Evaluation of CARPC’s Policies on Housing Prices in Dane County

Submitted to:
Capital Area Regional Planning Commission

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Report submitted by: Kurt G. Paulsen, PhD
Evaluation of CARPC’s Urban Service Area Designation Policy on Housing Prices in Dane County

Like growing regions across the country, Dane County and the Madison area face the challenge of managing growth and development while preserving natural resources to sustain a high quality of life. The Capital Area Regional Planning Commission (CARPC) has commissioned this study to evaluate its work and its impact on the price of housing within its region. CARPC is a regional planning commission under s. 66.0309 of the Wisconsin Statutes and is a water quality management planning agency under NR 121 of the Wisconsin Administrative Code.

In an ongoing effort to monitor, evaluate and update its methodologies and policies, CARPC has commissioned a series of reports. The first report, “Evaluation of CARPC’s Land Demand Forecasting Methodology to Determine Urban Service Area Boundaries” was presented to the Commission in March 2011. The first report outlined CARPC’s land demand forecasting methodologies and the effect on land availability for urban development.

This present report assesses the impact of CARPC’s policies on housing prices within Dane County.

I. Introduction: Purpose and Overview of Report.

As described in the previous report, CARPC forecasts the amount of land needed to be serviced for urban development, and designates “urban service areas” (USAs) where growth and development is accommodated, while discouraging development outside of urban service areas. The process of amendments to and periodic updating of urban service areas is designed, at least ideally, to accommodate the projected level of housing-unit and employment-related land use needs -- consistent with county policies -- while also slowing or limiting development in agricultural or other environmentally important areas.

Within the research literature on regional planning, CARPC’s designation of urban service areas is a form of “regional growth management,” and one which has been classified as “weak, accommodating.”

Although the designation of urban service areas is rooted in CARPC’s authority under NR 121 for areawide water quality planning, the impacts of these designations on the price and availability of housing is of concern, because growth management has often been criticized around the country as increasing housing costs. Therefore, the CARPC has commissioned this study to examine whether or not its particular policies impact the cost of housing in the Dane County region.

CARPC is to be commended for requesting an analysis of its policies on housing prices because this is too rarely done. In a recent empirical research effort examining every regional growth management regime across the U.S., Nelson and colleagues report:

10 percent of forecasted housing unit growth is allocated to the “rural balance.”

In a recently published book summarizing years of studies of all growth management regimes across the country, the authors create a four-fold typology of regional growth management regimes, using detailed statistical analysis. Their four-fold typology includes a measure of the strength of the containment regime (strong or weak) and a measure of whether the regime was “growth accommodating” or “growth restrictive.” Madison’s program was categorized as “weak, accommodating.” See: Nelson, A., C. Dawkins, et al. (2007). The Social Impacts of Urban Containment. Burlington, VT, Ashgate Publishing Company, particularly p. 35.
“Our analysis suggests that few plans actually include a formal analysis of the projected land or housing value impacts of their proposed urban containment policies. Of the 127 plans examined, only 3 included a detailed examination of land value impact of the urban containment boundary, and only 12 included a detailed analysis of housing price effects.”

Because regional growth management policies can potentially exacerbate issues of housing availability and affordability, regions must pay careful attention to the impacts of their policies on housing prices. The fact that so few do is really unfortunate.

In fact, one of the most frequent criticisms leveled against restrictive land use policies in general, and regional growth management in particular, is that they serve to raise the cost of housing. Although growth management might have many environmental benefits, critics charge, the restrictions on land development increase housing costs which can have negative social and economic impacts.

Figure 1 below demonstrates this tradeoff. Based on the most recent data available across the United States for the 95 largest metropolitan areas, it shows the relationship between restrictive land use policies and rates of appreciation in housing prices. On the horizontal axis (x-axis) is a measure developed by researchers at the Wharton School of Business, University of Pennsylvania, of the restrictiveness of overall residential land development within the metropolitan area. Higher numbers indicate that land development regulations are more restrictive. The vertical axis (y-axis) is a measure of the percent price appreciation in constant-quality owner-occupied houses in the same metropolitan area from 1995 to the first quarter of 2011. These data in Figure 1 show a general trend upwards in house prices as a function of land use restrictions. Of course, the relationships governing house prices are far more complicated, and land use restrictions may not be the most important variable in explaining house price increases. Nevertheless, the positive relationship raises concerns for all planning efforts to manage growth. It is just such a concern that has prompted CARPC to request this investigation of housing prices in the Madison/Dane County region.

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3 Nelson, et al. (2007), op. cit. at p. 27.
4 There is a large and growing academic literature attempting to address this question. Rather than listing all of these citations, the reader is referred to the book edited by Anthony Downs: Downs, A., Ed. (2004). Growth Management and Affordable Housing: Do They Conflict? Washington, D.C., The Brookings Institution. On a personal note, the author of this present report has spent most of his academic career trying to understand, measure and evaluate the tradeoffs of land use regulation and affordable housing.
5 Madison is not represented because it is not in the largest 95 metropolitan statistical areas.
7 The most appropriate measure of comparing housing prices across time and places is the constant-quality repeat sales index approach. Such indices help separate out changes in housing prices arising from changes in the quality or size of housing units from changes resulting from changes in costs, income, etc. The widely known “Case-Shiller/S&P” index is just such a constant-quality, repeat sales index. Additionally, the data used in this paper, the Federal Housing Finance Agency’s House Price Index is also a constant-quality, repeat sales index. For a discussion of these indices, see Green, R. and Malpezzi, S., 2003: A Primer on U.S. Housing Markets and Housing Policy. Washington, D.C.: The Urban Institute Press.
8 Data come from the Federal Housing Finance Agency’s (FHFA) “House Price Index” series. Metropolitan data is scaled so that 1995:Q1=100. Hence, the value of the index in Q1 2011, minus 100, is the percent appreciation in constant-quality houses over the time period. The FHFA House Price Index for metropolitan areas is based on all transactions, and is a repeat-sales index, as discussed below.
The important thing to remember in comparative assessments is not the relationship between growth management and general housing price levels, but rather growth management and housing price changes (rates). The question for this research is whether or not CARPC’s policies impact rates of house-price appreciation in Dane County. Regional growth management systems vary tremendously from place to place, and the particular institutional configuration in different regions really matter for housing price impacts. Within the data in Figure 1, for example, many of the places which have the more restrictive residential land use regulations do not have any form of regional growth management.

