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Technical Memorandum

Impacts of The Marble River Wind Farm Project on Local Property Values

Prepared for: Marble River, LLC and the Towns of Clinton and Ellenburg, the authorizing agencies for the project

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This property value analysis report addresses the potential impact of a proposed 109 turbine wind farm to be located on portions of 17,000 acres of leased land across the Towns of Clinton and Ellenburg in Clinton County, New York. Most of this land is farm and forest use with significant areas in wetlands. Farms and rural residences occur along the public roads within the projected area.

Statement of Qualifications

I am a real estate appraiser and consultant. I am presently Director of Valuation Services at Cushman & Wakefield of Oregon, Inc. I perform and review fee engagements relating to the evaluation of real property. I also prepare analyses to support litigation regarding real estate values, land uses impacts and for eminent domain proceedings. Attached to this report as **Exhibit A** is a résumé of my educational background and employment experience.

My personal experience with the siting of controversial structures and land uses in rural areas spans over 25 years. This experience includes evaluations of property value impacts for the placement of transmission towers, power lines, substations, underground pipelines, the extension of gravel mines, siting of prisons, power plants, land fills and evaluation of air emissions from a cement kiln. I recently chaired a Committee of the Consulting Corps of the Counselors of Real Estate to help advise the City of Orlando, Florida on whether or not to re-site a homeless shelter, also considered an undesirable land use, by some, in its location.

In 2004, a peer-reviewed article I authored, "A LULU of a Case: Gauging Property Value Impacts in Rural Areas" was published in *Real Estate Issues*, published by the Counselors of Real Estate.

I have been a licensed or certified appraiser since 1979 and am certified in the States of Washington, Oregon, Montana, Idaho, California, Colorado and Kansas. A temporary appraiser's license has been applied for in New York. My professional credentials include the MAI designation (Appraisal Institute), the CRE designation (awarded by the Counselors of Real Estate) and a Masters Degree in Urban and Regional Planning (see my accompanying CV). I was recently elected a Fellow in the Royal Institution of Chartered Surveyors, an international professional society of valuers and real estate professionals who advise governments and global organizations. One of their studies is reviewed here.

I previously served five years on a city planning commission and was appointed to a statewide emergency siting authority to site four youth prisons in 1995.

I have qualified as an expert witness before the State of Washington Energy Facility Site Evaluation Council ("EFSEC") giving written and oral testimony. I have also qualified as an expert witness for real estate valuation and land use impacts in both State and Federal Courts in Oregon and California.

Purpose of Report

This report has been prepared as a summary of my analysis addressing whether the proposed Marble River Wind Farm Project might affect property values in the vicinity of the wind turbine generators.

The contents of this analysis are based upon my own knowledge, or upon evidence, such as studies and reports which persons in my field of expertise are accustomed to rely on in conducting the type of analysis included in this report.

Scope of Work

The scope of our analysis included analyzing aggregate statistics from the subject and comparable areas in order to derive suitable benchmarks and valuation trends. We did not appraise individual properties but did consider the types of dwellings that might be most impacted by a change in their viewshed. Our focus concentrated on discerning what types of factors cause changes in value.

Our research included field inspections of the affected areas in Clinton County. We also investigated property impacts near the new Maple Ridge project in Lewis County (near West Martinsburg) and investigated impacts over time on three small projects: Madison and Fenner in Madison County, New York, and Searsburg in Bennington County, Vermont. These came on line in 1999, 2001 and 1997, respectively.

This report also draws from extensive experience on two different projects in Kittitas County, Washington, where we have been monitoring land, farm and residential subdivision activity for over two years during the permitting process for two separate wind projects. The Kittitas Valley and Wild Horse projects are comparable in scope to Marble River.

In this case, we have analyzed a comprehensive compilation of properties which abut, or may be in sight of, the proposed Marble River project. We have collected assessor sale data from Clinton County, going back 5 years to establish baseline trends. We further examined sales and sales trends within the Towns of Ellenburg and Clinton. We have collected and studied current Clinton County Multiple Listing Records for properties now on the market in the general area.

