



Visual Categorization of Buildings

Concrete Coalition Toolkit

About the Concrete Coalition

- ▶ The Concrete Coalition is a network comprised of individuals, governments, institutions, and agencies with an interest in assessing and mitigating the risk associated with dangerous non-ductile concrete buildings.



The Concrete Coalition Toolkit

- ▶ The components of the concrete coalition toolkit provide details about ways you can assess the risk and move towards solutions in your community



Visual Categorization

Developing Strategies

- ▶ **Objective:** The goal of categorizing a building stock is to look for model building types that can be used to determine the behavior of 5–10 categories of buildings versus individual studies on every building in an inventory



Visual Categorization

- ▶ One method to categorize buildings is to do a visual categorization using building images collected during virtual or sidewalk surveys
- ▶ The visual categorization process is quick and lends itself to crowd-sourcing
- ▶ The process outlined in this presentation assumes that you already have an collection of images of potentially vulnerable reinforced concrete buildings. (if you don't, see the presentations about conducting sidewalk or virtual surveys)



Get started

- ▶ Select the best photo for each building in your inventory and place them all in a single (develop a file naming convention to help keep things organized)
- ▶ Next, determine if there are any types of buildings that are not of concern (ie schools, 1-story buildings*)
 - Photos of these types of buildings should be removed before starting the categorization



*Examples only, your knowledge of the building stock will dictate what types, if any, of building will not be considered

Categorize those buildings!

- ▶ The categorization process is straight forward and intuitive, but requires some flipping back and forth through your photo collection
- ▶ A quick, first pass will help you identify major categories
 - using a large screen to thumbnails of many images at once is very helpful – keep a growing list of categories
- ▶ Look for visual patterns in building construction
 - Categories will develop organically as you view the photos
- ▶ When you see two buildings that are visually similar, create a new folder and lump them together and call them a category



General Guidelines

- ▶ Don't force buildings into categories, you may have a number of buildings that don't fit into categories, but this number might be smaller than you anticipate
- ▶ Once all your buildings are categorized you are done.
- ▶ These categories represent the model-type buildings in your community
- ▶ Buildings that look the same may have similar performance
 - This can be tested by conducting analyses of two or three representative buildings from each category



Next steps

- ▶ Conducting an analysis for a representative building from each category will provide insight about the general performance of this category of building which can help identify which building types pose the largest risk
- ▶ The procedure for conducting these representative analyses is currently being developed as an additional toolkit item.



Resources

- ▶ Downloadable checklist
- ▶ PDF/Powerpoint files of presentation
- ▶ Completed and ongoing efforts

All available at:

www.concretecoalition.org/tool-kit/visual-categorization