This report, therefore, asks a number of reasonably straightforward questions:

1. Is there any evidence that housing prices (ownership or rental) in Dane County have risen faster than would be expected based on changes in the underlying economics of house prices (construction costs and household income)?
2. If so, what evidence would relate these increases to CARPC’s policies?

If the answer to question 1 is that there is no evidence that housing prices in Dane County are increasing excessively, than there is no reason to answer question 2. By definition and theory,
regional growth management cannot lower housing prices below construction (replacement) costs. This is explained in section II below.

The report is organized as follows. Section II briefly reviews theory and evidence on the relationships between growth management and housing prices. Section III presents evidence on Dane County area house prices, while Section IV presents evidence on Dane County area rent levels. Growth management might have different impacts on prices for houses than for rental units and so it is important to consider them separately. Section V presents some additional, recently released, data on overall housing trends in Dane County. Conclusions and recommendations are found in Section VI.

II. How Might Growth Management Policies Affect Housing Prices?

It is worthwhile here to review some theory as to how land use restrictions might impact housing prices, in order to understand the mechanisms by which CARPC’s policies might or might not affect house prices in Dane County.

In the medium to long run within a region or housing market, the price level of housing should reflect construction costs (or replacement costs), regional income, regional employment, and regional amenities. There may be increased demand for living in places with nicer weather or proximity to coasts and so house prices in these places may be higher than replacement costs. Controlling for the level of amenities within a region, if house prices in a region exceed construction costs, developers will respond by building more housing. Therefore, like most goods, if demand for a product increases, there will be increased supply in response. While it might take a long time (years) for developers to respond to demand-shocks with more housing units, the long run movement in housing prices should track changes in construction costs and demand factors (income and interest rates). If house prices rise faster than can be explained by demand factors and construction costs, there is reason to believe that supply restrictions constrain developers from meeting demand with more supply.

The main forces driving housing demand within a region can be explained by changes in income, growth in number of households, and changes in interest rates. It is worth stressing that many of the factors driving housing demand within a region are closely related to the overall U.S. macro-economy. Imagine the housing market within a region to be at “equilibrium” at some initial time period. Then the region experiences a “demand shock,” which can be positive or negative. Only positive demand shocks are discussed in this context, because the concern is about (excessive) house price increases. Suppose that income in a region increases, or that new households want to locate in the region driven by employment increases. Or, suppose that interest rates or lending standards decline so that households can consume more housing. Each of these situations could result in an increased housing demand. Because housing demand is income elastic, increases in income should lead to increased housing consumption. Likewise, reductions in the cost of housing through changes in interest rates or lending standards will also increase housing demand.

Developers respond to these housing demand shocks by building more housing units. If there is increased demand for larger, more expensive homes, developers will build those. If there is a demand for smaller units, or denser units, or downtown condos to accommodate smaller households, then developers will build these as well. Households who move up to more expensive homes leave their more modest priced houses for other households. Housing units can therefore
“filter-up” and “filter-down” the demand ladder. This is one way that building new, market-rate housing units can nonetheless increase the supply of more affordable or modest-priced housing units.

If developers are constrained in their ability to meet market demand for housing by providing the range of housing types and styles that diverse households demand, then housing prices (in the aggregate) for the region are expected to rise. This is quite different than saying that house prices in a particular municipality or neighborhood would rise, or that higher prices in a particular region only reflect supply constraints. Many of the histories of land development and zoning in the US demonstrate that, while one neighborhood or municipality in a region may engage in restrictive zoning or anti-growth policies, many other municipalities or unincorporated areas are more than willing to accommodate growth and development. If demand for housing units can be met within a region, there is little reason to believe that aggregate regional house prices would rise faster than can be explained by economic fundamentals. In order for there to be sustained rises in house prices in a region beyond that explainable by economic fundamentals, there needs to be systemic constraints in supply throughout the region.

Supply may be constrained regionally in any number of ways. First, there may be a prevalence of low-density single-family-only zoning throughout the metropolitan area. If a large number of communities zone to permit only single-family houses on larger lots, the overall housing supply for the region is constrained. Second, there may be restrictions in many communities in a region on construction of larger multi-family or rental buildings or higher-density units such as townhouses. Third, a city or region may have some overall volume cap on housing construction or requirements that housing not be built until infrastructure is available to support it. Fourth, excessively long time periods required for securing development approval may slow the supply response to demand shocks, thus increasing housing prices.

There is a large and growing literature on the specific institutional structure of restrictive land development regulations throughout the country. While the first (low-density zoning) is more prevalent in the Northeast, the third (caps and adequate public infrastructure requirements) is more common in California and Florida. The second, restrictions on apartment construction, is common nearly everywhere but particularly in the Midwest. In contrast, the South and Southwest areas are frequently cited as possessing lower-priced housing because construction of new housing is less highly regulated.

How does regional planning and regional growth management fit into the relationship between restrictive land use and house price appreciation? Here is where a lot of debate is concentrated, and where it is important to understand regional growth management institutions carefully.

A lot of debate has centered on places such as the Portland Metro region, where a strong UGB (Urban Growth Boundary) clearly demarcates areas for urban development and areas for rural preservation. How we understand the Portland model is fundamentally important to this debate. Does the presence of a strong UGB mean that overall supply of developable land is constrained, which could lead to faster house price appreciation? Or, does the system of overriding local zoning for regional concerns increase the supply of housing relative to a region without growth management?
In the House Price Index data reported above, the Portland metro area saw a 91 percent increase in its constant-quality housing prices from 1995 to 2011. In the data on the largest 95 metropolitan areas, Portland’s prices increases were only the 20th highest. Much higher rates of appreciation were seen in the Boston and Philadelphia areas which do not have any regional growth management systems.

There are two features of Portland’s system which illustrate the way that strong regional growth management could reduce house price appreciation towards more levels consistent with economic fundamentals.

In comparing scenarios, it is always important to describe the alternatives. Is the proper comparison for Portland (or Madison) the situation where there are no restrictions whatsoever on land development, or is it a situation such as in Philadelphia and Boston where the lack of regional planning means that every individual municipality undertakes low-density, single-family detached only zoning to protect the property values of existing homeowners?

