

B.2 USA - San Francisco 1906 - Earthquake

Case study:

Country:

USA

Disaster:

San Francisco earthquake and fire

Disaster date:

April 18th 1906

No. of houses damaged:

28,000 buildings and 500 city blocks – one quarter of the city of San Francisco.

No. of people homeless:

225,000

Shelters built:

5,610 timber cottages

1,709 housing grants

9,064 housing furniture grants

1573 loans



Project timeline

June 30 th 1908	- Moving of cottages complete
June 2 nd 1908	- Last camp closed
July, 1907	- Moving of cottages begins.
Aug 1 st 1906	- Shelter item distribution ends - Camps moves from army to civilian authorities
June 1 st 1906	- 34,000 people in tents, 5,000 in shacks
April 20 th	- Timber for tent floors, latrines and shacks delivered
April 18 th 1906	- Earthquake

Project description

Following the San Francisco earthquake of 1906, shelter was initially provided in tents and with the distribution of household items. Formal camps were established and cottages built, which people living in them were allowed to rent and purchase at a subsidised rate. Reconstruction for some households was supported through a system of grants and loans.

Strengths and weaknesses

- ✓ Immediately after the earthquake, railway and ferry companies provided free transport for those wishing to temporarily leave the city to find shelter elsewhere.
- ✓ Committees were established to identify host families outside of the city.
- ✓ 5,610 timber cottages were rapidly built and rented on a lease-to-buy deal.
- ✓ Multiple approaches to support recovery were established including cash and loans.
- ✓ The military established a warehousing system for relief goods where elected civilian chairmen could put in requests for their communities. Cash was given for those whose requests could not be met.
- ✓ Tents were provided and were easy to move and provided adequate shelter until the rainy season.
- ✗ There was a lack of preparedness and planning to reduce disaster risks. A fire caused by the earthquake

caused more damage than the earthquake itself.

- ✗ Barracks were often dense and lead to crowded conditions with limited sanitation and privacy.
- ✗ A "Shoot to kill policy" established by mayor to deal with looters. Many victims of this policy were salvaging materials from their own houses.
- ✗ Some minority groups such as chinese-americans were evicted from land that they had before the earthquake and were moved from camp to camp.
- Although significant, the number of schemes for cottages, barracks, loans and grants were not on the scale of the number of houses damaged.
- The quality of the response was dependent upon the decision making of individuals more than pre-existing systems. There are documented cases of both positive and negative behaviour by public officials.
- All formal camps were closed within two years of the earthquake.

Before the earthquake

Before the earthquake, San Francisco had a population of 450,000 people.

With the exception of public buildings, and the houses of wealthier city residents, buildings were built from wood.

The city contained significant minorities of immigrants from other countries.

After the earthquake

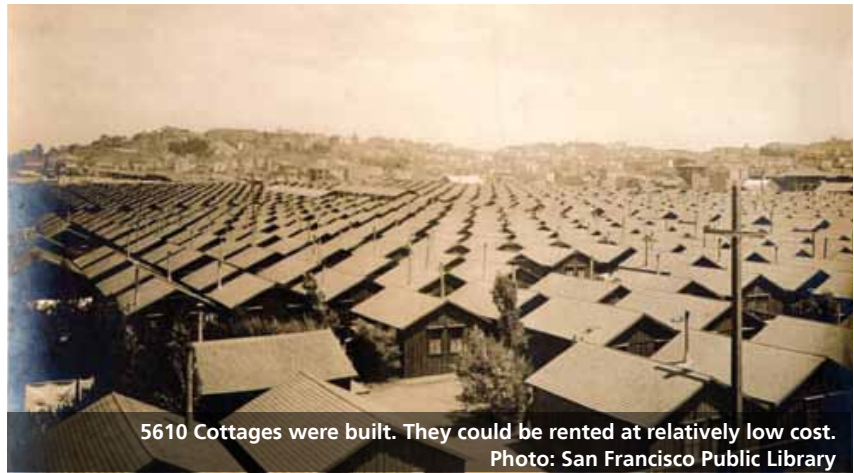
The earthquake hit at 5:15 am on April 18. Immediately after the earthquake, fire broke out. The fires lasted for three days and destroyed 28,000 houses, making 200,000 people homeless. This was nearly half of the city's population. After the fire, rents rose, leading to an increase in homelessness.

Very limited amounts of construction materials could be salvaged. It was estimated that 500 million dollars worth of property was lost (more than 8 billion USD in current value). About 40% of this was insured. On average each citizen lost around 650 USD of property.

On the day of the earthquake, the mayor of San Francisco issued a proclamation that authorised police "to kill any and all persons found engaged in looting or in the commission of any other crime."

Distribution

The first three and a half months of the response were led by the army. They rapidly established supply lines. Ten days after the earthquake, they established a warehouse for second hand clothing, and set it up on the model of a department store.



5610 Cottages were built. They could be rented at relatively low cost. Photo: San Francisco Public Library

In the first month, it handled a daily average of twenty truckloads. Goods included towels, sheets, pillows, pillow cases, blankets, mattresses, stoves, cooking utensils, cutlery, dishes, brooms, wash tubs, washboards, boilers, irons, clothes lines, axes, chairs, tables, and sewing machines.

