

Seismic Risk Rating of California Superior Court Buildings

A REVIEW BY JUDICIAL COUNCIL
CAPITAL PROGRAM AND
RUTHERFORD + CHEKENE



JUDICIAL COUNCIL
OF CALIFORNIA

OPERATIONS AND PROGRAMS DIVISION
CAPITAL PROGRAM

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EXECUTIVE SUMMARY

This report describes updates and revisions to the database of seismic risk ratings for California court buildings; a Seismic Risk Rating tool to gauge the relative risk to life safety, which is indicative of the degree of damage from a seismic event; and a cost model to perform structural strengthening for those buildings in the database which represent the greatest seismic safety risk.

In 2003, the Office of Court Construction and Management of the Administrative Office of the Courts (AOC, now the Judicial Council of California) initiated a seismic assessment program to ascertain the seismic performance of court buildings statewide in preparation for transfer of ownership and management responsibility for trial court facilities from the counties to the state. The Summary Report of Preliminary Findings, dated January 2004, documented the preliminary findings of that seismic assessment program which was conducted in accordance with the Trial Court Facilities Act of 2002 (Sen. Bill 1732, [Escutia]). The act established the process for affecting the transfers and required that the state evaluate buildings containing court facilities for seismic safety. Buildings were required to meet the seismic criteria set forth in the act to be eligible to transfer, unless provisions were made for correction of their deficient items. The background and detailed provisions of the seismic assessment program are discussed in the following sections of this report.

The Trial Court Facilities Act specified that the seismic evaluations be performed according to procedures developed by the California Department of General Services (DGS). The technical evaluation method used by the DGS was based on a document developed by the Federal Emergency Management Agency (FEMA) and published as ASCE 31, *Standard for the Seismic Evaluation of Buildings*. These procedures resulted in structures being assigned a seismic risk level ranging from I to VII, with Risk Level I representing the best performance and Risk Level VII representing the worst performance. The act specified further that Risk Levels V to VII represented an “unacceptable seismic safety rating.” (Gov. Code, § 70301(l).) Hence the distinction between buildings rated as Risk Level IV (or better) and Risk Level V (or worse) was paramount. Of the 300 building segments (termed structures) considered in the 2003 seismic assessment program, 72 were assigned ratings of Risk Level IV and 228 were assigned ratings of Risk Level V (including 81 assigned Risk Level V-Pending due to inadequate information).

Subsequent to the 2003 seismic assessment program, the AOC embarked on a major capital building program intended to replace and/or consolidate existing court facilities largely through the construction of new court buildings across the state. Although this Trial Court Capital-Outlay Program did not include seismic risk reduction as one of its objectives, 33 existing structures—26 of which were rated as Risk Level V—were removed from the inventory of court buildings as a consequence of it.

In late 2015, the Judicial Council Capital Program Office updated the court building database to reflect changes to the inventory that had occurred in the intervening years since 2003 primarily due to closure of court building due to funding reductions, and the

capital building program. In the process of performing this update (which also significantly enhanced the functionality of the database by incorporating key building attributes), the total number of building structures in the database was reduced from 300 to 227. Currently there are 352 superior court buildings actively used in California, including courthouses, office and storage buildings. The 2003 seismic assessment program as well as this current update only considers court facilities which have not been exempted by criteria included in Senate Bill 1732. The majority of court buildings evaluated have a Risk Level V.

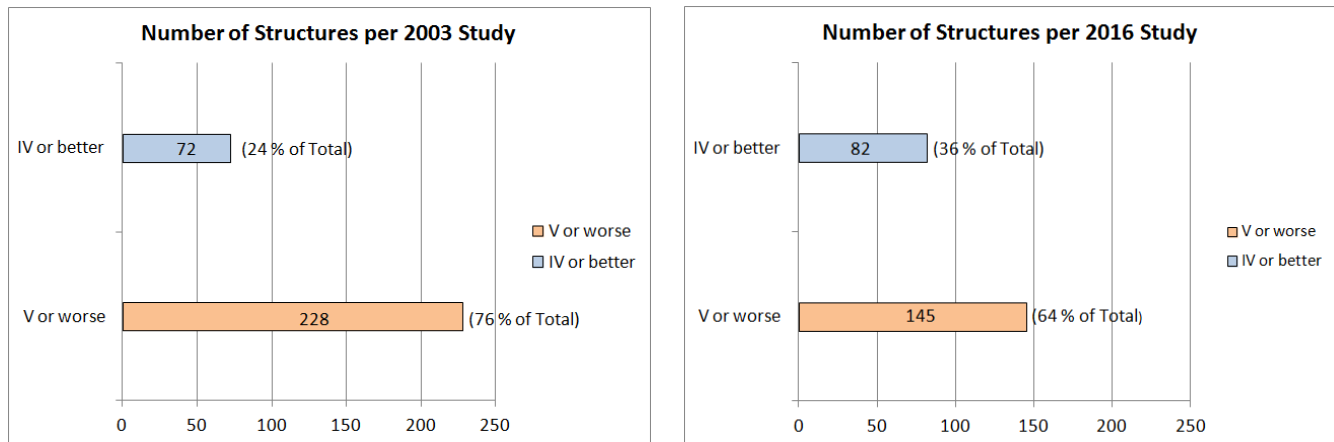


Figure 1

In addition, recognizing that the hazard posed by all Risk Level V buildings—principally risk of collapse or major risks to life—are not the same, the Judicial Council engaged Rutherford + Chekene (R+C) to rank the 145 Risk Level V structures that remained in the inventory based on the seismic risk that they represented. R+C developed a Seismic Risk Assessment Tool for the Judicial Council which employs the Federal Emergency Management Agency's HAZUS modeling algorithm. After setting aside 29 buildings (25 of which were identified as Risk Level V but with not enough information available to allow a complete assessment of the building structure, and 4 Risk Level V structures, which are new additions to the current seismic database without assigned seismic risk rating yet), the remaining 116 Risk Level V building structures were ranked according to their seismic risk. The ranking was based upon the relative probability of collapse in a seismic event as estimated by the HAZUS model which considers the structural capacity of the building, site specific seismic hazard, and structural characteristics that influence capacity or response to earthquakes. While this ranking parameter is primarily a measure of life safety, it is also indicative of the degree of damage and hence business interruption. The 116 building structures were then sorted into categories as shown in the table below. Besides assignment to one of the three risk categories—very high, high, or moderate—the table also includes the number of building structures in the inventory for which not enough information is available to allow a complete assessment, as well as the number of building structures that have been identified as representing acceptable risk by virtue of the fact that they have been retrofitted or already meet SB 1732 Seismic Safety Criteria.

Table 1: Rankings of Seismic Risk Rating (SRR)			# of Bldg. Structures
Very High Risk (VHR)	SRR >10	Building Structures of Very High Risk recommended as highest priority for mitigation of risk.	12
High Risk (HR)	2 <SRR < 10	Building Structures of High Risk recommended as high priority for mitigation of risk.	44
Moderate Risk (MR)	SRR <2	Building Structures of Moderate Risk recommended as lower priority for mitigation of risk compared to the others.	60
Not Enough Info. (NEI)	Building Structures that were not evaluated or the seismic evaluation was incomplete due to Not Enough Information to allow assessment of the building structure. 4 building structures, added to the current database without assigned seismic risk rating, were included in this category.		29
Acceptable Risk (AR)	Retrofitted building structures or building structures meeting SB 1732 Seismic Safety Criteria as determined by an evaluation report are categorized as Acceptable Rating .		82

The 12 building structures in the Very High Risk category represent the highest priority for mitigation of risk—presumably by vacating or structural strengthening—and the 44 building structures in the High Risk category represent a high priority for mitigation of risk. The 60 building structures in the Moderate Risk category represent the lowest priority for mitigation of risk. When considering the seismic risk ratings, the values should only be used for comparison of relative risk among a large number of buildings, rather than for determining the seismic risk of an individual building. Further, a low SRR value does not indicate conformance to life-safety objectives per SB 1732 or other rating systems.

Action plans for follow-up activities associated with development of detailed feasibility studies for mitigation of seismic risk for selected building structures in the VHR and HR categories as well as a procedure for assessing the 25 building structures in the NEI category—to identify any that warrant VHR or HR rankings—are provided in the Recommended Action Plans and Follow-up Activities section of this report.

In order to gauge the financial impact of performing structural strengthening for those buildings in the inventory that represent the greatest seismic risk, a rough-order-of-magnitude retrofit cost was developed to improve 7 of the 12 Risk Level V building structures assigned to the Very High Risk category and 43 of the 44 Risk Level V building structures assigned to the High Risk category for which the Judicial Council would be entitled to fund the work. It is important to understand the ownership type of a particular court building when determining if the seismic risk could be mitigated by a retrofit financed by the Judicial Council. Certain court buildings – historic structures and those where the Court was a minor tenant in a County building did not transfer to the Judicial Council. The transfer of some certain other court buildings from the counties to

the state resulted in ownership conditions which would preclude the Judicial Council from funding structural strengthening or other building improvements. Restrictions due to ownership type are discussed further in the Objective of This Study and Database Update section of the report.

For these building structures, the cost for structural strengthening is listed as not applicable (N/A) in the database. In addition, there are a few instances where the court has a very small occupancy (e.g., 10%) in a county-owned building with deferred transfer of title. As such, it may be difficult for the Judicial Council to justify funding their strengthening though those costs are included herein. Regardless of the ownership conditions, however, the Judicial Council is still exposed to risk due to life-safety concerns, court fixture damage, and business interruption from earthquakes.

The cost model generally identifies total project costs associated with mitigation of all seismic-related structural and critical nonstructural deficiencies (e.g., plaster ceilings) of the subject buildings, including restoration of collateral architectural, mechanical, and electrical elements that are impacted in the process. The cost model also includes soft costs, such as fees and miscellaneous project expenses. Total Project costs, when summed up, range from \$321M to \$407M for the 7 Very High Risk building structures and from \$1.31B to \$1.65B for the 43 High Risk building structures. These figures should be taken as indicative of program-wide budget requirements; an individual building retrofit cost budget must be validated by feasibility studies discussed in Recommended Action Plans and Follow-Up Activities section.

The Summary Seismic Risk Rating Database follows, which includes identification and descriptions of all 227 of the nonexempt building structures as well as a rough-order-of-magnitude of total project costs required to structurally strengthen those buildings in the Very High and High Risk categories for which the Judicial Council would be entitled to fund this work. The costs have been multiplied by 90% to establish a lower bound and by 115% to establish an upper bound. Input parameters used for calculation of the Seismic Risk Rating (SRR), the description of these input parameters, and a glossary of key terminology are included in a separate volume.

It is envisioned that the Judicial Council will utilize the information contained in this study to inform future decisions, ranging from contingency planning to prioritization of funding for capital improvement projects for California superior court buildings. Follow-up activities as listed below are recommended:

- Prepare feasibility studies for 20 to 25 buildings with Very High or High seismic risk ratings (SRR), as outlined in Recommended Action Plans and Follow-Up Activities section;
- Develop seismic risk ratings for certain building structures not yet rated because of insufficient information, as outlined in Recommended Action Plans and Follow-Up Activities section; and
- Expand this database and the geographic overlay to include all active court buildings.

Table 2: Summary Seismic Risk Rating Database

County/ Bldg ID	County	Building Name	Year from Construction Documents	Building Gross Area (JCC masterdatabase)	No. of Stories above ground	ASCE 31 Bldg. Type	DSA Rating [2016]	Seismic Risk Rating	Total Project Retrofit Cost - Low Range (-10%)	Total Project Retrofit Cost - High Range (+15%)
19-H1-A	Los Angeles	Glendale Superior and Municipal CH	1956	7,400	2	S4/C1	V	44.2	\$2,020,000	\$2,550,000
01-A2-E	Alameda	County Administration Bldg.	1961	196,850	5	C2	V	37.4	\$64,420,000	\$81,500,000
19-K1-A	Los Angeles	Stanley Mosk CH, West Wing	1955	220,860	9	S4	V	23.4	\$60,230,000	\$76,200,000
19-K1-B	Los Angeles	Stanley Mosk CH, East Wing	1955	515,340	7	S4	V	23.1	\$140,550,000	\$177,790,000
28-B1-E	Napa	Historical CH	circa 1878	16,000	2	URM	V	22.9	N/A	N/A
32-A1	Plumas	Courthouse	1919	36,187	4	C2	V	22.7	\$11,190,000	\$14,150,000
27-C1	Monterey	Monterey CH	1965	65,334	3	C1	V	14.1	\$21,980,000	\$27,800,000
01-A1	Alameda	Rene C. Davidson	1934	284,120	13	S4	V	12.4	N/A	N/A
42-A1	Santa Barbara	Santa Barbara County CH	1926	134,729	4	S4	V	10.8	N/A	N/A
02-A1	Alpine	Alpine County CH	1927	7,326	1	URM/C2A	V	10.8	N/A	N/A
53-A1-E	Trinity	Trinity County CH	circa 1857	11,276	2	URM	V	10.7	N/A	N/A
13-A1	Imperial	Imperial County CH	1923	66,000	2	C2	V	10.5	\$21,000,000	\$26,570,000
Programmatic Retrofit Cost for VERY HIGH Risk Rated Buildings									\$321,390,000	\$406,560,000
19-R1-B	Los Angeles	Eastlake Juvenile CH, North Portion	1951	10,064	1	RM2	V	9.8	\$3,110,000	\$3,940,000
49-A1-A	Sonoma	Hall of Justice	1962	180,188	2	C2	V	9.3	\$34,400,000	\$43,520,000
33-F1	Riverside	Hemet	1969	31,720	1	RM1	V	8.2	\$11,530,000	\$14,590,000
19-L1	Los Angeles	Criminal Courts Bldg.	1968	1,020,266	19	S1/S4	V	7.3	\$204,050,000	\$258,130,000
45-A7	Shasta	Main CH Annex	1965	35,445	3	S4	V	7.2	\$8,700,000	\$11,010,000
53-A1-A	Trinity	Trinity County CH, 1950's Addition	circa 1950	16,924	2	RM2	V	6.4	\$4,920,000	\$6,230,000
44-A1	Santa Cruz	Main CH	1965	37,585	1	C1a	V	6.3	\$12,980,000	\$16,420,000
19-AO1-A	Los Angeles	1959 Addition	1959	17,151	1	RM1	V	6.2	\$5,300,000	\$6,710,000
23-A1-A	Mendocino	County CH, Addition	1946	45,979	4	S4	V	6.0	\$11,290,000	\$14,280,000
11-A1	Glenn	Historic CH	circa 1894	30,031	2	URM	V	5.7	\$13,100,000	\$16,580,000
17-B1	Lake	South Civic Center	1971	8,385	1	RM1	V	5.6	\$2,820,000	\$3,570,000
19-J2	Los Angeles	Pasadena Municipal CH	1952	36,572	2	C2	V	5.4	\$6,650,000	\$8,410,000
42-B1	Santa Barbara	Santa Barbara Municipal Court	circa 1953	44,470	2	S4/C2	V	5.2	\$12,940,000	\$16,360,000
07-F1	Contra Costa	Richmond-Bay District	1953	76,462	2	S1/S4	V	5.1	\$20,160,000	\$25,500,000
19-AQ1	Los Angeles	Beverly Hills CH	1967	184,882	4	C2	V	5.1	\$55,460,000	\$70,160,000
19-O1	Los Angeles	Rio Hondo Court	1974	129,176	4	S1	V	5.1	\$35,230,000	\$44,570,000
19-G1-E	Los Angeles	Burbank Superior and Municipal CH	1952	37,280	2	C2	V	5.0	\$10,170,000	\$12,860,000
19-R1-A	Los Angeles	Eastlake Juvenile CH	1951	18,000	1	RM2	V	5.0	\$4,420,000	\$5,590,000
19-R1-C	Los Angeles	Eastlake Juvenile CH, 1958 Add.	1958	18,100	1	S2A/RM1	V	5.0	\$3,950,000	\$5,000,000
50-A2	Stanislaus	Hall of Records	1938	45,600	4	C2	V	4.7	\$12,850,000	\$16,260,000
19-X1-E	Los Angeles	Citrus Municipal Court, Phase I	1957	31,368	1	RM1	V	4.7	\$9,410,000	\$11,900,000
19-H1-E	Los Angeles	Glendale Superior and Municipal CH	1956	48,000	2	S4	V	4.5	\$11,560,000	\$14,630,000
30-C2-ARC	Orange	North Justice Center Annex	1972	1,000	2	PC1A	V	4.4	\$280,000	\$360,000
19-AR1-E	Los Angeles	West Los Angeles CH	1958	20,000	2	C2/C2A	V	4.4	\$5,450,000	\$6,900,000
17-A3-E	Lake	Courthouse	1966	47,323	4	S1	V	4.3	\$11,830,000	\$14,970,000
36-L1-A	San Bernardino	Victorville Court	circa 1973	40,000	1	RM1	V	4.3	N/A	N/A
19-AE1	Los Angeles	Lancaster CH Main Bldg.	1960	42,388	2	RM1	V	4.1	\$9,250,000	\$11,700,000
19-I1	Los Angeles	Alhambra Sup. and Municipal Court	1971	110,174	4	S4	V	3.9	\$28,040,000	\$35,480,000
19-AD1	Los Angeles	NewHall Municipal Court	1969	32,124	1	RM1	V	3.7	\$11,100,000	\$14,040,000
19-AK1	Los Angeles	Norwalk CH	1965	208,195	7	S2/S4	V	3.4	\$60,570,000	\$76,620,000
19-AV1-B	Los Angeles	Hall of Records, Records Bldg	1958	97,000	13	C2	V	3.3	\$13,230,000	\$16,730,000
30-B1	Orange	Lamoreaux Justice Center	1988	248,676	8	S1	V	3.3	\$67,820,000	\$85,790,000
19-AX2	Los Angeles	Van Nuys Branch Court	1985	284,102	10	S1	V	3.3	\$87,810,000	\$111,080,000
40-A1-A	San Luis Obispo	San Luis Obispo Government Center	1980	66,000	3	S2/S2A	V	3.1	\$17,400,000	\$22,010,000
19-AV1-A	Los Angeles	Hall of Records, Administration Bldg	1958	350,000	11	S4	V	3.0	\$63,640,000	\$80,500,000
44-A2	Santa Cruz	County Administration Bldg.	1965	206,400	5	C1	V	2.7	\$63,800,000	\$80,700,000
17-A3-B	Lake	South Wing Addition	1982	7,775	3	S2	V	2.7	\$2,050,000	\$2,590,000
07-A2	Contra Costa	Wakefield Taylor CH	1931	100,657	4	S4	V	2.7	\$30,200,000	\$38,200,000
19-X1-A	Los Angeles	Citrus Municipal Court, Phase II	1967	33,250	1	RM1	V	2.6	\$9,670,000	\$12,240,000
19-AP1-B	Los Angeles	Santa Monica CH, Central Wing	1950	33,855	2	C2/C2A	V	2.6	\$5,850,000	\$7,400,000
01-H1	Alameda	Fremont Hall of Justice	1976	124,100	3	RM2	V	2.4	\$20,310,000	\$25,690,000
38-B1	San Francisco	Hall of Justice	1958	711,889	8	C2	V	2.3	\$200,620,000	\$253,790,000
30-A1-C	Orange	Central Justice Center	1966	179,000	3	S1	P(V)	2.1	\$47,190,000	\$59,700,000
10-A1	Fresno	Fresno County CH	1964	213,687	9	S1/S4	V	2.1	\$56,340,000	\$71,260,000
Programmatic Retrofit Cost for HIGH Risk Rated Buildings									\$1,307,450,000	\$1,653,970,000