In the suburbs of Philadelphia or Boston (for example), there are areas where land values and locational access to highways and employment might predict development densities of anywhere between 10-20 gross housing-units per acre. Instead, because of restrictive zoning, single-family, detached houses are on ½ acre (or larger) lots and cost $700,000. The same exact house on a smaller lot in a different area of the country could cost only $260,000. The difference in price is not just locational access to a major city, but also reflects the scarcity value of developable land. No regional planning entity in these areas has the power to compel municipalities to accept the higher density (and more diverse) development which the market would otherwise provide. In such cases, we can say that the lack of regional growth management contributes to higher regional housing prices. In the case of Portland, however, the regional planning agency (Metro) can override local government planning and zoning to require municipalities to plan for and accept a minimum density of development appropriate for their metropolitan location.

The second feature of Portland’s system (like many growth management systems) is that the forecasting system for developing the regional plan makes sure that an adequate supply of housing units will be produced to meet forecasted household projections. Because of the ability of the regional planning agency to monitor and supervise local plans and zoning, they can ensure that the forecasted numbers for households and available development capacity all add up. As discussed in my previous report on land use and population forecasting, strong growth management regimes have mechanisms in place for ensuring that the forecasted number of new housing units needed to accommodate forecasted population increases are actually able to be built at the density and diversity needed. In regions without regional growth management, there is no ability to ensure that the projected number of new housing units forecasted is actually able to be built.

Regional growth management, therefore, could have either negative or positive effects on regional housing prices. If regional growth management restricts the overall amount of developable land and

9 Metropolitan house price data is from the Federal Housing Finance Agency’s House Price Index, described more fully in section III below.
10 While there are some regional planning agencies in the Philadelphia and Boston regions, these are only advisory.
11 Like CARPC’s forecasting methodology, these forecasts are reviewed and updated every 5 years to ensure an approximately 20-year moving window of developable land supply.
therefore reduces overall development, this would be expected to lead to faster rates of house-price appreciation than could be explained by economic fundamentals. Alternatively, if regional growth management provides a mechanism to supervise or override local zoning, it could ensure an adequate supply of developable land for housing in the region as a whole. If local supply restrictions are thus muted or mitigated, the supply of housing and the rates of house-price appreciation should more closely follow economic fundamentals.

Both factors could be at work in any metropolitan area such that the cumulative effect on a region’s housing prices might be neutral. In such a situation, it would not be correct to conclude that there is no effect of policy on house prices, but rather that there is no net effect.

Regional growth management aims to manage regional development and housing needs without effecting housing prices. The goal of regional growth management is to accommodate the projected land use needs of future households in the region consistent with other regional policy goals (natural resource protection, infrastructure efficiency, fiscal equity, transportation efficiency, etc.) Rather than a situation where each municipality within a region does what is in its own best interests, the future land uses within the region are allocated to meet overall regional needs.

It is this ideal which guides CARPC’s policies of designating urban service areas (USAs). Under its forecasting and allocation methodology (previously reviewed) the forecasted amount of future land development needs are allocated to urban service areas where public services and infrastructure are to be made available. This total amount of forecasted land development need for the region is accommodated at sufficient densities and in proximity to existing development and infrastructure. The goal is that urban service areas serve both to accommodate needed development and to direct that development consistent with regional policy goals.

The remainder of this report thus evaluates the impacts of CARPC’s urban service area policies on housing prices in the Dane County area. Analysis of housing costs usually separates out owner-occupied housing from rental housing, assuming that these represent the two main housing sub-markets. There are, of course, connections between these two sub-markets: developers of housing units would face construction costs and interest-rate environments which are similar. From the perspective of households, high ownership costs might trigger a shift to rental tenure, increasing the demand for rental units.

The question posed is whether CARPC’s policies increase housing prices in the aggregate faster than would be explained by economic fundamentals. This question is thus a relative measure in terms of change, not an absolute measure of levels. This is not the same question as looking at housing affordability. Affordability is of vital concern and will be discussed more fully in Section V. Housing prices relative to income (affordability) may still be high and of concern in a region, even when rates of house-price change more closely reflect economic fundamentals.

### III. Madison-Area Owner-Occupied Housing Prices in Comparative Perspective.

The question to be asked in this section is whether rates of change in owner-occupied housing values in Dane County have increased excessively relative to changing economic fundamentals

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12 There is insufficient geographic detail in many of the housing data sources used in this paper to exclude the non-urban-service-area parts of Dane County from the analysis.
(demand factors and construction costs). If CARPC’s policies have an impact on house prices, these effects should be detectable in changes in housing prices.

The main source of quality data for house price indices nationwide comes from the Federal Housing Finance Agency (FHFA), formerly OFHEO (Office of Federal Housing Enterprise Oversight). The FHFA House Price Index (HPI) is computed using proprietary data from all mortgage transactions purchased or guaranteed by Fannie Mae and Freddie Mac, along with other data. These data are used to compute a “constant-quality” house-price index using the repeat-sales methodology. Development of housing indices is a complicated matter, but most researchers and economists argue that a repeat-sales, constant-quality index provides the best measure of true changes in house prices. The famous Case-Shiller index, for example, is a constant-quality, repeat-sales index.

Census data on median house values are misleading because they conflate two distinct components of house price appreciation: an overall change in house prices and a change in the quality composition of the housing stock. If, for example, all of the new houses in an area were constructed as very-large expensive homes with modern amenities, the Census variable “median house value” would show increases, even if per-square foot costs remained the same. It would be mistaken to conclude that overall housing costs for the average household had necessary increased. The idea of a constant-quality, repeat-sale index is to separate out true increases in housing costs from quality shifts within the housing stock.

HPI data is reported as an indexed-scale. In creating an index-scale, one sets the value of the scale to some number at some point in time, and reports all data relative to that time period. The advantage of this approach is that, if done correctly, the index allows relative comparisons over time and across places. The disadvantage is that the index numbers are not easily translatable into real house prices and therefore can be misunderstood in media reports.

FHFA reports quarterly metropolitan-area HPI data with an index scaled to equal 100 in the first quarter (end of March) 1995 (written as “1995:Q1”). The value of the index for the Madison metropolitan area in 1995:Q1 is 100, as it is for San Diego and Cleveland, even though houses in San Diego are more expensive than Madison and less expensive in Cleveland. The advantage of the index for comparative analysis is that numbers in subsequent quarters can tell us the percent increase in constant-quality house prices (not inflation adjusted) relative to that 1995 time period. For example, the 2011:Q1 index value for the Madison MSA is 175.08, indicating that constant-quality housing prices have increased 75.08 percent in the Madison MSA from 1995:Q1 to 2011:Q1. The 2011:Q1 index value for the San Diego MSA is 220.6, indicating a 120.6 percent increase for the same time period. Likewise, the Cleveland MSA data from 2011:Q1 is 130.74, a 30.74 increase in house prices over this 16-year time period.

