

**Urban Design, Environmental Consciousness, and Sustainable Communities: Can
New Urbanism Reduce Driving in Auto Friendly Los Angeles?**

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Abstract

New Urbanism refers to a form of development that integrates shopping and housing in a pedestrian friendly environment that reduces the need for automobile usage and arguably impacts individual choices regarding commuting and other daily travel. New Urbanism is an increasingly “hot topic” in heavily congested regions, such as Los Angeles, where the wider, often meandering, tree-lined walkways New Urbanists adopt to evoke older, traditional neighborhoods, must be grafted onto existing, auto-friendly grid systems. We explore two central questions surrounding the efficacy of New Urbanism in this particularly challenging context: 1) Does New Urbanist design as a specific structural form reduce resident’s reliance on automobiles? 2) Or, do individuals who choose to buy homes in New Urbanist communities already share ecological attitudes that predispose them to use alternative modes of transportation? In response to these questions, we analyze data from recent surveys of Playa Vista - a New Urbanist community in coastal Los Angeles, California - and Mar Vista – a demographically comparable community in neighboring West Los Angeles. Consistent with current research on New Urbanism, we find that residents of Playa Vista both walk and drive more than their counterparts in Mar Vista. Moving beyond much of this research to examine its inherent problems of self selection, we find that residents of both Playa Vista and Mar Vista who are concerned about local environmental conditions tend to walk rather than drive, when that mode of transportation is reasonable. Consequently, we conclude that ecological attitudes may be more important than urban design with respect to modifying individuals’ behavior to protect and/or preserve the natural environment. Because neither Playa Vista nor Mar Vista boasts efficient and reliable public transportation systems, we also discuss the possibility that New Urbanism may work more successfully in larger, more controlled, environments rather than in urban infill situations.

Introduction

Championed as an integrated package of residential, business, and community amenities capable of modifying individual choices – especially regarding transportation - New Urbanism has been hotly debated as a potential solution to the traffic congestion, energy inefficiency, public health threats, and overall social malaise associated with America’s sprawling postwar suburbs (see e.g., Crane 1996; Fulton 1996; Plas and Lewis 1996; Gordon and Richardson 2000; Talen 2002; Lund 2003; Naser 2003; Wistanley et al. 2003; Duroy 2005; Handy 2005; Grant 2007)¹. Proponents of New Urbanism proclaim the anticipated positive impacts of this distinctive form of urban design, especially decreased automobile usage (Crane 1996; Fulton 1996; Naser 2003). Fulton (1996:16), for instance, explains that “New Urbanist plans are often ‘sold’ to public officials based on their supposed transportation benefits, including reduced dependence on the automobile.

“Walkability” and greater access to reliable mass transit notwithstanding, opponents of New Urbanism argue that these “neotraditional” communities are little more than “up-marketed,” often gated communities. Reviewing several key New Urbanist communities, Talen (2002) argues that they “...tend to be excessively high income and that they lack racial diversity” (166). Critics of both these contrary positions suggest that ecological attitudes, are the underlying bases for environmentally responsible behavior such as eschewing driving in favor of walking or riding a bus or train (Plas and Lewis 1996; Dietz 1998; Lund 2002; Duroy 2005). According to Lund (2003), “In many instances, personal attitudes toward a particular behavior [walking] were more important” (427) than the structural form of the community for predicting individual behavior.

In light of this complex debate, we consider the impact of building a large New Urbanist community into the notoriously auto friendly traffic grids of Los Angeles on residents’ use of individually owned automobiles. We specifically ask: 1) Does New Urbanist design as a specific structural form reduce resident’s reliance on automobiles? 2) Or, do individuals who choose to buy homes in New Urbanist

¹ We thank Michael Krassa for helpful comments and suggestions to this paper.

communities already share ecological attitudes that predispose them to use alternative modes of transportation?

In response to these questions, we surveyed residents of Playa Vista - a New Urbanist community in coastal Los Angeles, California - and Mar Vista – a demographically comparable community in neighboring West Los Angeles about their environmental awareness and concerns and their everyday transportation choices.² Analyses of the resulting survey data indicate that New Urbanism, characterized specifically by the infill development of Playa Vista, does not increase reliance on walking, biking, and/or the use of mass transit as a substitute for driving. Rather, residents of Playa Vista are more mobile than their neighbors in Mar Vista, regardless of their chosen modes of transportation. Residents of both communities who indicate concern about the natural environment and express a willingness to act accordingly tend to be “walkers.” Yet this activity does not necessarily reduce their overall automobile usage. These results suggest that New Urbanism may more likely to reduce residents’ automobile usage when there is a significant massing of residential and commercial development that is difficult to generate in the typical infill setting.