Table 2: Summary Seismic Risk Rating Database

County/ Bldg ID	County	Building Name	Year from Construction Documents	Building Gross Area (JCC masterdatabase)	No. of Stories above ground	ASCE 31 Bldg. Type	DSA Rating [2016]	Seismic Risk Rating
19-S1	Los Angeles	Hollywood Branch CH	1984	57,772	2	RM2	V	1.9
33-J1-B	Riverside	Corona	1974	9,470	1	S2	V	1.9
17-A3-A	Lake	Pedestrian Bridge/Walkway	-	490	1	Varies	V	1.9
15-A1-A	Kern	Bakersfield Sup. Court, Central Wing	1956	97,210	7	S2/S4	V	1.9
07-C1	Contra Costa	Danville District CH	1973	37,104	2	RM1	V	1.7
09-A1	El Dorado	Main St. CH	1911	17,951	3	S5	V	1.6
30-D1-A	Orange	West Justice Center	1966	115,150	2	C2/RM2	V	1.5
19-X1-B	Los Angeles	Citrus Municipal Court, Phase III	1973	43,380	1	RM1	V	1.5
30-E1-A	Orange	Harbor Justice Center, Phase II	1985	44,060	2	S1	V	1.5
33-J1-A	Riverside	Corona	1974	40,300	2	S1	V	1.5
19-AM1-A	Los Angeles	Downey CH	1986	103,553	4	S1	V	1.4
19-J1	Los Angeles	Pasadena Superior CH	1968	187,120	6	S4	V	1.2
19-U1	Los Angeles	Central Arraignment CH	1970	67,719	3	C2	V	1.0
19-E1	Los Angeles	Inglewood Juvenile Court-Superior	1950	18,791	2	C2b	P(V)	0.9
30-C1-E	Orange	North Justice Center	1968	64,225	2	PC1A	V	0.9
25-A2	Modoc	Barclay Justice Center	1914	8,482	3	C2	V	0.9
58-A1-E	Yuba	Yuba County CH	1960	97,460	3	S4	P(V)	0.8
19-W1	Los Angeles	Pomona Superior Court	1965	194,000	7	S4	V	0.6
46-A1-E	Sierra	Courthouse/Sheriff Station-Jail	1950	18,181	2	C2A	V	0.6
45-A1	Shasta	Main CH	1954	44,528	3	S4	V	0.6
19-C2	Los Angeles	South Bay CH Annex-Municipal	1964	15,126	1	RM1	V	0.6
27-D1	Monterey	King City CH	1973	12,163	1	W1A/RM1	V	0.6
29-A2	Nevada	Annex	1962	40,024	3	C1	V	0.6
41-C1-B	San Mateo	Municipal Court Bldg., Detention Ctr	1981	10,497	1	RM1	V	0.5
30-C2-MAI	Orange	North Justice Center Annex	1972	34,600	2	S4/PC1	V	0.5
30-A1-B	Orange	Central Justice Center	1966	59,000	2	S1	P(V)	0.4
39-D2	San Joaquin	Lodi Branch- Dept. 2	1969	6,844	1	RM1	P(V)	0.4
19-F1	Los Angeles	Inglewood Municipal Court	circa 1975	174,041	6	S1	P(V)	0.4
30-A1-A	Orange	Central Justice Center	1966	300,000	11	S1	P(V)	0.4
19-T1	Los Angeles	Metropolitan CH	1968	250,000	8	S4	V	0.3
41-C1-A	San Mateo	Municipal Court Bldg., Addition	1970	31,110	1	RM1	P(V)	0.3
41-C1-E	San Mateo	Municipal Court Bldg., North Branch	1960	15,040	1	RM1	P(V)	0.3
04-A1-E	Butte	Butte County CH, Original	1970	18,810	1	S2A	P(V)	0.3
37-H1	San Diego	South County Regional Center	1978	142,253	3	S1/C2	P(V)	0.3
14-A1	Inyo	Independence Superior Court	1920	20,846	2	C2	V	0.3
34-A1	Sacramento	Sacramento Superior Court	1962	288,896	6	C2	V	0.3
19-AG1	Los Angeles	Compton CH	1975	417,159	12	S1	P(V)	0.3
19-C1	Los Angeles	South Bay CH Superior and Municipal	1967	146,711	5	C2	V	0.3
54-A1-A	Tulare	Visalia Superior Court	1955	185,111	4	S1	V	0.3
45-B1	Shasta	Shasta County Sup. Court/Sheriff's Stn.	1964	4,867	1	W1	V	0.2
29-A1-C	Nevada	Courthouse, 1936 Addition	1935	4,225	1	S4	V	0.2
37-F2-A	San Diego	North County Reg. Ctr - Vista Ctr Add.	circa 1972	97,000	1	S2	V	0.2
15-B1	Kern	Bakersfield Justice Bldg.	1977	125,783	4	S4	V	0.2
19-V1	Los Angeles	East Los Angeles Municipal Court	1986	105,627	5	S1	V	0.1
30-D1-B	Orange	West Justice Center	1969	32,000	2	C2/RM2	P(V)	0.1
20-D1	Madera	Sierra CH	1974	5,884	1	W2/RM1	P(V)	0.1
15-H1	Kern	Arvin/ Lamont Branch	1988	26,680	1	RM1	V	0.1
30-C1-A- M	Orange	North Justice Center Addition	1981	71,200	4	S4	V	0.1
41-A2	San Mateo	Traffic/ Small Claims Annex	circa 1960	9,714	1	C2A	P(V)	0.1
40-A1-E	San Luis Obispo	San Luis Obispo Government Center	1963	46,000	3	C2/RM2	P(V)	0.1
42-F3	Santa Barbara	Santa Maria Muni Clerk	1953	4,400	1	W1	V	0.1
53-A1-B	Trinity	Trinity County CH, West Addition	1977	14,589	1	RM1	V	0.1
42-F1-C	Santa Barbara	Santa Maria Courts, North Wing	1953	16,000	2	W1A	V	0.0
34-D1	Sacramento	Carol Miller Justice Ctr Court Facility	1990	98,628	3	S1	V	0.0
54-A1-B	Tulare	Visalia Superior Court, Addition	1988	58,000	4	S1	V	0.0
28-B1-B	Napa	Historical CH, 1977 Addition	1977	14,109	3	RM2	P(V)	0.0
42-F1-D	Santa Barbara	Santa Maria Courts, South Wing	1963	14,000	2	W1A	V	0.0
09-E1	El Dorado	Johnson Bldg.	1979	37,453	2	W2	V	0.0
28-B1-A	Napa	Historical CH, 1916 Building	1916	6,000	2	C2	P(V)	0.0
22-A1	Mariposa	Mariposa County CH	circa 1854	5,920	2	W2	P(V)	0.0

Table 2: Summary Seismic Risk Rating Database

County/ Bldg ID	County	Building Name	Year from Construction Documents	Building Gross Area (JCC masterdatabase)	No. of Stories above ground	ASCE 31 Bldg. Type	DSA Rating [2016]	Seismic Risk Rating
01-F1	Alameda	George E. McDonald Hall of Justice	circa 1985	25,850	2	S1	P(V)	NEI
19-AF1	Los Angeles	San Fernando Valley Juvenile Court	1976	38,902	1	RM2	P(V)	NEI
19-AO1-E	Los Angeles	Whittier Courthouse	1953	12,242	3	C2	V	NEI
19-P1	Los Angeles	Mental Health CH	1969	27,617	1	RM1	P(V)	NEI
19-W2	Los Angeles	Pomona CH North	circa 1955	47,267	2	RM2	P(V)	NEI
23-A1-E	Mendocino	County CH	circa 1928	12,000	3	S4	P(V)	NEI
25-A1-B	Modoc	Barclay Justice Center, East Wing Add.	circa 1990	3,660	1	W1/RM1	P(V)	NEI
26-A1	Mono	Bridgeport County CH	circa 1881	11,689	2	W2	P(V)	NEI
29-A1-A	Nevada	Courthouse, Old Jail	1850's	3,450	3	URM	P(V)	NEI
29-A1-B	Nevada	Courthouse, Stairwell to Jail	1930's	960	3	C2	P(V)	NEI
29-A1-D	Nevada	Courthouse, 1936 Addition	circa 1936	1,648	1	C2	P(V)	NEI
29-A1-E	Nevada	Courthouse	1850's	12,200	3	URM	P(V)	NEI
29-A1-F	Nevada	Courthouse, Addition	1900's	980	1	C2A	P(V)	NEI
33-A2	Riverside	1903/33 Courthouse	1903	138,551	3	C2b	P(V)	NEI
33-E1	Riverside	Palm Springs Court	circa 1962	51,336	1	RM1/W1	P(V)	NEI
33-N1	Riverside	Juvenile Justice Center	1986	6,614	1	C2A	P(V)	NEI
36-A2	San Bernardino	Central Courthouse - Annex	1958	79,667	6	C3	V	NEI
36-E1	San Bernardino	Joshua Tree CH	1982	37,340	1	S3/RM2	P(V)	NEI
37-F3	San Diego	Annex	circa 1964	21,895	1	W2	P(V)	NEI
42-D1-B	Santa Barbara	Lompoc Municipal Court	-	10,787	2	W2	P(V)	NEI
46-A1-A	Sierra	CH/Sheriff Station-Jail, Stairwell	1993	1,000	2	RM1	P(V)	NEI
47-A1-A	Siskiyou	Siskiyou County CH, 1952 Building	1952	28,350	2	C2	P(V)	NEI
47-A1-E	Siskiyou	Siskiyou County CH, 1908 Building	1908	7,906	2	S5	P(V)	NEI
48-A1-A	Solano	Hall of Justice, 1973 Addition	1973	74,740	3	C2	V	NEI
48-A1-E	Solano	Hall of Justice	1923	65,000	3	C2A	P(V)	NEI
48-B1-E	Solano	Hall of Justice	circa 1955	24,000	2	C2A	P(V)	NEI
50-C1	Stanislaus	Ceres Municipal Court	circa 1969	2,985	1	RM1	P(V)	NEI
55-A1	Tuolumne	Historic CH	circa 1897	23,120	3	URMA	P(V)	NEI
56-B1	Ventura	East County CH	1989	84,252	2	PC1	P(V)	NEI
01-A2-A	Alameda	Vertical Addition	1982	11,296	1	S1A	IV	AR
01-B3	Alameda	Wiley W. Manuel CH	1977	196,277	7	S1	IV	AR
01-D1	Alameda	Hayward Hall of Justice	1974	184,785	5	S4b	IVb	AR
03-C1	Amador	John C. Begovich Building	1985	19,010	1	W2	IV	AR
07-A3	Contra Costa	Bray Courts	1986	48,883	3	S1	IV	AR
07-A4	Contra Costa	Jail Annex	1977	12,843	1	S1/S1A	IV	AR
07-D1	Contra Costa	Concord-Mt. Diablo District	1980	7,938	1	W1A	IVb	AR
08-A1	Del Norte	Del Norte County Superior Court	circa 1950	29,008	1	W2	IVb	AR
09-C1	El Dorado	Superior Court	1983	7,834	1	W2	IVb	AR
10-B1	Fresno	North Annex Jail	circa 1985	25,667	2	C2c	IVb	AR
10-C1	Fresno	Juvenile Delinquency Court	1978	121,076	2	W1A	IVb	AR
11-B1	Glenn	Orland Superior Court	1965	9,845	1	RM1	IV	AR
15-A1-B	Kern	Bakersfield Superior Court, West Wing	1956	73,850	2	C2	IV	AR
15-A1-C	Kern	Bakersfield Sup. Court, Jury Services	1955	52,590	2	C2	IV	AR
15-C1	Kern	Bakersfield Juvenile Center	1987	82,680	4	S2/C2	IV	AR
15-D1	Kern	Delano/North Kern Court	1983	14,377	1	RM1	IV	AR
15-E1	Kern	Shafter/Wasco Courts Bldg.	1988	16,836	1	RM1/W2	IV	AR
15-F1	Kern	Taft Courts Bldg.	1982	6,127	1	W1A	IVb	AR
15-G1	Kern	East Kern Court-Lake Isabella Branch	1988	14,154	1	RM1/W2	IV	AR
15-I1	Kern	Mojave-Main Court Facility	1974	12,112	1	RM1	IV	AR
15-I2	Kern	Mojave-County Administration Bldg.	circa 1978	8,538	1	RM1	IV	AR
15-J1	Kern	Ridgecrest-Main Facility	1976	9,340	1	RM1	IV	AR
19-AC1	Los Angeles	San Fernando CH	1976	187,874	4	C2	IV	AR
19-A1	Los Angeles	Los Padrinos Juvenile CH	1955	34,167	1	C2	IV	AR
19-AM1-B	Los Angeles	Mechanical Tower	1986	7,670	4	C2	IV	AR
19-AO1-B	Los Angeles	1972 Addition	1969	58,502	3	C2	IV	AR
19-AP1-A	Los Angeles	Santa Monica CH, North Wing	1962	36,855	2	C2	IV	AR
19-AP1-C	Los Angeles	Santa Monica CH, South Wing	1962	51,855	2	C2	IV	AR
19-AR1-A	Los Angeles	West Los Angeles CH, Addition	1976	25,129	3	C2/C2A	IVb	AR
19-AX1	Los Angeles	Van Nuys CH	1963	178,048	7	S4	IV	AR
19-N1	Los Angeles	Santa Anita Court	1953	19,440	1	W2	IV	AR
19-Q1	Los Angeles	Children's Court	1990	263,623	6	S1	IV	AR

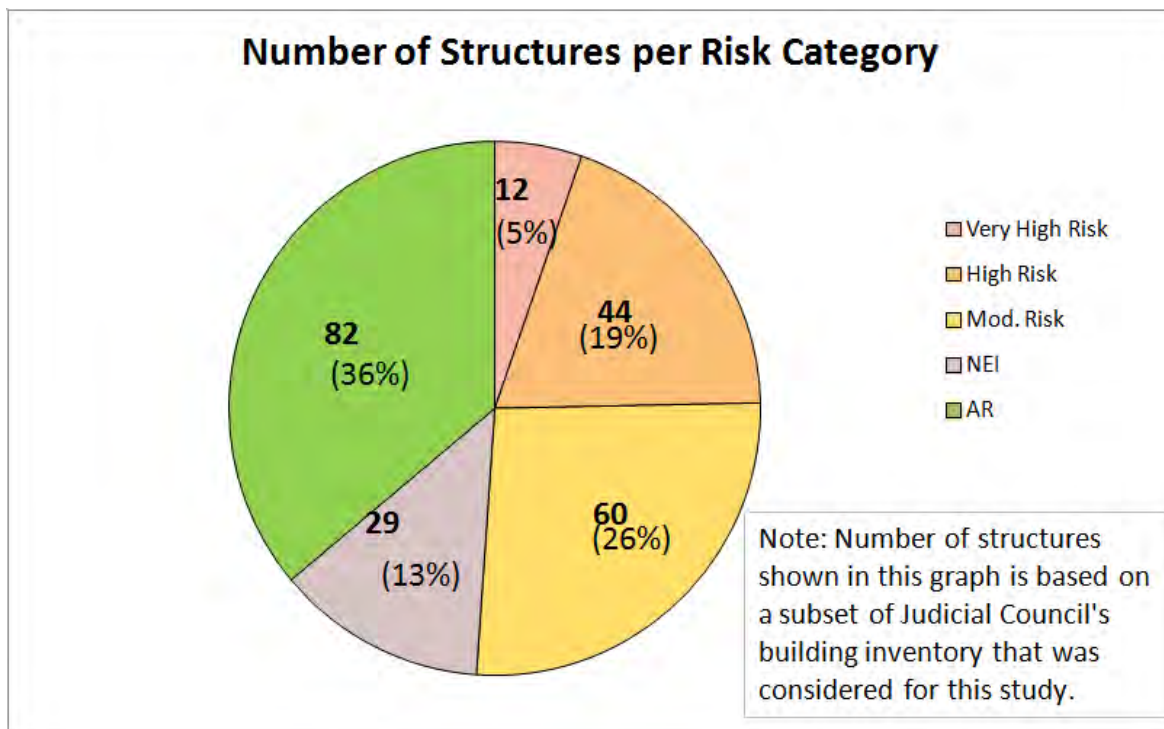
Table 2: Summary Seismic Risk Rating Database

