

1-1-2006

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### Citation Details

Jennifer Dill, Evaluating the Sustainability of a New Urbanist Neighborhood, *Berkeley Planning Journal*, 19: 59-78, 2006.

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# Evaluating a New Urbanist Neighborhood

Jennifer Dill

## Abstract

New Urbanist neighborhoods aim to improve sustainability by reducing automobile use, increasing walking and cycling, increasing the diversity of land uses and people, and increasing social capital, through strengthened personal and civic bonds. With more New Urbanist communities being constructed, it is now more feasible and necessary to evaluate their success. Much of the existing research uses older, traditional neighborhoods as a proxy for New Urbanism. This research compares a New Urbanist development with two conventional subdivisions and finds that some of the objectives are being fulfilled, in both direct and indirect ways. While New Urbanist residents are walking more, they may not be driving less as a direct result of the New Urbanist design features. Demographic factors appear to explain much of the differences in overall driving.

## Introduction

New Urbanism is often proposed as a more sustainable form of urban growth at both the neighborhood and regional scale. The concept shares many characteristics with other popular ideas, including transit-oriented development (TOD) and the broader concept of smart growth. The principles behind New Urbanism are set forth by the Congress for the New Urbanism in their *Charter for the New Urbanism* (2000). The *Charter* includes 27 principles, nine of which apply to neighborhoods, districts, and corridors. These principles cover three broad intended outcomes: (1) reduced automobile use and more walking and cycling; (2) increased diversity of land uses and people; and (3) increased social capital, through citizens taking responsibility and strengthened personal and civic bonds. These outcomes are consistent with many definitions of sustainability, which usually incorporate the three legs of environment, economy, and equity. Crane and Schweitzer (2003) examined the sustainability of New Urban-

ism with respect to transportation. They asserted that in order for New Urbanism to satisfy both the environmental and equity objectives of sustainability, the developments must decrease auto use and increase access to opportunities among disadvantaged urban residents. They proceed to point out that even if people living in New Urbanist communities walk or bike more (perhaps because of the design features of New Urbanism), they may not drive less. In addition, they question whether transit access, often a component of New Urbanism, can ever equal the access provided by automobiles.

Given the growing support for New Urbanism, there is a need to carefully and empirically examine whether New Urbanist communities meet their intended objectives. Early research on the travel behavior impacts of New Urbanism relied largely on older urban neighborhoods that exhibited many of the design features of New Urbanism — except for the “new.” Some of the initial research on other aspects, such as sense of community, used the first examples of New Urbanism, including Seaside, Florida, which may not be representative of the majority of projects now and in the future. As more developments are completed based upon New Urbanist principles, there are now opportunities to evaluate the associated outcomes. This paper presents an evaluation of a New Urbanist neighborhood in the Portland, Oregon, region in relation to the three intended outcomes of New Urbanism, outlined above, with a focus on transportation and sustainability. The evaluation uses survey data of residents from the neighborhood and two nearby subdivisions that do not have New Urbanist features.

## Existing Research

The literature examining the diversity of New Urbanism is sparse. Critics of New Urbanism often contend that the developments are predominantly upper-middle class and lack diversity (see Ellis 2002 for a review). Talen (1999, 1373) notes that early New Urbanist developments are “dominated by affluence” and that “it is possible that this status rather than town design creates an economically based sense of community.” Podobnik (2002b) finds that Orenco Station was dominated by affluent white professionals with few children. Since his survey was conducted, apartments were completed that undoubtedly increase the range of income levels in the neighborhood. Podobnik’s survey did note a “moderately exclusionary attitude” among some of the original Orenco Station residents (Podobnik 2002a). Fewer residents of Orenco Station indicated that they wished for a more diverse neighborhood, compared to a more typical, and also predominantly white, suburban neighborhood in Portland. Brown and Cropper (2001) asked residents of a New Urbanist and standard subdivision a series of questions assessing whether the residents believed neighborhoods should provide

diverse housing opportunities. While New Urbanist residents favored housing diversity more, the difference was not significant.

There is far more research on the travel impacts of New Urbanism and related land use strategies. The principles of New Urbanism directly or indirectly aim to reduce automobile use by mixing land uses, having activities within walking distance, providing well-connected streets and paths, increasing accessibility to transit via design and increased building density, and providing a safe, comfortable, and interesting pedestrian environment. Many planners and policy makers support New Urbanism on these grounds. The logic is straightforward and, therefore, appealing. However, the empirical evidence supporting this idea is limited and mixed. In a review of the research linking travel and land use, Boarnet and Crane (2001, 58) conclude that "the wide range of outcomes . . . reveals little about whether a particular land-use pattern or urban design feature can deliver the reported transportation benefits." By contrast, in their review of research focusing on walking and bicycling behavior, Sallis et al. (2004, 257) conclude that "there is a sizeable transportation research literature that demonstrates consistent associations of neighborhood environmental variables with walking and cycling for transport." Ewing and Cervero's review (2001) finds that the built environment is more closely related to trip lengths and to a lesser degree to mode choice and trip frequencies when compared to socioeconomic characteristics.