We carefully examined sales activity within the project area. We then attempted to collect and analyze similar data from affected areas near established wind projects, as well as data from

otherwise similar areas, not affected by a wind project. Significant deviations from long-term patterns of value may, or may not be attributable to the impact of the wind project. However, where we find normal or above normal sale and development activity near a project, or near a proposed project, this suggests that negative impacts cannot be proven, or that impacts may even be positive.

We considered demographic profiles for each of the study areas and found high correlations in terms of population density, growth, average household incomes and average housing values.

We reviewed available literature regarding land use impacts of energy facilities, and studied carefully a May 2003 analytical report, *The Effect of Wind Development on Local Property Values*, by George Sterzinger for the Renewable Energy Policy Project (“REPP”). Three of the 9 projects studied by REPP lie in New York and Vermont (the aforementioned Madison, Fenner and Searsburg wind farms) have been investigated and the data updated.

To augment statistics from multiple listing and county assessor records on property sales in the area, and we have undertaken to interview local real estate brokers, appraisers and town assessors regarding specific transactions and the anticipated effect of the Project on the area.

We have reviewed additional technical memoranda prepared by independent outside consultants and examined computer generated visual impact exhibits that accompany the application. Not all information has been positive. A survey of valuers published by the RICS in England suggested wind farm developments had adverse impacts in England.

Personal preference, it should be noted, does not necessarily affect property values. The RICS survey, for instance, did not test transactional data, but merely queried professional valuers on their preferences. It was little better than an opinion poll. Notwithstanding reported apprehensions that people may have regarding how nearby wind farms may impact property values, this poll lacks any statistical data demonstrating such an effect.

Our statistical analysis of the Clinton County view shed closely paralleled the methodology used by the REPP. We selected as comparable areas neighboring Franklin County and other areas in Clinton County unaffected by the project but with similar demographics. We looked at changes in property values over a 6 year period; 5 years before the announcement, and the current year. If property values were to be adversely impacted by the wind farm, then value trends post announcement of the Project should have been negative compared with comparable areas unaffected by the turbine placement.

Review of Literature

Property value impacts created from siting industrial facilities or power plants have long been studied (see attached bibliography) because of concerns voiced by neighbors, particularly residential homeowners. However, the scope of alleged impact can be vast while the body of relevant observable market transactions non-existent. This lack of market data is most acute in rural areas where environmental concerns about encroaching infrastructure can be strongest.

The predominant activity stimulating academic and industry research over the past 30 years has been the emergence of large scale and public environmental clean-ups. Much of the available literature deals with the consequences of discovery and clean up of Superfund sites. Once remediated, a second question regarding the prospects of recovery back to some pre-event

equilibrium raises concerns of long term “stigma.” A follow-on question is whether such stigma is compensable as a consequential damage when government sanctions are involved.

Most of the studies focus on that most sensitive of real estate types, the single-family dwelling. Commercial properties can also be adversely affected by externalities but the nature of their investment value (i. e. passive rent collection) allows for capitalization of diminution affects through rent reductions and vacancy increases. The value of residential property is much more susceptible to consumer preferences.

The case studies reviewed here include a University of Wisconsin paper measuring the impacts on suburban housing values from a coal burning power plant¹, a report on housing values in the aftermath of the Three Mile Island nuclear power plant failure², a series of studies on value and stigma impacts of a closed lead smelting plant in Dallas, Texas³, a study on the effects of wind turbine development on local property values⁴ and a comprehensive analysis on effects of overhead transmission lines on property values.⁵ The latter two cases do address rural property concerns, but without resolution.

These studies all relied on some form of statistical analysis using multiple regressions. The urban-area studies were able to construct hedonic models to predict outcomes.

A residential hedonic pricing model regresses a series of descriptive statistics regarding a population of observations. When data is available, this is clearly the preferred tool. For housing models, typical characteristics include house size, lot size, bathroom number, age, fireplaces, and distance from some node of value such as a downtown. The models are used to predict outcomes, testing variables for significance. Thus a researcher may take into account other variations in property characteristics in determining the impact of projects like a wind farm on property value.

The key to any reliable statistical model is a sufficiently large data pool, or population, to allow random sampling. In general, these studies have proven most effective in urban or suburban residential areas where a high number of transactions involving fairly homogeneous properties can be observed. Given a significant sample size, fairly conclusive outcomes can be predicted using this method.

