

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

Interim Report

February 28, 2022

Florida Department of Business and Professional Regulation
Florida Building Commission

and

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

Executive Summary

The objectives of this study are 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 are 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 have been requested from five municipalities in each of Broward and Miami-Dade Counties. These municipalities were selected based on their relative size and number of 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. To date 338 inspection report records have been requested and 248 have been received. Additional reports and supplemental information on received reports will likely be requested as the analysis of the reports progresses.

A spreadsheet has been created to ensure consistent data extraction from the inspection reports. The sheet captures both information about the inspection process and the reported condition of the building. While inspectors use the same basic inspection form (with slight variation between the two counties), there is a lot of variation in how the forms are completed. To address this variation, a set of fixed responses was developed for each portion of the inspection form as dropdown menus in the data collection spreadsheet. These fixed response menus ensure standardization of the data being collected to enable subsequent data aggregation and analysis. Such an approach introduces a minimal requirement for interpretation of inspector responses; however, these interpretations are carefully documented to ensure consistency in the extracted data. As of this interim report, the data extraction and categorization methodology has been completed for the Miami-Dade County inspection reports and 33 reports (all from the City of Miami Beach) have been processed. The same methodology will be mapped to the Broward County inspection reports so that the data from both counties can be aggregated for analysis. The rate of inspection report processing is expected to increase with the standardized data collection approach now established. Study tasks associated with data analysis and recommendations for a building inspection and condition database have yet to be initiated.

A survey was developed and distributed to building officials throughout the State of Florida 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. With 70 geographically distributed responses, the results indicate that there are currently 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.

1 Introduction and Background

1.1 Project objectives and scope

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 is to conduct a preliminary assessment of the 40-year inspection reports for non-exempt structures in Miami-Dade and Broward Counties to catalog types of reported structural deficiencies. This interim report study will provide a broad account of the reported condition of the region's building inventory and insight on how inspections are conducted, how repairs are documented, and how reports are recorded and maintained. These data will build the foundation for a comprehensive assessment of current building structural inspection practices that can be used to develop recommendations for new practices to enhance the safety of Florida's building stock. An additional objective of this project is 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 consists 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: Database recommendations
- Task 6: Statewide inspection survey

As of this interim report, Tasks 1 and 2 are near completion, Task 3 is underway, Tasks 4 and 5 have yet to be started, and Task 6 is complete. This report provides the progress and relevant outcomes for each task completed or underway.

1.2 Building inspection programs

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 no qualification program or requirement for inspectors in either county at this time.

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 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 Task 1: Scope assessment

2.1 Task 1 Objectives

The purpose of this task was to survey building departments in Miami-Dade and Broward Counties to assess inspection program data accessibility and availability and to select a subset of jurisdictions from each county for which records will be requested for analysis in subsequent tasks. This task also involved assessment of record availability and methods for accessing records from each jurisdiction.

2.2 Task 1 Progress

2.2.1 Approach

With tens of thousands of buildings in the 40-year inspection program across both counties, the approach to this task 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. Following these meetings, 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 with property appraiser 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 initial 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. Introductory 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). The Cities of Miami and Miami Beach provided additional guidance on records selection. Miami Beach maintains a Citizen Self Service website that allowed the research team to search for properties with a greater time between when the inspection notice was issued and when recertification was completed, potentially indicating that repairs were performed between initial inspection and building recertification. The City of Miami provided a list of properties that had received violations, also more likely to include buildings with structural deficiencies. These resources aided in the selection of some of the properties in these cities; the remainder of the properties were selected according to the general approach for all municipalities.

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 buildings was included in the request.

2.2.2 Outcomes

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 on February 10th, 2022. Additional requests may be made once all requested records are received or accounted for and once an estimate of processing time per report can be assessed.

For the reports received to date, there was an average of 42 days between the request for records and the receipt of the report or notice of report unavailability. Some of the municipalities have completed their response to the request with a number of reports missing or with incomplete responses. Reasons provided for missing reports are most often that the inspection and/or recertification is overdue and thus no inspection report exists. In other cases, missing reports are simply noted as "unavailable" with no reason provided (even when a follow up request for this information is made). Some of the requests most recently initiated with municipalities have yet to be completed (Hialeah and Hallandale Beach).

Table 1 summarizes the number of reports 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 received by county.

