

The Effectiveness of the LCA Radar Gun in Minimizing Travel:

A *Fuzz-Busting* Policy of Bribing the Market for a Synthetic Jobs-Housing Balance

The explicit policy of promoting balance between the location of employment opportunities and an employee base is relatively new to the political landscape. The debate over the effectiveness of jobs-housing balance policy, and the impact such policy has on travel demand, is the topic of deep ideological difference. It is not surprising that the concept of institutional market intervention, designed to encourage the co-location of residences and firms, gained popularity during the late 1980's--the same period that spawned volumes of literature on road congestion and the associated environmental impacts.¹ Since this time, a number of regional level policies have been adopted across the United States to build “more livable communities.” In Minnesota, the 1995 Livable Communities Act attempts to encourage local jobs-housing balance based on the assumption that doing so will serve to reduce the amount of daily travel required by individuals, *sic* tempering road congestion and environmental degradation. The following paper holds that regional polices attempting to strike a synthetic balance between jobs and housing have little to no impact on minimizing total travel (distance) in the short term, as a result of implicit policies and personal preferences that fundamentally oppose spatial balance in favor of segregation.

Section I reviews policy initiatives adopted throughout the United States during the past decade, in particular the Metropolitan Livable Communities Act (MN 473.2, 1995), which assumes a more balanced jobs to housing ratio will minimize household travel demand. Section II follows this analysis with an evaluation of different studies that reveal the theoretical holes of the co-location hypothesis. Section III posits this thesis for future research: If the goals of the Metropolitan Livable Communities Act are accepted as a desirable mix of land use classifications (i.e. employment, commercial, recreational and residential uses), then what are the effects of encouraging such development with public funds at specific opportunity sites (necessarily local in scale) within a broader region, and further, what evaluative structure can be used to determine such a policy's utility. The existing research suggests that jobs-housing policy does little to explain total VMT, and that ignorantly tinkering in the transportation land use market, even with good intentions, runs a greater risk of mucking things up for the future.²

¹ See, for example, Robert Cervero's “Jobs-Housing Balancing and Regional Mobility” *JAPA* 1989, and A. Downs, “Stuck in traffic: coping with peak-hour traffic congestion” 1992, to name two in a wide genre.

² What come to mind are policies like the GI Bill and the Federal Highway Act.

Section I. Setting the Speed-Trap with the Metropolitan Livable Communities Act

The jobs-housing connection, as an intuitive relationship that serves to reduce the need³ to travel, has an appealing history. Planning theory and practice from the Garden Cities movement of the early Twentieth century promoted the spatial match between the workplace and home place.⁴ The argument holds that the supplies of housing affordable to workers near a particular employment center will attract the employees of this center who are more willing to bid on these units, than are others of the same income profile employed elsewhere. From a policy perspective, the assumption about the co-location relationship suggests that the efficient spatial marriage between home and work would limit the need for long distance commuting by offering more choices to the individual instead of imposing penalties on travel itself. Penalties and/or restrictions on travel tend to have a greater adverse effect on low and moderate-income households.⁵

The objective of matching the home place with the workplace sets the context for a variety of Livable Communities Acts adopted across the country including those set in the Bay Area, Washington State and the Twin Cities. The motivation underlying regional level livable community legislation, in the wake of the funding apparatus established by the federal TEA-21 and ISTEA policies,⁶ attempts to encourage growth along transportation corridors while securing a more balanced jobs to housing ratio.⁷ The rhetoric of the Minnesota LCA enabling act backs this agenda by authorizing the Metropolitan Council to distribute federal and state funds through the tool of demonstration account grants:

“...The Council shall establish guidelines for the livable community demonstration account for projects that the Council would consider funding with either grants or loans. The guidelines must provide that the projects will:

- (1) Interrelate development or redevelopment and transit;
- (2) Interrelate affordable housing and employment growth areas;
- (3) Intensify land use that leads to more compact development or redevelopment;

³ “Need” is defined here as the sustaining elements of daily activity.