This article includes an overview of the literatures on New Urbanism and the influence of ecological attitudes on behavior that are most relevant to our specific hypotheses and statistical tests. We begin by considering the whether the observed effects of New Urbanism are mostly structural or attitudinal. We then present our cases: two Southern California cities – Playa Vista and Mar Vista. On the basis of this introductory discussion, we articulate our hypotheses – specifically, (1) New Urbanist design reduces automobile use and (2) ecological attitudes foster environmentally responsible behavior, including reduced automobile use. We explain our survey methodology and statistical analysis used to evaluate these hypotheses. After presenting the results of our analysis, which suggest stronger support for “ecological

²This research is based on a multiyear study generously underwritten by the John Randolph and Dora Haynes Foundation in Los Angeles, CA. The study will use a mix of survey data and GPS tracking to confirm auto usage and VMT in two Southern California communities that have identified themselves explicitly with New Urbanist design principles. Additional information regarding this on this research project is available online at: www.cssd.ucr.edu/newurbanism.htm.

attitudes” than for “structure,” we discuss how our might add to a nascent literature specifically on New Urbanism, and inform the policy debate on how this specific form of urban development is, and is not, useful as cities consider their development futures.

New Urbanism as an Antidote to California’s Car Culture

The specific New Urbanism style of design was a reaction to a postwar planning that encouraged the separated residential and business uses that we see today - an urban fabric where streets act as the arterial system for disparate uses. Beyond the safety aspects of the old urban neighborhood was an idea that found new life in New Urbanism; the urban form could be integrated so that the use of automobiles for transportation was limited. In old neighborhoods, it was possible to live above a shop that you owned, visit the neighborhood grocer, and have all the amenities of life within a “walkable” distance. In one of the first books to popularize the concepts of New Urbanism, Katz (1994,xviii) notes that, “[t]he proximity of daily destinations and the convenience of transit reduces the number and length of trips, decreases the private stress of time in traffic and minimizes the public-borne expenses of road construction and atmospheric pollution. New Urbanism then had a personal appeal in making daily life easier, and a broader public policy aspect in reducing infrastructure costs for cities and the costs associated with pollution and public health. Fulton (1996,16) notes, “[i]t is an article of faith among New Urbanists that urban design following New Urbanist principals will give residents more transportation choices and therefore reduce vehicle trips and/or vehicle miles traveled.”

Indeed the broader literature of urban planning and public policy has engaged in a spirited debate about the linkages between urban design and transit usage. This literature forms the theoretical backbone between New Urbanism and its claims of lessening impacts on the environment. Handy (2005) notes that there were more than 70 studies written in the 1990’s alone examining the relationship between design and transportation choices empirically. More recent studies have substituted transit patterns for transportation choices. For example, Ewing and Cervero (2001) found a weak but significant linkage between increased urban densities and lower travel (regionally) expressed as VMT. Lund, Willson, and Cervero (2006) found

that that Transit Oriented Developments (TOD)³, or housing developments integrated with transit stops, increase mass transit ridership in California. Cao, Mokhtarian and Handy (2007) found that changes in environmental factors (e.g., attractiveness and safety) were significantly associated with reduced driving and increased walking behaviors. Factors of density, design, and transit readiness, all constituent parts of New Urbanism, have generally been found to have a positive impact on transit decisions. Finally, Handy's (2005) review of the transit and engineering literature indicates that New Urbanism may have mild affects on automobile usage mainly because this urban design form meets an "unmet demand" for services that may reduce driving by a small amount.

There has also been a steady and building literature that examines relationships between the built environment and selected environmental outcomes. Much of the early research was necessarily based on theoretical propositions because New Urbanist communities were too new to study systematically. For instance, Crane (1996) argued that, given a through street grid system, New Urbanism would reduce the marginal costs of walking relative to other modes of transportation. However, Crane cautions that *all modes* of transit would be affected by these downward costs, perversely increasing automotive trips. In short, New Urbanism increases local access, which makes for increased trip frequencies through the reduction of costs on a trip-by-trip basis. Though intuitively sound, Crane's logic is not supported by any empirical evidence.

Lund (2003) considers at the other side of the New Urbanism coin - urban design's ability to facilitate walking, as opposed to driving, within communities. If walking increases, it makes sense that driving would have a corresponding decrease. Lund distinguishes between "strolling," or walking for pleasure, and "destination" trips, which would include walking to businesses or other activities. On the basis of a series of multivariety regression models, Lund finds that those who chose to walk in "destination" trips were more likely to do so because they believed walking is important. Lund builds a modest case

³ TOD is generally refers to "dense, diverse, and pedestrian friendly" land uses near to transit (Lund, Willson, and Cervero: 2006:248).

that New Urbanism design can impact the types of trips that are ordinarily associated with automobile usage.

Ecological Attitudes and Environmentally Responsible Behavior

One of the most significant criticisms of studies of New Urbanism is that it fails to address the problems of self-selection, or the possibility that residents of New Urbanist communities are already predisposed to the ecological attitudes that predict more environmentally responsible behavior, regardless of design (Handy, 2005). This fault is particularly relevant to Los Angeles communities of Playa Vista and Mar Vista that are the focus of our study. New Urbanist communities are generally upscale, and typically sit in “desirable” environments, near water or interesting locales (e.g., the Celebration community near EPCOT in Florida). Playa Vista has the *prima facie* aspects of many New Urbanist communities in that it resides among the Westside community of Los Angeles, home to the city’s many well known and more prosperous beach communities, populated by residents sharing generally more liberal political predispositions, and hence “greener” attitudes.