	Broward	Miami-Dade	Total
Number Requested	116	222	338
Number Received	79	164	243
Percent Received	68%	74%	72%
Average Days to Receive Reports	45	40	42

No travel has been required to access records; therefore, project funds originally allocated for travel have been reallocated to pay research and records fees required by some municipalities.

While a complete assessment of the records received is ongoing, some initial observations have been made on the files that have been reviewed. First, almost all reports received are 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 is a mix of detail provided in the responses by different municipalities. Some include only the completed inspection form, without an accompanying report and/or photos, while other records are extensive and include all correspondence, permits, and follow-up inspections. The preliminary inspection form (prior to repairs being made, if required) is adequate for this project; however, supplementary information can be useful in cases where the inspection report responses are inconsistent or incomplete.

For some properties, the municipality has 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 have only provided the final inspection report (after repairs have been made), making it difficult to record the original deficiencies. The research team will follow up to determine whether the preliminary inspection reports can be provided for analysis. Buildings that have received proactive maintenance will also result in inspection reports where repaired deterioration may not be noted.

For some municipalities in Miami-Dade County, multiple inspection reports may be available for some buildings, including the 40-year inspection and subsequent 10-year anniversary inspections (50-year, 60-year, etc.). While the records request was for the most recent inspection report, sometimes all records for a property have been provided. For the primary data aggregation task in this project, only the most recent 40-year or 10-year anniversary report will be recorded (to provide a snapshot of the current state of the building stock); however, these earlier reports will be retained for a separate analysis of building maintenance history and condition over a longer period.

3 Task 2: Data classification methodology development

3.1 Task 2 Objective

The objective of this task is to identify appropriate methods for data categorization and classification based on the data in the available inspection reports and the objectives of the research project. Inspection reports and accompanying property appraiser data are being used to classify the building data based on desired reporting outcomes.

3.2 Task 2 Progress

The standard inspection report formats for Miami-Dade and Broward Counties (see Appendix A) are very similar but not identical. As a result, the research team first developed the data extraction and classification framework for Miami-Dade inspection reports. With this methodology finalized, the next step is to map it to the inspection form for Broward County so that consistent data is extracted from inspection reports generated in both counties.

3.2.1 Approach

Property appraiser data and the standard inspection form for Miami-Dade County provided the general framework for the data categories developed for this project and an Excel spreadsheet has been created for data extraction and recording. Although a common inspection form is in use, the way that inspectors complete the form 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 can be aggregated for consistent data reporting and analysis. This approach enables standardization of the inspection results but does require the research team to make judgements for some inspection form responses. Careful documentation on how responses are standardized is being maintained as part of the data extraction process.

3.2.2 Progress

The Excel spreadsheet created for data collection is 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 is accounting 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 have been developed for data fields including building use, inspector title, primary structure type, window type, exterior cladding, and defect severity. Some reports indicate the presence of a defect with different severity in different locations. In these cases, the most severe defect is reported in the data collection spreadsheet, and the other degrees of severity are kept in notes.

4 Task 3: Data aggregation and classification

4.1 Task 3 Objective

The objective of Task 3 is to evaluate available inspection reports and accompanying property appraiser data to extract data into a spreadsheet according to the classification methodology developed in Task 2. Data collected will be anonymized such that reported results and analyses do not identify specific jurisdictions, buildings, or inspectors. The purpose of this task is to record relevant data for analysis and reporting and to determine the potential for the development of a building inventory classification system for condition assessment based on existing inspection reports.

4.2 Task 3 Progress

This task is underway following the finalization of the assessment methodology for Miami-Dade County inspection reports. Some of the data extraction and classification was conducted in parallel with the data extraction methodology development to aid in its development. To date, 33 inspection reports have been processed (14% of received reports), all from the City of Miami Beach.

5 Task 4: Data analysis

Upon completion of Task 4, the aggregated inspection and building data shall be analyzed to generate statistics on reported building conditions and inspection practices across a wide range of building, code, site, maintenance, and inspection metrics. This shall include identification of any observed patterns or trends in the data and preparation of appropriate tables and figures to communicate the analysis results.

Development of the data categorization and extraction methods in Task 2 requires consideration of how the data will ultimately be analyzed. While this task requires the completion of Tasks 2 and 3, some analysis approaches are under initial development and consideration. One of the metrics of interest is how the building condition relates to the distance to the coast. An Excel tool has been adapted to convert addresses to coordinates that can then be used to measure the distance to the coast automatically with mapping tools.

