

Demystifying the Location Efficient Mortgage

Like many other young people just setting down roots and trying to grasp the finer details of what it means to be in the 'real world' (a.k.a. no longer a student), I found myself feeling rather ignorant when people started bringing up topics like mortgages and prequalified buyers – let alone 'location efficient mortgages.' However, I am apparently not the only one who is at a loss on this topic since there seems to be a general lack of knowledge on the subject. So what exactly is a Location Efficient Mortgage and why is it worth knowing about?

What is a 'Location Efficient Mortgage' and why does it exist?

A Location Efficient Mortgage (LEM) is a type of mortgage created for homebuyers to incentivize purchases made in urban areas that accommodate walking to nearby stores, schools, parks, and public transit. At the consumer level, the LEM provides more opportunities for low and middle income homebuyers, who would ordinarily be forced to live in less expensive fringe areas, to buy into transit and amenity rich areas. At the broader national level, these loans satisfy four overarching goals:

1. Boost public transit ridership
2. Reduce energy consumption
3. Improve local and regional air quality
4. Encourage development of more efficiently designed communities

Who are the creators and financial backers of the LEM?

The LEM is the result of a three-year research program led by a consortium of non-profits: Center for Neighborhood Technology (CNT), Natural Resources Defense Council (NRDC), Surface Transportation Policy Project. These three institutions not only spearheaded the initial research associated with location efficiency but also created the Institute for Location Efficiency (ILE) which is now funded by the U.S. Environmental Protection Agency, U.S. Department of Energy, Federal Transit Administration, Nathan Cummings Foundation, Joyce Foundation, MacArthur Foundation, and Surdna Foundation. In 1999, these institutions made possible the initial pilot program, financially backed by Fannie Mae, which provided at least \$100 million toward LEMs in Chicago, Los Angeles, San Francisco, and Seattle.

How is an LEM different from any other mortgage?

In many ways an LEM is similar to a standard Federal Housing Administration (FHA) loan because it specifically targets borrowers that struggle to amass a traditional 20% down payment by allowing a reduced down payment of only 3%. Like FHA loans, LEMs also allow borrowers to 'stretch' their Housing-to-Income and Debt-to-Income ratios, traditionally set at 28% and 35%, to an increased rate of 35% and 45% respectively.

However, an LEM is different from an FHA loan in a couple of ways. First, an LEM is predicated upon a homebuyer's selection of a neighborhood which allows them to reduce their vehicle driving needs by incorporating a diverse set of amenities such as grocery stores, parks, and transit within walking distance. Second, a mathematically derived ranking system for urban neighborhoods coupled with a buyer's borrowing power is used to determine their Location Efficient Value (LEV). The LEV can then be calculated into a buyer's gross income, thereby increasing their prequalification amount. To see how this process works in real time go to:

<http://www.locationefficiency.com>

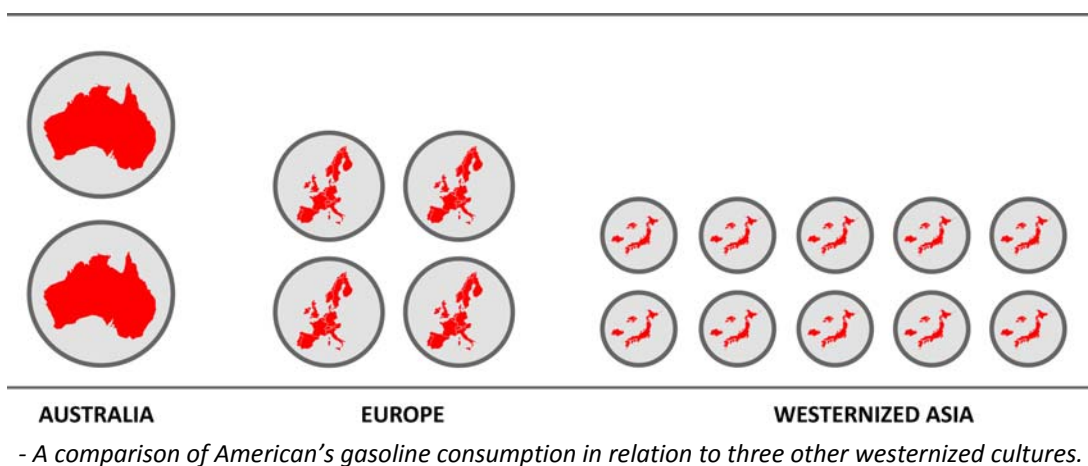
How is the Location Efficient Value (LEV) calculated?