⁴ Ebenezer Howard, *Garden Cities of Tomorrow*, suggests that this balance further serves to preserve green space. One notable effort is the Pullman Town sited outside of the city of Chicago. This live-work community eventually failed because of the strict moral code imposed on workers in addition to the exclusive property ownership of the Pullman Company.

⁵ See Jonathan Lavine, “Rethinking Accessibility and Jobs-Housing Balance” *Journal of the American Planning Association*, for a more exhaustive connection between jobs-housing balance as a desirable policy goal.

⁶ For a comprehensive explanation of the federal financing policy refer to the Transportation Equity Act for the 21st Century, as amended by the TEA 21 Restoration Act, together with updated explanatory materials prepared by the Committee on Transportation and Infrastructure, House of Representatives (1998).

⁷ After Met Council Livable Communities Program. <http://www.metrocouncil.org/services/livcomm.htm>

- (4) Involve development or redevelopment that mixes incomes of residents in housing, including introducing or reintroducing higher value housing in lower income areas to achieve a mix of housing opportunities; or
- (5) Encourage public infrastructure investments which connect urban neighborhoods and suburban communities, attract private sector redevelopment investment in commercial and residential properties adjacent to the public improvement, and provide project area residents with expanded opportunities for private sector employment.⁸

As noted, these policy objectives are quite specific with respect to the goals they set, but are less direct in how specific programs are to target these ends, and whether or not these guidelines are mutually exclusive. The assumption of the livable communities initiative holds that by bringing people and jobs closer together, and providing households with choices when it comes to travel mode and residential type, a dividend is paid to the region because of a net reduction in total VMT. Further, a system of jobs-housing balances rewards the individual by offering services and recreational opportunities closer to home, and creates social equity by situating low and moderate-income groups closer to employment opportunities. Indeed the language implies that encouraging mixed-use development will do much to alleviate the demand for all types of travel. However, as we shall see, the research of Guilino, Peng and others indicate that there is at best a nominal correlation between a jobs-housing balance and a reduction in household travel demand when comparing across the entire population.

From an administrative perspective, the Metropolitan Livable Communities Act is enforced through the synthetic relationships forged between municipalities and the regional government. The LCA works by giving development carrots to participating municipalities who present a project that serves the aforementioned policy objectives. The Met Council is interested in awarding public grants to projects that can later be replicated across the region using private capital streams. The thought behind this competitive selection process is that by financing the “best or most promising” proposal now, the demonstration account will stimulate a replicating effect within the region, and as these nodes multiply, job-housing concentrations will form naturally along paths of least resistance.

⁸ (MN 473.2, 1995 amended 2002) Livable Communities Demonstration Account.
<http://www.revisor.leg.state.mn.us/stats/473/253.html>

Section II. Fuzz Busting the Impact of Legislating a Livable Community

At least three landmark studies have been done in the relatively young area of the jobs-housing policy impacts on travel demand.⁹ This research fills the entire gradient between two extreme perspectives- those who argue that jobs-housing balance can affect total VMT, and those who believe that land use no longer has much statistical relevance on travel demand. What is interesting is the indiscrete hypothesis of both perspectives best summarized by Jonathan Levine. Levine suggests that jobs-housing balance as a land use policy will not work to reduce total VMT because the playing field already heavily subsidizes things like new car purchases and single family home ownership that run counter to the explicit objectives of Livable Communities legislation.¹⁰

‘Wasteful commuting’ or excess commuting, illustrates other factors beyond the availability and accessibility of jobs and housing that affect travel patterns and residential locations.¹¹ The jobs-housing approach to travel demand policy has further been attacked for assuming only one long time worker in each household.¹² Two worker households and an increasing number of women in the work force have made this assumption dangerous, and new ways of disaggregating and modeling relationships should be pursued. Further more, since the definition of a region is essentially a geographical area that has a balance between jobs and housing the term balance depends on where one chooses to draw the line.¹³ These types of measurement errors seem to be better accounted for in more contemporary models.¹⁴

Two additional studies deserve recognition for the data sources compiled and the conclusions reached. Robert Cervero, using data from the Bay Area found that, a restricted housing program had raised housing prices, caused the displacement of workers and increased average commute distances. He concludes that removing obstacles to mobility and housing production will allow firms and residents to co-locate more readily over time. Second, Genevieve Giuliano examined

⁹ Other studies not reviewed in depth include: Peng, Zhong-Ren. 1997 and Fahui Wang, 2000.