¹ Blomquist, Glenn, “The Effect of Electric Utility Power Plant Location on Area Property Value”, *Land Economics*, Vol.50, pp 97-101 (1974)

² Gamble, H. B., Downing, R. H., *Effects of the Accident at Three Mile Island on Residential Property Values and Sales*, Pennsylvania State University for Division of Safeguards, Fuel Cycle and Environmental Research, Office of Nuclear Regulatory Research, U. S. Nuclear regulatory Commission, April 1981

³ McCluskey, Jill J. and Gordon C. Rausser, 2001. “Estimation of Perceived Risk and Its Effect on Property Values,” *Land Economics*, Vol. 77(2001):42-55

⁴ Sterzinger, George, et al., “The Effect of Wind Development on Local Property Values”, Renewable Energy Policy Project, Washington, D. C., 2003

⁵ Kroll, Cynthia A., and Priestley, Thomas. “The Effects of Overhead Transmission Lines on Property Values. A Review and Analysis of the Literature.” Prepared for Edison Electric Institute Siting and Environmental Task Force. July 1992

Even in urban areas, statistical studies attempting to predict value impacts on residential properties lack consistency in model design and applications of uniform adjustments to the data.⁶

Sparsely populated rural areas are much more difficult to study because the population of transactions available for observation are so limited. More indirect methods must be used instead.⁷

While so-called “sensory cues” are key to impacts, (i. e. what can be seen, smelled or heard) the concept of stigma has much more to do with reputation and the intangible components of human desire that influence “marketability.” Marketability is defined by appraisers as the state of being salable.⁸ Thus anticipating the future impact of a wind farm has as much to do with attendant publicity as with the event or source of concern.

The breadth of the studies reviewed suggests that a continuum would be useful along which obtrusive projects or sights might be arrayed. At one end would be undisputed undesirable land uses, like a Superfund site, at the other end positive amenities like lake frontage or a panoramic view of a mountain.

Wind farm projects, common place in Europe, have only begun to punctuate skylines and rural vistas in the United States for the past 10-15 years. A renewed energy crisis, coupled with Federal mandates compelling energy companies to invest in renewable energy has triggered the siting and expansion of projects throughout the country. Further, new designs allow for building fewer but more efficient turbines, planted in so-called wind farms where natural wind energy can be found. Installed capacity, nationwide, has grown at a compound rate of 26% since 1998.

Opponents, however, have questioned whether property values will be lowered when in view of the turbines. Systematic research was undertaken to establish whether there is any basis for the claims. The Renewable Energy Policy Project (REPP) (Sterzinger et al 2000) reviewed data on property sales in the vicinity of wind projects and used statistical analysis to determine whether and to what extent the visual presence of turbines has had influence on prices of properties which have been sold.⁹

The REPP report hypothesized that if wind development can reasonably be claimed to hurt property values, then review of sales data should show a negative effect on property values within view sheds of the projects. The study found no significant empirical support that property values were diminished in any of 10 test cases from around the country.

In fact three of the projects studied (Madison, Fenner and Searsburg) were investigated for purposes of this report and will be discussed further, below.

⁶ Kroll, Cynthia A., and Priestley, Thomas. “The Effects of Overhead Transmission Lines on Property Values. A Review and Analysis of the Literature.” Prepared for Edison Electric Institute Siting and Environmental Task Force. July 1992, p. iii-iv

⁷ Ibid., p. 10

⁸ *The Dictionary of Real Estate Appraisal*, Appraisal Institute, Chicago, Third Edition, 1993, p. 219

⁹ Sterzinger, George, et al., “The Effect of Wind Development on Local Property Values”, Renewable Energy Policy Project, Washington, D. C., 2000

In the REPP study view sheds or visual impacts were defined as areas within 5 miles of a wind farm where the turbine clusters can be seen. The limitations of the study involved the fact that most of these wind projects have been sited in remote rural locations where numerous homogenous sales were unavailable, compared with the urban areas referenced above. The simple regression model cannot explain all influences on property values. The REPP study authors suggested that future studies might expand variables. Refinements might include consideration of relative distances.