Although there is no scholarly literature that specifically addresses New Urbanists’ concerns regarding the effects of ecological attitudes on individuals’ decisions to move into their purportedly sustainable communities, there is a rich research agenda in psychology/social psychology devoted to the effects of attitudes on behavior, more generally. One line of this inquiry has increasingly developed the positive role of ecological attitudes, broadly defined, in generating environmentally responsible behavior. It draws on early work by (Schwartz 1977), who is well known for his norm activation model, which explains how an individual transitions from “awareness” of the consequences of his or her actions, to accepting “responsibility” for his or her behavior, to “helping” in accordance with an identified normative framework. In the context of New Urbanism, Schwartz’s norm activation model demands a series of more than 200 cognitively complex decisions beginning with an individual’s identification as an “environmentalist” who is aware of the ecological consequences of his or her residential choices and ending with the purchase of a home in a New Urbanist neighborhood. Blamey’s (1998) extension of Schwartz’s model interprets individual behaviors as contributions to the provision of a collective good. In

this case, the decision-making process of a potential resident of a New Urbanist community becomes more complicated due to his or her recognition of shared responsibility and consideration of relevant environmental and social policies, organizations, and questions of justice.

The use of theoretical frameworks derived from the likes of Schwartz (1977) and Blamey (1998) to understand the relationship between ecological attitudes and environmentally responsible behavior has accelerated during the last decade. This work is driven by the observation that although efforts to explain environmentalist behavior as “a function of social structure have revealed some weak but reliable associations” (Dietz et al. 1998, 450), stronger relationships exist between “social psychological variables including attitudes, beliefs, and worldviews” and environmental concern (Dietz et al. 1998, 450). Apparently, ecological attitudes, regardless of their origins are associated with environmental activism and environmentally responsible behavior (Geller 1995; Dietz et al. 1998; Grendstad et al. 1998; Schultz et al. 1998; Allen and Ferrand 1999; Kals et al. 1999; DeYoung 2000; Stern 2000). When an individual is very interested in or concerned about the environment (Kals et al. 1999); values nature highly (Stern et al. 1993; Stern and Dietz 1994; DeYoung 2000; Stern 2000); seeks to transcend him/herself through identification with the natural world (Shultz et al. 1998); and/or achieves a sense of control over the environment through activism (Allen and Ferrand 1999; see also Porter 1998), there is reason to expect him or her to act in accordance with the relevant ecological attitudes.

Finding that ecological attitudes explain environmentally responsible behavior arguably begs the question of *where* these attitudes originate. In the most general sense, the origin for the environmentalism as a moral position expressed by a given individual lies somewhere along a continuum from “emotion” to “reason.” Contemporary Western culture tends to support its rational end, with media and educational systems and policy-making processes that stress the objective, scientific reasons for environmental concern. Yet there is a convincing body of scholarly and popular work, including Fromm’s (1964) *The Heart of Man*, Wilson’s (1984) *Biophilia*, Milton’s (2002) *Loving Nature*, and McKibben’s (2006) *The End of Nature*, that ties ecological attitudes to the instinctive bond humans have to the earth. Wilson (1984) argues that our connections to the earth are rooted in biology; McKibben (1989) adds that we

cannot fully embody our humanity without the existence of wilderness; and Milton (2002) suggests that environmental concern and activism depend on recovering our love for earth. Schultz's (2000) examination of this line of reasoning as a whole finds that, indeed, individuals who regard themselves as a part of nature are likely to be aware of environmental conditions and duly concerned.⁴To the extent that we may consider the "built environment" a reasonable extension of the natural environment, New Urbanism and the communities it inspires could be a viable source of ecological attitudes. Hence, New Urbanists' (admittedly weak) expectation that tenure in one of these neotraditional communities might produce ecological attitudes, and so also (even more) environmentally responsible behavior.

Communities Studied

The primary focus of this research is the Playa Vista development, which is a 1,087 acre site that rests north of Los Angeles International Airport. Playa Vista is still a project in the development phase. When complete, Playa Vista will contain approximately 13,000 residential units, 4 million square feet of technology and commercial space, 600,000 square feet of retail, and 11 acres of public facilities (Kalamaros, 2000). The first phase of Playa Vista, a collection of over 3,000 housing units (both rental and homeownership) and over 3 million square feet of office space with a combined value of \$1.1 billion is nearing completion⁵ (Groves, 2007). Half of Playa Vista is set aside as open space, inclusive of 125 acres of wetlands and preserved habitat (Kalamaros, 2000).

Our research design compares Playa Vista with a roughly matched⁶ community within the Westside street grid of Los Angeles known as Mar Vista (Census Tract 2723.01). Our goal was to

⁴ Although there is a well-developed literature on gender that bridges the psychological literature discussed here and literature in environmental philosophy and ethics on gender, to cover it here would be an unnecessary indulgence.

