CalRecycle Staff Review and Comments on
"Impact of CCSP Assessment Fees on California Carpet Shipments"

The Impact of the CCSP Assessment Fees on California Carpet Shipments (Report) was prepared by Bates White Economic Consulting on behalf of the Carpet and Rug Institute (CRI). The Report is posted on the CalRecycle Carpet website at http://www.calrecycle.ca.gov/Carpet/default.htm and CalRecycle opened a comment period for stakeholder comments on the Report. No public comments were received. CalRecycle staff have reviewed the Report and offer the following comments.

- This is a study of the price elasticity of demand (PED) for carpet sales in California. The economic model is based on an unconventional approach because it is using two data points rather than data over a longer time period of 10 years which is the usual approach for other PED studies.
- The final estimate was in the range of 6.0 – 6.6. That is, a one percent increase in price results in roughly a six percent decrease in carpet purchased.
- Assuming a common time trend for both CA and the rest of the US is probably not a valid assumption. Sales trends in different places can be quite different. Historical comparisons of percent change in sales of floor coverings over time differ significantly by state. (See Attachment 1.)
- Data from other sources (see Attachment 2.) have significant variation in national sales and prices of floor coverings from 2007 to 2012. This should be addressed in the Report.
- CalRecycle requested additional data regarding both prices and sales of other types of floor coverings. Specifically, CalRecycle requested carpet and flooring annual reports prior to 2015, that CRI representatives stated were available. In addition, the California-specific data that was used in the Report is also requested.
- Independent variables that should be included in the model are:
    - Some measure of commercial demand should be included. This is a sizeable fraction of the carpet market (estimated at 30% in Europe).
    - Some measure of income (per capita?) should be included. This would help distinguish between the California and the rest of the U.S. consumers.
    - The study should include some measure of economic activity as regressors like inflation-adjusted carpet prices, or interest rate.
    - Construction indicators should be based on the square feet of housing and commercial space constructed, rather than the number of housing permits.
    - The number of housing permits is a second-best means to estimate new housing, as actual housing construction was constricted during 2015-2016, due to the drought.
    - The study should include lags in housing permits.
    - Is the average cost of carpet at $8.69 per square yard reasonable? What is the average cost of low-end versus high-end carpet and what is the PED for each? (See Attachment 3.)

- The Report shows no state data other than for California; can regional data on carpet shipments to California and other states (or other regions) be incorporated?

Comparison with Other Studies

There are relevant studies that provide other estimates of this price-purchase relationship. Most of the European studies in price elasticity deal with trade aspects, usually from imports to Europe from developing countries. However, there is one study of price elasticities of trade within European countries that might be relevant. This study derives a PED for "Carpets, Linoleum, etc." that is 0.9. The dates for underlying studies vary, and a further effort is required to determine the date of this study. The study appears as a chapter in a book titled Empirical Studies of Strategic Trade Policy, edited by Paul Krugman and Alasdair Smith (1994). The chapter is titled *"Trade Policy under Imperfect Competition: A Numerical Assessment"*, by Anthony J Venables (1994).

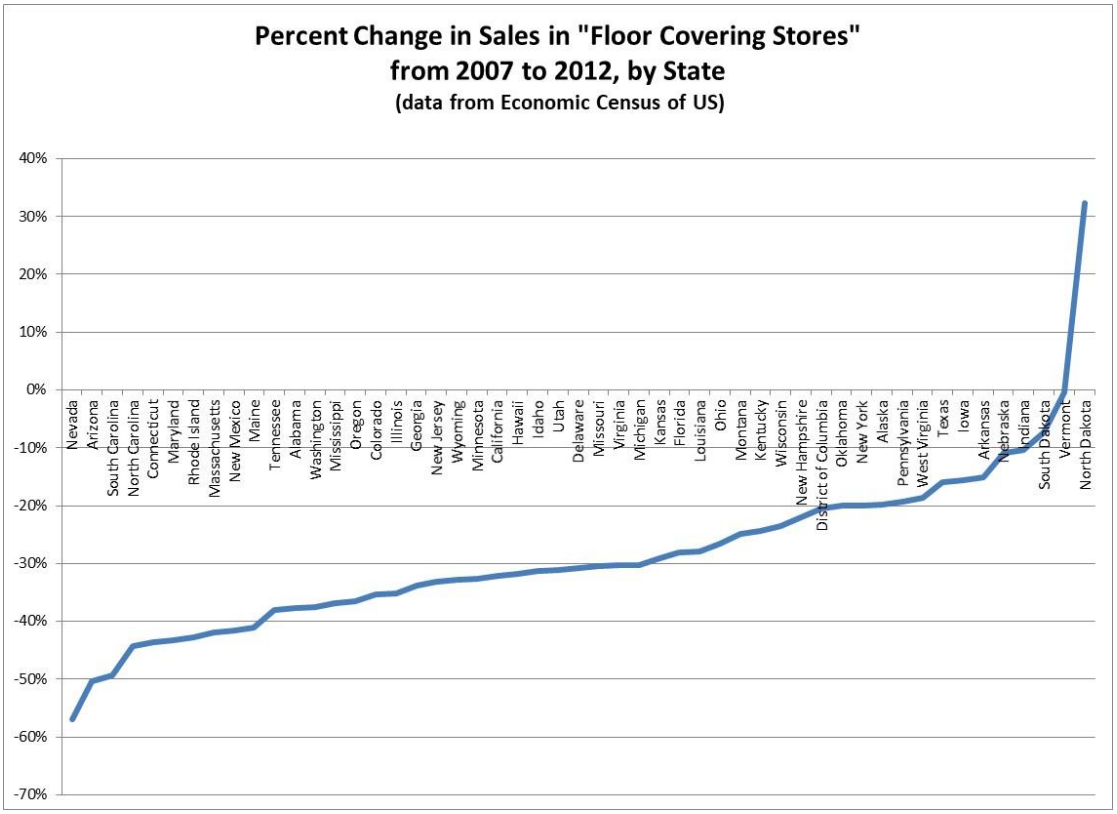
Finally, a 2013 study by the Bureau of Labor Statistics, in estimating additional consumer purchases due to increased house values in the 2004-2009 bubble, provided a corollary estimate of the carpet price elasticity of demand to be 0.95. The study is titled "*Where did we indulge? Consumer spending during the asset boom"*, Michael L. Walden; Monthly Labor Review, April 2013; pgs. 24-40.