With respect to evaluating New Urbanism in particular, most of the early research uses pre-World War II suburbs as a substitute for New Urbanist neighborhoods. Some studies do this on a large scale using regional travel survey data (e.g. Crane and Crepeau 1998; Greenwald 2003), while others use paired (or multiple) neighborhood comparisons (e.g. Cervero and Radisch 1996; Handy 1996; Nasar 2003). The validity of using pre-World War II neighborhoods to examine the outcomes of New Urbanism, however, is questionable. Travel behavior is influenced by a number of factors beyond urban form, including income and other demographics and attitudes (Kitamura et al. 1997). The people who live in a New Urbanist neighborhood may be different from those living in older, traditional neighborhoods, even after controlling for income. Differences in the quality of schools, the age and style of the homes, and the location relative to the region may lead to differences in other demographics, such as age and household structure, and attitudes.

There is some recent research that uses actual New Urbanist developments. In a survey of six Portland neighborhoods, Lund (2003) finds that having shops within walking distance was associated with higher rates of "destination" (versus strolling) walking trips. Some of these neighborhoods were new, developed in the 1990s with New Urbanist features, while others were older, traditional suburbs. A survey of residents of Orenco Station, a New

Urbanist, transit-oriented development in the Portland region, found that nearly 70 percent of the residents claimed to use transit more than in their previous neighborhood (Podobnik 2002b). Comparing a neo-traditional to a conventional neighborhood in North Carolina, Khattak and Rodriguez (2005) find that residents of single-family homes in both cases made a similar number of total trips. However, after controlling for demographics, residents in the neo-traditional neighborhood made fewer auto trips and fewer trips outside the area and, therefore, fewer miles traveled.

One of the issues surrounding the debate over whether New Urbanism reduces auto travel is self-selection. The argument centers on how urban form influences travel behavior — *directly*, by changing people's behavior, or *indirectly*, by attracting residents who already walk, bike, or use transit. In a study of five different neighborhoods, Kitamura et al. (2003) find that attitudes, such as being pro-transit or pressed for time, were more strongly associated with travel behavior than land use characteristics. Lund (2003) finds that the most significant variable associated with walking behavior was the residents' attitudes about walking. She concludes that self-selection provided only a partial explanation for the higher rates of destination walking in neighborhoods with New Urbanist features. Greenwald (2003) also concludes that the substitution of walking for vehicle trips in neighborhoods with New Urbanist features was not fully explained by self-selection (2003). Krizek (2003) uses panel survey data to see how travel behavior changed when households moved to neighborhoods with different urban form features. He finds that households that moved to more accessible neighborhoods did drive fewer miles, but Krizek raised cautions about drawing strong conclusions from the findings. For example, the data used did not measure changes in preferences towards travel. Khattak and Rodriguez (2005) use two-stage regression models to control for self-selection. Levine (1999) argues self-selection should not matter — that the more important issue is whether communities are providing neighborhoods that meet people's preferences. If there are people who want to live in a place where they can walk, bike, and ride transit, but cities are not providing those environments, that is a problem. His research indicates that there is an unmet demand for New Urbanist-style neighborhoods (Levine et al. 2002).

As with travel behavior, the research on the effects of New Urbanism on social capital, sense of community, and personal bonds finds mixed results. Methodological issues, including self-selection, also confound findings here. New Urbanist developments highlight the design and community-friendly aspects of the neighborhood in marketing materials, which may result in a higher portion of civic-minded people who want to interact with their neighbors (Sander, 2002). Sander also warns of the "Hawthorne effect" — where New Urbanist residents may want to show that the "experiment"

works, thus confusing research findings. Talen (1999) stresses that while New Urbanism may not directly influence “sense of community,” it can increase resident interaction, which is one aspect of strengthening the social life of neighborhoods.

In his survey of Orenco Station, Podobnik (2002a) finds that most residents thought people in their neighborhood were more friendly and there was more of a sense of community than where they used to live. However, the author raises the self-selection caution flag — some people moved to Orenco Station because they wanted a more interactive community. In a comparison of Kentlands, a well-publicized New Urbanist development in Maryland, to a conventional suburb nearby, Kim (2000) finds a higher level of attachment to community and a higher sense of community identity in Kentlands. In contrast, Nasar (2003) finds no significant difference in sense of community, though his Ohio survey used an older traditional neighborhood rather than a New Urbanist neighborhood. Brown and Cropper (2001) find no significant difference in an index of “sense of community” between residents of a New Urbanist neighborhood and a standard subdivision. But residents of the New Urbanist neighborhood did report more neighboring behaviors, such as knowing and socializing with neighbors. This could be related to the finding that the New Urbanist residents spent more leisure time outside, including walking in the neighborhood. Lund (2003) specifically tried to link walking behavior to neighboring activities and finds a significant, positive relationship between the number of walking trips and both the frequency of unplanned interactions with neighbors and the number of local social ties. She notes, however, that the relationship was stronger for strolling trips, whereas the destination trips were more influenced by New Urbanist design features. In addition, the walking behavior was not related to supportive acts of neighboring.