County/ Bldg ID	County	Building Name	Year from Construction Documents	Building Gross Area (JCC masterdatabase)	No. of Stories above ground	ASCE 31 Bldg. Type	DSA Rating [2016]	Seismic Risk Rating
23-B1	Mendocino	Justice Center	1989	12,586	1	W1A	IVb	AR
24-A1	Merced	New Courts Bldg.	1949	17,716	1	C2	IV	AR
25-A1-A	Modoc	Barclay Justice Center, East Wing	1967	4,080	1	RM1	IV	AR
27-A1	Monterey	Salinas CH- North Wing	1966	97,630	3	S1	IV	AR
29-B1-E	Nevada	Superior Court in Truckee	1974	10,000	2	Varies	IV	AR
30-C1-A-J	Orange	North Justice Center Addition	1981	2,100	1	S4	IV	AR
30-D1-C	Orange	West Justice Center	1978	18,820	2	PC1	IV	AR
30-D1-D	Orange	West Justice Center	1978	5,210	3	C2A	IV	AR
30-D1-E	Orange	West Justice Center	1978	18,820	2	PC1	IV	AR
30-E1-E	Orange	Harbor Justice Center, Phase I	1973	62,530	2	PC1A	IV	AR
31-A1	Placer	Historic CH	circa 1894	24,918	3	URMA	IV	AR
33-A3	Riverside	Hall of Justice	1989	167,386	7	S1	IV	AR
33-H1	Riverside	Temecula	1988	12,557	1	W2	IV	AR
36-A1	San Bernardino	Central Courthouse	1926	118,580	4	C2	IV	AR
36-B1	San Bernardino	Juvenile Court	1968	8,149	1	RM2	IVb	AR
36-F1	San Bernardino	Rancho Cucamonga CH	1984	261,155	4	Base Isolate	IVb	AR
36-G1	San Bernardino	Chino CH	1976	47,261	2	RM1	IV	AR
36-J1	San Bernardino	Barstow CH	1975	35,702	2	RM2	IV	AR
36-K1	San Bernardino	Needles CH	1972	12,574	1	RM1	IVb	AR
37-C1	San Diego	Kearny Mesa Court	circa 1960	41,450	1	RM1	IV	AR
37-E1	San Diego	Juvenile Court	1977	46,759	2	RM1	IVb	AR
37-F2-B	San Diego	North County Reg. Ctr.- Vista Ctr Add.	circa 1972	12,500	1	C2	IV	AR
37-F2-C	San Diego	North County Reg. Ctr.- Vista Ctr Add.	circa 1972	58,150	1	C2	IV	AR
37-F2-D	San Diego	North County Reg. Ctr.- Vista Ctr Add.	1986	48,000	2	C2	IV	AR
37-I1-A	San Diego	East County Regional Center	1980	230,000	10	S1	IV	AR
37-I1-B	San Diego	East County Regional Center	1980	44,230	5	S2/S4	IV	AR
37-I1-C	San Diego	East County Regional Center	1980	30,000	2	S2/S4	IV	AR
37-J1	San Diego	Ramona CH	1972	17,315	1	W1A	IV	AR
39-B1	San Joaquin	Juvenile Justice Center	1982	12,740	1	RM1	IV	AR
39-C1	San Joaquin	Manteca Branch Court	1970	6,425	1	RM1	IV	AR
39-E1	San Joaquin	Tracy Branch CH	circa 1968	6,714	1	RM1	IV	AR
41-A1	San Mateo	Hall of Justice	1954	316,515	8	S1	IV	AR
41-B1	San Mateo	Central Branch	1960	17,438	1	RM1/W2	IV	AR
42-D1-A	Santa Barbara	Lompoc Municipal Court, South Wing	1956	14,800	1	W2	IV	AR
43-A1	Santa Clara	Hall of Justice	1988	127,139	6	S1/S2	IV	AR
43-A2	Santa Clara	San Jose Municipal Court	1960	69,810	4	C2	IV	AR
43-B1	Santa Clara	Downtown Superior CH	1962	126,005	5	C2b	IV	AR
43-B2	Santa Clara	Old County CH	circa 1866	33,557	3	S4b	IVb	AR
43-D1	Santa Clara	Palo Alto Facility	1960	83,451	4	C2	IV	AR
43-F1	Santa Clara	Sunnyvale Facility	1966	19,994	1	W2	IV	AR
43-G1	Santa Clara	Santa Clara Municipal Courts	1974	33,559	2	S2	IV	AR
47-B1	Siskiyou	Dorris	circa 1974	2,585	1	W1	IV	AR
48-A2	Solano	Law and Justice Center - Fairfield	1988	258,850	5	C2b	IVb	AR
48-B1-A	Solano	Hall of Justice, 1974 Addition	1974	30,400	1	C2	IV	AR
50-A1	Stanislaus	Modesto Main CH	1958	60,404	2	C2	IV	AR
50-B1	Stanislaus	Modesto Juvenile Court	1976	9,200	1	RM1/RM2	IV	AR
50-D1	Stanislaus	Turlock Municipal Court	1975	4,735	1	W2	IV	AR
54-A1-A1	Tulare	Visalia Superior Court, East Wing	1955	20,000	1	S1	IV	AR
56-A1-A	Ventura	Hall of Justice, Second Wing	1975	150,057	3	S2	IV	AR
56-A1-B	Ventura	Hall of Justice, Main Wing	1975	200,000	4	S2	IV	AR

OBSERVATIONS

1. The 2003 seismic assessment program identified 300 (nonexempt) building structures in the court building database:
 - 72 were assigned ratings of Risk Level IV;
 - 228 were assigned ratings of Risk Level V (including 81 assigned Risk Level V–Pending due to inadequate information).
2. The 2015/2016 Reassessment identified 227 (nonexempt) building structures in the court building database:
 - 82 were assigned ratings of Risk Level IV;
 - 145 were assigned ratings of Risk Level V (including 25 assigned Risk Level V–Pending due to a lack of structural information, 4 building structures added to the database without assigned seismic risk rating, and 11 assigned Risk Level V–Pending due to the absence of critical site geo-hazard or nonstructural information).
 - The Judicial Council Trial Court Capital-Outlay Program constructed or is currently constructing 15 new or upgraded court facilities which contributed to the reduction in Risk Level V building structures when compared to the 2003 court building database.
 - Court buildings closed or abandoned, since 2004, due to permanent reductions funding for trial courts reduced the number of structures in the Seismic Assessment database.
3. The 2015/2016 Reassessment further sorted the 145 Risk Level V building structures into risk categories based upon their “probability of collapse”:
 - 12 were assigned to the Very High Risk category;
 - 44 were assigned to the High Risk category;
 - 60 were assigned to the Moderate Risk category;
 - 29 were assigned to the Not Enough Information category.
4. Rough-Order-of-Magnitude costs were developed to retrofit to Risk Level IV, the Risk Level V buildings that were sorted into the Very High Risk and High Risk categories for which the Judicial Council would be able to fund the work:
 - \$321M to \$407M is representative of the total program-wide budgetary cost to retrofit the 7 of the 12 building structures in the Very High Risk category;
 - \$1.31B to \$1.65B is representative of the total program-wide budgetary cost to retrofit the 43 of the 44 building structures in the High Risk category.
5. The program-wide costs noted above would be reduced by \$107M to \$136M if/when the following 9 court projects which have already completed preliminary design, and in many instances final design, are advanced into construction. This would allow removal of another 7 HR category nonexempt building structures (in addition to 2 from MR category, 3 from NEI category and 1 from AR category) from the court building database:

- Willows Historic Courthouse Renovation (11-A1), which removes 1 structure;
- New Yreka Courthouse (47-H1), which removes 2 structures;
- New Sonora Courthouse (55-D1), which removes 1 structure;
- New Santa Rosa Criminal Courthouse (49-H1), which removes 1 structure;
- New Lakeport Courthouse (17-F1), which removes 3 structures;
- New Santa Barbara Criminal Courthouse (42-M1), which removes 1 structure;
- New Modesto Courthouse (50-H1), which removes 2 structures;
- New Mid-County Civil Courthouse (33-F2), which removes 1 structure; and
- New Redding Courthouse, which removes 2 structures.