The REPP regression analysis used monthly average change in price for all aggregate sales in the defined view shed areas and a control community unaffected by the view. Comparable communities were selected based on comparable demographics and discussions with local assessors and was admittedly subjective.

Overhead Transmission Lines have received the most scrutiny from the standpoint of their visual impact in rural areas. A 1992 study by Cynthia Kroll and Thomas Priestley concluded that fee appraisal offices have the longest history of evaluating line-of sight impacts, but lack any in-depth statistical analysis to verify obtained results. Interviews and personal opinions can produce dramatically varying results (and do not have the finality of actual transaction data).¹⁰

The Kroll-Priestley study found that the presence of a transmission line may not affect some individuals' perceptions of a property's value at all. Some people tend to view transmission lines as necessary infrastructure on the landscape, similar to roads, water towers, or antennae.

The most sensitive rural properties were found to be those located in areas of recreational or second homes. Thus, more remote farming communities will be less impacted than those near recreation or scenic destinations. Effects are most likely to occur to property crossed by or immediately next to the line, but some impacts have been measured at longer distances. This overview on transmission lines suggests that the most serious impact is physical impairments of views for higher valued residences or vacation homes.

Finally, surveys of consumer preference and even of expert preference have been published in Europe, including one by the Royal Institution of Royal Chartered Surveyors ("RICS"). The RICS survey did not test transactional data, but merely queried professional valuers on their preferences. It was little better than an opinion poll, and in fact was unable to demonstrate any measurable diminution in value near wind farms which now proliferate across the British Isles. Notwithstanding reported apprehensions that people may have regarding how nearby wind farms may impact property values, this poll lacks any statistical data demonstrating such an effect.

In conclusion, the academic literature tells us:

- That residential values are most sensitive to aesthetic impact and that high-end residential development is more sensitive than low-end housing;
- That urban concentration and homogenous properties with high volumes of sale transactions are necessary to do appropriate statistical analysis;
- That such analysis cannot be performed in sparsely populated rural areas;

¹⁰ Kroll, op. cit. pp 17-24

- That caution must be taken when considering opinion surveys since personal preference is no substitute for transactional evidence;
- And that the REPP study methodology can be applied to Marble River where announced plans for siting a wind farm project have had time to affect property values.

Local Analysis

The Marble River Wind Farm will be sited in Clinton County approximately 35 miles northwest of Plattsburg and about 25 miles east of Malone and Franklin County. The proposed Project will be scattered through the Clinton County Towns of Clinton, to the north and south of US Route 11, extending north along NY Route 189 to the Canadian Border and to the south aligned with Patnode Road, and Ellenburg to the north and south of US Route 190 to an area just west of Ellenburg Center and just east of the Franklin County line.

Though Clinton and Ellenburg are sparsely populated, few parcels, even dairy farms, exceed 250 acres. According to analysis results contained in the Marble River Visual Assessment Report ("VIA", byEDR, March 21 2006) vegetation and structures will significantly inhibit potential Project visibility within the Towns of Clinton and Ellenburg, with approximately two thirds of ground-level views being screened. Woodlots and areas of forest effectively screen significant portions of the Project, including portions of area roadways. Buildings will effectively screen ground-level views from portions of the Hamlets of Churubusco and Ellenburg Center. Views of the turbines are likely to be available from portions of the Hamlet of Churubusco, areas of open farm land in Ellenburg and Clinton and in many of the heavily-traveled roads within the study area (including sections of Routes 11, 189 and 190), and the upper floors of some homes in the villages and hamlets. As the VIA concludes that visual impacts are generally concentrated within 3.5 miles of a wind energy facility, it is estimated that up to 220 residential properties and a slightly lower number individual property owners can be said to be affected by the Project .

Clinton County completes the northeast corner of New York State. The City of Plattsburgh is its county seat and population center at the southeast edge of the County. Land use in the vicinity of the project is dominated by small family-owned dairies interspersed with rural residential tracts that tend to line public roads and highways. Amidst or adjacent to the 19,310 acre project boundary are three small village centers: Churubusco in the Town of Clinton and Ellenburg Corners and Ellenburg Center within the Town of Ellenburg.

