

Methodology Worksheet and Additional Supporting Information

Assumptions: With the cyclical nature of gasoline sales and the YTD CA gasoline sales ([US DOT, 2014](#)), Propel is projecting California will sell 14.6 billion gallons of gasoline/gasohol. Projected E85 volumes in California in 2014 are to be roughly 10.5 million gallons with Propel being just under 80% of the market. Meaning total E85 is only 0.07% of the total gasoline market in CA.

FFV Count

Often researchers start here to understand what vehicles can actually take the fuel. According to the DMV, there were roughly 33 million vehicles registered in California in 2013 ([DMV, 2013](#)). The FFV count in 2010 accounted for ~400,000 vehicles or roughly 1.5% of the California market ([CEC Report, 2011](#)). I have found sources which say the current FFV count in CA is in the range of 800k - 1.2 million vehicles. If you take the to a round number of 1 million, that would be roughly 3% of the total market in CA. Given more and more new vehicles have the flex-fuel capability, along with a growing CA driving population and only 0.8% of the stations in CA which sell E85, the amount of flex-fuel vehicles driving on the roads in CA does not seem to be the limiting factor.

Miles Driven

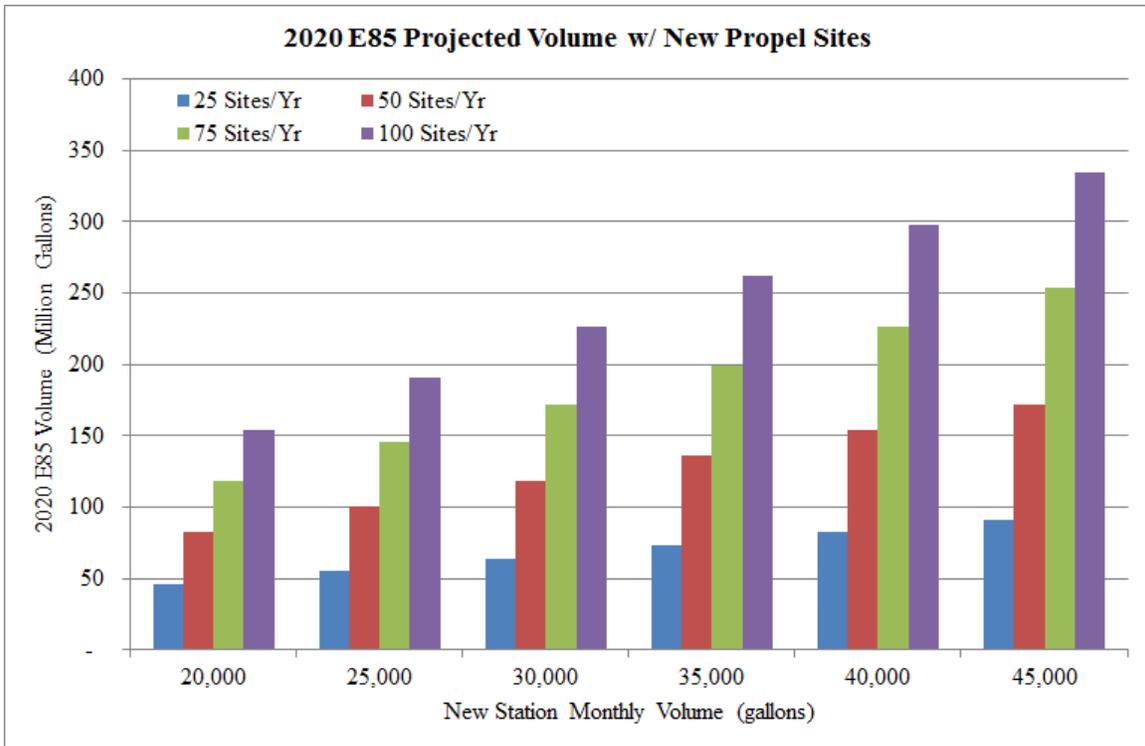
In order to calculate the amount of E85 gallons sold, we would need to estimate the average amount of miles a car would drive in a year. Then estimate the fuel efficiency of a vehicle operating on E10 and a FFV operating on E85. From an average fill size and the amount needed (as we at Propel know), there is a possibility of calculating the potential E85 volume in 2020. There really is not a limiting factor in this calculation but just too many subjective moving parts. First we would have to again attempt to find a way of estimating the number of FFV's on the roads as a percentage of the market by estimating purchases based on consumer behavior. That part alone would raise red flags based on "assumptions". Secondly, we would need a knowledge of the future efficiency of both existing FFV's along with future FFV's to estimate the amount of gallons needed. Third, consumers would only buy E85 if it is readily available at all times. We would have to make another assumption of to what percentage of FFV's would be actually running on E85 instead of E10. Again, too many moving pieces.

Percentage of Gasoline Demand

Taking this approach is "too simple" without any basic foundation. Saying E85 will be at x% of the gasoline market in 2020 would not surpass any test.

Station Count

Ah, the limiting factor. As mentioned before, 3% of the total California car market can legally run on E85. Only 83 sites in California sell E85 ([Integrated Policy Report, 2014](#)), which is 0.8% of the retail locations as the CEC estimates roughly 10,000 retail stations in California ([CEC Fuel Report, 2012](#)). As of right now, the average CA E85 site has a monthly volume of 10k gallons. Whereas an average Propel site does 16-17k/month, with newer sites selling easily 20k+/month. Current E85 volumes in the state is roughly 10.5 million gallons per year. The graph below is a summary of potential 2020 California E85 volumes based on average monthly volumes as well as the number of new sites opened per year. If there were to be 100 sites opened every year from now until 2020, selling at 20k/month, the projected E85 volume in 2020 would be a little over 150 million gallons assuming no growth at existing sites.



Current numbers for existing stations

	Annual E85 Volume (MM Gall)	Monthly E85 Volume (Gall/Site)
California Including Propel	10.5	~10,500
Propel stations	8.25	~16,000
Other	2.75	~6,000

The graph below shows 100 sites/month for both new Propel sites at 20k/month as well as Non-Propel sites at 10k/month. The CA E85 demand in 2020 would be 155 million gallons if you were to build only 100 Propel sites/yr or 80 million gallons if you were to build 100 Non-Propel sites/yr.

Annual CA E85 Demand w/ New Sites