⁵ As of this writing the second phase of Playa Vista, with an additional 2,600 housing units and 250,000 square feet of retail valued at \$1.1 Billion, has been delayed due to an adverse court ruling on the project's environmental documents (Groves, 2007).

⁶ It was extremely difficult to match Playa Vista, as the development is the newest and largest development in many decades on the Westside of Los Angeles. Also, current Census data is not yet available on Playa Vista. However, we roughly matched what demographics we could find. We could not match the age gap; Mar Vista is a much older community than Playa Vista.

compare the Playa Vista findings with an associated “control” neighborhood to see if New Urbanism would make an impact on baseline numbers for commuting in the general area. We chose Mar Vista, an older tract of approximately 1300 housing units that sits directly north of Playa Vista.

Table 1 represents several selected mean statistics based on our surveys of both the Playa Vista and Mar Vista communities. Looking at Table 1, we generally find that residents of Playa Vista own slightly fewer cars (yet still more than one), but drive these cars much more than their neighbors in Mar Vista⁷. Age and family⁸ may be two factors for higher driving; Playa Vista residents have smaller families and are generally much younger. The usage of alternative forms of transit for both communities remains very small - less than trip per week, on average.

[Table 1 About Here]

Hypotheses

We examine two Southern California communities to determine how New Urbanist design influences residents’ tendencies to rely on modes of transportation other than the ubiquitous automobile. Specifically, we want to know if urban design can increase individuals’ use of alternative forms of transportation, and thereby also reduce their daily vehicular trips as an indicator of overall level of highway and automobile usage, as well as energy consumption (i.e., gasoline), and emissions from mobile sources. On the basis of the forgoing discussion of research to date on this and related issues, we evaluate the following hypotheses:

⁷ This research project also monitored a small subset of cars (N=25) from Playa Vista and Mar Vista via GPS tracking for two weeks subsequent to paper survey completion. Although the sample size is very small, the data analysis findings from the GPS tracking confirm that cars from Playa Vista drove more per-vehicle than Mar Vista drivers.

⁸ We acknowledge that there might be a curvilinear relationship between age and transit. Preliminary findings show some links between age and walking for Playa Vista. This issue is being explored in greater depth as the Project moves forward. We thank Michael Krassa for this comment.

New Urbanist Design Reduces Automobile Use

H₀- There will be a negative relationship between daily car trips and the number of pedestrian, bicycling, and mass transit trips for daily tasks. Use of non-automotive forms of transit will be higher in Playa Vista than in Mar Vista, and will increase with tenure in Mar Vista.

Ecological Attitudes Foster Environmentally Responsible Behavior

H₀- There will be a positive relationship between a predisposition toward environmentalism and the use of pedestrian, bicycling, and mass trans trips for daily tasks. Ecological attitudes and a predisposition towards environmentally responsible behavior will impact individual choices to use alternative modes of transportation, regardless of residence in Playa Vista or Mar Vista.

Research Design⁹

The following results are based on a regression analysis of the responses to a 16-question paper survey that was implemented from April to June of 2008 to ensure that this phase of the project was completed before the peak summer travel months in Southern California. Mailing lists were obtained from the Playa Vista Company, and by a title company. Residents sampled for this survey were property owners; although we would have liked to survey renters as well, we were unable to obtain sufficient information to do so. A total of 950 residents were sampled – 450 in Playa Vista and 500 in Mar Vista.¹⁰

The survey instrument itself necessarily incorporated had several foci: importance of community attributes to housing choice; number of round trips for a variety of tasks by car; number of round trips by bus, walking, and bicycle for a variety of tasks; concern about the natural environment; environmentalism; and basic demographics, including age, tenure in household, education, family size, and number and make of family cars. Every effort was made to include residents randomly selected to receive a survey.

⁹ The research presented in this paper is based on the first stage of a two-year, comparative study of New Urbanism that will ultimately include the residents of four communities in a series of surveys and mileage tracking exercises.

¹⁰ Over sampling to compensate for gaps in title report data.

Specifically, we mailed an introductory letter to each prospective respondent, followed by a survey and business reply envelope. We mailed a follow-up postcard, and finally another survey/business reply envelope to non-respondents. Surveys were sequentially numbered to insure no duplication in coding. The final response rate 22% of the total respondent pool, for a total of 206 complete surveys - 97 from residents of Playa Vista, and 109 from residents of Mar Vista.

Generalizability of New Urbanism in Los Angeles

Southern California – especially Los Angeles – represents a challenge to any anticipated reduction in automobile usage associated with changes in urban design intended to reduce reliance on the car. Los Angeles is a sprawling region that includes nearly 100 urban and suburban centers, whose growth was determined almost entirely on the basis of widespread and sustained automobile usage. Los Angeles, like much of Southern California, urbanized much later than otherwise comparable cities and regions on the East Coast, and differently. Suburbia emerged simultaneously with the region’s elaborate freeway system during the post World War II era, marking a significant shift in the state’s economy away from agriculture.