## Setting and Methods

The New Urbanist development selected for this research is Fairview Village, located in the city of Fairview, just east of Portland, Oregon. The project is listed in the Congress for New Urbanism’s database as a “traditional neighborhood” on a greenfield. As part of the “Village Story” on the project’s website (<http://www.fairviewvillage.com>), the developers explain that project features many ingredients of New Urbanism, including that “some of the primary planners and architects involved in designing the Village — including one of Fairview’s town architects, William Dennis, and town planner, Bill Lennertz, both worked for the founders of the New Urbanist town planning movement.” A brief excerpt of its description includes most of the key elements of New Urbanism:

Not quite a city, yet decidedly not a suburb, Fairview is a town in the classic sense — a cohesive network of individual neighborhoods built around community shopping, anchored by civic buildings and public parks, and scaled to people rather than to their cars. We wanted Fairview to be a community with the warmth and security of a small town and the energy and convenience of an urban area — a good place to live and work. A place to call home.

For comparison, two conventional subdivisions nearby (Neighborhoods A and B) were chosen. The neighborhoods were selected to help reduce the likelihood that income and other demographic differences might explain outcomes. All three neighborhoods are within three miles of each other, about 15 miles east of downtown Portland and were built at about the same time. The single-family home values are also similar, as shown in Table 1. The major differences between Fairview Village and the conventional subdivisions stem from the New Urbanist features.

Fairview Village is more diverse in terms of housing types and land uses. Construction of Fairview Village began in 1996. By the time of this survey, nearly all of the residential units were completed. These include detached single-family houses, attached townhomes and rowhouses, duplexes, and apartments. Some homes have garages on back alleys. Most include front porches and small setbacks. Neighborhoods A and B are exclusively single-family detached homes with garages in the front and larger setbacks. Fairview Village includes some neighborhood retail, a post office, library, city hall, and a Target store. Land planned for office and additional retail is still vacant, largely due to an economic slowdown. About half of the residential land area is within a quarter-mile walking distance of the central commercial area and nearly all is within one-half mile. Neighborhoods A and B are exclusively residential, but about half of the homes in Neighborhood A are within a quarter-mile walking distance of a strip-mall that includes a grocery store and small shops. The remainder of homes are within about a half-mile walking distance. The mall is across a major street at a signalized intersection. Residents in Neighborhood B are within walking distance of a park, but no retail activity. Neither conventional subdivision has a post office or library within walking distance. All three neighborhoods have large parks adjacent; Fairview Village also has several pocket parks.

Fairview Village is denser, with a net residential density of 11.4 units per acre, including the apartments, and 8.4 units per acre without the apartments. Neighborhood A is 5.0 units per acre, and Neighborhood B is 7.5 units per acre. Other characteristics of the homes in the neighborhoods are shown in Table 1. All three neighborhoods have good pedestrian features. All three have sidewalks along all residential streets, which are 32-foot wide, and few cul-de-sacs. These similarities are likely a result of policies in the region regulating residential streets, requiring high levels

of connectivity. None of the neighborhoods have particularly good transit service. Bus stops are on major arterials that surround the neighborhoods (less than a quarter-mile walk for most residents). The associated routes provide local service and connections to the region's light rail system. For example, a transit trip to downtown Portland (15 miles away) would take 50 to 60 minutes during commute hours for residents of Fairview Village. The buses run every 15 to 20 minutes during peak times and 20 to 30 minutes at other times.

**Table 1. Features of Single-Family Homes (Attached and Detached) in the Neighborhoods**

	Fairview Village (New Urbanist)	Neighborhood A (Conventional)	Neighborhood B (Conventional)
Lot size (square feet)	range: 900 – 15,132 median = 5,132	range: 7,012 – 44,093 median = 7,756	range: 2,541 – 10,491 median = 5,813
Home size (square feet)	range: 1,151 – 3,309 median = 1,734	range: 1,305 – 2,781 median = 1,833	range: 1,296 – 2,867 median = 1,809
Assessed value (land and building)	range: \$89,500 – 386,370 median = \$190,690	range: \$162,800 – 338,510 median = \$201,605	range: \$148,030 – 300,270 median = \$209,310
Net residential density	11.4 units/acre overall 8.4 units per acre excluding apartments	5.0 units per acre	7.5 units per acre

Source: Metro Regional Land Information System (RLIS), 2003.

The survey was hand-delivered or mailed to every housing unit within all three neighborhoods in May 2003, with follow-up surveys sent to non-respondents in June 2003. The survey packet included two forms to be completed by adults. First, the "Household Survey" was to be filled out by the "head of household." Along with basic information about the household (e.g. income and number of people, including children), it asked respondents a series of questions rating the importance of specific factors in deciding to purchase or rent their current home, such as price and proximity to shopping. These questions aimed to assess issues of self-selection. Second, there were three copies of the "Adult Survey," so that up to three adults could respond. Along with demographic information (gender, age and ethnicity), the adult survey asked for the number of trips made *from home* to various places by mode (personal vehicle, bike, walk, transit) for the previous week. There were also a series of questions gauging the adult's level of agreement with statements about their neighborhood. These questions aimed to gauge the person's sense of community.