There are two special concerns about this data relative to the purpose of this report. First, data is only available from FHFA back to 1995. CARPC’s predecessor established USAs back in the 1980s. However, it is not necessary to acquire strict before-after data to assess the impact of USA policies on house price changes. If urban service area (USA) policies actually have a binding impact on housing price changes, these effects would be seen over time and would show up in the 15+ years of data included here. Even though there is no consistent data going back to before USAs were designated, any impact on housing prices would still be detectable in the data available.

13 It is also important to note that census housing data are not inflation adjusted.
Second, because data is only reported at the metropolitan statistical area (MSA) level, the data here is for the Madison MSA, which includes not only Dane County, but also Columbia and Iowa counties. Because Columbia and Iowa counties have small relative shares of the metro area population and housing units, this is unlikely to introduce much bias into the analysis.

One further concern of FHFA’s House Price Index (HPI) is that, by including all mortgage transactions – including refinancing activity – it might overstate house prices. This may particularly have been true in the housing boom years of 2001-2006 when appraised values for refinancing activity may have reflected less-than-arms-length valuations. To correct this problem, the FHFA has recently developed a “purchase-only” transactions index. Unfortunately, this data is not available at the metropolitan level, but only at the state level. Therefore, all of the Madison MSA and other metropolitan data reported in this report are from the “all-transactions index,” not the “purchase-only index.” Figure 2 below demonstrates that this data availability does not substantially alter the conclusions of the report, because the Madison MSA House Price Index (HPI) closely tracks the Wisconsin all-transactions index. The all-transactions and purchase-only indices for the State of Wisconsin follow closely with each other, but begin to diverge in 2005 when the purchase-only index is lower than the all-transactions, likely indicating inflated valuations in refinancing transactions.

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14 FHFA reports national and state level indices with a different time scale. All data has been rescaled by the author to be consistent with the metropolitan HPI scale of 1995:Q1=100.
On Figure 2, it is important to note that Madison MSA house price movements closely track those of the state of Wisconsin as a whole. The difference in index values, quarter to quarter, between Madison MSA and the Wisconsin All Transactions Index is never greater than 4 points (positive or negative). The greatest divergence occurs beginning in 2009:Q4 when Madison MSA house prices show a number about 3 points higher than the state of Wisconsin. The most likely explanation for the divergence between the Madison and Wisconsin indices in 2009 is that house prices in the Madison area declined less slowly than prices declined statewide, most likely due to lower unemployment rates in Madison than in the rest of the state during the late-2007 to present recession. Unless one wants to argue that CARPC’s policies suddenly got more restrictive in 2009, the data in this chart are consistently strong evidence that housing prices in the Madison area are not increasing at a faster rate than housing prices elsewhere in the state.
Figure 3.

It is again important to remind readers that housing price changes in any one area are substantially related to changes in the macro-economy. Figure 3 presents the data on the FHFA House Price Index for Madison and Wisconsin in comparison with the East North Central Region of the Census (Wisconsin, Illinois, Indiana, Michigan, and Ohio). These data show that Madison area house prices tracked pretty closely to regional and national patterns from 1995 to about 2004, when a divergence began. Madison-area housing prices and Wisconsin housing prices during this time grew at a faster rate than did those of the Census region as whole, but less rapidly than did overall house prices in the United States. Again, it is hard to point to any real change in CARPC policies which would explain why both Madison and Wisconsin housing prices would grow more rapidly than the Midwest, but slower than the US rates.
Figure 4 presents the metropolitan HPI data for the 5 regions used by Thrive (the Madison area regional economic development organization) as its “peer” regions for benchmarking purposes. All 6 areas showed reasonably consistent rates of appreciation from 1995 until the early 2000s. Madison had lower rates of house price appreciation from 2002-2011 than either the Salem, Oregon or Richmond, Virginia metropolitan areas, while having higher rates of appreciation than Lincoln (Nebraska), Columbia (South Carolina) and Columbus (Ohio). Thus, in comparison to these peer regions, the Madison area had neither the fastest nor the slowest rates of house-price appreciation.

These data need to be interpreted carefully when making regional comparisons. In Thrive’s most recent “Advance Now” Competitive Assessment, it was pointed out that Madison has higher median house prices than does either Austin or Des Moines, and that the Madison area has a higher “housing affordability index” (higher numbers indicate greater affordability challenges for single-family, owner-occupied housing) than either Austin or Des Moines. This is certainly true, and the relatively higher housing prices and rent levels in Dane County do pose significant challenges for

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15 Taken from Thrive’s 2010 State of the Madison Region Report, available at: http://www.thrivehere.org/assets/files/2010_State_of_Madison_Region_Report_Updated.pdf. These regions were studied for this report prior to Thrive’s Advance Now Competitive Assessment report (2011) which only includes Austin, TX, Des Moines, IA, and Lincoln, NE regions.

16 Of course, it also needs to be mentioned that Madison has substantially better college football than Lincoln or Columbus!
regional competitiveness, workforce development, as well as posing significant challenges for low- and moderate-income households. I return to this question in sections V and VI. However, it is important to note here that the Thrive data are measured in levels rather than rates of change. The two different approaches are, in fact consistent. Madison area housing prices are, in relative terms, higher than other places in Wisconsin and other regions of the country. Our higher relative housing prices reflect generally higher levels of income, lower rates of unemployment, and higher levels of amenities. These demand characteristics mean that the Madison/Dane County region will have higher housing prices than other regions in the country. These higher relative prices do pose significant challenges for economic development and housing affordability. However, the analysis of rates of changes in housing prices here relative to other regions is consistent with the idea that CARPC policies have no net impact on the rates of house-price appreciation.

An additional area of analysis concerns changes in construction costs. Figure 5 places Madison/Dane County area house price appreciation in the context of construction costs. This chart includes two construction cost indices developed by R.S. Means Company. These cost indices are designed to measure the per-square foot costs of materials and labor in construction. Although imperfect, they are the best available national cost estimates. By looking only at construction costs rather than the value of new construction (which includes quality shifts), these indices help us to sort out what percent of house price appreciation is likely due to increased costs.

