

## Chapter 5. Bridges

Bridges are an integral part of the transportation system and therefore a study such as this one would be incomplete without a short discussion of their needs. Unfortunately, there has been no statewide local bridge needs assessment performed in California. Some MPOs such as MTC have performed bridge assessments<sup>10</sup> for their regions, but these are just pieces of the bigger picture.



Local bridges are defined as bridges that are owned by a county, city or town or by a local park. Transit or railroad bridges (e.g. bridges owned and maintained by BART – Bay Area Rapid Transit) are not included in this category. According to Caltrans, there are approximately 12,000 state bridges and 12,200 local bridges<sup>11</sup>. This does not include structures such as culverts that have a span of less than 20 feet.

Caltrans maintains a bridge management system (PONTIS) that contains inventory and condition data for all the bridges in the state, regardless of whether a city/county owns it. This condition data assists in determining what bridge repairs would be necessary (seismic retrofits, bridge replacements or maintenance).

However, there have been no comprehensive needs assessment performed with this data at the statewide level.

Bridge condition is typically characterized by a bridge health index or sufficiency rating, similar to the PCI used for pavements. The sufficiency rating ranges from zero (insufficient) to 100 and is based on four factors:

- Structural adequacy and safety
- Serviceability and functional obsolescence
- Essentiality for public use
- Special reductions i.e. detours, safety features

The sufficiency rating is used to determine eligibility for Federal Highway Bridge Program (HBP) funding. Structures are eligible for rehabilitation funding when the structure has a sufficiency rating  $\leq 80$ , and replacement when the sufficiency rating is  $\leq 50$ .

There are two primary sources of funding for local bridges – the Federal HBP and a local match. The local match is usually from local sales taxes, gas taxes or general funds. For those bridges in the mandatory seismic retrofit program, Proposition 1B (the Highway Safety, Traffic Reduction, Air Quality, and Port Security measure approved by the voters in November 2006) provides the funding for the local match. The HBP program provides approximately 88.53% of the total funding.

<sup>10</sup> MTC Local Bridge Needs Update – Final Report, Metropolitan Transportation Commission, April 2008.

<sup>11</sup> <http://www.dot.ca.gov/hq/structure/strmaint/>



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The "needs" for bridges can be broadly categorized into preservation, rehabilitation, replacement and improvement needs. Improvement needs include safety, strengthening (including seismic strengthening), widening or raising a structure.

Solely based upon projects identified by local agencies and approved by Caltrans for future federal funding, the local streets and roads bridge needs total \$2.6 billion. Of this amount, local agencies are required to finance 11.47 percent or approximately \$300 million of which \$133 million is to be financed from Proposition 1B and other approved State transportation funds.