Los Angeles is strong on automotive transit, and very weak on mass and alternative forms of transit. This orientation makes Playa Vista subject to the forces of a power street grid system where mass transit may be harder to use than elsewhere and services are disbursed. As such, we acknowledge, that however strong the design features of Playa Vista, it is still an infill development in an area where any investigation of the relationship between urban design and transit entails special problems. This study should, therefore, be considered a case study with limited generalizability to newer and more disbursed geographic regions, and possibly not applicable to other areas of the country.

Dependent Variables

A key New Urbanist argument is that urban design can facilitate the use of alternative forms of transit (e.g., walking, bicycling, or mass transit) and thus curb the usage of automobiles. We use the aggregated number of round trips taken during a respondent’s “last week” via walking/bicycle or by mass transit as a dependent variable. Specifically, the survey asked about the following activities: work; socializing with friends or family; entertainment; fitness and exercise; school; shopping (food and

household); shopping (cloths, gifts, etc.); and other trips. Responses were added to create two variables: 1) “gross walking/bicycling,” and 2) “gross mass transit number.”¹¹

Table 4 in this research also uses a calculation for “vehicle miles traveled” or VMT. The survey asked respondents to give the estimated number of round trips and mileage during the past week for the each of the activities listed above (work, socializing, entertainment, fitness and exercise, school, shopping, and other). These two variables (number of trips and mileage) were multiplied and then added to create a “Gross VMT” variable.

Independent Variables

Independent variables are broadly grouped into three categories: neighborhood choice variables (e.g., what respondents value in neighborhood and housing choices), neighborhood travel variables (trips by car and walking/bicycle/bus), and personal choice variables (environmentalism, and demographic variables).

New Urbanism. A dummy variable was added into the model that represented 1=Playa Vista (and thus, a New Urbanist community) and 0=Not a New Urbanist community (in this case the Mar vista neighborhood). The expectation with this variable is that there is a positive relationship between alternative forms of transportation and New Urbanism.

Number of Driving Trips. We asked survey respondents how many round trips they made during the week prior to receiving the survey for the following activities: The span of activities utilized in this question are the same as used in the dependent variable above. We expect our models to yield a negative relationship between Number of Driving Trips and the alternative forms used as dependant variables.

Working from Home. We also asked respondents if they worked from home. This variable was dichotomously coded 1=working from home; and 2= not working from home. As west Los Angeles is the hub of the city’s electronic software industry, we expect a negative relationship between VMT and

¹¹ As there is a theoretical possibility of not driving during or taking alternative transit a given week, we substituted each non-response to this question with a “0” to represent no trips taken during the prior week. This was done for all forms of transit (driving, walking/bicycling and mass transit) used in this study.

working from home. Although Playa Vista does not advertise the live/work option as a prominent feature of the community, it is offered in some units and is a hallmark of New Urbanism. We expect that working from home is positively correlated with alternative forms of transportation.

Environmental Concern. One of the largest issues related to past examinations of New Urbanism is the endogenous issue of self selection (Handy, 2005). For Playa Vista, this concern means that people who identify as environmentalists or are otherwise predisposed to environmentally responsible behavior might be more inclined to choose to live in a New Urbanist community where design proclaims to positively impact the environment. In this case it would be “self selection” on the basis of ecological attitudes, rather than urban design, that yields reduced auto use. We incorporated responses to three environmental questions into our model to examine this possibility. Our most general question asks respondents to agree or disagree with the statement “[w]e worry too much about the environment and not enough about prices and jobs today.” Respondents could answer within a range of 1= “strongly agree” to 4= “strongly disagree.” We expect a positive correlation between this environmental question and the mass transit types used as dependent variables in this study (i.e., as a person disagrees with the environment/economic trade off in this question, they are more likely to favor alternative forms of transit).

The survey also asks respondents, based on their experience, to give an opinion as to the cleanliness of both the water and air in Southern California. Both of these questions could be answered from 1= “extremely clean and healthy” to 4= “extremely unclean and polluted.” We anticipate a positive correlation between these environmental questions and the usage of mass transit.

Lifestyle Variables. Other independent variables chosen for our models are traditional indicators of lifestyle that might have a bearing on automotive usage. Although we were only able to sample property owners, we added a variable question on owning or renting as another way to measure the affects of homeownership within our sample communities. We also added variables for age, gender, and family size. Our survey specifically requested additional information on the number and types of cars owned by respondents; we added a variable on the number of cars owned as a way to look at auto usage and consumption among the sample communities.

Results

Results for this research are contained in Tables 2-5. Only significant results are discussed here.

[Table 2 About Here]

Our first hypothesis is that New Urbanist design will reduce automobile use. More specifically, living in Playa Vista will lead to a greater reliance on alternative forms of transit (walking/bicycling or mass transit) than would be the case in Mar Vista. Contrary to our expectations, in our merged model (Table 2), which includes responses from Playa Vista and Mar Vista, we find this is not so. With respect to biking/walking and mass transit, we find a positive and significant relationship. As use of alternative forms of transit increases, driving increases as well! In other words, alternative modes of transportation are not *substitutive* in this model, but rather *synergistic*. When we hold Playa Vista (and New Urbanism) constant in the model (Table 3) we find a positive - and highly significant - relationship only between mass transit and driving trips (walking/bicycling are positive, but not significant).