The first index is the construction cost index for the entire United States, scaled to the year 1995=100. R.S. Means also estimates a Madison-area specific cost index. I have rescaled this Madison index also to be set to 1995=100 for comparison purposes. However, keep in mind that the Madison index in real terms is always lower than the national index, because construction costs in Madison are only about 98 percent of the national average. However, by scaling both indices to 1995=100, I show that construction costs in Madison grew faster than they did in the nation as a whole, even though per-square-foot construction costs in Madison are still lower than the national average: in 1990, Madison costs were about 90 percent of the national average, while in 2011 they are about 98 percent.

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18 Within housing economics, the price of existing houses tracks construction costs because pricing reflects replacement costs.
19 It is also important to note that the data in Figure 5 have been re-scaled into yearly data and therefore will be slightly different than the quarterly data presented in Figures 2, 3 and 4. This is because construction cost data is only available on a yearly basis.
The data in Figure 5 show that Madison house prices, as measured by yearly HPI, grew 71.84 percent between 1995 and the end of 2010. Construction costs in Madison grew 85.18 percent during the same period, while construction costs in the nation as a whole grew 73.11 percent. House prices in the United States grew 74.23 percent during the period. These data are consistent with the idea that movements in house prices in Madison largely reflect changes in construction costs.

For most of the period from 1995 through 2008 or 2009, housing prices in both Madison and the US at large were growing at rates faster than construction costs. Only in 2009 and 2010 have house prices fallen (or slowed in growth) enough to let construction costs “catch up.” It is especially important to point out that, as seen in Figure 5, the difference between US house prices and US construction costs was always higher than the difference between Madison house prices and Madison construction costs. That is, if we say that the difference in any one time period between house price indices and construction costs reflects “appreciation over-and-above construction cost increases,” this was always higher for the US as a whole than for the Madison/Dane County area. This data is consistent with the other data presented there to suggest that house prices in Madison are not rising excessively fast.

Even though I have argued above that Census-derived estimates of median house values are likely to conflate actual house price increases with quality shifts, I do present and analyze those data here.
because these are frequently cited statistics. Table 1 presents data on census-estimated median house value of owner-occupied housing from 1990, 2000, and 2010. The first row presents data in nominal terms (not adjusted for inflation). The second row expresses these data in 2010-dollars, adjusted for inflation. These data show that, adjusted for inflation, the median value of owner-occupied housing in Dane County increased just over $100,000 over this 20 year time period.

Table 1. Changes in median owner-occupied house values, Dane County (1990-2010)

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<tr>
<td>nominal (not inflation adjusted)</td>
<td>$77,900</td>
<td>$146,900</td>
<td>$231,200</td>
<td>$100,055</td>
<td>76.29%</td>
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<tr>
<td>Expressed in 2010$ using CPI-U (Housing)</td>
<td>$131,145</td>
<td>$187,372</td>
<td>$231,200</td>
<td>$100,055</td>
<td>76.29%</td>
</tr>
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Source: U.S. Census Bureau, 1990 and 2000 decennial censuses; 2010 American Community Survey (1-year estimates).

Inflation conversion utilizes Consumer Price Index, All Urban Consumers (CPI-U), Housing component, not seasonally adjusted.

Recall, however, our discussion above that house prices should reflect economic fundamentals such as changes in income. Table 2 presents data (both nominal and inflation adjusted) for median family income in Dane County, calculated both from Census data and from HUD’s family-size adjusted median family estimates.

Table 2. Changes in median family income, Dane County (1990-2010)

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<td>Nominal data</td>
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<tr>
<td>Census: Median family income</td>
<td>$41,529</td>
<td>$62,964</td>
<td>$78,387</td>
<td>$36,862</td>
<td>95.97%</td>
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<tr>
<td>HUD: Median family income (family-size adjusted)</td>
<td>$64,700</td>
<td>$80,000</td>
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</tr>
<tr>
<td>In 2010$ (adjusted for inflation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Census: Median family income</td>
<td>$69,331</td>
<td>$79,701</td>
<td>$78,387</td>
<td>$9,056</td>
<td>13.06%</td>
</tr>
<tr>
<td>HUD: Median family income (family-size adjusted)</td>
<td>$81,899</td>
<td>$80,000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Notes: HUD data is adjusted for family size and represents a 4-person family. Census data is not family size adjusted. Inflation conversion utilizes Consumer Price Index, All Urban Consumers (CPI-U), not seasonally adjusted.

The data in Table 2 show that, adjusted for inflation to 2010-dollars, median family income increased $9,056 from 1990 to 2000. To put median house price increases in perspective relative to income, consider an overly simple calculation: if the $9056 of increased family income was spent on housing at the standard rate (30 percent of income), this increase in family income would lead median house values to increase about $40,000. Thus, about 40 percent of the increase in median house values in Dane County is explainable by increases in real median family income.

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20 HUD’s Area Median Family Income are used in many of the analyses for program eligibility and affordability in activities funded under HUD’s programs, Consolidated Planning, and the Low Income Housing Tax Credit eligibility.

21 To arrive at this measure, I estimate the value of a house which could be purchased with a 30-year fixed rate mortgage with 20 percent down-payment, at the median family income for both 1990 and 2010 (inflation adjusted) with an assumed mortgage rate of 7.09 percent. The mortgage rate was calculated as the average rate for such a loan during the 1990-2010 period, based on Freddie Mac’s Primary Mortgage Market Survey (PMSS) data. The estimated increase in median house prices from a real $9056 increase in income would be $40,467.24.
There is one additional way of understanding the relationship between family income and house prices, based on empirical relationships which seem to hold in national housing markets. Many housing economists use a rule-of-thumb that households tend to purchase houses whose prices are 3-times their annual income. Using the nominal housing and income figures from Tables 1 and 2, this would suggest that a family making the median income in 1990 would purchase a house priced at about $124,087, a median-income family in 2000 would purchase a house priced at about $188,892 and a median-income family in 2010 would purchase a house priced at about $235,161. These estimates are very close to the nominal median house price levels in Dane County. Again, this provides evidence consistent with the idea that house price levels and changes in Dane County more closely reflect economic fundamentals.