**Figure 2**

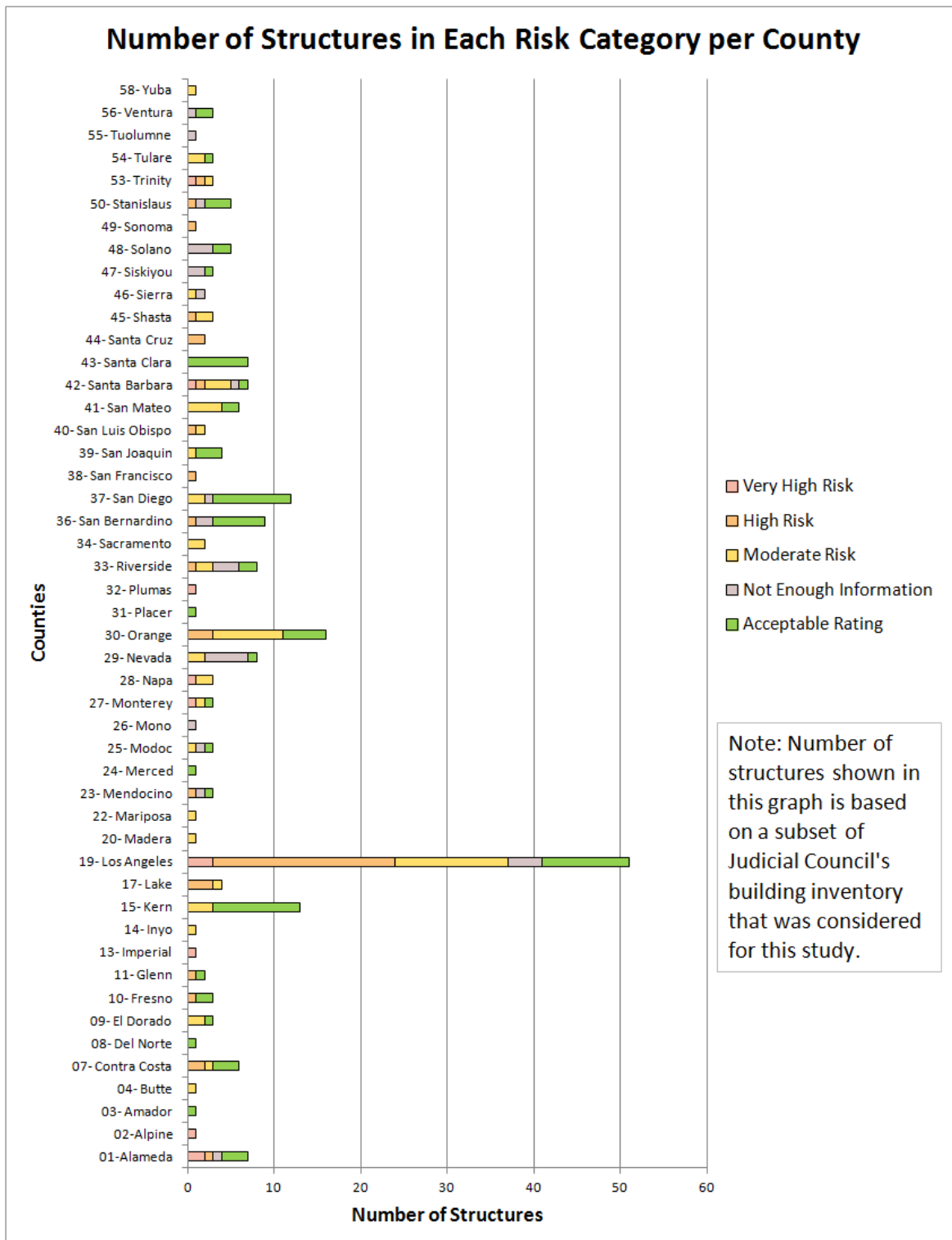


Figure 3

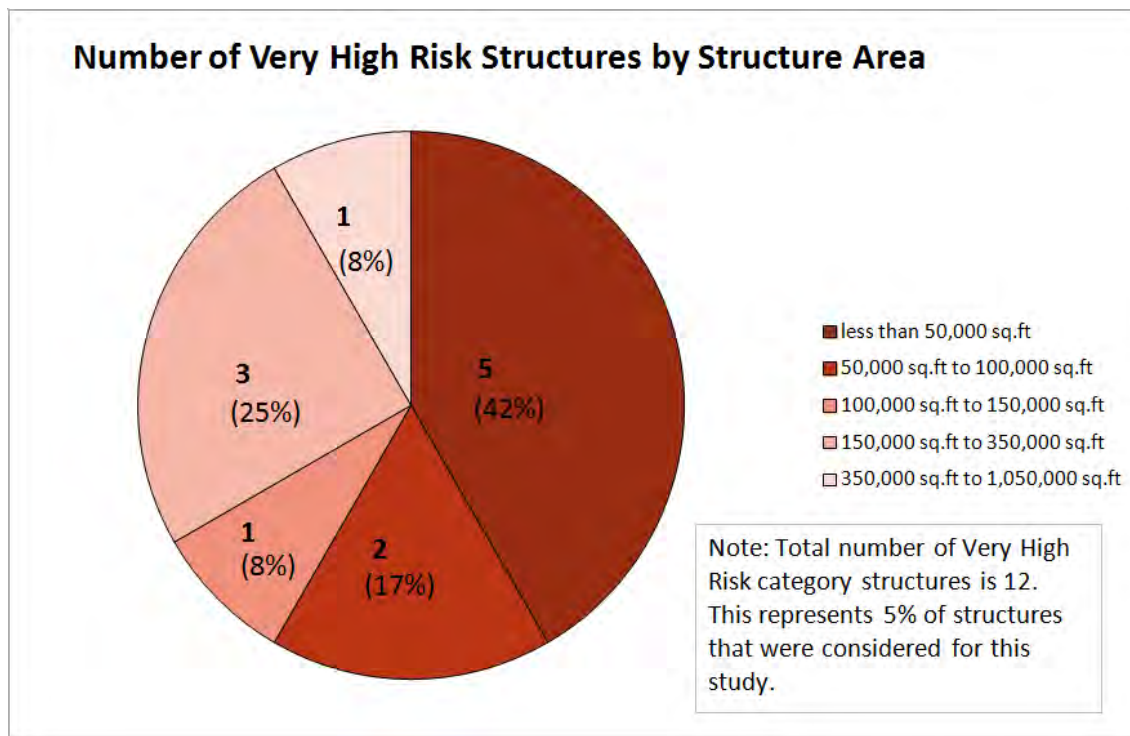


Figure 4

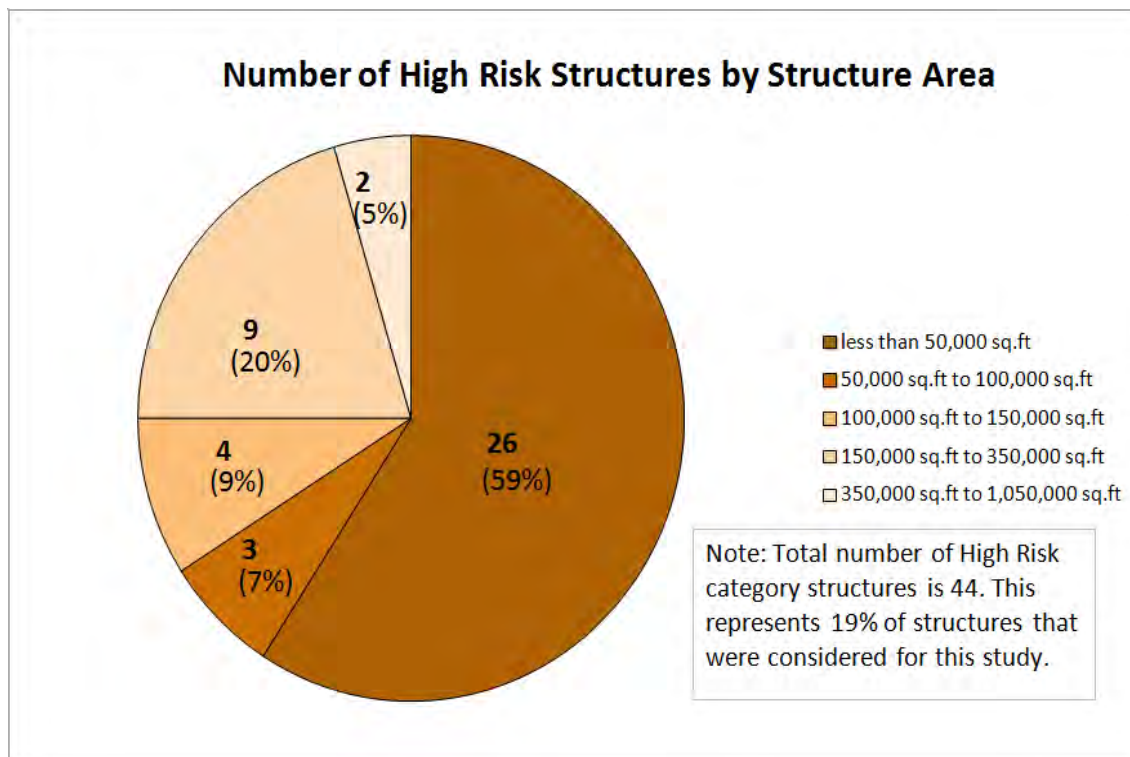
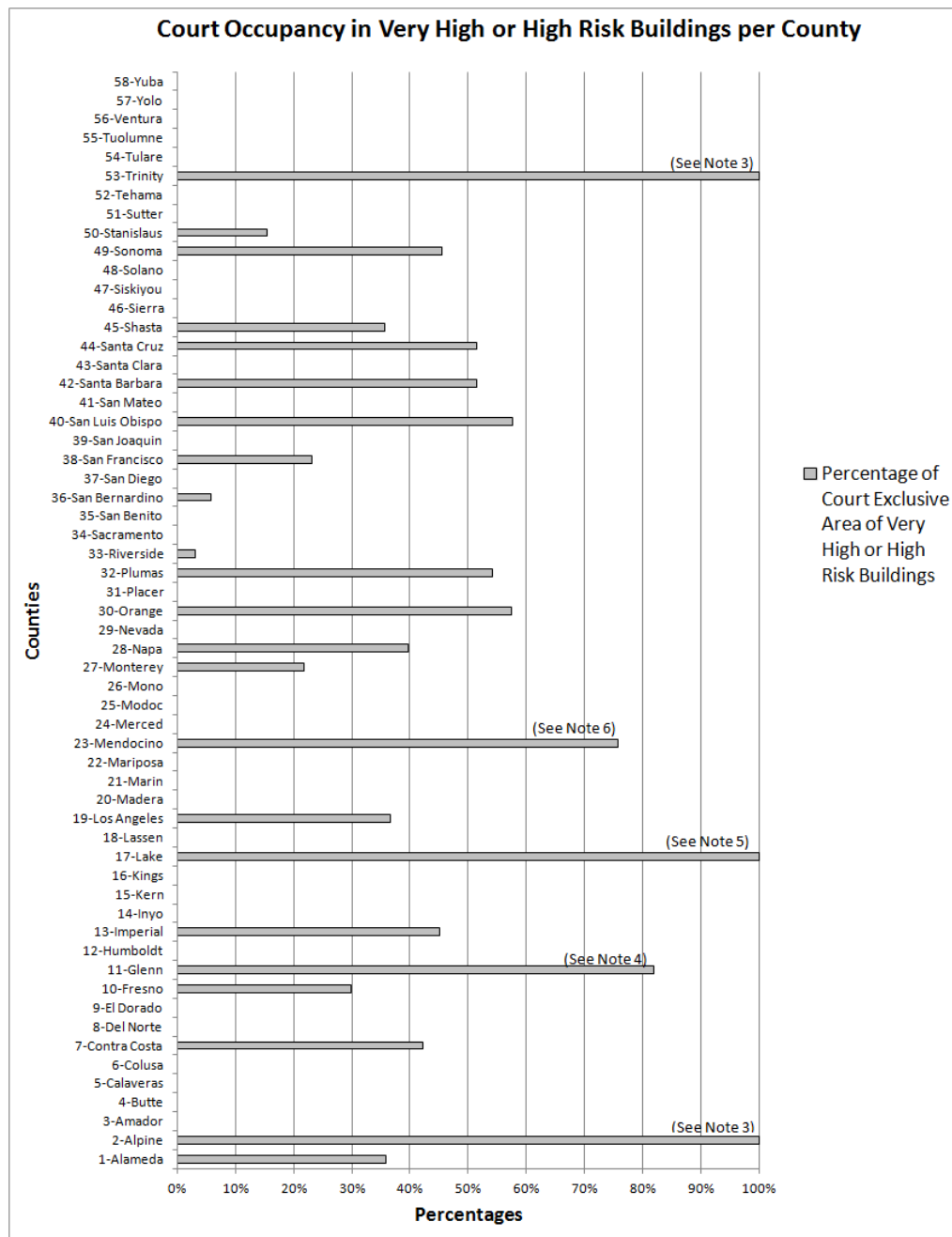


Figure 5

**Notes:**

- 1) Total court occupied area in High or Very High Risk buildings by County - %
- 2) Percentages shown in this graph are based on all Active Courthouses in Judicial Council's building inventory.
- 3) Alpine and Trinity county structures are historic buildings not owned by Judicial Council.
- 4) Glenn county structures are to be replaced by new court buildings or retrofitted- if funding is available.
- 5) Pending new Courthouse does not replace High Risk structure at Clearlake.
- 6) Would be reduced by new Ukiah Courthouse.

Figure 6

BACKGROUND

In 2003, the Office of Court Construction and Management of the Administrative Office of the Courts (AOC, now the Judicial Council of California) initiated a seismic assessment program to ascertain the seismic performance of court buildings statewide in preparation for transfer of ownership and management responsibility for trial court facilities from the counties to the state. The Summary Report of Preliminary Findings, dated January 2004, documented the preliminary findings of that seismic assessment program which was conducted in accordance with the Trial Court Facilities Act of 2002 (Sen. Bill 1732, [Escutia]). The act established the process for affecting the transfers and required that the state evaluate buildings containing court facilities for seismic safety. Buildings were required to meet the seismic criteria set forth in the act to be eligible to transfer, unless provisions were made for correction of their deficient items.

As a precursor, the Task Force on Court Facilities conducted a statewide inventory of court buildings (1999–2001) under Assembly Bill 233: the Lockyer-Isenberg Trial Court Act of 1997. Of the 452 buildings identified in the inventory, 227 were exempted from evaluation under the seismic assessment program by meeting one or more of the following criteria:

- The building was built in accordance with the 1988 Uniform Building Code (or later code) or upgraded since 1988;
- The court-occupied space is less than 10,000 square feet (sf) and less than 20% of the total building area; or
- The building is a leased, abandoned, modular, or storage facility.

The AOC selected eight prominent California consulting structural engineering firms to evaluate the remaining 225 nonexempt buildings in the seismic assessment program. The AOC also selected Rutherford + Chekene as Supervising Structural Engineer to develop and coordinate the program. During an initial review of the inventory, the engineers noted that many buildings previously identified by occupancy and use as standalone buildings actually consisted of multiple structures, separated by expansion or seismic joints. Because each of these segments required independent seismic evaluation, the database of structures to be evaluated increased to 300 separate entries that made up the 225 buildings.

The Trial Court Facilities Act of 2002 specified that the seismic evaluations be performed according to procedures developed by the California Department of General Services (DGS). The technical evaluation method used by the DGS was based on a document developed by the Federal Emergency Management Agency (FEMA) and published as *ASCE 31, Standard for the Seismic Evaluation of Buildings*. These procedures resulted in structures being assigned a seismic risk level which was based upon a set of seismic performance descriptions originally conceived by the California Division of the State Architect (DSA) in 1994. The risk levels range from I to VII, with Risk Level I representing the best performance and Risk Level VII representing the worst performance (see

Table 1). The act specified further that Risk Levels V to VII represented an “unacceptable seismic safety rating.” (Gov. Code, § 70301(l).) A structure rated Risk Level V (or worse) required provision for correction of the deficient item(s) before it could be transferred to the state.

Table 3: DSA Risk Level Descriptions		
Risk Level	Aspect	Anticipated Results
I	Building:	Potentially no structural damage: repairable, if any. Negligible non-structural damage: repairable.
	Risk to Life:	Negligible.
	Systems:	All systems will probably remain operational.
	Occupancy:	Immediate, with only negligible disruption during clean-up.
II	Building:	Negligible structural damage: repairable. Minor non-structural damage: repairable.
	Risk to Life:	Negligible.
	Systems:	Minor disruptions for hours to days.
	Occupancy:	Minor disruptions for hours to days.
III	Building:	Minor structural damage: repairable. Moderate non-structural damage: extensive repair.
	Risk to Life:	Minor.
	Systems:	Disruption of systems for days to months.
	Occupancy:	Return within weeks, with minor disruptions.
IV	Building:	Moderate structural damage: substantial repair. Substantial non-structural damage: extensive repair.
	Risk to Life:	Moderate.
	Systems:	Disruption of systems for months to years.
	Occupancy:	Partially to totally vacated during repairs.
V	Building:	Substantial structural damage: partial collapse likely, repair may not be cost effective. Extensive non-structural damage: repair may not be cost effective.
	Risk to Life:	Substantial.
	Systems:	Total disruption of systems: repair may not be cost effective.
	Occupancy:	Totally vacated during repairs.
VI	Building:	Extensive structural damage, partial to total collapse likely: repair may not be cost effective. Extensive nonstructural damage: repair may not be cost effective.
	Risk to Life:	Extensive, but not imminent: extrication protracted and difficult.
	Systems:	Total disruption of systems: repair may not be cost effective.
	Occupancy:	Totally vacated during repairs (if repairable).

Table 3: DSA Risk Level Descriptions		
Risk Level	Aspect	Anticipated Results
VII	Building:	Unstable under existing vertical loads or earthquake.
	Risk to Life:	Imminent threat to occupants and/or adjacent property.
	Systems:	Total disruption of systems: most likely not repairable.
	Occupancy:	Should be vacated until structural upgrading is accomplished.

During the evaluation process it was determined that for some of the structures, due to a lack of available information or the need for analysis beyond that prescribed in the program, less reliable risk level assignments had been made than for the balance of the inventory. This group of structures included 60 for which adequate structural drawings were not available, 14 for which adequate information was not available to perform a complete seismic evaluation concerning the possibility of liquefaction at the site, anchorage of plaster ceilings over large assembly spaces, or anchorage of external precast concrete panels, and 7 for which the consulting structural engineers indicated that further analysis (e.g., a more detailed evaluation) might change their rating. Although all 81 of these structures were evaluated and assigned risk levels in accordance with procedures consistent with the methods of DGS, the AOC decided to classify these structures as “pending” until the issues described above were resolved. Hence, of the 300 building structures in the 2003 seismic assessment program, 72 were assigned ratings of Risk Level IV, and 228 were assigned ratings of Risk Level V (including 81 assigned Risk Level V–Pending).

In 2006, the AOC embarked on a major capital building program—the Judicial Council Trial Court Capital-Outlay Program—intended to replace and/or consolidate existing court facilities largely through the construction of new court buildings across the state. The prioritization methodology employed (in August 2006 and updated in October 2008) did not consider seismic risk. Rather, program objectives for the prioritization of proposed new trial court building projects were to:

- Improve security;
- Reduce overcrowding;
- Correct physical hazards; and
- Improve access to court services.

The report to the Judicial Council regarding project prioritization contained the following explanation regarding seismic (safety) conditions of an existing building to be replaced by a new court building:

If legislation is adopted that allows the state to accept transfer of responsibility for or title to court facilities with an uncorrected seismic condition, then the seismic condition of buildings affected by projects will be factored into the evaluation as follows—projects that replace or

renovate a building with an uncorrected seismic condition will receive the maximum points (i.e., 5 of 5 possible points) for the Physical Condition criterion.

Court building projects ranked by the above methodology in the two highest groups—Immediate Need and Critical Need—were subsequently funded with the enactment of SB 1407 (Perata) that established a lease revenue bond program for new court buildings, the Immediate and Critical Need Account.

Later in 2006, SB 10 (Dunn) was adopted. This bill revised the Trial Court Facilities Act to allow 107 Risk Level V buildings to transfer to the state as long as liability for all earthquake-related damage, replacement, injury, and loss remained with the counties to the same extent they would have been liable if the responsibility for court facilities had not transferred to the state. This liability attaches to the county (though the state would maintain liability for business interruption) until on or after the earliest of the following:

- The seismic rating is improved;
- The building no longer contains court facilities;
- Thirty-five years pass from the date of transfer of the facilities; or
- The county has complied with the conditions for relief from liability.

The enactment of this legislation did not alter the prioritization of Trial Court Capital-Outlay Projects. Hence it is fair to say that the Judicial Council court building program has not intentionally reduced the risk of damage, injury, or business interruption resulting from seismic events.

Even though seismic risk reduction was not an intended goal of the court building program, 33 structures—26 of which were rated as Risk Level V—were removed from the inventory of court buildings as a consequence of it. In addition to these, 6 structures could also be removed from the inventory upon completion of bidding/construction of already-designed replacement facilities, and 8 more such structures could be removed from the inventory upon completion of final design/bidding/construction of replacement facilities that have undergone preliminary design.

OBJECTIVE OF THIS STUDY AND DATABASE UPDATE

In late 2015, the Judicial Council Capital Program Office updated the court building database to reflect changes to the inventory that had occurred in the intervening years since 2003 (such as due to closure of court building due to funding reductions, and the capital building program) and also to enhance its functionality by incorporating information related to key building attributes, such as:

- Court exclusive area;
- Ownership of title—Judicial Council or county;
- Judicial Council acquisition type—title or responsibility;
- Number of courtrooms and types of cases; and
- County SB 10 status—indemnity of Judicial Council for damage or injury from earthquakes.

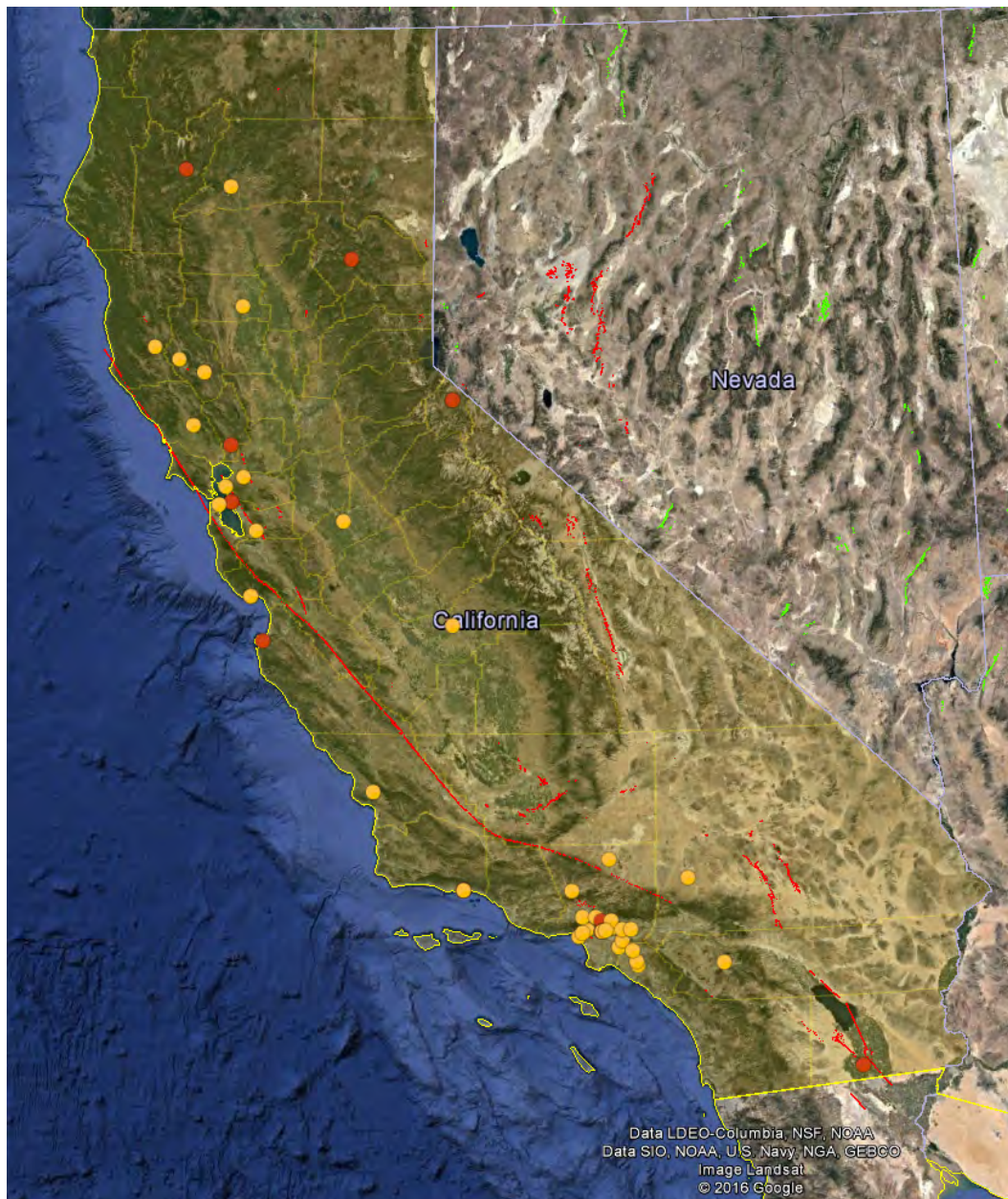
In the process of performing this update, the total number of building structures in the database was reduced from 300 to 227.

In addition, recognizing that the hazard posed by all Risk Level V buildings was not the same, the Judicial Council engaged Rutherford + Chekene (R+C) to rank the 145 Risk Level V building structures that remained in the inventory based on the seismic risk that they represented. Borrowing from similar work that they had recently performed for the federal General Services Administration, R+C developed a Seismic Risk Assessment Tool for the Judicial Council which employs the Federal Emergency Management Agency's HAZUS modeling algorithm.

After setting aside 29 building structures—25 of which were identified as Risk Level V in the database even though there was not enough information available to allow a complete assessment of the building structure and 4 of which were Risk Level V structures, which are new additions to the current seismic database without assigned seismic risk rating yet—the remaining 116 Risk Level V building structures were ranked according to their seismic risk. The ranking was based upon the relative probability of collapse in a seismic event as estimated by the HAZUS model which considers the structural capacity of the building, site specific seismic hazard, and structural characteristics that influence capacity or response to earthquakes. While this ranking parameter is primarily a measure of life safety, it is also indicative of the degree of damage and hence business interruption. The 116 building structures were then sorted into categories as shown in the table below. Besides assignment to one of the three risk categories—very high, high, or moderate—the table also includes the number of building structures in the inventory for which not enough information is available to allow assessment as well as the number of building structures that have been identified as representing acceptable risk by virtue of the fact that they have been retrofitted or already meet SB 1732 Seismic Safety Criteria.