There are a number of geographic and design factors at work here. First, the dispersed nature of Los Angeles means that some trips can be handled on foot or by bus (generating a round trip) while others are not feasible by alternative modes of transit (generating more round trips). In this scenario, “trips beget trips” in that the neighborhood encourages walking and alternative modes of transit, but the greater urban grid requires a car. It should also be noted that the incomplete nature of Playa Vista may mean that the economic factors of the development are not complete enough to offer a true replacement for the use of a car for everyday tasks. The results for Playa Vista are consistent with Crane (1996), who argues that New Urbanism reduces the costs of all forms of transit, thereby increasing all forms of mobility. This effect is arguably strengthened by the absence of a strong transit corridor in and around Playa Vista.¹²

¹² This positive relationship between transit types survived in alternative models that we used to test this hypothesis. For instance, we ran a similar model (not presented here) using VMT as a dependent variable and walking/bicycling and mass transit among the independent variables and found the same positive relationships in a general model, and in holding Playa Vista constant.

[Table 3 About Here]

Our second hypothesis is that ecological attitudes underlie environmentally responsible behavior. That is, environmental awareness and concern provides a strong basis on which an individual might choose to live in a New Urbanist community. Our merged model (Table 2) presents a positive and significant finding for the most general environmental question used in the survey: agreement or disagreement with the statement “[w]e worry too much about the environment and not enough about prices and jobs today” with respect to walking/bicycling. As people disagree with this environmental statement, they were more likely to walk or use a bicycle. (The use of mass transit was positive, but not significant.) Holding Playa Vista constant in the model (Table 3), we find the same positive relationship between the balance of environment and jobs/economy question and walking/bicycling. These affects were not found to be significant when Mar Vista was held constant in the model (Table 4). But Playa Vista residents who take mass transit were still likely to agree that we worry too much about environmentalism rather than jobs and the economy. Overall, we find that respondents in Playa Vista had a lower mean answer to the environmental/economy question that in Mar Vista (see Table 1).

For our full model, we also find that renting is negatively associated with walking/bicycling, but the effect of renting/owning was not found when holding Playa Vista constant in the model. What we did find for Playa Vista is that better educated people are less likely to walk, and that increased family size leads to greater use of mass transit (possibly because of non-driving children in a household). For Playa Vista, households with more cars also walked more (consistent with our main finding). By way of explanation, while an increasing number of every tasks – including, convenience shopping, dry cleaning, and stopping for coffee - can be completed within Play Vista, and so without a car, many others, such as regular grocery shopping, fine dining, etc., cannot be. In general, these results indicate that lifestyle attainment plays into alternative transit choices in our New Urbanist community, but not as much in a

more mixed environment. Perhaps this is true because, as is true for many New Urbanist communities, Playa Vista represents a more focused demographic.

The Effects of Tenure in a Playa Vista

An implicit claim of our study is that the effects of living in a New Urbanist community like Playa Vista will increase over time. As a resident becomes settled in the community and begins to use and become more comfortable with the “walkability” aspects of New Urbanism (sidewalks, trains, and landscaping, integrated shopping and parks, etc.), he or she will tend to adopt alternative modes of transit more often. Hence Table 5 considers the affects of tenure on residents of Playa Vista. The logistic regression shows that New Urbanism and walking are positively correlated, as previously discussed, but that when interacted with tenure, walking trips go down. Ordinarily, we might attribute this finding to respondents’ age, but Playa Vista is a younger and newer community.

[Table 5 About Here]

Table 6 – a scatterplot depicting the relationship between VMT and tenure in Playa Vista - represents a more visual way to look at the relationship between tenure and transit. In accordance with the tenets of New Urbanism, we expect tenure to beget higher reliance on alternative modes of transportation, which would look like a swarm of datapoints on the righthand-side of the chart that would gradually taper off traveling to the left side. Instead, we see a flat massing of datapointsthat indicates there is no relationship between the variables.

[Table 6 About Here]

Conclusion

The results of our study of New Urbanism in Los Angeles suggest that, indeed, car is still the king of transit. Consistent with extant literature on New Urbanism as a structural form and ecological attitudes

as a barrier to driving, we find that Playa Vista has created a weak *substitution* environment where some parts of the service base are offered, but other daily chores still require a car (Crane, 1996; Handy, 2005). Consequently, those who walk more also drive more. Furthermore, although Playa Vista residents own slightly fewer cars than individuals residing in Mar Vista, they drive much more. Perhaps this is because Playa Vista is a much “younger” community.