IV. Madison-Area Rent Levels in Comparative Perspective.

The previous section presented data on changes in single-family house prices. Here we examine changes in overall rent levels within Dane County. It is possible that regional growth management regimes have differential impacts on single-family house prices than they do on rent levels, and so it is important to consider these separately.

Table 3 presents two of the most commonly used and available measures of rents, one from the Census bureau and one from the Department of Housing and Urban Development (HUD). The first measure, from the Census Bureau is the measure “median gross rent.” This data was collected for Dane County from the 1990 and 2000 censuses and from the 2010 American Community Survey. Gross rent is defined as contract rent plus utilities, and allows for a way to make “apples to apples” comparison of rental units and rates. The Census estimates the rent for all rental units of all sizes, and computes that rent which represents the 50th percentile of rents (median). The nominal (not-inflation-adjusted) rents for Dane County are listed in the top panel of Table 1. Like Census measures of median house values, these figures can be misleading: if new apartment units constructed are larger or of higher quality than average existing units, the “median” rent can increase even if the per-square foot rental rates remain unchanged.

HUD, for purposes of setting payment levels associated with some of its programs (particularly Section 8 vouchers) computes what the 40th percentile rent for a 2-bedroom unit. That is, it estimates the gross rents (rents plus utilities) of all 2-bedroom units, and calculates the 40th percentile of that distribution. Note that HUD makes adjustments for number of bedrooms, but the Census does not. Thus, the 40th percentile rent for 2-bedroom units is often higher than the median gross rent in the Census, reflecting many smaller-than-2-bedroom units in the housing stock. HUD data, however, is not available for 1990 because of changes to its methodology.

The second panel of Table 3 converts these rents to 2010 dollars (adjusts for inflation). In comparing rental levels across time, it is necessary to adjust for overall inflation so that the resulting changes reflect “real” changes.

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22 The Census and HUD both use particular methodologies to impute utility costs in rental units where those are not included.

23 In 1990, HUD’s methodology calculated the 45th percentile rather than the 40th percentile.
In terms of median and 40th percentile rents adjusted for inflation, Dane County has seen very little change in real rent levels over the 20 year time period 1990-2010. In terms of median gross rent, for example, rents have only increased $58 (in real dollar terms) in 20 years. Median gross rents between 2000 and 2010 increased only $23 in real terms. The change in HUD-estimated 40th percentile 2-bedroom rent levels has increased in real terms only $48 in 10 years.

The 2010 data from the Census’ American Community Survey, for the first time, reports not only estimates but also “margins of error” – recognizing that these data are based on samples and therefore subject to sampling variability. The 90-percent confidence interval for median gross rent levels in Dane County in 2010 is reported to also be ±$23. Therefore, we cannot conclude that there has been any statistically significant increase in median rent levels from 2000 to 2010.

These data on rents are consistent with the idea that developers respond to market demands with additional rental units and that supply is therefore not overly constrained. This conclusion represents evidence for the idea that CARPC policies have no net impact on rent levels. This conclusion is, as above, quite a different issue than that involved in discussions of housing affordability, as in section V below.

It is also worthwhile to compare changes in Dane County rents with changes in rent levels across the state of Wisconsin. Using the HUD 40th percentile 2-bedroom rent data for purposes of comparison, I construct a weighted-average index (weighted by county population) of Wisconsin (outside of Dane County) 40th percentile HUD rents for every year 1995 through 2010. I scale this data to 1995=100, as with the other indices in this report. I call this the “Wisconsin Rent Index.” Using the same data, I construct a “Dane County Rent Index,” scaling HUD rent data for Dane County to 1995=100.

Figure 6 plots the changes in the Wisconsin Rent Index and the Dane County Rent Index. Recall that, because both have been scaled to 1995=100, the data represent rates of growth in rental rates rather than actual dollar amounts. While in actual dollar amounts, the 40th percentile 2-bedroom rent in Dane County is higher than in most other areas of Wisconsin, it is the rate of appreciation that really matters for purposes of understanding the effects of growth management and land use

Table 3. Changes in rent levels, Dane County (1990-2010)

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Median Gross Rent</td>
<td>$465</td>
<td>$641</td>
<td>$841</td>
<td>$58</td>
</tr>
<tr>
<td>HUD-estimated 40th %ile rent (2BR)</td>
<td>$667</td>
<td>$899</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Expressed in 2010$ using CPI-U (Housing)

<table>
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<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Gross Rent</td>
<td>$783</td>
<td>$818</td>
<td>$841</td>
<td>$58</td>
</tr>
<tr>
<td>HUD-estimated 40th %ile rent (2BR)</td>
<td>$851</td>
<td>$899</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: median gross rent data is from 1990 and 2000 decennial censuses and 2010 American Community Survey. Gross rent data is not adjusted for number of bedrooms. HUD-estimated 40th percentile rent is from HUD’s Office of Policy Development and Research and represents adjustments for number of bedrooms. Notes: gross rent in the Census is defined as contract rent + utilities. Inflation conversion utilizes Consumer Price Index, All Urban Consumers (CPI-U), Housing component, not seasonally adjusted.
restrictions on housing prices. Figure 6 indicates that rents have been rising at higher rates in Wisconsin outside of Dane County than inside Dane County. Figure 6 also includes the US Consumer Price Index (CPI-U) for Housing expenditures, scaled to 1995 = 100, for comparison purposes.

Figure 6.

![Dane County Rents in Comparative Perspective](image)

Figure 6 clearly shows that rents in Dane County have not risen as fast as rents in the rest of the state of Wisconsin, and have not risen as fast as the overall Consumer Price Index for Housing. Although there remain many affordability challenges within Dane County (see below), there is no evidence that rents, in aggregate, are rising excessively fast in Dane County. That is, there is no evidence that any CARPC policies have a net impact on rent increases.

V. Snapshots of Housing Trends in Dane County.

The previous sections have demonstrated that, on net, there is no evidence that CARPC policies negatively impact housing prices in Dane County. However, within the data, there has been identified a persistent concern that housing affordability still poses a major challenge to the Madison/Dane County region. It is because of this concern that this section presents special
attention to understanding trends in the Dane County housing markets, in order to better inform future policy making.\textsuperscript{24}

The recent release of the 2010 American Community Survey Data\textsuperscript{25} makes possible a 20-year comparative analysis of overall trends in housing in Dane County, from 1990 to 2010. These data will be presented in terms of housing unit supply, household trends, and a special emphasis on problems in housing affordability.

