

Understanding Future Development in the White Street and Springfield Avenue Corridors: Trends, Conditions, and Guidelines



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Preface – Executive Summary

The purpose of this project is twofold; to determine the changes in land use and the built environment within the White Street and Springfield Avenue corridors that would not only further the use of mass transit but also other alternate transportation modes such as walking and bicycling. The idea is to not only to encourage a higher density of the student population and other lower income households near these high capacity transit lines, but also to create a more attractive urban environment that would encourage more future graduates of the University of Illinois, as well as others among the next generation of young professionals, to relocate to the region. This is already a goal of the Burnham Hospital redevelopment and development in these corridors needs to capitalize on this and advance it further. The goal is to help improve the sense of place and give the region a better unified core that is currently fragmented into three relatively disconnected areas; from east to west, these are downtown Champaign, Campustown, and downtown Urbana.

This document is divided into four chapters. Chapter 1 is a summary report of a survey conducted by the author to determine not only the demand for a quality urban environment that exists among current University of Illinois upperclassmen and graduate students, but also an sufficient understanding of their background that would help make these reasons apparent. In summary, the findings showed that a small majority of students showed interest in moving to an urban environment, based on four designated types of built environments; urban, inner suburban, outer suburban, and rural. The desire for an urban environment was greatest among students of the male gender, undergraduates (as compared to graduate students), and those who had grown up in the outer suburban environment. Ultimately, the two most important characteristics of one's environment were the following; both the availability and proximity to job opportunities. Approximately two-thirds of respondents indicated a willingness to settle in the Champaign-Urbana area assuming that the right job opportunity came along. Ultimately, this data would be used to help determine the market for densification in each of the White Street and Springfield Avenue corridor.

Chapter 2 discussed the impact density has on transit ridership by looking at the role density plays in encouraging transit ridership in mid-sized urbanized areas similar to Champaign-Urbana. These 11 were characterized in the following ways; Urbanized Area (UA) population between 65,000 and 300,000 residents as of the 2000 U.S. Census; and a major university with combined graduate and undergraduate enrollment of at least 25,000 as of the Fall 2007 semester. Density, the geographic region in which the urbanized area is located, and the proportion of students to the UA population were considered as potential factors, as density alone did not predict transit usage. These variables did not in fact correlate well with the proportion of commutes via mass transit, but did in fact with both the efficiency of transit (both in unlinked trips per revenue hour) as well as the proportion of commutes done via alternate (non-auto) means in each UA as of the 2000 U.S. Census. These findings indicate a need for encouraging the usage of all alternate transportation modes, not just mass transit.

Chapter 3 summarized the conditions of residential uses in each of the Springfield Avenue and White Street corridors. In terms of density and parking, the densest areas were found at the ends of each corridor nearest campus. The ends of the corridors near the respective downtowns showed some variety; for example, the west end of the White Street corridor is nearly as dense as the portions near campus, whereas the end of the Springfield corridor near downtown Urbana was significantly less dense. These results only focused on land currently in residential uses; land in rights-of-way and parcels containing non-residential uses were not factored into this. The areas that were less dense showed more parking availability compared to those areas that were more dense; however, there was little variation in the proportion of parking used block to block, as generally two-thirds of available parking was used on typical weekdays. Finally, population projections by CUUATS evaluating growth based on preferred alternatives did not show sufficient densification being projected for either corridor, both of which showed minimal population growth to the year 2035.

The findings and results of the above three chapters were used to determine the actual guidelines for residential uses, based on the following three factors; design, parking, and density. While design was not a factor that was incorporated into any of the work of the first three chapters, it is nonetheless important to consider given the poor quality of residential structures in each of these corridors. To summarize, design improvements recommended include wider sidewalks, more comfortable waiting areas for transit, buildings that show greater window and balcony frontage on the street, maintenance of existing street trees, off-street parking exclusively at the rear of buildings, and maintenance of a consistent streetwall based on existing setbacks.

Parking standards in each corridor are designed to both encourage and accommodate transit usage. While recommendations are as high as 0.9 per bedroom for developments containing only single bedroom units, they range much lower for those containing 3 and 4 bedroom units, typically ranging between 0.4 and 0.5 spaces per bedroom. The purpose of accommodating more parking for single occupancy units is to simply ensure that each household, no matter the size, be able to acquire a car if necessary, but still encourage transit use by making it difficult for larger households to have multiple cars. The standards are summarized in Table 4-12 on page 104.

The final section of Chapter 4 looked at how much density the corridors could accommodate with restrictions on building height at 3 stories and at 4 stories. Using a combination of Census data and data obtained from the survey in Chapter 1, it was determined that the corridors should accommodate an additional population of 1,103. This was more than the corridors could accommodate given the three-story restriction (652), so it was determined that the four-story scenario should be implemented. The additional capacity accommodated by this additional population is 1,526, more than enough to accommodate the existing market.

In conclusion, the finding show that there is potential to accommodate increased residential density in both the White Street and Springfield Avenue corridors, but it will require improvements to the physical environment that do not exist at present. However, enough students show a willingness to remain in the area, and many would like to see an urban environment introduced to the area that is presently in undersupply. However, since having the employment opportunities available is so crucial to making that happen, the cities should work with the university in order to determine the employment fields that would be best served by locating in Champaign-Urbana.

Chapter 1 – What Do University of Illinois Students Think About Champaign-Urbana?

In order to determine the potential for further densification and physical improvement to the built environment along the White Street and Springfield Avenue corridors, it is critical to understand the needs and desires of the demographic group most likely to aid that change. Because the level of demand for urban-style living is at its highest among younger, just out-of-college professionals, it is necessary to target said group.

The following report summarizes the results of a survey that was divided into four pages: The first inquired about lifestyles and amenities that would encourage recent U of I graduates to remain in the area (do they want an environment in which they can live, work and play, or do they prefer to keep these separate), the second on transportation preferences (how often does one use transit, ride a bicycle, walk, or drive), the third page a variety of demographic questions (such as age, race/ethnicity, college, year in school, etc.), and finally a series of five concluding questions, four of which are at least partially open-ended, to finish up.

The group that was targeted for this survey was a total of 500 University of Illinois students. This sample was chosen from the entire pool of on-campus juniors, seniors, graduate, and professional students, and is intended to be as representative as possible of this entire population, though in the actual sample itself, graduate students were underrepresented both as a percentage of the total as well as the proportion in each college that enrolls both undergraduate and graduate students. However, across colleges it was quite representative, irrespective of student standing. The targeted population did not include non-degree students or students that were enrolled only as online students, because the former are likely already permanent local residents, and many among the latter group may never set foot in Champaign-Urbana. This would certainly skew the results unfavorably.

Although the actual order of the questions featured demographic questions on the third page, that subject will be discussed first in order that readers get an initial grasp of who participated in the study. The reasoning behind placing the demographic questions on the third page is simple: the questions seem irrelevant to the study in the mind of the survey taker if placed early in the survey, and come across as intrusive. When placed in the middle or near the end of the survey, they come across much more as matter-of-fact.

Out of the targeted sample of 500, 136 students (27.2%) chose to start the survey, and from those who did, there was a 96.32% rate of completion. The number of students who completed the survey was approximately 26.2% of the target total.

The following tables, 1-1 through 1-4, show the distributions of students by college and by standing, in both the aggregate and by the opposite variable:

Table 1-1				
Enrollment by College as a Percentage of the Total, Fall 2008 Semester				
College¹	All	Class		
		Junior	Senior	Grad
All	26169	7187	8819	10163
ACES	6.99%	7.96%	8.07%	5.37%
CBA	9.98%	9.50%	11.04%	9.39%
EDU	5.71%	2.14%	2.27%	11.21%
ENG	20.12%	15.28%	19.59%	24.00%
FAA	7.46%	6.66%	6.89%	8.52%
CMC	2.93%	4.24%	4.03%	1.04%
LAW	0.16%	0.00%	0.00%	0.41%
LAS	36.24%	45.78%	40.57%	25.73%
DGS	0.08%	0.24%	0.03%	0.00%
AHS	5.56%	7.75%	6.97%	2.77%
VETMED	0.25%	0.00%	0.00%	0.65%
AVI	0.34%	0.45%	0.52%	0.12%
ILIR	0.72%	0.00%	0.00%	1.85%
SOC WK	1.18%	0.00%	0.00%	3.04%
GLIS	2.29%	0.00%	0.00%	5.89%

Source: University of Illinois, Div. of Management Information (DMI)

Table 1-2				
Sample Group Enrollment by College as a Percentage of the Total, Fall 2008 Semester				
College	All	Class		
		Junior	Senior	Grad
All	500	173	196	131
ACES	6.20%	6.36%	7.14%	4.58%
CBA	10.00%	9.25%	13.27%	6.11%
EDU	4.40%	1.73%	3.06%	9.92%
ENG	16.00%	12.14%	16.33%	20.61%
FAA	9.00%	6.94%	10.71%	9.16%
CMC	2.20%	2.31%	3.06%	0.76%
LAS	42.00%	52.02%	39.80%	32.06%
AHS	6.20%	9.25%	5.10%	3.82%
AVI	0.60%	0.00%	1.53%	0.00%
ILIR	0.80%	0.00%	0.00%	3.05%
SOC WK	0.80%	0.00%	0.00%	3.05%
GLIS	1.80%	0.00%	0.00%	6.87%

Source: University of Illinois, DMI

Table 1-3				
Enrollment by Student Standing as a Percentage of the Total, Fall 2008 Semester				
College	All	Class		
		Junior	Senior	GR
All	26169	27.46%	33.70%	38.84%
ACES	1830	31.26%	38.91%	29.84%
CBA	2611	26.16%	37.30%	36.54%
EDU	1493	10.31%	13.40%	76.29%
ENG	5265	20.85%	32.82%	46.32%
FAA	1953	24.53%	31.13%	44.34%
CMC	766	39.82%	46.34%	13.84%
LAW	42	0.00%	0.00%	100.00%
LAS	9483	34.69%	37.73%	27.58%
DGS	20	85.00%	15.00%	0.00%
AHS	1454	38.31%	42.30%	19.39%
VETMED	66	0.00%	0.00%	100.00%
AVI	90	35.56%	51.11%	13.33%
ILIR	188	0.00%	0.00%	100.00%
SOC WK	309	0.00%	0.00%	100.00%
GLIS	599	0.00%	0.00%	100.00%

Source: University of Illinois, DMI

Table 1-4				
Sample Group Enrollment by Student Standing as a Percentage of the Total, Fall 2008 Semester				
College	All	Class		
		Junior	Senior	Grad
All	500	34.60%	39.20%	26.20%
ACES	31	35.48%	45.16%	19.35%
CBA	50	32.00%	52.00%	16.00%
EDU	22	13.64%	27.27%	59.09%
ENG	80	26.25%	40.00%	33.75%
FAA	45	26.67%	46.67%	26.67%
CMC	11	36.36%	54.55%	9.09%
LAS	210	42.86%	37.14%	20.00%
AHS	31	51.61%	32.26%	16.13%
AVI	3	0.00%	100.00%	0.00%
ILIR	4	0.00%	0.00%	100.00%
SOC WK	4	0.00%	0.00%	100.00%
GLIS	9	0.00%	0.00%	100.00%

Source: University of Illinois, DMI

Demographic Data – Questions 18 through 23²

- *Student Status*

Through analyzing student academic status by three categories, Junior, Senior, and Graduate, a rather even distribution of response is found. 29.2% of the 130 students who responded to this question were juniors, 34.6% seniors, and 36.2% graduate students. The bulk of these students were 1st year Master’s students or PhDs, with a much smaller portion as 2nd year Master’s students. By and large, although this breakdown was not representative of the target sample of 500, it is very representative of the target population.

The breakdown of the students by year in school, along with the sampling and aggregate data, is as follows in Table 1-5:

Table 1-5							
Enrollment by Student Standing as a Percentage of the Total, Fall 2008 Semester							
Population	Size	Class					
		Junior	Senior	Graduate	Master's	PhD	Professional
Respondents	130	29.20%	34.60%	36.20%	17.00%	17.70%	1.50%
Target Sample	500	34.60%	39.20%	26.20%	N/A	N/A	N/A
Target Population	26,169	27.46%	33.70%	38.84%	N/A	N/A	N/A
Source: University of Illinois, DMI							

- *College of Enrollment*

Like the breakdown of academic status, the respondents to the survey were more representative of the target population than was the target sample, particularly those enrolled in Liberal Arts and Sciences (LAS), Engineering, Business, and Fine & Applied Arts. For ACES and the grouping of other colleges, the respondents correlated better with the sample than the target population. Although “College of Law” was listed as one of the options for this question, there was no one in the sample from that college, and therefore no respondents.

The reason for which respondents are shown for the College of Media but are not found at all in the target population may be the result of said college being left out during the sampling process. Of the two respondents, one’s academic status was that of a junior, so it is very likely that he/she was a recent transfer who was listed differently in the sample. The other respondent very likely could have made a simple mistake. Table 1-6 summarizes the distribution by college of enrollment:

Table 1-6								
Enrollment by College as a Percentage of the Total, Fall 2008 Semester								
Population	Size	College						
		LAS	Engineering	Business	FAA	ACES	Media	Other*
Respondents	129	38.00%	20.20%	9.30%	7.80%	6.20%	2.30%	16.30%
Target Sample	500	42.00%	16.00%	10.00%	9.00%	6.20%	N/A	16.80%
Target Population	26,169	36.24%	20.12%	9.98%	7.46%	6.99%	N/A	19.21%
Source: University of Illinois, DMI								
Includes Colleges of Education, Medicine, Applied HealthSciences, School of Aviation, Labor & Employment Relations, Social Work, and Graduate School of Library and Information Sciences								

- Where Respondents Grew Up

A total of 130 student respondents gave the location of where they grew up; based on the following categories, the breakdown is as follows:

Chicagoland:	36.9%
North/Northwest Illinois:	13.8%
Central Illinois:	19.2%
Southern Illinois:	3.8%
Other Midwest Location:	10.0%
Other U.S. Location (Outside Midwest):	14.6%
International:	1.5%

However, there leaves plenty of room for discretion within this list, particularly for the Chicagoland category. Of the 48 respondents who chose Chicagoland as where they grew up, according to the responses to question 2, three (6.3%) grew up in urban areas, 36 (75%) in inner suburban areas, and 9 (18.8%) in outer suburban areas. Naturally, none of the respondents selected “Rural” as best describing where they grew up. Viewed as a breakdown of the whole, the Chicagoland split looks like this:

Chicagoland:	36.9%
Urban:	2.3%
Inner Suburban:	27.7%
Outer Suburban:	6.9%

- Age

Because of the target population of the survey focuses on upperclassmen as well as graduate students, it is not surprising that a sizable majority (64.6%) of students range between the ages of 20 and 22. This correlates rather well with the fact that 63.8% of student respondents are either of junior or senior standing. Overall, while the median and the mode are exactly the same at 21, the mean is a bit higher at 23.2 years. This is naturally expected because of the greater variability in ages among graduate students than undergraduates, creating a standard deviation of 4.83. The interquartile range (colloquially the “middle half”) ranged from only 21 to 24. The number of respondents by age in years are as follows in Table 1-7:

Table 1-7					
Age Distribution by Survey Respondents					
Age	Respondents	Percent of Total	Age	Respondents	Percent of Total
19	3	2.31%	29	1	0.77%
20	30	23.08%	30	1	0.77%
21	33	25.38%	32	2	1.54%
22	21	16.15%	33	1	0.77%
23	9	6.92%	34	1	0.77%
24	8	6.15%	36	1	0.77%
25	1	0.77%	38	1	0.77%
26	2	1.54%	39	1	0.77%
27	8	6.15%	41	1	0.77%
28	4	3.08%	52	1	0.77%
Total	119	91.54%	Total	11	8.46%

- Breakdown by Gender

Of the 130 respondents, a total of 65 were male and 65 were female. However, despite this 50/50 split, this data skews slightly in favor of females, who made up only 46.2% of the target population and 45% of those sampled. There is no clear indicator as to why this has occurred, but it is shown in the target population that of the students classified as “Foreign,” which comprise 16.26% of the entire population, are 59.07% male, the highest of any of the racial/ethnic categories listed. Lacking the full fluency that others in the target population have is something that may hinder their willingness to complete the survey. This in particular may be due to the informed consent form, which uses specific language that may not be well understood by those who speak English as a second language. However, this likely only provides a partial explanation.

- Racial/Ethnic Composition

The one trend easily noticed in Table 1-8 is that of those who took the survey, a much greater percent were of a White/Caucasian racial background than that of the sample. While the same appears to be in place for comparing the sample to the target population, the presence of a “Foreign” category skews the data. Hispanics are vastly underrepresented in the respondents compared to the sample, perhaps due to the usage of “Hispanic” in the answer column instead of “Hispanic/Latino.” However, the number of Asian survey participants is very representative of the sample.

Table 1-8										
Race/Ethnicity by Populations, Fall 2008 Semester										
Population	Size	Race/Ethnicity								
		White/Caucasian	African American	Asian/Pacific Islander*	East Asian	South Asian	Hispanic	Native American	Foreign**	Unknown***
Respondents	130	79.20%	3.80%	14.60%	10.80%	3.80%	0.80%	N/A	1.50%	1.50%
Target Sample	500	71.40%	5.60%	15.20%	N/A	N/A	5.40%	0.20%	0.00%	2.20%
Target Population	26,169	60.19%	5.07%	10.81%	N/A	N/A	5.27%	0.25%	16.26%	2.15%
Source: University of Illinois, DMI										
*In the Respondents Row, answer refers to the sum of East and South Asians. May not include SE Asian and Pacific Islander populations.										
**In the Respondents Row, answer refers to those who answered "International" in question 20. Also, breakdown by foreign origin was included in the whole population, but not the target sample										
***In the Respondents Row, answer refers to those that answered "Other" in the Survey. May also include those of Native American descent.										

This may be reflective of the fact that as a whole, those interested in urban development come largely from a White/Caucasian background. In the American Planning Association’s Salary Survey in 2008 of full-time planners, over 90% of respondents indicated a white racial background.³ While certainly very few among the sample and respondents may even be studying a major that is or is related to planning, these results are not surprising.

Lifestyle Preferences – Questions 1-10⁴

- Comparing Where One Grew Up to Where One Wants to Live

The first two questions of the survey immediately get the ball rolling on what the survey taker should expect; the questions that essentially ask, where did you live and where do you now want to live? Table 1-9 gives a general summary of these two phenomena:

Table 1-9					
The Past and Future Environments of Survey Respondents					
Question	Respondents	Location			
		Urban	Inner Suburban	Outer Suburban	Rural
Where did you grow up?	136	13.2%	48.5%	23.5%	14.7%
Where do you want to live?	136	50.7%	30.1%	10.3%	8.8%

Clearly, the “back to the city” trend is very popular among U of I students. For the number of respondents who were raised in an inner suburban, outer suburban, or rural setting, there are far fewer than that who would want to live in that setting following graduation. This follows the typical trends that we see among recent college graduates today.

In Table 1-10, the future environment desired by respondents is broken down into where they grew up. The idea behind this is to help determine which of the three non-urban groups are driving the “back to the city” movement.

Table 1-10						
The Past and Future Environments of Survey Respondents						
Location of Childhood	Respondents	Future Desired Location				Total
		Urban	Inner Suburban	Outer Suburban	Rural	
<i>Urban</i>	18	72.2%	16.7%	5.6%	5.6%	13.2%
<i>Inner Suburban</i>	66	47.0%	45.5%	4.5%	3.0%	48.5%
<i>Outer Suburban</i>	32	56.3%	18.8%	21.9%	3.1%	23.5%
<i>Rural</i>	20	35.0%	10.0%	15.0%	40.0%	14.7%
Total	136	50.7%	30.1%	10.3%	8.8%	100.0%

Based on the results above, it seems clear that the “back to the city” movement is being driven as much by outer suburbanites as inner suburbanites. While many among both suburban groups have a desire to live remain in the same environments in which they grew up (as well as those who were raised in urban and rural settings), that desire is smallest among outer suburbanites and highest among those who grew up in urban centers. Given that those raised in the outer suburbs were almost always dependent on others to get around until at least reaching the age of 16, an urban environment spells a new type of freedom to these people who had little of it in childhood. Only those who grew up in rural environments did not have greatest desire to remain in the city versus being living in a rural environment into post-college adulthood, but its desirability is competitive with the rural environment.

Table 1-11						
Gender and the Back to the City Movement						
Gender	Respondents	Future Desired Environment				Total
		Urban	Inner Suburban	Outer Suburban	Rural	
<i>Male</i>	65	63.1%	18.5%	9.2%	9.2%	50.0%
<i>Female</i>	65	38.5%	41.5%	10.8%	9.2%	50.0%
Total	130	50.8%	30.0%	10.0%	9.2%	100.0%

The back to the city movement, based on this data, is certainly a male-led phenomenon. While outer suburban and rural areas show the same level of desirability for both genders, by a small margin females prefer an inner suburban style of environment, whereas nearly two-thirds of males are dead set on an urban lifestyle. This may reflect on innate desires of males to live in an environment full of excitement, whereas the concerns of the opposite sex about crime may make them prefer a less active setting.

Rather than looking merely at the physical environment in which one grew up, Table 1-12 looks at the role that geographic region, whether in or out of state, plays on these desires:

Table 1-12								
Desire for Urbanity and Geographic Origin								
Desired Future Environment	Respondents	Geographic Origin of Student						
		Chicagoland	N-NW Illinois	Central Illinois	Southern Illinois	Other Midwest	Other U.S.	International
<i>Urban</i>	67	58.3%	44.4%	44.0%	20.0%	46.2%	63.2%	50.0%
<i>Inner Suburban</i>	38	39.6%	16.7%	24.0%	20.0%	30.8%	26.3%	0.0%
<i>Outer Suburban</i>	13	0.0%	27.8%	16.0%	0.0%	7.7%	10.5%	50.0%
<i>Rural</i>	12	2.1%	11.1%	16.0%	60.0%	15.4%	0.0%	0.0%
Total Responses	130	48	18	25	5	13	19	2

This table shows that aside from U of I students who grew up in Southern Illinois, the idea of an urban lifestyle is rather attractive across the board, with at least 44% of respondents from each area would like such an environment. Central and N-NW Illinois are relatively balanced among their preferences, since those areas offer a moderate variety in the built environment. However, the most surprising thing is that none of the respondees who are from Chicagoland desire the outer suburban lifestyle most, despite the fact that the largest number of respondents are from there. This is likely because Chicagoland natives may be more familiar with urban-style environments, and therefore are more comfortable with them, making them less prone to believing myths that exist about urban life.

- Where in Champaign-Urbana and Why?

Of the students who responded to this question, a majority (51.5%) indicated that they live on campus or in Campustown. Additionally, another 23% of respondents indicated that they live in or near either of the downtowns, or in the neighborhood between downtown Urbana and campus, listed in Table 1-13 as “West Urbana.” This indicates that approximately $\frac{3}{4}$ (102 of 136) of those who responded live in one of the more urban areas of Champaign-Urbana. The following chart shows the breakdown between graduate students and undergrad upperclassmen based on where they choose to live.

Table 1-13											
Location of Students' Champaign-Urbana Residences											
Student Status	Respondents	Where Student Lives									
		On Campus/ Campustown	In/Near Downtown Champaign	West Urbana	Downtown Urbana	Core Total	SE Campus/ SE Urbana	North Lincoln	Other Champaign	Other Urbana	Outside C-U
<i>Undergrad</i>	83	71.1%	1.2%	13.3%	0.0%	85.6%	3.6%	2.4%	7.2%	0.0%	1.2%
<i>Grad</i>	47	19.1%	27.7%	6.4%	4.3%	53.2%	4.3%	2.1%	12.8%	19.1%	4.3%
Total	130	51.5%	10.3%	11.8%	1.5%	73.6%	4.4%*	2.2%	8.8%	7.4%	2.2%

*Aggregate Percentage is higher because one of the respondents to this question did not indicate his/her academic status.

More than anything else, the above statistics indicate a small sort of self imposed segregation between undergraduate and graduate students. It could almost be looked at as operating on a continuum; juniors and seniors typically find the presence of underclassmen more tolerable simply because they had just lived that existence. Graduate students, looking for a quieter environment away from these students, with whom they may not share as much of an identification because of having attended a different institution as an undergraduate, find them to be too much of a distraction. Additionally, the cleaner environment of downtown entertainment venues is certainly a better draw for more serious students and professionals.

The lessened market for housing in core areas by graduate students is likely due to two things; the need for a quiet environment which typically involves staying away from the undergrads. Since downtown Champaign presents an urban environment that is by and large free of underclassmen, it is popular among this demographic yet quite unpopular among undergraduates. The lesser numbers of graduate students in core areas helps keep them in a more focused environment for studying.

In Table 1-14 below, the reasons for which undergraduates and grad students chose their neighborhood location are summarized, again divided by undergraduates and graduate students. The higher a factor ranks on the points scale, the more important it is to that group.

Table 1-14							
Reasons for Housing Location by Undergraduate or Graduate Status							
Student Status	Reasons for Location						
	Cost of Housing	Transit Access	Proximity to Classes	Proximity to Amenities	Walkability	Social Interaction	Quiet Atmosphere
Undergrad							
<i>Points Average*</i>	4.19	2.85	4.86	4.05	4.76	4.05	3.37
<i>Respondents</i>	75	79	74	75	79	80	78
Grad							
<i>Points Average</i>	4.96	3.89	4.09	4.18	4.07	2.91	4.04
<i>Respondents</i>	45	44	45	44	44	46	47
Total							
<i>Points Average</i>	4.51	3.23	4.54	4.10	4.47	3.64	3.64
<i>Respondents</i>	126	129	125	125	129	132	131
* Responses to each reason are on a scale from 1 to 7, with 7 being the most importance. The higher the average, the greater a variable's importance.							

Surprisingly, almost all of the reasons listed above differ between graduate students and undergraduates. Those reasons given greater priority by graduate students compared to undergraduates are the cost of housing, access to transit, and a quiet atmosphere. The importance of transit and a quiet atmosphere are certainly related; since graduate students typically choose to live further from campus, walking there is usually not an option, and due to limited availability of parking through most of campus, neither is driving. Both groups place a similar emphasis on proximity to amenities, but undergrads put much more priority on issues such as proximity to classes, the easy availability of social interaction, and walkability. Little emphasis is placed on mass transit access; this is likely due to the fact that 71.1% of undergraduate respondents already live on campus or in Campustown. The importance of walkability to undergraduates exists because most of their trips are at walking distance, and therefore the proper pedestrian infrastructure needs to be in place to get them comfortably from place to place. Social interaction is important to undergraduates who have a lot of time to develop their social network. For both undergraduates and graduate students, proximity to classes correlates almost perfectly with walkability, since they virtually go hand in hand.

Among all students, the most important variables were the cost of housing and proximity to classes/walkability. By far the least important was transit access, though it was far more important for graduate students than undergrads. Proximity to amenities fell near the middle, and was the only variable on which both groups of students placed similar importance.

Amenities – What Do Students Desire?

In question 5, a list of amenities that do not exist (or do so in extremely small numbers) near campus are listed. Despite this listing, the question was much more open ended in nature, as 23 of the respondents (out of the 123 that actually answered the question) listed additional ideas.

The amenities listed in this question were as follows; traditional clothing store, fine dining, attractive parks/public open space, electronics retail, bicycle shops, and fast food restaurants. Among these, the most popular by far was parks/open space, to which 61% of students which undoubtedly is a major problem in neighborhoods near campus. While the Scott Park and Second Street Boneyard detention work will such an attractive space to North Campustown, public space is few and far between within the neighborhoods. Within Campustown, the only other option exists at Washington Park (commonly known as Frat Park), but is split in half by Chalmers Street between Second and Third, helping generate little sense of cohesiveness. Such open space, however, does not even exist in traditional student areas on the Urbana side of campus.

The only other amenity that approached the popularity of parks/open space was fine dining establishments, chosen by 53.7% of respondents. By and large the restaurants near campus are what would be best described as “upscale” fast food. No McDonalds, Burger King, or Wendy’s (all of which formerly had Campustown locations), but plenty of Subway, Chipotle, Potbelly, Noodles & Co., and Qdoba to go around. Nothing low end or very high end; they mostly fall in the middle to middle-high end and do not give those who crave a cheap bite to eat or a quality sit down experience many options.

The breakdown of the other options listed are as follows:

Traditional clothing store:	37.4%
Electronics Retail:	20.3%
Bicycle Shops:	15.4%
Fast Food Restaurants:	34.1%

Little difference was apparent in the way which graduate students and undergrads that responded to this question.

Among the 23 comments that were received, the majority indicated that students are looking for a grocery store. Grocery store was not included as an option with this question, and given that there is heavy demand for one in the campus area, 12 mentioned it in their responses. Many indicated a need for making frequent short trip due to the lack of a car, rather than make infrequent large trips that are simply not feasible without an automobile. Additionally, this is indicative of the fact that although there is a County Market

grocery store going up as part of the Burnham Hospital redevelopment at 4th and Springfield, it seems that many students may be completely unaware of it. This indicates that much better marketing be put in place by the time it actually opens so that the student market base knows it is there.