¹⁰ Levine, Jonathan. 1998. “Rethinking Accessibility and Jobs-Housing Balance.” As a result Levine looks at measures of affordability as related to accessibility to explain jobs-housing imbalance. Using data from Minneapolis he determines that residential location in metropolitan Minneapolis for low-to-medium-income - single-worker households, that jobs-housing balances and imbalances are significant influences on decisions about residential location but drop quickly as the analysis is carried outside of this subgroup.

¹¹ Ibid., citing Hamilton, 1982; Cropper and Gordon, 1991; Giuliano and Small, 1993.

¹² Giuliano, 1991 abridged.

¹³ Livingston, 1989 and Giuliano, 1991 argue that any outcome is possible based on the assumption of the modeler. This dilemma is dealt with through discussing “reasonable commute shed.”

¹⁴ Fahui Wang’s model, 2000, using a GIS surface base helped to identify major employment centers in a floating catchments area, distances from the CBD and sub centers, and a gravity-based index that took the effects of all jobs into account. He feels these measurements better explain how far people commute than how much time they spend on commuting. The claim is the best model explains over 50% of the variation of commuting among 7,835 TAZs, though it has not been reviewed in this analysis.

commute patterns in Los Angeles and attributed a weak association between spatial distribution and commuting from home to work to other phenomena besides commuting cost (time and money). These factors included two-worker households, job mobility, and race among others. It follows that policy designed to increase the jobs-housing balance can play only a small part in reducing congestion, at least in the car dependent desert of Southern California. What is interesting to note is that Comparing across Giuliano and Cervero, place indeed does matter.

The study further argues that the significance of policies supporting **jobs-housing balance** is not in the realm of congestion reduction. Rather, the goal of this and other accessibility-based approaches to transportation problems is better framed as supporting more choices about land use and transportation. Where regulations promoting lowered densities and spatial separation have eliminated alternatives from the marketplace, relaxation of such regulations can restore a broader range of residential and transportation choices for individuals and households.

III. Can You Take Your Hands off the Wheel, and Step out of the Car? Future Research on Minimizing Travel using the Jobs-Housing Based Policy Vehicle

Evaluating the success of the livable community based initiatives on their ability to promote jobs-housing balance and minimize travel demand brings mixed scores. The policy objectives explicit in each of the LCA initiatives studied in this brief outline goals dealing with economic efficiency, social equity, the environment, and individual experience. However, the research holds that the development tools used to serve these ends beg further analysis. In assigning stars on a four point system, livable communities initiatives may prove to be higher with respect to the environment concerns (**, for promoting infill site redevelopment as opposed to expanding) and individual experience (**, because the returns to these factors are nearly intangible, if not entirely subjective).

The social equity component is not well documented, but the findings of Levine offer some promise for single people in the low to moderate-income classification. The evaluation criteria for potential increases in economic efficiencies, although intuitively acceptable, are under-represented (****). In truth, models designed to capture these phenomena may prove overwhelmingly complicated if not impossible to build using existing data structures because these programs are so young. As indicated by an overwhelming amount of research, intuitively acceptable correlations often fail to pass the muster of reality when dealing with jobs-housing policy. These deficiencies suggest a direction for future research and data analysis.

