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## **Appendix VIII: How Affordability by Tenure Was Calculated**

### **Tompkins County Housing Needs Assessment**

### **Tompkins County Planning Department**

### **May 30, 2006**

According to guidelines of the U.S. Department of Housing and Urban Development (known as HUD), housing is affordable for owner occupied housing if such housing requires no more than 30% of a household's gross income to be spent on housing costs.<sup>1</sup> For renter units, the HUD standard is that no more than 30% of a renter household's income should be spent on rent and utilities (including fuel for heat, hot water and cooking, electricity for lights, trash removal, and water and waste water charges). This appendix sets forth the methods for how owner and renter affordability were calculated for this study for households that include and exclude households with higher education students.

To begin, this study employs a breakdown of household income categories that are typical for housing assessment and affordability studies. These include: (1) the definition of very low-income households which are those households in the county with incomes less than 50% of the county median,<sup>2</sup> (2) the definition for the low income category which includes those households in the county with income between 50% and 80% of the county household income median, (3) the definition for the moderate income category which includes those households in the county with income between 80% and 100% of the county household income median, (4) the definition for above-median households which includes those with income between 100% and 120% of the county median, and (5) the definition of higher income households which includes those households with income above 120% of the county median. The study also used parallel calculations for the urban and rural regions of the county.<sup>3</sup> These correspond to household income categories that are typically employed in housing affordability and housing needs assessment studies of this type.

For calendar year 2004, this study estimated the Median Household Income for the county was \$50,688 for households without higher education students. This was determined utilizing an integrated macroeconomic model for the county, that was a function of a macro model for the entire state of New York, and the U.S economy as a whole as provided by Moody's Economy.com—a nationally recognized macroeconomic and regional forecasting firm. Median Household Income for the urban and rural regions of the county were estimated through a bottom-up procedure where an estimate was developed for each individual

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<sup>1</sup> It should be noted that the American Planning Association uses a 28% of household income threshold for affordability for owner housing. This study uses the HUD 30% threshold and a generally broader definition of housing costs because home-owners also must pay utilities, real estate taxes and other costs in order to live in a home.

<sup>2</sup> This corresponds to a level somewhat lower than the 60% level corresponding to the household income level for so-called "Section 8 vouchers" for renters.

<sup>3</sup> The urban area was defined as the City of Ithaca, the Town of Ithaca and the Village of Lansing. The rural area was defined as all other municipalities not in the urban area.

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municipality in the county based on: (1) its past relative rate of household income growth in each individual community in the study area over the 1989-1999 period versus the broader county region, and (2) the projected median household income per year for the county as a whole. These estimates were then summed and a share of the county total was calculated. The individual municipal household income level was then adjusted so that the sum of the individual municipalities did not exceed the county total as projected for calendar year 2004. This procedure resulted in a median household income estimate of \$50,307 for the urban region and \$51,088 for the rural region in calendar year 2004 for households that excluded student households.

For households that included higher education students, this study estimated that county-wide median household income in calendar year 2004 was \$43,202—illustrating the diminutive impact of including student households in the financial and affordability calculations. For the urban region of the county, the study estimated that calendar year 2004 median household income was significantly lower than the county-wide median at \$32,728 due to the relatively higher presence of the student households in the urban core versus the rural portion of the county. The study estimated that the median household income in the rural portion of the county was \$45,836 in calendar year 2004.

Using the HUD household income benchmark, estimates of various housing costs for owners and renters were developed using a variety of primary and secondary research sources. These sources were used to establish representative housing expenses for key categories for households who occupy both owner and renter housing in the county and in the 2 sub-county regions. Appendix Table VIII-1 through Appendix Table VIII-4 show the detail of these key housing expenditure categories by tenure category for the county as a whole.

For owners (See Tables VIII-1 and VIII-2), the expenditure categories include items such as insurance and taxes. When those housing expenditures are subtracted from household income, the result is an estimated affordable mortgage payment amount—assuming a down payment of 5% and assuming a mortgage interest rate of 5.84% for a 30-year mortgage loan.<sup>4</sup> The resulting mortgage payment amount that is affordable to each household income class is then used to back-calculate the housing price for each household income class that could be supported with that monthly mortgage payment amount. This is labeled as the affordable housing price for that household income category. Following that calculation, an analysis was done to compare the number of single family housing units sold at or below those calculated amounts in the county and for each sample community over the 1997-2005 time frame. This was done in order to get an estimate of the affordability sales profile of all arms-length single family home sales transactions over the study period.

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<sup>4</sup> As determined through a survey of lenders operating in the county during calendar year 2004.

**Table VIII-1: County-Wide Estimated Affordable Home Price/2004 Profile of Affordable Home Sales**

<b>(Excluding Student Households)</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
Percent of Median	<b>50%</b>	<b>80%</b>	<b>100%</b>	<b>120%</b>
<b>Annual Household Income</b>	<b>\$25,344</b>	<b>\$40,550</b>	<b>\$50,688</b>	<b>\$60,825</b>
<b>Monthly Household Income</b>	\$2,112	\$3,379	\$4,224	\$5,069
<b>% of Income for Mortgage, Property Tax, Insurance, and Utility Payments</b>	30%	30%	30%	30%
<b>Affordable Mortgage, Property Tax, Insurance, and Utility Payments/Month</b>	\$634	\$1,014	\$1,267	\$1,521
<b>Affordable Home Price (2004)</b>	\$58,482	\$99,905	\$127,959	\$156,132
<b>Median Price Home (2004)</b>	\$140,000	\$140,000	\$140,000	\$140,000
<b>Affordable Price-Difference from Median</b>	(\$81,518)	(\$40,095)	(\$12,041)	\$16,132
<b>Home Sales Priced At or Below in 2004 (916 Total SF Home Sales)</b>	81	254	392	544
<b>Percent of Total</b>	8.8%	27.7%	42.8%	59.4%

