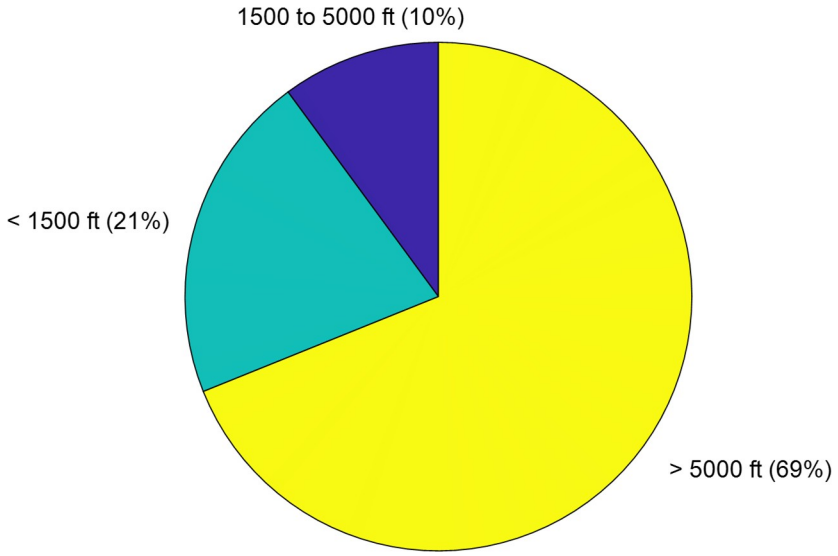

Figure 7. Buildings by distance to the coast (N=267).

4.2 Inspection Program

4.2.1 Inspectors

Of the total inspection records received, most inspections were carried out by a Professional Engineer (P.E.), with only 5% of inspectors with a Special Inspector (S.I.) certification in addition to a P.E. The remaining inspections were conducted by Registered Architects, as shown in Figure 8. Of the 302 inspection records reviewed, inspections were carried out by 167 different inspectors. The most inspections performed by a single inspector in the reviewed dataset (including some reports for both before and after repairs were completed) was 10, while most inspectors were responsible for only one to two inspections. These results indicate a reasonable distribution of the inspection workload and no inspectors dominating within the region.

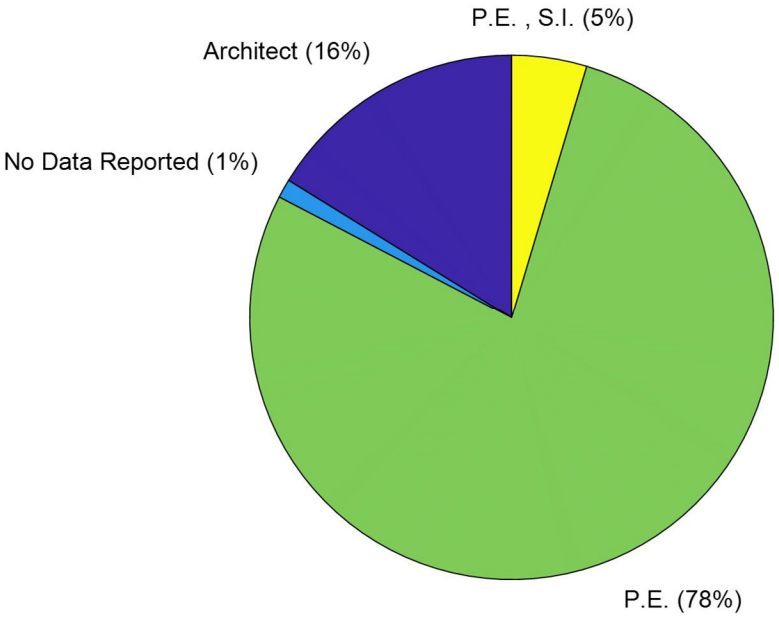

Figure 8. Inspections by inspector title (N=302).

4.2.2 Inspection Timeliness

To determine when buildings are being inspected relative to when they are required to be inspected (at 40 years of age and every 10 years thereafter), the date of the most recent initial inspections for each address in the dataset was reviewed and compared to the date on which their most recent inspection was due (measured from January 1 on the year the inspection is due). The time elapsed from the initial inspection (not any required follow-up inspection or the recertification date) and the due date for inspection are shown in Figure 9. Two-thirds of the initial inspections occurred within the first two years of the inspection due date, 20% occurred between two and five years from the due date, while over 13% of inspections occurred more than five years after the inspection due date. The actual average delay in inspections may be longer than this data suggests given that a number of the requested inspection reports were not provided by the municipalities because they were currently overdue for inspection.

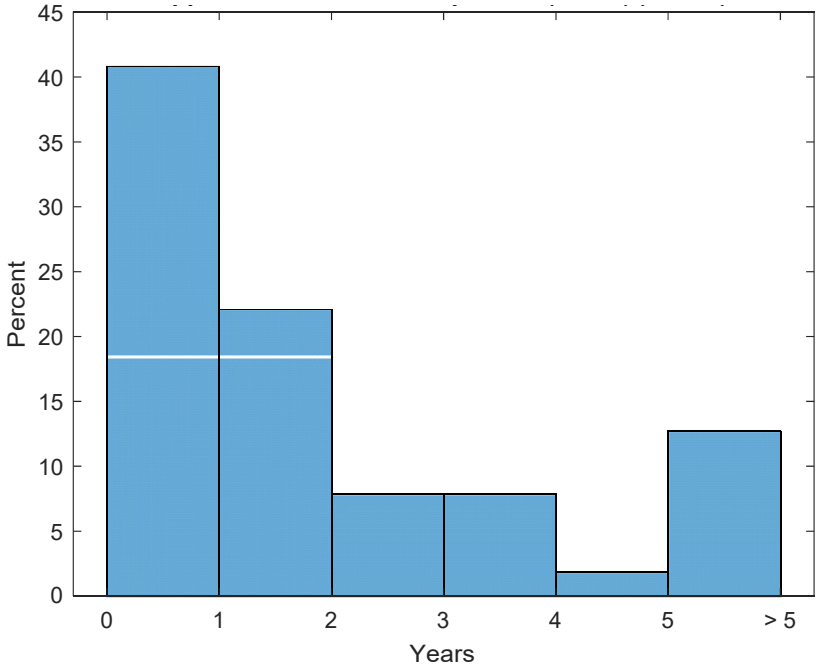

Figure 9. Time between when inspection is required (measured from the first of the year in which it is required) to the date of the initial inspection.

4.2.3 Reporting Completeness

As discussed in Section 3.1, there was a significant amount of variability in how each inspector competed the inspection forms. Some of the more common deviations from the requirements of the inspection forms included:

- Marking the presence of a structural component (with an X or check) when a condition rating is expected
- Leaving sections blank or not providing adequate information to assess the condition of the structure
- Providing inspection information without using the required reporting template (e.g., only providing a cover letter or a narrative report)

When the inspection form was not followed or inadequate information was reported to provide a structural condition assessment, the research team deemed that the report "did not substantially follow the inspection report template". Of the inspection reports reviewed, 11% did not follow the required format as shown in Figure 10. Even when the template was mostly followed, many inspectors left some responses blank or provided irrelevant or ambiguous information. In the analysis that follows, these responses are noted as "No Data Reported".

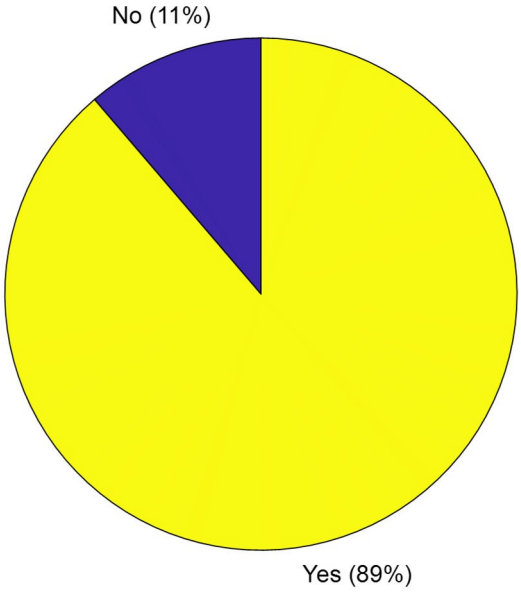

Figure 10. Assessment of whether inspection reports substantially follow the inspection report template (N=293).

4.3 Reported Structural Conditions, Most Recent Inspection Reports

This section provides an overview of the results of the reported building conditions from the initial inspection report (before repairs, when available) from the most recent inspection period. The results of this dataset are intended to provide information on the current state of the buildings analyzed. Most of these reports in this analysis were conducted in the last ten years, as shown in Figure 11. 40-year inspection report analysis is provided in Section 4.4.

This section focuses on the overall requirement for repairs and the general condition of the concrete. Additional results on the floor, windows, and roof conditions are provided in Appendix B.

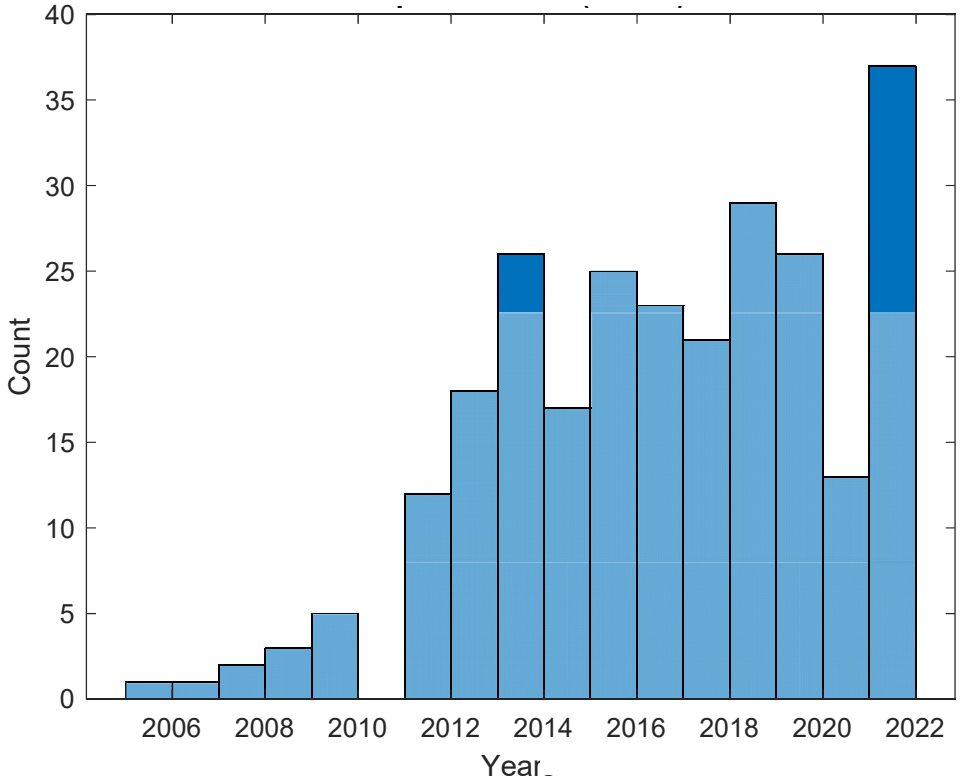

Figure 11. Date of most recent inspection for the reports analyzed.

4.3.1 Repairs Required

Almost a quarter (22%) of the buildings in the recently inspected dataset required repair of some kind, as shown in Figure 12. The Broward County inspection form has a specific indicator for whether repairs are required while the research team inferred this from the information provided in throughout the Miami-Dade County inspection reports. It is important to note that this is a very general assessment and does not provide any information on the type or severity defects that were discovered.

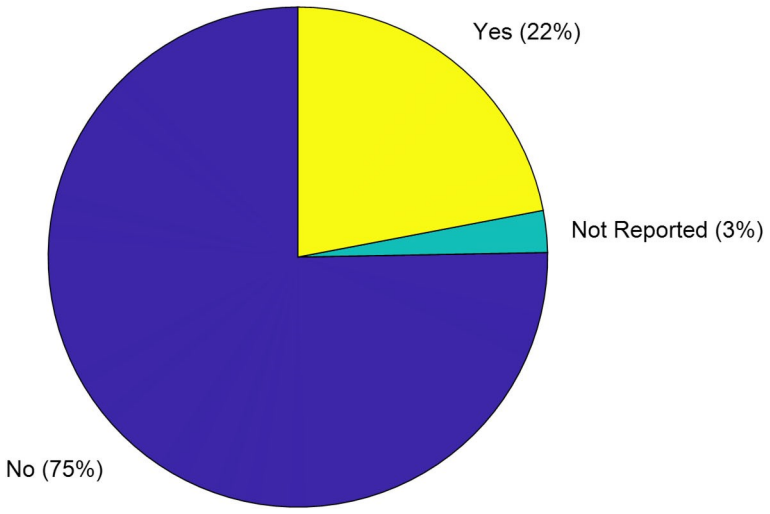

Figure 12. Requirement for building repair in as indicated in the recent inspection reports (N=259).

The requirement for repairs was examined according to the building use category as shown in Figure 13. The highest requirement for repairs was for residential condominiums (>30%) while approximately 20% of both commercial condominiums and hotels required some repair.

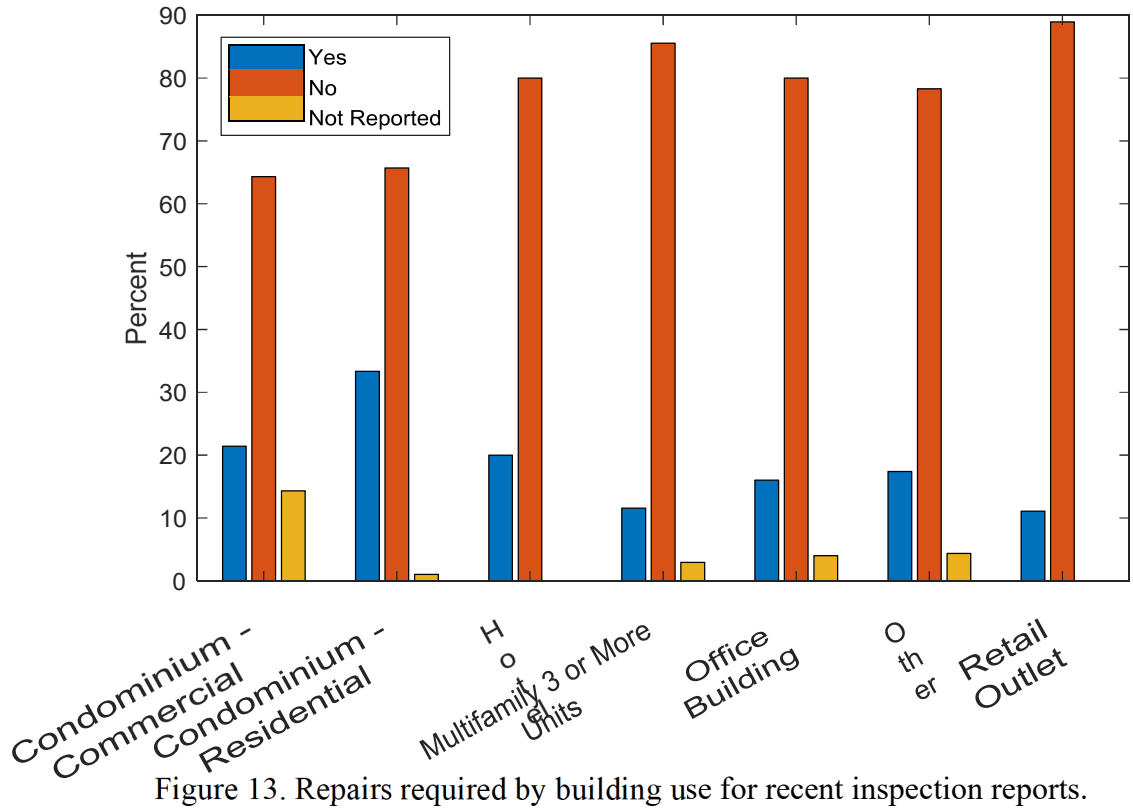

Figure 13. Repairs required by building use for recent inspection reports.

The requirement for repairs was also examined according to the building distance to the coast as shown in Figure 14. There is a very slight decrease in the requirement for repairs as the building is further from the coast with 25% requiring repairs for the closest buildings and 21% for those over 5,000 feet from the coast. This result is consistent with hotels and condos having higher rates of repair requirements coupled with their relative concentration on the coast.

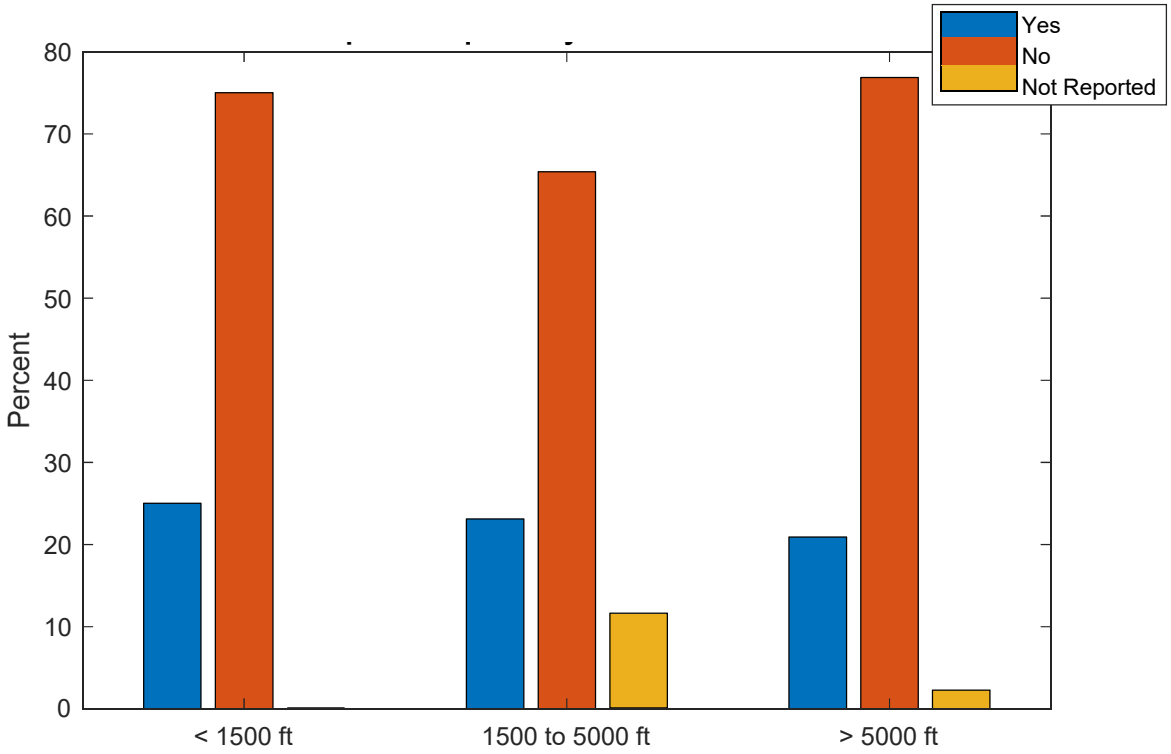

Figure 14. Repairs required by distance to the coast for the most recent inspection reports.