The only other type of amenity that got a significant response was a movie theater. Given that one needs to either go all the way up to the edge North Prospect or south to Savoy 16 at U.S. Route 45 (Neil Street/Dunlap Avenue) and Curtis Road to attend a theater showing mainstream motion pictures, it is impossible for the student without a car to easily see movies on a regular basis. Any market study done should to see how much potential there is for such a theater with a small number of screens (possibly 4 or 5) on or near campus.

- *What Are U of I Students Looking for After Graduation?*

Table 1-15													
Place-Based Characteristics Important to U of I Students													
Desired Future Environment	Respondents	Variable Points*											
		1	2	3	4	5	6	7	8	9	10	11	12
<i>Urban</i>	68	3.42	2.98	3.42	4.00	3.88	3.38	3.61	2.48	4.27	3.49	3.24	3.25
<i>Inner Suburban</i>	41	3.50	3.90	3.16	3.70	3.10	3.03	3.21	3.42	3.83	2.71	3.13	3.43
<i>Outer Suburban</i>	14	3.85	4.29	3.08	3.43	3.15	3.15	3.85	3.64	4.00	2.38	2.62	3.43
<i>Rural</i>	12	3.64	3.27	3.45	3.92	3.00	3.17	3.42	4.18	4.08	3.00	2.36	2.91
Total	135	3.51	3.43	3.31	3.84	3.50	3.23	3.49	3.04	4.09	3.11	3.07	3.29
* The numbers in this table represent the answers listed below. Because respondents ranked answers on a 1-5 scale, 1 is the lowest possible score and 5 the highest, with high scores indicating greater importance													
<ol style="list-style-type: none"> 1. Having a large amount of living space 2. A quiet atmosphere 3. Ability to get around without a car. 4. Proximity to work 5. Proximity to entertainment and shopping opportunities 6. Ability to get regular exercise without a gym 7. Living near friends 8. Ability to "get away from it all" 9. Job availability 10. Nightlife 11. Arts/cultural amenities 12. Sense of Community 													

Table 1-15 above shows the distribution of the characteristics desired by current U of I students in terms of the generalized description (Urban, Inner Suburban, Outer Suburban, Rural) they chose to describe as the place where they want to live after finishing school

There were a certain number of variables which students, regardless of where they wanted to live in the future, showed similar priority across the board. The variables in which the highest rating was less than 0.5 points higher than the lowest were the following: living space; ability to get around without a car; ability to get regular exercise without a gym; and job availability. The smallest variability among these incidentally was the ability to get regular exercise without a gym. While not surprisingly this was a higher priority among future urbanites, it was not so much less so among other groups. In the urban context, it means that the status quo is fine as it is, but is in the middle of the pack on its level of importance. The low variability is a function of its lack of importance across the board, rather than its importance to any particular group.

Among the other three of these variables, there were some unusual cases. For example, those who wanted a rural lifestyle rated the ability to get around without a car higher than those who preferred urbanity. This may be due to one of two factors; the small number (12) of respondents looking for a rural lifestyle, or a desire among rural residents to have walkable small towns and villages.

Job availability was among the most important to all four groups, in particular the future urbanites, who rated it as most important out of the twelve variables. However, it ranked as the second most important variable among all the other groups, and was only one of two variables which in the aggregate was rated greater than 3.55, being well above that at 4.09 (Proximity to Work was the other, at 3.84)

While amount of living space was rated highest by those looking for an outer suburban lifestyle, it was ranked in the middle of the pack by those looking for other things in the built environment, and should not be discounted as a factor in the urban residential developments. The range for this factor when discounting the outer suburbanite group was little more than half the overall range.

The factors which showed the greatest variability also happened to be those that were among the least popular overall, with one exception. Excluding that exception (the proximity to entertainment/shopping), these are as follows: a quiet atmosphere; the ability to “get away from it all;” nightlife; and arts/cultural amenities. The first of these was most important to future suburbanites of both kinds (and incidentally, less so for future rural residents), the second among tomorrow’s outer suburban and rural market (with great overall variability between each group), and the final two among tomorrow’s urban residents. Note that these last two factors did not have that great of an importance to the urban group; nightlife was in the middle of the pack on its priority, and arts/cultural amenities near the bottom within this group.

There were four respondents who left comments, two of which mentioned safety concerns, one of which was a twenty-two year old female concerned about proximity to hospitals. One of the others was concerned about housing affordability and the other about zoning that would permit a small farm.

- Desire to Live in a Commercial Neighborhood

Question 7 asked respondents whether or not they would like to live in a neighborhood with heavy commercial traffic a la Green Street or downtown Champaign. Overall, interest appears to be moderate among the respondents, 44 of whom chose ‘Moderate,’ 42 who chose ‘High’ or ‘Very High,’ and 48 who chose ‘Low’ or ‘Very Low,’ out of a total of 134. Table 1-16 outlines the desirability of living in one of these areas by three variables; gender, graduate/undergraduate status, and race/ethnicity (White/Nonwhite):

Table 1-16						
Desire to Live in a Commercial Neighborhood						
Student Status	Reasons for Location					Total
	Very High	High	Moderate	Low	Very Low	
Gender						
Male	4.7%	37.5%	34.4%	15.6%	7.8%	64
Female	4.6%	16.9%	29.2%	27.7%	21.5%	65
Student Status						
Undergraduate	6.1%	30.5%	32.9%	19.5%	11.0%	82
Graduate	2.1%	23.4%	29.8%	23.4%	21.3%	47
Race/Ethnicity						
White/European	4.9%	28.4%	28.4%	20.6%	17.6%	102
Others*	3.7%	25.9%	44.4%	22.2%	3.7%	27
Total	5.2%	26.7%	32.6%	20.7%	14.8%	135
*Includes those who identify as Hispanic, regardless of racial origin.						

Among those looking to live in a vibrant commercial neighborhood (whether rated as high or very high), male students and undergraduate students rate very high in comparison to their female and graduate counterparts. However, when comparing the students’ needs, one’s desire may be more related to present needs for studying rather than any future wants. As for the gender difference, it is likely due to concerns about safety that one may have about such a neighborhood.

As for differences between whites and non-whites, the reason that many more non-whites find such a neighborhood even moderately attractive is that they were more likely to have been raised in one. 25.9% of non-whites identified themselves as having been raised in an urban neighborhood, whereas only 13.2% of overall respondents identified as such. It is an extension of the fact that most people like what is familiar.

- Why On-Campus Students Do and Don't Visit the Downtowns

One of the things that historically has kept Champaign-Urbana from becoming a cohesive region is the long-evident disconnect between campus and both city's respective downtown. This has kept students largely isolated from permanent local residents, meaning that the campus area functions economically almost as its own city. Additionally, the campus area south of University Avenue, combined with low-income areas north of that same street have created a regional barrier between two cities that could otherwise become more fully integrated.

Questions 8 and 9 attempt to get a greater understanding of how this disconnect affects students living on campus for the respective downtowns of Champaign and Urbana. The results, both out of a total and split by gender, can be found in Tables 1-17 and 1-18 below.

Table 1-17						
Barriers to Downtown Champaign for Campus Residents						
	Barrier					Total
	Safety Getting There	I Can Do This on Campus	Restaurants/ Bars Out of Price Range	Like to Be Among Students	Too Many Bars	
Gender						
<i>Male</i>	34.4%	53.1%	21.9%	43.8%	9.4%	34
<i>Female</i>	66.7%	30.0%	16.7%	33.3%	3.3%	30
Total	48.4%	43.8%	21.9%	39.1%	6.3%	64*
*Total is a result of data being filtered by those who selected the 1st and 3rd answers for Question 3. Additionally, a total of 33 of 136 (24.3%) participants chose to skip the question altogether.						

Respondents were allowed to select as many of the above responses, and significant variability showed between the genders. A little under half expressed safety concerns as well as the ability to participate in similar activities on campus, but females showed greater concern with the former response and males with the latter. The large number of bars appears to be of minimal impact, and the prices

of bars/restaurants shows moderate impact. However, nearly two-fifths of respondents indicated a desire to be among fellow students, and was slightly more prominent among the males.

Given that a total of 25.6% of respondents who live on or near campus chose to skip this question altogether, it is safe to say that to little deters them visiting downtown Champaign. In fact, in six responses in the comment box indicated that there are no barriers for them; they like going there. Its recent renaissance and popularity is a testament to this. However, a total of 14 (out of 25) respondents commented about concerns about convenience as well as distance from campus in getting there. Six of these respondents showed no consideration for using mass transit in getting there.

Downtown Urbana, however, is a different story. The barriers to visiting downtown Urbana are summarized below in Table 1-18:

Table 1-18						
Barriers to Downtown Urbana for Campus Residents						
	Barrier					Total
	Safety Getting There	Not Much To Do	Don't Like the Bars	Like to Be Among Students	Don't Like the Businesses	
Gender						
<i>Male</i>	21.6%	75.7%	32.4%	32.4%	18.9%	37
<i>Female</i>	37.5%	75.0%	28.1%	34.4%	9.4%	32
Total*	27.4%	76.7%	30.1%	32.9%	15.1%	73
*Total is a result of data being filtered by those who selected the 1st and 3rd answers for Question 3. It also includes respondents who did not identify their gender.						

Not surprisingly, the lack of things to do was the predominant answer among respondents, regardless of gender. Over ¾ of respondents, both in total and when divided by gender, found this to be of importance. The preference of being among students was a little less prominent as a barrier than for downtown Champaign, but was still listed by nearly one-third of respondents. It correlates very well with those who do not like the bars, which may be a result of their market being local residents. Safety concerns were expressed as much less of a barrier in getting there for both sexes by comparison to Champaign’s downtown, but still were of concern to over ¼ of respondents. The low response to “not liking the businesses” likely does not mean that they like the businesses there, but rather a lack of knowledge about what is there.

A total of only nine comments were left giving any additional ideas, but like for downtown Champaign, a significant number (five) of respondents did not like the inconvenience that getting there brings. Two respondents indicated that they like going there, and another two had never even been.

What Could Attract Students to Stay?

Table 1-19 summarizes a series of attraction factors on what would convince U of I graduates to remain in Champaign-Urbana or return within five years of completing their degrees:

Table 1-19												
What Attraction Factors are Important to U of I Students?												
Variable	Potential Factors*											Total
	1	2	3	4	5	6	7	8	9	10	11	
Desired Future Environment												127
<i>Urban</i>	16.1%	14.5%	51.6%	22.6%	45.2%	32.3%	85.5%	33.9%	17.7%	19.4%	37.1%	62
<i>Inner Suburban</i>	17.1%	19.5%	65.9%	26.8%	7.3%	36.6%	87.8%	14.6%	22.0%	41.5%	34.1%	41
<i>Outer Suburban</i>	0.0%	8.3%	58.3%	0.0%	0.0%	33.3%	83.3%	41.7%	33.3%	25.0%	25.0%	12
<i>Rural</i>	16.7%	16.7%	33.3%	0.0%	0.0%	25.0%	83.3%	25.0%	25.0%	8.3%	25.0%	12
Student Status												121
<i>Undergraduate</i>	21.3%	13.3%	64.0%	10.0%	25.3%	34.7%	84.0%	29.3%	17.3%	21.3%	33.3%	75
<i>Graduate</i>	6.5%	21.7%	41.3%	19.6%	23.9%	34.8%	93.5%	26.1%	28.3%	32.6%	32.6%	46
More Important: Employment Potential or a Place?												120
<i>Emp Potential</i>	14.5%	16.1%	45.2%	16.1%	19.4%	27.4%	93.5%	17.7%	19.4%	17.7%	29.0%	62
<i>A Place</i>	17.2%	17.2%	65.5%	24.1%	31.0%	43.1%	81.0%	39.7%	24.1%	32.8%	37.9%	58
Total	15.0%	15.7%	55.1%	19.7%	24.4%	33.1%	85.8%	27.6%	21.3%	26.0%	33.9%	127
*See list below for the factor represented by each number												
1. Active Nightlife 2. More arts/cultural amenities 3. A "significant other" 4. Lifestyle 5. More urban environment 6. Housing affordability						7. Employment Opportunities 8. Recreation Opportunities 9. Sense of community 10. Family friendly setting 11. School quality						

Not surprisingly, employment opportunities were by far the most important to all groups. Even those who indicated a preference for living in a particular place over employment guarantees clearly find it important, as 81% list it as an attraction factor. Without having a job, it is clearly impossible to enjoy a number of the other activities listed as factors. And aside from those who are looking for a rural lifestyle following graduation (likely due to a small sample size there), the presence of a “significant other” poses as the second biggest factor for attracting the next generation of young professionals to Champaign-Urbana.

However, aside from these two most obvious factors, where do the others lie? Overall, the most important factors after these were school quality and housing affordability. Whether the former is interpreted as being referring to the quality of a university where they may seek a graduate degree, or the quality of the schooling for children, it cannot be fully deduced, as there is little variability in this factor across all eight subgroups. It’s more of the same for the second factor, except for those looking for a specific place to live, as having arts and cultural amenities are key to “place-making.”

Recreation opportunities were the third most important overall, but there was a high amount of variability within certain groups. Those looking for a specific place to live, as well as for respondents who desire to live in urban and outer suburban environments, found this to be significantly more important than among other groups. For example, those looking for a specific place to live see the opportunity for play of any kind as critical to their quality of life. However, among the urban and outer suburban groups, what is defined as “recreation” likely varies significantly across both groups. To urbanites, this likely refers to a desire for appropriately placed parks within dense neighborhoods that provide the opportunity to participate in a wide variety of sports. However, in the “outer suburban” context, this may reflect a need for (a) better walkability within the subdivisions or (b) a greater provision of bicycle paths.

For the next factor in line, a “family-friendly” setting, there is significant variability. Those looking for a specific place in which to reside in inner suburbia are most likely desiring something with a low crime rate unlike many urban areas, and with a reasonable amount of walkability unlike almost the entirety of outer suburbia, in order that they do not become unofficial chauffeurs for their children. Graduate students seek this more simply because they are older and more likely to be entering their child-rearing years.

The fifth most important factor is the desire for an urban environment. This is virtually equal between both grad students and undergrads, though a preference for those looking for a specific place to live exists. The ratings for the other four subgroups are quite self-explanatory.

Finally, the last of these groups which was an important factor to at least 20 percent of respondents was the sense of community. The groups to which these seem to be most important to are graduate students and those seeking to live in the outer suburbs. However, based on the short list of responses in the comment box, it is impossible to determine what sense of community means to these groups.

One of these could mean self-segregation into neighborhoods with like-minded individuals, but that is something that could be easily said for almost all groups.

The three least important factors overall were active nightlife, arts/culture, and “lifestyle,” all desired by less than 20 percent of respondents. The subgroup to which these were least important were to the future outer suburbanites, but were of about equal importance to those desiring either an urban or inner suburban lifestyle. It is very likely that the inner suburbanites are looking for the most desirable characteristics of the urban and general suburban lifestyles in the places where they may consider living. The only two demographics in which these show any significant difference are graduate and undergrad students, the former who desire more arts and cultural amenities as well as a specific lifestyle. Meanwhile, the undergraduates prefer more active nightlife; however, even among these groups, only approximately 20 percent indicated those as important factors.

Transportation Preferences – Questions 11 through 17⁵

For a survey report such as this, it may seem that discussing what future young professionals desire out of the transportation options is not fully relevant. However, the purpose of the following section is not to look at transportation preferences in isolation, but rather in relation to the environment future U of I graduates desire, to determine if one’s transportation preferences are compatible with the type of built environment in which they desire to live. These are two factors that can never be viewed in isolation.

- Transit Usage

Transit usage by respondents varied significantly between the town/city in which they grew up and usage in Champaign-Urbana. Usage is rather frequent among students when they are in C-U, yet rather miniscule among all groups when at home, regardless of any desire to live in an urban place. This is not surprising since 73.6% of respondents claimed residence in one of the region’s core neighborhoods, yet only 13.2% of the overall total actually grew up in a similarly urban neighborhood. That trend is shown below in Table 1-20:

Table 1-20							
Transit Usage - At Home and in C-U							
Variable	Sex			Future Desired Environment			
	All	Males	Females	Urban	Inner Suburban	Outer Suburban	Rural
MTD Usage - Days/Week							
5 to 7	21.2%	26.6%	15.4%	26.5%	20.5%	7.7%	8.3%
3 to 4	20.5%	18.8%	23.1%	17.6%	28.2%	15.4%	16.7%
1 to 2	12.1%	12.5%	12.3%	10.3%	17.9%	7.7%	8.3%
Less than 1	23.5%	18.8%	26.2%	29.4%	12.8%	23.1%	25.0%
Never	22.7%	23.4%	23.1%	16.2%	20.5%	46.2%	41.7%
Hometown Transit Usage - Days/Week							
5 to 7	1.5%	3.1%	0.0%	2.9%	0.0%	0.0%	0.0%
3 to 4	5.3%	7.8%	3.1%	8.8%	2.6%	0.0%	0.0%
1 to 2	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Less than 1	8.3%	12.5%	3.1%	8.8%	10.3%	7.7%	0.0%
Never, but exists	48.5%	46.9%	49.2%	51.5%	53.8%	46.2%	16.7%
Doesn't Exist	25.8%	23.4%	29.2%	19.1%	20.5%	38.5%	66.7%
Not Applicable	10.6%	6.3%	15.4%	8.8%	12.5%	7.7%	16.7%
Total	132	64	65	64	39	13	12

Among all respondents, there is an almost even split between levels of transit usage here in Champaign-Urbana, with nearly as many students using it at rather frequent levels as well as those who use it little or at all. Nearly 78 percent utilize MTD services while in this area yet only about 15 percent use an equivalent service in their hometowns, regardless of whether or not it exists. Across all but one of the demographics listed above, half of students do not utilize any such service when at home despite the fact it exists where they are from.

Among those who wish to live at various locations along the urban-rural transect, independent of where they are from, those who show an interest in more urban style environments (either urban or inner suburban) use transit more often than those seeking a life in much less urban environments such as outer suburbia and rural areas. When comparing those who wish to live in urban areas to those more comfortable with inner suburbia, the former use MTD service five or more days per week at a greater frequency than the latter group, yet this is completely reversed for those who use it at least three days a week. By comparison, approximately two-thirds of those desiring the two least urban environments rarely, if ever, ride the bus.

When taking that same criteria and applying it to students' transit usage in their hometowns, the results are more or less the same. Only one of the 25 respondents who expresses a desire for an outer suburban or rural lifestyle ever uses his or her hometown's transit service. Although by comparison to MTD usage it is very low, 20.5% of those interested in urban living and 12.9% of those interested in inner suburban living used transit in their hometowns.

When comparing by sex, usage of MTD services is actually quite close, as 45.4% of males and 38.5% of females use it at least 3 days a week. However, that similarity falls apart in their respective hometowns, where 23.4% of males use transit at least occasionally, compared to only 6.2% of females.

- Deterrents to Transit Use

Historically transit usage has lost out to the automobile for a wide variety of reasons, ranging from the convenience, speed, the changing nature of the built environment, and the overall loss of vibrant public spaces. Table 1-21 on the following page explores which factors impact potential student transit users the most in not utilizing the services.

Not surprisingly, across the board (except among those looking for a rural environment), the number one deterrent was the relative speed of automobiles to transit; in nearly all situations in nearly every place, it's just faster to drive. This was at the highest among those looking for an outer suburban environment, as the nature of such an existence makes the utility of transit virtually nonexistent.

Deterrents	All	Sex		Future Desired Environment				C-U Location	
		Males	Females	Urban	Inner Suburban	Outer Suburban	Rural	Core** Neighborhoods	Other
<i>Uninviting waiting areas</i>	3.27	3.17	3.35	3.02	3.83	3.00	3.10	3.36	2.96
<i>Lack of frequency</i>	4.98	5.02	4.96	5.06	4.81	5.10	4.91	4.97	5.03
<i>Faster to drive</i>	5.50	5.19	5.79	5.51	5.50	6.50	4.50	5.45	5.66
<i>Discomfort w/ strangers</i>	2.83	2.88	2.80	2.59	2.67	4.00	3.56	2.73	3.15
<i>Physical discomfort on board</i>	2.82	2.95	2.67	2.52	2.94	2.82	4.20	2.79	2.89
<i>Lack of direct routings</i>	4.68	4.61	4.75	4.89	4.62	4.50	3.80	4.78	4.31
<i>Doesn't go where I need it</i>	4.24	4.38	4.05	4.40	4.11	3.82	4.10	4.27	4.11
Total	127	63	62	66	37	13	11	101	31

*Participants were asked to rank the listed reasons in terms of how they deter transit usage, from 1 to 7. The higher the points given, the greater said reason acts as a deterrent.

**See Table 1-13 for a definition of the core neighborhoods.

The next most important deterrent across the board is lack of frequency. Given that all but one community route runs at frequencies of 30 minutes (and that in many other places in Illinois, they run at only hourly frequencies), one must plan as to when they are going to go catch the bus, rather than just walk to the stop and wait for it; at least 15-minute frequencies are required to induce such behavior. Like the relative speed of automobiles to transit, it is the other of the two factors that deter transit usage most significantly among all subgroups.

The lack of direct routings is a deterrent that in the Champaign-Urbana scenario, despite its greater significance to those both seeking or currently living in more urban environments, is something that cannot be fixed due to the nature of most residential neighborhoods outside commercial hubs. Community routes (except the 5/50 Green) run every half-hour because that is the highest frequency that most residential neighborhoods in Champaign-Urbana can support due to existing densities. This greater impact on the more urbanized residents seems logical; those who live in neighborhoods where it exists have greater knowledge on where routes go in comparison to those that live or want to live at less central locations. This is a similar phenomenon among those who indicated that routes don't serve the places they need to go.

The three deterrents which had the least impact are related to perceived and real levels of safety and comfort. The level of discomfort among strangers scored below three among all groups except three; those living outside core neighborhoods, and those wanting to live

in an outer suburban or rural environment. These are groups of people that have a preference to keep to themselves and therefore should not be seen as part of a potential transit market. Physical discomfort scored over three points among only one subgroup (those desiring a rural lifestyle). Uninviting waiting areas, while not significant for any subgroup, impacted three groups the most; females, those looking for an inner suburban lifestyle, and those in the core neighborhoods. For those categories related to the built environment, those seeking a very urban lifestyle may not be deterred by such stops, but those who indicate a preference for the inner suburban lifestyle have some reservations; this is a group that understands what these stops look like, whereas those who prefer the outer suburban or rural lifestyle may have never experienced this deterrent. If one doesn't understand what many bus stops look like, it simply can't impact ones use of transit.

- Driving Habits

Table 1-22 summarizes the driving habits of students both when they return home as well as by the environment in which they hope to inhabit in the future:

Table 1-22									
Driving Habits in One's Hometown									
Frequency in Days/Week	Built Environment of Origin					Future Desired Environment			
	All	Urban	Inner Suburban	Outer Suburban	Rural	Urban	Inner Suburban	Outer Suburban	Rural
<i>5 to 7</i>	59.2%	41.2%	53.2%	68.8%	78.9%	62.7%	50.0%	53.8%	75.0%
<i>3 to 4</i>	21.5%	29.4%	27.4%	18.8%	0.0%	17.9%	28.9%	38.5%	0.0%
<i>1 to 2</i>	7.7%	5.9%	12.9%	3.1%	0.0%	6.0%	13.2%	7.7%	0.0%
<i>Less than 1</i>	2.3%	5.9%	3.2%	0.0%	0.0%	3.0%	0.0%	0.0%	8.3%
<i>Never, though I still return</i>	2.3%	11.8%	0.0%	0.0%	5.3%	4.5%	0.0%	0.0%	0.0%
<i>I never return</i>	0.8%	0.0%	0.0%	0.0%	5.3%	0.0%	0.0%	0.0%	8.3%
<i>Not Applicable</i>	6.2%	5.9%	3.2%	9.4%	10.5%	6.0%	7.9%	0.0%	8.3%
Total	130	17	62	32	19	67	38	13	12

By looking at the nature of one's hometown, driving habits are rather typical. Those who grew up in urban environments reported the least amount of driving, and this increased by each group along the urban-rural transect to fully rural areas, where nearly 80 percent of those originating in such an environment drove five or more days per week while at home, compared to just over half that for those from urban areas.

Meanwhile, those students who indicated a desire for urban living actually drove more than their future inner suburban counterparts, likely due to the reaction against outer suburbia by those who grew up there; as indicated in Table 1-10, 56.3% of those from the outer suburbs desired an urban environment. Meanwhile over 90 percent of those from inner suburban environment either wanted to remain in place or move to a more urban place, and there is a near-even split between these groups. Meanwhile, most of those who want to live in an outer suburban environment grew up in such an environment, so not surprisingly driving habits are very high among that group.

Table 1-23 below summarizes driving habits by students when they are on campus or at least somewhere in Champaign-Urbana:

Table 1-23							
Students' Driving Habits in Champaign-Urbana							
Frequency in Days/Week	Champaign-Urbana Location			Future Desired Environment			
	All	Core* Neighborhoods	Other Areas	Urban	Inner Suburban	Outer Suburban	Rural
<i>5 to 7</i>	24.0%	20.6%	34.3%	17.9%	23.7%	50.0%	33.3%
<i>3 to 4</i>	21.7%	21.6%	21.9%	19.4%	26.2%	25.0%	16.7%
<i>1 to 2</i>	30.2%	30.9%	28.1%	32.8%	31.6%	8.3%	33.3%
<i>Less than 1</i>	12.4%	12.4%	12.5%	16.4%	7.9%	8.3%	8.3%
<i>Never</i>	11.6%	14.4%	3.1%	13.4%	10.5%	8.3%	8.3%
Total	129	97	32	67	38	12	12
**See Table 1-13 for a definition of the core neighborhoods.							

Not surprisingly, driving habits increase for those who both currently live in as well for those who want to live in more urban environments. While these two factors are interrelated, they are not devoid of exclusivity. The one exception appears to be that for future rural residents, who drive less than their future outer suburban counterparts; however, this may be a function of the fact that two-thirds of those students who want to live in a rural environment grew up in one. While leaving most small towns/villages is nearly impossible without an automobile, the character of these towns may be such that as independent entities, many can be quite walkable.

- Walking and Bicycling

Table 1-24 below compares one’s willingness to walk or bicycle within a matrix, as seen below:

Table 1-24						
Students' Willingness to Walk and Bicycle						
Length of Time Willing to Bicycle*	Length of Time Willing to Walk*					Total
	Up to 5 minutes	Up to 10 minutes	Up to 15 minutes	More than 15 minutes	Only Walks in Absence of Parking	
Up to 5 minutes	0.78%	0.78%	0.00%	0.00%	0.00%	1.55%
Up to 10 minutes	0.00%	6.98%	5.43%	1.55%	0.78%	14.73%
Up to 15 minutes	0.00%	3.10%	10.08%	4.65%	0.00%	17.83%
More than 15 minutes	0.78%	3.88%	11.63%	15.50%	0.78%	32.56%
Non-bicycle owner	1.55%	7.75%	12.40%	8.53%	3.10%	33.33%
Total	3.10%	22.48%	39.53%	30.23%	4.65%	129
*Willingness assumed an automobile is available for both walking & bicycling.						

Almost 70 percent of student respondents here display a willingness to walk at least 10 minutes to get to a destination; exceeding the total of respondents who indicated that they actually owned a bicycle. Many of those who own bicycles are willing to walk as well as bike a similar length of time in order to arrive at a destination. Only 7.75% display little willingness to walk at all, and of those very few own a bicycle. Nearly 42 percent of respondents indicated a willingness to both walk and bike to a destination at least 10 minutes, and this increases to 62.79% when said threshold is lowered to five minutes.

To better understand the above table, average speeds given for walking and bicycling are respectively three miles/hour and ten miles/hour. In a five-minute period, one moving at these speeds would walk ¼ mile and bicycle four-fifths of a mile.

