



How to Improve Los Angeles? Fix the Traffic Problem!

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MR≠MC

One of the realities of life in Southern California today is that a large number of people live great distances from where they work. In historical terms, this is a relatively new phenomenon. Throughout most of the history of civilization, life revolved around a small town or village. One can see the echo of this paradigm by driving through Europe and encountering an endless series of villages, each having a town center with the residents working in or on the outskirts of the village.

Fast-forwarding to the present day and place, we find an enormous social experiment in which a large proportion of Southern California resident's now live great distances from their workplace. This distance gap is compounded by a lack of adequate public transportation. It is commonplace to commute by car more than one hour each way. Living far from the workplace has a number of negative consequences including the following:

- ★ Significantly strained system of freeways, roads, and infrastructure
- ★ Reduced time with children and/or spouse leading to all sorts of social ills
- ★ Increased environmental pollution, use of fossil fuels, and dependence on foreign oil
- ★ Significant decrease in leisure time and quality of life

What's the motivation to live so far from work?

One way to answer this question is through the economic notion of "marginal analysis", the process of considering small changes in a decision and determining whether a given change will improve the ultimate objective. We know that a well-run business will always continue to produce more of a successful product until the point whereby the marginal revenue contributed by the product equals the marginal cost of the product. Therefore, the traffic situation in Los Angeles will continue to worsen until the point where the Marginal

Revenue = Marginal Cost, or until the point where the costs of a long commute exceed the benefit. To understand the equation more fully, we need to tease apart the component parts of this marginal revenue and marginal cost:

Imagine the following equation: DMR [M(+)+A+C+S] = DMC [R+M(-)+F+Q]

Where the variables are explained as follows:

Components of Distance Marginal Revenue (DMR):

- ★ M(+): Money benefit: fewer dollars expended for housing; may be able to buy instead of rent; expectation of equity appreciation
- ★ A: Area: more square feet of living space
- ★ C: Crime Reduction: Living far from the City may result in reduced crime
- ★ S: School system: Living far from the City can provide better school system choices

Note: The components of DMR tend to be more tangible and shorter-term gains

Components of Distance Marginal Cost (DMC):

- ★ R: Increased risk: traffic accident i.e. Falling asleep while driving or while talking on cell phone
- ★ M (-): Money impact: Increased costs: Greater fuel costs
- ★ F: Children and family impact: Less time with spouse and/or children; Impaired child rearing; day care/pre-school in lieu of a parent; reduced intact family units; more "latchkey" children who lack supervision, turn to drugs and gangs.
- ★ Q: Quality of life impact: Less personal or free time to enjoy life

Note: The components of DMC tend to be more intangible and longer-term gains

I am hypothesizing that the natural tendency of most people is to emphasize shorter term and more tangible gains over longer term and/or more intangible gains. This means that when doing the mental $MR=MC$ distance calculation that we all do in our heads, many of us are inadvertently skewed towards the Marginal Revenue side of the equation, since the Marginal Costs can be more subtle but ultimately much more critical. Few of us ever look back upon life and wish we had made more money; remorse more often results from lost opportunities such as reduced time with a child or spouse, and the marginalization of life experiences that result from daily long commutes.

So what's the solution to this dilemma? Building a massive public transportation system at this late juncture is unlikely at best. We need to increase the marginal cost of living far from work and/or decrease the marginal revenue of driving long distances in order to shift people closer to work. We want to pull or exaggerate the equation variables in the direction that yields results.

The following are two potential strategies to pursue:

- 1) Develop a communication campaign that helps people more fully understand the Distance Marginal Cost involved in the equation so that the calculation will be less skewed towards the Distance Marginal Revenue. An example of this is a public service spot contrasting the temptations available to a 'latchkey' child with a parent-supervised child and helping people think twice about ways to achieve this goal.
- 2) Focus legislative efforts and tax incentives on the components that will increase the DMC and decrease the DMR. As an example, we could increase the DMC by using a variable insurance premium with costs apportioned based upon distance from work. This methodology would likely also better reflect the actual increased risk of driving longer distances.

These two strategies will ultimately decrease the distance demand. We know from queuing theory that, as a system approached 100% utilization, the wait time rises exponentially. Even shaving a few percentage points off of the demand for freeways would likely have a significant positive effect on infrastructure utilization.