

Demolition and Adaptation Database



Introduction

The Learning Buildings Research Group (LBRG) at Clemson University invites your participation in the creation of a first-of-its-kind worldwide Demolition and Adaptation Database (DaAD). The DaAD is being created as an open resource for academics and professionals and will provide a new ledge for understanding, modeling, and facilitating building adaptation.

Work of the LBRG, including creation of the DaAD, is based on the underlying philosophy that adaptability is the essential characteristic of sustainable, resilient, and relevant buildings. Buildings that can be readily adapted will continually satisfy the dynamic physical and functional demands of modern society; static, non-adapting buildings will soon become deficient and obsolete. Your participation will help to unlock the economic, social, and environmental benefits of adaptable buildings.

Target Participants

We seek participation from anyone having knowledge of specific building demolition or adaptation projects, including:

- Building owners/managers,
- Architects,
- Engineers,
- Developers,
- Contractors,
- Project managers, and
- Public officials.

Those having knowledge of projects involving adaptation of portions of a building and complete demolition of other portions of the same building are especially encouraged to participate.

Participant Activities

You can participate by entering one or more projects into the DaAD. A web tool is provided to guide and streamline data entry. Entering a project takes approximately 1 to 1.5 hours; data entry need not be finished in one sitting. To participate you will need:

- Access to pre-demolition/adaptation building plans,
- Basic information on the motivation for the demolition/adaptation,
- Basic information on the technical features of the pre-demolished/ adapted building, and
- Basic information on the community surrounding the building.

Participant Benefits

In addition to the significant indirect benefits arising from this research endeavor, participants may also receive:

- Acknowledgement on the LBRG website,
- Access to a no-cost professional development course, and
- Access to research updates and materials from the LBRG.

Principal Investigator:

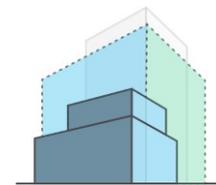
Brandon E. Ross, PE, PhD

bross2@clemson.edu

Graduate Research Assistant:

Zoraya Roldán Rockow, PMP

zrockow@clemson.edu



**Learning Buildings
Research Group**

www.learningbuildings.com



**National Science
Foundation**

NSF CMMI Grant #1553565

Prior Preparation for Project Entry

Checklist

1. Select project type: You will need to select the appropriate project type before answering any questions. We will guide you through the steps once in the workshop; however take the time to identify what type of project you will be entering. Reference the “How to Pick a Project section”.
2. Project drawings for pre-adapted condition (or pre-demolition, as applicable) and new design layout will be needed.
3. You must have scalable hard copies or electronic copies (PDFs) of drawings in order to measure dimensions.
4. Prior knowledge of pre-adapt/demo condition will be needed for the project, including architectural layout, structural, foundation, façade, mechanical, electrical, and plumbing.
5. Prior knowledge of motivations for the project is needed. I.e. why was the building adapted instead of demolished and/or why demolished instead of adapted?
6. Bring your own laptop with associated files and access to an internet browser.

How to Pick a Project

Below is a list of types of projects that are relevant to this research and the database. The next page provides some example questions to further assist participants in identifying relevant projects. For questions regarding project selection and which category to use in the database, contact zrockow@clmson.edu and indicate “DaAD Question” in the subject line.

1. Mixed Adaptation/Demolition Project

Involves complete demolition of a building portion **and** adaption of the remaining portion(s) of the building. It is expected that some building systems in the adapted portion will be demolished/replaced. *These projects are of special interest to the LBRG’s research.*



2. Demolition Project

Involves **complete** demolition of a building. *These projects are of special interest to the LBRG’s research.*



3. Adaptation Project

Involves adaptation of a building. In this option it is expected that some building systems will be demolished/replaced as part of the adaptation. This also includes building expansions.



4. Section/Wing Demolition Project

Involves complete demolition of a building portion. An example is an entire wing of a building that was completely demolished.



Data management / Identifying information

The project's *Data Management Plan* (submitted to NSF as part of the accepted research proposal) includes the following: "Companies and individuals providing data for the DaAD may choose to have identifying information (e.g. project address) omitted. The research team will strictly comply with such requests. Contact information will be collected for companies and individuals who assist in populating the database; however, this information will be stored separately from the DAaD on a Clemson University computer controlled by the Principal Investigator (PI) and will not be shared." With only a few exceptions, the information that can be entered into the DaAD is general and non-identifying. **Participants can provide identifying information on projects if they wish to, but it is not required. Identifiable information, if provided, will not be shared outside of the LBRG.**

Reminders

- Data entry may take 1-1.5 hours depending on the type of project selected.
- Data entry need not be finished in one sitting; periodic saving is available per section.
- Detailed instructions to begin data entry are available upon request. Please contact zrockow@clemson.edu.

Example questions encountered in the DaAD

(The questions below are for an *Adaptation* project.)

(A-1) Although the building was adapted, would demolition have been a practical option for the following criteria:

	Impractical	Marginally/moderately impractical	Marginally/moderately practical	Practical	Don't know
Economically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Legally/socially	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physically/technically	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(SP-8) Typical upper floor: Prior to adaptation, what was the typical distance from finish floor to finish floor? Do not consider atriums or other vertical openings for this question. If this is a two-story building, enter dimension from the finish second floor to the bottom of roof structure.

 ▾

(Ser-21) Prior to adaptation, was the lighting system characterized by repetitive/interchangeable elements?

- Completely
- Mostly
- Somewhat
- Not at all
- Don't know

(Str-4) What is the design live load (LL) used in the original (pre-adaptation) design? (If the live load varies, enter the value that covers the greatest portion of the building. If the design live load is not known, input the live load associated with the current occupancy.)

(SP-1) Main floor: Draw rectangles on the pre-adapted floor plan such that they do not cross through each other or structural elements. Limit the aspect ratio of the rectangles to approximately 1:10. Draw up to five rectangles and draw them such that they cover as much of the floor area as possible. What are the sizes of the rectangles? Also, what percentage of the floor area is covered by the rectangles? (Enter numbers with no commas or decimals. If you draw fewer than five rectangles, enter 0 as the area for each unused rectangle.) [Click here for more info.](#)

Figure: Examples of SP-1 rectangles