Table 1-25 below shows the correlation of walking and bicycling with high amounts of transit usage:

Table 1-25						
Students' Willingness to Walk and Bicycle						
Length of Time	Rate of MTD Transit Usage					Total
	Never	Less than 1 day/week	1-2 days/week	3-4 days/week	5+ days/week	
Willingness to Walk						129
<i>Up to 5 minutes</i>	0.00%	0.00%	0.00%	0.00%	3.10%	3.10%
<i>Up to 10 minutes</i>	5.43%	3.88%	3.88%	3.88%	5.43%	22.48%
<i>Up to 15 minutes</i>	6.98%	12.40%	4.65%	7.75%	7.75%	39.53%
<i>More than 15 minutes</i>	9.30%	6.98%	3.10%	6.98%	3.88%	30.23%
<i>Only if there's no parking</i>	1.55%	0.00%	0.78%	1.55%	0.78%	4.65%
Willingness to Bicycle						130
<i>Up to 5 minutes</i>	0.00%	0.00%	0.77%	0.00%	0.77%	1.54%
<i>Up to 10 minutes</i>	3.85%	6.15%	0.00%	2.31%	1.54%	14.62%
<i>Up to 15 minutes</i>	5.38%	3.85%	1.54%	3.85%	3.08%	17.69%
<i>More than 15 minutes</i>	7.69%	7.69%	5.38%	6.92%	5.38%	33.08%
<i>Don't Own a Bicycle</i>	6.15%	5.38%	4.62%	7.69%	9.23%	33.08%

Among those willing to walk a variety of distances, a very large proportion show willingness to walk at least 10 minutes to get somewhere. It is many of these people that are among the most frequent users of transit, yet for many it is the exact opposite. Over 35 percent of respondents indicate a willingness to walk at least 10 minutes to reach a destination, and yet almost never ride the bus. For those who ride regularly (at least 3 days per week) and are still willing to walk at least 10 minutes, that same number is only 26 percent. In some cases, the willingness to walk long distances negates the need to use transit.

However, the biggest indicator of those who use transit frequently (at least 3 days/week) appears to be those who do not ride a bicycle, and therefore need the bus as a means to get around quickly, accounting for nearly 17 percent of all respondents. By comparison, nearly half of those who will bicycle over 15 minutes to get to a destination rarely use transit, accounting for 15 percent of all respondents.

Final Questions – Questions 24 through 28⁶

In order that Champaign-Urbana play its role both nationally and globally in reducing the negative impacts of sprawl, it is critical to understand not only what the next generation of young urban professionals desire out of their lives, but also what in their eyes makes our region attractive, as well as what makes it unattractive. What comes as part of that is the understanding of employment opportunities that are critical towards keeping a young, highly educated, professional population in town and thereby circumventing a seemingly inevitable “brain drain.”

- What Makes Champaign-Urbana Attractive to Future Young Professionals?

By far the two most important attributes of the C-U region that the students find attractive is the University, both in terms of its academic quality and the lifestyle it provides. However, the presence of the university, while it has important implications for planning, is not an entity which is subject to control of municipal and county planners. The concentration of students in the Campustown area can certainly act as a deterrent to people who just two years previously were attracted by it.

However, there are a number of things that many students found attractive that both cities as well as the University should collaborate to help build on. For example, many respondents commented that the nightlife, both on campus and within downtown Champaign, is something that is well liked. Because downtown Champaign is an area devoid of younger undergraduates due to the age restrictions on bars there (one must be 21 to enter), redeveloping underutilized properties, such as areas located immediately east and southeast of downtown (e.g. the west end of White Street corridor), concentrating new urban-style housing stock in that area could be a boon to the local economy.

Another favored aspect of the region is the amount of activity present despite the region’s small size. Continued attraction of employment to places such as downtown Champaign can help induce economies of scale to help attract more and more amenities to the region. One respondent from just outside the region, for example, appreciated having urban-style living so close to home. And while this wasn’t mentioned by any of the survey respondents, it is critical for the region to capitalize on its small size, yet potential for urban living to create an affordable place where people can live, work, and play, all within the same neighborhood. At the very worst, one’s job need not be more than 20 minutes away. With this region playing a key role as a crossroads between three major cities, (Chicago, St. Louis, and Indianapolis), our location is something that can be capitalized upon.

The efficient transit system provided by the Champaign-Urbana Mass Transit District (CUMTD) is another thing well-liked by students looking for an urban environment in their future. While many riders do not like the indirect routings, the size of the area

ensures that almost no one will need to deal with a very long commute by bus. This makes the nodal connections offered by the MTD workable.

A few other respondents lauded the region's bicycle friendly character.

- What Makes Champaign-Urbana Unattractive to Future Young Professionals?

There are a number of attributes of Champaign-Urbana, while in many ways attractive to the students that currently attend the University of Illinois, has many unattractive characteristics as well, many of which are beyond the scope of planning efforts.

The two of these which were most apparent were a perceived isolation from major urban centers, as well as the weather extremes that are prevalent throughout the Midwest. However, marketing the area to both employers as well as young professionals should emphasize the proximity to the three major urban areas located within a three-hour drive. It is taking this perspective of isolation and twisting it inside-out.

Among the other things that many students view negatively about the region is the utter lack of diversion available outside nightlife opportunities. Arts and cultural amenities, as well as college sports, remain virtually all that there is to do outside of the nightlife found in both downtown Champaign as well as Campustown. Cultural amenities such as the Krannert Art Museum, the Krannert Center, and the Spurlock Museum, are found on the campus itself, and are somewhat isolated from the densest neighborhoods in the urban core. Much more synergy should exist here between culture and urbanity.

Attraction of a minor league sports team, particularly a minor league baseball team, could be key to increasing entertainment options during a time of year when much of the transient population is gone. This would be a potential way to fill the sports entertainment void left when both college basketball and college football are both in their offseason from April to August.

Many students find the spread out nature of the region to be unappealing. Aside from the downtowns and the Campustown area, Champaign-Urbana would be best described as being a very large suburb. Because the present development trends favor sprawl, the potential attractiveness of the region to professionals may be minimal at best given present conditions.

- Employment and Champaign-Urbana – What Types of Employers Should We Attract to the Region?

Out of a total of 127 respondents, 68.3% percent of survey respondents indicated that they would be willing to settle in the Champaign-Urbana area were the right job offer to come along. However, among those who desired an urban environment in which

to live, that ratio is much lower, at 56.1% out of 66 respondents. This section will look at two things: what are the professional fields that those who are willing to consider C-U pursuing, and specifically, what are those being pursued by those who both have expressed a willingness to stay here as well as live in urban environment. This data is summarized in Table 1-26 below.

Of the respondents who chose to answer the question on whether they were willing to remain in the region, approximately two-thirds (83 of 122) said they would. However, when considering those who both indicated a willingness to stay in Champaign-Urbana as well as were looking for an urban environment, that number was cut by more than half, to just under 30 percent (35 of 122). However, between both groups, the distribution of desired professions remains markedly the same. The biggest difference between the groups was among those looking to enter the healthcare profession, at a little over five percent.

Table 1-26		
Future Professional Fields by Locational and Urban Desires		
Professional Field	Group	
	1	2
<i>Academia/Grad School</i>	21.69%	22.86%
<i>Engineering</i>	18.07%	22.86%
<i>Business</i>	13.25%	11.43%
<i>Social Work</i>	2.41%	2.86%
<i>Education</i>	8.43%	5.71%
<i>Healthcare</i>	10.84%	5.71%
<i>Media</i>	4.82%	5.71%
<i>Environmental</i>	3.61%	5.71%
<i>Design</i>	3.61%	2.86%
<i>Other</i>	13.25%	14.29%
Total	83	35
Group 1: Those willing to remain in C-U for employment.		
Group 2: Those who meet the criteria for Group 1 and desire urbanity.		

So as a result of the above data, it is reasonably safe to assume that the present market of University graduates that should be considered as potential employees within the region is somewhere between one-quarter and one-third.

- A Place to Live or a Place to Get a Job?

Among all survey respondents, there was an even split (out of 128) between those whose number one priority is attaining employment, and those who wanted to live in one of any number of specific places. However, among those who are seeking an urban environment and are willing to stay in the area for employment, approximately 68 percent are looking for simply that, employment. A similar ratio, at about 63 percent, exists for those willing to stay in the area for employment, regardless of the built environment they desire.

Conclusion

So what does this all mean? Clearly there are a number of employment fields that stand to benefit greatly from locating here, particularly from within the fields of business and engineering. With the University of Illinois' engineering program being ranked 6th in the country (according to U.S. News and World Report)⁷, as well as the recent major investments into the business school, including the opening of their new instructional facility,⁸ the knowledge that has the potential to be passed between academia and the professional world need no longer be limited to the classroom. There is definite potential for year-round collaboration, with the quality of knowledge being exchanged rivaling larger regions.

The areas targeted for infill inhabited by young professionals by and large should remain distinct from those inhabited by students, and be located nearer to the downtowns than to campus. This allows separation of the newest young professionals from areas inhabited by younger undergraduates. Any densification does not require that these groups co-exist side-by side.

¹ The following abbreviations stand for these University of Illinois colleges and divisions:

ACES: College of Agricultural, Consumer, and Environmental Sciences

CBA: College of Business Administration

EDU: College of Education

ENG: College of Engineering

FAA: College of Fine and Applied Arts

CMC: College of Medicine – Champaign

LAS: College of Liberal Arts and Sciences

LAW: College of Law

DGS: Division of General Studies

AHS: College of Applied Health Sciences

VETMED: College of Veterinary Medicine

AVI: School of Aviation

ILIR: Institute of Labor and Industrial Relations

SOC WK: School of Social Work

GLIS: Graduate School of Library & Information Science

² See Appendix for actual survey questions

³ Salary Survey, American Planning Association. Obtained 12/8/2008 from: <http://www.planning.org/salary/tables/table1.htm>

⁴ See Appendix for actual survey questions

⁵ See Appendix for actual survey questions

⁶ See Appendix for actual survey questions

⁷ Best Undergraduate Engineering Programs: Obtained 12/11/2008 from: <http://colleges.usnews.rankingsandreviews.com/college/spec-doct-engineering>

⁸ Illinois Business Instructional Facility: Obtained 12/11/2008 from: <http://www.mba.uiuc.edu/NR/rdonlyres/8929E951-054D-423D-95DB-6D14D4FAB266/0/BIFforweb.pdf>

Chapter 2: Why Build Densely Around Transit?

The questions that always surround planning for density among lay citizens almost always come back to one single point: where is everybody going to park? The costs to developers for creating high density development has been extreme due to the fact that traffic studies do not typically account for the decrease in the private automobile's share of overall trips. Thus, it is typically cheaper for the private sector to build developments containing the same number of units and commercial floor space on a much larger piece of land.

Transit Usage & Efficiency in Mid Sized University Towns: A Comparison

In this section the relationship between transit efficiency and population density will be explored. The Champaign-Urbana, IL Urbanized Area will be compared with eleven of what are defined as "Peer Regions." As outlined on page 12 of the boarding and alighting profile,¹ these regions have two things in common; they are mid-sized urban MSAs which as of the 2000 Decennial Census contained between 120,000 and 285,000 residents and had a total of over 35,000 students enrolled at the largest university.

However, for the purposes of looking at density, density will be evaluated at the year 2000 Urbanized Area (UA) level rather than the equivalent year MSA level. The reason for this is simple. The MSAs, always defined as one county or a series of adjacent counties, contain significant amounts of land that would be classified as rural. The Urbanized Area, as defined by the US Census Bureau, "comprises one or more places and the adjacent densely settled surrounding territory that together have a minimum of 50,000 persons."² Urbanized Areas contain entirely contiguous territory settled at a density of at least 1,000 persons per square mile, or 1.6 persons per acre. Therefore, the Urbanized Area corresponds much better with the total area that is feasible for transit service.

There are a total of 11 Urbanized Areas at which I will look in this preliminary analysis, listed in Table 2-1. The locations from which I obtained this list come from three sources: the "Model Regions" and "Peer Regions" as listed on pages 43-44 of the Mobility Enhanced Development (MED) report,³ the Boarding and Alighting profile,⁴ and the list of urban areas on the Small Transit Intensive

¹ Working Paper, Boarding & Alighting Profile, miPLAN, obtained 10/14/2008 from:

<http://www.ihavemiplan.com/shared/pdfs/Working%20Paper-%20Boarding%20And%20Alighting%20Profile.%206-07.pdf>

² U.S Census Bureau, Urban & Rural Definitions, obtained 10/14//2008 from: <http://www.census.gov/population/censusdata/urdef.txt>

³ Mobility Enhanced Development Report, miPLAN, obtained 10/16/2008 from:

<http://ihavemiplan.com/shared/pdfs/Mobility%20Enhancing%20Development%20Report%207-07.pdf>

Cities (STIC) Fiscal Year 2008 Performance Data.⁵ All UAs on these lists that were retained are characterized by the following factors:

1. Urbanized Area population under 300,000, 2000 U.S. Census
2. Transit system (or group) that is/are nearly exclusive to the UA
3. A major university with at least 25,000 student enrollment, combined graduate and undergraduate.

Table 2-1					
Comparison of Transit System Performance in Eleven Mid-Sized Urban Areas with Major Universities					
Urbanized Area (UA)	Total UA Population	Population Density per Acre	Total Unlinked Trips per Revenue Hour 2005 - 2007	Major University (25,000 Students +)	Total University Enrollment (Fall 2007)
State College, PA	71,301	5.213	56.5	Penn State University	43,252
Davis, CA	66,022	7.563	46.4	University of California-Davis	29,796
Champaign, IL	123,938	4.709	44.8	University of Illinois	42,326
Bloomington, IN	92,456	3.361	38.1	Indiana University	38,990
Ann Arbor, MI	283,904	4.323	38.0	University of Michigan	41,042
Lafayette, IN	125,738	3.592	37.9	Purdue University	40,534
Gainesville, FL	159,508	3.168	35.5	University of Florida	51,725
Tallahassee, FL	204,260	2.713	30.6	Florida State University	40,555
Lubbock, TX	202,225	4.236	29.7	Texas Tech University	30,876
Fort Collins, CO	206,633	3.705	24.2	Colorado State University	27,569
Bryan, TX	132,500	4.196	17.2	Texas A&M University	44,435
Sources: U.S. Census Bureau, 2000; National Center for Education Statistics (http://nces.ed.gov/globallocator), 2008; and National Transit Database (http://www.ntdprogram.gov)					

⁴ Ibid. 1

⁵ FY 2008 Small Transit Intensive Cities Performance Data, obtained 10/16/2008 from: <http://www.cumtd.com/aboutmtd/PublicDocuments.aspx>

Not surprisingly, the three transit systems showing the greatest efficiency operate in the three densest of these mid-sized urban areas; Davis, State College, and Champaign-Urbana.⁶ The first two, Davis and State College, benefit not only from being dense, but also the smallest in population of any of these areas, as the travel times are going to be quite small even if a transit trip is not direct. Those two urban areas are respectively, 13.4 and 21.6 square miles in size, and approximately 7 and 8 miles across at their widest points. Given the star-shaped nature of the State College area, the service provided by the Centre Area Transit Authority (CATA) is in a hub and spoke pattern⁷, with the hub being downtown State College and the Penn State campus. The nature of this corridor type of development helps concentrate population near transit without having to provide a large number of routes. Davis similarly benefits from having an elongated urban area, which as in State College helps to concentrate transit service geographically.⁸ However, an urban form like this is simply not possible without densification in the first place.

On the other hand, there is significant variability among the remaining urbanized areas, though even with it there is some consistency. Two of the three transit systems with the lowest ridership efficiency (unlinked trips/revenue hour) are located in Texas, a state with a clear anti-transit bias that shows in 2000 Census Data. While in the US, the percent of workers commuting by means other than automobile in 2000 was an already low 12.1%, in both Texas as a whole as well as the Urbanized Areas of both Lubbock and College Station-Bryan they were even lower. Respectively, these figures were 7.8%, 6.5%, and 10.9%.⁹ Each UA and its proportion of non-auto commutes, as well as their population densities, ratio of student enrollment to UA population, and the proportion of commutes done directly via transit, can be found in Table 2-2.

A better indicator of how density influences transit usage can be found in the proportion of commuters that regularly used public transit in 2000. The four densest UAs (Davis, State College, Champaign, and Ann Arbor), the only four containing populations of over 4.3 persons per acre, also were the only areas that had a proportion greater than 3.5% of residents using transit regularly in their commute. While State College, Champaign, and Ann Arbor showed a high correlation between increasing densities and increased transit use, Davis, by far the densest of all 11 UAs, ranked 3rd. However, due to bicycle-friendly policies,¹⁰ a whopping 15.1% of commutes in 2000¹¹ were done via bicycle in Davis. By comparison, the UA with the second highest percentage of commutes by

⁶ National Transit Database, obtained 10/16/2008 from: <http://www.ntdprogram.gov>

⁷ CATA system map, obtained 10/17/2008 from: <http://www.catabus.com/centreline/systemmap/sysmap.htm>

⁸ UniTrans system Map, obtained 10/17/2008 from: <http://unitrans.ucdavis.edu/files/2008-2009-Route-Map.pdf>

⁹ U.S. Census Bureau, 2000, American Factfinder, Summary File 3, obtained 10/17/2008 from:

http://factfinder.census.gov/servlet/DatasetMainPageServlet?_program=DEC&_submenuId=datasets_1&_lang=en&_ts=

¹⁰ First Platinum-level Bicycle Friendly Community Recognized, obtained 10/18/2008 from: <http://www.bicyclefriendlycommunity.org/October2005awards.htm>

¹¹ Ibid. 9

bicycle among the whole group is Gainesville, at a comparatively miniscule 3.7%. Among the four densest communities, the one with the second highest bicycle commuting rate for 2000 was Champaign-Urbana at an even smaller 2.5%. Therefore, it is safe to assume that transit loses a significant proportion of its modal share in Davis due to the popularity of bicycling.

Table 2-2				
Comparison of Density and Transportation Choice by Urbanized Area				
Urbanized Area (UA)	Pop Density/Acre	Student Enrollment as Percentage of 2000 UA Population	% Non-Auto Commutes	% Public Transit Commutes
State College, PA	5.213	60.66%	35.2%	7.16%
Champaign, IL	4.709	34.15%	24.9%	6.78%
Davis, CA	7.563	45.13%	31.7%	6.61%
Ann Arbor, MI	4.323	14.46%	16.4%	3.62%
Gainesville, FL	3.168	32.43%	14.4%	3.24%
Bloomington, IN	3.361	42.17%	19.4%	2.34%
Tallahassee, FL	2.713	19.85%	7.7%	1.86%
Lafayette, IN	3.592	32.24%	13.8%	1.77%
Bryan, TX	4.196	33.54%	10.9%	1.11%
Lubbock, TX	4.236	15.27%	6.5%	1.05%
Fort Collins, CO	3.705	13.34%	11.5%	0.99%

Sources: U.S. Census Bureau, 2000; & National Center for Education Statistics, 2008
(<http://nces.ed.gov/globallocator>)

Looking Beyond Density and Towards All Alternate Transportation Forms

Looking at both Tables 2-1 and 2-2, it becomes clear that there is no one indicator that accounts for variation in transit ridership in any of these cities. Density without a doubt is a major determinant of transit ridership efficiency as well as the use of other alternate modes, but it is far from being its only determinant. Other factors in such urban areas include cultural attitudes towards alternate transportation modes, as well as the ratio of the total university enrollment to the area’s overall population. Table 2-3 below combines

all the variables found in 2-1 and 2-2, in order to look at not only how combinations of the three existing indicators influence transit ridership, but also how the various measures of transit ridership correlate with each other, as the data in tables 2-1 and 2-2 show that no one factor influences transit usage alone.

Ridership Impact Based on Combined Influence of Density, Students, & Region															
Urbanized Area (UA)	Total UA Population	US Census Division	Region Points	Pop Density /Acre	Density Rank	Student Population as % of UA Population*	Student Pop Rank	Total Pts	Overall Rank	Unlinked Trips/ Revenue Hr 2005-2007	Efficiency Rank	% Non-Auto Commutes	Alternate Modes Rank	% Public Transit Commutes	Transit Rank
State College, PA	71,301	Mid-Atlantic	1	5.21	2	60.66%	1	4	1	56.5	1	35.2%	1	7.16%	1
Davis, CA	66,022	Pacific	4	7.56	1	45.13%	2	7	2	46.4	2	31.7%	2	6.61%	3
Champaign, IL	123,938	EN Central	7	4.71	3	34.15%	4	14	3	44.8	3	24.9%	3	6.78%	2
Bloomington, IN	92,456	EN Central	7	3.36	9	42.17%	3	19	4	38.1	4	19.4%	4	2.34%	6
Ann Arbor, MI	283,904	EN Central	7	4.32	4	14.46%	10	21	5	38	5	16.4%	5	3.62%	4
Bryan, TX	132,500	WS Central	10	4.20	6	33.54%	5	21	6	17.2	11	10.9%	9	1.11%	9
Lafayette, IN	125,738	EN Central	7	3.59	8	32.24%	7	22	7	37.9	6	13.8%	7	1.77%	8
Lubbock, TX	202,225	WS Central	10	4.24	5	15.27%	9	24	8	29.7	9	6.5%	11	1.05%	10
Fort Collins, CO	206,633	Mountain	6	3.70	7	13.34%	11	24	9	24.2	10	11.5%	8	0.99%	11
Gainesville, FL	159,508	S. Atlantic	9	3.17	10	32.43%	6	25	10	35.5	7	14.4%	6	3.24%	5
Tallahassee, FL	204,260	S. Atlantic	9	2.71	11	19.85%	8	28	11	30.6	8	7.7%	10	1.86%	7

Sources: U.S. Census Bureau, 2000; & National Center for Education Statistics, 2008 (<http://nces.ed.gov/globallocator>); & U.S. Census Regions & Divisions Map: http://www.census.gov/geo/www/us_regdiv.pdf

*The ratio of the UA's largest university's Fall 2007 enrollment divided by the Urbanized Area's total population as of the 2000 Census. This does not imply that all students enrolled would necessarily be a part of the UA population.

To fully understand the above table, one must first understand the methodology behind the points system used in the table's left two-thirds. A total of three variables influencing the usage of transit and other alternate transportation forms were used, two of which were:

- a. The ranking of the UA population density, and;
- b. The ratio of student enrollment at the UA's largest university to the total UA population

These two variables were ranked 1 to 11 according to their rank among the 11 Urbanized Areas. The third variable was the Census Division¹² in which the UA is located, which were initially ranked 1-9. However, the lack of concurrence between the number of Census Divisions and Urbanized Areas used for the analysis required editing the points system pertaining to the Divisions. Since the percentage of workers aged 16 years or older commuted at an increased rate of nearly 10 percentage points¹³ (23.81% to 13.91%) in the Middle Atlantic Census Division¹⁴ than in the Pacific Census Division,¹⁵ the Census Divisions ranked 1-2 in the use of alternative forms of transportation in commutes. Therefore, urbanized areas located in Mid-Atlantic division were given a point total of 1, and those in the Pacific Division 4 points, on through in numerical order down to the East South Central Census Division¹⁶ at 11 points.

While the combination of density, Census Division, and the ratio of student population to urbanized area population appear to be significant variables in determining the popularity of transit and other alternate modes, it is clear that these influence both the efficiency of transit (measured in unlinked trips per revenue hour) as well as the percentage of urbanized area residents commuting via a transportation mode other than the automobile, particularly in the five cities that scored the lowest on the transit friendly points system. The impact on the percentage of commutes done via transit is much less clear; while the three lowest scoring cities also had the highest percentage of commuters using transit, there is no one-to-one match; for example, Champaign-Urbana ranked third overall in the points system, but second overall in the percentage of commuters that regularly use transit.

Conclusion

Ultimately, what the above shows is that while density does have a significant influence on transit ridership among other alternate forms of transportation, it is far from the only variable that influences its usage. Looking at the results of Table 2-3, the greater irregularity found among the rankings may be due to a disparity in the amount of funding public transportation receives in relation to what both the region and agency staff actually need. This may explain why in the Lafayette, IN Urbanized Area, where the efficiency is a reasonably high 37.9 unlinked trips per revenue hour, only 1.77% of workers actually commute to work via mass transit. In other places, such as Bryan-College Station, TX, the transit agency, the Brazos Transit District, provides transit frequencies at only hourly headways.¹⁷ This means that transit isn't a very attractive option despite the fact that the population density of Bryan-College Station

¹² US Census Regions and Divisions Map. Obtained 10/26/2008 from: http://www.census.gov/geo/www/us_regdiv.pdf

¹³ Ibid. 11.

¹⁴ The states in the Middle Atlantic Division are as follows: Pennsylvania, New Jersey, and New York.

¹⁵ The states in the Pacific Division are as follows: Alaska, Washington, Oregon, California, and Hawaii.

¹⁶ The states in the East South Central Division are as follows: Kentucky, Tennessee, Mississippi, and Alabama.

¹⁷ Brazos Transit District. Obtained 10/29/2008 from: <http://www.btd.org/>

is 4.20 persons/acre, a mere 0.51 persons per acre less dense than Champaign-Urbana. In addition, the agency's website is not very intuitive, as maps of individual routes are not even available; just the listings of the intersections at which the routes turn.¹⁸ Cultural biases aside, these likely explain the extremely low ridership efficiency of 17.2 trips per revenue hour, not necessarily just anti-transit attitudes in Texas.

In conclusion, there is little doubt that density has an impact on the use of transit and other alternative transportation options. However, to view it in isolation of other factors that promote their use would be highly erroneous, as clearly many factors can impact ridership in almost any city. In order to make transit work with density, it cannot be done at simply any frequency. While a distance of ¼ mile from a transit station has long been the standard by which transit oriented developments (TODs) are recommended to radiate outward from a station or stop, the transit service should be at least every 15 minutes if potential passengers want to walk to it without consulting a schedule.

In the Champaign-Urbana scenario, Mobility Enhanced Development (MED), a similar concept to TOD, must follow these requirements. In order to do this, dense development is necessary to give the supply that will satisfy high-capacity demand.

¹⁸ Ibid. 17.

Chapter 3 – Residential Area Conditions

Present conditions in both the White Street and Springfield Avenue corridors show a sizable majority of the land being in residential uses. Along the White Street corridor, there exists an extreme separation between residential and commercial uses. All parcels east of those fronting on First Street exclusively fall under the City of Champaign’s MF2, Medium Density Multifamily housing district. Only one of these parcels, located at 104 East White, contains a non-residential use, and is adjacent to existing commercial parcels fronting on First. It is at that point at which we can signify a commercial/residential split. While only 56.74% of land in the corridor is neither commercial nor zoned as such, this figure is this low due to the alley-to-street depth of parcels east of First Street. Many parcels west of First, particularly the Illinois Terminal and other nearly adjacent properties, go much deeper from the corridor than their residential counterparts.

Instead, it is important to look at the percentage of frontage each use type has along the length of the corridor. Using this definition, 64.05% of land directly fronting on the White Street corridor is in residential or directly related uses.

The Springfield Avenue corridor is much more complex, as residential uses are much less concentrated than the residential uses along White Street, with University uses existing west of Gregory Street, a recreation center at the northwest corner of McCullough and Springfield, as well as 6 small scale commercial uses and offices to the east of Gregory. Residential uses, similar to White Street, comprise 58.03% of the land acreage in the corridor, but unlike White, the residential land in the corridor falls under a wide variety of zoning uses that allow for residential. Including the nonresidential zones, these are as follows:

B2 – Neighborhood Business-Arterial	29.06%
B3U – General Business-University District	22.61%
R2 – Single Family Residential (Buena Vista Court)	5.64%
R4 – Medium Density Multifamily Residential	16.53%
R5 – Medium-High Density Multifamily Residential	26.16%

While not residential in name, the B2 and B3U districts do in fact allow for residential uses, maintaining a consistency between land use and zoning that is not at first glance too apparent. In the B2 zone, in fact, the use can be exclusively residential provided it does not take up more than 3,000 square feet;¹ the B3U district makes no such restriction, simply allowing for a vast number of uses.²

¹ City of Urbana - Neighborhood Business-Arterial Zoning District. Obtained 11/19/2008 from: http://www.ci.urbana.il.us/urbana/community_development/planning/zoning/B-2_District.pdf

² City of Urbana - General Business-University District. Obtained 11/19/2008 from:

White Street Conditions

- Existing Densities

For the purpose of looking at how density is distributed within the White Street Corridor, we chose to take a block-by-block perspective given that the variation within a block is too narrow a level to look at easily, while looking at the corridor generally would be insufficient given the variety of densities found at the block-by-block level. We have chosen to divide our residential areas into 13 blocks, based on where current or recent former residential use has been located. These correspond to portions of 13 separate Census Blocks based on the year 2000 Census.³ Listed below in Table 3-1 are the Census Blocks and the respective study area blocks which make up a portion of their area:

Table 3-1							
Matching White Street Blocks to 2000 Census Blocks							
City Block* Census Blk	0-99 ES 4015	100 EN 4008	100 ES 4011	200 EN 4009	200 ES 4010	300 EN 1004	300 ES 1111
City Block* Census Blk	400 EN 1005	400 ES 1010	500 EN 1006	500 ES 1009	600 EN 1007	600 ES 1008	
Source: US Census Bureau							
*As a example to explain, 100 ES contains all land in residential uses on the South side of the 100 block of East White Street.							

http://www.ci.urbana.il.us/urbana/community_development/planning/zoning/B-3U_District.pdf

³ All these Census Blocks are located within Census Tract 3 of Champaign County.