4.3.2 Concrete Condition

The inspection reports provided information on the general condition of the concrete as well as the presence and significance of cracking and corrosion. 66% of buildings were reported to have concrete in good general condition while 25% were reported as either fair or poor, as shown in Figure 15. There is no observable trend in the reported general concrete condition with proximity to the coast, as shown in Figure 16.

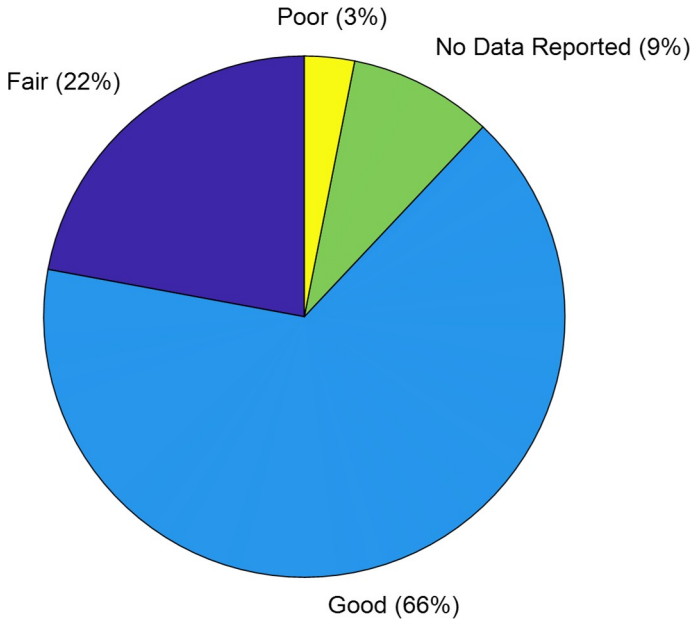

Figure 15. General concrete condition reported in the most recent inspection reports (N=258).

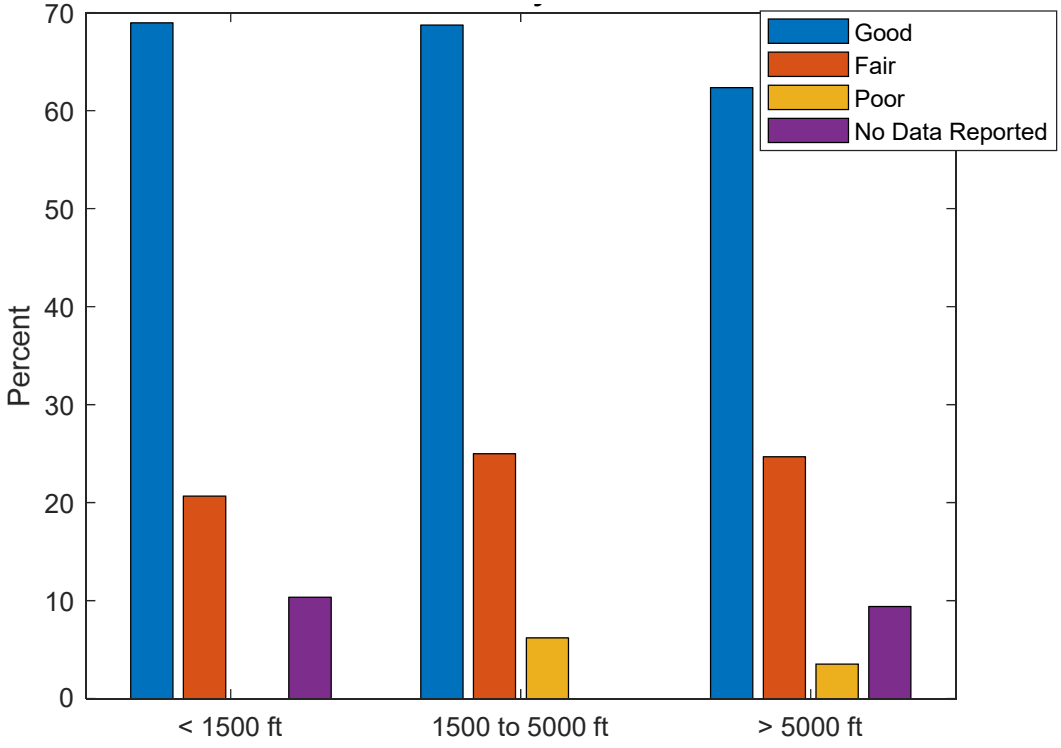

Figure 16. Concrete general condition reported by distance to the coast for the most recent inspection reports.

12% of buildings were reported to have significant concrete cracking in the most recent inspection reports, as shown in Figure 18.

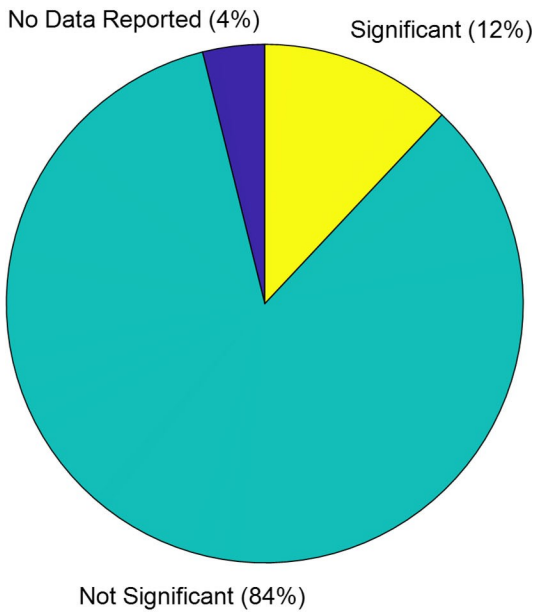

Figure 17. Concrete cracking reported in the most recent inspection reports (N=258).

The corrosion of concrete reinforcement as reported in the most recent inspection reports is shown in Figure 18. 16% of buildings were reported to have visible corrosion with 11% reported as significant and 4% determined to be minor. The 81% of buildings that were reported to have no visible corrosion may in part be due to the limitations of visual inspection. The reported reinforcement corrosion was also evaluated according to the distance of the building to the coast, as shown in Figure 19. More corrosion was reported in buildings farther from the coast; however, this finding is more likely the result of the difficulty in detecting corrosion in embedded reinforcement with visual inspection techniques rather than a true measure of the presence of corrosion.

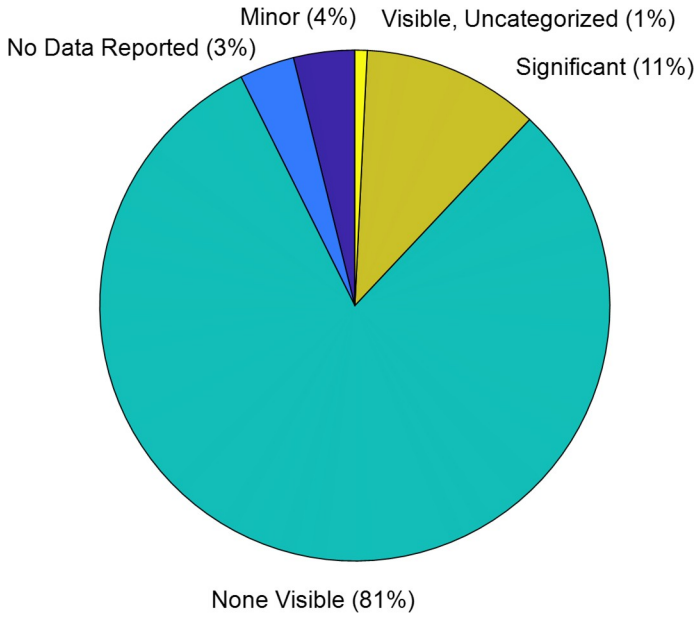

Figure 18. Concrete reinforcement corrosion reported in the most recent inspection reports (N=258).

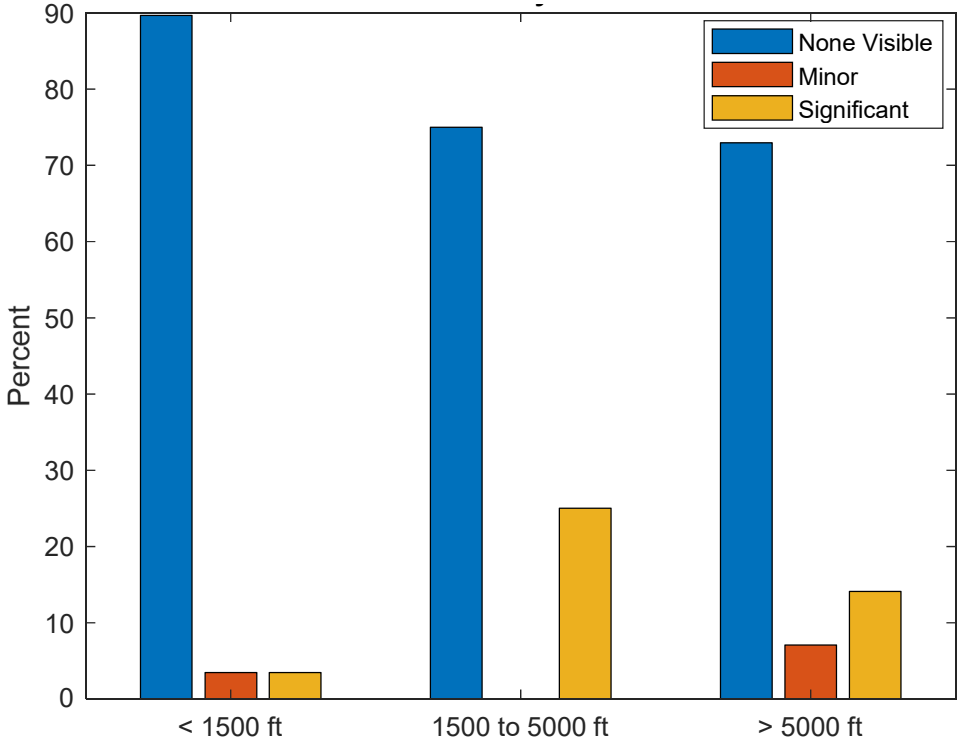

Figure 19. Concrete reinforcement corrosion according to distance to the coast reported in the most recent inspection reports.

4.3.3 Other Components and Systems

Based on discussion with building officials and the experience of the research team, balconies and guards tend to experience high rates of deterioration due to their exposure (especially on the ocean facing side of buildings). Given their susceptibility to damage and their importance for life safety, the research team sought to glean any indication of guard and balcony condition from the analyzed reports, though they are not called out specifically in either county's inspection form. Figure 20 and Figure 21 show that 12% of buildings reported balconies and 5% of buildings reported guards that were either fair or poor condition. Approximately 90% of reports omitted information about the condition of balconies or guards. In many cases this is because these components are not present in the structure; however, it may also indicate that inspectors are only likely to report on a component if it is specifically included as a field in the inspection report.

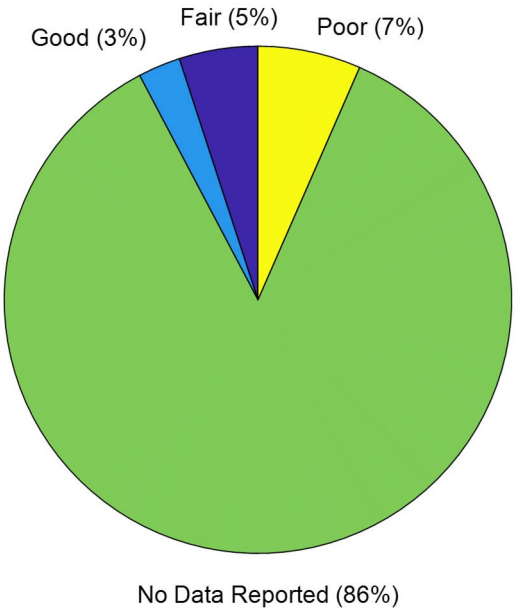

Figure 20. Balcony condition reported in the most recent inspection reports (N=259).

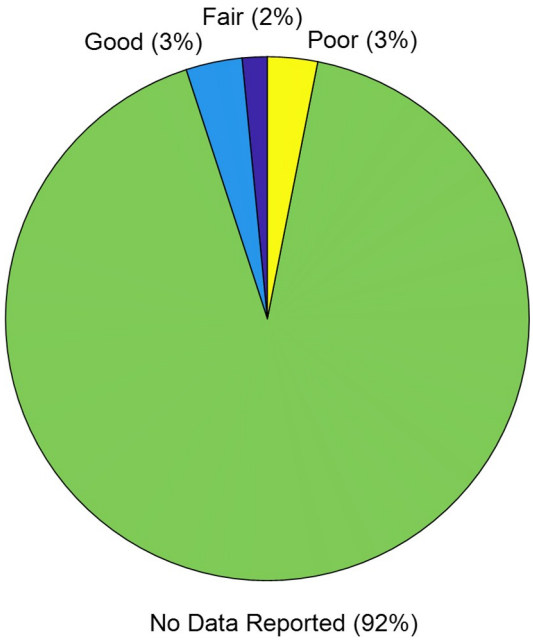

Figure 21. Guard condition reported in the most recent inspection reports (N=259).

Appendix B provides detailed information on the types and conditions of the roof systems, roof cladding, and windows from the most recent inspection reports. In general, approximately 45-55% of the roof, flooring, and window systems were reported to be in good condition.

4.4 Reported Structural Conditions, 40-Year Inspection Reports

This section provides an overview of the results of the reported building conditions in 40-year inspection reports (before repairs, when available). The results of this dataset are intended to provide information on the condition of buildings when they reach 40 years of age. This dataset includes reports from as far back as 1978, with most inspections conducted in the last 15 years, as shown in Figure 22. Figure 23 and Figure 24 show the representation of building use and municipality, respectively, for the 40-year inspection reports analyzed.

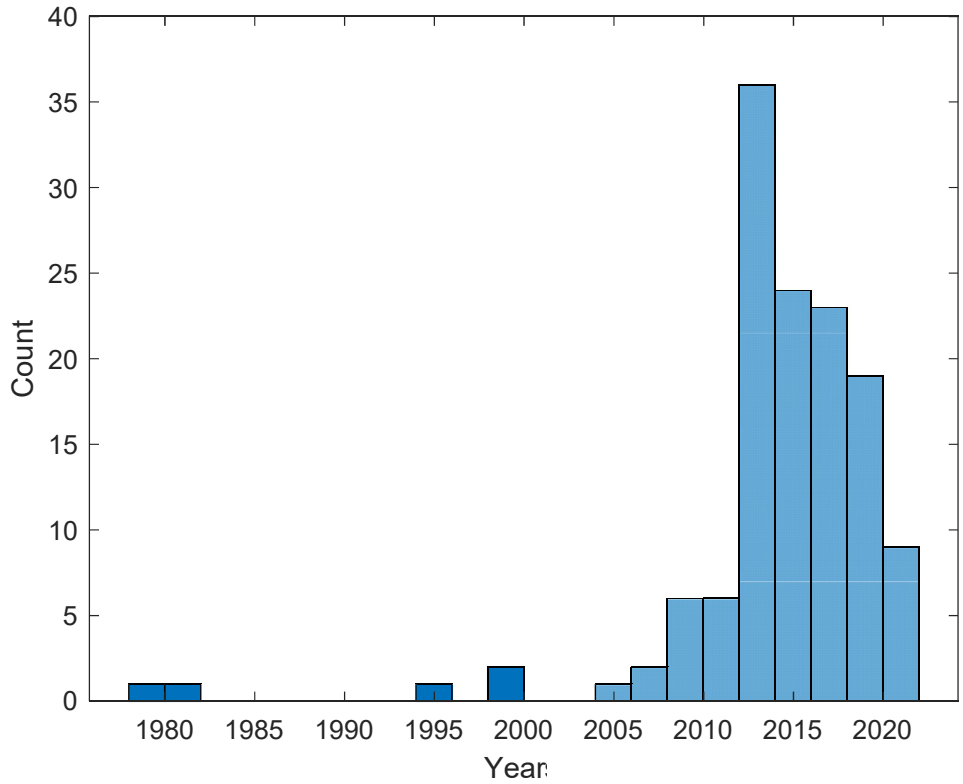

Figure 22. Date of 40-year inspection reports analyzed.

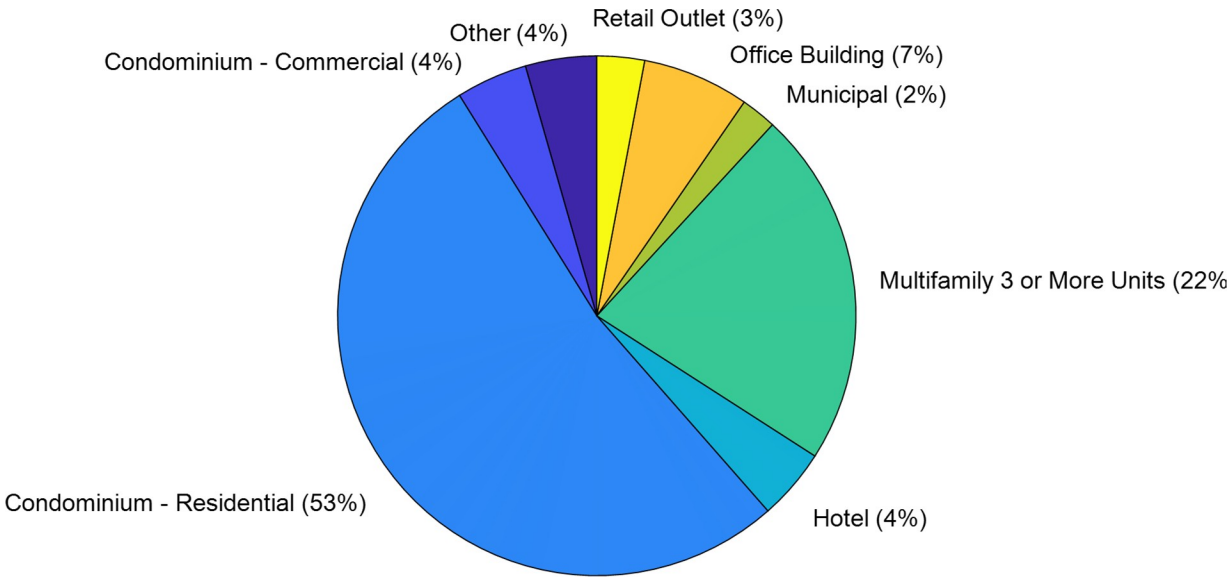

Figure 23. Building use categories for 40-year inspection reports (N=135).