Table 4: Rankings of Seismic Risk Rating (SRR)			# of Bldg. Structures
Very High Risk (VHR)	SRR > 10	Building Structures of Very High Risk recommended as highest priority for mitigation of risk.	12
High Risk (HR)	2 < SRR < 10	Building Structures of High Risk recommended as high priority for mitigation of risk.	44
Moderate Risk (MR)	SRR < 2	Building Structures of Moderate Risk recommended as lower priority for mitigation of risk compared to the others.	60
Not Enough Info. (NEI)	Building Structures that were not evaluated or the seismic evaluation was incomplete due to Not Enough Information to allow assessment of the building structure. 4 building structures, added to the current database without assigned seismic risk rating, were included in this category.		29
Acceptable Risk (AR)	Retrofitted building structures or building structures meeting SB 1732 Seismic Safety Criteria as determined by an evaluation report are categorized as Acceptable Rating .		82

Graphical representation of information contained in the updated court building database, including SRR values and other building attributes, have been imported into a Google Earth Overlay to afford a convenient means of accessing, sorting, and displaying much of the available building data. It is envisioned that the Judicial Council will utilize all of this information to better understand the buildings in their inventory, from structural/seismic and many other perspectives, to inform future decisions ranging from contingency planning to prioritization of funding for capital improvement projects to mitigate seismic risk for California superior court buildings.



**Figure 7: Graphical representation of VHR and HR buildings
in Google Earth Overlay**



Figure 8: Sample data for each building in the database accessible from Google Earth Overlay

SEISMIC RISK RATING METHODOLOGY

The seismic rating system utilizes the HAZUS AEBM methodology as a tool to define the relative seismic risk among structures in the Judicial Council's inventory of court buildings. HAZUS is a nationally applicable, standardized methodology that contains models for estimating potential losses from earthquakes, floods, and hurricanes. HAZUS (seismic) was launched in 1997 by the Federal Emergency Management Agency (FEMA). HAZUS AEBM (Advanced Engineering Building Module) was released in 2003 as an adaptation of the HAZUS earthquake methodology for use in single buildings.

In the mid- to late-2000's, the California Office of Statewide Health Planning and Development (OSHPD), the agency responsible for seismic safety of hospitals in California, adapted HAZUS AEBM as a "screening tool" to evaluate life-safety risk to occupants of California Acute Care Hospitals for the purpose of setting priorities for mitigation. In 2010, HAZUS AEBM methodology was adapted by the U.S. Department of Veterans Affairs for the seismic risk assessment of (VA) Hospital Buildings.

The HAZUS AEBM methodology has been adapted to this project as follows:

- The methodology follows the modifications as outlined by OSHPD in the California Administrative Code section 2013, appendix H to chapter 6;
- Adjustments have been made to capture multistory, wood-frame buildings with severe, weak story deficiencies; and
- For nonexempt buildings that are designed after 1975, the methodology follows the modifications as outlined in "*Seismic Risk Assessment of VA Hospital Buildings—Risk Assessment Methods Phase 1 Report*" prepared by the National Institute of Building Sciences, dated April 13, 2010.

The Seismic Risk Rating (SRR) is established for each structure based on the probability of collapse (POC) values determined from the HAZUS AEBM methodology mentioned above. The POC values are calculated based on the following key parameters:

- Structural capacity of each structure: The structural capacity is derived from the seismic design coefficient (base shear- C_s) determined for each building based on the lateral force resisting system (Model Building Type), size, location, and the age of the building;
- Seismic Hazard: BSE-2E seismic hazard level at each site is determined based on ASCE 41-13, "*Seismic Evaluation and Retrofit of Existing Buildings*." BSE-2E is taken as a seismic hazard with 5% probability of exceedance in 50 years at a site; and
- Significant structural characteristics that influence building capacity and building response include degradation, maximum drift, and modal shape factor.

When determining SRR values, building data was extracted from existing seismic evaluation reports. Structural drawings were typically not reviewed since the intent of

this current study was to develop ratings based upon existing available information, and not to engage in reevaluation of the buildings.

Building data is recorded in the Judicial Council's court building database and includes the following building-specific information, much of which was used when establishing SRR values:

- Building location (address, longitude, and latitude coordinates);
- Site characteristics (including soil type and level of seismicity);
- Seismic Hazard Parameters (BSE-2E);
- Building characteristics (including number of stories, area, age, and code year);
- Structural characteristics (including structural system defined based on ASCE-41 model building types);
- Identification of critical, structural seismic deficiencies;
- Identification of nonstructural seismic deficiencies (even though not considered in the SRR calculations);
- Identification of site geo-hazards (even though not considered in the SRR calculations); and
- DSA seismic rating.

The table below presents a summary of the Seismic Risk Rating (SRR) ranking criteria. Input parameters used for calculation of the SRR values as well as the description of these input parameters and a glossary of key terminology are included in a separate volume.

Table 5: Rankings of Seismic Risk Rating (SRR)		
VHR	SRR > 10	Buildings of Very High Risk recommended as highest priority for mitigation of risk.
HR	2 < SRR < 10	Buildings of High Risk recommended as high priority for mitigation of risk.
MR	SRR < 2	Buildings of Moderate Risk recommended as intermediate priority for mitigation of risk compared to the others.
NEI	Buildings that were not evaluated or the seismic evaluation was incomplete due to Not Enough Information to allow assessment of the building structure. Building structures, added to the current database without assigned seismic risk rating, were included in this category.	
AR	Retrofitted buildings or buildings meeting SB 1732 Seismic Safety Criteria as determined by an evaluation report are categorized as Acceptable Rating .	

The following should be noted with regard to the information contained in this table:

- The 2003 *Superior Courts of California Seismic Assessment Program* involved the seismic evaluation of courts facilities based on ASCE 31, *Standards for Seismic Evaluation of Buildings*. Court buildings were assigned seismic risk levels from I to VII: Risk Level I representing the best performance and VII representing the worst performance. Buildings that met the ASCE 31 standard for life safety were assigned Risk Level IV or better. On the other hand, buildings that did not meet the ASCE 31 life-safety standard were assigned a Risk Level V or worse. ASCE 31 has now been updated and replaced by ASCE 41-13, *Standards for Seismic Evaluation and Retrofit of Existing Buildings*. The ASCE 31 life-safety (structural and selective nonstructural) performance is similar to life-safety (structural and nonstructural) performance at BSE-1E in accordance with ASCE 41-13.
- All buildings with VHR/HR/MR/NEI rankings have a Risk Level V (or worse) rating, meaning they do not meet the SB 1732 Seismic Safety Criteria (ASCE 31 life-safety performance). An MR ranking simply means that it has a lower risk compared to buildings with VHR and HR rankings.
- The dividing line between VHR/HR and MR rankings is set for purposes of this methodology to be consistent with rankings used by other agencies (e.g., State of California DGS, OSHPD, University of California, and Stanford University) as having high risk to life safety;

- The dividing line between VHR and HR rankings is set for purposes of this methodology to identify buildings of known high collapse potential, such as Unreinforced Masonry Bearing Walls (URM) and Nonductile Concrete Frames (C1) in high and very high seismic regions, which are assigned to the VHR category; and
- An action plan for further study associated with buildings assigned to the NEI category is discussed in the Recommended Action Plans and Follow-Up Activities Section of this report.

The HAZUS-based SRR methodology, although a powerful tool for seismic risk assessment of the Judicial Council's court facilities, has limitations as noted below:

- The Seismic Risk Rating is best used for comparison of relative risk among a large number of buildings, rather than for determining a seismic risk value for an individual building;
- The SRR does not consider the seismic hazard associated with nonstructural components, such as partitions, ceilings, and cladding. The basis of the seismic risk rating system is the probability of complete structural damage and the resulting probability of collapse for a building calculated based on the lateral drift capacity of the structure vs. drift demand imposed by an earthquake hazard level. The nonstructural components are only considered in this methodology if they influence the global capacity of the structure;
- The SRR does not consider the impact of Geological Site Hazards, such as liquefaction, slope stability, and surface fault rupture. The sites with potential geo-hazard deficiencies are identified in the Expanded Database and recommended for further study; and
- The SRR values are not calibrated to any particular performance objectives of ASCE 31, ASCE 41, or other rating systems. A low SRR value does not necessarily indicate conformance to the life-safety objective per SB 1732 or other rating systems, since a building with a low SRR may have nonstructural deficiencies or geological site hazard issues that may pose risk to life safety.

COST MODEL METHODOLOGY

In order to gauge the financial impact of performing structural strengthening for those buildings in the inventory that represent the greatest seismic risk, a rough-order-of-magnitude retrofit cost was developed to improve 7 of the 12 Risk Level V structures assigned to the Very High Risk category and 43 of the 44 Risk Level V structures that have been assigned to the High Risk category for which the Judicial Council would be entitled to fund the work. It is important to understand the ownership type of a particular court building when determining if the seismic risk could be mitigated by a retrofit financed by the Judicial Council. Certain court buildings, historic structures and those where the Court was a minor tenant in a County building, did not transfer to the Judicial Council. The transfer of certain other court buildings from the counties to the state, in accordance with SB 1732, resulted in ownership conditions which would preclude the Judicial Council from funding structural strengthening or other building improvements such as:

- The county has ownership (or title transfer to the Judicial Council will not occur even after retirement of bond indebtedness); or
- The building is defined as a Historic Building & County Owned where transfer of responsibility is defined in a “Historic MOU.”

For all of these buildings, the cost for structural strengthening is listed as not applicable (N/A) in the database. In addition, there are a few instances where the court has a very small occupancy (e.g., 10%) in a county-owned building with deferred transfer of title. As such it may be difficult for the Judicial Council to justify funding their strengthening, though those costs are included herein. Court buildings in another ownership class—Delayed Title Transfer to the Judicial Council until after retirement of bond indebtedness—are included in the cost model since eventually the Judicial Council will assume the seismic safety risk for these buildings. Regardless of the ownership conditions, the Judicial Council is still exposed to risk due to life-safety concerns, court fixture damage, and business interruption from earthquakes.

Generally speaking, the cost model, where employed, identifies total project costs associated with mitigation of all seismic-related structural and critical nonstructural deficiencies (e.g., plaster ceilings) of the subject buildings, including restoration of collateral architectural, mechanical, and electrical elements that are impacted in the process. The cost model also includes soft costs, such as fees and miscellaneous project expenses. These costs should not be taken as accurately identifying the cost of individual building retrofits given all of the uncertainties involved at this stage, but rather they should be taken as representative of program-wide budget requirements. Due to the considerable uncertainty associated with estimating mitigation costs associated with geologic site hazards without access to site-specific geotechnical information, the cost model does not include these costs. According to the database, cost premiums for mitigating geologic site hazards may apply at 9 of the building sites.

DIRECT COSTS

The direct costs are derived from seismic retrofit construction costs using data from the DGS-administered State Building Seismic Program gathered by the Turner/Vanir Joint Venture, as well as from other retrofit cost studies performed by Vanir Construction Management. Further, these costs have been spot-checked for applicability to the court's inventory by comparing them with budgets developed for selected AOC Planning Studies performed in 2009. The unit costs (per gross building area) are based on the structural building type, the single parameter which best characterizes retrofit construction cost at a conceptual level. Following is a detailed description of the approach and assumptions:

- Given the limited information available to characterize the structural work scope at this stage, the cost model incorporates a 15% design/estimating contingency.
- The cost model reflects costs for a generic, conventional retrofit solution, rather than a customized retrofit solution such as base isolation. More detailed study will be required in order to optimize the actual retrofit scheme and construction approach.
- Given the significant costs and disruption associated with relocating building occupants and establishing suitable temporary relocation facilities, it has been assumed that the work within these fully occupied buildings will generally be phased and performed during off-hours (after work hours); hence unit costs reflect these premiums. Additionally, the cost model considers loss of contractor productivity due to access restrictions and security measures associated with working in a secure, occupied building.

If court operations in a candidate building were relocated (to another superior court building) during the retrofit, construction duration as well as costs would be reduced considerably.

- The cost model reflects appropriate subcontractor and general contractor mark-ups, including but not limited to:
 - Mark-up on labor, material, and equipment;
 - Mark-up on labor supervision;
 - Sales tax on material and equipment;
 - General Conditions/Contractor's Overhead;
 - Bond and Insurance; and
 - Subcontractor and General Contractor Profit.
- The cost model includes a 20% premium which, at a programmatic level, represents the potential cost associated with incorporating upgrades mandated by building codes such as ADA improvements and fire/life-safety improvements;
- Since building-specific characteristics and deficiencies have a significant impact on the application of the cost model, information available from the 2003 Superior Courts of California Seismic Assessment Program was used to adjust the retrofit costs up or down to the extent feasible. Factors which have been considered include:

- Complexities associated with high-rise construction.
 - Geographical complexities, including those associated with inner-city construction.
 - Increased finish costs in buildings with a large percentage of court area.
 - Increased structural costs in buildings subjected to very high seismic forces.
 - Increased structural costs for buildings identified as having cladding deficiencies.
 - Increased foundation costs in buildings supported upon deep foundations.
 - Increased finish costs associated with historic buildings.
 - Increased demolition costs associated with buildings which require remediation of asbestos-containing materials (ACM).
 - Adjustments associated with limited, localized retrofit as gleaned from the evaluation reports from the 2003 seismic assessment program. The project costs for 10 structures have been reduced by 20% to 60% as a result of this adjustment.
- The cost model includes a construction contingency of 10% for unforeseen conditions during construction.

SOFT COSTS

In addition to the direct cost described above, the cost model also adds fees and miscellaneous project expenses (soft costs) in order to afford a more complete picture of total project costs. These costs average approximately 35%, and are based on historic percentages, which include the following:

- Design fees, peer review fees, and special consultant fees;
- Project and construction management fees;
- Regulatory agency fees;
- Environmental documentation fees;
- Advertising, printing, and mailing fees;
- Construction inspection and material testing expenses; and
- Minimal swing space and temporary relocation expenses (to house the occupants in the immediate vicinity of the work who need to be vacated in order to accomplish the retrofit work). Note that an accurate building-specific assessment of this cost would require the development of a more detailed retrofit scheme and the conducting of an interdisciplinary review of the impact of the retrofit on the building function.

TOTAL PROJECT COSTS

Total project costs are taken as the sum of Direct Costs and Soft Costs which are subsequently multiplied by 90% to establish a lower bound and by 115% to establish an upper bound when presented herein.

Table 6: Cost Model of Total Project Unit Costs (Before Consideration of Building-Specific Characteristics)	
Building Type	Unit Cost (4 Q 2016 dollars)
Wood	N/A
Structural Steel	\$210 /sf
Concrete	\$240 /sf
Precast Concrete	\$240 /sf
Structural Steel/Concrete	\$225 /sf
Reinforced Masonry	\$275 /sf
Reinforced Masonry/Structural Steel	\$240 /sf
Unreinforced Masonry	\$355 /sf
Unreinforced Masonry/Concrete	\$320 /sf

SUMMARY DATABASE OF SEISMIC RISK RATINGS

The Summary Database follows. It presents all 227 (nonexempt) building structures currently in the court building seismic assessment inventory ranked in order of seismic risk. Key building characteristics are provided for each building structure as well as a lower bound and upper bound rough-order-of-magnitude estimate of total project costs associated with retrofitting buildings in the Very High and High Risk categories for which the Judicial Council would be able to fund the work.

Definition of notations in database:

Ci	Civil cases heard
Cr	Criminal cases heard
DTot	Delayed Transfer of Title (bond debt)
F	Family cases heard
FTBR	To Be Replaced if capital project ready to start construction document phase is funded in FY 2017–2018
JV	Juvenile cases heard
MH	Mental Health cases heard
MOU	Memorandum of Understanding
P	Probate cases heard
PR	Potential Replacement or Retrofit if capital project ready to start bidding or construction is funded in FY 2017–2018.
SC	Small Claim cases heard
T	Traffic cases heard
ToR	Transfer of Responsibility
ToT	Transfer of Title