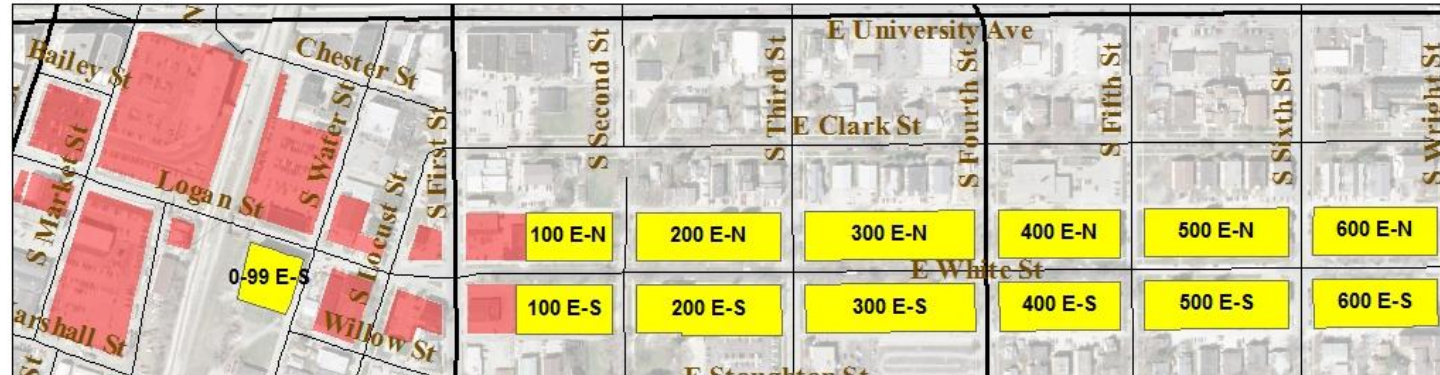
Image 3-1

Residential Net Densities by Block-White St Corridor

Net Density - Units Per Acre



Block Names



Legend

Residential Land Uses
 Other Land Uses
 Arterials
 Other Streets

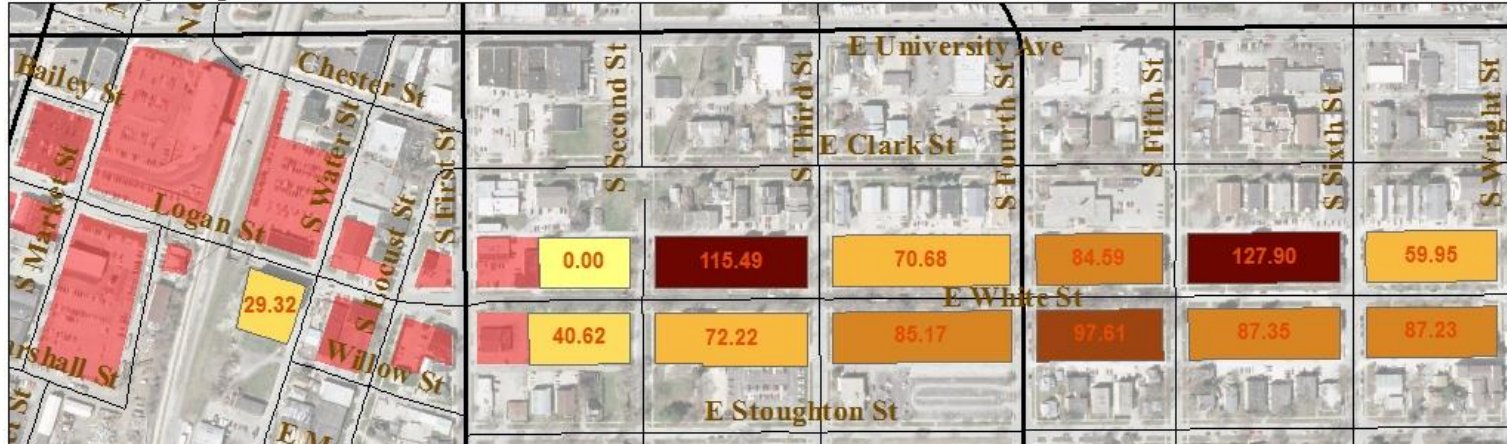
Prepared by: Brian Sheehan
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 Dept of Urban & Regional Planning
 Date: 11/07/2008



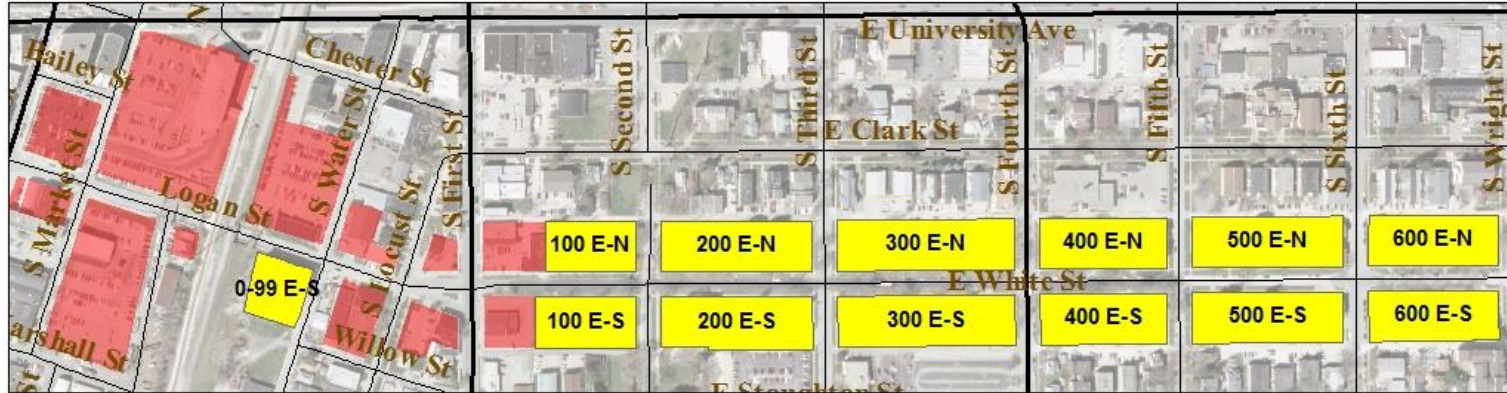
Image 3-2

Residential Net Densities by Block-White St Corridor

Net Density - Population Per Acre*



Block Names



Legend

- Residential Land Uses (Yellow)
- Other Land Uses (Red)
- Arterials (Thick Black Line)
- Other Streets (Thin Black Line)

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 Date: 11/07/2008

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 S
 Mi

*Determined by multiplying the units on each block by the average household size for the corresponding Census Block based on the 2000 US Census.

- Existing Housing & Population Densities

Existing net densities in the White Street Corridor are very high, yet vary significantly from block to block, even with the now vacant 100 E-N block cast as an outlier, as seen in Image 3-1. The average density including 100 E-N is a very high 48.12 units/acre, yet the range of densities on currently developed residential lands ranges from 7.33 units/acre (0-99 E-S, Water Street Apts.) to 83.88 units/acre, on the 500 E-N block. Within the residential core of the corridor, the lowest density is 30.85, at the 400 E-N block, directly adjacent to the densest block.

High Density Apartments (8+ Units):	66.73%
Medium Density Apartments: (3-7 Units)	8.75%
Duplexes	3.65%
Single Family – Renter Occupied:	9.77%
Vacant Residential/Surface Parking:	11.10%

Not surprisingly, this high density corridor is dominated by high density housing. No owner occupied units of any kind exist between the alleys to the north and south of White, although they do exist in a few isolated locations nearby, both in the commercial industrial area to the southwest of First and White, as well as the area immediately around the intersection of 3rd and Clark, just to the north of the corridor. Despite the high overall density of the corridor, a large portion (more than 10%) of the land not in rights-of-way is either vacant or in surface parking. Much of this is concentrated in and around the 100 and 200 blocks; the entire residential section of the 100 EN block is in vacant lots, and a large portion of the 200 ES block is a municipal parking lot.

However, the unit types, even within the high density apartments, vary significantly within the corridor, as both efficiencies as well as 3-4 bedroom apartments are quite common. Because little recent construction has occurred along White, save for the new Professional Property Management building at 301 S. 4th, it is likely that household sizes have changed little. In determining actual population totals, the number of units located within each study area block were multiplied by the average household sizes for the equivalent block (as seen in Table 3-1) used for the 2000 US Census. For the block in which Water St. Apartments exists, the household size was declared as 4, since no residential uses existed in Census Block 4015 in 2000, and is the number of bedrooms in each unit within that building.

Table 3-2			
Average Household Sizes in White Street Corridor by Block			
City Block	Units	Household Size US Census 2000*	Approximate Population
0-99 ES	4	4	16
100 EN	0	1.52	0
100 ES	27	1.22	33
200 EN	56	2.48	139
200 ES	77	1.18	91
300 EN	67	1.5	101
300 ES	93	1.3	121
400 EN	31	2.75	85
400 ES	52	1.9	99
500 EN	101	1.52	154
500 ES	61	1.74	106
600 EN	45	1.38	62
600 ES	55	1.63	90
Total	669	1.64	1097

*Refers to corresponding block as found in Table 3-1

Because average household sizes in 2000, as shown in Table 3-2, varied from 2.75 in 400 E-N (due to a comparatively high proportion of single family housing) to 1.18 at 200 E-S (Skelton Place), the distribution of net population density looks rather different from net unit densities. The two blocks with the highest net densities are the 200 E-N block (115.49 persons/acre) as well as the 500 E-N block (127.9 persons/acre). For the former, this is due to a high average household size (2.48) whereas for the latter, it is due to a high unit density combined with a moderately high average household size. The average household size for the entire corridor is 1.64, very small, particularly when compared to the 2.23 average for the C-U Urbanized Area.

Overall, the household density for the residential portions of the corridor is very high. The unit and population densities, discounting the portion that is planned to be turned over to the Champaign Park District in the Boneyard-2nd Street Detention plan, is summarized

below in Table 3-3, along with the respective numbers for Block Group 2 of Census Tract 6⁴, located to the southwest of West Side Park in Champaign:

Area	Net Household Density	Net Population Density	Gross Household Density	Gross Population Density	Average Household Size
<i>White Street Corridor*</i>	51.21	84.88	35.05	58.08	1.64
<i>Block Group 2, Census Tract 6</i>	7.90	16.25	5.62	11.57	2.05

*Does not include residential properties on the 100 block of East White, which are to be demolished.

According to the Institute for Transportation Engineers’ (ITE) *A Toolbox for Alleviating Traffic Congestion*,⁵ (to be hereafter referred to simply as “*The Toolbox*”), the density of BG 2, Tract 6, at 7.9 units per acre, meets the density threshold for transit service of 30-minute headways, defined as 7 units per net acre. Bus service in this area more than matches this criteria, with the 15-minute 5/50 Green Hopper service terminating at the southwest corner of this block group, with 30-minute service on both the 7 Grey and 6 Orange on weekdays, running eastbound on University and westbound on Church Street two blocks further north. Service on weekends is provided by 50 Green as well as another 30-minute frequency route, the 30 Lavender in the same location as the 7 Grey weekday routing.⁶

In the White Street Corridor, existing densities more than provide the need for 10-minute headways, which come close to being provided by 30-minute headways of the 2 Red and 9A/9B Brown, as well as 20-minute headways on the 24 Scamp, between downtown Champaign and the University of Illinois campus along White Street.⁷ Additionally, the 100 Yellow provides service in this area at nearly all other times. According to “*The Toolbox*,” the threshold for 10-minute frequencies only require household net densities of merely 15 units per acre, well below the actual density found in this area. However, the 10-minute service (in actuality closer to 8-minute service) of which I speak is not truly as such. Based on the schedules for these three routes, gaps as large as 16 minutes and as small as 4 minutes between buses may appear. Although “*The Toolbox*” does not provide for a threshold for 5-minute service, it is a safe assumption to say that since actual net densities are more than three times what is recommended for 10 minute

⁴ Block Group 2 is bounded by the following streets: University Ave, Elm Street, Springfield Ave, and Prospect Ave.

⁵ Obtained 11/22/2008 from: http://www.itsdocs.fhwa.dot.gov/JPODOCS/REPTS_TE/10803.pdf See Pages 92 to 93

⁶ CUMTD: Routes & Schedules . <http://www.cumtd.com/routeschedules/Default.aspx>

⁷ Ibid.

service, that it would meet a theoretical threshold for 5-minute frequencies. However, there is definite potential for densification due to the presence of large amounts of surface parking which may have potential for redevelopment.

Image 3-3

Parking Densities by Block-White St Corridor

Parking Spaces/Unit by Block*



Block Names



Legend

- Residential Land Uses
- Other Land Uses
- Arterials
- Other Streets

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 University of Illinois
 Dept of Urban & Regional Planning
 Date: 11/07/2008

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 S
Mi

*Parking spaces located at 602 E White, on the north side are ancillary to the units at 601-607 E White, and are therefore included within the 600 E-S block.

Image 3-4

Parking Densities by Block-White St Corridor

Parking Spaces/Population by Block*



Block Names



Legend

Residential Land Uses
 Other Land Uses
 Arterials
 Other Streets

0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 S Mi

Prepared by: Brian Sheehan
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 Dept of Urban & Regional Planning
 Date: 11/07/2008



*Parking spaces located at 602 E White, on the north side are ancillary to the units at 601-607 E White, and are therefore included within the 600 E-S block.

- Existing Parking Densities

In evaluating existing parking densities for dense or densifying areas, it is important to remember that these must be evaluated based on how they relate to existing and potential future land uses. For the residential uses along White Street, parking supply is much lower than is typically found in similar suburban developments. While there is no explicit number of parking spaces specifically for parcels in the MF2 Zoning District, Article VII of the City of Champaign Zoning Ordinance requires anywhere from 1-2 parking spaces per unit for all multifamily buildings, based on square footage of bedroom space.⁸ In the White Street Corridor, however, although a greater than one-to-one relationship exists between parking supply and number of units, at the block level it is only actually present on three residential blocks. Two of these blocks contain only one development: the 0-99 E-S with the Water Street Apartments and the 200 E-S with the public housing at Skelton Place. The other block is the 400 E-N block, which has 1.161 spaces per residential unit, has single family homes as 4 of its 7 residential structures. Thereby this is the reason they contain copious amounts of off street parking.

However, in considering the number of parking spaces relative to household size, there is only one block in which the number of parking spots outnumbers that of actual residents. This is the block on which Skelton Place is located, and the high ratio is the result of a municipal parking lot located to the east of this Champaign County Housing Authority complex. Only 18 spaces are actually located on this lot, given that Skelton Place is low income housing. The remaining parking is 75 spaces and is located in one of Campustown's permit parking lots. These spaces include the spaces on both sides of an alley formerly located parallel to and halfway between White and Stoughton Streets. With the exception of the north sides of the 300 E and 600 E blocks, as well as the residentially standalone Water Street Apartments, no other residential block contains more than one parking space for every two residents (i.e. a ratio of 0.5 or greater).

In total, the overall ratio in the corridor of units to spaces in the White Street Corridor is 1.216 (1.211 if you discount the 100 E blocks), and the equivalent for total population to spaces is almost exactly a one-to-two ratio, at 0.501.

- Existing Parking Usage

However, the question of parking cannot be resolved by merely looking at the supply of parking. Since the parking for a large portion of existing apartment complexes is bundled with the rent, the percentage of parking spaces going unused cannot be measured

⁸ City of Champaign Zoning Ordinance, page 7-19: obtained 11/08/2008 from:
http://www.ci.champaign.il.us/planning/pdfs/zoning_ordinance/Complete_Zoning_Ordinance.pdf#xml=http://archive.ci.champaign.il.us/cgi-bin/texis.exe/webinator/search/pdfhi.txt?query=zoning&pr=city2005&prox=paragraph&rorder=500&rprox=500&rdfreq=500&rwfreq=500&rlead=0&sufs=2&or der=r&cq=&id=46aa5f23b5

adequately through such means. In the late afternoon on Monday, November 10, 2008, from approximately 3-5pm, the number of parking spaces actually being used in the corridor were collected to determine normal weekday usage. Excluding the 100 block of East White Street, which is in the process of being redeveloped as part of the Boneyard Creek/2nd Street drainage improvements,⁹ the number of parking spaces used is related to the following variables in Table 3-4 below:

Table 3-4				
Total Parking Used in the Context of the White Street Corridor*				
City Block	Total Parked Vehicles	Percentage of Spaces Occupied	Vehicles/ Units	Vehicles/ Population
0-99 ES	5	55.56%	1.250	0.313
100 EN**	0	0.00%	0.000	0.000
100 ES**	2	10.00%	0.074	0.061
200 EN	43	87.76%	0.768	0.309
200 ES	45	48.39%	0.584	0.495
300 EN	30	54.55%	0.448	0.297
300 ES	42	73.68%	0.452	0.347
400 EN	28	77.78%	0.903	0.329
400 ES	27	72.97%	0.519	0.273
500 EN	50	78.13%	0.495	0.325
500 ES	29	60.42%	0.475	0.274
600 EN	21	55.26%	0.467	0.339
600 ES	30	68.18%	0.545	0.333
Total**	350	66.04%	0.545	0.329
*Total number of parked cars were counted from 3-5 pm on Monday, 11/10/08				
**Total does not include parcels on the 100 block of E White, where residential uses will be completely eliminated as part of the Boneyard/2nd Street Reach detention work.				

Excluding the soon to be demolished residential uses on the 100 block of East White Street, approximately one out of every three parking spaces ancillary to residential uses in the corridor were not utilized at this hour. Because of the issue that parking on campus has always presented, weekdays are typically the time at which the greatest number of cars will be present, since driving to campus, whether for class or a job, is simply not a reliable method of getting there. And it shows in the Census 2000 data, both in terms of vehicle availability and commute by mode. Because said data exists not at the block level (it comes from the sample data in Summary

⁹ Boneyard 2nd Street Detention. Obtained 11/16/2008 from: http://www.ci.champaign.il.us/business/page.php?pn=boneyard_2nd_street

File 3), the finest geographical scale at which it exists is at the block group level. The entirety of the corridor is in one of two block groups, both of Census Tract 3: Block Group (BG) 1 includes all portions of the corridor east of 3rd Street, and BG 4 all portions west of 3rd.¹⁰ The breakdown by commute mode is in Table 3-5 and vehicle availability is in Table 3-6 below:

Table 3-5										
Journey to Work Mode by Census Geography in the White Street Corridor										
Census Geography	Total Workers 16 Years+	Drive Alone	Carpool	Total Auto	Transit	Bike	Walked	Other Means	Work at Home	Total Alternate
Champaign County	91,368	69.42%	11.03%	80.45%	4.91%	1.80%	8.50%	0.47%	3.65%	19.55%
Census Tract 3	3,212	31.94%	5.07%	37.02%	10.34%	5.45%	45.77%	0.65%	0.78%	62.98%
Block Group (BG) 1	1,441	27.62%	2.29%	29.91%	7.63%	2.85%	58.78%	0.00%	0.83%	70.09%
Block Group (BG) 4	351	31.62%	12.25%	43.87%	19.94%	8.26%	26.50%	0.00%	1.42%	56.13%
BG 1 and BG 4	1,792	28.40%	4.24%	32.65%	10.04%	3.91%	52.46%	0.00%	0.95%	67.35%
Champaign UA**	62,573	64.44%	10.65%	75.09%	6.78%	2.52%	11.60%	0.37%	3.42%	24.91%
*All Census Geographies are located in Champaign County, IL, and both BGs are within Census Tract 3										
**Urbanized Area										
Source: U.S. Census Bureau, 2000; Summary File 3										

Table 3-6							
Vehicle Availability per Household by Census Geographies in the White Street Corridor							
Census Geography*	No Vehicles Available	1 Vehicle Available	2 Vehicles Available	3 Vehicles Available	4 Vehicles Available	5 or more Vehicles Available	Average**
Census Tract 3	28.55%	45.30%	14.47%	8.59%	2.47%	0.63%	1.13
Block Group (BG) 1	30.32%	49.68%	10.04%	8.23%	1.08%	0.65%	1.02
Block Group (BG) 4	41.67%	48.21%	5.36%	4.76%	0.00%	0.00%	0.73
BG 1 and 4	32.54%	49.39%	9.12%	7.55%	0.87%	0.52%	0.96
Champaign UA	11.54%	43.20%	34.39%	8.45%	1.92%	0.49%	1.47
*All Census Geographies are located in Champaign County, IL, and all BGs are within Census Tract 3							
**Data indicating vehicle availability formatted as in the table, average was determined by assuming that all households with 5+ vehicles had 5 exactly.							
Source: U.S. Census Bureau, 2000; Summary File 3							

¹⁰ American Factfinder, U.S. Census Bureau, 2000. Summary File 3 for Block Groups 1 and 4 for Census Tract 3. Block Group 1 is bounded by University Ave, Wright St, Springfield Ave, and 3rd Street. Block Group 4 is bounded by University, Springfield, 3rd, and the Canadian Pacific railroad tracks to the west. Obtained 11/17/2008 from: http://factfinder.census.gov/servlet/DTGeoSearchByListServlet?ds_name=DEC_2000_SF3_U&lang=en&ts=245133245678

As the data from Table 3-5 shows, higher rates of transit commutes exist within Block Group 4 (located west of 3rd), yet the overall use alternate modes of transportation is smaller there than in Block Group 1, overwhelmingly due to a walking rate of 58.78%. This is certainly an indicator of two things; a high concentration of students within short walking distance of the Engineering Campus and main Quad, whereas transit is more popular in Block Group 4 because employment and learning opportunities are at a greater distance. The entirety of BG 4 is over 1/3 mile from the Engineering Campus, and from the intersection of White and Wright, it is another 1/3 mile to the Illini Union at the north end of the main Quad. Also, many residents of BG 4 are not students, but are less transient, ordinary low-income households, heavily concentrated at Skelton Place at 2nd and White. The low incomes as well as low availability of parking at this facility makes high rates of auto ownership completely infeasible for these residents.

Because the quality of housing east of 3rd Street is better than that of those units to the west, incomes are higher in BG 1 than in BG 4, but significantly lower in than in the Champaign-Urbana Urbanized Area (UA). As of the 2000 Census, the average incomes for these block groups (adjusted for inflation to match year 2007 values¹¹) were \$19,242 and \$15,986 (combined average \$15,006), compared to the UA figure of \$57,331. And it shows in the rates of vehicle ownership, as summarized in Table 3-6. While 45.26% of UA households have multiple vehicles available, those rates are much lower in the Block Groups 1 and 4, where they are respectively 20% and 10.12%, and 18.07% within the aggregate. And the percentage of households within each of these groups that do not even have a single vehicle available is even more staggering: in BG 1 and 4, the rates respectively are 30.32% and 41.67%. This more than anything shows the absolute need for an environment friendly for walking, biking, and transit throughout the corridor.

- Transit Boarding and Alighting¹²

In the White Street corridor and its economic impact area, there are a total of three daytime routes that run on White Street proper (The 2 Red, 9 Brown, and 24 Scamp), and another three running in its economic impact area (4 Blue, 5 Green, and 6 Orange). Additionally, the campus routes 21 Quad and 26 Pack, which clip into the southeast portion of the economic area, will be discussed as they represent the campus system upon which the new routes in the corridor will be an expansion of.

Of the three routes that presently operate along the White Street corridor, the highest ridership is typically found at Illinois Terminal as well as areas east from 2nd Street, the point at which the highest residential densities exist. As Table 3-7 shows, for the 2 Red and 24 Scamp, boardings are greater than 50 at White Street's intersection with both 2nd and 4th Streets. Alightings remain between 10 and 50 at 2nd, 4th, and 6th Streets along all three routes. West of 2nd Street, boardings and alightings are very low, as land use ranges from

¹¹ Values calculated via The Inflation Calculator, <http://www.westegg.com/inflation>, on 11/18/2008

¹² The Boarding and Alighting information which will be used for this section were obtained on 11/25/2008 from miPLAN's boarding and alighting report, at <http://ihavemiplan.com/shared/pdfs/Working%20Paper-%20Boarding%20And%20Alighting%20Profile.%2006-07.pdf> All data in this report is from October 2006.

general commercial to wholesale commercial and light industrial, at densities that do not promote transit use. Most wholesale uses by their very nature are auto-oriented anyways.

Table 3-7						
Weekday Boardings and Alightings in the White Street corridor on MTD Community Routes						
Stops	2 Red Boardings	2 Red Alightings	9 Brown Boardings	9 Brown Alightings	24 Scamp Boardings	24 Scamp Alightings
<i>Illinois Terminal</i>	50 to 290	50 to 290	50 to 290	50 to 290	50 to 290	50 to 290
<i>Logan & Water</i>	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5
<i>Chester & Water</i>	1 to 5	1 to 5	0	1 to 5	1 to 5	1 to 5
<i>Chester & 1st</i>	5 to 10	10 to 50	0	1 to 5	1 to 5	1 to 5
<i>1st & White/Logan</i>	1 to 5	5 to 10	1 to 5	1 to 5	1 to 5	5 to 10
<i>2nd & White</i>	50 to 290	10 to 50	10 to 50	10 to 50	50 to 290	10 to 50
<i>4th & White</i>	50 to 290	10 to 50	10 to 50	10 to 50	50 to 290	10 to 50
<i>6th & White</i>	10 to 50	10 to 50	10 to 50	10 to 50	10 to 50	10 to 50
<i>White & Wright</i>	10 to 50	10 to 50	10 to 50	5 to 10	5 to 10	5 to 10

However, the routes operating on East White Street fare much better than their counterparts operating two blocks to the north on East University Avenue. Although Illinois Terminal is also an intense generator of ridership for these routes, as shown in Table 3-8 below, no stop east of 1st along University has any more than 10 boardings or alightings on the 4 Blue; for the 6 Orange, that applies for all stops on University east of 2nd. Since most of the commercial uses along University have sizable setbacks because of parking lots, this street does not promote a transit friendly environment. However, the intersection of Wright and Clark Streets, one block north of White Street, generates a greater amount of boarding and alighting activity relative to the University Avenue segment of these routes. However, that activity is much lower at White and Wright, presumably because passengers can use the 2, 9, and 24 to reach the corridor from campus.

Table 3-8

Weekday Boardings and Alightings in the White Street corridor Economic Area on MTD Community Routes

Stops	4 Blue Boardings	4 Blue Alightings	6 Orange Boardings	6 Orange Alightings
<i>Illinois Terminal</i>	50 to 290	50 to 290	50 to 290	50 to 290
<i>1st & University</i>	10 to 50	10 to 50	1 to 5	1 to 5
<i>2nd & University</i>	1 to 5	5 to 10	10 to 50	10 to 50
<i>3rd & University</i>	1 to 5	1 to 5	1 to 5	1 to 5
<i>4th & University</i>	1 to 5	5 to 10	5 to 10	5 to 10
<i>5th & University</i>	1 to 5	1 to 5	1 to 5	1 to 5
<i>6th & University</i>	1 to 5	1 to 5	1 to 5	1 to 5
<i>Wright & University</i>	1 to 5	1 to 5	5 to 10	5 to 10
<i>Wright & Clark</i>	5 to 10	10 to 50	10 to 50	10 to 50
<i>White & Wright</i>	1 to 5	1 to 5	1 to 5	1 to 5

The only campus routes which at present come anywhere near the White Street corridor are the 21 Quad and the 26 Pack, which get closest to the corridor at the intersection of Wright and Springfield. Daily boardings and alightings typically range between 70 and 190 at the Wright and Springfield stop as well as at Grainger Engineering Library, but by campus route standards that is mid-range, as the busiest campus route stops have ridership exceeding 510 boardings and alightings daily on a regular basis. Neither of these stops are among the 6 busiest along either route.

Springfield Avenue Conditions

Like in the White Street Corridor, looking at how the density of both housing and parking are distributed, we chose to use the block-by-block criteria for Springfield Avenue, due to it being a reasonable scale for comparison across the corridor. However, for Springfield this is much more complicated as there are a total of three Census Tracts each of which individually cover parts of the corridor. This corridor is divided into 11 residential blocks of varying densities, corresponding to a variety of census tracts as outlined in Table 3-9:

Table 3-9**Matching Springfield Avenue Blocks to 2000 Census Blocks**

City Block*	400 WN	400 WS	5-600 WN	5-600 WS	700 WN	700 WS	800 WN	800 WS	900 WN	900 WS	1000 WN
Census Tract	52	58	52	58	52	58	52	59	52	59	52
Census Blk	1015	1001	1014	1002	2017	1004-5	2013	1000	2012	1001	2011

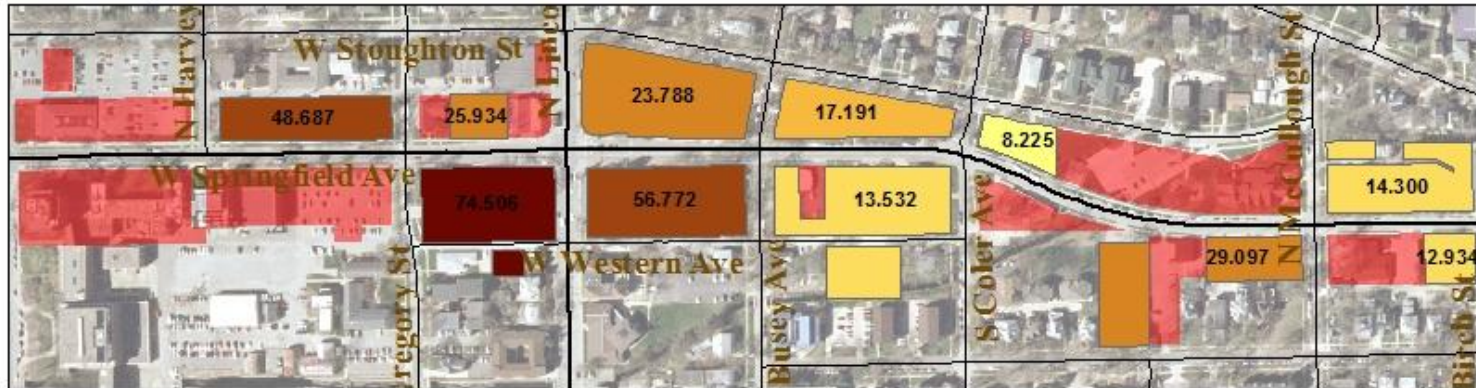
Source: US Census Bureau

*As a example to explain, 400 WN contains all land in residential uses on the North side of the 400 block of West Springfield Avenue.