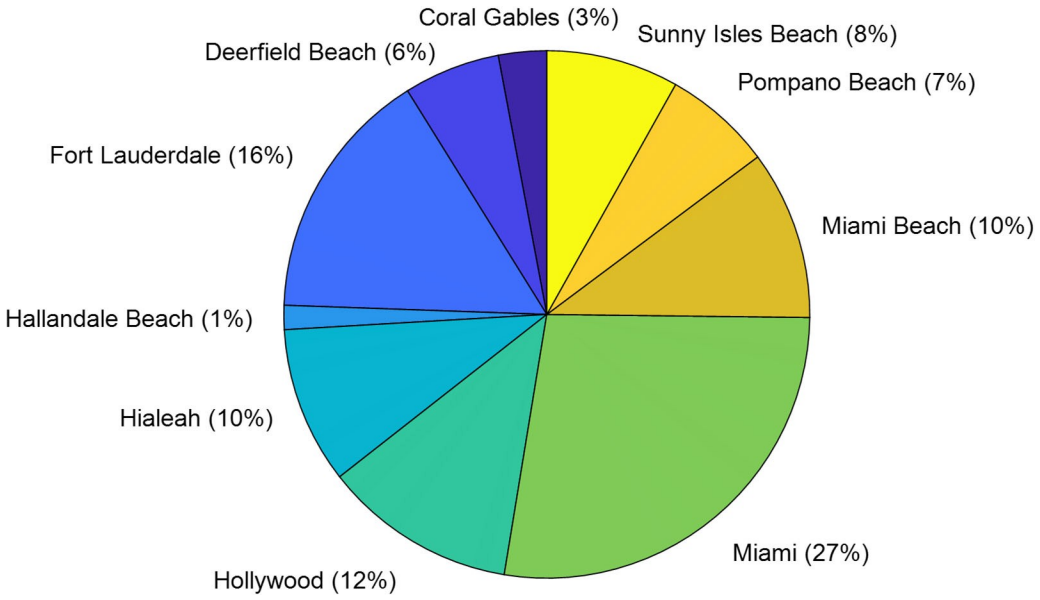

Figure 24. Building municipalities for 40-year inspection reports (N=135).

4.4.1 Repairs Required

26% of the 40-year inspection reports indicated that some type of repair was required, as shown in Figure 25. As was the case for the recent inspection reports, residential condominiums and hotels had the highest rates of required repairs, as indicated in Figure 26. Figure 27 shows the relationship between the requirement for repairs and the distance to the coast. Also like the recent inspection report data, there is a slight trend toward a higher percentage of buildings requiring repair the closer they are to the coast (32% closest to the coast versus 24% farther from the coast).

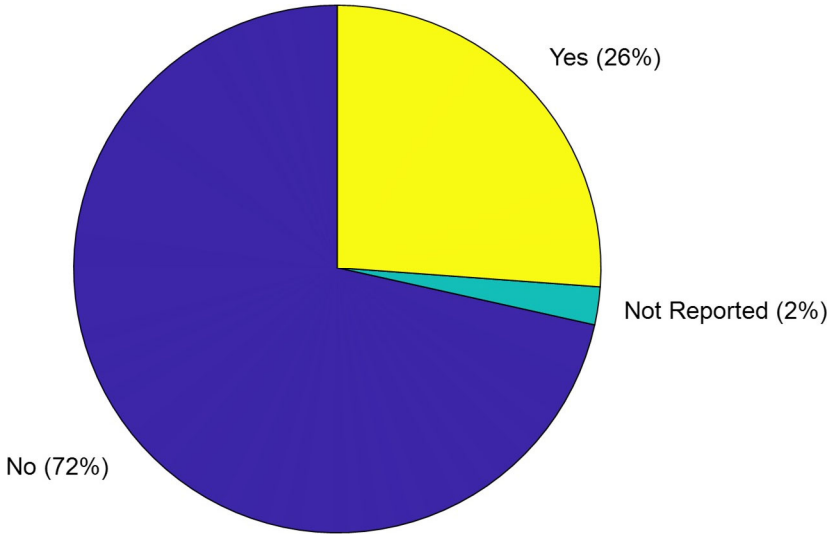

Figure 25. Requirement for building repair as indicated in the 40-year inspection reports (N=130).

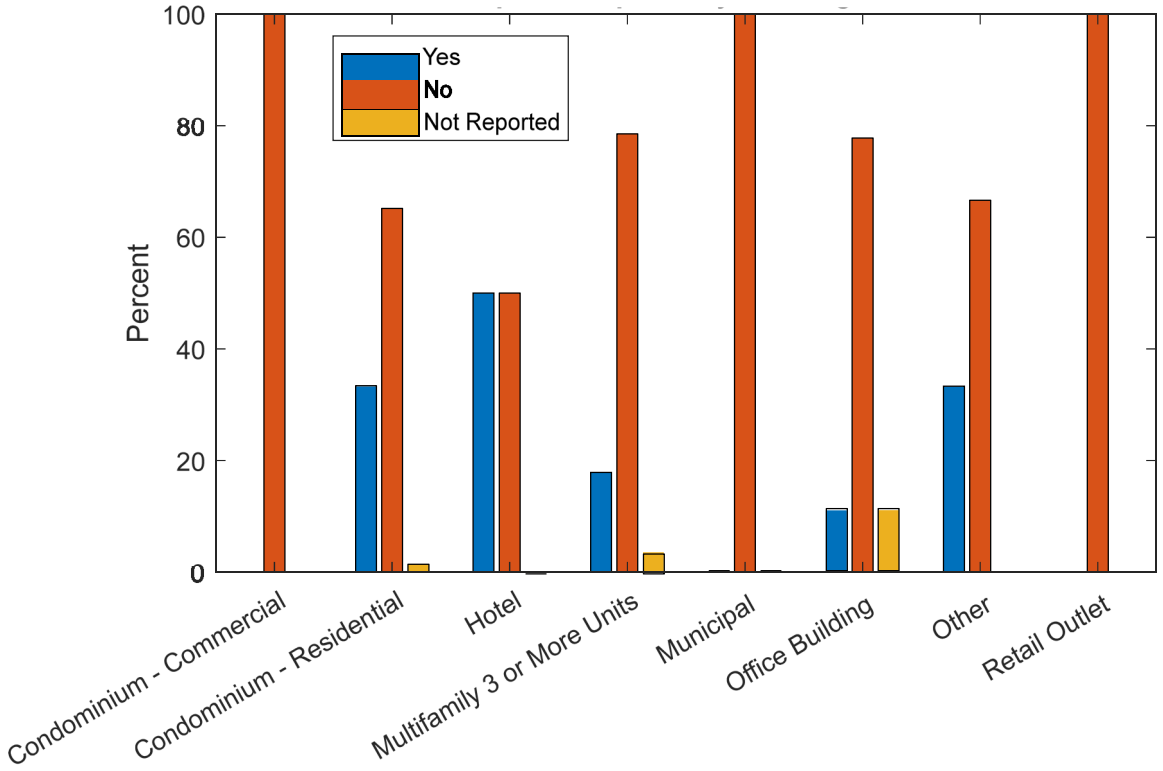

Figure 26. Repairs required by building use in the 40-year inspections.

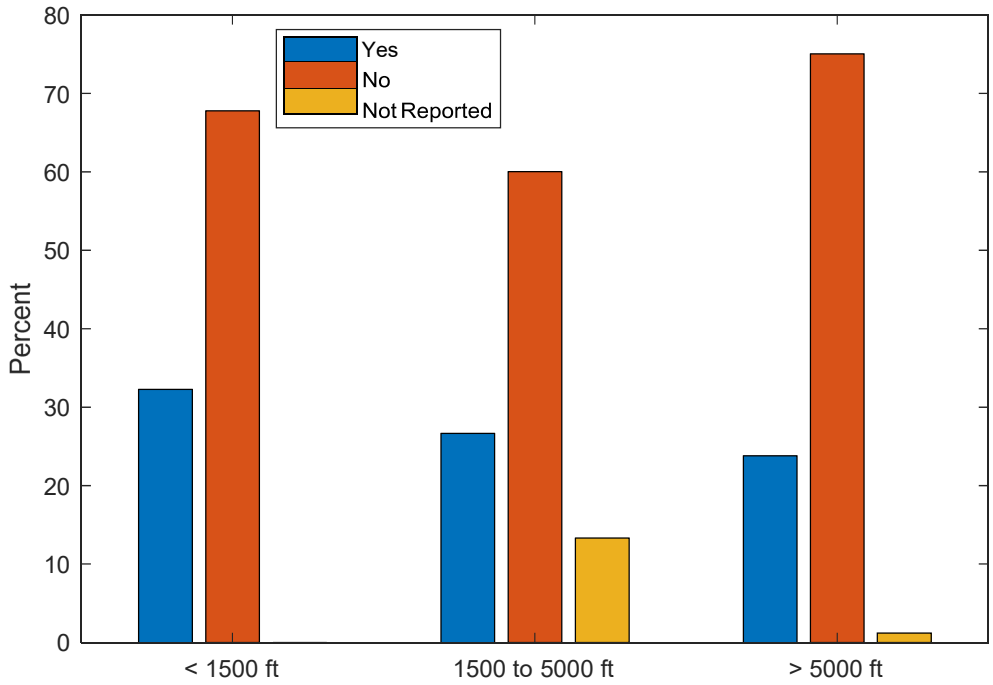

Figure 27. Repairs required by distance to the coast in the 40-year inspection reports.

4.4.2 Concrete Condition

The general concrete condition was reported to be good in 70% of the 40-year inspection reports, while 23% were reported as fair or poor, as shown in Figure 28. Figure 29 shows no observable trend in the general condition of the concrete as a function of the distance to the coast.

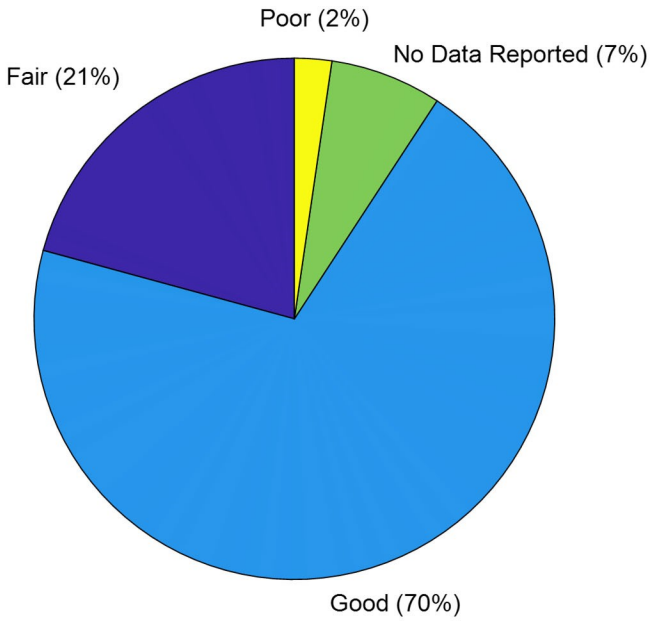

Figure 28. Concrete general condition reported in the 40-year inspection reports (N=130).

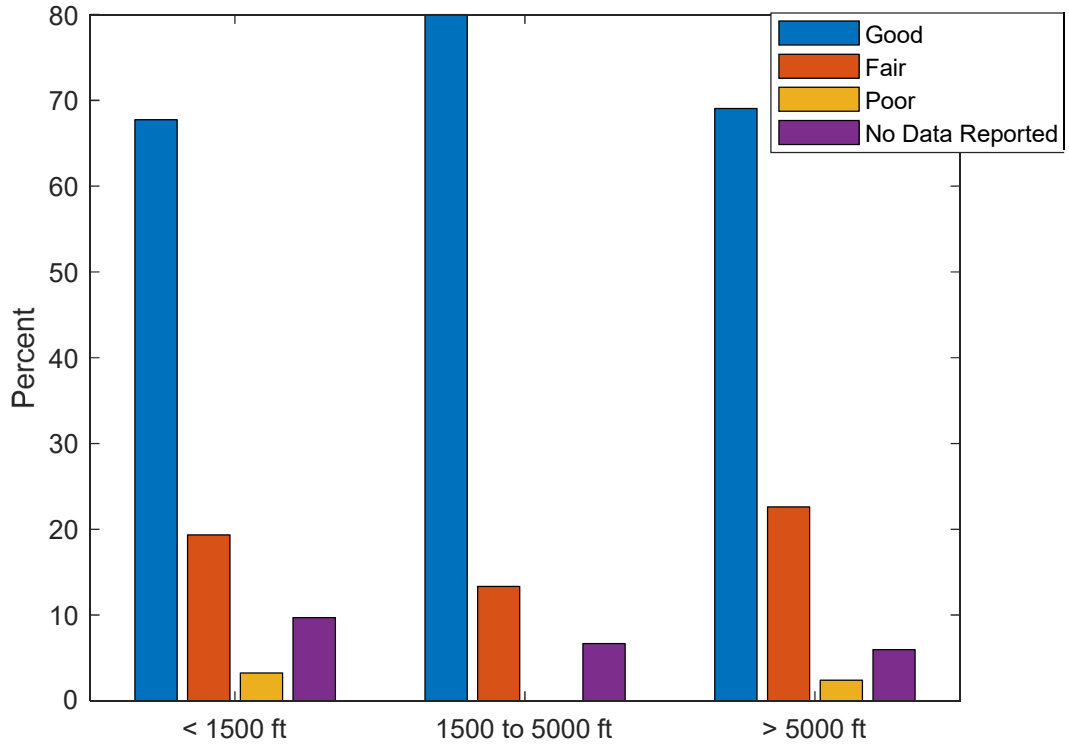

Figure 29. Concrete general condition reported by distance to the coast for the 40-year inspection reports.

Figure 30 shows that significant cracking was reported in 13% of the buildings in the 40-year inspection reports.

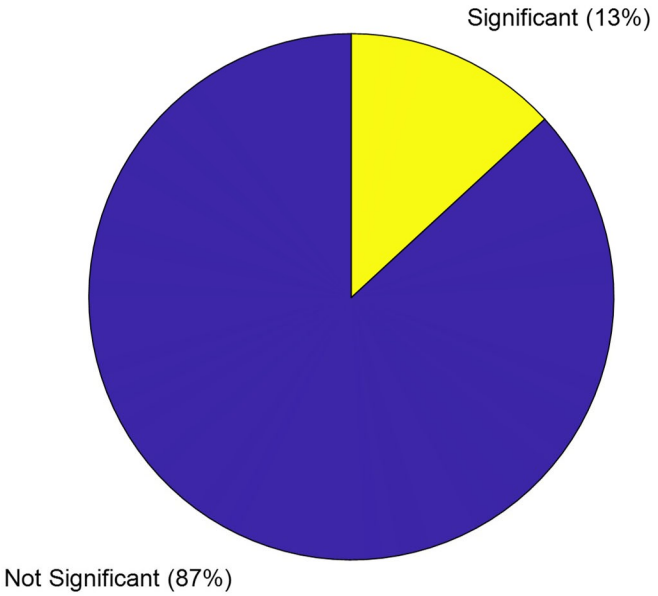

Figure 30. Concrete cracking reported in the 40-year inspection reports (N=129).

Reinforcement corrosion was observed in 22% of the buildings in the 40-year inspection reports while 70% of the reports indicated that no corrosion was visible (Figure 31). Unlike the most

recent inspection reports, the 40-year inspection reports do indicate more corrosion is seen in structures as they get closer to the coast, as shown in Figure 32.

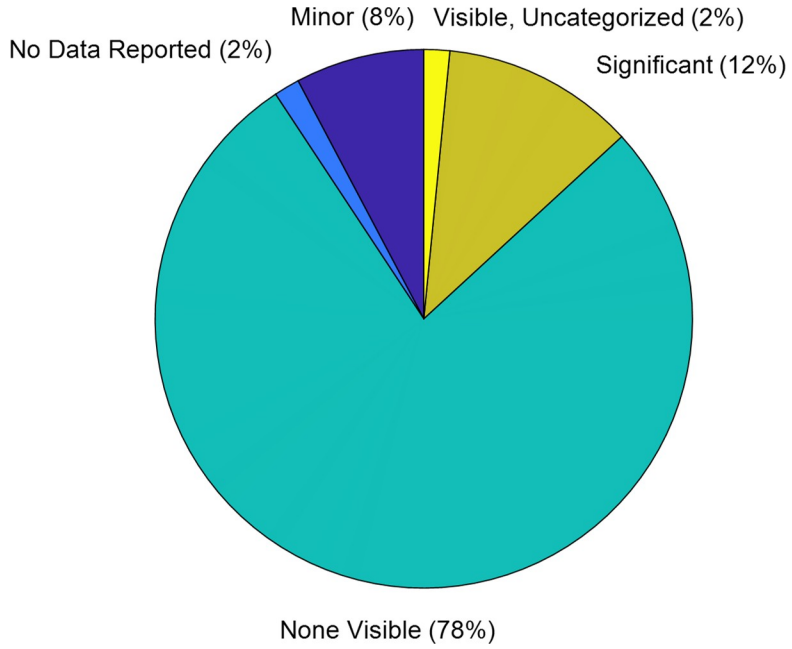

Figure 31. Concrete reinforcement corrosion reported in the 40-year inspection reports (N=129).