6 Task 5: Database recommendations

Recommendations for a comprehensive, scalable building condition database will be developed that can be used for ongoing state-level building condition assessment and evaluation of current inspection practices. The Excel spreadsheet is being developed in Task 2 and in use in Task 3 will provide the basis for this recommendation.

7 Task 6: Statewide inspection survey

7.1 Task 6 Objectives

The objective of this task was to develop and distribute a brief survey 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. Another purpose of the survey was to record whether the other building jurisdictions report experiencing any other problems/issues with buildings 40 years or older.

7.2 Task 6 Results

7.2.1 *Survey Development and Distribution*

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

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 C provides the results for these questions including Miami-Dade and Broward Counties. Not all respondents completed all questions.

Figure 2 shows the distribution of positions of the respondents, with most being the Chief Building Official for their jurisdiction.

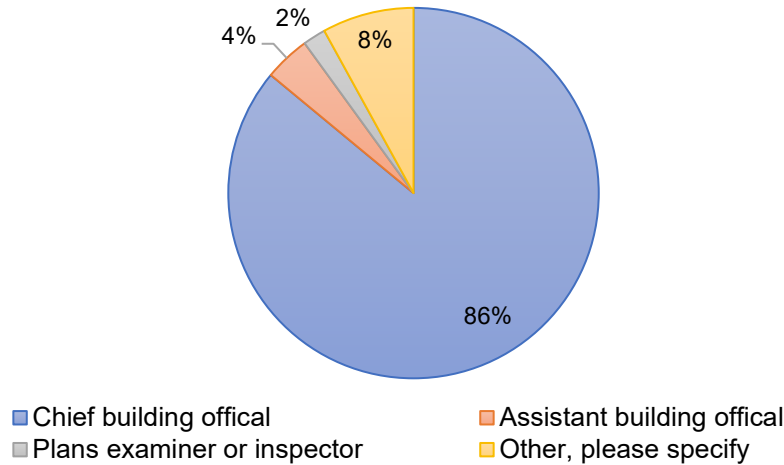


Figure 2. Q2: What is your position with the building department? (N=50)

Figure 3 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.

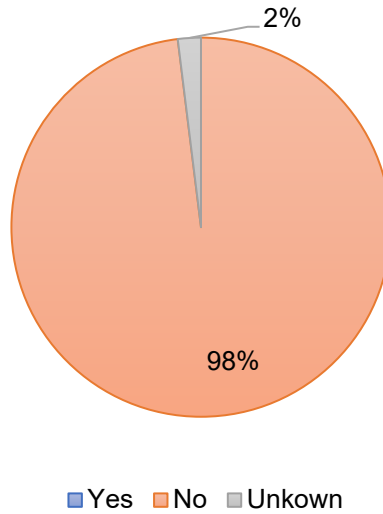


Figure 3. Q3: Does your building department currently have a building age-based safety inspection program in place? (N=51)

Figure 4 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.

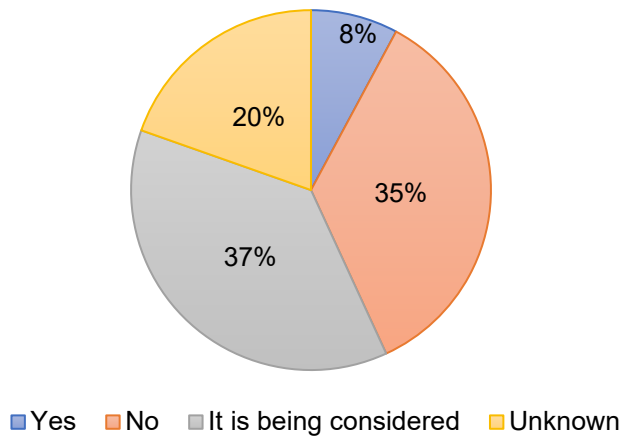


Figure 4. Q4: Is your building department planning to implement a building age-based safety inspection program in the future? (N=51).

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 2. None of the jurisdictions planning or considering an age-based inspection program provided a link to their ordinance (Q7).

Table 2. 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 5.

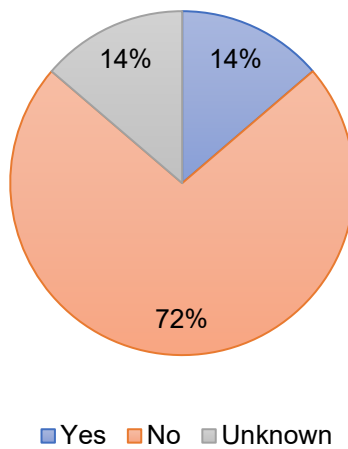


Figure 5. Q8: Is your jurisdiction experiencing problems/issues with buildings 40 years or older? (N=51)

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.