Image 3-5

Residential Net Densities by Block-Springfield Corridor

Net Density - Units Per Acre



Block Names



Legend

- Residential Land Uses
- Other Land Uses
- Arterials
- Other Streets

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 Dept of Urban & Regional Planning
 Date: 11/07/2008

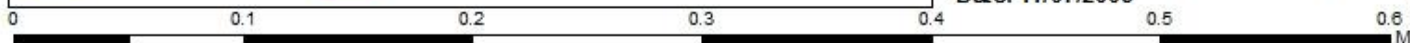
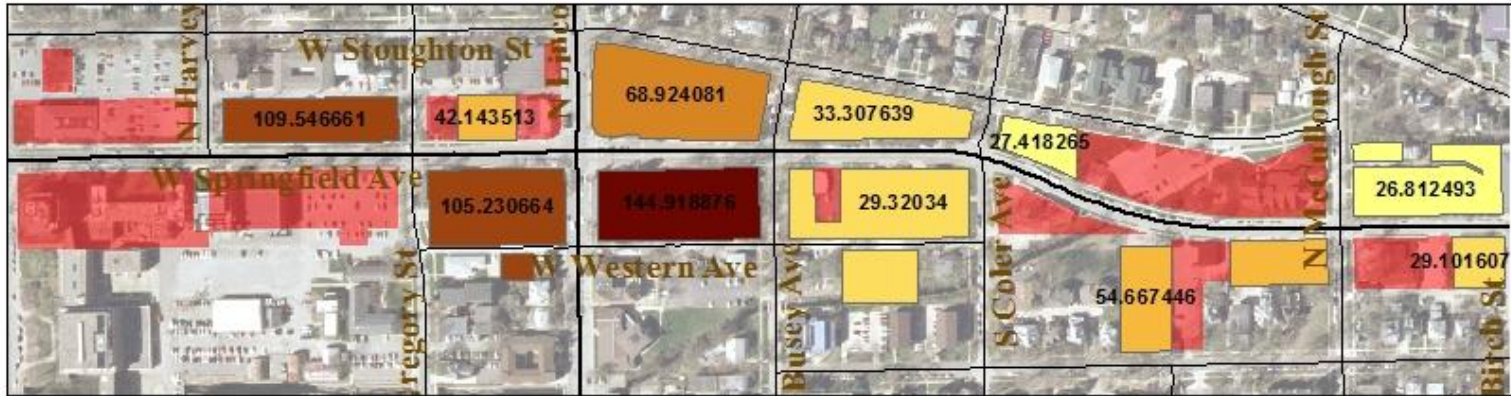


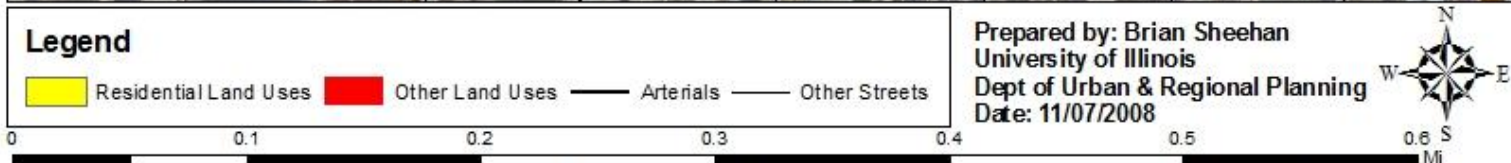
Image 3-6

Residential Net Densities by Block-Springfield Corridor

Net Density - Population Per Acre*



Block Names



*Determined by multiplying the units on each block by the average household size for the corresponding Census Block based on the 2000 US Census.

- *Housing and Population Densities*

Net densities in the Springfield Avenue corridor, while rather high by most standards, pale in comparison to the densities found in the White Street corridor. While the aggregate density along White is 51.21 units/acre, it is only 32.36 units/acre (67.42 persons/acre), and shows a much smaller range of densities than White Street. While 5 of the 6 residential blocks east of Busey Avenue have densities below 18 units/acre, the balance of the blocks are similarly dense to White Street in terms of population. Four of these blocks have densities of above 68 persons/acre, with the 900 W-N block at 42.14 persons/acre due to its composition of an apartment building and a directly adjacent vacant lot.

Not surprisingly, given the distribution of densities throughout the corridor, the housing types tend to be of the single family variety with an interspersing of some medium density apartments east of Busey, with mostly high density apartments to the west. Ultimately, throughout the corridor, the breakdown of the housing as a percentage of the residential land area is as follows in Table 3-10:

Table 3-10		
Housing Unit Type by Residential Land Area: Springfield and White Corridors*		
Unit Type	Percentage of Springfield Corridor	Percentage of White Corridor
<i>High Density Apartments (8+ Units)</i>	39.63%	66.73%
<i>Medium Density Apartments: (3-7 Units)</i>	13.17%	8.75%
<i>Condominiums</i>	3.32%	0.00%
<i>Duplexes</i>	12.80%	3.65%
<i>Single Family - Renter Occupied</i>	20.61%	9.77%
<i>Single Family - Owner Occupied</i>	9.10%	0.00%
<i>Vacant Residential/Surface Parking</i>	1.39%	11.10%

*Represents percentage of the total land area excluding rights-of-way, such as for streets and sidewalks.

Despite the east-to-west variation in housing types, the variation in household sizes does not quite follow completely the idea that more single family homes means greater average household size, as shown in Table 3-11. Though the 5-600 WN block, with a household size of 3.33 persons per unit, and the 900 W-S block, dominated by apartments, has a household size of 1.41 people. However, the apartment dominated 800 W-S block, just across Lincoln Avenue, has a household size of 2.55, due to the specific types

of apartments on the block; this is dominated by the Busey Commons complex, which has a variety of 1 BR through 4 BR apartments. On the other hand, the single family home dominated 400 W-N block (in terms of the actual buildings themselves) has an average household size of merely 2.11. Overall, the average household size for the corridor is 2.08, significantly higher than the apartment dominated White Street corridor, with an average household size of 1.64. There is only a small difference between the corridor's household size and that of the C-U Urbanized Area (2.23). New infill residential construction, such as the two small complexes at 103 S McCullough and 401 W Springfield, both at the east end of the corridor, are few and far between and have likely had minimal impact on the corridor's average household size, like along White Street.

Table 3-11			
Average Household Sizes in Springfield Ave Corridor by Block			
City Block	Units	Household Size US Census 2000*	Approximate Population
400 WN	16	2.11	30
400 WS	4	2.29	9
5-600 WN	3	3.33	10
5-600 WS	33	1.88	62
700 WN	16	1.95	31
700 WS	24	2.18	52
800 WN	39	2.89	113
800 WS	76	2.55	194
900 WN	8	1.57	13
900 WS	97	1.41	137
1000 WN	44	2.26	99
Total	360	2.08	750

*Refers to corresponding block as found in Table 3-7

Because of this variation in household size, the actual population density of each individual block in the corridor is not proportional to the unit density, though not to the extreme as found along White. As shown in Image 3-6, even the two least dense blocks, the 400 W-N and 5-600 W-N, both have population densities of 27 persons per acre, more than six times the rate of the C-U Urbanized Area.¹³ On the other hand, three blocks in the corridor have densities greater than 100 persons per acre (1000 W-N at 109.55, 900 W-S at

¹³ See Chapter 2 for more information.

105.23, and 800 W-S at 144.92, the densest block in either of the corridors), more than the two found along White Street. The 900 W-S block has an extremely high number of units, and the others benefit from having both a moderately high number of units as well as an average household size above the respective value for the Urbanized Area.

Overall, the household and population density for the residential portions of the corridor are high, though significantly less dense than that of White Street. Like in the previous section, Table 3-12 offers a comparison of the Springfield corridor to a neighborhood located on the immediate opposite side of downtown Urbana. Located a mere three blocks from the downtown, Block Group 4 of Census Tract 55 is an exclusively residential area that comprises the eastern half of the East Urbana neighborhood. Because we are comparing a neighborhood, which typically has a greater proportion of its land area in rights-of-way than a corridor, we look at both net and gross densities, the latter of which includes rights-of-way into the calculation:

Residential Densities per Acre in the Springfield Corridor: An Alternate Perspective					
Area	Net Household Density	Net Population Density	Gross Household Density	Gross Population Density	Average Household Size
<i>Springfield Avenue Corridor</i>	32.36	67.42	18.45	38.43	2.08
<i>Block Group 4, Census Tract 55*</i>	6.45	12.93	4.67	9.36	2.01

*Block Group 4 is bounded by the following streets in east Urbana: Grove Street on the west, Washington Street on the south, Cottage Grove Avenue on the east, and to the north, it is Green Street east of Lynn Street, and High Street west of Lynn.

According to the Institute for Transportation Engineers’ (ITE) *A Toolbox for Alleviating Traffic Congestion*,¹⁴ (to be hereafter referred to simply as “*The Toolbox*”) the east Urbana block group listed above barely qualifies for 30 minute transit service, assuming that we consider a net density of 6.45 units/acre as meeting the 7 unit threshold for said service. And until August 2008, that is precisely the level of service that was available on the three routes running in or near this neighborhood, though the 5/50 Green Hopper™ service offers 15 minute frequencies three blocks west of this neighborhood on Vine Street, but only while University of Illinois classes are in session.¹⁵ Service on Main Street, one block north of Green, is provided by the 15/150 Link throughout the week, and on Green and Cottage Grove by the 6 Orange on weekdays. Both routes provide 30 minute service during all hours of operation,¹⁶ showing a high level of similarity of transit service to the comparison neighborhood for the White Street corridor.

¹⁴ Obtained 11/22/2008 from: http://www.itsdocs.fhwa.dot.gov/JPODOCS/REPTS_TE/10803.pdf See Pages 92 to 93

¹⁵ CUMTD: Routes & Schedules, 5 Green Weekday: <http://www.cumtd.com/routeschedules/ByRoute.aspx?routeID=10&routegroupID=1>

¹⁶ CUMTD: Routes & Schedules . <http://www.cumtd.com/routeschedules/Default.aspx>

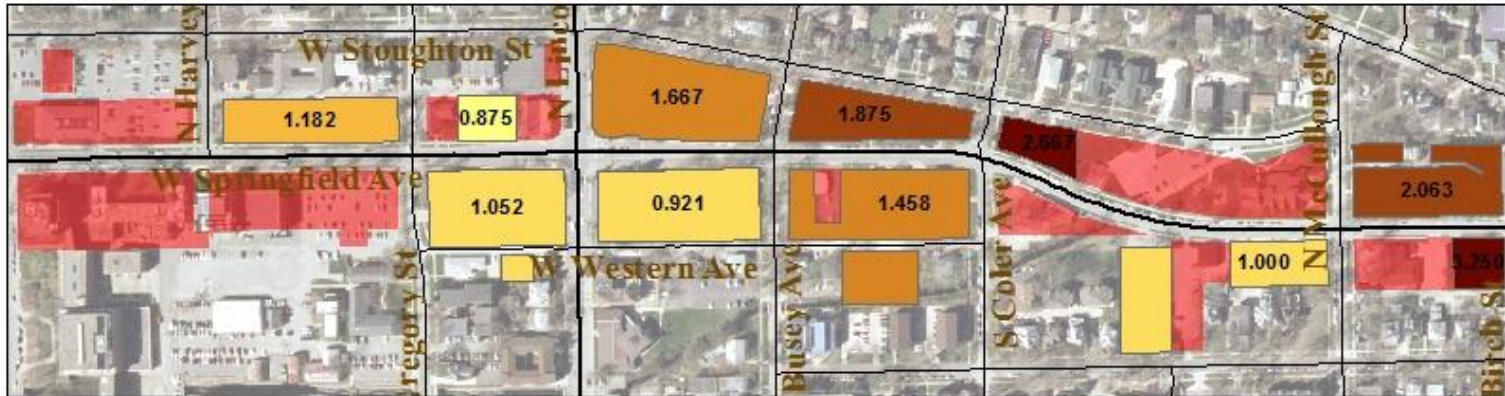
Meanwhile, the Springfield Avenue corridor is currently vastly underserved given the densities that exist there, even at the eastern end. While the 15-minute headways of the 5/50 Green run two blocks to the south, service east of Lincoln is restricted to the 30 minute headways of the 10 Gold on weekdays.¹⁷ Additionally, the 22 Illini provides eastbound service on Springfield between Mathews and Lincoln typically at 10-minute headways, but this varies on the weekends. Even in the less dense portion of the corridor, east of Busey Avenue, the net density of 17.05 units/acre is still high enough for 10-minute service according to “*The Toolbox*,” which lists 15 units/net acre as the threshold for said level of transit service. Clearly more frequent transit service is crucial here before any additional densification (or its redistribution) should occur.

¹⁷ Ibid.

Image 3-7

Parking Densities by Block-Springfield Ave Corridor

Parking Spaces/Housing Units per Block



Block Names



Legend

Residential Land Uses
 Other Land Uses
 Arterials
 Other Streets

0 0.1 0.2 0.3 0.4 0.5 0.6 Mi

Prepared by: Brian Sheehan
 University of Illinois
 Dept of Urban & Regional Planning
 Date: 11/07/2008

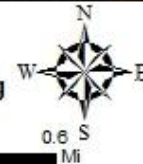
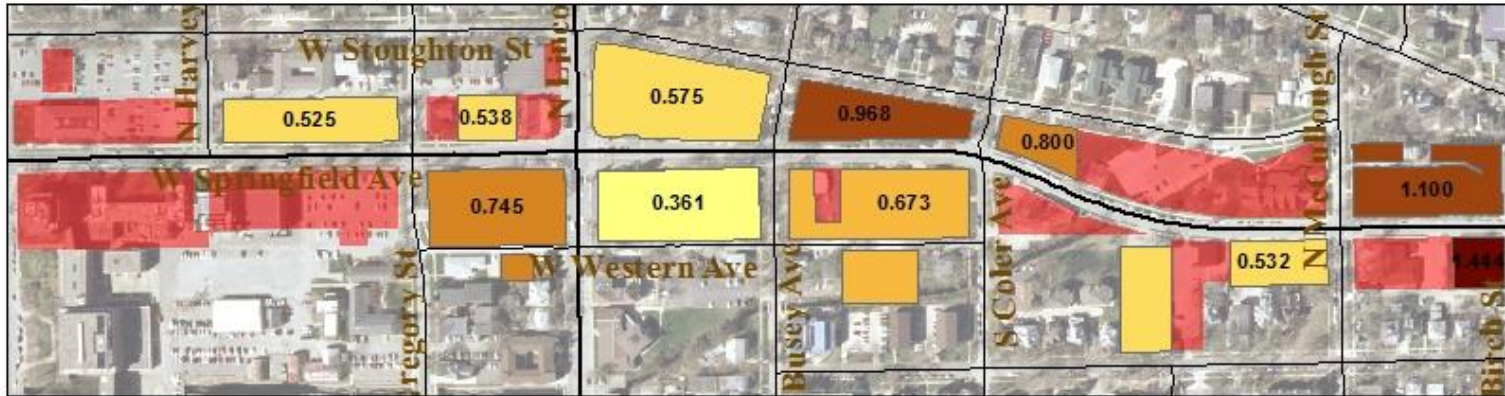


Image 3-8

Parking Densities by Block-Springfield Ave Corridor

Parking Spaces/Population by Block



Block Names



Legend

Residential Land Uses
 Other Land Uses
 Arterials
 Other Streets

0 0.1 0.2 0.3 0.4 0.5 0.6

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 Date: 11/07/2008



- Existing Parking Densities

In evaluating the parking densities for any reasonably dense urban area, it is critical to not only look at how they relate to present land use conditions, but also the relation for planned future uses. At present, the ratio of parking spaces to units is almost exactly the same as for White Street, at 1.244, compared to 1.216. However, like with housing unit types, there is a clear split between residential parking supply east of Busey and west of Busey. East of Busey, the ratio is a rather high 1.583, but 1.121 at points west from there. This is not a result of increased parking supply at these locations, but rather the fact that single family units are typically larger than individual apartment units, which means that supplying equal numbers of spaces per building will automatically make the ratio higher for single family structures, even if they are split into multi-unit buildings.

Just as it is for the City of Champaign, the City of Urbana does not provide parking requirements for zoning categories, but rather just for individual uses.¹⁸ For the uses that exist along the Springfield corridor, 1 space is required for every 1-2 bedroom multifamily dwelling, 1.5 for three bedroom units, and 2 spaces for every four bedroom unit, single family homes, and duplexes. Oddly enough, parking requirements are actually higher in the mixed-use Campus Commercial District, in which at least one space has to be provided per unit as well as 0.75 spaces per bedroom, meaning that each 4-bedroom unit requires an extra space per unit. However, parking requirements for other uses in this district are cut in half (and by 75% for restaurants/cafes), which more than balances the equation in favor of less parking.

Despite the fact that the overall ratio of parking spaces to units is similar to White Street, there are many more residential blocks that contain greater than one-to-one ratios of spaces to housing units; only two blocks, the 800 W-S, and the 900 W-N, which only contains one apartment building (and no other residential uses), have ratios lower than one. Another block, the 5-600 W-S block, has that one-to-one ratio.

However, given our assumed household and population sizes, on only two blocks (both sides of the greater 400 W block) do parking spaces outnumber the actual population. The 700 W-N block comes very close at a ratio of 0.968, but all the other eight blocks have ratios ranging from 0.361 to 0.8, with half of them falling between 0.5 and 0.6. The overall rate is higher than that of White Street at 0.597, and even if you consider just the area west of Busey, at 0.532 the ratio is still greater than that of the 0.501 for all of White Street.

¹⁸ City of Urbana Zoning Ordinance: Article VIII – Parking and Access. Obtained 11/22/2008 from: http://www.ci.urbana.il.us/urbana/community_development/planning/zoning/Article-8.pdf

- Existing Parking Usage

Usage of parking spaces in residential areas can be evaluated based on a number of criteria. In Table 3-13 below, as well as in Table 3-4 on White Street, the proportion of spaces occupied in each corridor was approximately two-thirds. However, beyond that, there is a major difference when you view it in terms of the actual number of housing units and presumed population. The ratio of the number of vehicles present to either the number of units or presumed population, however, is higher on Springfield than it is in the White Street corridor. This would indicate a more auto dependent area that has a greater supply of parking relative to the housing available there. In general, these rates are clearly higher the further east one goes, showing that it is likely that proximity to the Green Street/ Campustown commercial district has a major influence on the need for cars.

Table 3-13				
Total Parking Used in the Context of the Springfield Avenue Corridor*				
City Block	Total Parked Vehicles	Percentage of Spaces Occupied	Vehicles/ Units	Vehicles/ Population
1000 WN	41	78.85%	0.932	0.414
400 WN	17	51.52%	1.063	0.567
400 WS	4	30.77%	1.000	0.444
5-600 WN	7	87.50%	2.333	0.700
5-600 WS	24	72.73%	0.727	0.387
700 WN	21	70.00%	1.313	0.677
700 WS	29	82.86%	1.208	0.558
800 WN	39	60.00%	1.000	0.345
800 WS	49	70.00%	0.645	0.253
900 WN	3	42.86%	0.375	0.231
900 WS	71	69.61%	0.732	0.518
Total*	305	68.08%	0.847	0.407
*Total number of parked cars were counted from 10am to 12pm on Tuesday, 11/11/08				

Table 3-14 shows the breakdown in commute modes by which residents of Census geographies covering the corridor use. Despite the fact that the Springfield corridor is not as conveniently close to campus as the White corridor, the percentage of commuters using alternate modes of transportation is similarly high. Among the four block groups comprising areas in the Springfield Avenue corridor, just over 60% of commuters choose a non-automobile (i.e. alternate) mode to reach their place of employment. This ranges from

Table 3-14

Journey to Work Mode by Census Geography in the Springfield Avenue Corridor

Census Geography*	Total Workers 16 Years+	Drive Alone	Carpool	Total Auto	Transit	Bike	Walked	Other Means	Work at Home	Total Alternate
Champaign County	91,368	69.42%	11.03%	80.45%	4.91%	1.80%	8.50%	0.47%	3.65%	19.55%
BG 1, Census Tract 52	349	33.52%	6.30%	39.83%	21.49%	7.16%	31.52%	0.00%	0.00%	60.17%
BG 2, Census Tract 52	711	37.83%	1.55%	39.38%	14.06%	2.81%	43.04%	0.00%	0.70%	60.62%
BG 1, Census Tract 58	514	39.49%	8.17%	47.67%	13.62%	6.81%	31.91%	0.00%	0.00%	52.33%
BG 1, Census Tract 59	493	24.75%	6.49%	31.24%	6.69%	13.59%	47.06%	0.00%	0.00%	68.76%
All Block Groups (BGs)***	2,067	34.40%	5.18%	39.57%	13.45%	7.11%	39.28%	0.00%	0.24%	60.43%
Champaign UA**	62,573	64.44%	10.65%	75.09%	6.78%	2.52%	11.60%	0.37%	3.42%	24.91%

*All Census Geographies are located in Champaign County, IL

**Urbanized Area

***The residential portions of these 4 block groups have the following approximate boundaries: North - University Avenue; East - Cedar Street/Wood Street; South - Green Street; West - Harvey Street

Source: U.S. Census Bureau, 2000; Summary File 3

Table 3-15

Vehicle Availability per Household by Census Geographies in the Springfield Avenue Corridor

Census Geography*	No Vehicles Available	1 Vehicle Available	2 Vehicles Available	3 Vehicles Available	4 Vehicles Available	5 or more Vehicles Available	Average**
Champaign County	9.51%	39.17%	37.54%	10.57%	2.52%	0.68%	1.59
BG 1, Census Tract 52	20.56%	55.84%	20.81%	2.79%	0.00%	0.00%	1.06
BG 2, Census Tract 52	21.56%	52.10%	14.37%	9.58%	1.20%	1.20%	1.20
BG 1, Census Tract 58	11.67%	44.79%	24.61%	12.30%	4.42%	2.21%	1.60
BG 1, Census Tract 59	41.15%	36.73%	16.15%	2.31%	3.65%	0.00%	0.91
All Block Groups (BGs)***	25.40%	47.00%	18.24%	6.35%	2.25%	0.75%	1.15
Champaign Urbanized Area	11.54%	43.20%	34.39%	8.45%	1.92%	0.49%	1.47

*All Census Geographies are located in Champaign County, IL

**Data indicating vehicle availability formatted as in the table, average was determined by assuming that all households with 5+ vehicles had 5 exactly.

***The residential portions of these 4 block groups have the following approximate boundaries: North - University Avenue; East - Cedar St/Wood St; South - Green Street; West - Harvey Street

Source: U.S. Census Bureau, 2000; Summary File 3

68.72% in Block Group 1 of Tract 59, which includes land that is adjacent to the southern portion of the engineering campus, as well as very close to the Illini Union and Main Quad. Both block groups north of Springfield have a very similar rate to the four block groups as a whole, but Block Group 1, Tract 58, which comprises a very large proportion of Urbana's Mixed Office Residential (MOR) zoning district¹⁹, has much lower rates, as only slightly over half of residents use alternate modes for their commutes.

However, despite their similarities in the aggregate, residents in and near the Springfield Avenue corridor use different alternate modes in different amounts. For example, while only about 10% of White Street block groups (see Table 3-5) used transit as of the 2000 Census, that rate was higher with an overall rate of 13.45%. The rate of transit usage was greater, like on White Street, given individual block group's distance from campus, despite a lessening of service as one moves away from campus. The reverse trend existed for those who chose to walk to work, and no comparable trend was present for those who chose to bicycle to work.

Table 3-15 shows the availability of vehicles per household by Census geographies that are in or relevant to the Springfield corridor. While the average number of cars owned is over 1.4 for both the Champaign-Urbana Urbanized Area (1.47) as well as Champaign County (1.59), it is much lower in all the block groups that enter the corridor. Overall, it is 1.15, still higher than the areas near White Street (0.96), but significantly lower than the county and urbanized area averages. The major outlier in this area is once again Block Group 1 of Tract 58, the MOR district, in which the number of automobiles per household, at a rate of 1.6, is higher than the rates at the largest available geographic scales.

What makes this area of the corridor unusual is that the rates of car availability as well as use of alternate transportation modes for the commute. And the rate of using the alternate modes does not correlate entirely with income. While block group 1 of Tract 58, at the southeast portion of the corridor, has the highest rates of auto availability as well as the lowest rates of using alternate modes, that does not translate into the income statistics. Based on Census 2000 values adjusted for inflation to 2007 values via "The Inflation Calculator,"²⁰ while the median income is less than half that of the entire county (\$46,611) in three of the four block groups, they all show an increase in median income the further one is away from campus; however, the order for the second (BG 1-Tract 58, at \$20,542) and third ranked (BG 2 – Tract 52, at \$19,551) locations is reversed when one looks at average income. Respectively, these numbers are \$23,238 and \$27,183. The average for all 4 Block Groups in \$23,197, compared to \$60,300 for the county and \$57,331 for the Urbanized Area. Overall, there are higher incomes, but given the utter lack of an identity for Springfield Avenue, adjustments in the urban fabric are critical to making it function like an actual place instead of the auto-friendly connection between campus and Downtown Urbana that it currently serves as.

¹⁹ City of Urbana: Zoning Map. Obtained 11/20/2008 from: http://www.ci.urbana.il.us/urbana/community_development/planning/zoning/images/2008_Zoning_Map.pdf

²⁰ Values calculated via The Inflation Calculator, <http://www.westegg.com/inflation>, on 11/18/2008

- Transit Boarding and Alighting²¹

Because the 10 Gold is the only daytime route (or route of any kind) operating along Springfield Avenue between campus and downtown Urbana, a different approach will be needed to evaluate ridership conditions in this corridor. Two other routes operate within the immediate area; the 5 Green, which runs two block south on Green Street. Plus, at the time this data was taken, a supplemental 20-minute service, the 25 Loop, operated between the two downtowns via the 5 Green route. Additionally, northbound service on the 22 Illini, one of the campus routes, operates one-way eastbound on Springfield between Goodwin and Lincoln.

As Table 3-16 below shows, ridership is moderately high yet well distributed throughout the corridor, with the exception of Springfield and Green’s intersections with Lincoln Avenue. This is due to two factors; intersection design that caters to the automobile, and the fact that Lincoln and Springfield technically isn’t even a designated stop for the 10 Gold. Because the 25 Loop ran on 20-minute headways rather than the 30-minute headways of the community routes, the number of boardings and alightings are slightly inflated, yet no stops have a total of more than 50 boardings or alightings. The reason for the greater number of alightings than boardings in this area may be the lessened need to worry about a schedule for students taking the bus back to home in Urbana.

Weekday Boardings and Alightings in the Springfield Avenue Corridor and Economic Area on MTD Community Routes						
Cross Street	5 Green Boardings	5 Green Alightings	10 Gold Boardings	10 Gold Alightings	25 Loop Boardings	25 Loop Alightings
<i>Goodwin Avenue</i>	10 to 50	10 to 50	10 to 50	10 to 50	5 to 10	10 to 50
<i>Harvey Street</i>	5 to 10	10 to 50	1 to 5	1 to 5	5 to 10	5 to 10
<i>Gregory Street</i>	1 to 5	5 to 10	5 to 10	5 to 10	1 to 5	5 to 10
<i>Lincoln Avenue</i>	1 to 5	1 to 5	1 to 5	1 to 5	5 to 10	1 to 5
<i>Busey Avenue</i>	5 to 10	10 to 50	5 to 10	10 to 50	5 to 10	10 to 50
<i>Coler Avenue</i>	5 to 10	5 to 10	10 to 50	10 to 50	5 to 10	10 to 50
<i>Orchard Street</i>	5 to 10	10 to 50	No Stop	No Stop	10 to 50	10 to 50
<i>McCullough Street</i>	10 to 50	10 to 50	10 to 50	10 to 50	10 to 50	10 to 50
<i>Birch Street</i>	1 to 5	5 to 10	10 to 50	10 to 50	5 to 10	10 to 50
<i>Cedar Street</i>	5 to 10	5 to 10	1 to 5	1 to 5	5 to 10	10 to 50

²¹ The Boarding and Alighting information which will be used for this section were obtained on 11/25/2008 from miPLAN’s boarding and alighting report, at <http://ihavemiplan.com/shared/pdfs/Working%20Paper-%20Boarding%20And%20Alighting%20Profile.%206-07.pdf> All data in this report is from October 2006.