In addition, Playa Vista remains a work in progress, and may not be completed as envisioned for some time. As such, it may yet attain a service base that can genuinely substitute for daily commute options for some tasks. Whether or not it does so will be conditioned on the fact that Playa Vista does not sit on a through street grid, something that proponents of New Urbanism say is necessary to facilitate mass transit and neighborhood connectivity. Thus our results may best be understood as a contribution to the ongoing dialogue regarding urban design and sustainability that seeks to realize the promise of New Urbanism - a body of work that explicitly links urban design to automobile use, and has gained new resonance in the face of a recent retrenchment of worldwide energy markets and record gasoline prices. New Urbanism may not be successful in all environments; therefore, those engaged in “development” policy and practice must be aware of how New Urbanist design is likely to contribute to regional and local sustainability goals before proceeding.

Implications

It is difficult, therefore, to respond effectively to the general question: Is New Urbanism good *public policy*? New Urbanist communities are surely built around a strong design and architectural ethic that makes for a visually pleasing environment. Few cities would look at New Urbanist developments and their many desirable traits and conclude that this is housing for anyone less than a desirable clientele. However, the claims of New Urbanism regarding the association between urban design and transportation choices demands further study. As Talen (2002:167) notes, “[t]he ability of physical design to solve social problems outright is a far more ambitious proposal, and the history of planning has shown repeatedly that this approach has had limited success.” In the best of all possible worlds, we could develop communities that harken back to earlier America, while simultaneously making strides toward greater sustainability.

Table 1. Summary Mean Statistics -Playa Vista and Mar Vista (Census Tract 2723.01) California		
Selected Mean Community Characteristics	Playa Vista	Mar Vista
Number of Cars	1.7	1.9
Self Reported Number of Weekly Drive Trips	2.43	2.42
Self Reported Weekly VMT	40.6	29.0
Number of Weekly Walking/Bicycling Trips	.659	.627
Number of Weekly Mass Transit Trips	.071	.048
Environmentalism – Balance with Jobs/Economy	2.87	3.13
Age	43.5	54.2
Family Size	1.9	2.8

Table 2. -Full Model OLS Regression Results – Playa Vista and Mar Vista			
Number of Weekly WALKING/BICYCLING Trips Type: OLS Regression	β (Std. Error)	Number of Weekly MASS TRANSIT Trips Type: OLS Regression	β (Std. Error)
New Urbanism Dummy	-0.384 (1.081)	New Urbanism Dummy	0.223 (0.579)
Number of Weekly Driving Trips	0.149** (0.087)	Number of Weekly Driving Trips	0.084** (0.046)
Work from Home	0.671 (0.940)	Work from Home	0.084 (0.503)
Environmental - Balance with Jobs/Economy	0.943** (0.529)	Environmental - Balance with Jobs/Economy	0.154 (0.283)
Environmental – How Clean is the Air in Southern California	-0.658 (0.726)	Environmental – How Clean is the Air in Southern California	-0.360 (0.389)
Environmental – How Clean is the Water in Southern California	0.189 (0.618)	Environmental – How Clean is the Water in Southern California	0.090 (0.331)
Renter or Owner	-4.058* (3.050)	Renter or Owner	0.568 (1.635)
Tenure at Current Address	0.032 (0.060)	Tenure at Current Address	-0.003 (0.032)
Age	-0.051 (0.046)	Age	-0.017 (0.024)
Gender	0.493 (0.870)	Gender	-0.215 (0.466)
Educational Attainment	-0.378 (0.530)	Educational Attainment	-0.272 (0.284)
Family Size	-0.140 (0.345)	Family Size	0.020 (0.185)
Number of Cars in Household	0.500 (0.600)	Number of Cars in Household	0.045 (0.321)

Constant	6.557* (4.997)	Constant	0.977 (2.678)
N=100 R ² = 0.101 *p<.10 **p<.05 One Tailed Tests		N=100 R ² = 0.081 *p<.10 **p<.05 One Tailed Tests	

