Building for Earthquakes

I) One crucial feature in building occupant survival is: shear strength. Using the wall model, see how it behaves without shear strength under horizontal shaking.

Write down your observations:

Now increase the wall strength on the bottom with one index card (& 4 clips) on the first floor.

Write down your observations:

Draw your model:

Keep the index card attached; Increase the wall strength on the second floor with paper strips & clips.

Write down your observations:

Draw your model:

Keep the paper strips & the index card, for the third floor use string.

Write down your observations:

Draw your model:

Now build your own building, using cardboard & tape. Only use one meter of scotch-type tape. Only use one soda box for the cardboard. Cut the cardboard into strips. Width of the strips can be varied from about 1-2cm. It will be difficult to design & build a successful bldg with thinner strips. A reasonable choice is 2cm strips for uprights and 1.5 cm strips for reinforcing. Your building should have 4 floors & a roof and be at least 45cm high. The roof needs to be strong enough to hold weights up (called a dynamic load test). It will put on shake table & tested. I will attach to that table by clamps, so should be designed for that. The table is about 10cm wide.

Points will be awarded for innovation in design and for building survival time.