A total of 628 survey packets were delivered, 352 in Fairview Village and 276 in the other two neighborhoods. Removing packets returned as undeliverable (vacant units) from the calculation, 45 percent of the Fairview



Village household surveys were returned and 29 percent of the conventional neighborhood surveys were returned. There were 185 valid adult surveys from Fairview Village and 136 from the conventional neighborhoods. The surveys were almost equally split between May (53.6 percent) and June (46.4 percent). Moreover, the split between May and June was almost identical for each neighborhood. Therefore, any differences in travel behavior between the two months should not influence the results when comparing the two groups.

## Findings

The findings from the surveys are presented here, under the three topics of diversity, travel behavior, and sense of community. The survey results indicate that this New Urbanist neighborhood is fulfilling many, but not all, of the objectives of New Urbanism and transport sustainability.

### Diversity

There are some significant demographic differences between the residents of the New Urbanist and conventional neighborhoods. There are large differences in terms of age and household structure. There were more older adults in the New Urbanist neighborhood; 11.4 percent of the adult respondents were over 65, compared to 5.3 percent of the conventional neighborhood respondents. These shares are similar to the 2000 U.S. Census figures for the neighborhoods (11.7 percent and 7.8 percent, respectively). The share of adults over 65 was even higher in the Fairview Village detached homes (17.8 percent), indicating that the smaller lots available in the development may attract more retirees. At the other end of the age range, the New Urbanist neighborhood had far fewer children, as shown in Table 2. There were also more households with one adult. The housing mix in Fairview Village does not explain these differences. Fairview Village households living in detached single-family homes also had fewer adults and children. In fact, of the 26 households that responded from the apartments, over 26 percent had children — a higher rate than the detached homes. Residents in the rowhouses and townhomes were the least likely to have children. According to the 2000 U.S. Census, the average household size in the conventional neighborhoods was 3.35 compared to 2.21 in Fairview Village. These numbers are higher than those reported by the survey respondents, which are 2.73 and 1.82, respectively. This may indicate that households with children were less likely either to respond to the survey or to report the number of children in their household.

**Table 2. Household Composition**

	Percent of Households		
	New Urbanist (all homes)	New Urbanist (detached homes)	Conventional A and B
Number of adults in household			
One	37.6%	29.4%	12.5%
Two	53.0%	57.4%	63.9%
Three or more	9.4%	13.3%	23.6%
Number of children (under 17 years old)			
Zero	82.3%	80.1%	57.0%
One	11.5%	13.3%	21.5%
Two or more	6.2%	6.6%	21.5%
n	130	75	79

Fairview Village may be more economically diverse, but is not more ethnically diverse, as shown in Table 3. While there was no statistically significant difference in the overall income distribution between the two groups, a significantly higher share of the New Urbanist neighborhood residents had incomes under \$40,000. In addition, the mean income in the New Urbanist neighborhood was significantly lower. However, the share of households in the highest income category is the same. The respondents in all three neighborhoods are generally white and well educated. There was no significant difference between the respondents in race/ethnicity; 89 percent of the New Urbanist neighborhood and 88 percent of the conventional neighborhood adult respondents were white. However, according to the 2000 U.S. Census, 73 percent of the adults in the conventional neighborhoods were white and 21 percent were Asian. This finding may indicate that Asian households did not respond proportionately to the survey; only 8 percent of the respondents in the conventional neighborhoods were Asian. The New Urbanist neighborhood 2000 U.S. Census figures indicated that 95 percent of the adults were white. The census was administered before the apartment buildings opened, which may explain the difference between the census and the survey results. In addition, both the survey and the 2000 U.S. Census indicate that the New Urbanist neighborhood is less diverse than the county; 79 percent of Multnomah County residents in the 2000 U.S. Census were white.

**Table 3. Demographics of Respondents**

	New Urbanist	Conventional A and B
Household Income (from surveys)		
Median	\$65,000	\$75,000
Percent under \$40,000	26%	10%
Percent \$90,000 or higher	31%	33%
n	91	49
Race		
Percent white/Caucasian (from surveys)	89%	88%
n	176	131
Percent white/Caucasian (2000 Census)	95%	73%
Education		
Mean # of years of school completed	14.8	14.2
n	146	93

## Travel Behavior

The adults in the New Urbanist neighborhood walk more and drive less than in the conventional subdivisions. However, the New Urbanist features of Fairview Village likely contribute to only part of this difference. Demographic and attitudinal differences between the neighborhoods are also important factors. The households in the New Urbanist neighborhood had fewer vehicles and drove them fewer miles per week than the conventional subdivisions, as shown in Table 4.<sup>1</sup> The smaller household size and lack of children seems to account for much of the reduced auto use. A linear regression model found that the number of children under five years of age had a significant, positive relationship with total weekly vehicle miles traveled (VMT), as did the number of vehicles; being in the New Urbanist neighborhood was not a significant explanatory variable.