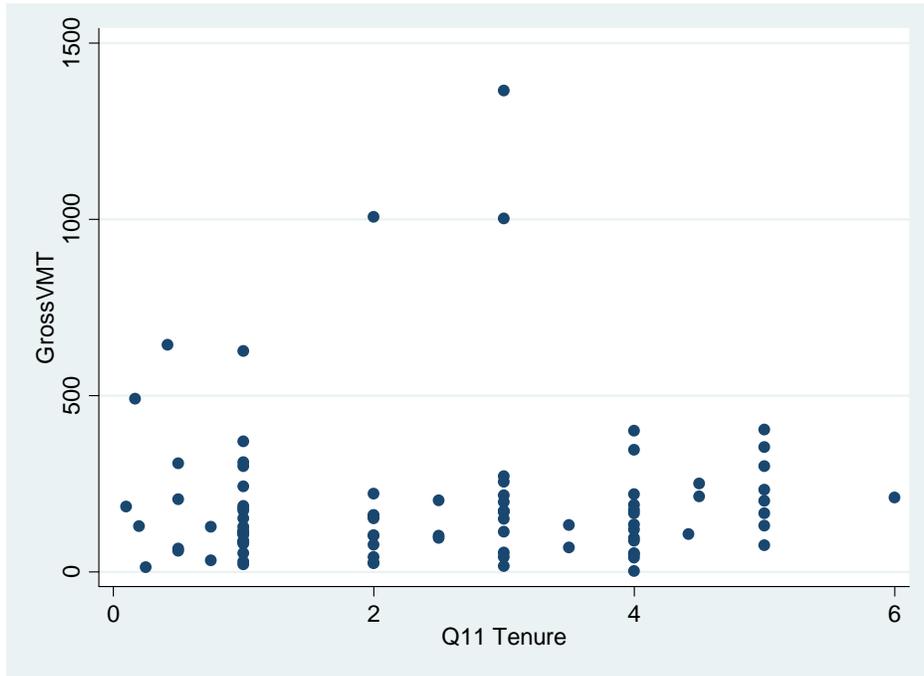
Table 3. -Partitioned Model OLS Regression Results – Playa Vista Only			
Number of Weekly WALKING/BICYCLING Trips Type: OLS Regression	β (Std. Error)	Number of Weekly MASS TRANSIT Trips Type: OLS Regression	β (Std. Error)
New Urbanism Dummy	-----	-----	
Number of Weekly Driving Trips	0.102 (0.130)	Number of Weekly Driving Trips	0.321*** (0.110)
Work from Home	0.056 (1.200)	Work from Home	-0.862 (1.015)
Environmental - Balance with Jobs/Economy	0.894* (0.681)	Environmental - Balance with Jobs/Economy	-0.269*** (0.576)
Environmental – How Clean is the Air in Southern California	-1.092 (1.300)	Environmental – How Clean is the Air in Southern California	-2.745 (1.100)
Environmental – How Clean is the Water in Southern California	-0.405 (0.873)	Environmental – How Clean is the Water in Southern California	0.398 (0.739)
Renter or Owner	0.053 (3.631)	Renter or Owner	2.051 (3.072)
Tenure at Current Address	0.276 (0.365)	Tenure at Current Address	-0.439* (0.309)
Age	-0.049 (0.051)	Age	-0.049 (0.043)
Gender	-1.308 (1.150)	Gender	-0.726 (0.973)
Educational Attainment	-1.027* (0.757)	Educational Attainment	-0.296 (0.640)
Family Size	-0.402 (0.712)	Family Size	1.458*** (0.602)
Number of Cars in Household	1.326* (1.056)	Number of Cars in Household	-0.646 (0.894)

Constant	7.700 (6.849)	Constant	5.061 (5.795)
N=42 $R^2 = 0.309$ *p<.10 **p<.05 One Tailed Tests		N=42 $R^2 = 0.457$ *p<.10 **p<.05 ***p<.01 One Tailed Tests	

Table 4. - Partitioned Model OLS Regression Results – Mar Vista Only				
Number of Weekly WALKING/BICYCLING Trips Type: OLS Regression	β (Std. Error)		Number of Weekly MASS TRANSIT Trips Type: OLS Regression	β (Std. Error)
New Urbanism Dummy	-----		-----	
Number of Weekly Driving Trips	0.169* (0.122)		Number of Weekly Driving Trips	-0.014 (0.024)
Work from Home	1.092 (1.590)		Work from Home	0.008 (0.311)
Environmental - Balance with Jobs/Economy	0.686 (0.830)		Environmental - Balance with Jobs/Economy	0.083 (0.162)
Environmental – How Clean is the Air in Southern California	-0.400 (1.011)		Environmental – How Clean is the Air in Southern California	-0.207 (0.198)
Environmental – How Clean is the Water in Southern California	0.881 (0.919)		Environmental – How Clean is the Water in Southern California	0.163 (0.180)
Renter or Owner	-8.191** (4.903)		Renter or Owner	0.584 (0.961)
Tenure at Current Address	0.074 (0.088)		Tenure at Current Address	-0.012 (0.017)
Age	-0.066 (0.088)		Age	0.001 (0.017)
Gender	1.685 (1.354)		Gender	0.173 (0.265)
Educational Attainment	0.128 (0.752)		Educational Attainment	0.104 (0.147)
Family Size	0.004 (0.454)		Family Size	-0.052 (0.089)
Number of Cars in Household	0.102 (0.861)		Number of Cars in Household	-0.059 (0.168)
Constant	6.568 (7.430)		Constant	-0.369 (1.456)
N=58 R ² = 0.161 *p<.10 **p<.05 One Tailed Tests			N=58 R ² = 0.103 *p<.10 **p<.05 One Tailed Tests	

Table 5. – Affects of Tenure on Bicycling/Walking and Mass Transit – Playa Vista Logistic Regression Full Model	
New Urbanism Dummy	β (Std. Error)
Weekly Walking Trips	0.381*** (0.112)
Weekly Transit Trips	-0.040 (0.187)
Weekly Walking Trips Interacted with Tenure	-0.117*** (0.028)
Weekly Transit Trips Interacted with Tenure	-0.039 (0.095)
Constant	0.830** (0.368)
N=121 Pseudo R ² = 0.384 $\chi^2_{3d.f.} = 64.43$ *p<.10 **p<.05, ***p<.01	

Table 6. Scatterplot of Gross VMT versus Tenure in Playa Vista, California (2008)



Source: STATA 9.2

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