The LEV is based on a three-step process and has been formulated into a mathematical equation that can be adapted to individual buyers. The following three-steps are applied to any given residence:

1. Determine Econometric Model (using six variables)
 - Household income
 - Number of persons per household
 - Households per residential acre (census data)
 - Households per total acre (census data)
 - Pedestrian factor (census data)
 - Transit access (census data)
2. Determine Auto Expenses
 - Cost of owning and operating a vehicle based on Federal Highway Administration figures
3. Subtract Applicant Auto Expenses from the Base Case
 - Use a base case with similar household size and wealth in a relatively transit poor and low pedestrian friendly area to compare how much the borrower can be expected to save in a location efficient area

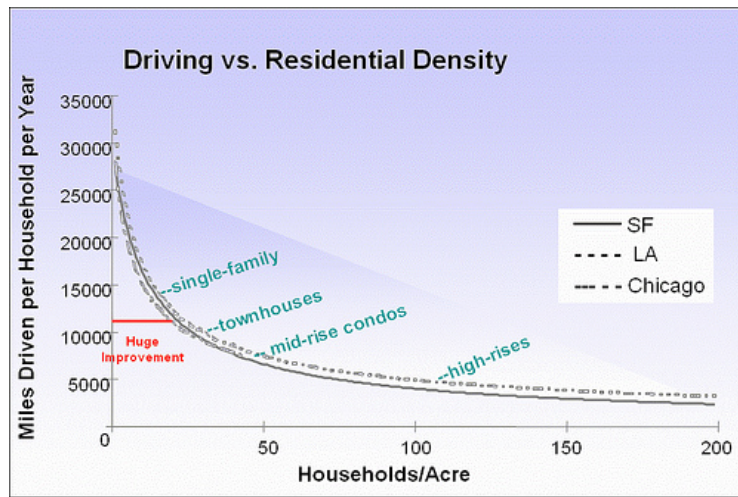
What research prompted the creation of LEMs?

In a 1989 study by Peter Newman and Jeffery Kenworth, it was found that gasoline consumption in U.S. cities far exceeded that of 32 other major international cities. For example, Americans consumed nearly twice as much gasoline per capita as Australians, four times as much as compact European cities, and ten times as much as westernized Asian cities.¹



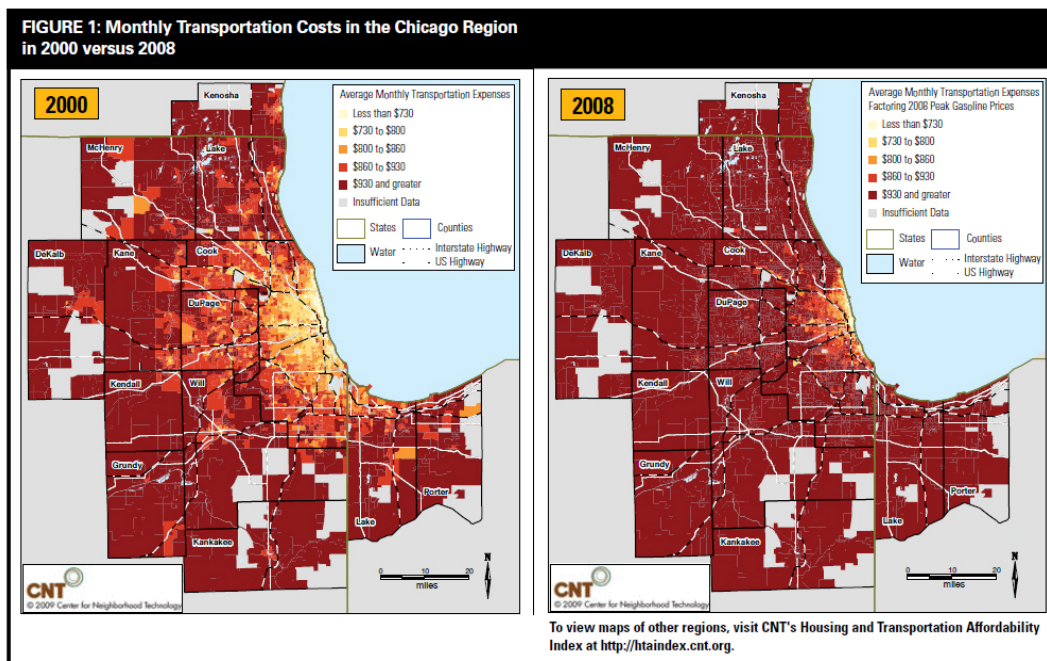
Another study in 1990 by John Holtzclaw found that residents of higher density communities typically drive less: 20% - 30% less per household as density doubles.² To better illustrate this point, Kaid Benfield of Washington D.C.'s Smart Growth Program has pointed out that this type of predictable reduction in driving is most potent at the lower density levels, where large-lot sprawl

changes to smaller-lot single family homes and townhomes. This suggests that the average density, incorporating both higher and lower density lots, can produce significant improvements for an area's Vehicle Miles Traveled (VMT) levels.³



- A measure of household driving rates in relation to residential density for the cities of San Francisco, Los Angeles, and Chicago.