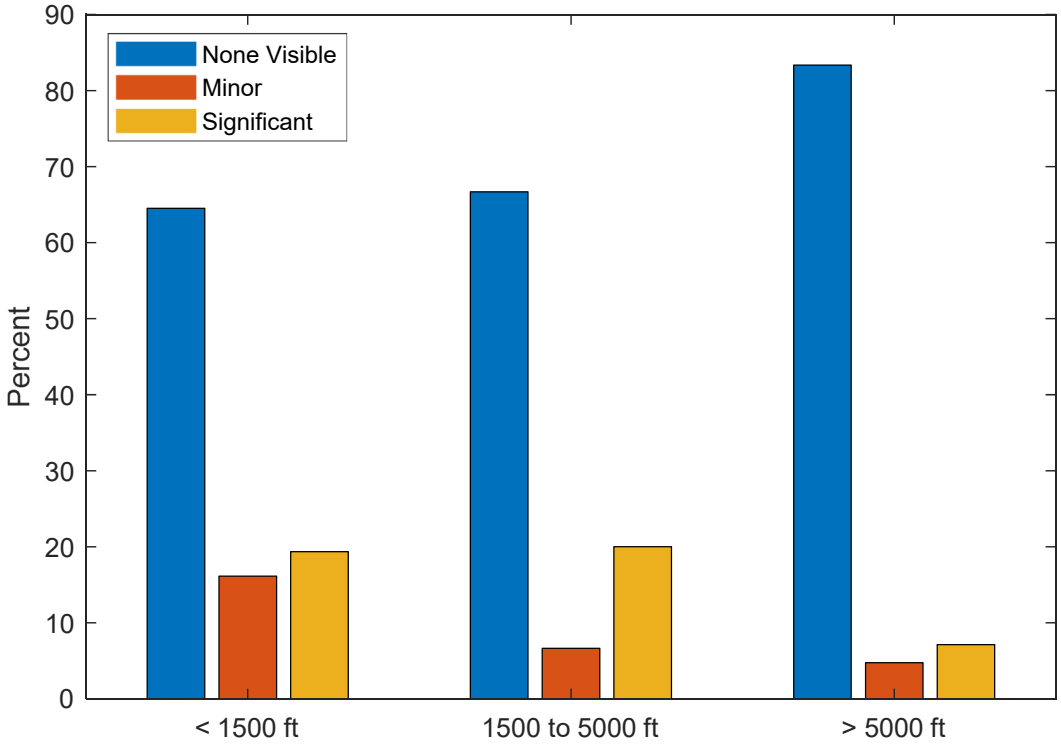

Figure 32. Concrete reinforcement corrosion according to distance to the coast reported in the 40-year inspection reports.

4.4.3 Other Components and Systems

As with the most recent inspection report findings, the 40-year inspection reports did not provide much information on the condition of balconies and guards. However, for the data that was reported, the 40-year inspection reports indicated a higher rate of reported poor and fair balcony condition (17%) and a higher rate of guards reported to be in fair or poor condition (7%) relative to the most recent inspection reports (12% and 5%, respectively). It is difficult to determine if these higher reported rates of deterioration are due to this dataset including more residential condominiums (thus more likely to have balconies) or whether buildings are not as well maintained prior to their first 40-year inspection.

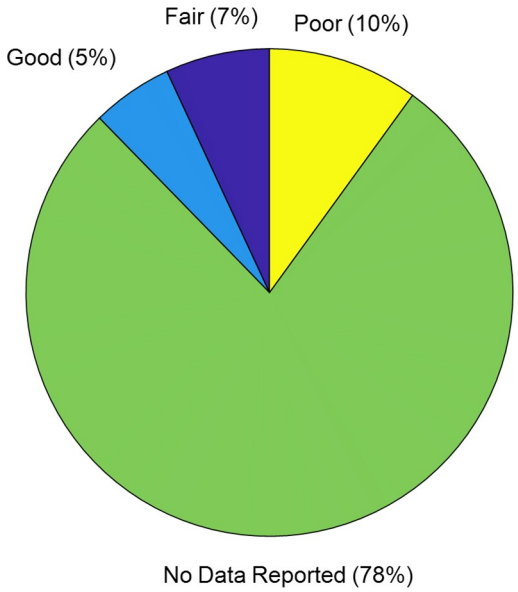

Figure 33. Balcony condition reported in the 40-year inspection reports (N=130).

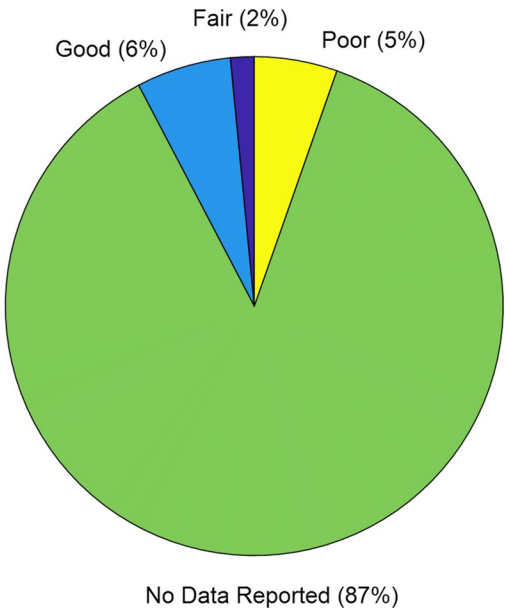

Figure 34. Guard condition reported in the 40-year inspection reports (N-130).

The roof cladding systems were reported to have a lower percentage of good ratings (34%) in the 40-year inspections compared to the most recent inspections. The reported conditions of the roof structural systems, windows, and floor systems had similar results as the most recent inspection reports (40-50% of these systems were reported to be in good condition). Detailed results are provided in Appendix C.

4.5 Comparative Analysis

Table 3 shows how reported conditions varied between the 40-year inspection report dataset and the most recent report dataset. More repairs were required for the 40-year inspection reports than the most recent inspection reports. Likewise, there is also a reduction in visible corrosion, concrete cracking, and balcony and guard defects from the 40-year inspection dataset to the most recent inspection dataset. These results may indicate that the repairs motivated by the initial 40-year inspection process have carryover effects for subsequent inspections.

Table 3. Comparison between inspection metrics reported in the 40-year and most recent inspection reports.

Inspection Metric Percent	40-Year Inspection Reports	Most Recent Inspection Reports	Change
Repairs required	26%	22%	-4%
General concrete condition fair or poor	23%	25%	2%
Concrete with significant cracking	13%	12%	-1%
Concrete with visible corrosion	22%	16%	-6%
Balconies fair or poor	17%	12%	-5%
Guards fair or poor	7%	5%	-2%
Roof structural systems fair or poor	25%	28%	3%
Roof cladding fair or poor	24%	27%	3%
Floor system fair or poor	15%	19%	4%
Window general condition fair or poor	39%	37%	-2%

To further investigate the impact of the initial 40-year inspection on building maintenance, the percentage of buildings requiring repair for these inspection reports was compared to 50-year inspection reports and inspection reports for buildings 60-years and older, as shown in Table 4. A decrease in the number of buildings requiring repairs is observed after the initial 40-year inspection. Though the datasets do not represent inspection reports for the same buildings, the results may generally indicate that the building inspection programs are encouraging maintenance by building owners.

Table 4. Repairs required by age of building at time of inspection.

Report	Sample Size (N)	Percent Requiring Repair
40-year	130	26%
50-year	77	21%
60-year +	71	21%

It is expected that a more reliable assessment of the impact of the initial 40-year inspection on how a structure is maintained would result from the analysis of inspection reports from the same buildings over time. This analysis was attempted with the existing datasets; however, only six buildings had initial 40-year inspection reports and subsequent anniversary reports (50-year, 60-year, etc.), thus not allowing a meaningful statistical analysis.

5 Inspection Recommendations

Effective building safety inspection programs require accurate, consistent, and timely inspections as well as building departments that have the authority and resources to efficiently track the recertification process and respond meaningfully to inspection violations. The process of compiling the data for this study and the results of the analysis are the basis for recommendations provided herein. Some of the recommendations require resources (funding) and/or inspector training, while others may require regulatory changes.

5.1 Inspection Forms and Records

The current inspection forms in both Miami-Dade and Broward County provide some guidance for standardizing inspection reporting; however, this study has revealed that there is a high degree of variability in how individual inspectors complete the forms and often required fields are left incomplete. The primary recommendation to ensure more standard and complete inspection reporting responses is an electronic inspection form that implements standard response options (i.e., dropdown menus) and does not allow for widespread deviation from the intended information to be collected. Such a form should be coupled with clear instructions on when a component description is required and when a component condition assessment is required. It is recommended that condition assessment categories be standardized to:

- Good
- Fair
- Poor
- Not visible or accessible
- Not applicable

The meaning of each of the condition assessment categories will vary by the component being inspected and should be clearly defined for inspectors. In addition to the standard responses, the inspectors should be provided fields for each inspection section to allow more detailed descriptions and explanations. The inspection form submission process should incorporate automatic reviews for completeness before the submission is accepted.

To enable efficient tracking of inspection due dates, inspection results, relevant permits, and recertifications, the electronic inspection form may be integrated with an inspection program database. The inspection databases may be implemented and maintained at the building department level; however, consistent data collection and tracking methods across jurisdictions within each county will further enable data aggregation and promote accountability.

Additional benefits of an electronic inspection and tracking system include reduced paperwork burden for building departments, reduced workload in reviewing inspections for completeness due to automated review and acceptance, automated transmission of inspection notification letters (if the system can be linked with property appraiser databases), more expedited response time for records requests, and ultimately more confidence in the quality of the inspection data being collected.

It should be noted that some of the building departments included in this study have already implemented or are in the process of implementing some of these recommendations. Some building departments already have electronic systems in place for tracking permitting and other building records that may be leveraged for building inspection report submission and tracking.

Both Miami-Dade and Broward Counties may consider jointly developing a single electronic inspection form for use in both counties. Advantages may include being able to share development costs across both counties, and the ability to aggregate data on a regional basis to develop policy.

5.2 Additional Inspection Data

To aid in scalable analysis if inspection report data, the following additional fields are suggested in the section for general building information (some of these may already be in one of the county inspection forms but are suggested for adoption in both):

- Number of stories
- Building footprint area (square footage)
- Total building area (square footage)
- Distance to the coast (this may be automated if the inspection forms are integrated with a database with a GIS component)

More specific information is recommended to be recorded on the roof structural system and cladding to standardize the responses and subsequent analysis of performance:

- Roof pitch
    - Flat
    - Pitched
- Roof structural framing
    - Wood
    - Steel
    - Concrete
- Structural framing condition
    - Good
    - Fair
    - Poor
- Roof deck material
    - Concrete
    - Wood

    - Structural concrete on steel deck
    - Non-structural / insulating concrete on steel deck
    - Bare steel deck
- Roof cladding type
    - Tile
    - Asphalt shingles
    - Built-up roofing (BUR)
    - Single ply (Membrane)
    - Metal
    - Other
- Roof covering condition
    - Good
    - Fair
    - Poor
    - N/A

A section in the inspection form for balconies and guards is recommended due to their high risk for deterioration and importance for life safety. The following information is recommended for collection (when these components are present):

- Balcony structural system
    - Edge and building face supported
    - Cantilever
- Balcony exposure (if structure is on the coast)
    - Ocean facing
    - Non-ocean facing
- Balcony construction
    - Concrete
    - Steel framing with concrete topping
    - Wood
    - Other (define in narrative)
- Balcony condition rating
    - Good
    - Fair (e.g., minor cracking, minor rebar corrosion – patching will suffice)
    - Poor (e.g., significant cracking, rebar corrosion requiring repairs)
- Balcony condition description (e.g., spalling, cracking, rebar corrosion)
- Guard system
    - Wood
    - Metal
        - Aluminum
        - Stainless steel
        - Galvanized steel
        - Ungalvanized steel
    - Concrete kneewall
    - CMU kneewall

    - Glass
    - Other
- Guard condition (define ratings depending on guard system)
    - Good
    - Fair
    - Poor

5.3 Inspection Timing

The data analyzed in this study does not provide conclusive evidence that initiating building inspections before 40 years will result in safer buildings; however, earlier inspections are likely to promote more proactive maintenance by owners. There is some evidence that the requirement for repairs is higher for building closer to the coast, possibly supporting the initiation of inspections for these buildings at an earlier age. However, there is inadequate data in this study conclude what the appropriate age to initiate inspections for coastal buildings should be or what impact this choice may have on building safety.

5.4 Inspection Technologies

It is recommended that the Florida Building Commission investigate available destructive and nondestructive inspection technologies for detecting hidden structural defects, especially reinforcement corrosion and foundation settlement or ground movement. An approved product or vendor list may be established for proven and vetted technologies to ensure consistent and reliable assessment results. Approved product lists already exist within the Florida Product Approval program for materials, and this could possibly be integrated within the framework of that system to reduce development costs. The inspection reporting form should be updated to accommodate reporting on the outcomes of these tests.

5.5 Inspection Program Implementation

It is recommended that building departments continue their efforts to work with building owners and inspectors to promote timely and accurate inspection reports. Specific recommendations include:

- Limiting the acceptance and approval of inspection reports that do not comply with the form requirements, including reports with missing responses
- Reducing delays in inspections by automating the generation of notices (see recommendations above) and targeting their transmission to occur within the first quarter of the year due
- Automating record collection and tracking to reduce the administrative burden of program implementation

Many building departments are actively working toward streamlining the administration of their building inspection and recertification programs and their continued efforts will provide ongoing improvement of their systems. It is also important to note that building departments may not always have the legal mechanisms available to effectively enforce all aspects of the building safety inspection programs; regulatory changes may be required at the county and even state level to provide such authority.

6 Inspection Program Considerations in Florida

In parallel with the assessment of the 40-year building safety inspection programs in Broward and Miami-Dade counties, this study also assessed whether similar programs are being considered in other parts of Florida. An electronic survey (administered via Qualtrics) was developed for distribution to building officials throughout the State of Florida. The questions were created to determine if a current age-based building inspection program is in place and, if not, whether it is being considered in the jurisdiction of the respondent. The survey was designed primarily with multiple choice questions to ensure consistent responses; however, some questions required fill-in, short answer responses. The survey was also designed with several branches to allow follow up questions based on the responses provided. While the survey did ask the position and jurisdiction of the respondent, these questions were optional, and the survey was otherwise anonymous. The survey is provided in Appendix D.

The survey was distributed in October and November of 2021 via the Building Officials Association of Florida (BOAF) email list and direct emails to building officials in some jurisdictions. The last recorded response was received on November 15, 2021. 70 survey responses were received. A geographic representation of the responses is shown in Figure 35 for the 58 respondents that provided information on their department/jurisdiction.

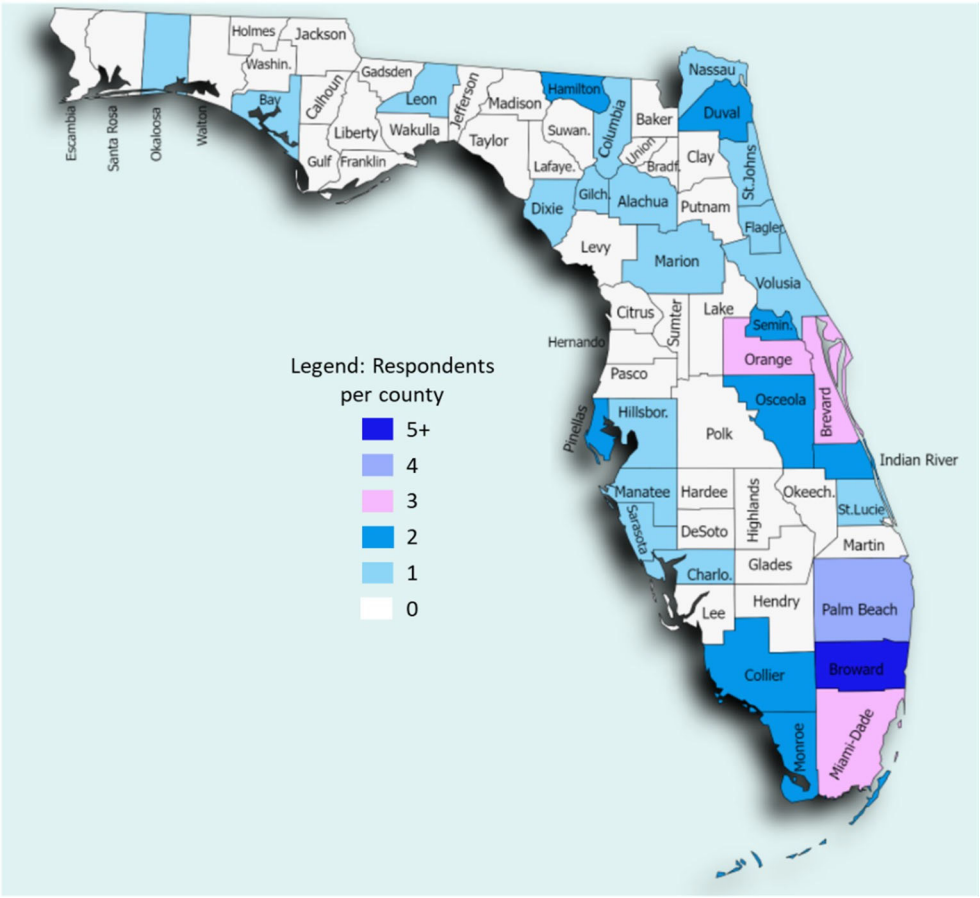

Figure 35. Q1: Statewide inspection survey responses per county (N=58).

Since the goal of the survey was to assess the status of, or plans for, inspection programs beyond Miami-Dade and Broward Counties, the results presented in this section for Questions 2, 3, and 8 are only for the respondents outside of these counties (N=51). Appendix E provides the results for these questions including Miami-Dade and Broward Counties. Not all respondents completed all questions.

Figure 36 shows the distribution of positions of the respondents, with most being the Chief Building Official for their jurisdiction.

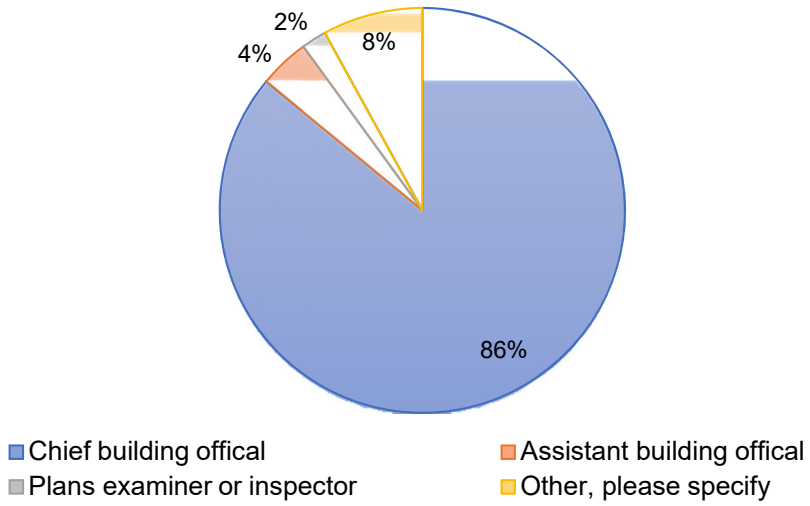

Figure 36. Q2: What is your position with the building department? (N=50)

Figure 37 illustrates that none of the jurisdictions outside of Miami-Dade and Broward Counties responded that they have a building age-based inspection program in place.