To distribute the materials, requests came from the cities' elected civilian chairmen. The army handled the goods and the Red Cross verified aid entitlements, following an initial registration.

When the distributions ended, those who had not received items were given the cash value of the articles that they had requested.

Relocation / host families

Immediately after the fires, large numbers of people left the city. From the first day of the fire, free transport by boat and train was provided across the bay, down the peninsula, and to inland locations.

The Southern Pacific railroad transported 300,684 free passengers mainly around the San Francisco bay and to elsewhere in California. This was more than the

number of people who lost their houses.

Committees helped to identify communities who were willing to accommodate those affected by the earthquake and fires.

Barracks

Barracks were built by the "committee on housing the homeless".

These were arranged in camps. One of these camps had 18 buildings with 16 two-room apartments in each, separated by an 8ft (2.6m) partition. The rooms were 100 ft² (9m²) in plan and had a front room with a window and a door and a rear room.

The first barracks were occupied one month after the earthquake. The last ones were closed just over one year later.

The barracks were often dense and lead to crowded conditions with limited sanitation and privacy.

Tents

Tents were provided from the first days of the response by voluntary agencies, by the sub-committee on housing the homeless,



The relief operations lasted for 3 and a half months. Many people were provided with tents. Photo: San Francisco Public Library



21 formal camps were established. Photo: San Francisco Public Library



Large numbers of people left the city, free transport was provided. Photo: The U.S. National Archives and Records Administration

by the army and by the American National Red Cross.

Tents were seen as a practical shelter solution for the emergency phase, more effective than barracks. They were easy to move and provided adequate shelter until the rainy season.

Camps

The army gradually assumed control of 21 camps. These camps were known as “permanent camps.”

To live in a “permanent camp”, residents had to abide by rules of decency, order, and cleanliness.

When a person was ejected from one camp all other camps were notified so that he could not relocate. 488 people were ejected from camps for reasons ranging from drunkenness to disorderly conduct. Discrimination forced Chinese-Americans to be shuffled from camp to camp.

Camps were generally located in parks and squares. One camp had nineteen two-story tenement buildings and a one-story bath-house and laundry building.

Cottages / shacks

Three and a half months after the earthquake, the city corporation launched its plan to build timber cottages, and established contracts for their construction.

Building began six months after the earthquake. It took a further three months, before considerable numbers were available. By the end of the project, 5,610 cottages, 667 “patent flush closets”, over six miles of gas and water pipe and over five miles of sewer pipe were built.

The cottages were assigned according to the following priorities - people who were:

- in the official camps,
- in shacks and tents outside official camps,
- in the city who were living in cellars or similar places, those who were receiving shelter from friends,
- citizens living outside the city.

Some people whose houses survived the fires but needed better housing received cottages and moved them to plots for permanent use.

Charges for cottages

A nominal rental (2 USD per month) was charged for the cottages. This was to avoid a culture of dependency and distortion of the economic conditions.

Applicants were required to sign a lease agreement with the “San Francisco Relief and Red Cross Funds” (a corporation) before occupying the cottages. This was a purchase contract that stipulated that the tenant would:

- own the cottage if rent was paid until August 1, 1907,
- pay rent and gas rates,
- abide by the camp regulations,
- not sublet without written permission,
- vacate the house at the expiration of his lease unless all payments had been made,
- on acquiring ownership the tenant would remove the house from the camp at his/her own expense before August, 1907.

When through ill-health a person was not able to pay rent, the Rehabilitation Committee was informed.

708 cottages were purchased on a lease-to-buy deal. The cottage could be bought for 50 USD. These could be moved to plots where were rented by the authorities at 3-15 USD per month.

Whenever a person could prove that he had purchased or leased a lot in the city or county, he was permitted at his own expense to move his house.

In just over two years the cottages were all removed and the camps closed.

Reconstruction

Reconstruction was relatively swift, largely along the existing grid plan of the city. Most of the reconstruction was completed by the Panama-Pacific Exposition, nine years after the earthquake and fire. However there were criticisms that the rebuilding was not to the seismic safety that it should have been.

The majority of the funds for reconstruction came from private capital and insurance payments.

Grants and loans

A committee administered grants and loans for reconstruction. It tailored funding decisions to the needs of individual applicants. Grants were offered in various categories including tools, re-establishing houses, business enterprise and transportation.

- Where applicants planned and built their own houses, the committee set a maximum cost of each house to be erected, with the applicant paying the majority.
- Where the committee planned and directed the construction of the house, the grant:
 - covered the entire cost of the house,
 - supplemented the grant with a loan to be repaid by the applicant,
 - supplemented the grant with a cash payment from the applicant.

1,709 housing grants and 9,064 housing furniture grants were provided. An additional 450 housing relief grants were issued, averaging at 644 USD per household.

Of 2,098 applications for the combined grant and loan plan, assistance was given in 1,572 cases. Loans ranged from 37 - 595 USD,



Burning of earthquake refugee shacks during “Nine Years After” celebration at the Panama-Pacific International Exposition. Photo: San Francisco Public Library