The surveys collected information about trips taken the previous week from home. There were significant differences between the neighborhoods. Adults in the New Urbanist neighborhood made fewer vehicle trips and more trips on foot and bicycle, as shown in Table 5. Residents in all three neighborhoods made very few transit trips. The difference in walking trips is most significant and results in the New Urbanist neighborhood adults making more total trips. The adults in the New Urbanist neighborhood reported that about 30 percent of their trips were made walking,

<sup>1</sup> Note that for the findings related to travel results for the conventional neighborhoods are shown separately because of the difference in access to destinations within walking distance. Neighborhood A has some retail within walking distance, while Neighborhood B does not.

**Table 4. Difference in Vehicle Ownership and Weekly Vehicle Travel**

Mean	New Urbanist	Conventional A	Conventional B	sig.
# of vehicles in household	1.7	2.4	2.2	0.00
# of vehicles per adult	1.0	1.1	1.1	0.07
Total weekly vehicle miles traveled (VMT)	200	316	289	0.00
Total weekly VMT per adult	122	148	155	0.19
Total weekly VMT per person	108	119	111	0.82

compared to 9 percent and 8 percent for the adults in neighborhoods A and B, respectively.

The New Urbanist neighborhood residents made significantly more walking trips to shopping, restaurants/cafes, the library, the post office, parks, health clubs, and recreation. Some of these differences are explained by the lack of destinations within walking distance to the conventional subdivisions. For example, only Fairview Village has a library, post office, and health club within walking distance. However, all the neighborhoods had parks within walking distance, and residents in all neighborhoods could walk for recreation/exercise, which does not require a destination.<sup>2</sup> In addition, residents in Neighborhood A had similar access to shopping, but made an average of 0.27 walking trips to the store, compared to 0.45 in the New Urbanist neighborhood.

The New Urbanist neighborhood residents are not walking more because they feel safer than residents from the other neighborhoods. About 90 percent of the residents from both groups agreed or strongly agreed with the statement "I feel safe walking or biking in my neighborhood." The availability of destinations, as discussed above, seems to be a major factor, along with the New Urbanist design features. Residents in both groups said that they walk more in their current neighborhood than where they used to live — 53 percent for the conventional subdivisions and 71 percent for the New Urbanist neighborhood. The survey had an open-ended question asking why they walked more in their current neighborhood. 40 percent of the New Urbanist neighborhood residents that walked more and stated why said that it was because there were places to walk to, compared to 21

<sup>2</sup> Entertainment/movie/show was included as a separate category, but it is not shown in the table because no walking trips were made by respondents for this purpose. In addition, "health club" was included as a separate category. Finally, the survey form gave the example of walking or jogging in the neighborhood as "recreation/exercise." Therefore, the "recreation/exercise" category should include primarily walking as the activity, rather than walking to recreation.

**Table 5. Number of Trips by Mode and Purpose by Neighborhood**

Mean for Survey Week	New Urbanist	Conventional A	Conventional B
<b>Total trips reported</b>	<b>19.7</b>	<b>15.7</b>	<b>18.3</b>
# Transit trips	0.3	0.3	0.3
# Bike trips	<b>0.4</b>	<b>0.0</b>	<b>0.4</b>
<b># Personal vehicle trips</b>	<b>12.4</b>	<b>13.9</b>	<b>15.7</b>
Work	3.3	3.0	3.5
Personal business	1.9	1.9	2.4
Shopping	2.0	2.5	2.4
<b>Restaurants/cafes</b>	<b>1.0</b>	<b>1.4</b>	<b>1.5</b>
Visit friends/relatives	1.2	1.3	1.8
Library	0.1	0.2	0.2
Post office	0.5	0.4	0.3
<b>Health club</b>	<b>0.4</b>	<b>0.5</b>	<b>0.9</b>
Park	0.1	0.1	0.2
Recreation/exercise	0.3	0.4	0.4
<b># Walking trips</b>	<b>6.6</b>	<b>1.5</b>	<b>2.0</b>
Work	0.2	0.0	0.0
Personal business	0.2	0.0	0.0
<b>Shopping</b>	<b>0.4</b>	<b>0.3</b>	<b>0.0</b>
<b>Restaurants/cafes</b>	<b>0.7</b>	<b>0.1</b>	<b>0.1</b>
Visit friends/relatives	0.2	0.1	0.0
<b>Library</b>	<b>0.5</b>	<b>0.0</b>	<b>0.0</b>
<b>Post office</b>	<b>0.7</b>	<b>0.0</b>	<b>0.0</b>
<b>Health club</b>	<b>0.6</b>	<b>0.0</b>	<b>0.0</b>
<b>Park</b>	<b>1.0</b>	<b>0.2</b>	<b>0.4</b>
<b>Recreation/exercise</b>	<b>1.9</b>	<b>0.6</b>	<b>1.3</b>

Means that are significantly different ( $p < 0.05$ ) between the three groups are in **bold**.

percent for the conventional neighborhoods. Residents in the conventional neighborhoods were more likely to be walking more for lifestyle reasons, such as wanting to improve their health or getting a dog. The New Urbanist neighborhood residents were also more likely to give a reason related to the aesthetics of the neighborhood, such as “cute,” “cleaner,” or “nicer scenery” (compared to their previous neighborhood).