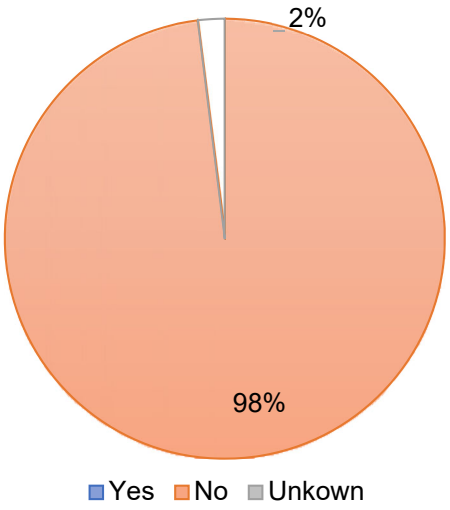

Figure 37. Q3: Does your building department currently have a building age-based safety inspection program in place? (N=51)

Figure 38 shows that 45% of the building departments that responded to the survey are either planning to implement or are considering implementation of an age-based building inspection program, while 20% are not currently considering such a program.

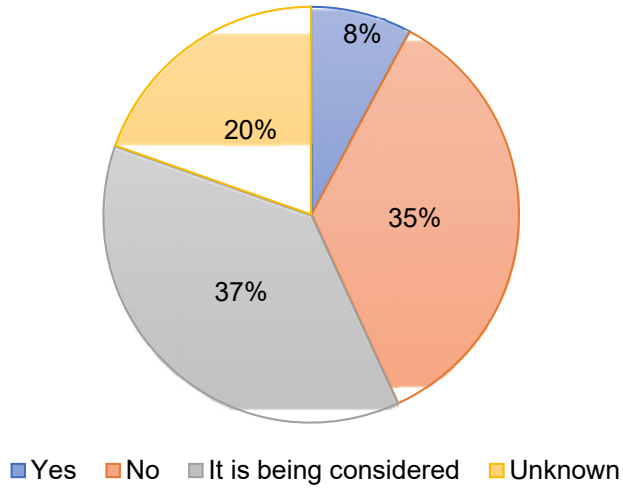

Figure 38. Q4: Is your building department planning to implement a building age-based safety inspection program in the future? (N=51).

For those jurisdictions considering an age-based inspection program, only two provided a specific year that it would be implemented (Q5). The Cities of Destin and Satellite Beach both reported their programs would begin in 2022. Ten jurisdictions provided the building age being considered for their program (Q6), ranging from 20 to 50 years, as summarized in Table 5. None of the jurisdictions planning or considering an age-based inspection program provided a link to their ordinance (Q7).

Table 5. Q6: What building age/timeline is being considered for your building safety inspection program (e.g. 40 years)? (N=10)

Building Age for Inspection	**Building Department**
20	Monroe County
30	City of Titusville, City of Boynton Beach, City of Sarasota, unknown department
35*	City of West Palm Beach
40	Manatee County
40-50	New Smyrna Beach, City of Kissimmee
50	City of Ocala

* Possibly sooner for buildings near the coast

72% of survey respondents outside of Miami-Dade and Broward Counties reported that they are not having problems with buildings older than 40 years, while 14% responded that these buildings do have issues, as shown in Figure 39.

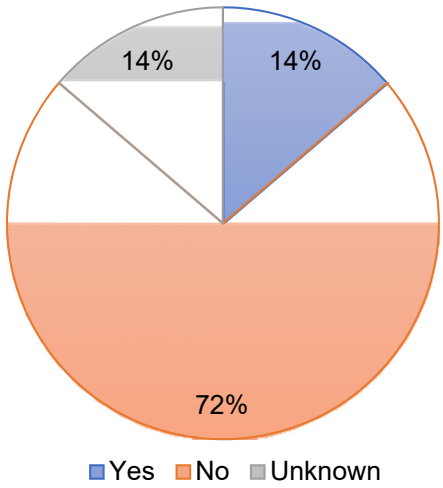

Figure 39. Q8: Is your jurisdiction experiencing problems/issues with buildings 40 years or older? (N=51)

The list below summarizes the structural problems observed in buildings 40 years and older for all respondents, including those in Miami-Dade and Broward Counties [Q9: Describe the typical issues observed in buildings older than 40 years in your jurisdiction (N=11)]:

- Wood framed buildings: water penetration and termites
- Concrete: spalling, cracks, balcony/walkway slab deterioration, rebar/post-tensioning corrosion, delamination, exposed rebar
- Foundations: settlement
- Fenestrations: water infiltration, improper sealing
- Roofs: leaks, system deterioration

The majority of responses cited lack of building maintenance as primary cause for deterioration.

The list below summarizes the general comments provided by respondents, including those in Miami-Dade and Broward Counties [Q10: Are there any details or comments you would like to provide about your building safety inspection program or building safety inspection programs in general? (N=14)]:

- The challenges of inspection programs are the cost (who will pay?) and personnel requirements. There is already a shortage of inspectors.
- There is concern that jurisdictions will have some liability if owner does not fix the issues identified during inspection.
- Program enforcement may be a challenge in cases where HOAs lack the reserves to make necessary repairs.
- Inspection programs should avoid placing responsibility on building departments rather than on the owners.
- Thorough inspection is difficult without destructive investigation and without access to foundation components. The time to complete proper documentation and complete repairs may be prohibitive.

- Age-based inspection programs are onerous and overkill given that older buildings are not generally in danger of collapse. Programs are too far reaching given that most buildings in safe condition.
- Threshold inspectors should be considered a requirement for certain building heights.
- Municipalities may be reluctant to "volunteer" to do safety inspections given their potential to reveal costly and/or unsafe building conditions.
- It is recommended buildings over four stories be inspected for recertification every 20 years (30 and 40 years is too long). Major issues may warrant re-inspection after 10 years.
- In addition to 40-year recertification programs, jurisdictions should consider how well a building is maintained, the design criteria used, possible design/construction flaws, construction quality, and errors made throughout the design, review, construction, and inspection of life of structure. Responsibility for building failure should not rest solely on these inspection programs (or lack thereof).

General comments are provided in Appendix D as they were written by survey respondents, with identifying information redacted.

At the time of the survey, the results indicated that there were no jurisdictions in Florida with building age-based inspection or recertification programs outside of Broward and Miami-Dade Counties. Only 14% of these jurisdictions reported having problems with buildings older than 40 years. However, many building departments are planning to or considering implementing such programs, with a range of building ages being considered. The City of Boca Raton, in Palm Beach County, passed a 30-year threshold building inspection ordinance in 2021 following the administration of this survey. The qualitative responses indicate a variety of feelings about such programs, with some respondents in favor, some in opposition, and some with some concerns about cost, labor requirements, and the potential burden (including liability) to the building departments that implement them.

7 Conclusions

This study looked at the 40-year building inspection programs in Broward and Miami-Dade counties to provide a broad assessment of how the programs are implemented and what information they provide on the structural condition of inspected buildings. To manage the scope of the project, structural building inspection reports were requested from ten municipalities in proportion to their size. A representative distribution of building use, age, height, and distance to the coast was sought and ultimately over 300 inspection records were received for 267 buildings. A large portion of the analyzed inspection reports were for 40-year inspections; however, some municipalities provided reports for the most recent 10-year anniversary inspection (e.g., 50-year or 60-year inspections).

Aggregating the inspection report data for analysis was one of the primary challenges of this project due to variability in the records provided by each building department and differences in in inspector responsiveness to the required inspection forms in each county. As a result, one of the primary recommendations resulting from this project is for counties and municipalities to work towards the increased standardization in inspection reporting by using an electronic inspection form to ensure completeness and consistency.

An Excel spreadsheet was created to extract and record the data from the inspection reports. The Excel sheet was built with sections and fields corresponding to the standard structural inspection forms in each county; however, the data field inputs were standardized with relevant dropdown menus to enable data aggregation for analysis. As a result, some interpretation by the research team was required to map the variable inspector-provided data to the more consistent categorization in the Excel spreadsheet. The research team also made assessments of the adherence of each inspection report to the required inspection form and the overall completeness of the reporting. Over ten percent of the reports reviewed did not substantially follow the requirements of the inspection form and data were routinely omitted even for those that did.

Most inspections are occurring within the first two years of their due date; however, approximately 13% of inspections are taking place more than five years after they are required to be inspected. It is recommended that additional administrative and regulatory measures be put in place to encourage compliance with the required inspection timelines.

The results of analyzing the aggregated and standardized data show that the building safety inspection programs in Miami-Dade and Broward County found that 26% the buildings inspected at 40 years required some repair prior to being recertified. The number of buildings requiring repairs at subsequent 10-year inspections is reduced to 21%. This finding indicates that the inspection programs are encouraging building maintenance that may not otherwise occur, which in turn is likely to broadly improve building safety. The percentage of buildings requiring repair and with visible concrete reinforcement corrosion increases slightly for buildings that are closer to the coast. These structures may benefit from earlier or more frequent inspections; however, the appropriate intervals cannot be determined from the data collected in this study.

Based on a comprehensive review of the inspection records acquired for this study, recommendations have been made to improve the administration efficiency of the inspection programs and the quality of the data collected during inspections. The creation of digitized inspection reporting integrated with a comprehensive inspection database will streamline the generation of notices to building owners, the timeliness of inspections, the quality and completeness of the inspection data, and is likely to lead to better outcomes for building safety.

The results of the statewide survey of building officials distributed in October and November 2021 show that over half of the respondents outside of Miami-Dade and Broward counties are considering or planning to implement age-based building inspection programs in their jurisdictions. Survey respondents expressed some concern about the cost and administrative burden of such programs. There was additional concern about the inability for visual structural inspections to detect hidden defects, such as concrete reinforcement corrosion. This issue was evident in the high percentage of inspection reports in Miami-Dade and Broward Counties that noted no corrosion was visible. As a result, it is recommended that the Florida Building Commission, building departments, and inspectors look for opportunities to include vetted corrosion detection and other nondestructive testing technologies in the structural evaluation process.

Appendix A: Standard 40-year building inspection forms for Broward and Miami-Dade Counties

Broward County Board of Rules and Appeals Policy # 05- 05 Effective: 01/01/06

Building Safety Inspection Report Form Amended 03/15/12
STRUCTURAL

Building Information

Building / Structure address _____

Legal description _____

Folio # of Building /Structure _____

Owner's name _____

Owner's mailing address _____

Building Code Occupancy Classification _____ In accordance with Building Code Edition _____

Type of Construction _____ In accordance with Building Code Edition _____

Size (Square footage) _____

Number of Stories _____

Inspection Firm

Inspection Firm or Individual _____

Address _____

Phone _____

Inspection Commencement Date ___/___/___ Inspection Completion Date ___/___/___

Inspection made by _____

In accordance with Section 110.15 of the Broward County Administrative provisions of the Florida Building Code and the Broward County Board of Rules and Appeals Policy # 05-05 the required safety inspection has been completed.

☐ No Repairs required

☐ Repairs are required as outlined in the attached inspection report.

Licensed Professional Engineer / Architect _____

License # _____

" I am qualified to practice in the discipline in which I am hereby signing."

Seal

Signature and Date _____

As a routine matter, and in order to avoid possible misunderstanding, nothing in this inspection Report Form, attached Minimum Inspection Guideline and our Non-Destructive Observations, should be construed directly, or indirectly, as guaranteed or warrantee for any portions of the structure. To the best of my knowledge and ability, this report represents an accurate appraisal of the present condition of the structure, based upon careful evaluation of observed conditions, to the extent reasonably possible.

MINIMUM INSPECTION GUIDELINES FOR BUILDING SAFETY INSPECTION STRUCTURAL

I. Masonry Walls

A. General Description

1. Concrete masonry units

2. Clay tile or terra cotta units

3. Reinforced concrete tie columns

4. Reinforced concrete tie beams

5. Lintels

6. Other type bond beams

B. **Cracks:** Identify crack size as **HAIRLINE** if barely discernible; **FINE** if less than 1 mm in Width: **MEDIUM** if between 1 and 2 mm in width; **WIDE** if over 2 mm

1. Location - note beams, columns, other

2. Description

C. Spalling:

1. Location - note beams, columns, other

2. Description

D. Rebar corrosion

1. None visible

2. Minor

3. Significant - structural repairs required (describe)

II. Floor and Roof Systems:

A. Roof:

1. Describe type of framing system (flat, slope, type roofing, type roof deck, condition)

2. Note water tanks, cooling towers, air conditioning equipment, signs, other heavy equipment and condition of supports.

3. Note types of drains and scuppers and condition.

B. Floor system(s):

1. Describe (type of system framing, material, condition)

2. Heavy equipment and conditions of support

C. **Inspection** - note exposed areas available for inspection, and where it was found necessary to open ceilings, etc. for inspection of typical framing members.

III. Steel Framing Systems:

A. Description

B. Exposed Steel - describe condition of paint & degree of corrosion.

C. Concrete or other fireproofing - note any cracking or spalling, and note where any covering was removed for inspection.

D. Elevator sheaves beams & connections, and machine floor beams - note Condition.

IV. Concrete Framing Systems:

A. Full description of structural system.

B. Cracking:

1. Not significant.

2. Location and description of members affected and type cracking.

C. General condition.

D. Rebar corrosion

1. None visible

2. Minor

3. Significant - structural repairs required (describe)

V. Windows:

A. Type (Wood, steel, aluminum, jalousie, single hung, double hung, casement, awning, pivoted, fixed, other)

B. Anchorage - type & condition of fasteners and latches.

C. Sealants - type & condition of perimeter sealants & at mullions.

D. Interior seals - type & condition at operable vents.

E. General condition.

VI. Wood Framing:

A. Describe floor system

B. Note condition connector or stress

C. Note rotting or termite damage

D. Note alignment problems

E. Note bearing deficiencies

F. Note any significant damage that might affect safety and stability of building structure.

VII. Exterior Finishes / Note any structural deficiencies in the following.

A. Stucco

B. Veneer

C. Soffits

D. Ceiling

E. Other

MIAMI-DADE COUNTY

REGULATORY AND ECONOMIC RESOURCES DEPARTMENT

MINIMUM INSPECTION PROCEDURAL GUIDELINES FOR BUILDING STRUCTURAL RECERTIFICATION

INSPECTION COMMENCED
Date:_____

INSPECTION COMPLETED
Date: _____

INSPECTION MADE BY: _____

SIGNATURE: _____

PRINT NAME: _____
TITLE: _____

ADDRESS: _____
_____

1. DESCRIPTION OF STRUCTURE
a. Name on Title:
b. Street Address:
c. Legal Description:
d. Owner's Name:
e. Owner's Mailing Address:
f. Folio Number of Property on which Building is Located:
g. Building Code Occupancy Classification:
h. Present Use:
i. General Description:
Addition Comments:

j. Additions to original structure:

2. PRESENT CONDITION OF STRUCTURE
a. General alignment (Note: good, fair, poor, explain if significant)
1. Bulging
2. Settlement
3. Deflections
4. Expansion
5. Contraction
b. Portion showing distress (Note, beams, columns, structural walls, floor, roofs, other)
c. Surface conditions – describe general conditions of finishes, noting cracking, spalling, peeling, signs of moisture penetration and stains.
d. Cracks – note location in significant members. Identify crack size as HAIRLINE if barely discernible; FINE if less than 1 mm in width; MEDIUM if between 1 and 2 mm width; WIDE if over 2 mm.

e. General extent of deterioration – cracking or spalling of concrete or masonry, oxidation of metals; rot or borer attack in wood.
f. Previous patching or repairs
g. Nature of present loading indicate residential, commercial, other estimate magnitude.

3. INSPECTIONS
a. Date of notice of required inspection
b. Date(s) of actual inspection
c. Name and qualifications of individual submitting report:
d. Description of laboratory or other formal testing, if required, rather than manual or visual procedures
e. Structural repair-note appropriate line:
1. None required
2. Required (describe and indicate acceptance)

4. SUPPORTING DATA
a. _____ sheet written data b. _____ photographs c. _____ drawings or sketches

5. MASONRY BEARING WALL = Indicate good, fair, poor on appropriate lines:
a. Concrete masonry units
b. Clay tile or terra cota units
c. Reinforced concrete tie columns
d. Reinforced concrete tie beams
e. Lintel
f. Other type bond beams
g. Masonry finishes -exterior
1. Stucco
2. Veneer
3. Paint only
4. Other (describe)
h. Masonry finishes - interior
1. Vapor barrier
2. Furring and plaster
3. Paneling
4. Paint only
5. Other (describe)
i. Cracks
1. Location – note beams, columns, other
2. Description
j. Spalling
1. Location – note beams, columns, other
2. Description
k. Rebar corrosion-check appropriate line
1. None visible
2. Minor-patching will suffice
3. Significant-but patching will suffice

4. Significant-structural repairs required
l. Samples chipped out for examination in spall areas:
1. No
2. Yes – describe color, texture, aggregate, general quality

6. FLOOR AND ROOF SYSTEM
a. Roof
1. Describe (flat, slope, type roofing, type roof deck, condition)
2. Note water tanks, cooling towers, air conditioning equipment, signs, other heavy equipment and condition of support:
3. Note types of drains and scuppers and condition:
b. Floor system(s)
1. Describe (type of system framing, material, spans, condition)
c. Inspection – note exposed areas available for inspection, and where it was found necessary to open ceilings, etc. for inspection of typical framing members.

7. STEEL FRAMING SYSTEM
a. Description

b. Exposed Steel- describe condition of paint and degree of corrosion
c. Concrete or other fireproofing – note any cracking or spalling and note where any covering was removed for inspection
d. Elevator sheave beams and connections, and machine floor beams – note condition:

8. CONCRETE FRAMING SYSTEM
a. Full description of structural system
b. Cracking
1. Not significant
2. Location and description of members affected and type cracking
c. General condition
d. Rebar corrosion – check appropriate line
1. None visible
2. Location and description of members affected and type cracking
3. Significant but patching will suffice
4. Significant – structural repairs required (describe)
e. Samples chipped out in spall areas:
1. No
2. Yes, describe color, texture, aggregate, general quality:

9. WINDOWS
a. Type (Wood, steel, aluminum, jalousie, single hung, double hung, casement, awning, pivoted, fixed, other)
b. Anchorage- type and condition of fasteners and latches
c. Sealant – type of condition of perimeter sealant and at mullions:
d. Interiors seals – type and condition at operable vents
e. General condition:

10. WOOD FRAMING
a. Type – fully describe if mill construction, light construction, major spans, trusses:
b. Note metal fitting i.e., angles, plates, bolts, split pintles, other, and note condition:
c. Joints – note if well fitted and still closed:
d. Drainage – note accumulations of moisture
e. Ventilation – note any concealed spaces not ventilated:
f. Note any concealed spaces opened for inspection:

Appendix B: Detailed Inspection Report Results – Most Recent Inspection Reports

Roof Systems

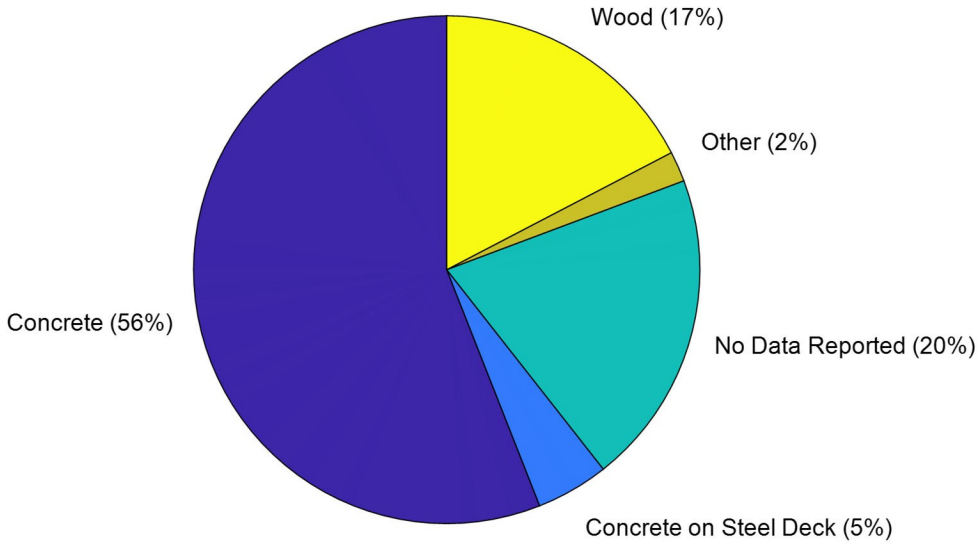

Figure 40. Roof structural system as reported in the most recent inspection reports (N=259).

