Table 1 summarizes the building parameters and the dynamic characteristics obtained from system identification analysis of these earthquake records:

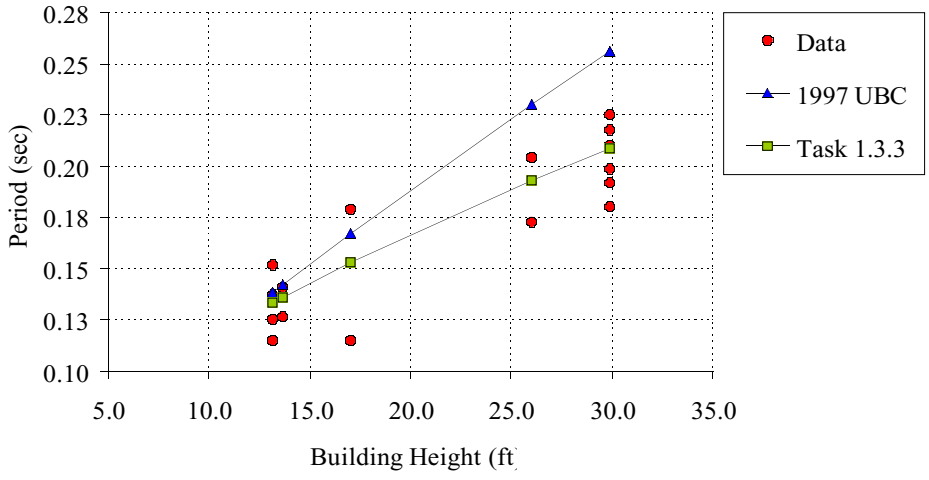
Table 1

		San Bernardino			Parkfield		Bishop	Indio	Eureka
Building Height (top of roof)		29.9’			13.2’		17’	13.7’	26.0’
Length:	(Longitudinal)	180.5’			48’		62’	298’	80’
	(Transverse)	132’			30’		50’	148’	54’
Date of Earthquake		6/28/97	7/26/97	3/11/98	4/4/93	12/20/94	5/17/93	7/25/97	2/8/95
Magnitude (M_L)		4.2	3.7	4.5	4.2	4.7	6.0	4.9	3.9
Peak Response		9.2%g	7.8%g	7.1%g	12.3%g	20.1%g	4.4%g	8.2%g	6.2%g
Total Drift (mm):	(Longitudinal)	0.7	0.7	0.8	0.5	0.9	1.2	0.4	0.4
	(Transverse)	0.6	0.7	0.7	0.5	1.5	0.3	0.2	0.5
Frequency (Hz):	(Longitudinal)	**4.6**	**5.0**	**4.4**	**7.3**	**6.6**	**8.7**	**7.9**	**5.8**
(First Mode)	(Transverse)	**5.4**	**4.8**	**5.6**	**8.7**	**8.0**	**5.6**	**7.1**	**4.9**
Damping (%):	(Longitudinal)	13.6	14.1	7.7	11.6	10.8	12.2	8.9	16.5
(First Mode)	(Transverse)	17.3	6.9	11.7	14.2	15.3	7.0	6.3	14.9

We are currently performing field testing (ambient and forced vibrations) of wood buildings, and the results from system identification of the test data will be added to the table above. Upon completion of this task, we expect to have an extensive database of periods and damping ratios, which will greatly improve our current understanding of the dynamic behavior of woodframe structures.

Using the results from the analysis of the earthquake records, we have performed a preliminary regression analysis using building height as the only regressor. The best-fit curve for the data set, which gives the median period for the given regressor value, follows the relationship $T = 0.0323h_n^{0.54}$

Figure 1:



This analysis will be revisited once we have acquired additional data, which will make it possible to evaluate other regressors and to obtain a more accurate period formula.