Table 4 presents basic data on the housing-unit supply\textsuperscript{26} in Dane County and its evolution from 1990 to 2010. Over the course of 20 years, Dane County has added nearly 70,000 housing units, a 46.25 percent increase. The fastest rate of growth during the time period in terms of housing-unit type is in large-multifamily structures. The high actual numbers and rates of growth in the multifamily stock is certainly consistent with the data above that real rent levels have not changed substantially. In terms of actual numbers, however, the largest number of new units constructed in the county have been single-family detached, over 51 percent of all net new units added.

<table>
<thead>
<tr>
<th>Table 4. Housing unit supply by type, Dane County (1990-2010)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>Single-family, detached</td>
</tr>
<tr>
<td>1-4 units, attached</td>
</tr>
<tr>
<td>Small multifamily (5-49 units in structure)</td>
</tr>
<tr>
<td>Large multifamily (50+ units in structure)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 1990 and 2000 decennial censuses; 2010 American Community Survey (1-year estimates)

Notes: mobile home or trailers are considered 1-family detached. Totals may not add because of other excluded units.

2010 data is subject to sampling error, as reported in the 2010 ACS. Confidence intervals are not reported for simplicity.

Analysis of housing trends also involves looking at the size distribution of units constructed. Table 5 reports changes in housing units by size as measured in the number of bedrooms available in the unit.\textsuperscript{27}

\textsuperscript{24} This data on housing affordability in Dane County is necessarily broad, covering the county as a whole. Additional research and data would be needed to examine the characteristics of rent-burdened households and the housing units they occupy for a more complete understanding and in order to develop strategies and programs in response.

\textsuperscript{25} Released September 22, 2011. The ACS data replaces the “SF3” (sample) data from decennial censuses. Although based on smaller sample sizes than the 1 in 6 decennial sample, the ACS data is more current. It is released by the census for areas, once a sufficient sample size is reached.

\textsuperscript{26} Census data presented in Table 4 is based on “units in structure” and does not break out by tenure. So, for example, some of the large multifamily units represented in construction might be in a condominium structure rather than as rental units.

\textsuperscript{27} The census does not report bedrooms by units-in-structure, but only by tenure (owner/renter occupied).
The data in Table 5 represent a reasonably balanced housing supply situation, with units of all different sizes showing robust construction. The most number of units added over the years has been in 3-bedroom houses. The fastest rate of growth, however, has been in terms of smaller (2 or fewer bedrooms) owner-occupied units.\(^{28}\) This likely reflects growth in townhouses and condominiums.

Housing demand is primarily shaped by household income (described above at Table 2) and by changes in the size composition of households. Table 6 reports the changing structure and size of households in Dane County.

### Table 5. Housing unit supply: housing unit size (number of bedrooms), Dane County (1990-2010)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td><strong>Owner-occupied housing units</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 or fewer bedrooms</td>
<td>13,665</td>
<td>18,674</td>
<td>24,681</td>
<td>11,016</td>
<td>80.61%</td>
</tr>
<tr>
<td>3 bedrooms</td>
<td>45,489</td>
<td>55,365</td>
<td>63,959</td>
<td>18,470</td>
<td>40.60%</td>
</tr>
<tr>
<td>4 or more bedrooms</td>
<td>19,667</td>
<td>25,884</td>
<td>35,090</td>
<td>15,423</td>
<td>78.42%</td>
</tr>
<tr>
<td><strong>Renter-occupied housing units</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-1 bedroom(s)</td>
<td>24,120</td>
<td>30,296</td>
<td>30,264</td>
<td>6,144</td>
<td>25.47%</td>
</tr>
<tr>
<td>2 bedrooms</td>
<td>27,391</td>
<td>29,917</td>
<td>32,436</td>
<td>5,045</td>
<td>18.42%</td>
</tr>
<tr>
<td>3 or more bedrooms</td>
<td>12,454</td>
<td>13,348</td>
<td>16,643</td>
<td>4,189</td>
<td>33.64%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 1990 and 2000 decennial censuses; 2010 American Community Survey (1-year estimates)

The data in Table 5 represent a reasonably balanced housing supply situation, with units of all different sizes showing robust construction. The most number of units added over the years has been in 3-bedroom houses. The fastest rate of growth, however, has been in terms of smaller (2 or fewer bedrooms) owner-occupied units.\(^{28}\) This likely reflects growth in townhouses and condominiums.

Housing demand is primarily shaped by household income (described above at Table 2) and by changes in the size composition of households. Table 6 reports the changing structure and size of households in Dane County.

### Table 6. Population and household change, Dane County (1990-2010)

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>367,085</td>
<td>426,526</td>
<td>489,309</td>
<td>122,224</td>
<td>33.30%</td>
</tr>
<tr>
<td>Total number of households</td>
<td>142,231</td>
<td>173,710</td>
<td>203,073</td>
<td>60,842</td>
<td>42.78%</td>
</tr>
<tr>
<td>Avg. persons per household</td>
<td>2.58</td>
<td>2.46</td>
<td>2.41</td>
<td>-0.17</td>
<td></td>
</tr>
<tr>
<td><strong>Household Size</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-person households</td>
<td>37,463</td>
<td>51,056</td>
<td>63,441</td>
<td>25,978</td>
<td>69.34%</td>
</tr>
<tr>
<td>2-person households</td>
<td>48,883</td>
<td>60,923</td>
<td>70,112</td>
<td>21,229</td>
<td>43.43%</td>
</tr>
<tr>
<td>3-person households</td>
<td>23,526</td>
<td>26,164</td>
<td>31,082</td>
<td>7,556</td>
<td>32.12%</td>
</tr>
<tr>
<td>4-person households</td>
<td>20,958</td>
<td>22,945</td>
<td>24,052</td>
<td>3,094</td>
<td>14.76%</td>
</tr>
<tr>
<td>5- or more-person households</td>
<td>11,401</td>
<td>12,622</td>
<td>14,386</td>
<td>2,985</td>
<td>26.18%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 1990 and 2000 decennial censuses; 2010 American Community Survey (1-year estimates)

Table 6 shows that average household size (persons per household) has been decreasing since 1990, echoing trends common throughout the United States. Dane County added 60,842 households in

\(^{28}\) It is important to note that in the Census, condominium units are considered owner-occupied units. The Census defines these units by their tenure not their structure type.
the 20 years since 1990, and added 68,379 housing units.\textsuperscript{29} The fastest growing segment of the household size category (both in actual numbers and rates) is 1-person households. 2-person households are the largest number of households in overall numbers, and represent the second fastest rate of growth. Given the fast rate of growth of smaller households (1- or 2-person households), it is encouraging to see a robust supply increase of smaller (fewer bedrooms) housing units. Many regions across the country continue to produce mostly large, single-family detached housing units with 3 or 4 bedrooms even though household sizes have been decreasing. Perhaps one of the reasons there has not been substantial rent or house-price pressure in Dane County is because the supply of smaller units more closely matches household demand characteristics.