In conclusion, all of these alternative PED's seem reasonable for a quasi-luxury item with significant market competition. The Report should contain a discussion of literature that presents alternative PED's for carpet, and explain why this particular study has arrived at a number significantly different from those derived in other studies of similar consumer products.

Attachment 1.

The chart shows the Percent Change in Sales in "Floor Covering Stores", between the two U.S. Census reports of 2007 and 2012. Discarding the two outlier points, the sales by state vary between 0% and a 50% reduction. The median reduction in sales during this interval was 31%, and the mean reduction in sales was 29%. The respective value for California was a 32% reduction.

The economic recovery from the low of 2010 varied by state, and none of this data seems to have been incorporated into the Report.



Attachment 2.

The Floor Covering Weekly of July 25, 2016, contains an article on the Statistical Report 2015. The table below appears on page 10 of this magazine. This data provides average prices for flooring, and in particular for carpeting, that are significantly greater than has been discussed elsewhere. Furthermore, the prices and quantities appear to differ from other industry reports.

CalRecycle is interested in obtaining the relevant specific data set that underlies the Report. In addition, prior years of this Statistical Report would provide useful trend information regarding the carpet and flooring market shares.

TABLE 1

U.S. floor covering market sales value

(IN MILLIONS OF MANUFACTURERS' DOLLARS)

Product Sector	2011	2012	2013	2014	2015	Percent Change
Carpet & area rugs	$9,533	$10,041	$10,491R	$10,754R	$10,743	-0.1%
Hardwood flooring	2,052	2,331	2,917R	3,554R	3,791	6.7%
Ceramic floor & wall tile	2,206	2,241	2,642R	2,882R	3,134	8.7%
Laminate flooring	894	908	922	932R	912	-2.1%
Vinyl sheet & floor tile	1,938	2,195	2,390R	2,593R	2,947	13.7%
Other resilient flooring[1]	229	231	250	260R	275	5.8%
Stone flooring[2]	1,064	1,110	1,175	1,237	1,335	7.9%

R= Revised

Source: Catalina Research

1 Other resilient includes cork, rubber, other plastics and linoleum.
2 Natural stone. Excludes manufactured and engineered stone.

TABLE 2

U.S. floor covering market sales volume

(IN MILLIONS OF SQUARE FEET)

Product Sector	2011	2012	2013	2014	2015	Percent Change
Carpet & area rugs	10,219R	10,459R	10,865R	10,990R	10,973	-0.2%
Hardwood flooring	1,033R	1,162R	1,427R	1,560R	1,699	8.9%
Ceramic floor & wall tile	1,961R	2,165R	2,366	2,640R	2,838	7.5%
Laminate flooring	950	964	993R	1,002	950	-5.2%
Vinyl sheet & floor tile	2,580R	2,731R	3,033R	3,318R	3,527	6.3%
Other resilient flooring[1]	205	191R	200R	204R	219	7.4%
Stone flooring[2]	262	277R	286	295	313	6.1%

R= Revised

Source: Catalina Research

1 Other resilient includes cork, rubber, other plastics and linoleum.
2 Natural stone. Excludes manufactured and engineered stone.

Attachment 3.

An alternative industry report contains a set of industry statistics, that has this disclaimer:
"FCNews does not include stone flooring in its aggregate total, nor does it include ceramic wall tile. In addition, rubber flooring numbers include sheet, tile, accessories and cove base."

The annual total value in sales is nearly identical, but the total square footage sold varies by approximately 20%.

http://www.fcnews.net/2016/06/scoring-flooring-industry-stats-for-2015/