Self-selection may be an important, but perhaps not the only, factor explaining the higher levels of walking by residents in the New Urbanist neighborhood. The New Urbanist neighborhood residents clearly ranked having destinations within walking distance much higher than the residents of the conventional subdivisions, as shown in Table 6. But, there is some indication that the New Urbanist design may have an impact beyond allowing people who wanted to walk to do so. Figure 1 shows the mean number of walking trips to a store by the level of importance the person placed on having stores within walking distance when choosing his or her neighborhood. Only residents from the New Urbanist neighborhood

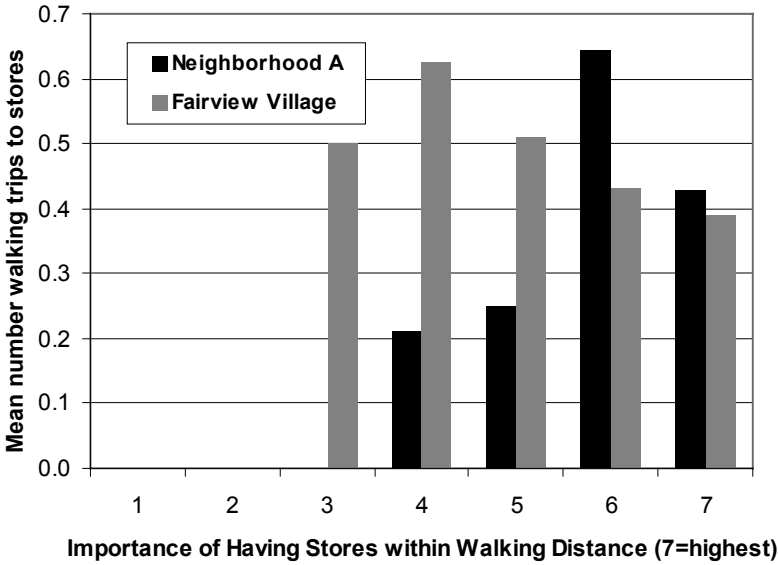
and Neighborhood A, which have similar access to stores, are included. In both cases, people who rated walking access to shopping very low did not walk to a store. But, for the New Urbanist neighborhood, the number of walking trips does not vary significantly for people rating that factor three or higher. The New Urbanist neighborhood residents who only rated walking access a three or four are walking as much as, or more than, those who placed the highest importance on it. On the other hand, the importance of walking access seems to be a more important factor in the number of walking trips for Neighborhood A residents.

**Table 6. Ranking of Importance of Factors in Choosing Home**

Factors in home decision 1 = Not at all important 7 = Extremely important	New Urbanist		Conventional A		Conventional B	
	Mean	Rank	Mean	Rank	Mean	Rank
Neighborhood safety	6.3	1	6.3	1	6.4	1
Style of the neighborhood	6.2	2	6.0	2	5.9	3
Price/rent	5.9	3	6.0	3	6.1	2
Having sidewalks in my neighborhood	5.8	4	5.7	7	5.1	9
Style of house/apartment	5.8	5	5.7	8	5.6	5
Sense of community	5.7	6	5.6	9	5.6	7
Amount of car traffic on my street	5.8	7	5.9	4	5.6	6
Size of house/apartment	5.6	8	5.4	12	4.9	11
Quick access to the freeway	5.6	9	5.9	5	5.7	4
Layout and size of the neighborhood streets	5.3	10	5.3	13	4.9	12
<b>Neighborhood parks</b>	<b>5.2</b>	<b>11</b>	<b>4.4</b>	<b>15</b>	<b>4.1</b>	<b>15</b>
<b>Having stores within walking distance</b>	<b>5.2</b>	<b>12</b>	<b>4.5</b>	<b>14</b>	<b>3.4</b>	<b>18</b>
<b>Having a library within walking distance</b>	<b>5.1</b>	<b>13</b>	<b>3.1</b>	<b>21</b>	<b>2.3</b>	<b>22</b>
<b>Having a post office within walking distance</b>	<b>5.0</b>	<b>14</b>	<b>2.9</b>	<b>23</b>	<b>2.1</b>	<b>23</b>
<b>Having cafes/restaurants within walking distance</b>	<b>4.7</b>	<b>15</b>	<b>3.3</b>	<b>20</b>	<b>2.9</b>	<b>20</b>
<b>Size of the yard</b>	<b>4.6</b>	<b>16</b>	<b>5.8</b>	<b>6</b>	<b>5.0</b>	<b>10</b>
<b>Having bike lanes and paths nearby</b>	<b>4.5</b>	<b>17</b>	<b>3.4</b>	<b>19</b>	<b>3.7</b>	<b>17</b>
Location relative to work	4.5	18	4.1	16	4.7	13
<b>Property taxes</b>	<b>4.5</b>	<b>19</b>	<b>5.6</b>	<b>10</b>	<b>5.2</b>	<b>8</b>
<b>Quality of schools</b>	<b>4.2</b>	<b>20</b>	<b>5.6</b>	<b>11</b>	<b>4.6</b>	<b>14</b>
<b>Being close to public transit</b>	<b>4.1</b>	<b>21</b>	<b>3.0</b>	<b>22</b>	<b>3.0</b>	<b>19</b>
Location relative to family/friends	4.1	22	4.0	17	4.0	16
Having schools within walking distance	3.3	23	3.7	18	2.8	21
n	129					

Means that are significantly different ( $p < 0.05$ ) between the three groups are in **bold**.