**Table VIII-2: County-Wide Estimated Affordable Home Price/2004 Profile of Affordable Home Sales**

<b>All Households (Including Student Households)</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
Percent of Median	<b>50%</b>	<b>80%</b>	<b>100%</b>	<b>120%</b>
<b>Annual Household Income</b>	<b>\$21,601</b>	<b>\$34,562</b>	<b>\$43,202</b>	<b>\$51,843</b>
<b>Monthly Household Income</b>	\$1,800	\$2,880	\$3,600	\$4,320
<b>% of Income for Payments</b>	30.0%	30.0%	30.0%	30.0%
<b>Affordable Mortgage, Property Tax, Insurance, and Utility Payments/Month</b>	\$540	\$864	\$1,080	\$1,296
<b>Affordable Home Price (2004)</b>	\$48,494	\$83,491	\$107,217	\$131,160
<b>Median Price Home (2004)</b>	\$140,000	\$140,000	\$140,000	\$140,000
<b>Affordable Price-Difference from Median</b>	(\$91,506)	(\$56,509)	(\$32,783)	(\$8,840)
<b>Home Sales Priced At or Below in 2004 (916 Total SF Sales)</b>	65	165	281	420
<b>Percent of the Total</b>	7.1%	18.0%	30.7%	45.9%

For renters, a very similar calculation was undertaken for both student and non-student households. Estimated household income level in calendar year 2004 for each household income category by type of household was multiplied by 30% in order to establish the rent-utilities cost maximum amount per HUD guidelines described above. The second step involved the calculation of an estimated utilities expense (excluding telephone) amount by household income category using data from the Consumer Expenditure Survey (the CEX) for northeastern U.S. households as published by the U.S. Bureau of Labor Statistics of the U.S. Department of Labor (for the 2002-03 period). These utility expense amounts were then modified for utility expense differences in the county versus the northeastern U.S. average utilizing information and data regarding estimated utility costs of households in the county from the Cornell University Extension Service. This information resulted in a significant increase in the estimated household utility expense amounts used in these affordability calculations. The modified utility expense amounts were then brought forward to calendar year 2004 using the U.S. consumer price index for utility costs.

Affordable rent-utilities payments amounts based on the 30% of household income housing cost stress threshold were then compared to the estimated 2004 median gross rent in the county for renter units under the same definition as was used by the U.S. Census Bureau during the 2000 Census<sup>5</sup> for both student and non-student households. The estimated 2004 median gross rent level was estimated by carrying the reported gross rent level in the 2000 Census forward to calendar year 2004 at the average annual rate of increase in the county's Fair Market Rent level for 2-bedroom units. The results of this analysis by household income category are presented in the Tables VIII-3 and VIII-4 below for the county as a whole.

**Table VIII-3: County-Wide Estimated Affordable Rent 2004**

<b>(Excluding Student Households)</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
Percent of Median	<b>50%</b>	<b>80%</b>	<b>100%</b>	<b>120%</b>
<b>Annual HH Income</b>	<b>\$25,344</b>	<b>\$40,550</b>	<b>\$50,688</b>	<b>\$60,825</b>
<b>Monthly HH Income</b>	\$2,112	\$3,379	\$4,224	\$5,069
<b>Affordable Payments Percentage (Rent Plus Utilities)</b>	30.0%	30.0%	30.0%	30.0%
<b>Affordable Renter Payments Per Month (Rent Plus Utilities)</b>	\$634	\$1,014	\$1,267	\$1,521
<b>Monthly Utility Expense (Excluding Telephone)</b>	\$51	\$58	\$61	\$64
<b>Affordable Rent (Excluding Utilities)</b>	\$583	\$956	\$1,206	\$1,456

**Table VII-4: County-Wide Estimated Affordable Rent 2004**

<b>All Households (Including Student Households)</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
Percent of Median	<b>50%</b>	<b>80%</b>	<b>100%</b>	<b>120%</b>
<b>Annual Household Income</b>	<b>\$21,601</b>	<b>\$34,562</b>	<b>\$43,202</b>	<b>\$51,843</b>
<b>Monthly Household Income</b>	\$1,800	\$2,880	\$3,600	\$4,320
<b>% of Income for Rent and Utilities</b>	30.0%	30.0%	30.0%	30.0%
<b>Affordable Renter Payments/Month (Rent Plus Utilities)</b>	\$540	\$864	\$1,080	\$1,296
<b>Monthly Utility Expense (Excluding Telephone)</b>	\$54	\$62	\$66	\$69
<b>Monthly Affordable Rent (Excluding Utilities)</b>	\$486	\$802	\$1,014	\$1,227

<sup>5</sup> The U.S. Census Bureau defines gross rent as “the contract rent plus the estimated average monthly cost of utilities (electricity, gas, water and sewer) and fuels (oil, coal, kerosene, wood, etc.) if these are paid by the renter (or for the renter by someone else). Median means the distribution of gross rent paid by all households in the county or sub-county region are divided into 2 equal parts—one-half of the households for each area falling below the median gross rent and one-half of the households above the median.