Unlike the White Street corridor, the Springfield corridor has another community route which crisscrosses it, as well as a campus route that partially operates within it. The 13 Silver is moderately productive at the stops nearest to this corridor, particularly in alightings. While none of the stops between Springfield and University had more than more than 10 boardings, all these stops had between 10 and 50 alightings daily. While this area does not represent a very friendly location to wait for a bus, there's no need to wait when you're getting off it.

As for the 22 Illini section, since Springfield Avenue is a one-way portion of the route's northeast loop, comprising its first traveled portion, boardings are typically less than 70 per day, yet the number of alightings is higher. With the exception of the intersection with Goodwin, alightings on this section range from 70 to 190 per day, indicating "end of the line" type ridership.

Population and Employment Projections - Both Corridors

Despite the desirability of making the White Street corridor a moderately mixed use district, CUUATS projections for the year 2035 do not project any additional commercial growth anywhere in the White Street corridor. These projections are based on preferred alternatives, which based on correspondence with CUUATS staff, presume the full implementation of plans that have been adopted by the various planning agencies and other entities throughout the Champaign-Urbana region. While no employment growth is currently anticipated in any of Traffic Analysis Zones (TAZ) 44, 45, and 46²², major infill population growth is expected in TAZs 45 and 46, totaling 495 people, or a 16.68% population growth. This is heavily concentrated in TAZ 45, which will experience a growth of 369 people, or a 35.76% increase in population. This is heavily concentrated at the Burnham redevelopment, a former hospital site on which an 18-story high rise will open featuring 63 one bedroom units (including studios), 187 two-bedroom units, and 9 three-bedroom units. Assuming all of these are filled by the year 2035 without a loss elsewhere in this area, it will mean that this will cover 464 of the total combined population growth in these three TAZs of 490 people, or 94.69% of the expected population increase. Assuming that the vacancy rate for the Burnham 310 tower will match that of the combined rate for Census Block Groups 1 and 4 for Census Tract 3 (5.397%)²³, it will mean that 3 of the one-bedroom, 10 of the two-bedroom, and 1 of the three bedroom units will be empty. That would make the population growth accommodated by this development 438, still 89.39% of the total.

In terms of TAZs where the existing population density exceeds ten persons per acre, TAZ 45 ranks second highest with the intensity of new growth, accommodating 8.19 additional persons per acre by 2035, with 2005 as the base year. In addition, at 3.15 additional

²² The northern and southern boundaries of all three of these TAZs are respectively University Avenue and Springfield Avenue. Tract 44 is bounded to the west by the Canadian National railroad tracks and to the east by First Street, Tract 45 to the west by First and to the east by Fourth, and Tract 46 to the west by Fourth and to the east by Wright.

²³ US Census Bureau, Census 2000, Summary File 1. The area bounded by the combination of Census Blocks 1 and 4 of Tract 3 is the exact same is the combined area of TAZs 44, 45, and 46.

persons per acre, TAZ 46 ranks sixth on this list of 29 (out of a total of 206) of Champaign-Urbana TAZs, showing that the increase in density is not in finality. All the TAZs currently expecting population increases at such intensities are not only under 10 persons per acre, but are also under 3.5 persons per acre, and are predominantly concentrated on the northern and western fringes of the City of Champaign. The combined rate for all three TAZs would be 4.66, the intensity for which would rank 12th overall if it were its own TAZ.

The intensity of the population growth expected near the Springfield corridor (in an area bounded by Green Street, Race Street, University Avenue, and Goodwin Avenue, is nowhere near the same as for White Street. The intensity of population growth for this area is rather low compared to White, at an average of only 1.95 persons per acre. Within these 4 TAZs, however, the increase in population is expected to be concentrated at two locations: in TAZ 48, to the northeast of Lincoln and Springfield, where the intensity projects to be 2.62 persons per acres, and to the southwest of that same intersection in TAZ 32, where the expected increase in intensity is projected to be 5.11 persons per acre. The projected increase in population for the other TAZs is expected to be less than 0.75 persons per acre.

Where the Springfield corridor differentiates itself from the White Street corridor is employment increases. As a whole, the three TAZs bordering this area are expected to see an increase of 1554 employees by the year 2035. This increase is likely due to two things; the expansion of the “North Research Park” east of Goodwin Avenue to Harvey Street, as well as creating a focal point for the “Campus Mixed-Use” land use type on land between Harvey and Lincoln, as shown on the Future Land Use Map for Urbana’s 2005 Comprehensive Plan.²⁴ However, despite the designation of Springfield as a mixed use corridor east of Lincoln, that does not appear in employment projections, which show no increase in employment at that location. Overall the population projections show an increase of 7.14 employees per acre; in TAZs 48 and 49, it is respectively 33.67 and 10.55 persons per acre. The combined rate of these two zones is 24.39 employees per acre.

When looking at these corridors as a whole rather than two separate entities, we find that as a whole, they are accommodating less than their share of population and employment growth relative to the model area as a whole. For example, while the corridors combined in 2005 accommodated a total of 5.313% of the population, projections for the year 2035 indicate that it will be accommodating only 4.054% of the total. Given that these are areas in the urban core designated for growth, they are not accommodating their fair share of the population. The respective numbers show a very slight increase in the proportion of employment, from 3.076% to 3.099%, but this is predominantly due to the expansion of the University of Illinois campus and not typical infill commercial and office growth catering to the resident population.

²⁴ Urbana Comprehensive Plan. Future Land Use Map #8. Obtained 11/28/2008 from:
http://www.ci.urbana.il.us/urbana/community_development/planning/comprehensive_plan/maps/Map_8.pdf

Chapter 4 – Residential Area Design, Parking, & Density Guidelines

Even though the targeted land studied for this project lines up immediately along the path of the proposed campus route system, the site features still must be designed in such a way as to maximize the accessibility of transit and create a pedestrian friendly environment that increases (both in real and perceived terms) one's safety. In order to make this a workable scheme, three things must be considered in residential portions of the corridor, as for any other land use. These are ultimately design, parking, and density

Designing for Safety and Comfort in Both Corridors

Since nearly all users of mass transit are pedestrians at some point during their trip, it is critical to have a pedestrian friendly environment in order to have a transit friendly environment. Many of these elements are already found in these corridors, particularly along White Street. From Second Street on east, although the sidewalks are a rather narrow 5 feet wide (as is the standard for the City of Champaign), trees are ever present in order to provide shade, a dense population that is not heavily reliant on cars. This ensures that there are a number of pedestrians and therefore "eyes on the street" in the first place (See Tables 3-5 and 3-6). Parking is predominantly located at the rear of buildings with few exceptions, and sidewalks are buffered from the street both by walkways and parking lanes. However, White Street is still lacking in some key areas of what makes a quality pedestrian-oriented environment, and these are all issues that impact the Springfield Avenue corridor as well. For a detailed explanation, please read the following bullet points and their associated explanation:

- Widen all sidewalks within the right-of-way of both corridors to a minimum of 6 feet width, as outlined on pages 21 and 24 of the University District Streetscape Master Plan, with specific improvements that enhance transit accessibility.¹

A sidewalk of at least six feet in width allows pedestrians to pass each other with relative ease and not require a pedestrian move off of a dedicated pathway, which has great potential to cause discomfort in inclement weather. Areas with high levels of pedestrian usage need to have the infrastructure that ensures that no person will need to step on a snow covered or muddy lawn in order to allow dual passage. This is especially critical for wheelchair users; given a typical wheelchair width (pushrim to pushrim) of 26 inches, plus the necessary arm and elbow room of 4 inches on each side, a right-of-way of at least 32 inches for one chair is necessary. In order to maintain proper spacing between two chairs, the 6 foot width is critical.

¹ University District Streetscape Master Plan, obtained 12/1/2008 from:
http://ci.champaign.il.us/business/planning/Planning_Documents/University_Dist_Streetscape_Master_Plan/UDSMP-Complete.pdf

While the widening of the right-of-way through purchasing small strips of land from each parcel may provide a feasible solution due to existing setbacks along White (the City of Champaign requires minimum setbacks of 20 feet in the MF2 zone), upzoning to MF3 may be a solution for setbacks of 20 feet exact, the minimum front yard setbacks MF2 Zones.² MF3 Zones require a minimum front yard of only 15 feet, and additionally allow for a minimal level of mixed use, creating the potential for a more urbane environment.

A similar solution is simply not applicable for Springfield where the setbacks are typically smaller, and often buildings on corner lots do not front directly on Springfield and are almost directly adjacent to the sidewalks, ensuring that the pedestrian right-of-way cannot be improved. Where applicable, on-street parking in the vehicular right of way should be removed if it is not heavily used, such as the ROW fronting along the south side of the Phillips Recreation Center. Parked cars can provide a buffer between heavy traffic and pedestrians, but in their absence, extending the curb to create a wider parkway can just as easily provide the buffer. Cutouts in the parkway should be placed where appropriate along Springfield to ensure that transit vehicles can pick up passengers while allowing other vehicles to pass safely.

- A complete sidewalk system that allows for minimal divergences while allowing for directness of travel. There are two areas where this poses a problem: along the Logan Street section of the White Street corridor. This will be discussed in Chapter 6 as this issue

² City of Champaign Municipal Code, Chapter 37, Article IV, Table IV-A

presents itself in a commercial area. The other is on the north side of the 700 block of W Springfield, a near-wholly residential block featuring the Zarbuck Chiropractic Clinic (711) as its only non-residential use.

Image 4-1



Image 4-2



Images 4-1 and 4-2 on the preceding page give a visual look at the problems in the existing sidewalk network. For any person looking to walk from the north side of Springfield's 800 block to the north side of the 600, the most direct route (as shown in the black line in 4-1) between these two areas is crossing Springfield at its corner with Busey (see Image 4-2), and then doubling back across at Coler. Springfield, a minor arterial, has seen its Average Daily Traffic (ADT) rate between Lincoln and Cedar grow from 7900 in 1996 to 9300 in 2006,³ implicating the need for a safer streetscape as well as improved locations for pedestrian connections. Though this pales in comparison to the ADT of 23,100 on University Avenue by Carle Hospital, levels like this still make a pedestrian orientation possible, given Green Street's 2006 ADT of 12,500 between 5th and Wright, but not in an area of free-flow traffic that exists along this segment of Springfield

Any pedestrian routes created should respect pre-existing trees located along the route in order to preserve shade for the summer months. This is particularly important as there are no trees on the south side of Springfield's 700 block to provide this luxury during the summer months. A prime example can be seen in Image 4-2 in which a mature tree blocks what would otherwise be the logical path for a sidewalk. Because potential new sidewalks here may need to exit the right of way in order to be physically workable, Urbana's Public Works Department must consult with adjacent landowners every step of the way.

- The side of a residential building that fronts onto the street, regardless of front yard setbacks or length of the frontage, must be covered at least 20% (excluding any frontage utilized for a first floor doorway) by windows. This proportion should include the window frame, and can also include any screen doors that lead onto a balcony. All units that have frontage onto the street designated as a transit corridor should have a balcony over the front lawn.

There is no easier way to keep "eyes on the street" than by ensuring that residents living along the corridor are physically able to look out the window and witness street activity. Even if a person hears something that may be going on outside on the street that is physically 20 feet away from him/her, without a properly placed window, what is happening can't be easily monitored. The knowledge that, even between 3-6 am when pedestrian activity is typically lowest, that people may still be able to see you from inside their residences can act as a major deterrent to crime. Images 4-3 and 4-4 on the following page illustrate examples of buildings lacking such frontage in the White and Springfield corridors. The first of these pictures is from the White Street corridor, at 311 E White Street, a block with two other carbon copies of this efficiency apartment building. The other is at 1006 block of W Springfield Avenue (Urbana), across from a University parking lot.

Image 4-5, is taken from an apartment located at 1010 West Main Street in Urbana, two blocks north of the Springfield corridor. The facade is pleasant to both look at and walk by because there is a great amount of variety in its appearance, and gives the pedestrian an experience not unlike walking through a ditch that the images in the other two locations provide.

³ Source: Illinois Department of Transportation, July 2008

Image 4-3



Image 4-4



Image 4-5



- Landscaping buffers must exist between any surface parking lot and the sidewalk, in order to beautify what is otherwise a vast open area. The lack of a buffer between a sidewalk and immediately adjacent parking lot creates a major discontinuity in the streetscape no matter its size.

Not having landscaping separating a surface parking lot from a sidewalk can enhance the perception of being in a vast, unattractive, wide open space at any time of day, in any place. Image 4-6 shows the impact of both at one location. Shown from the southeast corner of Third and White, there is a minimal amount of landscaping done to shield pedestrians from the vast grayness of the parking lot. However, aside from the trees, the bushes are very short and do not offer that much of a buffer, but it is an

improvement on the nonexistent buffer, without trees or bushes, found along Third Street.

Image 4-6

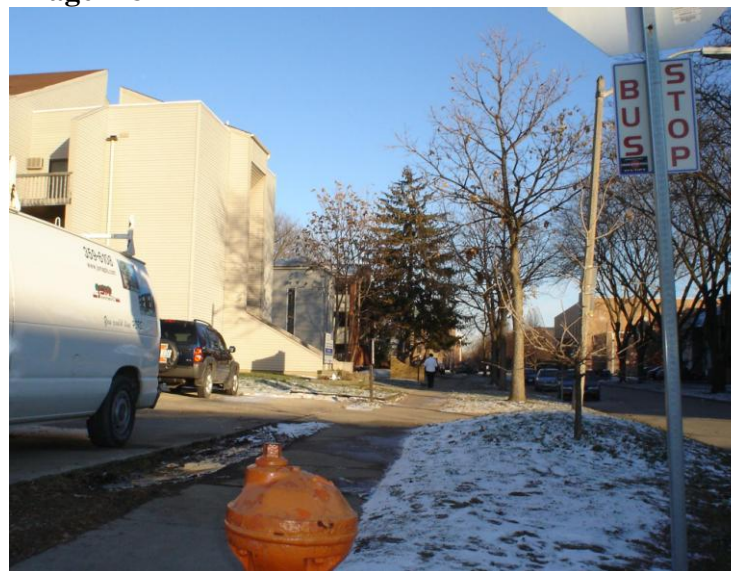


Image 4-7 shows an much better example of a landscaped buffer screening (seen in the leftmost part of the image) a sidewalk from just outside Illinois Terminal, looking westward on University Avenue from Chestnut Street. While this is not an example from a residential area, the very same concepts apply. From this vantage point, one can barely see the parking lot, therefore ensuring a very minimal impact on the pedestrian environment. Image 4-8 shows the existence of the opposite, an unbuffered parking lot at the northwest corner of 6th and White, the location of an MTD bus stop no less.

Image 4-7



Image 4-8



- A consistent streetwall needs to be maintained throughout the length of each block, ensuring that pedestrians and bicyclists alike can see what is ahead from a reasonable distance. This helps eliminate fear of the unknown.

Most of the residential blocks in the White Street corridor, and a few in the Springfield Avenue corridor contain structures that have approximately the same front yard setbacks from the street. These all have one thing in common; the same type of residential structure; in this case, predominantly apartments, regardless of what the side of the building that fronts on the street looks like. However, the north side of the 400 block of W Springfield provides the same example except with single family structures. Respectively, in Images 4-9 and 4-10 on the following page, we see how such an alignment works in reality.

Image 4-9



Image 4-10



The above images show two types of streetwalls from two different views. In 4-9, looking west from the intersection of 6th and White, we have a partially obstructed streetwall by the tree partway into the background,, but despite that it remains clear that the apartment buildings along this block are all approximately the same distance from the sidewalk. By the same token, the same thing exists from an aerial view in Image 4-10, in the upper right-hand portion of the picture. While trees on the ground cause far too much of an obstruction for any on-the-ground views, all these structures are clearly aligned at approximately the same distance from the sidewalk, maintaining the consistency of the streetwall.

Image 4-11 provides an example from each of the corridors on what is a bad example of a consistent streetwall. The first example comes from the 300 block of E White, which on the south side is entirely made up of apartment buildings, yet does not exhibit a consistent streetwall. One of these buildings, at 305 E White Street, as seen in 4-11, has a setback much further back than its surrounding buildings, which only serves to hide and may very well give off the perception of a vacant lot that is in fact developed.

Image 4-11



- Ensure that pedestrian scale lighting exist at all points in the corridor, in order to overcome any negative impacts caused by trees.

There are two types of pedestrian scale lighting found in areas near, but not within, both of these corridors. In Image 4-12, we see an example of the University District Streetscape Master Plan light standard, which simultaneously, in this scenario, lights up 4th Street as well as the sidewalk directly adjacent to it. In image 4-13, we see the type of street lighting common to Urbana’s core residential neighborhoods, in particular West Urbana, this one being at the northeast corner of Green and Busey. While most such lighting fixtures in this neighborhood have more of a rounded shape at the top, the purpose is simple. These types of fixtures direct lighting both towards the street as well as the sidewalk, and are short enough to fit under tall trees. Image 4-14 shows an example of a typical cobrahead lighting fixture, which only hangs over the vehicular right-of-way and at the same height as many tree branches, making it therefore inadequate for a pedestrian-oriented, mixed-use environment, especially in a tree-lined environment. Image 4-9 provides another example of the cobrahead fixtures, this being in the White Street corridor.

Image 4-12



Image 4-13



Image 4-14



- Ensure that transit waiting stops are comfortable at all times of year, in as many weather conditions as possible, and spacious enough to accommodate peak demand ridership.

This is one of the major flaws in each of these corridors. While ridership levels as well as the future 5-minute bus headways along these corridors may minimize the need for bus shelters, a number of other amenities should be provided at the location of the bus stop. Across these existing transit routes, there are only three developed waiting areas. Two of these are located on both sides of White Street just to the east of 2nd Street, primarily due to the immediate adjacency of Skelton Place as well as other apartments in the area. This type of bus stop design is especially critical at this location, given that 57.5% and 35% of the population there were

respectively 50+ and 65+ years old. Among the five stops on White between 1st and Wright, this along with the 4th Street stop, has the greatest ridership, the latter being a stop without any such accommodations. Note the benches on both sides of the street in Image 4-15, as well as the concrete slab placed in the parkway to ease access to the boarding location, necessary due to the fact that it is serving a public housing project. Image 4-16 shows another example of the usage of a concrete waiting area in the parkway, this clearly being part of the University District Streetscape Master Plan due to the colored concrete present. However, no such feature exists at the stop diagonally across the intersection, where one ought to be placed as well.

Image 4-15



Image 4-16



While not having such a waiting area may have been workable for medium traffic stops in the time before the Americans with Disabilities Act (ADA), due to the lack of a curbcut on the cross streets, their presence makes stepping up into a bus from the sidewalk more challenging. This challenge is eliminated through the use of the concrete waiting areas.

Along Springfield Avenue, total ridership, as shown in Table 3-16 and compared to Table 3-7, does not show the same level of ridership per stop as does exist in the White Street corridor, mainly due to the fact that the densities are much less a few blocks from campus on Springfield when compared to White. The areas near campus in each corridor, which are of similar densities (See Images 3-1, 3-2, 3-5, and 3-6) yet have lower per stop ridership than the stops further from campus since they are at a walkable distance from or to campus.

- Keep all surface parking to the rear wherever possible, adjacent to alleys where they presently exist or where the layout of the parcels makes it possible to develop an alley. If an alley is not feasible, parking should be located under the rear of the building, with access to the lot provided either by a curbcut from an adjacent cross street if feasible. If that is not feasible, then a driveway no wider than 12 feet should be provided to allow access to the rear.

Needless to say, alleys are definitely not among the most attractive places in an urban setting, and it is this unattractiveness that has driven their use out of many new developments. However, with the concentration of all unpleasantries such as dumpsters, cement or asphalt parking lots, and overhead utility wires, among other things, it leaves a pleasant streetscape for the pedestrian and still allows for residents who have their own vehicles to continue to use them.

Image 4-17 shows the alley behind the south side of the 500 block of East White. However, without having an area like this, we would have a streetscape that is significantly less attractive for those walking, bicycling, or driving than what we see in Image 4-18. Note that nothing which makes Image 4-17 “ugly” can be seen in Image 4-18.

Image 4-17



Image 4-18



- Use brick or some form of masonry rather than metal siding as the primary façade material for all future residential buildings.

One of the most common misunderstandings among the permanent residents of Champaign-Urbana, both those that live within and outside the campus area's direct sphere of influence, is that densification is ugly and that only development that is single family in nature can be pleasant to look at is misleading. However, it is the façades of these buildings that make them unattractive on the outside, not the type of housing.

Image 4-19 provides the perfect example of two single family homes in along White Street, at the northeast corner of White and 4th. Which of these is a more attractive building? Compare this to the apartment building found in Image 4-20, at 604 W Stoughton in Urbana. What makes it attractive? It has nearly all the elements of a streetscape friendly apartment building; a distinct façade with pillars, balconies as well as many windows overlooking the street, a brick façade for the ground floor, and although the second and third floors have colored metal siding, its coloring blends in perfectly with the brick.

Image 4-19



Image 4-20



- Require that all new residential apartment construction along each corridor be exactly four stories tall. Equivalent construction in adjacent areas should be no more than 3 stories in height.

Aside the presence of transit, there is nothing about the White Street corridor that makes it stand out from the surrounding neighborhood. Aside from the relatively high frequency of transit that already exists there, in appearance it appears little different from Clark Street to the north or Stoughton Street (east of Fourth) to the south. Taller buildings make an area stand out more and convey to the average pedestrian or bicyclist the importance of such an area.

As for the Springfield corridor, the only thing that makes it stand out is the auto-friendly feel that does not exist to the north or the south. The corridor should serve as more than a funnel by which cars get through the neighborhood.

However, the designation of the four-story recommendation was chosen for two reasons:

- (a) Building height helps the corridor stand out*
- (b) A height greater than 4 stories could negatively affect the scale of the environment. This in particular applies at the east end of the Springfield corridor, where tall structures would obliterate the scale of the tree-lined, single family homes along Main Street.*
- (c) The tallest commercial buildings in downtown are no more than 5 stories; care should be taken to ensure that the corridor does not stand out more than the downtown itself.*

Designing for Improvement along Springfield Avenue

While the issues presented in the previous section focus on problems that exist with the pedestrian environment in both corridors, there are a number of other issues that need to be dealt with in the residential portions of the White Street corridor. This is due in part to the fact that White Street is a residential street with rather low traffic volumes (750 and 700 ADT at last measurement in 1996, respectively west and east of 4th Street) compared to Springfield Avenue, a street that was designed to facilitate automobile travel at the expense of pedestrians, with respective ADT values of 9700 and 9300 west and east of Lincoln Avenue within in the study area.⁴ Yet despite the high usage of alternate modes in the journey to work (JTW) commute, the pedestrian infrastructure along Springfield, particularly east of Lincoln, is very insufficient for a pedestrian-filled environment, particularly one in which there is a planned mix of commercial and residential uses. The following changes are recommended for the residential portion of Springfield Avenue:

- City of Urbana, CUUATS, and IDOT staff should work to completely redesign the intersection of Springfield and Lincoln Avenues to better accommodate pedestrian travel in such a dense area.

The two images at the right show this same intersection from two different perspectives; on the ground from the northwest corner of the intersection looking to the east, and another aerial view from spring 2005 as provided by the Champaign County Regional Planning Commission (CCRPC). In Image 4-21, the view shows an endless sea of asphalt with the sidewalks along Springfield on the other side of the

Image 4-21



Image 4-22



⁴ Source: Illinois Department of Transportation, July 2008

intersection with the sidewalks nearly unidentifiable. The sidewalks are similarly unidentifiable in the aerial view in Image 4-22. Aside from the northwest corner of the intersection, where the sidewalks are 5 feet wide, they are no more than 4 feet wide. This is unacceptable in an area where over 40% of commutes are made on foot (See Table 3-14). As a mode of comparison, the width of Springfield east of its intersection with Busey Avenue is 36 feet, but east of Lincoln, after the turning radii straighten out, the width is 55 feet. Both crosswalks across Lincoln are approximately 80 feet.

Because of this poor intersection design, an overhaul is necessary. While curb extensions just immediately at the corner would be very impractical, narrowing the width of Springfield to the 36 feet width east and west of the curves would allow the turn radii to be maintained as is. This not only provides more than enough room for a sidewalk of at least 6 feet width, but also plenty of room to provide for a significant buffer from the sidewalk. Following these guidelines would allow for a 25% reduction in the length required to cross Springfield at Lincoln, from about 80 feet to 60 feet. While this can by no means be considered truly pedestrian friendly, it is a major improvement over what currently exists. No suburban style intersection should ever exist in such a dense urban environment as what presently exists at this location.

However, the narrowing of Lincoln Avenue would be near impractical for this scenario, primarily due to existing traffic volumes as well as the political nature of it. Given that it is one of only two major arterials running north-south in or near the core (the other being Vine/Cunningham), narrowing Lincoln at this location would not be workable on many levels.

- Sidewalks not only should be at least 6 feet wide where practical, but also feature a reasonable buffer from vehicular traffic to ensure that the pedestrian feels comfortable. These buffers could be any of the following:
 - *Moderately to heavily used on-street parking locations provide a buffer from the street by ensuring that moving traffic not be in the lane immediately adjacent to the sidewalk. An example can be found below in Image 4-23, taken looking west on the north side of Springfield from Birch Street; having just one car in the parking lane can make all the difference in the world.*
 - *A parkway buffer of at least 5 feet if a traffic lane is immediately adjacent to the curb. See Image 4-24 for an example of such a parkway buffer, looking east from the northeast corner of Springfield and Harvey..*
 - *A 10-foot wide sidewalk if no buffer is placed immediately adjacent to the curb.*

If the physical layout of an area makes it nearly impossible to meet any of these standards, then the sidewalk should simply be made as wide as possible, assuming a typical minimum for an arterial traffic lane. See Image 4-25 for a location where such a conflict may occur.

Image 4-23



Image 4-24



Image 4-25



In the case of Image 4-22, in which the view is towards the east on Springfield near its intersection with McCullough, we see that the sidewalk on the other side of the street has the parkway available between it and the street, yet none exists at the location at which this picture was taken. Because the leftmost portion of the eastbound lane merely narrows and does not shift, the “buffer zone” which we see on the other side of McCullough is merely the width of the space that is lost from the eastbound lane past that intersection.

- All buildings located on properties that have frontage on both Springfield and Stoughton or are corner lots should have the main entrance face Springfield following any redevelopment.

Walking at the back of buildings on a sidewalk adjacent to an arterial brings the worst of both worlds to the pedestrian landscape. Walking alongside or behind almost any residential structure typically gives you the feeling that you are in an alley, even when you aren't. Having cars fly by you on the other side at 35 miles per hour just makes that even less comfortable.

The north side of the 600 and 700 blocks of West Springfield are the most prominent examples of this. Because of historical road patterns that helped create a direct connection between Champaign and Urbana during the early history of these twin cities, the neighborhood immediately northwest of downtown Urbana defies the grid system found elsewhere in the urban core.

Image 4-26 shows the rear of the building located at 705 W Stoughton. Note that the rear frontage of the property line here is along Springfield Avenue. Although there is presently no sidewalk here, it is imperative that one exist following redevelopment. Image 4-27 is taken from the northeast corner of Springfield and Coler, looking west, behind the property located at 613 W Stoughton.

Image 4-26



Image 4-27



Parking Standards on Springfield

In Chapter 3, the residential existing conditions report, we found that independent of parking or population densities, that in each corridor during peak hours, approximately two-thirds of parking spaces were utilized; 66.04% along White Street, and 68.08% along Springfield. This was despite the fact that the actual parking supply per unit and per person was quite different, as 0.597 spaces per person (1.244 per unit) on Springfield compared to 0.501 (1.211 per unit) along White. Because the percentage of family households in each corridor is quite low based on 2000 Census block level data (7.14% on White, 8.01% on Springfield, 7.65% across both), it is reasonably safe to assume that there is little car sharing going on despite the low levels of car availability.