References

Jobs-Housing Balance

- Alonso, William. 1964. *Location and Land Use*. Cambridge, MA: Harvard University Press.
- Calthorpe, Peter. 1993. *The Next American Metropolis: Ecology, Community, and the American Dream*. New York: Princeton Architectural Press.
- Cervero, Robert. 1996. "Jobs-Housing Balance Revisited: Trends and Impacts in the San Francisco Bay Area." *Journal of the American Planning Association* 62,4: 492-511.
- , and Landis, J. 1995. "The Transportation-Land Use Connection Still Matters", Access, Fall, 7, pp. 2-10.
- , August 1995. "Planned Communities, Self-Containment and Commuting: a Cross-National Perspective." v32 n7 *Urban Studies* p1136(27).
- , 1989. "Jobs-Housing Balancing and Regional Mobility." *Journal of the American Planning Association* 55, 2: 136-50.
- Downs, Anthony. 1992. *Stuck in Traffic: Coping With Peak-Hour Traffic Congestion*. Washington, DC: Brookings Institution; Cambridge, MA: Lincoln Institute of Land Policy.
- Giuliano, Genevieve. 1991. "Is Jobs-Housing Balancing a Transportation Issue?" *Transportation Research Record* 1305: 305-12.
- , and Kenneth A. Small. 1993. "Is the Journey to Work Explained by Urban Spatial Structure?" *Urban Studies* 30,9: 1485-1500.
- Levine, Jonathan. 1998. "Rethinking Accessibility and Jobs-Housing Balance." *Journal of the American Planning Association*, v64 n2 p133(17).
- Levinson, D. and Kumar, A. 1994. "The Rational Locator: Why Travel Times Have Remained Stable." *Journal of the American Planning Association*, 60(3), pp. 319-332.
- Marlon G. Boarnet 1996. "Can Land Use Policy Really Affect Travel Behavior? A Study of the Link Between Non-Work Travel and Land Use Characteristics." Brea, CA: Unison Consulting Group, Inc.
- Moore, Terry, and Paul Thorsnes. 1994. *The Transportation/Land Use Connection*. Chicago, IL: The American Planning Association.

Opalsk, Douglas V. 1992. "Jobs, Housing, Transportation: A Balance Through Mediated Fair Shares." *Journal of Housing*, v49 n6 p290(9).

Peng, Z. Dueker, K.J. and J Strathman.1996. "Residential Location, Employment Location and Commuter Responses to Parking Charges." *Transportation Research Record*, 1556, pp. 109-118.

Peng, Zhong-Ren. 1997. "The Jobs-Housing Balance and Urban Commuting." *Urban Studies*, July 1997 v34 n8 p1215(21).

Wang, Fahui. 2000. "Modeling Commuting Patterns in Chicago in a GIS Environment: A Job Accessibility Perspective." *The Professional Geographer* v52 i1 p120(14).

Livable Communities Act as Related to a Transportation Initiatives

Howard, Ebenezer. 1902. *Garden Cities of Tomorrow*. London: S. Sonnenschein & Co., Ltd.

Krajnak, Debra. 1996. "Twin Cities housing program is on the starting block." *Planning*, Feb 1996 v62 n2 p20(1).

Goetz, Edward G. and Lori Mardock. 1998. *Losing Ground : The Twin Cities Livable Communities Act and Affordable Housing*. Minneapolis, MN : Center for Urban and Regional Affairs, University of Minnesota.

Metropolitan Council. 2002. "*Planning More Livable Communities with Transit Oriented Development.*"

----- *Livable Communities Demonstration Grants 1996 - 2002*

<http://www.metrocouncil.org/services/livcomm/LCDAgrants.htm>

----- 2002. *Blueprint 2030*.

<http://www.metrocouncil.org/planning/blueprint2030/overview.htm>

Minnesota Planning. Sustainable Development Legislation.

<http://www.mnplan.state.mn.us/SDI/legislation.html>

Minnesota State Legislature. 2002. Livable Communities Demonstration Account Enabling Act. <http://www.revisor.leg.state.mn.us/stats/473/253.html>.

Transit for Livable Communities. Accessed 02.2003. *So Many Cars: An Unhealthy Prognosis* <http://www.tlcmnnesota.org/health.html>

Transportation Equity Act for the 21st Century, as amended by the TEA 21 Restoration Act. 1998. Washington: D.C. G.P.O.