Based on the survey responses, the results indicate that there are currently no jurisdictions in Florida with building age-based inspection or recertification programs outside of Broward and Miami-Dade Counties. In addition, 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 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.

8 Summary

As of the date of this interim report, the project is progressing approximately on schedule. Sizable effort was required to develop the framework for the database because of variations in inspector responses, and the variability of what was provided by the municipalities in response to the records requests. With a consistent data extraction methodology now in place, we anticipate that the pace of review of the reports will accelerate. With the progress to date and barring any unanticipated challenges, we anticipate remaining on schedule to complete this project as scoped by June 30, 2022.

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



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
Type of Construction
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 #



Seal

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

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 warranty for any portions of the structure.

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



MINIMUM INSPECTION PROCEDURAL GUIDELINES FOR BUILDING STRUCTURAL RECERTIFICATION

INSPECTION COMMENCED Date: _____

INSPECTION MADE BY: _____

INSPECTION COMPLETED Date: _____

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 cotta 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
I. 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: 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 C: Survey Results (Q2, Q3, and Q8) with Miami-Dade and Broward County Responses

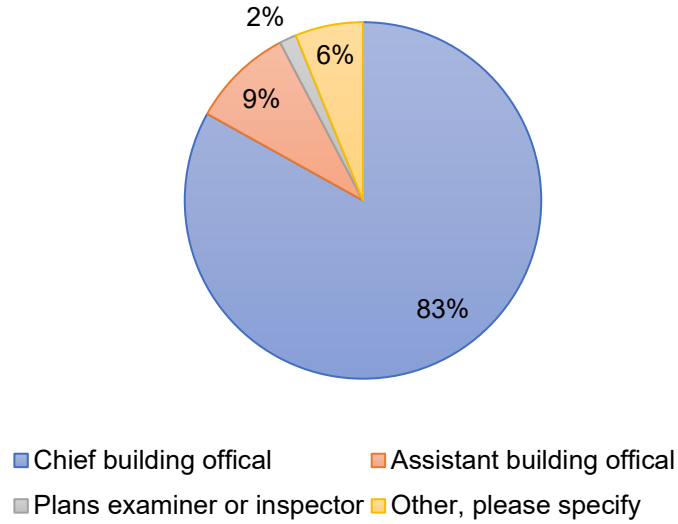


Figure 6. Q2: What is your position with the building department? (N=65)

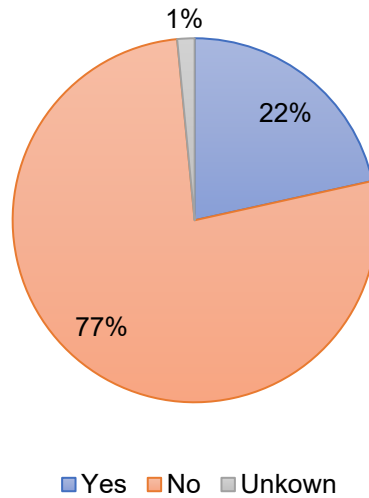
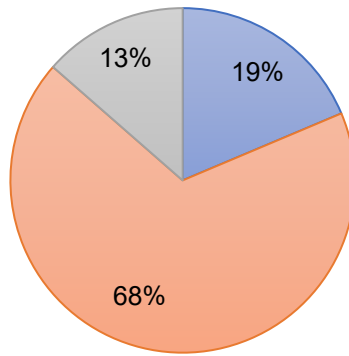


Figure 7. Q3: Does your building department currently have a building age-based safety inspection program in place? (N=65)



■ Yes ■ No ■ Unknown

Figure 8. Q8: Is your jurisdiction experiencing problems/issues with buildings 40 years or older?
(N=59)

Appendix D: 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)

<p>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.</p>
<p>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.</p>
<p>Enacted by Broward County Board of Rules and Appeals. As such, all Broward County municipalities must adhere to the rule.</p>
<p>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.</p>
<p>li 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.</p>
<p>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.</p>
<p>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.</p>
<p>Please try to inform as many jurisdictions as possible</p>
<p>We are not pursuing an inspection program. Only looking into it and what all might be required.</p>

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 Destin 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