

## 6.3 ARCHITECTURAL COMPONENTS

### 6.3.6 CANOPIES, MARQUEES, AND SIGNS

#### 6.3.6.1 CANOPIES, MARQUEES, AND SIGNS

Cantilevered appendages of any type may pose a significant falling hazard when located above an entrance or along a sidewalk or street.

#### TYPICAL CAUSES OF DAMAGE

- Unbraced cantilevered items may bounce or swing; connection hardware may be undersized or corroded; items may collapse and fall.

#### Damage Examples



Figure 6.3.6.1-1 Failure of commercial sign in the 1979 Imperial Valley, California earthquake (Photo courtesy of Robert Reitherman).

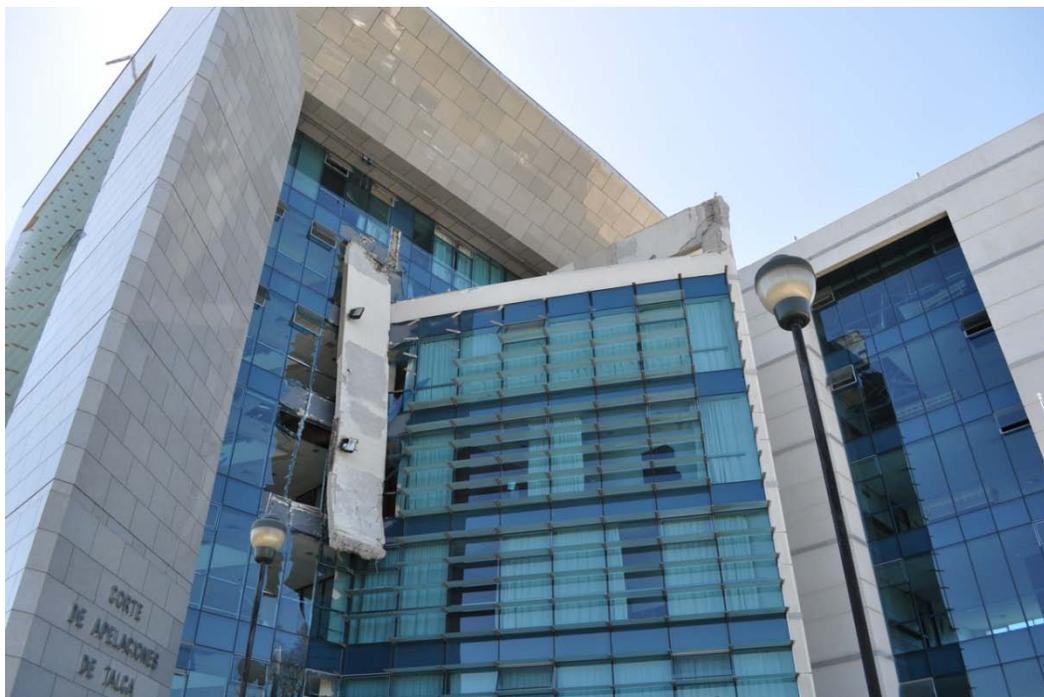


Figure 6.3.6.1-2 Reinforced concrete appendage dangling from connection on one side; impact damaged the curtain wall and created a serious hazard above the entrance of the Corte de Apelaciones de Talca in the 2010 magnitude-8.8 Chile Earthquake (Photo courtesy of Eduardo Fierro, BFP Engineers).

## SEISMIC MITIGATION CONSIDERATIONS

- Anchorage detail shown is for a cantilevered canopy, sign, or marquee that is oriented horizontally; the vertical braces protect the item from vertical accelerations and prevent bouncing.
- Seismic protection of building appendages requires a reliable connection from the appendage to structural framing members. Heavy canopies, marquees, or signs may require installation of supplemental framing to deliver seismic demands to primary structural framing elements.

### Mitigation Details

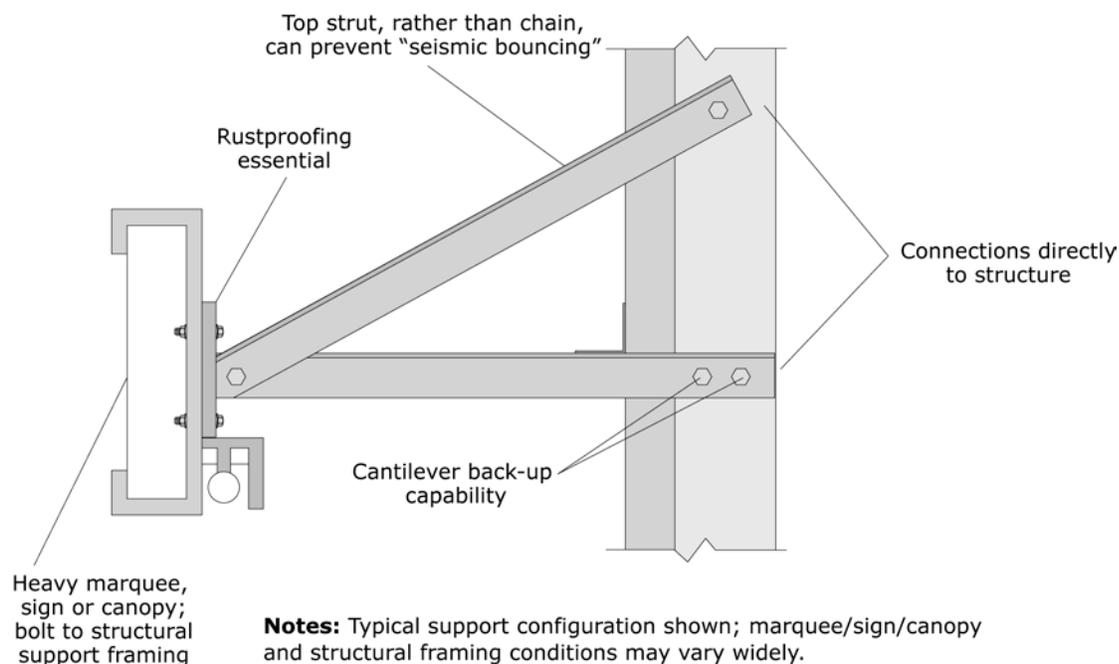


Figure 6.3.6.1-3 Canopy, marquee, or sign support (ER).