Figure 1. Importance of Having Stores Nearby and Walking Trips to the Store



Relying on respondents to remember the number of trips they took from home by purpose and mode for the previous week does have limitations. People may not accurately remember all of their trips. There is no reason to believe that residents of the New Urbanist neighborhood would be more or less forgetful than people in the other neighborhoods. However, the Hawthorne effect may account for some of the difference in reported walking trips. But, the difference is so large that this does not seem to explain it all. In addition, if the Hawthorne effect were the main cause, one would expect to see a more positive correlation in Figure 1. People rating walking access high would be more likely to overstate their behavior. Another limitation to the survey is that residents may not accurately remember the factors that were important in choosing their home. Moreover, residents of the New Urbanist neighborhood may value features of the neighborhood, such shops within walking distance, now more than before because they are experiencing the benefits of the accessibility. However, there was no correlation between the accessibility ratings and length of time living in the New Urbanist neighborhood.

### Sense of Community

The survey did not find any consistent evidence that residents of New Urbanist neighborhoods have a greater sense of community, neighborliness, or residential satisfaction. Sense of community was equally important

in the household's neighborhood location decision, as shown in Table 7. Overall, both groups of residents are satisfied with where they live. About 60 percent of the adults from both groups strongly agreed with the statement "I think my neighborhood is a good place for me to live" and over 30 percent agreed with that statement. The vast majority of adults from both groups also felt at home in their neighborhood.

There were some differences between the neighborhoods regarding their attitudes about their neighborhood, as shown in Table 7. Residents were asked whether they could recognize most of the people who lived on their street. Residents in Neighborhood A agreed the most with this statement. Residents from the New Urbanist neighborhood and Neighborhood A residents felt about equally that they had influence over what the neighborhood is like. However, residents of the New Urbanist neighborhood felt more strongly that people in the neighborhood could solve neighborhood problems.

**Table 7. Adults' Attitudes about their Neighborhood**

Factors in home decision, mean score 1 = Strongly disagree 4 = Strongly agree	New Urbanist	Conventional A	Conventional B
<b>I think my neighborhood is a good place for me to live</b>	<b>3.6</b>	<b>3.7</b>	<b>3.4</b>
<b>I can recognize most of the people who live on my street</b>	<b>2.9</b>	<b>3.3</b>	<b>3.0</b>
I feel at home in this neighborhood	3.5	3.6	3.4
Very few of my neighbors know me	2.4	2.3	2.4
I care about what my neighbors think of my actions	2.9	3.1	3.0
<b>I have influence over what this neighborhood is like</b>	<b>2.7</b>	<b>2.7</b>	<b>2.2</b>
<b>If there is a problem in this neighborhood people who live here can get it solved</b>	<b>3.0</b>	<b>2.9</b>	<b>2.4</b>
<b>It is very important to me to live in this particular neighborhood</b>	<b>2.8</b>	<b>2.8</b>	<b>2.4</b>
People in this neighborhood get along with each other	3.2	3.2	3.2
<b>I expect to live in this neighborhood for a long time</b>	<b>2.9</b>	<b>3.0</b>	<b>2.5</b>
n	175	77	54

Means that are significantly different ( $p < 0.05$ ) between the three groups are in **bold**.

Walking behavior seems to be a factor in whether residents of the New Urbanist neighborhood know their neighbors. After controlling for the length of time in the residence, there was a significant positive correlation



between the number of walking trips and whether the resident recognized most of the people on their street — but only in the New Urbanist neighborhood. One explanation is that residents in Neighborhood A and B are seeing and meeting their neighbors in other contexts, perhaps through schools or just spending time in their front yards.

## Policy Significance and Future Research

The survey results provide insight into whether the New Urbanist neighborhood examined is fulfilling the intended objectives of New Urbanism. Overall, the results show that this New Urbanist development is fulfilling many of the neighborhood objectives expressed in the *Charter* (CNU 2000). However, the features of New Urbanism may not always be the direct cause of meeting the objective. People in the New Urbanist neighborhood are definitely walking more in their neighborhoods, a key objective of New Urbanism. The higher rates of walking are due, in large part, to the proximity of destinations — stores, a post office, the library, parks, cafes, and other services. This convenience is a direct effect of New Urbanism. In addition, the walkable features of the neighborhood attracted people who wanted to walk — an indirect effect. Households in the New Urbanist neighborhood also drive less, but this appears to be an indirect effect of New Urbanism. The neighborhood attracted smaller households, particularly households without children, and more older adults. These factors will reduce vehicle travel. Therefore, it is unclear whether this New Urbanist neighborhood meets Crane and Schweitzer's (2003) test for transportation sustainability — decreasing auto use. Without data from the residents on their travel behavior before they moved to these neighborhoods, we do not know whether they have reduced their driving. However, the comparison to the other neighborhoods indicates that the lower rates of driving are largely due to differences in demographics and not the substitution of walking for driving.