Table 7: Seismic Risk Rating Database

County/ Bldg ID	County	Building Name	Building Address	Year from Construction Documents	Building Gross Area (JCC masterdatabase)	No. of Stories above ground	ASCE 31 Bldg. Type	Evaluation Level	DSA Rating [2016]	Court Exclusive Area [JCC CAFM]	Title Ownership JCC or County [JCC CAFM]	JCC Acquisition Type (Title or Responsibility) [JCC CAFM]	County SB10 Indemnity [Transfer Agreements]	Type of Cases [Court's websites]	Seismic Risk Rating	Status	Total Project Retrofit Cost - Low Range (-10%)	Total Project Retrofit Cost - High Range (+15%)
19-H1-A	Los Angeles	Glendale Superior and Municipal Courthouse	600 E. Broadway, Glendale	1956	7,400	2	S4/C1	Tier 1	V	31,795	JCC	ToR/ToT	Yes	Ci/Cr/T	44.2		\$2,020,000	\$2,550,000
01-A2-E	Alameda	County Administration Bldg.	1221 Oak St., Oakland	1961	196,850	5	C2	Tier 2	V	33,329	County	ToR	Yes	Ci	37.4		\$64,420,000	\$81,500,000
19-K1-A	Los Angeles	Stanley Mosk Courthouse, West Wing	110 N. Grand Ave., Los Angeles	1955	220,860	9	S4	Tier 2	V	475,865	JCC	ToR/ToT	Yes	Ci/F/P/SC/A	23.4		\$60,230,000	\$76,200,000
19-K1-B	Los Angeles	Stanley Mosk Courthouse, East Wing	111 N. Hill St., Los Angeles	1955	515,340	7	S4	Tier 2	V	Ownership & courtroom quantity & other data shown in 19-K1-A					23.1		\$140,550,000	\$177,790,000
28-B1-E	Napa	Historical Courthouse	825 Brown St., Napa	circa 1878	16,000	2	URM	Tier 1	V	33,569	County	ToR	Yes	Ci/F/SC	22.9		N/A	N/A
32-A1	Plumas	Courthouse	520 Main St., Quincy	1919	36,187	4	C2	Tier 1	V	12,541	County	MOU-Hist	No	Cr/Ci/T/F	22.7		\$11,190,000	\$14,150,000
27-C1	Monterey	Monterey Courthouse	1200 Agujito Rd., Monterey	1965	65,334	3	C1	Screening	V	33,463	County	ToR	Yes	Ci/DV/F/P/SC	14.1		\$21,980,000	\$27,800,000
01-A1	Alameda	Rene C. Davidson	1225 Fallon St., Oakland	1934	284,120	13	S4	Tier 2	V	102,040	County	MOU-Hist	No	Ci/CR/F/JV/MH	12.4		N/A	N/A
42-A1	Santa Barbara	Santa Barbara County Courthouse	1100 Anacapa St., Santa Barbara	1926	134,729	4	S4	Tier 1	V	40,341	County	NON-TRAN	No	Ci/Cr/F/JV/P/SC	10.8		N/A	N/A
02-A1	Alpine	Alpine County Courthouse	99 Water St., Markleeville	1927	7,326	1	URM/C2A	Tier 1	V	2,552	County	MOU-Hist	No	Cr/Ci/T/JV	10.8		N/A	N/A
53-A1-E	Trinity	Trinity County Courthouse	11 Court St., Weaverville	circa 1857	11,276	2	URM	Tier 1	V	9,493	County	MOU-Hist	No	Ci/Cr/F/JV/P/SC/T	10.7		N/A	N/A
13-A1	Imperial	Imperial County Courthouse	939 W. Main St., El Centro	1923	66,000	2	C2	Tier 2	V	24,568	County	ToR/ToT	Yes	T/Cr/JV/F/Ci/P	10.5		\$21,000,000	\$26,570,000
													Programmatic Retrofit Cost for VERY HIGH Risk Rated Buildings				\$321,390,000	\$406,560,000
19-R1-B	Los Angeles	Eastlake Juvenile Courthouse, North Portion	1601 Eastlake Ave., Los Angeles	1951	10,064	1	RM2	Tier 2	V	19,022	County	ToR	Yes	JV	9.8		\$3,110,000	\$3,940,000
49-A1-A	Sonoma	Hall of Justice	600 Administration Dr., Santa Rosa	1962	180,188	2	C2	Tier 2	V	58,099	County	ToR	Yes	Ci/Cr/F/JV/P/T	9.3	FTBR	\$34,400,000	\$43,520,000
33-F1	Riverside	Hemet	880 N. State St., Hemet	1969	31,720	1	RM1	Tier 2	V	26,511	County	DTot	Yes	F/SC/T	8.2	FTBR	\$11,530,000	\$14,590,000
19-L1	Los Angeles	Criminal Courts Bldg.	210 W. Temple St., Los Angeles	1968	1,020,266	19	S1/S4	Tier 2	V	355,151	JCC	ToR/ToT	Yes	Criminal	7.3		\$204,050,000	\$258,130,000
45-A7	Shasta	Main Courthouse Annex	1451 Court St., Redding	1965	35,445	3	S4	Tier 2	V		County	ToR	Yes	Closed/Retired	7.2	PR	\$8,700,000	\$11,010,000
53-A1-A	Trinity	Trinity County Courthouse, 1950's Addition	11 Court St., Weaverville	circa 1950	16,924	2	RM2	Tier 1	V	Ownership & courtroom quantity & other data shown in 53-A1-E					6.4		\$4,920,000	\$6,230,000
44-A1	Santa Cruz	Main Courthouse	701 Ocean St., Santa Cruz	1965	37,585	1	C1a	Tier 2	V	41,307	County	ToR	Yes	Ci/Cr/P/T	6.3		\$12,980,000	\$16,420,000
19-AO1-A	Los Angeles	1959 Addition	7339 Painter Ave., Whittier	1959	17,151	1	RM1	Tier 1	V	45,085	JCC	ToR/ToT	Yes	Closed	6.2		\$5,300,000	\$6,710,000
23-A1-A	Mendocino	County Courthouse, Addition	100 N. State St., Ukiah	1946	45,979	4	S4	Tier 1	V	28,407	County	ToR	Yes	Ci/Cr/F/JV/P/SC/T	6.0		\$11,290,000	\$14,280,000
11-A1	Glenn	Historic Courthouse	526 Sycamore St., Willows	circa 1894	30,031	2	URM	Tier 1	V	11,510	JCC	ToR/ToT	Yes	T/Cr/F/JV	5.7	PR	\$13,100,000	\$16,580,000
17-B1	Lake	South Civic Center	7000A S. Center Dr., Clearlake	1971	8,385	1	RM1	Screening	V	5,080	JCC	ToR/ToT	Yes	T/SC/Child Support	5.6		\$2,820,000	\$3,570,000
19-J2	Los Angeles	Pasadena Municipal Courthouse	301 E. Walnut St., Pasadena	1952	36,572	2	C2	Tier 2	V		County	ToR/ToT	Yes	Closed	5.4		\$6,650,000	\$8,410,000
42-B1	Santa Barbara	Santa Barbara Municipal Court	118 E. Figueroa St., Santa Barbara	circa 1953	44,470	2	S4/C2	Tier 2	V	47,370	JCC	ToR	Yes	Cr/T/SC	5.2	FTBR	\$12,940,000	\$16,360,000
07-F1	Contra Costa	Richmond-Bay District	100 37th St., Richmond	1953	76,462	2	S1/S4	Tier 2	V	40,976	JCC	ToR/ToT	Yes	F/Ci/SC/Cr/T/I	5.1		\$20,160,000	\$25,500,000
19-AQ1	Los Angeles	Beverly Hills Courthouse	9355 Burton Way, Beverly Hills	1967	184,882	4	C2	Tier 2	V	37,859	JCC	ToR/ToT	Yes	T	5.1		\$55,460,000	\$70,160,000
19-O1	Los Angeles	Rio Hondo Court	11234 E. Valley Blvd., El Monte	1974	129,176	4	S1	Tier 2	V	45,993	JCC	ToR/ToT	Yes	Cr/T	5.1		\$35,230,000	\$44,570,000
19-G1-E	Los Angeles	Burbank Superior and Municipal Courthouse	300 E. Olive Ave., Burbank	1952	37,280	2	C2	Tier 1	V	44,404	County	DTot	Yes	Ci/Cr/T	5.0		\$10,170,000	\$12,860,000
19-R1-A	Los Angeles	Eastlake Juvenile Courthouse	1601 Eastlake Ave., Los Angeles	1951	18,000	1	RM2	Tier 2	V	Ownership & courtroom quantity & other data shown in 19-R1-B					5.0		\$4,420,000	\$5,590,000
19-R1-C	Los Angeles	Eastlake Juvenile Courthouse, 1958 Addition	1601 Eastlake Ave., Los Angeles	1958	18,100	1	S2A/RM1	Tier 2	V	Ownership & courtroom quantity & other data shown in 19-R1-B					5.0		\$3,950,000	\$5,000,000
50-A2	Stanislaus	Hall of Records	1100 I St., Modesto	1938	45,600	4	C2	Tier 2	V	21,207	JCC	ToR/ToT	s ?? Bonded	Probate	4.7	FTBR	\$12,850,000	\$16,260,000
19-X1-E	Los Angeles	Citrus Municipal Court, Phase I	1427 W. Covina Pkwy., West Covina	1957	31,368	1	RM1	Tier 2	V	64,204	County	ToR	Yes	Cr/T	4.7		\$9,410,000	\$11,900,000
19-H1-E	Los Angeles	Glendale Superior and Municipal Courthouse	600 E. Broadway, Glendale	1956	48,000	2	S4	Tier 2	V	Ownership & courtroom quantity & other data shown in 19-H1-A					4.5		\$11,560,000	\$14,630,000
30-C2-ARC	Orange	North Justice Center Annex	1276 N. Berkeley Ave., Fullerton	1972	1,000	2	PC1A	Tier 2	V	27,680	County	ToR/ToT	Yes	T/Cr/Ci/SC	4.4		\$280,000	\$360,000
19-AR1-E	Los Angeles	West Los Angeles Courthouse	1633 Purdue Ave., Los Angeles	1958	20,000	2	C2/C2A	Screening	V	45,129	JCC	ToR/ToT	Yes	Closed	4.4		\$5,450,000	\$6,900,000
17-A3-E	Lake	Courthouse	255 N. Forbes St., Lakeport	1966	47,323	4	S1	Tier 2	V	15,480	County	ToR	No	Cr/I/SC/T/M	4.3	FTBR	\$11,830,000	\$14,970,000
36-L1-A	San Bernardino	Victorville Court	14455 Civic Dr., Victorville	circa 1973	40,000	1	RM1	Screening	V	48,380	County	ToR	Yes	F/Ci/JV/	4.3		N/A	N/A
19-AE1	Los Angeles	Lancaster Courthouse Main Bldg.	1040 W. Ave. J, Lancaster	1960	42,388	2	RM1	Tier 1	V	19,595	County	ToR	Yes	JV	4.1		\$9,250,000	\$11,700,000
19-I1	Los Angeles	Alhambra Superior and Municipal Court	150 W. Commonwealth Ave., Alhambra	1971	110,174	4	S4	Tier 2	V	56,327	County	DTot	Yes	Cr/SC	3.9		\$28,040,000	\$35,480,000
19-AD1	Los Angeles	NewHall Municipal Court	23747 W. Valencia Blvd., Santa Clarita	1969	32,124	1	RM1	Tier 1	V	18,229	County	ToR	Yes	Cr/T	3.7		\$11,100,000	\$14,040,000
19-AK1	Los Angeles	Norwalk Courthouse	12720 Norwalk Blvd., Norwalk	1965	208,195	7	S2/S4	Tier 2	V	117,157	County	ToR/ToT	Yes	Ci/Cr/F	3.4		\$60,570,000	\$76,620,000
19-AV1-B	Los Angeles	Hall of Records, Records Bldg	320 West Temple St., Los Angeles	1958	97,000	13	C2	Tier 1	V	26,700	County	ToR	Yes	?	3.3		\$13,230,000	\$16,730,000
30-B1	Orange	Lamoreaux Justice Center	341 The City Dr. S, Orange	1988	248,676	8	S1	Tier 2	V	127,655	County	DTot	Yes	JV/F/DV	3.3		\$67,820,000	\$85,790,000
19-AX2	Los Angeles	Van Nuys Branch Court	14400 Erwin St. Mall, Van Nuys	1985	284,102	10	S1	Tier 3 NDP	V	134,551	JCC	ToR/ToT	Yes	Cr/T	3.3		\$87,810,000	\$111,080,000
40-A1-A	San Luis Obispo	San Luis Obispo Government Center	1035 Palm St., San Luis Obispo	1980	66,000	3	S2/S2A	Tier 2	V	40,867	County	ToR	Yes	Ci/Cr/F/T	3.1		\$17,400,000	\$22,010,000
19-AV1-A	Los Angeles	Hall of Records, Administration Bldg	320 West Temple St., Los Angeles	1958	350,000	11	S4	Tier 2	V	Ownership & courtroom quantity & other data shown in 19-AV1-B					3.0		\$63,640,000	\$80,500,000
44-A2	Santa Cruz	County Administration Bldg.	701 Ocean St., Santa Cruz	1965	206,400	5	C1	Tier 2	V	14,775	County	ToR	Yes	Ci/Cr/P/T	2.7		\$63,800,000	\$80,700,000
17-A3-B	Lake	South Wing Addition	255 N. Forbes St., Lakeport	1982	7,775	3	S2	Tier 2	V	Ownership & courtroom quantity & other data shown in 17-A3-E					2.7	FTBR	\$2,050,000	\$2,590,000
07-A2	Contra Costa	Wakefield Taylor Courthouse	725 Court St., Martinez	1931	100,657	4	S4	Tier 2	V	100,687	JCC	ToR/ToT	Yes	Ci/Cr/JV/P	2.7		\$30,200,000	\$38,200,000
19-X1-A	Los Angeles	Citrus Municipal Court, Phase II	1427 W. Covina Pkwy., West Covina	1967	33,250	1	RM1	Tier 1	V	Ownership & courtroom quantity & other data shown in 19-X1-E					2.6		\$9,670,000	\$12,240,000
19-AP1-B	Los Angeles	Santa Monica Courthouse, Central Wing	1725 Main St., Santa Monica	1950	33,855	2	C2/C2A	Tier 2	V	76,222	JCC	ToR/ToT	Yes	Ci/F/T	2.6		\$5,850,000	\$7,400,000
01-H1	Alameda	Fremont Hall of Justice	39439 Paseo Padre Pkwy., Fremont	1976	124,100	3	RM2	Tier 1	V	61,632	JCC	ToR	Yes	Cr/T	2.4		\$20,310,000	\$25,690,000
38-B1	San Francisco	Hall of Justice	850 Bryant St., San Francisco	1958	711,889	8	C2	Tier 1	V	118,247	County	ToR	Yes	Cr/T/	2.3		\$200,620,000	\$253,790,000
30-A1-C	Orange	Central Justice Center	700 Civic Center Dr. West, Santa Ana	1966	179,000	3	S1	Tier 2	P(V)	322,724	JCC	ToR/ToT	No	Cr/Ci/SC/P/MH	2.1		\$47,190,000	\$59,700,000
10-A1	Fresno	Fresno County Courthouse	1100 Van Ness Ave., Fresno	1964	213,687	9	S1/S4	Tier 2	V	153,887	County	ToR/ToT	Yes	Cr/DV/JV/T	2.1		\$56,340,000	\$71,260,000
													Programmatic Retrofit Cost for HIGH Risk Rated Buildings				\$1,307,450,000	\$1,653,970,000