Although overall rent levels in Dane County have not shown substantial real increases, there are still substantial challenges in terms of housing affordability, most notably for lower and modest income households. Table 7 reports changes on “rent-burdened” households in Dane County, showing a disturbing rise in the number of households who face housing challenges. In both Census data reporting and in HUD-sponsored affordability analyses, households who pay more than 30 percent of their income in gross rent are considered “rent-burdened” and households who pay more than 50 percent of their income in gross rent are considered “severely rent-burdened.”

Table 7. Rent-burdened households in Dane County (1990-2010)

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Rent-burdened households</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>as a percent of all renting households</td>
<td>24,828</td>
<td>27,946</td>
<td>40,388</td>
<td>15,560</td>
<td>62.67%</td>
</tr>
<tr>
<td><strong>Severely rent-burdened households</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>as a percent of all renting households</td>
<td>n/a</td>
<td>13,700</td>
<td>20,154</td>
<td>6,454</td>
<td>25.40%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 1990 and 2000 decennial censuses; 2010 American Community Survey (1-year estimates)  
Notes: data for 1990 is not available for severely rent-burdened households.  
Rent-burdened households are defined as those whose gross rent payments exceed 30 percent of pre-tax family income.  
Severely rent-burdened households are defined as those whose gross rent payments exceed 50 percent of pre-tax family income.

Over 50 percent of all renting households in Dane County are considered to have “unaffordable” housing units because they pay more than 30 percent of household income in rent. Over 25 percent of households are severely rent-burdened. There has been an increase of over 15,000 (62.67 percent increase) rent-burdened households from 1990 to 2010.

While restrictive housing supply which raises overall housing costs is a major contributor to housing affordability concerns in other regions, the data shown in this report also demonstrate that affordability can be a substantial problem even in areas without significant supply constraints. For purposes of policy response, it is important to understand that housing affordability in the Dane County region more likely reflects inadequate household incomes relative to housing costs rather than restrictions on housing construction. In regions where there are substantial constraints on rental housing production, additional construction will moderate affordability concerns. In regions such as Dane County, however, simply increasing the supply of new market-rate housing

\textsuperscript{29} As a very rough approximation, if a robust housing market exhibits approximately a 5-percent vacancy rate (averaged over owner-occupied and renter-occupied) than the fact that more units were constructed than households is in line with these vacancy assumptions.
construction is unlikely to substantially reduce rent levels far enough to reduce the number of rent-burdened households.

Table 8 presents data on overcrowding in rental housing units in Dane County. Overcrowding has traditionally been a key indicator of both housing affordability (households might “double-up” to respond to high rents) and housing quality. Consistent with the data in Table 5 of a diverse supply of differently-sized units to meet different household sizes, the data in Table 8 shows a reduction in the number of overcrowded housing units in Dane County. Only about 3 percent of all rental housing units are overcrowded. And, although the overall level of crowding has only slightly decreased (1 percent from 1990 to 2010), the number of severely overcrowded housing units has substantially decreased.

### Table 8. Changes in overcrowded rental housing units, Dane County (1990-2010)

<table>
<thead>
<tr>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Overcrowded (&gt; 1.0 occupants per room)</td>
<td>2,578</td>
<td>4,054</td>
<td>2,552</td>
<td>-26</td>
<td>-1.01%</td>
</tr>
<tr>
<td>Severely overcrowded (&gt; 1.5 occupants per room)</td>
<td>1,007</td>
<td>2,165</td>
<td>497</td>
<td>-510</td>
<td>-50.65%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau, 1990 and 2000 decennial censuses; 2010 American Community Survey (1-year estimates)
Notes: Universe of sampling is all renter-occupied housing units, not all occupied housing units.
Housing units are considered “overcrowded” when there is more than 1 occupant per room.
Housing units are considered “severely overcrowded” when there is more than 1.5 occupants per room.

**VI. Conclusions and Recommendations.**

The robust supply response of housing units in Dane County, as exemplified in the diverse range of housing-unit types and sizes seen in Tables 4 and 5, is consistent with the evidence that housing prices and rent levels more closely reflect demand characteristics and construction costs. There is no evidence that housing prices or rent levels in general in Dane County or the Madison area MSA exhibit the excessive rates of increase seen in other parts of the country.

As such, this report concludes that there is no evidence CARPC’s policies or programs have a net effect on house prices. This is likely due to two factors involved in CARPC’s urban service area policies. First, because the forecasting methodology is designed to accommodate an adequate supply of land for forecasted housing-unit needs, it is unlikely that the system of urban service areas in Dane County restricts overall housing supply.30 Second, the process of designating and amending urban service areas by CARPC is – in comparative terms – a weaker form of growth management than in other regions of the country. Therefore, it is unlikely that a weaker form of accommodating growth management would necessarily have significant house-price impacts.

Even though this report shows no evidence that rates of housing price growth in Dane County are out of line with economic fundamentals, for many families in Dane County housing is still very

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30 This consultant, however, feels it is necessary to include a concern raised in the first report about the removal of the “flexibility margin” in the forecasting for USAs by CARPC in 2008. Although there is currently no evidence that removal of the flexibility margin has constrained housing supply, the macroeconomic conditions of the national housing market are unusual. This consultant again recommends the reinstatement of some flexibility margin in forecasting methodology, as described in the first report so as to avoid possible restrictions on housing supply in the future. At the very least, close monitoring is required.
expensive. Housing costs in Dane County are higher, on average, than in other regions in Wisconsin or in the upper Midwest. These higher housing costs reflect high levels of amenities, higher median incomes, and lower levels of unemployment. While higher-than-average housing prices reflect many positive elements of life in Dane County, they also represent a special challenge to families without the economic means to acquire housing units at an affordable level and potentially pose significant challenges to regional economic development.