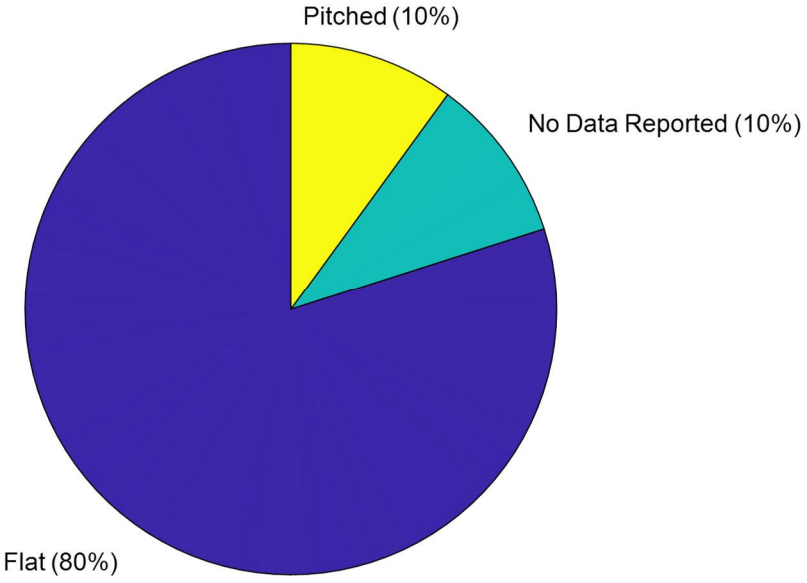

Figure 41. Roof category as reported in the most recent inspection reports (N=259).

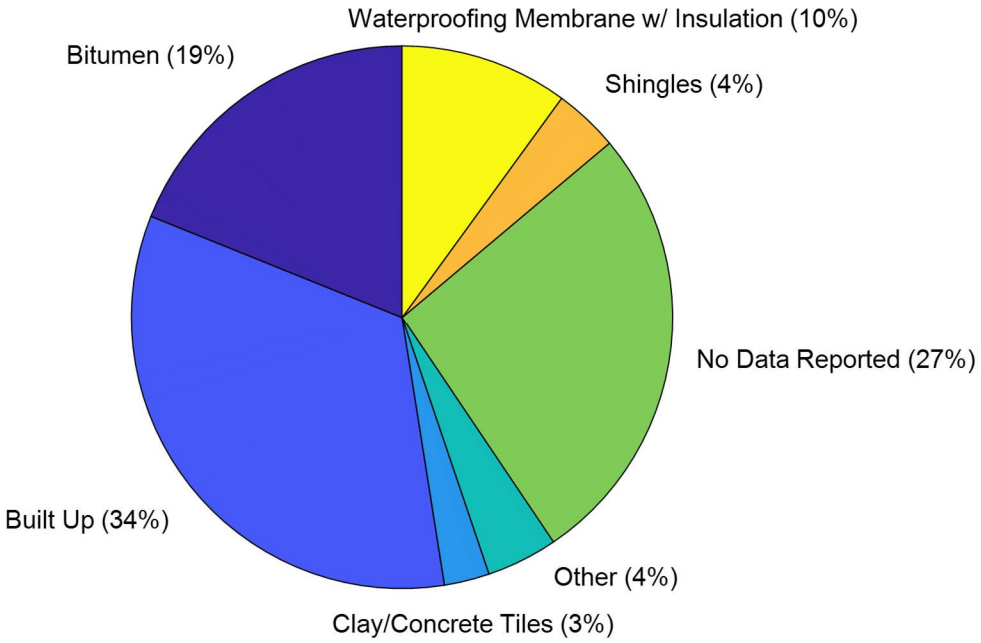

Figure 42. Roof cladding system as reported in the most recent inspection reports (N=259).

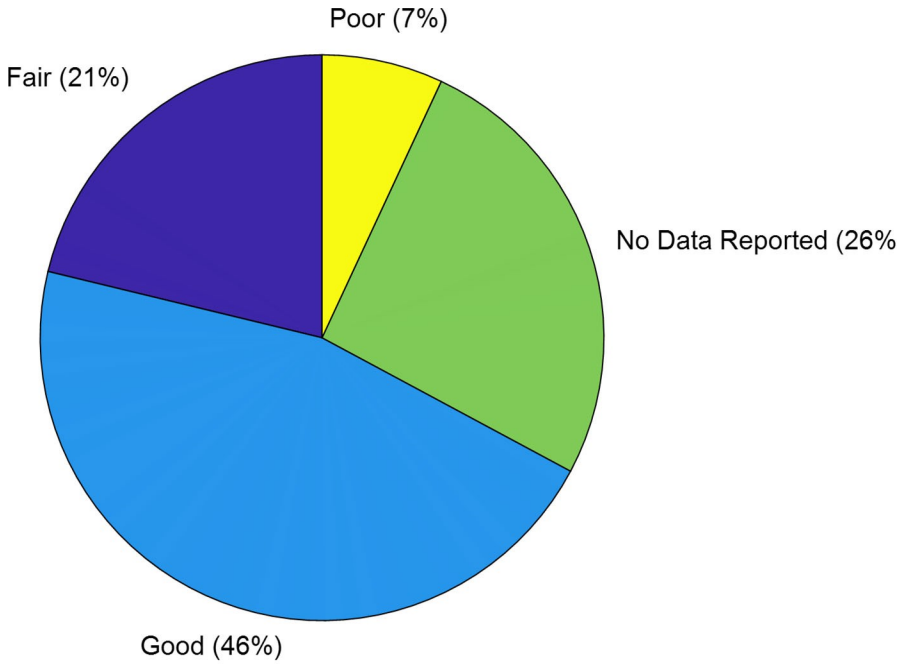

Figure 43. Roof structural system condition as reported in the most recent inspection reports (N=259).

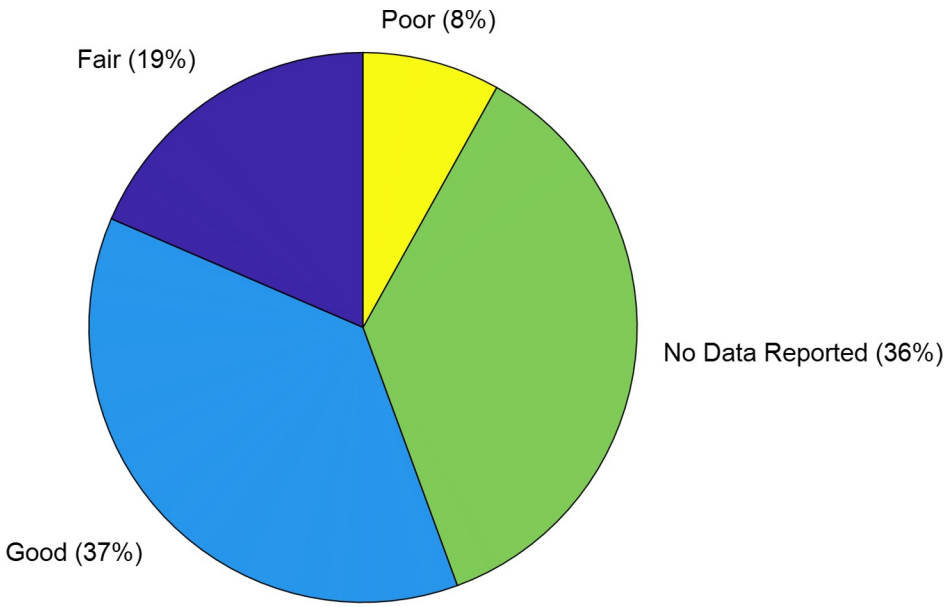

Figure 44. Roof cladding condition as reported in the most recent inspection reports (N=259).

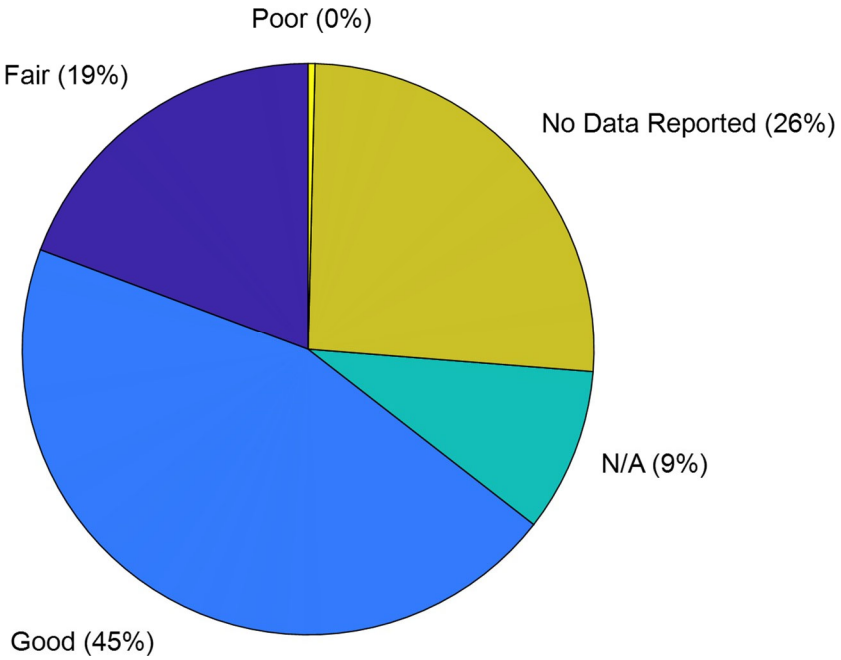

Figure 45. Roof drain condition as reported in the most recent inspection reports (N=259).

Floor Systems

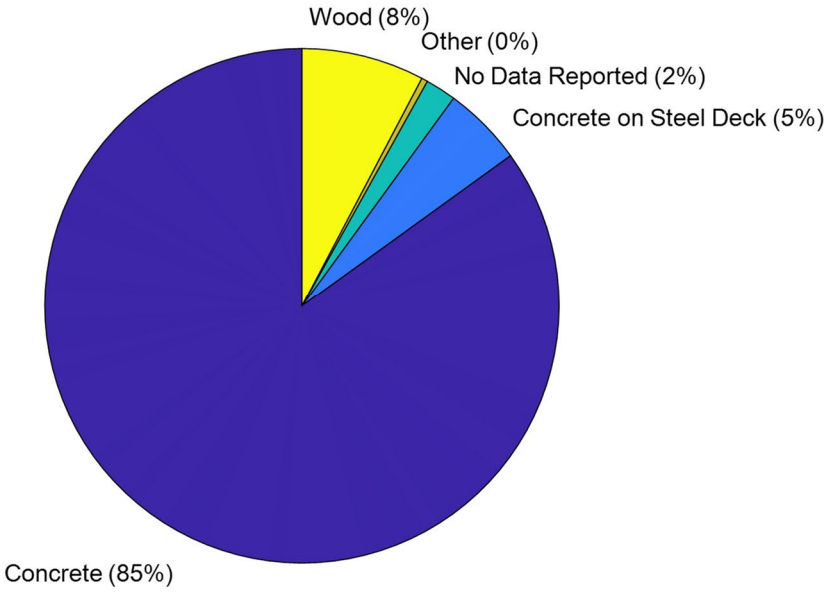

Figure 46. Floor system type as reported in the most recent inspection reports (N=259).

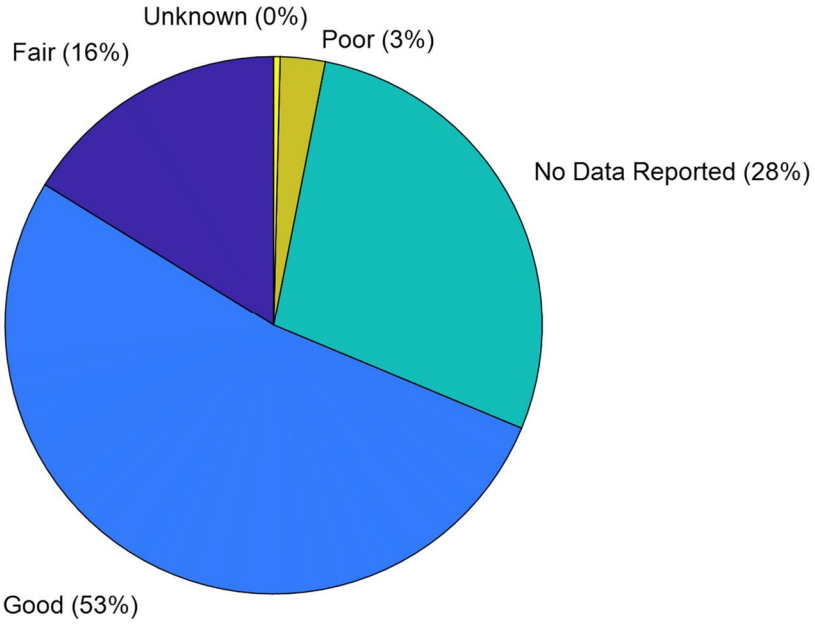

Figure 47. Floor system condition as reported in the most recent inspection reports (N=259).

Window Systems

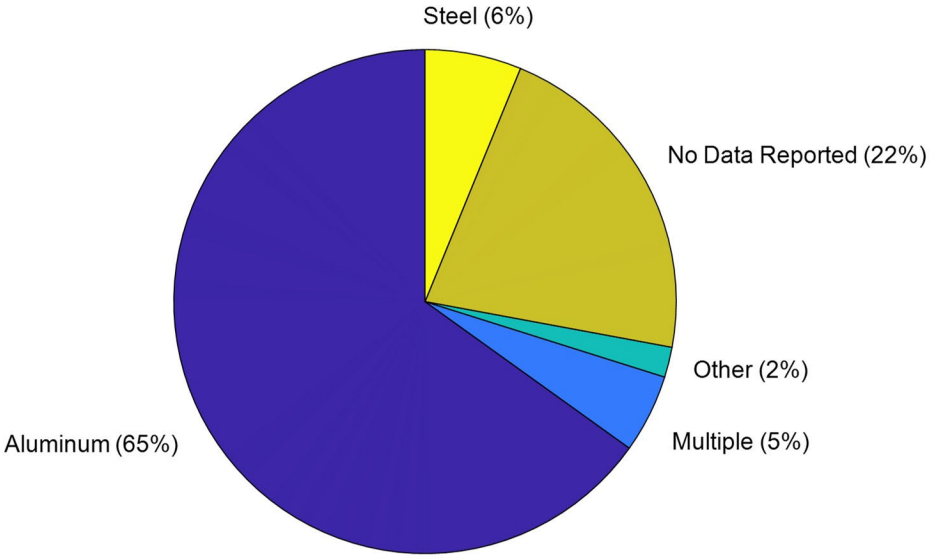

Figure 48. Window category as reported in the most recent inspection reports (N=258).

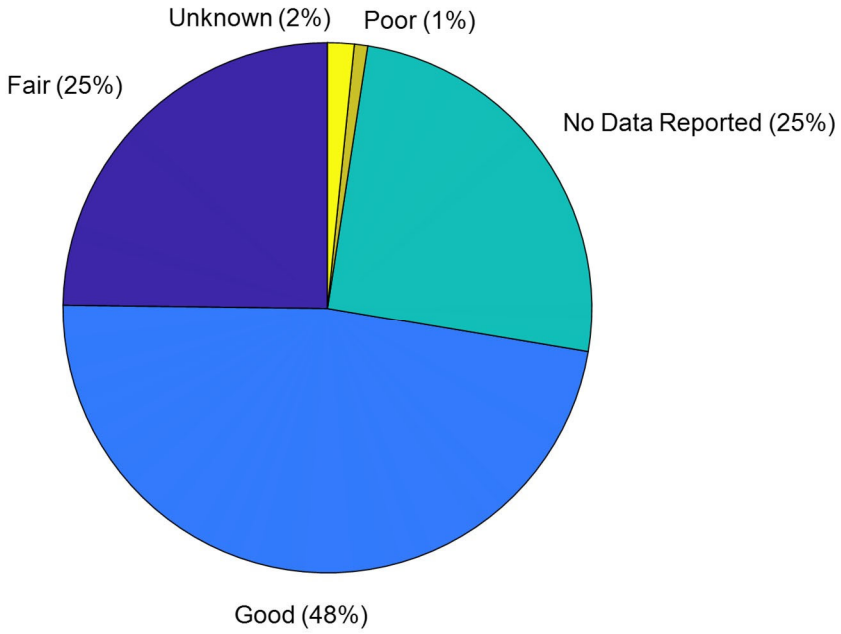

Figure 49. Window anchorage as reported in the most recent inspection reports (N=246).