Table 7: Seismic Risk Rating Database

County/ Bldg ID	County	Building Name	Building Address	Year from Construction Documents	Building Gross Area (JCC masterdatabase)	No. of Stories above ground	ASCE 31 Bldg. Type	Evaluation Level	DSA Rating [2016]	Court Exclusive Area [JCC CAFM]	Title Ownership JCC or County [JCC CAFM]	JCC Acquisition Type (Title or Responsibility) [JCC CAFM]	County SB10 Indemnity [Transfer Agreements]	Type of Cases [Court's websites]	Seismic Risk Rating	Status	Total Project Retrofit Cost - Low Range (-10%)	Total Project Retrofit Cost - High Range (+15%)
19-S1	Los Angeles	Hollywood Branch Courthouse	5925 Hollywood Blvd, Los Angeles	1984	57,772	2	RM2	Tier 2	V	23,820	JCC	ToR/ToT	Yes		1.9			
33-J1-B	Riverside	Corona	505 S. Buena Vista, Corona	1974	9,470	1	S2	Tier 2	V	20,517	County	ToR	Yes		1.9			
17-A3-A	Lake	Pedestrian Bridge/Walkway	255 N. Forbes St., Lakeport	-	490	1	Varies	Tier 2	V	Ownership & courtroom quantity & other data shown in 17-A3-E					1.9	FTBR		
15-A1-A	Kern	Bakersfield Superior Court, Central Wing	1415 Truxtun Ave., Bakersfield	1956	97,210	7	S2/S4	Tier 2	V	118,198	County	ToR	Yes		1.9			
07-C1	Contra Costa	Danville District Courthouse	640 Ygnacio Valley Rd., Walnut Creek	1973	37,104	2	RM1	Screening	V	24,469	JCC	ToR/ToT	Yes		1.7			
09-A1	El Dorado	Main St. Courthouse	495 Main St., Placerville	1911	17,951	3	S5	Tier 1	V	18,560	County	ToR/ToT	??		1.6			
30-D1-A	Orange	West Justice Center	8141 13th St., Westminster	1966	115,150	2	C2/RM2	Tier 2	V	83,288	County		Yes		1.5			
19-X1-B	Los Angeles	Citrus Municipal Court, Phase III	1427 W. Covina Pkwy., West Covina	1973	43,380	1	RM1	Tier 1	V	Ownership & courtroom quantity & other data shown in 19-X1-E					1.5			
30-E1-A	Orange	Harbor Justice Center, Phase II	4601 Jamboree, Newport Beach	1985	44,060	2	S1	Tier 2	V	73,166	County	ToR/ToT	Yes		1.5			
33-J1-A	Riverside	Corona	505 S. Buena Vista, Corona	1974	40,300	2	S1	Tier 2	V	Ownership & courtroom quantity & other data shown in 33-J1-B					1.5			
19-AM1-A	Los Angeles	Downey Courthouse	7500 Imperial Hwy., Downey	1986	103,553	4	S1	Tier 2	V	64,450	County	DTot	Yes		1.4			
19-J1	Los Angeles	Pasadena Superior Courthouse	300 E. Walnut St., Pasadena	1968	187,120	6	S4	Tier 2	V	88,008	County	ToR/ToT	Yes		1.2			
19-U1	Los Angeles	Central Arraignment Courthouse	429 E. Bauchet St., Los Angeles	1970	67,719	3	C2	Tier 2	V	41,902	County	ToR	Yes		1.0			
19-E1	Los Angeles	Inglewood Juvenile Court-Superior	110 Regent St., Inglewood	1950	18,791	2	C2b	Tier 1	P(V)	10,801	JCC	ToR/ToT	Yes		0.9			
30-C1-E	Orange	North Justice Center	1275 N. Berkeley Ave., Fullerton	1968	64,225	2	PC1A	Tier 2	V	89,544	County	ToR/ToT	Yes		0.9			
25-A2	Modoc	Barclay Justice Center	205 S East St., Alturas	1914	8,482	3	C2	Tier 2	V	5,730	County	MOU-Hist	No (court r		0.9			
58-A1-E	Yuba	Yuba County Courthouse	215 Fifth St., Marysville	1960	97,460	3	S4	Tier 2	P(V)	25,015	County	ToR	Yes		0.8			
19-W1	Los Angeles	Pomona Superior Court	400 Civic Center Plaza, Pomona	1965	194,000	7	S4	Tier 2	V	106,339	JCC	ToR/ToT	Yes		0.6			
46-A1-E	Sierra	Courthouse/Sheriff Station-Jail	100 Courthouse Square, Downieville	1950	18,181	2	C2A	Tier 2	V	5,440	County	ToR	Yes		0.6			
45-A1	Shasta	Main Courthouse	1500 Court St., Redding	1954	44,528	3	S4	Tier 2	V	40,266	County	ToR	Yes		0.6	PR		
19-C2	Los Angeles	South Bay Courthouse Annex-Municipal	3221 Torrance Blvd., Torrance	1964	15,126	1	RM1	Tier 1	V	5,110	JCC	ToR/ToT	Yes		0.6			
27-D1	Monterey	King City Courthouse	250 Franciscan Way, King City	1973	12,163	1	W1A/RM1	Tier 1	V	6,654	County	ToR	Yes		0.6			
29-A2	Nevada	Annex	201 Church St., Nevada City	1962	40,024	3	C1	Tier 1	V	12,753	County		Yes		0.6			
41-C1-B	San Mateo	Municipal Court Bldg., Detention Cen ter	1050 Mission Rd., South Francisco	1981	10,497	1	RM1	Tier 1	V	34,825	JCC	ToR/ToT	Yes		0.5			
30-C2-MAI	Orange	North Justice Center Annex	1276 N. Berkeley Ave., Fullerton	1972	34,600	2	S4/PC1	Tier 2	V	Ownership & courtroom quantity & other data shown in 30-C2-ARCADE					0.5			
30-A1-B	Orange	Central Justice Center	700 Civic Center Dr. West, Santa Ana	1966	59,000	2	S1	Tier 2	P(V)	Ownership & courtroom quantity & other data shown in 30-A1-C					0.4			
39-D2	San Joaquin	Lodi Branch- Dept. 2	315 W. Elm St., Lodi	1969	6,844	1	RM1	Tier 2	P(V)	6,844	JCC	ToT	?? Bonded		0.4			
19-F1	Los Angeles	Inglewood Municipal Court	1 East Regent St., Inglewood	circa 1975	174,041	6	S1	Tier 2	P(V)	66,721	JCC	ToR/ToT	Yes		0.4			
30-A1-A	Orange	Central Justice Center	700 Civic Center Dr. West, Santa Ana	1966	300,000	11	S1	Tier 2	P(V)	Ownership & courtroom quantity & other data shown in 30-A1-C					0.4			
19-T1	Los Angeles	Metropolitan Courthouse	1945 S. Hill St., Los Angeles	1968	250,000	8	S4	Tier 2	V	128,980	JCC	ToR/ToT	Yes		0.3			
41-C1-A	San Mateo	Municipal Court Bldg., Addition	1050 Mission Rd., South Francisco	1970	31,110	1	RM1	Tier 1	P(V)	Ownership & courtroom quantity & other data shown in 41-C1-B					0.3			
41-C1-E	San Mateo	Municipal Court Bldg., Northern Branch	1050 Mission Rd., South Francisco	1960	15,040	1	RM1	Tier 1	P(V)	Ownership & courtroom quantity & other data shown in 41-C1-B					0.3			
04-A1-E	Butte	Butte County Courthouse, Original	1 Court St., Oroville	1970	18,810	1	S2A	Tier 2	P(V)	72,474	County		Yes		0.3			
37-H1	San Diego	South County Regional Center	500 Third Ave., Chula Vista	1978	142,253	3	S1/C2	Tier 2	P(V)	97,600	County	ToR	No		0.3			
14-A1	Inyo	Independence Superior Court	168 N. Edwards St., Independence	1920	20,846	2	C2	Tier 2	V	5,615	County	ToR	Yes		0.3			
34-A1	Sacramento	Sacramento Superior Court	720 Ninth St., Sacramento	1962	288,896	6	C2	Tier 2	V	291,083	JCC	ToR/ToT	Yes		0.3			
19-AG1	Los Angeles	Compton Courthouse	200 W. Compton Blvd., Compton	1975	417,159	12	S1	Tier 2	P(V)	170,103	JCC	ToR/ToT	Yes		0.3			
19-C1	Los Angeles	South Bay Courthouse Superior and Municipal	825 Maple Dr., Torrance	1967	146,711	5	C2	Tier 2	V	84,710	JCC	ToR/ToT	Yes	Ci/Cr/F/T	0.3			
54-A1-A	Tulare	Visalia Superior Court	221 South Mooney Blvd., Visalia	1955	185,111	4	S1	Tier 2	V	67,804	County	ToR	Yes		0.3			
45-B1	Shasta	Shasta County Superior Court/Sheriff's Station	20509 Shasta St., Burney	1964	4,867	1	W1	Tier 1	V	1,643	County	ToR	No		0.2			
29-A1-C	Nevada	Courthouse, 1936 Addition	201 Church St., Nevada City	1935	4,225	1	S4	Tier 1	V	11,304	County	ToR	Yes		0.2			
37-F2-A	San Diego	North County Regional Center - Vista Center Addit	325 S. Melrose, San Diego	circa 1972	97,000	1	S2	Tier 1	V	95,212	JCC	ToR/ToT	Yes		0.2			
15-B1	Kern	Bakersfield Justice Bldg.	1215 Truxtun Ave., Bakersfield	1977	125,783	4	S4	Tier 2	V	56,923	County	ToR	Yes		0.2			
19-V1	Los Angeles	East Los Angeles Municipal Court	214 S. Fetterly Ave., Los Angeles	1986	105,627	5	S1	Tier 2	V	52,854	County	ToR	Yes	Closed	0.1			
30-D1-B	Orange	West Justice Center	8141 13th St., Westminster	1969	32,000	2	C2/RM2	Tier 2	P(V)	Ownership & courtroom quantity & other data shown in 30-D1-A					0.1			
20-D1	Madera	Sierra Courthouse	40601 Road 274, Bass lake	1974	5,884	1	W2/RM1	Tier 1	P(V)	5,104	County		No		0.1			
15-H1	Kern	Arvin/ Lamont Branch	12022 Main St., Lamont	1988	26,680	1	RM1	Tier 2	V	13,263	County	ToR	Yes		0.1			
30-C1-A-M	Orange	North Justice Center Addition	1275 N. Berkeley Ave., Fullerton	1981	71,200	4	S4	Tier 2	V	Ownership & courtroom quantity & other data shown in 30-C1-E					0.1			
41-A2	San Mateo	Traffic/ Small Claims Annex	500 County Center, Redwood City	circa 1960	9,714	1	C2A	Screening	P(V)	10,604	County	ToR/ToT	No		0.1			
40-A1-E	San Luis Obispo	San Luis Obispo Government Center	1035 Palm St., San Luis Obispo	1963	46,000	3	C2/RM2	Tier 1	P(V)	Ownership & courtroom quantity & other data shown in 40-A1-A					0.1			
42-F3	Santa Barbara	Santa Maria Muni Clerk	314 E. Cook St., Santa Maria	1953	4,400	1	W1	Tier 1	V	1,941	County	DTot	Yes		0.1			
53-A1-B	Trinity	Trinity County Courthouse, West Addition	11 Court St., Weaverville	1977	14,589	1	RM1	Tier 1	V	Ownership & courtroom quantity & other data shown in 53-A1-E					0.1			
42-F1-C	Santa Barbara	Santa Maria Courts, North Wing	312 E. Cook St., Santa Maria	1953	16,000	2	W1A	Tier 2	V	15,927	County	DTot	Yes		0.0			
34-D1	Sacramento	Carol Miller Justice Center Court Facility	301 Bicentennial Circle	1990	98,628	3	S1	Tier 2	V	96,834	JCC	ToR/ToT	?? Bonded		0.0			
54-A1-B	Tulare	Visalia Superior Court, Addition	221 South Mooney Blvd., Visalia	1988	58,000	4	S1	Tier 2	V	Ownership & courtroom quantity & other data shown in 54-A1-A					0.0			
28-B1-B	Napa	Historical Courthouse, 1977 Addition	825 Brown St., Napa	1977	14,109	3	RM2	Tier 1	P(V)	Ownership & courtroom quantity & other data shown in 28-B1-E					0.0			
42-F1-D	Santa Barbara	Santa Maria Courts, South Wing	312 E. Cook St., Santa Maria	1963	14,000	2	W1A	Tier 2	V	Ownership & courtroom quantity & other data shown in 42-F1-C					0.0			
09-E1	El Dorado	Johnson Bldg.	1354 Johnson Blvd., South Lake Tahoe	1979	37,453	2	W2	Tier 2	V	22,974	County	ToR	Yes		0.0			
28-B1-A	Napa	Historical Courthouse, 1916 Building	825 Brown St., Napa	1916	6,000	2	C2	Tier 1	P(V)	Ownership & courtroom quantity & other data shown in 28-B1-E					0.0			
22-A1	Mariposa	Mariposa County Courthouse	5088 Bullion St., Mariposa	circa 1854	5,920	2	W2	Tier 1	P(V)	3,119	County	MOU-Hist	No		0.0			

Table 7: Seismic Risk Rating Database

County/ Bldg ID	County	Building Name	Building Address	Year from Construction Documents	Building Gross Area (JCC masterdatabase)	No. of Stories above ground	ASCE 31 Bldg. Type	Evaluation Level	DSA Rating [2016]	Court Exclusive Area [JCC CAFM]	Title Ownership JCC or County [JCC CAFM]	JCC Acquisition Type (Title or Responsibility) [JCC CAFM]	County SB10 Indemnity [Transfer Agreements]	Type of Cases [Court's websites]	Seismic Risk Rating	Status	Total Project Retrofit Cost - Low Range (-10%)	Total Project Retrofit Cost - High Range (+15%)
01-F1	Alameda	George E. McDonald Hall of Justice	2233 Shoreline Dr., Alameda	circa 1985	25,850	2	S1	Tier 1	P(V)	17,844	County		Yes		NEI			
19-AF1	Los Angeles	San Fernando Valley Juvenile Court	16350 Filbert St., Sylmar	1976	38,902	1	RM2	Tier 1	P(V)	10,981	County		Yes		NEI			
19-AO1-E	Los Angeles	Whittier Courthouse	7339 Painter Ave., Whittier	1953	12,242	3	C2	Screening	V	Ownership & courtroom quantity & other data shown in 19-AO1-A								
19-P1	Los Angeles	Mental Health Courthouse	1150 North San Fernando Rd., Los Angeles	1969	27,617	1	RM1	Tier 1	P(V)	14,786	JCC		Yes		NEI			
19-W2	Los Angeles	Pomona Courthouse North	350 W. Mission Blvd., Pomona	circa 1955	47,267	2	RM2	Tier 1	P(V)	33,183	JCC		Yes		NEI			
23-A1-E	Mendocino	County Courthouse	100 N. State St., Ukiah	circa 1928	12,000	3	S4	Tier 1	P(V)	Ownership & courtroom quantity & other data shown in 23-A1-E								
25-A1-B	Modoc	Barclay Justice Center, East Wing Addition	205 S East St., Alturas	circa 1990	3,660	1	W1/RM1	Tier 1	P(V)	7,800	JCC		No		NEI			
26-A1	Mono	Bridgeport County Courthouse	State Hwy 395 North, Bridgeport	circa 1881	11,689	2	W2	Tier 1	P(V)	3,729	County				NEI			
29-A1-A	Nevada	Courthouse, Old Jail	201 Church St., Nevada City	1850's	3,450	3	URM	Tier 1	P(V)	Ownership & courtroom quantity & other data shown in 29-A1-C								
29-A1-B	Nevada	Courthouse, Stairwell to Jail	201 Church St., Nevada City	1930's	960	3	C2	Tier 1	P(V)	Ownership & courtroom quantity & other data shown in 29-A1-C								
29-A1-D	Nevada	Courthouse, 1936 Addition	201 Church St., Nevada City	circa 1936	1,648	1	C2	Tier 1	P(V)	Ownership & courtroom quantity & other data shown in 29-A1-C								
29-A1-E	Nevada	Courthouse	201 Church St., Nevada City	1850's	12,200	3	URM	Tier 1	P(V)	Ownership & courtroom quantity & other data shown in 29-A1-C								
29-A1-F	Nevada	Courthouse, Addition	201 Church St., Nevada City	1900's	980	1	C2A	Tier 1	P(V)	Ownership & courtroom quantity & other data shown in 29-A1-C								
33-A2	Riverside	1903/33 Courthouse	4050 Main St, Riverside	1903	138,551	3	C2b	Tier 1	P(V)	108,043	County		No		NEI			
33-E1	Riverside	Palm Springs Court	3255 E. Tahquite Canyon Way, Palm Springs	circa 1962	51,336	1	RM1/W1	Tier 1	P(V)	15,878	County		No		NEI			
33-N1	Riverside	Juvenile Justice Center	9991 Country Farm Rd., Riverside	1986	6,614	1	C2A	Tier 1	P(V)	14,400	County		Yes		NEI			
36-A2	San Bernardino	Central Courthouse - Annex	351 N. Arrowhead Ave, San Bernadino	1958	79,667	6	C3	Tier 2	V						NEI			
36-E1	San Bernardino	Joshua Tree Courthouse	6527 White Feather Rd., Joshua Tree	1982	37,340	1	S3/RM2	Tier 1	P(V)	10,867	County		Yes		NEI			
37-F3	San Diego	Annex	325 S. Melrose, San Diego	circa 1964	21,895	1	W2	Tier 1	P(V)	16,804	JCC		Yes		NEI			
42-D1-B	Santa Barbara	Lompoc Municipal Court	115 Civic Center Plaza, Lompoc	-	10,787	2	W2	Tier 1	P(V)	8,106	County		Yes		NEI			
46-A1-A	Sierra	Courthouse/Sheriff Station-Jail, Stairwell	100 Courthouse Square, Downieville	1993	1,000	2	RM1	Tier 1	P(V)	Ownership & courtroom quantity & other data shown in 46-A1-E								
47-A1-A	Siskiyou	Siskiyou County Courthouse, 1952 Building	311 Fourth St., Yreka	1952	28,350	2	C2	Tier 1	P(V)	9,449	County	ToR	Yes		NEI	PR		
47-A1-E	Siskiyou	Siskiyou County Courthouse, 1908 Building	311 Fourth St., Yreka	1908	7,906	2	S5	Tier 1	P(V)	Ownership & courtroom quantity & other data shown in 47-A1-A								
48-A1-A	Solano	Hall of Justice, 1973 Addition	600 Union Ave., Fairfield	1973	74,740	3	C2	Tier 2	V						NEI			
48-A1-E	Solano	Hall of Justice	600 Union Ave., Fairfield	1923	65,000	3	C2A	Tier 1	P(V)						NEI			
48-B1-E	Solano	Hall of Justice	321 Tuolumne St. Vallejo	circa 1955	24,000	2	C2A	Tier 1	P(V)	51,399	County		No		NEI			
50-C1	Stanislaus	Ceres Municipal Court	2744 Second St., Ceres	circa 1969	2,985	1	RM1	Tier 1	P(V)	2,700	JCC		Yes		NEI			
55-A1	Tuolumne	Historic Courthouse	41 W. Yaney, Sonora	circa 1897	23,120	3	URMA	Tier 1	P(V)	20,160	County		No		NEI	PR		
56-B1	Ventura	East County Courthouse	3855 Alamo St., Simi Valley	1989	84,252	2	PC1	Tier 1	P(V)	41,416	County		Yes		NEI			
01-A2-A	Alameda	Vertical Addition	1221 Oak St., Oakland	1982	11,296	1	S1A	Tier 2	IV	Ownership & courtroom quantity & other data shown in 01-A2-E								
01-B3	Alameda	Wiley W. Manuel Courthouse	661 Washington St., Oakland	1977	196,277	7	S1	Tier 3 FEM	IV	112,096	JCC		No		AR			
01-D1	Alameda	Hayward Hall of Justice	24405 Amador St., Hayward	1974	184,785	5	S4b	Screening	IVb	116,563	JCC		No		AR			
03-C1	Amador	John C. Begovich Building	500 Argonaut Lane, Jackson	1985	19,010	1	W2	Tier 1	IV	20,346	JCC		No		AR			
07-A3	Contra Costa	Bray Courts	1020 Ward St., Martinez	1986	48,883	3	S1	Tier 3 NSP	IV	33,861	County		Yes		AR			
07-A4	Contra Costa	Jail Annex	1010 Ward St., Martinez	1977	12,843	1	S1/S1A	Tier 2	IV	10,895	County		Yes		AR			
07-D1	Contra Costa	Concord-Mt. Diablo District	2970 Willow Pass Rd., Concord	1980	7,938	1	W1A	Screening	IVb	7,938	JCC		No		AR			
08-A1	Del Norte	Del Norte County Superior Court	450 'H' St., Crescent City	circa 1950	29,008	1	W2	Screening	IVb	13,637	JCC		Yes		AR			
09-C1	El Dorado	Superior Court	3321 Cameron Park Dr., Cameron Park	1983	7,834	1	W2	Screening	IVb	5,618	JCC		??		AR			
10-B1	Fresno	North Annex Jail	1255 M St., Fresno	circa 1985	25,667	2	C2c	Screening	IVb	8,144	County		No		AR			
10-C1	Fresno	Juvenile Delinquency Court	742 South Tenth St., Fresno	1978	121,076	2	W1A	Screening	IVb	61,936	County		No		AR			
11-B1	Glenn	Orland Superior Court	821 E. South St., Orland	1965	9,845	1	RM1	Tier 1	IV	2,267	County		Yes		AR	PR		
15-A1-B	Kern	Bakersfield Superior Court, West Wing	1415 Truxtun Ave., Bakersfield	1956	73,850	2	C2	Tier 2	IV	Ownership & courtroom quantity & other data shown in 15-A1-A								
15-A1-C	Kern	Bakersfield Superior Court, Jury Services	1415 Truxtun Ave., Bakersfield	1955	52,590	2	C2	Tier 1	IV	Ownership & courtroom quantity & other data shown in 15-A1-A								
15-C1	Kern	Bakersfield Juvenile Center	2100 College Ave., Bakersfield	1987	82,680	4	S2/C2	Tier 2	IV	27,605	County		No		AR			
15-D1	Kern	Delano/North Kern Court	1122 Jefferson St., Delano	1983	14,377	1	RM1	Tier 1	IV	9,397	JCC		No		AR			
15-E1	Kern	Shafter/Wasco Courts Bldg.	325 Central Valley Hwy., Shafter	1988	16,836	1	RM1/W2	Tier 1	IV	12,465	JCC		No		AR			
15-F1	Kern	Taft Courts Bldg.	311 Lincoln St., Taft	1982	6,127	1	W1A	Screening	IVb	5,105	JCC		No		AR			
15-G1	Kern	East Kern Court-Lake Isabella Branch	7046 Lake Isabella Blvd., Lake Isabella	1988	14,154	1	RM1/W2	Tier 1	IV	4,730	County		No		AR			
15-I1	Kern	Mojave-Main Court Facility	1773 Hwy. 58, Mojave	1974	12,112	1	RM1	Tier 1	IV	4,612	County		No		AR			
15-I2	Kern	Mojave-County Administration Bldg.	1775 Hwy. 58, Mojave	circa 1978	8,538	1	RM1	Screening	IV	2,782	County		No		AR			
15-J1	Kern	Ridgecrest-Main Facility	132 E. Coso St., Ridgecrest	1976	9,340	1	RM1	Tier 1	IV	6,251	County		No		AR			
19-AC1	Los Angeles	San Fernando Courthouse	900 Third St., San Fernando	1976	187,874	4	C2	Tier 1	IV	110,212	County		?? Bonded		AR			
19-AI1	Los Angeles	Los Padrinos Juvenile Courthouse	7281 E. Quill Dr., Downey	1955	34,167	1	C2	Tier 1	IV	6,786	County		No		AR			
19-AM1-B	Los Angeles	Mechanical Tower	7500 Imperial Hwy., Downey	1986	7,670	4	C2	Tier 1	IV	Ownership & courtroom quantity & other data shown in 19-AM1-A								
19-AO1-B	Los Angeles	1972 Addition	7339 Painter Ave., Whittier	1969	58,502	3	C2	Tier 2	IV	Ownership & courtroom quantity & other data shown in 19-AO1-A								
19-AP1-A	Los Angeles	Santa Monica Courthouse, North Wing	1725 Main St., Santa Monica	1962	36,855	2	C2	Tier 1	IV	Ownership & courtroom quantity & other data shown in 19-AP1-B								
19-AP1-C	Los Angeles	Santa Monica Courthouse, South Wing	1725 Main St., Santa Monica	1962	51,855	2	C2	Tier 1	IV	Ownership & courtroom quantity & other data shown in 19-AP1-B								
19-AR1-A	Los Angeles	West Los Angeles Courthouse, Addition	1633 Purdue Ave., Los Angeles	1976	25,129	3	C2/C2A	Screening	IVb	Ownership & courtroom quantity & other data shown in 19-AR1-E								