However, the ratio of spaces that were actually filled to the area's population at the time fell short of the ratios in the U.S. Census. This is plainly a result of the fact that some people have destinations to reach that they can't reach other than by car. Assuming that the number of cars per household from the 2000 US Census were matched by the number of cars in these residential spaces all at once, the percentage of spaces that would be filled in the Springfield corridor would be 414 (out of a total of 448), a 7.14% reduction. However, for the area of the corridor west of Busey Avenue, which is dominated by apartment complexes in the same way as the entire residential portion of the White Street corridor, this is different from the overall rate. In Block Group (BG) 2 of Census Tract (CT) 52 and BG 1 of CT 59, which together roughly include this section of the corridor, the ratios are respectively 1.2 and 0.91, and when combined the ratio is 1.05.

However, BG 2 of CT 52 goes as far east as Coler Avenue (unlike BG 1 of CT 59, whose eastern boundary is actually Busey Avenue), and has University Avenue as its northern boundary. The area north of Stoughton and east of Lincoln is dominated by single family homes, unlike the area along Springfield, so far the sake of argument we can assume that the number of spaces per unit is certainly not greater than 1.1. And since 1.05 is essentially the halfway point between 1.2 and 0.91, a one-to-one unit to space ratio will be our assumed present vehicle availability rate in this portion of the corridor. Based on this assumption, there is a need for a total of 264 spaces in this area of the corridor.

The total number of parking spaces from Busey Avenue west is 296, but the total number of parking spaces actually occupied during the survey was 203 of 296, or 68.58%. Reducing the total number of spaces to 264 would result in a 10.8% reduction in the total number of parking spaces, and assuming the same number of spaces remain occupied, the rate of overall occupation rises to 76.89%. The split by block can be found below in Table 4-1, along with the average household size:

Table 4-1

Residential Parking West of Busey in the Springfield Avenue Corridor*

City Block	Total Parked Vehicles	Total Spaces	Percentage of Spaces Occupied	Vehicles/ Units	Vehicles/ Population	Average Household Size
800 WN	39	65	60.00%	1.000	0.345	2.89
800 WS	49	70	70.00%	0.645	0.253	2.55
900 WN	3	7	42.86%	0.375	0.231	1.57
900 WS	71	102	69.61%	0.732	0.518	1.41
1000 WN	41	52	78.85%	0.932	0.414	2.26
Total*	203	296	68.58%	0.769	0.365	2.11

*Total number of parked cars were counted from 10am to 12pm on Tuesday, 11/11/08

With the exception of the 900 WN block, which contains only a single apartment building as part of its total residential uses, there appear to be a reasonable reverse correlation between household size and the number of vehicles per person present, based on the survey from November 11. This implies that the number of spaces per unit should be increased if they accommodate more residents, but nothing approaching a one-to-one ratio of spaces per bedroom. As shown in Table 3-15, 75.81% of households in these Block Groups had less than 2 vehicles available, including 31.54% which utterly lacked a car. Given that redevelopment has been at a bare minimum in this area, and that the population is comprised predominantly of college students much as it was in 2000 (Census data shows that 95.7% of people living on the Census Blocks along Springfield west of Busey were between the ages of 18 and 29). Another 15.28% of households had 2 vehicles, and those who had even more comprised only 8.91% of the households in this area.

Block Group 1 of both CT 52 and CT 58 are the two tracts located at the eastern end of the corridor, and the household type has a much greater single family component. Not surprisingly, the number of vehicles available per household is 1.30, significantly higher than the 1.05 for the other two block groups. However, since there is much less variation between the housing stock along the corridor and its potential “ped-shed,” this value can be reasonably assumed for households in locations immediately adjacent to Springfield.

For the households east of Busey, a lesser portion of the parking spaces were utilized. The total occupied at the time of the survey were 73 of 117, or 62.39%, less than that for the blocks west of Busey. Assuming that the number of spaces matches the 1.30 ratio as a measure of actual demand, however, means that the number of spaces provided outnumber the current capacity, so it cannot be used as a reason to justify any reduction. The split block by block can be found in Table 4-2, and includes average household size:

Table 4-2						
Residential Parking East of Busey in the Springfield Avenue Corridor*						
City Block	Total Parked Vehicles	Total Spaces	Percentage of Spaces Occupied	Vehicles/ Units	Vehicles/ Population	Average Household Size
<i>400 WN</i>	17	33	51.52%	1.063	0.567	2.11
<i>400 WS</i>	4	13	30.77%	1.000	0.444	2.29
<i>5-600 WN</i>	7	8	87.50%	2.333	0.700	3.33
<i>5-600 WS</i>	24	33	72.73%	0.727	0.387	1.88
<i>700 WN</i>	21	30	70.00%	1.313	0.677	1.95
<i>700 WS</i>	29	35	82.86%	1.208	0.558	2.18
Total*	73	117	62.39%	1.014	0.514	1.97
<small>*Total number of parked cars were counted from 10am to 12pm on Tuesday, 11/11/08</small>						

Unlike in Table 4-1, in Table 4-2 there does not appear to be a correlation of any kind between household size and the number of vehicles per person, based on the number of parked cars in the November 11 survey. The percentage of households with less than 2 vehicles available does not appear to be significantly different (67.51% at this end, 75.81% at the west end), but the number of households with no vehicles available is approximately half that, at 16.6% compared to 31.54% in the western block groups. A greater percentage of households have two vehicles available (22.5%) than have no vehicles in this area. However, since a total of 55.5% of workers use an alternate form of transportation in their daily commute, including a whopping 16.8% via transit, the potential for reducing the use of automobiles via other trips is very high.

What is needed, therefore, is a reduction in parking availability on the west side of the corridor to a ratio that is less than the ratios provided at the east side, given that the housing stock will be in much greater demand for undergraduate students near campus, and greater for graduate students and young professionals in the eastern end at a greater distance from campus. Although the above tables use Busey Avenue as the dividing line, Coler Avenue is recommended as the location given its distance of approximately two-fifths of a mile from campus.

Of all the households in the area that lie adjacent to the corridor, 25.4% of them had no automobile available as of the 2000 U.S. Census. Out of the same total, 21.19% were headed by someone between the ages of 15 and 34. This was at its extreme in the western block groups, where the same totals were respectively 31.54% and 30.26%. If anything, this means that even within high density housing types, ordinary apartments targeted towards students should have lower parking requirements than. The key is to

provide both parking minima and parking maxima, in order that developers do not provide an amount of parking that is excessive for mobility enhanced development.

Based on the following data, it is critical to establish four different residential parking standards for the following categories, assuming the present scenario in which on-street parking goes unrestricted:

- Apartments west of Coler
- Apartments east of Coler
- Condominiums

The following can be applied to any existing single family structures that are converted to said residential uses. Since the construction of single family homes on any parcels in the study area is not recommended at any time during the foreseeable future (particularly because of the inherent conflict between single family residential and district in which a vertical mixing of uses), parking standards for it will not be considered.

Determining Standards on Springfield

- Apartments West of Coler

For the areas west of Coler, it is imperative to see what conditions exist solely for the apartment units (for this, we will base it partially on the average vehicle availability in the US Census data). This includes all residential parcels west of Lincoln, as well as the developments on the northeast and southeast corners of Lincoln and Springfield. The complex at 705 W Stoughton, as well as the apartments on the north side of Western Avenue, are also included with this.

The total amount of parking, units, spaces used, and assumed population are as follows:

Units: 257

Assumed Population: 529

Total Parking: 277

Parking Used: 182

Assumed Total Vehicle Availability (based on vehicles per renter-occupied household in Block Group): 243

Ratio of Vehicle Availability to Total Units: 0.95

Ratio of Vehicle Availability to Total Population: 0.46

Cars/Persons: 0.52

Spaces/Persons: 0.34

When looking at the number of vehicles per household by rental units only in the 2000 US Census, we find that the numbers are drastically different. Table 4-3 shows the number of vehicles per unit at two levels; in the first column, for all households in each block group (as well as various combinations of groups) that are occupied regardless of tenure, and in the second and third columns, only those that are renter occupied and owner occupied:

Table 4-3			
Vehicles per Household by Block Groups Near the Springfield Ave Corridor			
Census Geography	All Households	Renter Occupied	Owner Occupied
<i>BG 1, CT 52</i>	1.06	0.98	1.78
<i>BG 2, CT 52</i>	1.20	1.18	1.55
<i>BG 1, CT 58</i>	1.60	1.64	0.42
<i>BG 1, CT 59</i>	0.91	0.92	0.00
<i>West</i>	1.05	1.05	1.17
<i>East</i>	1.30	1.29	1.45
<i>All Springfield Block Groups</i>	1.15	1.14	1.32
<i>Champaign, IL Urbanized Area</i>	1.47	1.19	1.78
BG = Block Group CT = Census Tract			
Source: U.S. Census Bureau, 2000 Census			

Note that in Block Group 1 of Census Tracts 58 and 59, both to the south of Springfield, have a combined total of 22 owner occupied households, which is why said rates are much higher.

As a result of the above data, we recommend that any future apartment buildings built along this section of Springfield meet the following ratios of spaces per unit to be met, in the absence of on-street parking regulation (aside from Urbana’s ordinance requiring that no car be parked on street in the same spot for more than 72 hours):⁵

- Efficiency Apartments: 0.75 minimum, 0.85 maximum
- Regular 1-Bedroom Apartments: 0.85 minimum, 0.95 maximum
- Two Bedroom Apartments: 0.5 minimum, 0.6 maximum

⁵ Specific Prohibited and Restricted Parking Regulations: Obtained 12/5/2008 from: http://www.city.urbana.il.us/urbana/finance/parking/Prohibited_Parking.html

If the development includes any of three or four bedroom apartments, the values must be adjusted to ensure that the ratio of spaces to bedrooms be between 0.4 and 0.5 assuming it is mathematically possible. Otherwise, no spaces should be added for any additional 3 or 4-bedroom apartments if the 0.5 ratio is exceeded.

As an example, envision a 15-unit complex in which the following distribution of units exists: three efficiencies, two 1-bedrooms, two 2-bedrooms, four 3-bedrooms, and four 4-bedroom units. This leaves a total of 7 spaces allocated to the first three groups of units. There are a total of 37 bedrooms within the complex, meaning that range of spaces provided by the minimum and maximum would be 17-20 spaces in total.

- Condominiums

Because there are only a total of 8 condominium units within the entire Springfield Avenue corridor (bounded by Springfield, Busey, and Stoughton, called “Busey Commons”), determining the parking standards for condominiums will require looking elsewhere in the northern portion of West Urbana. For this we will also look at the condo development at 502 W Green Street (northwest corner of Green and McCullough, called Campus Oaks), and the data will ultimately be used to determine standards in the corridor both east and west of Coler.

The properties in question have a total of 42 units and 65 off-street parking spaces. The split by development is 8 and 12 (including one garage space per unit) for Busey Commons (three-bedroom units), and 34 and 56 for Campus Oaks, (four-bedroom units). Campus Oaks is presently the only residential development of any kind on 2000 Census Block 1008 of Census Tract 58. The average household size for this block at the time of the census was 3.64, and we will assume that it is so today. Although the ratio of spaces to units is a very high 1.56, that is a reflection of the average household size. Given the assumed population based on the average household size, that ratio plummets to 0.43, slightly above the minimum already established for the apartments at the west end of the corridor.

Combine the two developments together (assuming the 2.89 average household size on the 800 WN block) and the ratios become 1.54 and 0.44. Given that Campus Oaks is in a location immediately adjacent to existing transit service, these ratios are certainly justified. That said, among these units, only six are presently owner-occupied. However, since dense, owner occupied housing is not very common in Champaign-Urbana, we must look elsewhere within Illinois to find a dense neighborhood. A well known example of such a neighborhood that was heavily gentrified in 2000 would be Chicago’s Lakeview neighborhood, on that city’s north side.

Lakeview, when conformed to the community area boundaries⁶, is made up of 34 Census Tracts (numbered 601 to 634), all located within Cook County. In Table 4-4 below, Lakeview is compared to the Springfield corridor both in terms of the number of vehicles available per household as well as the average household size, both in the aggregate and by tenure.

Table 4-4						
Vehicles per Household and Average Household Size by Tenure in the Springfield Corridor and Lakeview						
Neighborhood	Vehicles - All Households	Vehicles - Renter Occupied	Vehicles - Owner Occupied	HH Size - All Households	HH Size - Renter Occupied	HH Size - Owner Occupied
<i>Lakeview, Chicago</i>	0.89	0.80	1.10	1.66	1.58	1.80
<i>Springfield Corridor*</i>	1.15	1.14	1.32	1.983	1.977	2.13
*For average household size data, corresponds to BG 1 of CT 52, 58, and 59, as well as BG 2 of CT 52, in order to match vehicle per household data.						
Source: U.S. Census Bureau, 2000 Census, Summary Files 1 and 3						

In all six of these categories, the value for the Springfield corridor proves to be higher than that of Lakeview. This is not necessarily surprising, as young professionals are typically capable of affording a single unit dwelling that college students cannot afford unless they all chip in. Table 4-5 below list the ratio of household size to tenure for all three categories above, resulting in a vehicle per person ratio:

Table 4-5			
Vehicles per Person Averages, 2000 U.S. Census			
Neighborhood	All Households Ratio	Renter Occupied Ratio	Owner Occupied Ratio
<i>Lakeview, Chicago</i>	0.535	0.505	0.614
<i>Springfield Corridor*</i>	0.581	0.579	0.622
*For average household size data, corresponds to BG 1 of CT 52, 58, and 59, as well as BG 2 of CT 52, in order to match vehicle per household data.			
Source: U.S. Census Bureau, 2000 Census, Summary Files 1 and 3			

⁶ City of Chicago Community Areas Map. Obtained 12/5/2008 from: http://199.253.140.81/city/webportal/portalContentItemAction.do?blockName=Promo+Item&channelId=-536879024&programId=536879094&topChannelName=Residents&contentOID=536896854&Failed_Reason=Invalid+timestamp,+engine+has+been+restarted&contentTypeName=COC_EDITORIAL&com.broadvision.session.new=Yes&Failed_Page=%2fwebportal%2fportalContentItemAction.do

Because of the adjacency of Carle Hospital, and to a lesser degree, Provena Covenant Hospital, to the Springfield corridor, densification of this area brings young professionals within very close proximity to a potential place of employment, potentially negating the need for a car for many. Because Carle Hospital is on Coler Avenue, the street that effectively splits the corridor in half, just ¼ mile north of Springfield, the potential for drawing Carle employees to this neighborhood is tremendous. However, the lowering of parking ratios will not be completely offset by these employees, as professionals with employment throughout the Champaign-Urbana region may choose to locate here. Therefore, it is critical that the overall parking ratios be higher than for those catering to students. However, since professionals typically choose to have higher rates of vehicle ownership than college students, yet choose to locate in smaller households, we propose overall ratings that are higher than those in the aggregate for student oriented housing, yet lower for 1-bedroom and 2-bedroom units because of the greater demand among young professionals for said housing product.

The parking standards for these types of housing developments should be as follows:

- One-Bedroom condos: 0.75 to 0.85 spaces per bedroom
- Two-Bedroom condos: 0.6 to 0.7 spaces per bedroom

Again, like for the apartments west of Coler, for any development that includes three or four-bedroom units, the overall ratio of spaces to bedrooms must fall within a certain range: for condominiums, it is between 0.55 and 0.65. If a ratio lower than 0.65 cannot be achieved within the bounds of these guidelines, then no additional spaces should be included for three or four bedroom units.

- Apartments east of Coler

From Springfield's intersection with Goodwin east to its intersection with Coler, a total of 0.4 miles are traversed. Because the character of the corridor is very different here (i.e. less dense, and with older housing stock), it is ripe for redevelopment. Because the City of Urbana's plan for the Boneyard Creek falls to the east of the corridor study area,⁷ land adjacent to the Boneyard would be open to development, such as the 0.4 acres of vacant land wedged between the creek and the Buena Vista Historic District. Additionally, the homes built to the northeast of Springfield and McCullough (but still inside the study area) date from the turn of the 20th century and range from poor to fair condition. Because of this, it is extremely critical that parking standards match exactly what is needed.

Unlike the apartments west of Coler, as well as any condominiums built within the corridor, the target demographic for these properties will be both upper level undergraduates, graduate students, and young professionals that do not have the requisite salary to

⁷ City of Urbana, IL: Boneyard Creek Master Plan. Obtained 12/6/2008 from: http://www.city.urbana.il.us/urbana/public_works/engineering/boneyard_creek_plan/main.html

own property in this area. While much of this area is expected to be predominantly mixed use, the residential component should be targeted to these groups that are most likely to find it attractive given the distance from campus.

Therefore, in determining the standards for rental apartments in this area, it would be best to find a middle ground between the standards for condominiums and for apartments located west of Coler. The following should be the parking standards for new apartment construction on Springfield east of Coler Avenue.

- Efficiency and Regular 1-Bedroom Apartments: 0.8 to 0.9 spaces per bedroom
- Two-Bedroom Apartments: 0.55 to 0.65 spaces per bedroom

Again, like the other two categories, if the complex includes at least one three or four bedroom unit, the overall ratio must fall within a certain range, or the lowest ratio mathematically possible. The space per bedroom ratio should fall between 0.5 and 0.55 if mathematically possible. Otherwise, no additional spaces should be included.

Parking Standards on White

Like what is seen along Springfield Avenue, the ratio of parking spaces relative to the number of units at present is very low. In fact, it is marginally lower than that of White Street, at a mere 1.211 spaces per unit (assuming spaces in the 100 E-S block are excluded), as well as the ratio of the occupied off-street parking spaces at the time, at 66.04%. But how does this make the White Street corridor any different from Springfield.

The difference comes down to two things; the splits that presently exist between the western and eastern sections of the corridor, as well as the greater aggregate density resulting from the fact that nearly the entire the residential portion of the corridor, including parcels solely in surface parking, are 75% composed of residential uses.

So how does density relate to parking usage? Table 4-6 below summarizes parking availability based on statistics from the 2000 U.S. Census for geographies related to both corridors, and Table 4-7 following it looks at observed on ground conditions:

Vehicles per Household and Average Household Size by Block Groups Near Each Corridor									
Census Geography	Vehicles/ HH - All Households	Vehicles/ HH - Owner Occupied	Vehicles/ HH - Renter	HH Size - All Households	HH Size - Owner Occupied	HH Size - Renter Occupied	Vehicles/ Person - All	Vehicles/ Person - Owner	Vehicles/ Person - Renter
<i>Census Tract 3</i>	1.142	1.38	1.141	1.94	1.69	1.94	0.589	0.817	0.588
<i>BG 1, CT 3</i>	1.03	0.00	1.03	1.73	1.78	1.73	0.597	0.000	0.597
<i>BG 4, CT 3</i>	0.73	1.38	0.69	1.72	1.46	1.73	0.424	0.945	0.399
<i>White Street BGs</i>	0.974	1.38	0.969	1.72	1.59	1.73	0.566	0.868	0.560
<i>Springfield BGs West*</i>	1.052	1.17	1.047	2.12	2.05	2.13	0.496	0.571	0.492
<i>Springfield BGs East*</i>	1.30	1.45	1.29	1.93	1.83	2.15	0.674	0.792	0.600
<i>Springfield BGs*</i>	1.15	1.32	1.14	1.983	2.13	1.977	0.580	0.620	0.577
<i>Champaign, IL UA</i>	1.47	1.78	1.19	2.23	2.44	2.03	0.659	0.730	0.586

*For average household size data, corresponds to BG 1 of CT 52, 58, and 59, as well as BG 2 of CT 52, in order to match vehicle per household data. BG 1 of CT52 and BG 1 of CT 58 comprise the east groups, and BG 2 of CT 52 as well as BG of of CT 59 comprise the West groups.

BG = Block Group CT = Census Tract UA = Urbanized Area

Source: U.S. Census Bureau, 2000 Census, Summary Files 1 (HH Size) and 3 (Vehicles)

On Ground Parking Data - White and Springfield Corridors					
Corridor Section	Average Household Size	Vehicles per Household	Vehicles per Person	Spaces per Household	Spaces per Person
<i>West of 4th</i>	1.55	0.52	0.33	0.88	0.57
<i>East of 4th</i>	1.73	0.54	0.31	0.77	0.45
<i>White Street Corridor</i>	1.64	0.53	0.32	0.83	0.50
<i>West of Busey</i>	2.11	0.78	0.37	1.14	0.54
<i>East of Busey</i>	2.02	1.06	0.53	1.58	0.78
<i>Springfield Corridor*</i>	2.08	0.86	0.41	1.26	0.60

Because of the higher densities found along White Street, the amount of space for surface parking is very limited without utilizing the construction of garages. Additionally, as the above tables show, historically the number of vehicles available per person is less along the White Street corridor than along the Springfield corridor despite a similar demographic makeup. This is the result of greater proximity to Green Street as well the region's more vibrant downtown. Understanding how the proportion of parking provision and usage compares to the Springfield Avenue corridor will be critical in determining standards for future development. To start we will compare the existing scenario east of Fourth Street with that of Springfield.

Determining Standards on White

- Apartments east of Fourth

To determine the standards for future multi-family residential development east of Fourth Street, it is critical to understand the conditions existing for apartment units in that area. The parcels specifically being looked at here are those classified as apartments (of both 3-7 units as well as 8 or more) by the Champaign County Assessor's Property Record Search website.⁸

Units: 321

Assumed Population: 553

Total Parking: 225

Parking Used: 155

Assumed Total Vehicle Availability: 330⁹

Ratio of Vehicle Availability to Total Units: 1.03

Ratio of Vehicle Availability to Total Population: 0.597

Cars/Persons (based on usage survey): 0.28

Spaces/Persons (based on original corridor survey): 0.41

Unlike for Springfield Avenue, based on Summary File 3 of the 2000 U.S. Census, there are no rental units in Block Group 1 of Census Tract 3, so all the ratios resulting from the above will be compared to their equivalents for the western portion of the Springfield corridor. They are as follows:

⁸ Champaign County, IL Property Record Search: <http://www.co.champaign.il.us/ccao/Assessors.htm>

⁹ Based on vehicle availability per household in Census Tract 3, Block Group 1, of Champaign County in the 2000 U.S. Census.

Census Vehicle Availability/Units: 1.08

Census Vehicle Availability/Population: 1.30

On Ground Cars/Persons: 0.79

On Ground Spaces/Persons: 0.82

Percent Households with no vehicles available Ratio (Springfield West/CT3 BG1): 1.04

Percent Households with 1 or fewer vehicles available Ratio (Springfield West/CT3 BG1): 0.95

From the above data, two major trends appear. While the assumptions on the number of cars available per household are much higher, that is only because no reason has been applied to lower the ratio, since none of the sections of CT3 BG1 have a significant single-family component, unlike CT 52 BG 2. Since the number of homes with one vehicle available on the east end of White outnumber those at the west end of Springfield, it is important to provide similar overall ratios yet lower ones for developments containing solely one and two-bedroom units. The recommended parking standards for the east end of the White Street corridor, east of Fourth Street, is as follows:

- Efficiency Apartments: 0.7 minimum, 0.8 maximum
- Regular 1-Bedroom Apartments: 0.75 minimum, 0.85 maximum
- Two Bedroom Apartments: 0.55 minimum, 0.65 maximum

If the development includes any of three or four bedroom apartments, the values must be adjusted to ensure that the ratio of spaces to bedrooms be between 0.4 and 0.5 assuming it is mathematically possible. Otherwise, no spaces should be added for any additional 3 or 4 bedroom apartments if the 0.5 ratio is exceeded.

- Apartments west of Fourth

Unlike the area east of Fourth Street, which is expected to be a campus oriented area due to its immediate proximity to the university, apartment units constructed in the west half of the White Street residential core should cater to a much greater variety in population; professionals, students, and low-income households, particularly in the case the Skelton Place undergoes any redevelopment.

Based on the assumed population figures available in Figure 3-2, we find that a slight majority of the population within this section of the corridor lives on the 300 block of East White (192 out of 380 people), meaning that the population here is just as representative of BG 1 as BG 4. Therefore, the values we will apply from Census data to this corridor will be the value that falls at the midpoint between the values for both block groups. These differ from the values given for the corridor as a whole due to the fact that a much larger population lives in BG 1, east of Third Street.

Table 4-8 below outlines the relationship between these values and the ones for the individual block groups, as well as the aggregate values for the two groups combined:

Table 4-8												
Assumed Census Data Values for the White Street Corridor West of Fourth Street												
Census Geography	Number of Vehicles Available by Household				Vehicles per Household	Usage of Alternate Modes			Average Household Sizes			VPH / HH Size
	0	1	2	3+		Transit	Bike	Walk	All Units	Owner Occupied	Renter Occupied	
<i>Census Tract 3</i>	28.55%	45.30%	14.47%	11.69%	1.13	10.34%	5.45%	45.77%	1.94	1.69	1.94	0.58
<i>Block Group 1</i>	30.32%	49.68%	10.04%	9.96%	1.02	7.63%	2.85%	58.78%	1.73	1.78	1.73	0.59
<i>Block Group 4</i>	41.67%	48.21%	5.36%	4.76%	0.73	19.94%	8.26%	26.50%	1.72	1.46	1.73	0.42
<i>West of 4th</i>	36.00%	48.95%	7.70%	7.36%	0.88	13.79%	5.56%	42.64%	1.725	1.62	1.73	0.51
West White Ratio**	1.19	0.99	0.77	0.74	0.86	1.81	1.95	0.73	1.00	0.91	1.00	0.86
White Corridor	32.54%	49.39%	34.39%	8.94%	0.96	10.04%	3.91%	52.46%	1.72	1.59	1.73	0.56
Source: U.S. Census Bureau, Census 2000, Summary Files 1 and 3												
*Listed value here is the average of the values for BG 1 and BG 4												
**Ratio of the numbers in "Block Group 1" over those in "West of 4th"												

In addition to the above data, for the percentage of households where 1 or fewer vehicles are available, said ratio is 1.06. Taking this and the overall data above, including the near double rate in the use of transit as well as bicycle (and only about ¾ the usage of walking), it is found that the distance of over ¼ mile is a hindrance to walking trips. And the number of cars per person, indicated by the number of vehicles per household divided by the average household size, is 86% that of Block Group 1 in the area west of 4th Street. Ultimately, this would seem to indicate a need for lower parking standards, especially given the greater numbers using transit and bicycling in the journey to work. However, the percentage of workers using transit, bicycling, and walking is much lower to the west than to the east of Fourth. But since any professionals that may ever consider this area will most likely be working either (a)

downtown or (b) on campus as University professors, and the fact that the presence of the County Market opening in March 2009¹⁰ will certainly reduce auto trips, there will be no need to raise the amount of parking per person.

In fact, the amount of parking is scheduled to decrease within the following year. Based on consultation with City of Champaign staff, the city owned 75-space lot located at the Southwest corner of Third and White, immediately to the east of Skelton Place, will be involved in a property transfer as part of the Burnham Hospital redevelopment.¹¹ City staff have indicated that actual development is at least one year behind schedule due to the downturn in the housing market, meaning that actual development is at least two years off. Council Bill 2006 – 018 indicates that this redevelopment was scheduled to have begun in August of 2008 and finish in August 2010¹², but this is looking more like the date at which redevelopment would begin. Of the currently existing 75 spaces, only the 22 spaces at the south corner of the lot, currently leased to Champaign County Housing Authority, will remain. Assuming that the usage of these spaces is proportional to that of the entire lot, that means that of the 35 users that were observed on the afternoon of November 10th using the lot, 10 of these users will remain following redevelopment. Statistics including both present and future use will be included in table 4-9 below based on observed parking usage from that date. The statistics for both the present and future uses will exclude the largely unused parking on the 100 block.

Table 4-9					
On-Site Off-Street Apartment Parking Information - White Street Corridor					
Corridor Section	Spaces/ Unit	Spaces/ Person	Spaces Used/Unit	Spaces Used/ Person	Percent Spaces Utilized
<i>East of 4th</i>	0.701	0.407	0.483	0.280	68.89%
<i>West of 4th - Present</i>	0.840	0.544	0.530	0.343	63.07%
<i>West of 4th - Future*</i>	0.578	0.375	0.443	0.287	76.51%
<i>Springfield West</i>	1.078	0.524	0.708	0.344	65.70%
White Corridor	0.766	0.468	0.505	0.308	65.88%
*Data excludes spaces in the city parking lot at 3rd & White which will be eliminated as part of the Burnham redevelopment project. Aggregate corridor data does not include lost parking.					

¹⁰ County Market aims for June opening at Burnham 310. Obtained 12/12/2008 from: http://www.news-gazette.com/news/local/2008/11/14/county_market_aims_for_march_opening_at_burnham_310&cid=1270403501&ei=YGAeSfX8AoHuwgGCj4DGAw&usq=AFQjCNGFaNp_JPKpQjsMCDBLARK2161nMQ

¹¹ Burnham Master Plan. Obtained 12/12/2008 from: http://www.ci.champaign.il.us/business/pdfs/Burnham_Master_Plan.pdf

¹² CB 1006-018, City of Champaign. Obtained 12/12/2008 from: <http://archive.ci.champaign.il.us/archive/dsweb/Get/Document-3492/CB%202006-018.pdf>

Relative to the east end of the corridor, the west end of the White Street corridor has a greater amount of parking supply per person as well as per unit. According to the data for actual usage, it is also higher relative to per unit. This data is seemingly the opposite of what shows in Census data, which shows rates of vehicle availability to be much higher in Block Group 1 than in Block Group 4.