The location of the New Urbanist neighborhood — in a lower density, auto-oriented suburban area without high levels of transit service — may make substitution more difficult. The residents can only reasonably walk to the destinations within the development, which are limited. Once the vacant commercial parcels are developed, more substitution may be feasible. In addition, the lack of good transit service reduces the potential to substitute transit for driving, particularly for work trips. The fact that the development does not have good transit service could be a criticism. However, the *Charter* (CNU 2000, 101) does not specifically mandate levels of transit service. Rather, it recognizes that levels of transit service are not necessarily controlled by the developer or planning agency. The principles state that “appropriate building densities and land uses should be within walking

distance of transit stops, permitting public transit to become a viable alternative to the automobile.” The authors identify 12 units per acre as a minimum for areas within one-quarter mile of bus stops. Fairview Village was close to this target when the survey was conducted. If the project is completed as envisioned, residential and commercial density will be higher in the future, perhaps warranting improved transit service.

There is some self-selection occurring. Residents of the New Urbanist neighborhood placed greater importance on having destinations within walking distance when choosing where to live. However, self-selection does not explain all of the differences in travel patterns. Moreover, the neighborhood clearly satisfied a demand from some households for a suburban home with accessible walking destinations. What the data do reveal is that if you build it, they will come, and they will walk. This supports Levine’s (1999) argument that researchers and policy-makers should focus less on whether form influences behavior and more on providing the variety of urban forms that households want.

The residents of the New Urbanist neighborhood were not significantly more racially diverse than the conventional neighborhood residents surveyed or the county as a whole. The 2000 U.S. Census data confirmed the lack of racial diversity. There may be some greater income diversity. A larger share of the survey respondents in the New Urbanist neighborhood were in the lowest income categories, though there were equal shares in the highest income categories, compared to the conventional neighborhoods surveyed. Finally, while most residents of the New Urbanist neighborhood knew and got along with their neighbors, their levels of neighborliness were not significantly higher than in the conventional subdivisions. The walkability of the New Urbanist neighborhood does help increase neighborliness, perhaps making up for the lack of some common ways of connecting with neighbors, namely children.

While this research supports some of the New Urbanist claims, there are some limitations. The research only examines one New Urbanist neighborhood. While the development was designed based upon New Urbanist principles, it does lack good transit access and is not yet complete. This should be considered when interpreting the findings. With respect to travel behavior, the survey asked for limited information — the trips made *from home* the previous week. Therefore, differences in overall trip making and travel are not known. A full travel or activity diary would capture trade-offs people may make. For example, the New Urbanist neighborhood residents may walk to the post office while residents of other neighborhoods buy stamps at the grocery store or stop at a post office on the way to another destination. If that is the case, total vehicle miles of travel may not differ. The selection of the conventional neighborhoods also influenced the results. Choosing neighborhoods with limited destinations within

a reasonable walking distance was useful in testing one aspect of New Urbanism — mixed land uses. Including neighborhoods with a similar mix of destinations within walking distance, but without the other design features of New Urbanism would also be useful. However, finding such neighborhoods may be difficult. These data do show is that New Urbanist residents do take advantage of their neighborhood's walkability.

There is an increasing focus on the influence of neighborhood design not just on travel, but physical activity and health (Saelens et al. 2003; Sallis et al. 2004). The findings from this research lend support to the notion that residents in walkable neighborhoods may be more physically active. The New Urbanist neighborhood adults definitely walked more often in their neighborhood. The difference in number of walking trips is comparable to that found in similar research summarized in Saelens et al. (2003) and Sallis et al. (2004). The difference in the average number of walking trips from home per week was 4.9 trips. Using a more conservative estimate that the true difference is 4.0 trips per week and assuming that each walking trip is at least fifteen minutes, that would account for one more hour of physical activity per week. What is not known, however, is what other physical activity the residents in all three neighborhoods are undertaking. Residents in the conventional subdivisions may be walking near work, going to a gym, or using a treadmill at home, for example.

The differences in household structure between the neighborhoods are perhaps as important as the differences in walking behavior and present some interesting questions for future research and sustainability. For example, will residents of the New Urbanist neighborhood stay there when they have children, or will they want a home with a larger yard and more families with children as neighbors? If they do remain in the New Urbanist neighborhood with young children, will they still walk more? The findings also highlight the need to conduct research on New Urbanist neighborhoods, rather than in older neighborhoods as proxies. Who chooses to live in a New Urbanist neighborhood is a significant factor in whether the objectives of New Urbanism are met. This research indicates that New Urbanist neighborhoods may be more attractive to white households without children and retired persons. The higher share of older adults is encouraging and indicates a market potential for New Urbanism. The older adults in the New Urbanist neighborhood walked as often as the other adults. This is a positive finding, given the aging population trends in the U.S. New Urbanist neighborhoods may provide an attractive place for elderly who want to remain in a suburban environment, but need to reduce their driving.

## Acknowledgments

This research was supported by a Faculty Enhancement Grant from Portland State University. I would like to thank Mike Rose, Matt Lauer, and Keri Tyler for their assistance with the survey and research.

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