Table 7: Seismic Risk Rating Database

County/ Bldg ID	County	Building Name	Building Address	Year from Construction Documents	Building Gross Area (JCC masterdatabase)	No. of Stories above ground	ASCE 31 Bldg. Type	Evaluation Level	DSA Rating [2016]	Court Exclusive Area [JCC CAFM]	Title Ownership JCC or County [JCC CAFM]	JCC Acquisition Type (Title or Responsibility) [JCC CAFM]	County SB10 Indemnity [Transfer Agreements]	Type of Cases [Court's websites]	Seismic Risk Rating	Status	Total Project Retrofit Cost - Low Range (-10%)	Total Project Retrofit Cost - High Range (+15%)
19-AX1	Los Angeles	Van Nuys Courthouse	6230 Sylmar Ave., Van Nuys	1963	178,048	7	S4	Tier 2	IV	104,502	JCC		Yes		AR			
19-N1	Los Angeles	Santa Anita Court	300 W. Maple Ave., Monrovia	1953	19,440	1	W2	Tier 1	IV	8,306	JCC		No		AR			
19-Q1	Los Angeles	Children's Court	201 Centre Plaza Dr., Monterey Park	1990	263,623	6	S1	Tier 2	IV	143,669	JCC		?? Bonded		AR			
23-B1	Mendocino	Justice Center	700 S. Franklin St., Fort Bragg	1989	12,586	1	W1A	Screening	IVb	4,225	County		?? Bonded		AR			
24-A1	Merced	New Courts Bldg.	627 W. 24th St., Merced	1949	17,716	1	C2	Tier 1	IV	17,716	JCC		No		AR			
25-A1-A	Modoc	Barclay Justice Center, East Wing	205 S East St., Alturas	1967	4,080	1	RM1	Tier 1	IV	Ownership & courtroom quantity & other data shown in 25-A1-B				AR				
27-A1	Monterey	Salinas Courthouse- North Wing	240 Church St., Salinas	1966	97,630	3	S1	Tier 1	IV	97,394	County	DToT	?? Bonded	Cr/Mh/JV	AR			
29-B1-E	Nevada	Superior Court in Truckee	10075 Levon Ave, Truckee	1974	10,000	2	Varies	Tier 1	IV	5,850	County		No		AR			
30-C1-A- J	Orange	North Justice Center Addition	1275 N. Berkeley Ave., Fullerton	1981	2,100	1	S4	Tier 2	IV	Ownership & courtroom quantity & other data shown in 30-C1-E				AR				
30-D1-C	Orange	West Justice Center	8141 13th St., Westminster	1978	18,820	2	PC1	Tier 2	IV	Ownership & courtroom quantity & other data shown in 30-D1-A				AR				
30-D1-D	Orange	West Justice Center	8141 13th St., Westminster	1978	5,210	3	C2A	Tier 2	IV	Ownership & courtroom quantity & other data shown in 30-D1-A				AR				
30-D1-E	Orange	West Justice Center	8141 13th St., Westminster	1978	18,820	2	PC1	Tier 2	IV	Ownership & courtroom quantity & other data shown in 30-D1-A				AR				
30-E1-E	Orange	Harbor Justice Center, Phase I	4601 Jamboree, Newport Beach	1973	62,530	2	PC1A	Tier 1	IV	Ownership & courtroom quantity & other data shown in 30-E1-A				AR				
31-A1	Placer	Historic Courthouse	101 Maple Ave, Auburn	circa 1894	24,918	3	URMA	Tier 2	IV	17,057	County		No		AR			
33-A3	Riverside	Hall of Justice	4100 Main St., Riverside	1989	167,386	7	S1	Tier 2	IV	167,386	County		No		AR			
33-H1	Riverside	Temecula	41002 County Center Dr., Temecula	1988	12,557	1	W2	Tier 1	IV	8,899	County		No		AR			
36-A1	San Bernardino	Central Courthouse	351 N. Arrowhead Ave, San Bernadino	1926	118,580	4	C2	Tier 1	IV						AR			
36-B1	San Bernardino	Juvenile Court	900 E. Gilbert St., San Bernadino	1968	8,149	1	RM2	Screening	IVb						AR			
36-F1	San Bernardino	Rancho Cucamonga Courthouse	8303 Haven Ave., Rancho Cucamonga	1984	261,155	4	Base Isolat	Screening	IVb	138,225	County		No		AR			
36-G1	San Bernardino	Chino Courthouse	13260 Central Ave., Chino	1976	47,261	2	RM1	Tier 1	IV	17,389	City		No		AR			
36-J1	San Bernardino	Barstow Courthouse	235 E. Mountain View Ave., Barstow	1975	35,702	2	RM2	Tier 1	IV	20,185	County		No		AR			
36-K1	San Bernardino	Needles Courthouse	1111 Bailey St., Needles	1972	12,574	1	RM1	Screening	IVb	2,583	County		No		AR			
37-C1	San Diego	Kearny Mesa Court	8950 Clairemont Mesa Blvd., San Diego	circa 1960	41,450	1	RM1	Tier 1	IV	39,897	JCC		Yes		AR			
37-E1	San Diego	Juvenile Court	2851 Meadowlark Dr., San Diego	1977	46,759	2	RM1	Screening	IVb	30,738	JCC		No		AR			
37-F2-B	San Diego	North County Regional Center - Vista Center Addition	325 S. Melrose, San Diego	circa 1972	12,500	1	C2	Tier 1	IV	Ownership & courtroom quantity & other data shown in 37-F2-A				AR				
37-F2-C	San Diego	North County Regional Center - Vista Center Addition	325 S. Melrose, San Diego	circa 1972	58,150	1	C2	Tier 1	IV	Ownership & courtroom quantity & other data shown in 37-F2-A				AR				
37-F2-D	San Diego	North County Regional Center - Vista Center Addition	325 S. Melrose, San Diego	1986	48,000	2	C2	Tier 1	IV	Ownership & courtroom quantity & other data shown in 37-F2-A				AR				
37-I1-A	San Diego	East County Regional Center	250 E. Main St., El Cajon	1980	230,000	10	S1	Tier 2	IV	137,824	JCC		Yes		AR			
37-I1-B	San Diego	East County Regional Center	250 E. Main St., El Cajon	1980	44,230	5	S2/S4	Tier 2	IV	Ownership & courtroom quantity & other data shown in 37-I1-A				AR				
37-I1-C	San Diego	East County Regional Center	250 E. Main St., El Cajon	1980	30,000	2	S2/S4	Tier 2	IV	Ownership & courtroom quantity & other data shown in 37-I1-A				AR				
37-J1	San Diego	Ramona Courthouse	1425 Montecito Rd., Ramona	1972	17,315	1	W1A	Tier 1	IV	3,622	County		No		AR			
39-B1	San Joaquin	Juvenile Justice Center	535 W. Mathews Rd., French Camp	1982	12,740	1	RM1	Tier 1	IV	11,497	County		No		AR			
39-C1	San Joaquin	Manteca Branch Court	315 E. Center St., Manteca	1970	6,425	1	RM1	Tier 1	IV	15,010	JCC		No		AR			
39-E1	San Joaquin	Tracy Branch Courthouse	475 E. 10th St., Tracy	circa 1968	6,714	1	RM1	Tier 1	IV	6,900	JCC		No		AR			
41-A1	San Mateo	Hall of Justice	400 County Center, Redwood City	1954	316,515	8	S1	Tier 2	IV	141,227	County		?? Bonded		AR			
41-B1	San Mateo	Central Branch	800 North Humbolt St., San Mateo	1960	17,438	1	RM1/W2	Tier 1	IV	17,507	County	ToR/ToT	Yes	CLOSED - No court service offered.	AR			
42-D1-A	Santa Barbara	Lompoc Municipal Court, South Wing	115 Civic Center Plaza, Lompoc	1956	14,800	1	W2	Tier 1	IV						AR			
43-A1	Santa Clara	Hall of Justice	190 W. Hedding, San Jose	1988	127,139	6	S1/S2	Tier 2	IV	138,900	County		??Bonded		AR			
43-A2	Santa Clara	San Jose Municipal Court	200 W. Hedding, San Jose	1960	69,810	4	C2	Tier 2	IV	70,100	County		??Bonded		AR			
43-B1	Santa Clara	Downtown Superior Courthouse	191 N. First St., San Jose	1962	126,005	5	C2b	Tier 1	IV	82,819	JCC		No		AR			
43-B2	Santa Clara	Old County Courthouse	161 N. First St., San Jose	circa 1866	33,557	3	S4b	Screening	IVb	30,600	JCC		No		AR			
43-D1	Santa Clara	Palo Alto Facility	270 Grant St., Palo Alto	1960	83,451	4	C2	Tier 2	IV	40,878	County		No		AR			
43-F1	Santa Clara	Sunnyvale Facility	605 W. El Camino Real, Sunnyvale	1966	19,994	1	W2	Tier 1	IV	13,372	JCC		No		AR			
43-G1	Santa Clara	Santa Clara Municipal Courts	1095 Homestead Rd., Santa Clara	1974	33,559	2	S2	Tier 2	IV	19,112	JCC		No		AR			
47-B1	Siskiyou	Dorris	324 N. Pine St., Dorris	circa 1974	2,585	1	W1	Tier 1	IV	1,647	JCC		No		AR			
48-A2	Solano	Law and Justice Center - Fairfield	530 Union Ave., Fairfield	1988	258,850	5	C2b	Screening	IVb						AR			
48-B1-A	Solano	Hall of Justice, 1974 Addition	321 Tuolumne St. Vallejo	1974	30,400	1	C2	Tier 2	IV	Ownership & courtroom quantity & other data shown in 48-B1-E				AR				
50-A1	Stanislaus	Modesto Main Courthouse	1100 I St., Modesto	1958	60,404	2	C2	Tier 1	IV	63,957	JCC		?? Bonded		AR	FTBR		
50-B1	Stanislaus	Modesto Juvenile Court	2215 Blue Gum, Modesto	1976	9,200	1	RM1/RM2	Tier 1	IV	2,085	County		No		AR			
50-D1	Stanislaus	Turlock Municipal Court	300 Starr Ave., Turlock	1975	4,735	1	W2	Tier 1	IV	2,851	County		No		AR			
54-A1-A1	Tulare	Visalia Superior Court, East Wing	221 South Mooney Blvd., Visalia	1955	20,000	1	S1	Tier 2	IV	Ownership & courtroom quantity & other data shown in 54-A1-A				AR				
56-A1-A	Ventura	Hall of Justice, Second Wing	800 S. Victoria Ave., Ventura	1975	150,057	3	S2	Tier 2	IV	193,044	County		?? Bonded		AR			
56-A1-B	Ventura	Hall of Justice, Main Wing	800 S. Victoria Ave., Ventura	1975	200,000	4	S2	Tier 2	IV	Ownership & courtroom quantity & other data shown in 56-A1-A				AR				

RECOMMENDED ACTION PLANS AND FOLLOW-UP ACTIVITIES

The following action plans are provided to guide follow-up activities associated with development of detailed plans for mitigation of seismic risk for selected buildings in the VHR and HR categories, as well as to provide a process for assessing the 25 building structures in the NEI category to determine whether any warrant VHR or HR rankings.

ACTION PLAN FOR DEVELOPING SEISMIC RISK MITIGATION SCHEMES FOR BUILDINGS DESIGNATED AS VHR AND HR

Activity	Tasks	Resources
1. Select	<input type="checkbox"/> From Very High and High Risk buildings, choose 20–25 highest SRR structures, for which Judicial Council has: <ul style="list-style-type: none"> o Responsibility or title, and is a majority occupant 	<ul style="list-style-type: none"> • Judicial Council Capital Program staff • Judicial Council Real Estate staff
2. Research	<input type="checkbox"/> Building condition: On-site visits; Deficiency Report (2005) <input type="checkbox"/> Court Master Plan (2002–2004) <input type="checkbox"/> Previous retrofit studies (if any)	<ul style="list-style-type: none"> • Judicial Council Capital Program staff • Judicial Council FMU staff
3. Decision	<input type="checkbox"/> Is building a Good Candidate for Investment? <input type="checkbox"/> Proceed with Feasibility Studies—Yes / No <input type="checkbox"/> Determine purpose of Feasibility Studies <input type="checkbox"/> Participation and responsibility of the court in studies	<ul style="list-style-type: none"> • Judicial Council Capital Program staff and director
4. Feasibility Studies—Project Specific	<input type="checkbox"/> Determine scope of retrofit <ul style="list-style-type: none"> o Structural only? o Court operations—relocate? <input type="checkbox"/> Create cost model <input type="checkbox"/> Determine project schedule <input type="checkbox"/> Publish reports—one per building in standard format	Retain Consultant = an architect, a structural engineer, and a CM cost estimator.

ACTION PLAN FOR DEVELOPING SRR RANKINGS FOR BUILDINGS DESIGNATED AS NEI

A group of 25 structures in the database are designated as NEI (Not Enough Information); i.e., there was inadequate information to develop a seismic risk rating for these structures. Generally, the construction documents for these buildings were missing or inadequate, hence the seismic evaluations performed as part of the 2003 seismic assessment program were incomplete and inconclusive.

The recommended action plan to reduce the number of unevaluated court buildings would entail four categories of activities:

Activity	Remarks
<p>1. Perform seismic evaluation of structures where construction documents are now available. The seismic evaluations should be based on ASCE 41-13 procedures. Seismic Risk Ratings for these structures will be developed based on the results of Tier-1/Tier-2 ASCE 41-13 evaluations.</p>	<p>List of structures with adequate drawings:</p> <ul style="list-style-type: none"> • 25-A1-B • 46-A1-A • 50-C1 • 56-B1 • 33-A2 (1933 bldg. drawings are available; 1950 [circa] bldg. drawings are still missing.)
<p>2. For significant buildings of recent vintage, conduct a search for drawings from counties, building departments, and facilities at each building site.</p> <p>a. If adequate information is found, then perform seismic evaluation and calculate Seismic Risk Rating per item 1 above,</p> <p>b. If drawings were not found, then see item 3 below for field exploration.</p>	<p>List of structures in this category:</p> <ul style="list-style-type: none"> • 01-F1 • 19-W2 • 33-N1 • 36-E1 • 48-B1-E • 19-AF1 • 19-P1 • 33-E1 • 37-F3* • 42-D1-B* <p>* Wood-framed building, hence low SRR value is expected.</p>
<p>3. For older buildings (early 1900's and older):</p> <p>a. Search for drawings per item 2 above.</p> <p>b. If drawings are not available or if the available drawings are not adequate, then develop a plan for field exploration to obtain adequate information.</p> <p>c. Perform seismic evaluation and Seismic Risk Ratings per item 1 above.</p>	<ul style="list-style-type: none"> • 23-A1-E (circa 1928) • 26-A1 (circa 1881) • 29-A1-A (circa 1850's) • 29-A1-B (circa 1930's) • 29-A1-D (circa 1936) • 29-A1-E (circa 1850's) • 29-A1-F (circa 1900)
<p>4. Buildings that are designated as "PR" should be low priority for seismic evaluation since they are slated for replacement or potential retrofit in near future (i.e., the Capital Project is ready to start bidding on construction if funded in FY 2017–2018).</p>	<ul style="list-style-type: none"> • 47-A1-A • 47-A1-E • 55-A1

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