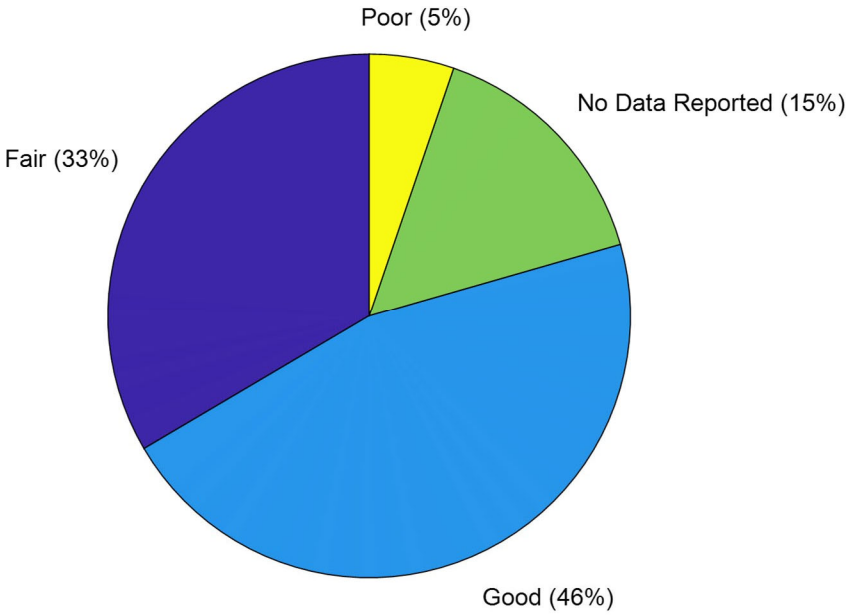

Figure 50. Window seal condition as reported in the most recent inspection reports (N=248).

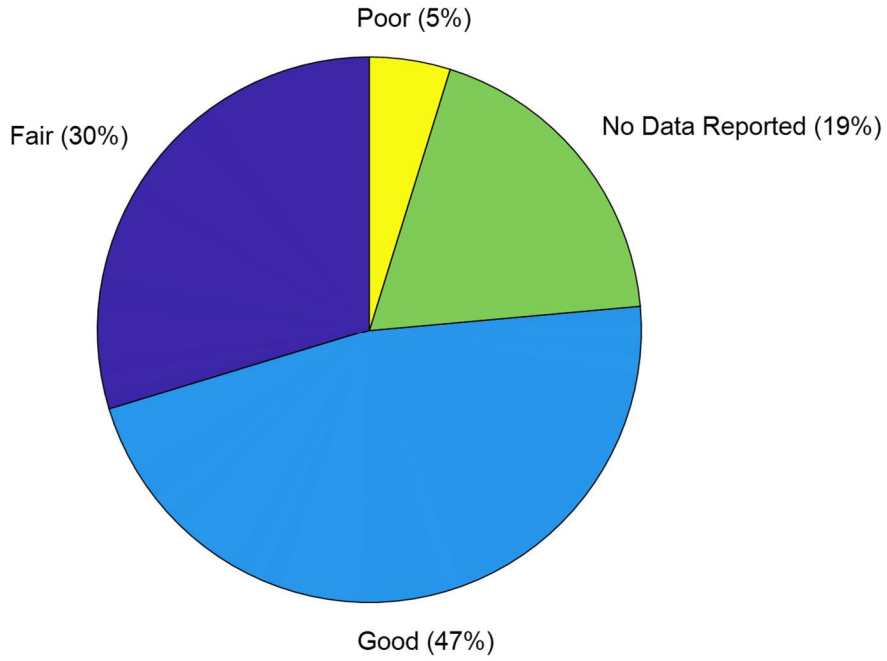

Figure 51. Window interior seal condition as reported in the most recent inspection reports (N=229).

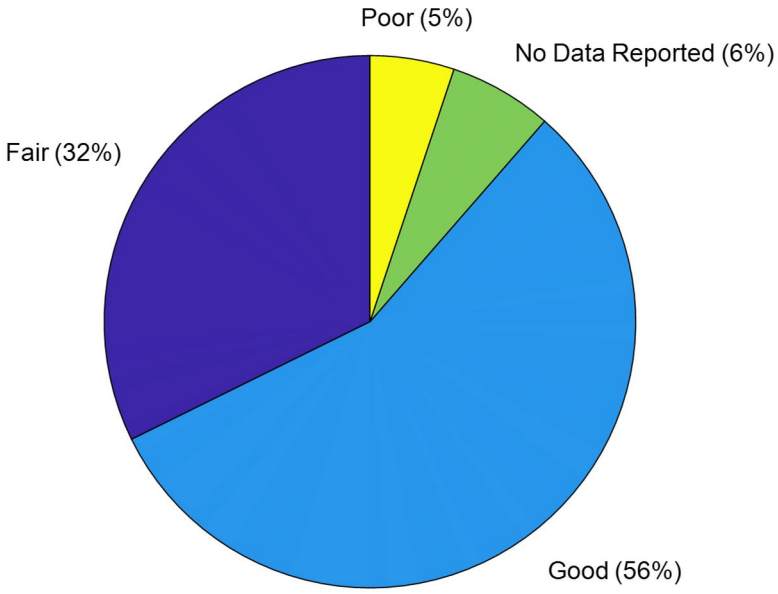

Figure 52. Window general condition as reported in the most recent inspection reports (N=254).

Appendix C: Detailed Inspection Report Results – 40-Year Inspection Reports

Roof Systems

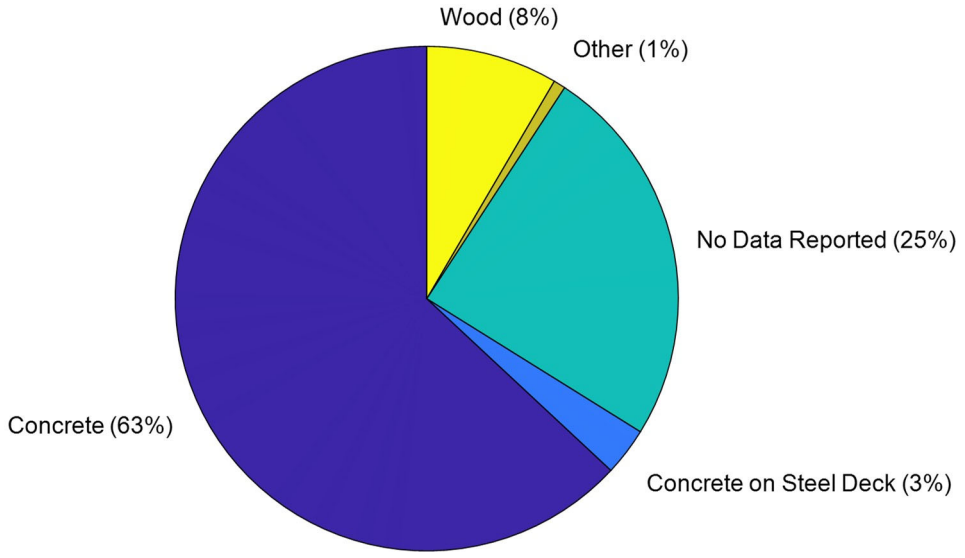

Figure 53. Roof structural system as reported in the 40-year inspection reports (N=130).

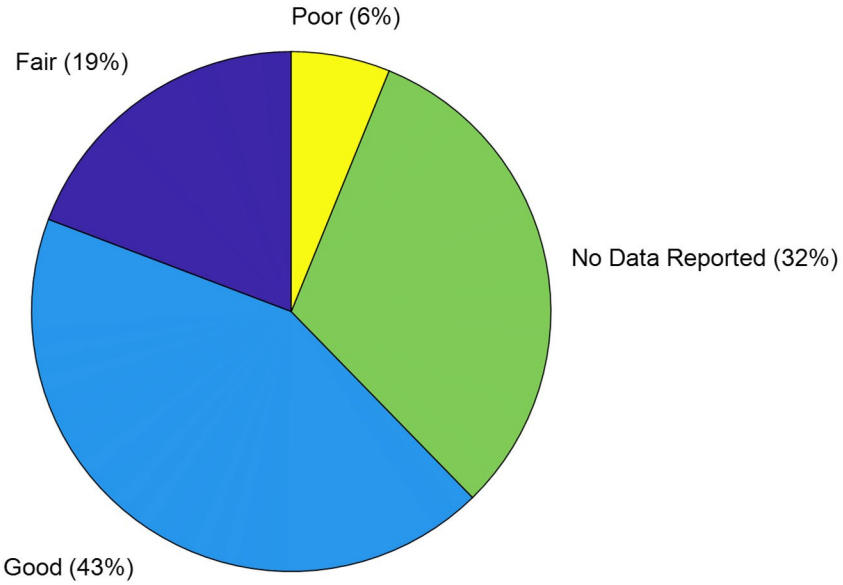

Figure 54. Roof structural system condition as reported in the 40-year inspection reports (N=130).

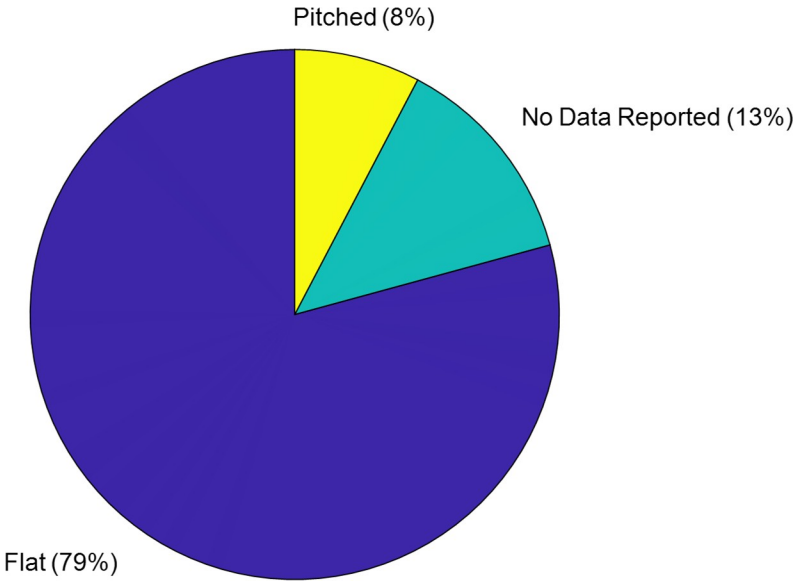

Figure 55. Roof category as reported in the 40-year inspection reports (N=130).

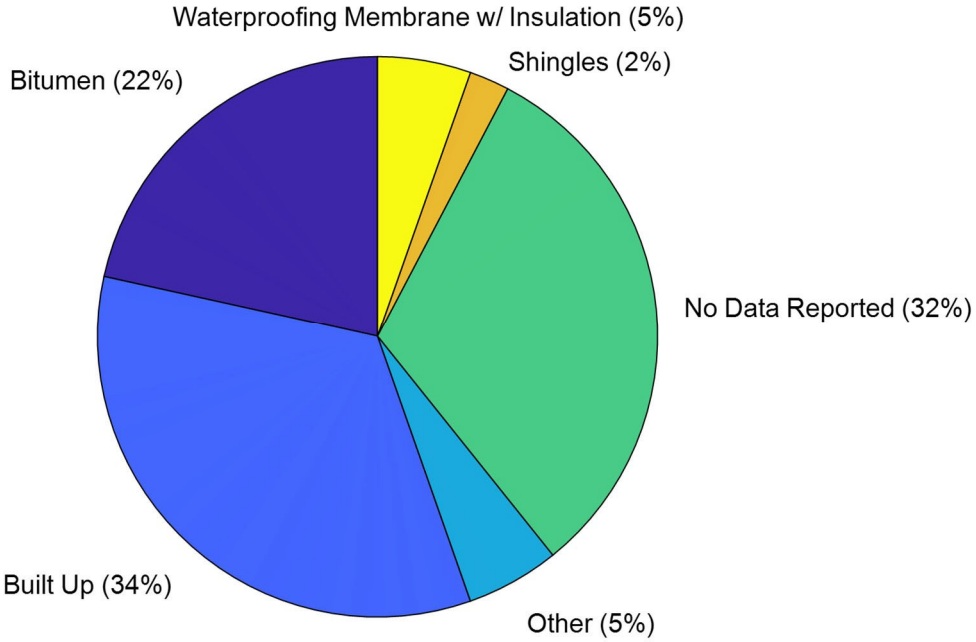

Figure 56. Roof cladding system as reported in the 40-year inspection reports (N=130).

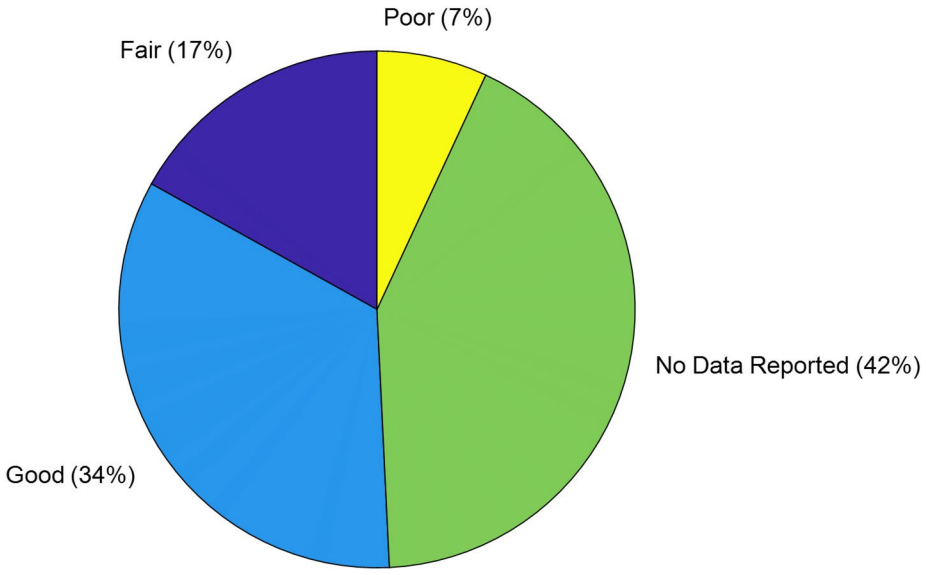

Figure 57. Roof cladding condition as reported in the 40-year inspection reports (N=130).

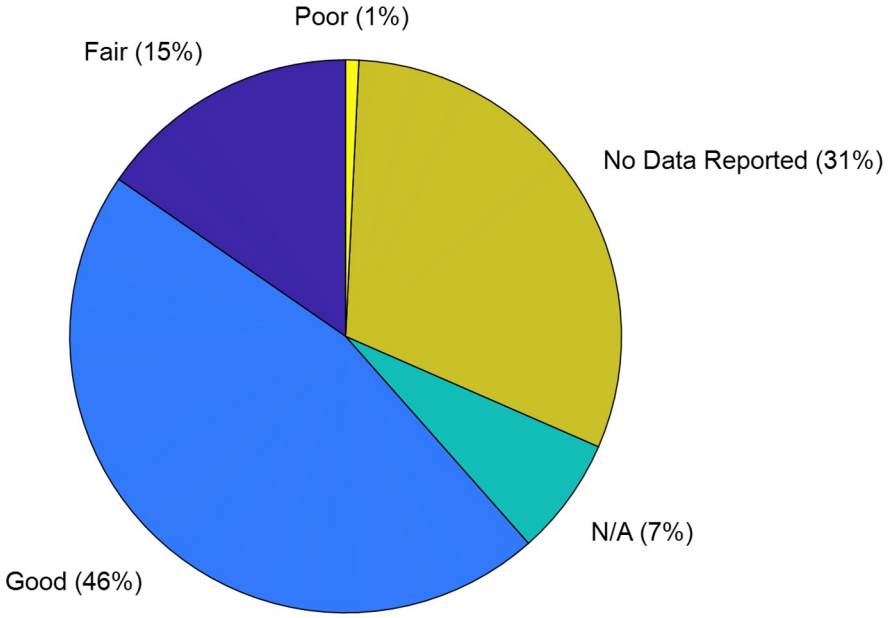

Figure 58. Roof drain condition as reported in the 40-year inspection reports (N=130).

Floor Systems

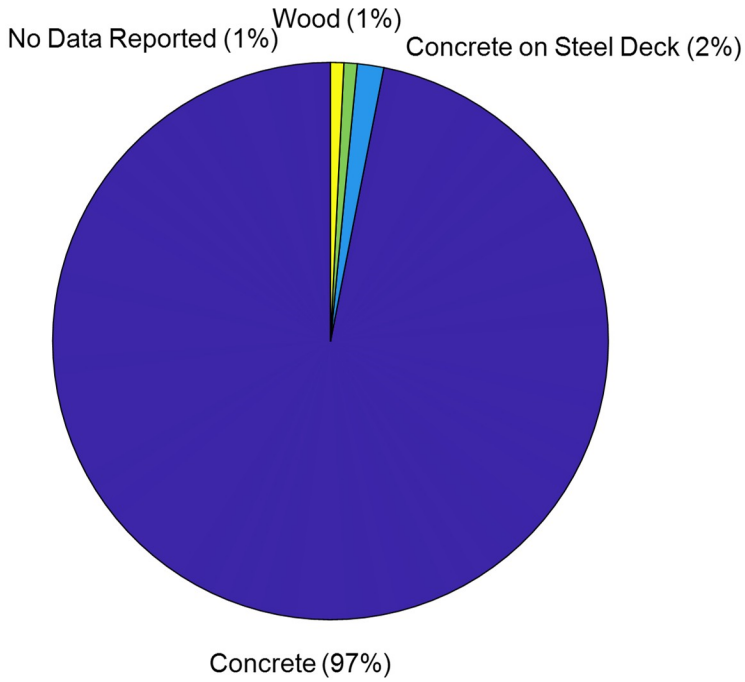

Figure 59. Floor system as reported in the 40-year inspection reports (N=130).

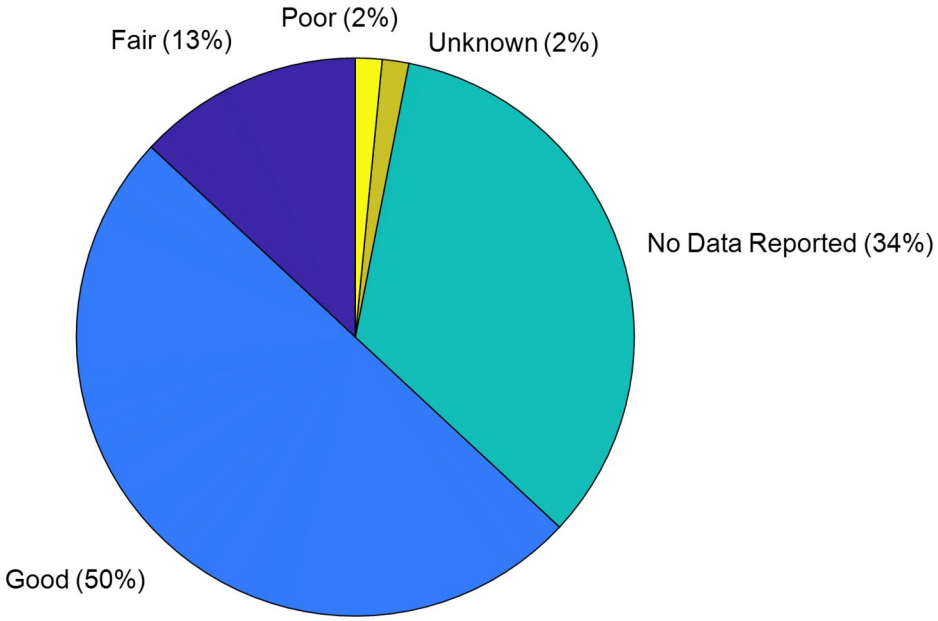

Figure 60. Floor system condition as reported in the 40-year inspection reports (N=130).