However, this is certainly the result. Based on consultation with city staff, the city parking lot at 3rd and White allowed for many of the existing residential uses, virtually all of which do not meet city parking requirements for multi-family apartment uses, to be grandfathered in. Excluding the spaces (as well as the proportional amount of utilized spaces) that will be lost to the Burnham redevelopment, these ratios become much lower than those at the east end of the corridor.

Because of the lower income element that is expected to be around both in terms of the student population as well as the more permanent low income residents, lower parking ratios can exist west of Fourth Street than east of Fourth. Census estimates from Geolytics show that the respective median household incomes of Block Groups 1 and 4 for the year 2007 are \$8,110 and \$10,316, with estimates for the year 2013 respectively at \$8,291 and \$10,252.

Therefore, parking ratios in this area should be slightly lower than those of the area east of Fourth Street. Recommendations for parking standards for new residential development in this portion of the White Street corridor are as follows:

- Efficiency Apartments: 0.6 minimum, 0.7 maximum
- Regular 1-Bedroom Apartments: 0.65 minimum, 0.75 maximum
- Two Bedroom Apartments: 0.5 minimum, 0.6 maximum

Like in the west end of the corridor, if the development includes any of three or four bedroom apartments, the values must be adjusted to ensure that the ratio of spaces to bedrooms be between 0.4 and 0.5 assuming it is mathematically possible. Otherwise, no spaces should be added for any additional 3 or 4 bedroom apartments if the 0.5 ratio is exceeded.

- Condominiums and Rowhouses

These type of housing products are currently some that do not exist at all along the White Street corridor. The housing stock here is different from that of the neighborhood located immediately to the west of downtown Champaign, which while still rather dense, is not so much so as White Street. However, the population here is much more representative of that which should be attracted to this area of the corridor to complement the students. Therefore, it is important to look at data for this neighborhood as a location to compare to the west end of the White corridor, at the east end of downtown.

The Census geography that most closely represents an moderately urban setting populated by primarily younger residents (even when compared to the Champaign-Urbana Urbanized Area (UA) is Block Group 1 of Census Tract 6. This area is located on the western boundary of downtown Champaign, includes West Side Park, and is bounded by the following streets:

North: Washington Street South: Springfield Avenue West: Elm Street East: State Street

This portion of Champaign, due to its immediate adjacency to the central business district (CBD), is both dense and thereby home to a large proportion of both nonfamily and renter occupied households. As of the 2000 U.S. Census, the former housed 69% of the households and 82.3% of population in the area, and the latter respectively 79% and 81.8% in that area. Nearly 60 percent of all households in this area were headed by someone between the ages of 18 and 34, and 57 percent of the total population fell within said age cohort. Compare this with the UA figure, where the equivalent totals were respectively 45 and 43 percent.

Because of the increasing nightlife in the adjacent CBD, there is no doubt that the proportion of the younger population within these cohorts has increased with its growth. This is likely concentrated in the age brackets between 21 and 27.

Table 4-10 below compares population and household densities in BG 1 of CT 6 to those of each of the corridors:

Table 4-10					
Comparing Residential Densities by Corridor to West Side Park Area					
Area	Net Household Density	Net Population Density	Gross Household Density	Gross Population Density	Average Household Size
<i>White Street Corridor*</i>	51.21	84.88	35.05	58.08	1.66
<i>Springfield Avenue Corridor</i>	32.36	67.42	18.45	38.43	2.08
<i>Block Group 1, Census Tract 6**</i>	18.89	28.37	12.75	19.14	1.45***
*Does not include residential properties on the 100 block of East White, which are to be demolished.					
**Measures of Density do not include the land comprising West Side Park nor the Holy Cross Church & School Complex.					
***Rate is representative of those for rental units; overall rate is 1.5 and for owner occupied units, 1.71.					
Source: U.S. Census Bureau and On-Ground surveys.					

While the densities of this neighborhood do not match that of the corridors, the average household size is also lower. Household sizes are larger near campus simply because many students value living near where their classes are, as seen in Table 1-10 of the survey report. And there's only a limited amount of land on which to house students in close quarters to campus.

Compare this to downtown Champaign, where not only the total employment is smaller, but also does not have to accommodate the presence of 40,000 students, many of whom are not employed by the university. Based on CUUATS estimates, total downtown employment in 2005 was 4,390,¹³ compared to a total of 11,241 on campus and in Campustown.¹⁴

For owner-occupied condominium and rowhouse units that appear as part of the Burnham, the target household size should be similar to that of the rental units in Census Tract 6, Block Group 1, because the age demographic present there would generate the most interest in such a housing product. A limited number of three bedroom units should be constructed should small families show interest in such a lifestyle, but remain in small numbers to minimize their affordability to the student population.

Table 4-11 below shows the availability of cars per person based on Census 2000 data for each of these corridors, based on dividing cars per household by average household sizes:

Table 4-11						
Vehicles per Person Ratios in the Corridors and West Side Park Area						
Variable	Census Geography					
	BG 1, CT 6	BG 1, CT 3 (White West)	BG 4, CT 3 (White East)	White BGs	Springfield BGs	C-U Urbanized Area
Vehicles per HH - All	1.02	1.03	0.73	0.97	1.15	1.48
<i>Vehicles per HH - Owner</i>	1.58	0.00*	1.38	1.38	1.32	1.79
<i>Vehicles per HH - Rental</i>	0.91	1.03	0.69	0.97	1.14	1.20
Average HH Size - All	1.50	1.73	1.72	1.72	1.983	2.23
<i>Average HH Size - Owner</i>	1.71	1.78	1.46	1.59	2.13	2.44
<i>Average HH Size - Renter</i>	1.45	1.73	1.73	1.73	1.977	2.03
Vehicles per Person - All	0.68	0.60	0.43	0.57	0.58	0.66
<i>Vehicles per Person - Owner</i>	0.93	0.00*	0.95	0.87	0.62	0.73
<i>Vehicles per Person - Renter</i>	0.63	0.60	0.40	0.56	0.58	0.59
Source: US Census Bureau, 2000 Census						
* Note: No Owner Occupied Units exist in BG 1, CT 3, according to Summary File 3						

As the above table shows, although the number of vehicles per household are among the lowest of any of the existing Census geographies, the number of vehicles available per person is a bit higher than the rates in the corridors. Of all the households in Block

¹³ TAZ numbers 1, 2, 4, 5, 8, and 9 approximate to downtown Champaign

¹⁴ TAZ numbers 47, 49-51, 56, and 57 approximate the University of Illinois campus core area as well as Campustown.

Group 1 of Census Tract 6, two-thirds are one person households. By comparison, in the White and Springfield corridors the ratios are respectively 57 and 39 percent, and 35 percent in the urbanized area. Less than one-tenth of households in the West Side Park neighborhood contain more than two persons.

Because the main group living in this area most closely resembles the target audience for condominiums and rowhouses, proposed parking ratios (per unit) for condominiums are as follows:

- One-Bedroom Condos/Rowhouses: 0.7 minimum, 0.8 maximum
- Two-Bedroom Condos/Rowhouses: 0.45 minimum, 0.55 maximum
- Three or More-Bedroom Condos/Rowhouses: 0.3 minimum, 0.4 maximum

Parking Management on Springfield and White

Other than Urbana's citywide ordinance requiring that no vehicle may remain parked on street in the same location for more than 72 hours,¹⁵ no form of parking management exists within this area. In order to make the above recommendations work to their fullest potential, additional policies must be put in place in order that land in the corridor be put up to its highest and best use, and may ultimately permit lower parking minima.

- Unbundle parking payments from the rent paid by tenants so no one has to pay for the cost of parking that he/she does not use.

As of the 2000 U.S. Census, 25.4% of the households in the Springfield corridor block groups¹⁶ did not have a car available. By forcing a resident to pay for the cost of a parking space each month even if it goes unused, it adds to a student's expenses. For a one-year lease, the cost of paying for a parking space that costs \$75 per month is \$900. Many students, as well as young professionals, could easily put that money to help pay for other things, and even if the person can afford it but is willing to live without a car, then it is extra money that can be put into the local economy. Given that the 25.4% totaled 440 households, that's \$396,000 extra into the local economy yearly.

- Enact policies that promote shared parking between residential lots that may have an oversupply or undersupply of parking.

¹⁵ Specific Prohibited and Restricted Parking Regulations. Obtained 12/5/2008 from:
http://www.city.urbana.il.us/urbana/finance/parking/Prohibited_Parking.html

¹⁶ Block Groups 1 & 2 of Census Tract 52, as well as Block Group 1 of Census Tract 58, and Block Group 2 of Census Tract 59.

This can be partly accomplished through the unbundling of parking. For example, excess parking at a residential development can go to nearby residents whose complex does not have the supply to meet parking demand, or to people who work somewhere nearby. The latter could aid reduction of parking at nearby commercial parking facilities.

- Enact a separate tax on the cost of parking.

Such a policy would have a two fold effect; further encourage apartment tenants not to buy parking, and yet help funding the construction of improved pedestrian infrastructure that could help encourage this.

With this in mind, the following recommendations should apply to all new apartment housing built within the Springfield Avenue corridor, including new units constructed as part of mixed-use projects. Within these projects, however, they will apply solely to the residential portion of a project.

Parking Standards Summary Chart

Table 4-12 below summarizes the parking ratios for the White Street and Springfield Avenue corridors.

Table 4-12		
Parking Guidelines Summary Chart - Ratios of Spaces per Unit		
Use Type	Corridor	
	Springfield	White
Corridor - Near Campus	Efficiencies: 0.75 min, 0.85 max Other One Bedroom: 0.85 min, 0.95 max Two Bedroom: 0.5 min, 0.6 max Total Max Ratio if 3 or 4 BR Units Included: 0.5	Efficiencies: 0.7 min, 0.8 max Other One Bedroom: 0.75 min, 0.85 max Two Bedroom: 0.55 min, 0.65 max Total Max Ratio if 3 or 4 BR Units Included: 0.5
Corridor - Near Downtown	One Bedroom: 0.8 min, 0.9 max Two Bedroom: 0.55 min, 0.65 max Total Max Ratio if 3 or 4 BR Units Included: 0.65	Efficiencies: 0.6 min, 0.7 max Other One Bedroom: 0.65 min, 0.75 max Two Bedroom: 0.5 min, 0.6 max Total Max Ratio if 3 or 4 BR Units Included: 0.5
Condominiums/ Rowhouses	One Bedroom: 0.75 min, 0.85 max Two Bedroom: 0.6 min, 0.7 max Total Max Ratio if 3 or 4 BR Units Included: 0.65	One Bedroom: 0.7 min, 0.8 max Two Bedroom: 0.45 min, 0.55 max Three-Plus BR Units: 0.3 min, 0.4 max

Accommodating Density

Both the Springfield and White corridors play a major role in Champaign-Urbana, in accommodating a low-income college population as well as some just out of college graduates seeking a location at which they can find affordable housing opportunities, particularly along Springfield. Along White Street, assuming that the maximum population density matches that of the highest block for all blocks east of Third (see Image 3-2), as well as the 200 E-N block, while including future redevelopment (11 rowhouses)¹⁷ as based in the Burnham Master Plan along with existing population figures, we find that this corridor can accommodate a total of population of 1,845 people, an increase of 68 percent from the present capacity of 1,097. By limiting future residential buildings to three stories, this potential population increase can only go as high as 1,403, only a 19 percent increase. The former scenario would produce residential densities of 166 persons/net acre and 126 persons/net acre for the latter scenario. This assumes the emptying of the population from the parcels that are part of the Boneyard-2nd Street reach project, as well as maintenance of the Skelton Place population, and the assumed population increases on the portion of the same block fronting White Street that are part of the Burnham Hospital redevelopment.

In terms of physical space available, the Springfield Avenue corridor offer much greater potential for densification than what we see along White Street. While the densest block contains 145 persons/net acre, as seen in Image 3-5, only 27 per acre can be found on the least dense block. Although three of the blocks have assumed population densities over 100/net acre, 5 have densities below 35/net acre. One property on this group of parcels in four stories, so we will assume a density that excludes one-quarter of the units in this building. Because the Urbana Comprehensive Plan has nearly this entire corridor designated as “Campus Mixed-Use,” an assumption will be made that one-half of first-floor space will go toward either retail or office uses.

With that in mind, the maximum population that the Springfield Avenue corridor will be able to accommodate given these conditions is 1,528 in the four-story maximum scenario, and 1,096 in the three-story scenario. The percentage increase in population for each of these scenarios is 104 percent for the former and 46 percent for the latter. Table 4-13 on the following page outlines that possibilities presented by each of these scenarios:

¹⁷ Burnham Master Plan. Obtained 12/11/2008 from: http://www.ci.champaign.il.us/business/pdfs/Burnham_Master_Plan.pdf

Table 4-13										
Maximum Population Growth Scenarios for the White and Springfield Corridors										
Corridor	Base Population Capacity	Base Population Density Capacity	3-Story Scenario Percentage Growth	4-Story Scenario Percentage Growth	3-Story Increase	4-Story Increase	3-Story Total	4-Story Total	3-Story Density Capacity per Acre	4-Story Density Capacity per Acre
<i>Springfield</i>	750	67.4	46.1%	103.7%	346	778	1096	1528	99.68	138.97
<i>White</i>	1097	84.9	27.9%	68.2%	306	748	1403	1845	126.39	166.20
Total	1847	72.4	35.3%	82.6%	652	1526	2499	3373	113.08	152.62

Assuming that household sizes in each corridor do not change between the base scenario and the two growth scenarios, in terms of units per acre we find that unit per acre density in each of the three scenarios is as follows:

	Base Units/Net Acre	3-Story Units/Net Acre	4-Story Units/Net Acre
Springfield:	32.36	47.92	66.81
White:	51.21	77.06	101.34
Total:	40.36	62.47	84.32

However, it is not reasonable nor even feasible to consider accommodating the maximum possible increase in density even with expected growth in the region; the market will simply not allow for that. Some growth will naturally occur due to growth in undergraduate enrollment at the university, both as a whole and in the College of Engineering, but growth in enrollment that between 2000 and 2005 increased respectively by 9.8 and 6.6 percent has slowed; extrapolating 2005-2008 data out to 2010 has shown a slowing of enrollment growth in recent years, to respectively 2.8 and 5.4 percent. This data assumes 480 more undergraduates, 112 of them in engineering majors. Assuming the proportion of students that chose to locate in Campustown or West Urbana based on the survey results, this means housing will be required to accommodate 78 engineering undergrads and 405 in total undergraduates near campus. These would be joined by an additional 18 graduate students, for a total of 423 additional students near campus. Any such growth should be funneled towards these corridors, such as relocation assistance for students who choose to locate within one-eighth mile of either transit line.

Additionally, the total population growth expected in TAZs outside the developed core of Champaign-Urbana is 58,818. This

accounts of 90.25% of total growth to the year 2035, occurring exclusively in the outer areas of the model area¹⁸. But how much of this population could be expected to be lured into the core of the urbanized areas, into the corridors no less?

According to the Special Census conducted in January 2007 by the City of Champaign in its western growth areas, population growth in Census Tracts 9.02, 12.04, and 12.05, in areas that had been annexed since the 2000 Census, an additional population of 6,397 people. Of these, 17.6% are between the ages of 20 and 34, within the age group that we would like to attract to the corridors.

A total of 121 of 134 survey respondents indicated that they were between the ages of 20 and 34, and within the survey were given a variety of questions of that indicated their willingness to live in an urban environment. Of those who responded to all indicators of living in an urban area,¹⁹ a total of 12 respondents, 7 indicated that they would be attracted to Champaign-Urbana area should a job opportunity appear.

So what does all of the above mean? The total of 7 out of 121 respondents responding to the all the urban indicators is 5.79 percent of the total. Out of the total population growth in the fringe TAZs, 58,818, 5.79 percent of that is 3,403. A total of 3,818 persons living in these Census Tracts are married couples, and another 2,212 are under the age of 18. Of the remaining population in these tracts that is over the age of 18, 67.6 percent are married. Eliminating 67.6 percent of that 3,403 leaves you with 1,103 persons, which will be size of the population assumed for these corridors. While this creates an overflow of population for the three-story scenario that should be distributed to surrounding neighborhoods, this figure only fills the 72.03 percent of excess capacity for each corridor. Add in the accommodations for the 423 new students expected by the year 2010, and capacity is filled exactly 100 percent. Not counting this new student population, a split proportional to remaining capacity in each corridor will be used, given that employment opportunities in or near each corridor will be easily accessible via the new campus transit system. These figures are 562 persons for the Springfield Avenue corridor and 541 persons for the White Street corridor.

- Four-Story Scenarios

Images 4-28 and 4-29 below shows maps outlining the current population capacity for each block, the maximum capacity available while limiting building height to four stories, and the respective densities for each

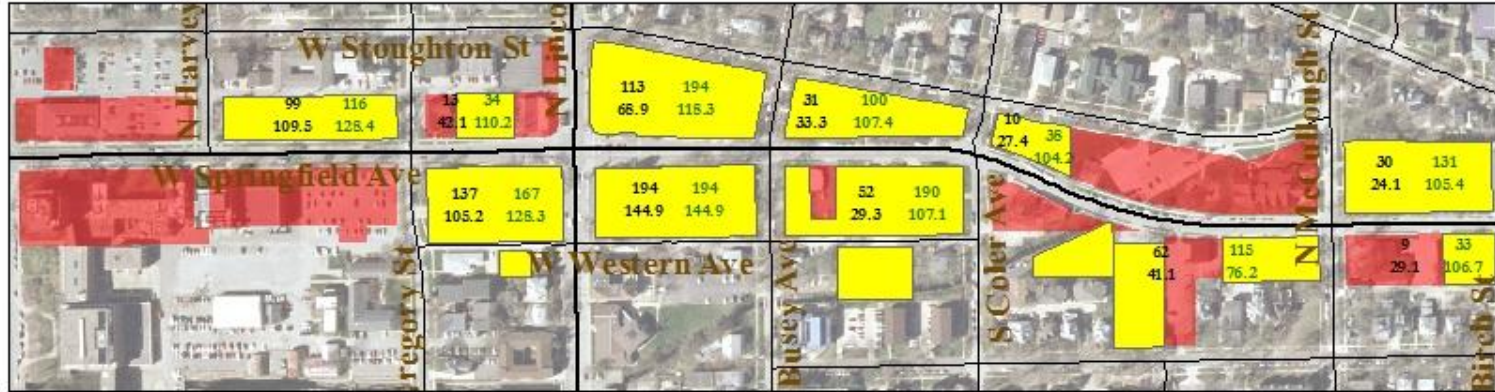
¹⁸ These TAZs are those from the 2035 LRTP, totaling 51 of 206, and are numbered as follows: 42, 68, 77, 92, 97, 110, 112, 120, 123, 124, 125, 127, 128, 129, 135, 136, 137, 138, 139, 1423, 143, 144, 145, 146, 147, 148, 150, 153, 158, 159, 162, 163, 164, 165, 166, 167, 168, 170, 175, 176, 178, 180, 181, 183, 196, 200, 202, 203, 204, 205, and 206.

¹⁹ These are as follows: Those who answered Question 1 indicated wanting to live in an urban environment, indicated living in or near campus or one of the downtowns on Question 3, indicated a High or Very High in their desire to live near a commercial neighborhood (Question 7), and indicated that a more urban environment would attract them to potentially remain in C-U.

Image 4-28

Current & Future Population Figures - Springfield Ave Corridor

Population Figures (Persons/Net Acre)



Block Names



Legend	
139	Current Population
115.5	Current Population Density
172	Future Recommended Population
142.9	Future Recommended Population Density
Yellow	Residential Land Uses
Red	Other Land Uses
Thick Line	Arterials
Thin Line	Other Streets

Prepared by: Brian Sheehan
 University of Illinois
 Dept of Urban & Regional Planning
 Date: 12/18/2008

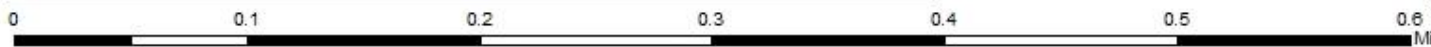


Image 4-29

Current & Future Population Figures - White Street Corridor

Population Figures (Persons/Net Acre)



Block Names



Legend

139	Current Population	172	Future Recommended Population
115.5	Current Population Density	142.9	Future Recommended Population Density
	Residential Land Uses		Other Land Uses
	Arterials		Other Streets

Prepared by: Brian Sheehan
 University of Illinois
 Dept of Urban & Regional Planning
 Date: 12/18/2008



Overall, the densities in population per net acre given the recommendations area as follows: 112.9 in the Springfield Avenue corridor, and 132.5 in the White Street corridor. Holding existing household sizes constant in each corridor, this assumes a new total capacity of 638 households in the Springfield corridor, and 987 in the White corridor. The lower population densities in the Springfield corridor are a function of its lower initial population density, and the need to accommodate for mixed land uses as outlined in Urbana's comprehensive plan. The same was not applied, as based on discussion with City of Champaign staff, mixed use is not going to occur in the North Campustown neighborhood aside from the properties involved with the Burnham redevelopment. Therefore, the White Street corridor is more easily able to accommodate increased population densities.

In the Springfield corridor, there are greater inconsistencies with the future densities at the west end in comparison to the east end of the corridor. While the difference in densities is diminished by the recommendations, the additional density was proportional to available capacity instead of directly dictating even densities across all blocks. This particularly shows up in the 5-600 WS block, where the Buena Vista Court Historic District ensures that some of the land that may otherwise have densification potential does not. Hence, the density on this block is recommended to be only 9 persons/net acre greater than the corridor as a whole is at present (See Table 4-13).

- Three-Story Scenarios

Because the population that is potentially drawn to the corridor exceeds that of the capacity available when the building heights are limited to three stories, it would be counterproductive to study a scenario as such. Doing so would ensure that a greater proportion of the population be at a greater distance from high capacity transit service. Therefore, it is recommended that City of Champaign and City of Urbana staff pursue zoning conditions that require buildings containing residential uses to be at least four stories in each corridor, but no more than five, to ensure that the character of surrounding neighborhoods is not intruded upon while giving the corridor visual importance.

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1. Lifestyle Preferences

1. After you graduate from the U of I in which of the listed environments would you most like to live? Please select one of the following:

- Urban (Stores, restaurants, places to live, play and work in close proximity.)
- Inner Suburban (Close to the city) (Fewer people, less activity.)
- Outer Suburban (Low density neighborhoods, virtually all trips require driving.)
- Rural (Very small town or farm style living.)

2. Which of these best describes the area where you grew up?

- Urban (Stores, restaurants, places to live, play and work in close proximity.)
- Inner Suburban (Close to the city) (Fewer people, less activity.)
- Outer Suburban (Low density neighborhoods, virtually all trips require driving.)
- Rural (Very small town or farm style living.)

3. Where in Champaign-Urbana do you currently live (or your typical home while school is in session)?

- On campus/Campustown
- In/near Downtown Champaign
- Urbana-Between Downtown & Campus
- Southeast campus/SE Urbana (FAR/PAR, Orchard Downs, and adjacent neighborhood)
- Downtown Urbana
- Along North Lincoln Ave in Urbana
- Other Champaign location
- Other Urbana location
- I live outside Champaign-Urbana during the school year

4. Why did you choose this location? (Label in order of importance from 1-7: 1 = most important, 7 = least important)

	1	2	3	4	5	6	7
Cost of housing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nearness to public transit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nearness to class	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nearness to important amenities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being able to walk where I need to go	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lots of social interaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A quiet atmosphere	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

List another reason if applicable:

5. Which of these amenities would you most like to have near campus? (Please check all that apply).

- Traditional clothing store
- Fine dining establishments
- Attractive parks/open space
- Electronics retail stores (other than video games)
- Bicycle shops
- Fast Food Restaurants

Other (please explain)

6. On a scale from 1 to 5, (with 1 being of highest importance) identify the importance of the following characteristics in describing the place you would like to live following graduation.

	1	2	3	4	5
Having a large amount of living space	jn	jn	jn	jn	jn
A quiet atmosphere	jn	jn	jn	jn	jn
Ability to get around without a car	jn	jn	jn	jn	jn
Nearness to work	jn	jn	jn	jn	jn
Nearness to entertainment and shopping opportunities	jn	jn	jn	jn	jn
Ability to get regular exercise without using a gym	jn	jn	jn	jn	jn
Living near friends	jn	jn	jn	jn	jn
Ability to "get away from it all"	jn	jn	jn	jn	jn
Job availability	jn	jn	jn	jn	jn
Nightlife	jn	jn	jn	jn	jn
Arts/Cultural Amenities	jn	jn	jn	jn	jn
Sense of community	jn	jn	jn	jn	jn

Other (please explain)

7. How would you rate your desire to live in or near a busy commercial area (such as Green Street or downtown Champaign) after your graduate?

Very High

High

Moderate

Low

Very Low

8. For those of you that currently live on/near campus, which of the following act as deterrents to your visiting downtown Champaign? (Please check all that apply).

Safety concerns getting back and forth between campus and downtown

There is nothing I find there that I can't find on campus.

The restaurants are way out of my price range.

I prefer to stay primarily amongst fellow students.

There are a disproportionate number of bars there.

I don't live on/near campus.

Other (please explain)

9. For those of you that currently live on/near campus, which of the following act as deterrents to your visiting downtown Urbana? (Please check all that apply).

Safety concerns getting back and forth between campus & downtown

It doesn't have much in the way to do

I'm not a big fan of the bars there

I prefer to stay primarily amongst my fellow students

I don't patronize the types of businesses that exist there

I don't live on/near campus

Other (please explain)

10. What would attract you to stay in the Champaign-Urbana community after graduation or to move back to the area within five years? (Please check all that apply)

- Active nightlife
- More arts and cultural amenities
- A significant "other"
- Lifestyle
- More urban environment
- Housing affordability
- Employment Opportunities
- Recreation Opportunities
- Sense of community
- Family-friendly setting
- School quality

Other (please describe)

2. Transportation Preferences

11. How often do you use the transit service provided by the Champaign-Urbana Mass Transit District (CUMTD)?

- 5-7 days/week
- 3-4 days/week
- 1-2 days/week
- Less than 1 day/week
- Never

12. How many days per week do you use the equivalent transit service provided in your hometown when you are there?

- 5-7 days/week
- 3-4 days/week
- 1-2 days/week
- Less than 1 day/week
- Never, even though it exists there
- No such service exists in my hometown
- Not applicable

13. Please rank the following reasons for not using public transit in the order in which they impact you the most (1 = greatest, 7 = least)

	1	2	3	4	5	6	7
Uninviting areas around stops	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of transit frequency	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It's faster to just drive there	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't like the idea of sharing space on board with so many unfamiliar people	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Physical discomfort while sitting or standing on the bus/train	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A lack of direct routings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It doesn't go where I'd like it to	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14. How many days per week do you drive to destinations located on or off campus?

- 5-7 days/week
- 3-4 days/week
- 1-2 days/week
- Less than 1 day/week
- Never

15. How many days per week do you drive when you are back in your hometown on breaks?

5-7 days/week

3-4 days/week

1-2 days/week

Less than 1 day/week

Never, though I still go back

I never return to my hometown

Not applicable

16. Up to how many minutes are you willing to walk to a destination even if you have a car available?

Up to 5 minutes

Up to 10 minutes

Up to 15 minutes

More than 15 minutes

I only walk if there isn't any parking

17. Up to how many minutes are you willing to bike to a destination even if you have a car available?

Up to 5 minutes

Up to 10 minutes

Up to 15 minutes

More than 15 minutes

I don't own a bicycle

3. Basic Information

Please note that this section of the survey is voluntary. The following information is being collected to help determine which segments of the student population would be most attracted to remaining in Champaign-Urbana after graduation.

18. Which of the following best describes your student status for the Fall 2008 semester?

- Junior
- Senior
- 1st year Master's
- 2nd year Master's
- Other Master's
- PhD
- Other professional degree

19. Under which college is your field of study?

- LAS
- College of Engineering
- College of Business
- FAA
- ACES
- College of Media
- College of Law
- Other

20. Which of the following best describes the place in which you grew up?

- Chicagoland
- Northern/Northwest Illinois
- Central Illinois
- Southern Illinois
- Other Midwest location
- Other US location (outside Midwest)
- International

21. What is your age in years?

22. Which of these best describes your gender?

Male

Female

23. Which of these best describes your racial/ethnic background?

White/European

Black/African American

Hispanic

East Asian

South Asian

Other

4. Final Questions

24. What do you find most attractive about Champaign-Urbana?

25. What do you find least attractive about Champaign-Urbana?

26. Which employment field do you wish to pursue after graduation?

27. If said employment opportunity were available in Champaign-Urbana, would you consider living here?

Yes

No

Explain why:

28. Which of the following is more important in your choice of where to live?

The place itself

Your employment potential there