Another way to understand how auto ownership figures into the Location Efficient Mortgage is to understand the financial impacts due to foreclosures. The NRDC performed the "Location Efficiency and Mortgage Default" study which pulled highly detailed performance data on 40,000 mortgages in Chicago, Jacksonville, and San Francisco. After accounting for factors such as income, age of mortgage, and population growth, the study shows that the probability of mortgage foreclosure decreases in neighborhoods where less car reliance is possible.⁴



- Comparative analysis showing the relationship between transportation costs and location efficiency.

What does this mean in terms of dollars and cents?

Bürer & Goldstein considered the impacts of location efficiency in terms of energy consumption and monetary savings at the national level in their 2006 study for the NRDC.⁵ For instance, if all new housing stock in the U.S. were built according to 'location efficient' practices (also called smart growth), assuming 50% were greenfield and 50% were brownfield infill, then the total savings after 10 years based on a projected level of 24.3 million housing starts from 2005-2015, would be about: 977 trillion miles of travel reduced, 5,690,000 trillion Btu saved, 49.5 billion gallons of gasoline saved, 1.18 billion barrels of oil saved, 595 metric tons of CO₂ emissions reduced, and a \$2.18 trillion savings.

When converting this research into monetary savings for the average homeowner, Bürer & Goldstein found that living within a location efficient area has been estimated to save the annual household 8,198 miles of reduced travel. This translates into 47.4 million Btu of reduced energy, 415 gallons of gasoline use reduced, 9.9 barrels of oil saved, and 5 metric tones of CO₂ reduced with a total present value to consumer savings of \$97,700.

So what are the downsides of LEMs?

There are two major pitfalls associated with the LEM that allude to its inability to reach a critical mass and the risk involved with using an alternative finance model. The first issue, highlighted in an address to the House of Representatives in 2009 by CNT's Scott Bernstein, is simply that LEMs have not been implemented at a large enough scale to make a significant impression on the consumer conscience or private mortgage sector.⁶ The address outlined three major reasons why the LEM has yet to be implemented in mass:

1. Project sponsors were **not lending institutions**, preventing any major influence over the secondary mortgage market
2. **Minimal support** from the offices of the President and Vice-President to encourage Fannie Mae to take the program to a larger scale
3. Not enough **transparent mechanisms** to allow full evaluation of the program's results, thereby hindering the program's ability to be shaped/adapted to best meet market demands

The second issue, discussed in a study performed by Allen Blackman from Resources for the Future, suggests that borrowers of LEMs are at greater risk for mortgage default than the conventional loan borrower.⁷ Blackman postulates that LEM borrowers will have a default risk which is closer to that of a standard FHA loan, estimated at 8%, which is a 6% increase over the conventional loan default rate of 2%. While it is difficult to say whether Blackman's hypothesis is completely accurate, due to the fact that his research was based upon census data rather than the actual default rate of LEM borrowers, it seems reasonable that there is some increased amount of risk associated with LEMs.

What does the LEM need to succeed?

At the broadest level, we need to recognize that sprawl is a complex issue and that the LEM, while strategic in nature, becomes merely a 'simple fix' if used as a stand-alone measure.⁸ Instead, we need planners and decision makers to consider the LEM as merely one tool in their toolkit,

complementing its inadequacies with other mechanisms that tackle issues associated with car sharing, employer-assisted housing, transit pass incentives, land use and zoning reform, open space initiatives, etc.

In addition, Bernstein has outlined some specific recommendations on what can be done to ensure the LEM's success:

- Provide simultaneous backing from Freddie Mac, Ginnie Mae, and the 12 Federal Home Loan Banks
- broaden the program's reach to encapsulate *energy* and location efficient mortgages
- development of an independent secondary market lender (not as closely tied to government funding)
- establish a tracking method to allow conventional loans to be offered as LEMs (broadens borrower catchment)
- creation of enforceable targets by either Congress or bank regulators to ensure implementation of the LEM program

¹ http://docs.nrdc.org/air/files/air_06031001a.pdf

² http://docs.nrdc.org/air/files/air_06031001a.pdf

³ http://switchboard.nrdc.org/blogs/kbenfield/considering_the_role_of_densit.html

⁴ <http://www.nrdc.org/energy/files/LocationEfficiency4pgr.pdf>

⁵ http://docs.nrdc.org/air/files/air_06031001a.pdf

⁶ http://www.house.gov/apps/list/hearing/financialsvcs_dem/bernstein.pdf

⁷ <http://www.cato.org/pubs/regulation/regv25n1/v25n1-4.pdf>

⁸ <http://www.lrrb.org/pdf/200524.pdf>