Window Systems

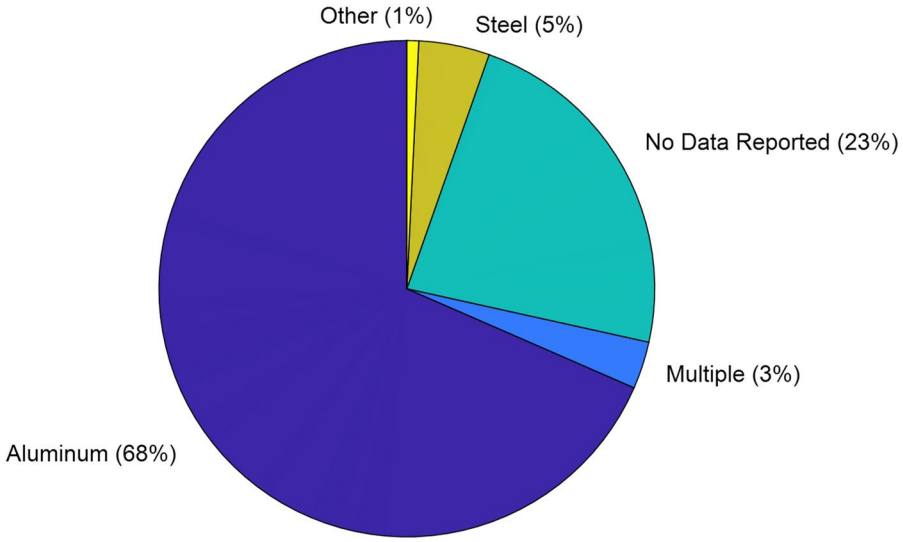

Figure 61. Window type as reported in the 40-year inspection reports (N=130).

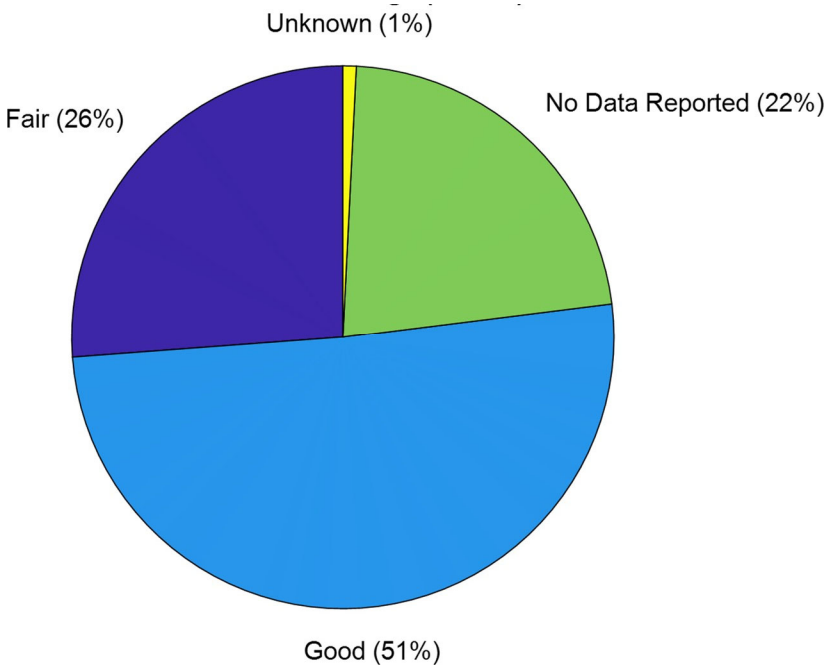

Figure 62. Window anchorage as reported in the 40-year inspection reports (N=126).

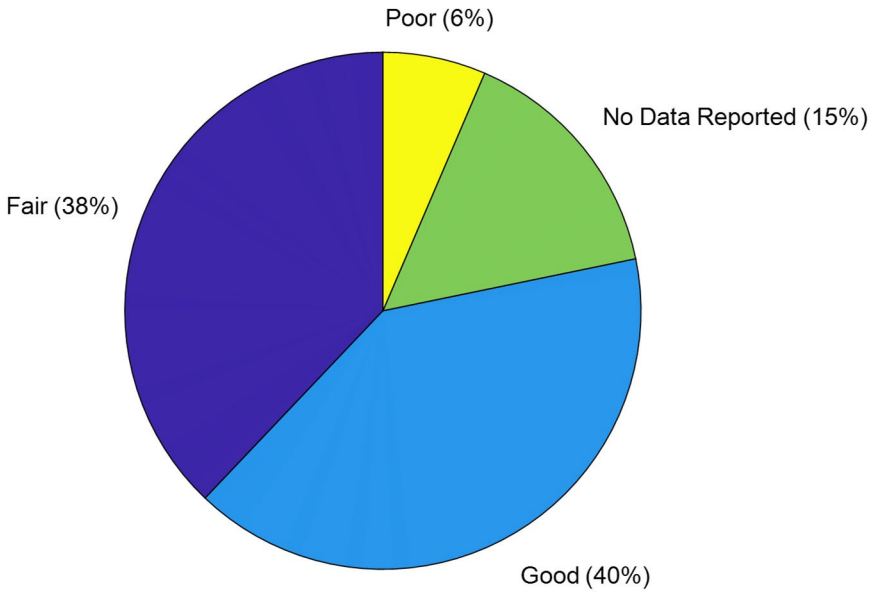

Figure 63. Window seal condition system as reported in the 40-year inspection reports (N=124).

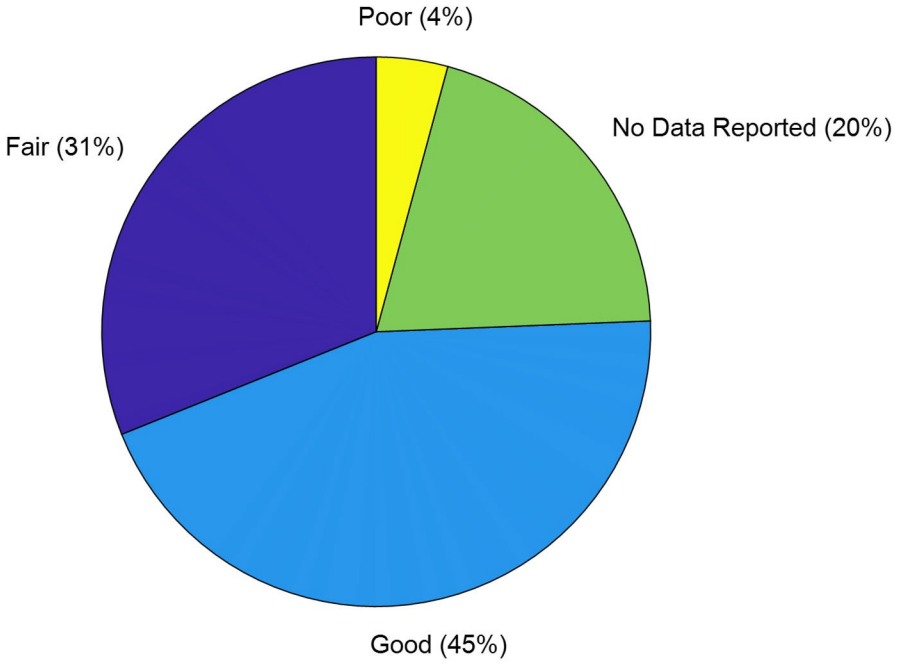

Figure 64. Window interior seal condition as reported in the 40-year inspection reports (N=119).

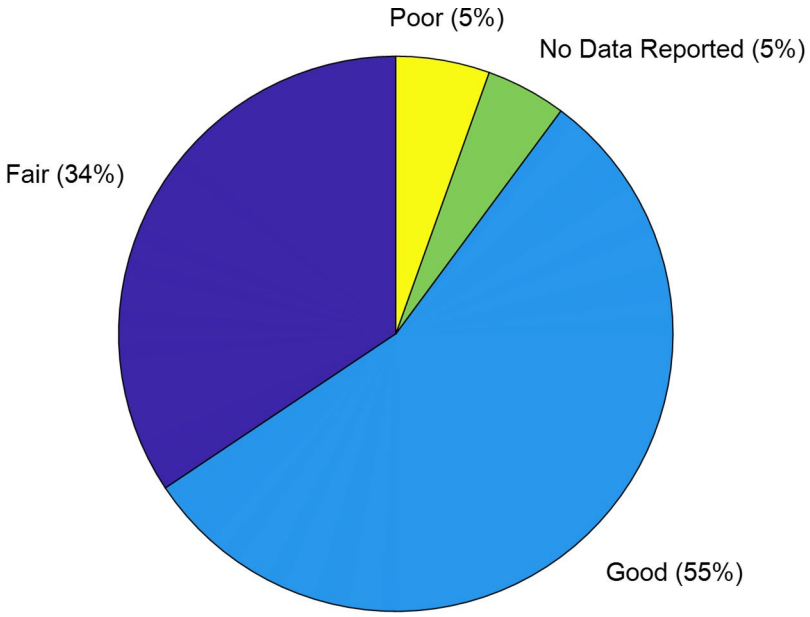

Figure 65. Window general condition as reported in the 40-year inspection reports (N=128).

Appendix D: Statewide Survey of Building Officials – Building Safety Inspection Programs

The University of Florida is conducting a research study on behalf of the Florida Building Commission to assess the 40-year building safety inspection programs in Miami-Dade and Broward Counties. As part of this study, we have also been asked to survey building officials across the state of Florida to determine if any similar inspection programs are in place, planned for the future, or under consideration.

- Q1: What building department do you work for? [*fill in*]
- Q2: What is your position with the building department? [*multiple choice*]
    - Chief Building Official
    - Assistant Building Official
    - Plans Examiner or Inspector
    - Other, please specify [*fill in*]
- Q3: Does your building department currently have building age-based safety inspection program in place? [*multiple choice*]
    - Yes (skips to Q7)
    - No (skips to Q4)
    - Unknown (skips to Q4)
- Q4: Is your building department planning to implement a building age-based safety inspection program in the future? [*multiple choice*]
    - Yes (skips to Q6)
    - No (skips to Q8)
    - It is being considered (skips to Q8)
    - Unknown (skips to Q8)
- Q5: What year will the building safety inspection be initiated in your jurisdiction [*fill in*]
- Q6: What building age/timeline is being considered for your building safety inspection program (e.g. 40 years)? [*fill in]*
- Q7: If available, please provide a link to the relevant ordinance. [*fill in*]
- Q8: Is your jurisdiction experiencing problems/issues with buildings 40 years or older? [*multiple choice*]
    - Yes (skip to Q9)
    - No (skip to Q10)
    - Unknown (skip to Q10)
- Q9: Describe the typical issues observed in buildings older than 40 years in your jurisdiction. [*fill in*]
- Q10: Are there any details or comments you would like to provide about your building safety inspection program or building safety inspection programs in general? [*fill in*]

Appendix E: Survey Results (Q2, Q3, and Q8) with Miami-Dade and Broward County Responses

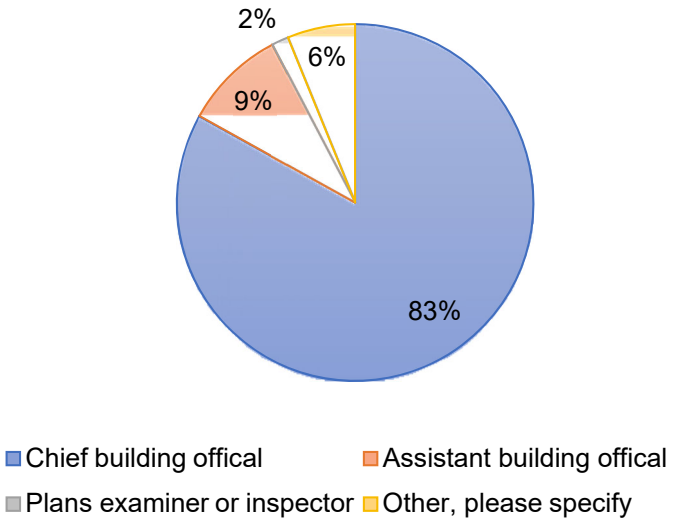

Figure 66. Q2: What is your position with the building department? (N=65)

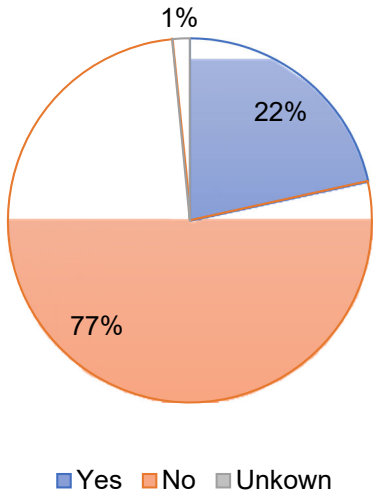

Figure 67. Q3: Does your building department currently have a building age-based safety inspection program in place? (N=65)

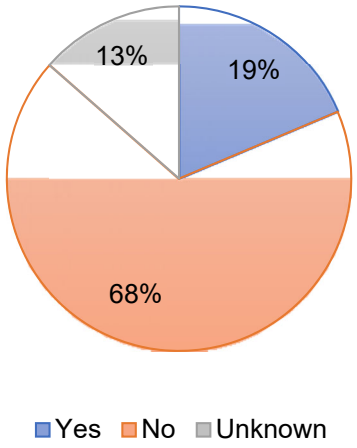

Figure 68. Q8: Is your jurisdiction experiencing problems/issues with buildings 40 years or older? (N=59)

Appendix F: Responses to Q10: Are there any details or comments you would like to provide about your building safety inspection program or building safety inspection programs in general? (N=14)

Our jurisdiction initiated the the original program in 1974, later a similar program was to be adopted by Broward County. Currently we are working to revise and amend our inspection guidelines and template forms.
Who will pay for this and where is this Personel coming from. It's already a struggle to get inspectors and plans examiners. Who will be authorized to conduct these safety inspections ? Engineers, architects, building code admin, threshold inspectors? And how will PP be involved ? My hopes are an engineer or architect. Maybe for a specific height of building it's a threshold inspector. Many variables to work out and it will be a challenge to work out something for the entire state.
Enacted by Broward County Board of Rules and Appeals. As such, all Broward County municipalities must adhere to the rule.
My concern about a building inspection program is will it make a jurisdiction legally liable if the owner of the property does not fix the issues within the timeframe, as in what happened in south Florida.
Ii is difficult to perform a thorough safety inspection without performing destructive inspections in areas of slabs, columns and walls covered by finishes, and without access to areas of the foundation and footings of columns and other load bearing elements. Time that takes to produce proper documentation to apply for permits, higher contractors, obtain approval from HOAs for the costs of performing repair work in builfdings with deficiencies, as reported by engineers.
We are only considering the possibility and that it should be County wide wide regulation. One concern is placing responsibility for maintenance on the Building Department rather than the Condo Association. Certification should be the Condos Responsibility.
a program that includes all buildings of a certain age or older (except single family homes) will likely be deemed onerous, overkill and quite expensive when compared to the fact that older buildings in general are not falling down or causing harm to life safety. The potential may exist but the experience in this country do not support this supposition. In other words, because a building is old does not mean it is automatically unsafe. The existing built environment is much more complex. Lets carefully study the cause of why and when do existing building threaten life safety, and perhaps build a science based program that would assist local governments in addressing those existing building conditions that are likely to cause harm within their communities. An all or nothing approach to existing building recertification will likely not be effective and cause the public to oppose such a far reaching program when most existing buildings are basically maintained in safe conditions.
Please try to inform as many jurisdictions as possible
We are not pursuing an inspection program. Only looking into it and what all might be required.

Building Safety 40 recertification is only one aspect when considering the serviceability and life expectancy for any structure. One must consider in addition to the maintenance and upkeep, the Design Criteria used for the structure, Safety factor used by the designers, possible design miscalculations and flaws, the Construction Quality provided by the contractors, workmanship, Inspection errors or omissions made by inspectors, plan review errors or omissions, natural phenomenon and type of weather exposure and the frequency or even the quantity of tolerated extreme events that the structure might have been subjected to, the additional loads that might not have been calculated for or foreseen by the original designers.
I think having a state wide safety inspection on all multi family and commercial buildings 4 stories and above would be prudent. I would recommend re-certification every 20 years. I believe 40 & 30 years is too long to wait for the first inspection. After the first re-certification is completed and passed after 20 years I believe a reinspection after another 20 period interval would be sufficient if no issues were found. If there were major issues discovered at the first 20 year certification I believe a reinspection after 10 years would be necessary.
Typically the Fire Marshal's office is responsible by Statute. The permitting process is where usually when we get involved in addressing existing conditions of a building.
We perform site visits to all buildings over 3 stories to verify the adequacy of the report provided prior to recertification.
We are not aware of any building issues in our jurisdiction. Questions by residents have been made and inquires addressed. Enforcement of any programs could be a problem. While the AHJ may be able to implement a violation or sanction the HOA may not have the reserves to make the necessary repairs.
There are no provisions under the Florida Building Code to inspect buildings once the Certificate of Occupancy is issued. To implement a program to inspect existing buildings of a certain age after the C/O is issued would require additional personnel and resources that is not readily available. Also, building inspectors are trained to inspect new work, alterations and repairs in accordance with the building code. To inspect existing building for potential failures would be the job of a licensed professional engineer or architect unless additional training becomes available for licensed inspectors to be able to recognize failures and their causes, beyond what's in the building code.
The owner conducts a comprehensive building condition assessment on all facilities on a 5 year cycle
some reports are received with little or no problems, where some have timely concrete restoration necessary.
This is going to be a hard task in general. You have aging buildings across the state but the department staff work for municipalities, who are governed by elected officials, No one wants to hear that a building needs repairs or even worse its unsafe. So for a municipality to "volunteer" to do safety inspections is going to be a long road.
Recent meetings by the Ad Hoc committee formed by Broward Mayor Steve Geller will be sending 17 recommendations to the Florida Legislature covering a myriad of issues from structural integrity, inspection dates, education requirements for Condominium Association members and reserve funds for mitigation of building deterioration

The program will require all owners of all Post CO threshold buildings be inspected by a certified professional engineer/architect as defined in Florida Statutes. A report must be written under seal of the special inspector and shall attest to the required maintenance, structural integrity, useful life and replacement costs of the common elements. This report shall be provided to the City of [redacted] Building Division and the Building owner of their findings and recommended repairs within (90) ninety days of such inspection or (90) ninety days of the end of the 10-year period. Any structure that is deemed in immediate threat to the structure's