Demographics and an overview of the local economy are integral to assessing value impacts on specific properties. Within a one mile radius of Churubusco, at or near the center of the project area the 2000 census reported a population 330 within a 3 mile radius and 747 within a 5 mile radius. Most of this population gravitates to the southern end of this radius along the highways where most of the homesites cluster. The overall population of the two towns totaled just over 2,500. Population growth is at best nominal with less than 1.00% growth projected through the current decade, the same pace as was reported 1990-2000.

However, population within the two towns did grow at a marginally higher rate than Clinton County, as a whole. Many of the newer residents to the area have sought a rural life style and relatively lower cost housing compared with county and state-wide averages. In fact, median owner-occupied home prices were reported at approximately \$64,000 in 2004 compared with county-wide averages at \$115,000. The median home price in the Towns of Clinton and Ellenburg

were some 65% lower than New York state averages. More recent assessor sales data reported the average price of single family residences sold through 2005 was only \$70,000, or half what Clinton County-wide averages report (approximately \$150,000) for the same period.

Although Plattsburgh serves as the eastern gateway to the sprawling Adirondack Park, via NY 374, there is only limited access to the park from the north through Ellenburg and hence little recreation based property oriented to the township. Instead, seasonal or recreational property is located 10 miles further south around Chazy Lake in the Town of Dannemora.

Economic drivers for the area are limited to the public sector (many commute to state and county offices in Plattsburgh or the state prison at Dannemora). The major private sector employer for the county, Wyeth, a pharmaceutical manufacturer located in Rouses Point has announced it will close in two years. Local dairies, which dominate the landscape, account for only 8% of the employed workforce in the county. Local officials intimate that a growing sector of the population includes retired state and federal employees on limited pension funds, many attracted by the relatively low real estate prices.

The Marble River Wind Farm was announced in late 2004 and both Towns of Clinton and Ellenburg require that local property value impacts be addressed as part of the application process. The discussion below reports on local property value trends, compares them to county-wide averages. Since it may both be too early and there appear to be few post-announcement transactions to analyze, we have also examined real estate activity surrounding the recently completed 120-turbine first phase of the Maple Ridge project near Lowville in Lewis County. Further we have studied real estate markets near three smaller projects in New York and Vermont which have now been operating for at least five years. We will report our findings based on this research.

Real Property Market Activity- Vicinity of Marble River Project

New York is a full disclosure state in that all real property transactions are of public record and may be accessed through county and town assessors. This information is particularly useful in plotting long term trends. Further, we have been able to track and trend related data in other counties where wind farms have been built, or as a test to help benchmark market performance in comparable areas unaffected by pending wind projects.

In the tables and charts below we have arrayed year by year statistics reporting the number and average sale price for various categories uniformly accounted for by the Clinton County Assessor. This data can then be enhanced with some commentary on current sales and listings we have researched within the project area. This data has then been compared with the local records compiled by Town for Clinton and Ellenburg. In general we are looking for overall trends and patterns in order to discern to what extent, if any, specific properties or property types might be impacted by the proposed project.

These values were tracked for six years, 2000 through 2005. We calculated the percent change from year to year. The problem with this indicator, when there are relatively few observations, is that trending can be distorted by outlier transactions, either way high or way low. A larger population smoothes these variances out.

With each category we tracked the following data:

- number of sales per year,

- average sale price per year
- average acreage of parcels that sold
- average sale price per acre per year

We selected four categories of property sales because they exhibited higher volumes year in and year out and because they represented the types of property that are proximate to the wind project. Therefore we did not consider sales of commercial properties, since none are really impacted by the project. We also excluded pure wood lot or wetland sales since those parcels were likely not buildable or found particularly sensitive to viewshed considerations.

We also consolidated certain categories for consistency. In most cases, as would be expected, Clinton County, with an overall population of 80,000, compared with maybe 2,500 in the subject study area, has many more transactions in each category. The observations reported for the two Towns of Clinton and Ellenburg should be a subset of the county. This was not always the case under “vacant farmland” and that may be attributable to some subjective classification calls.

We first examined sales of improved farms. These properties included dairies, live stock ranches, and occasional hay fields and row crops. Many parcels had wetlands or small wood lots included in the acreage. Outbuildings included barns, shops and silos. Most of these properties sold with a farmhouse of mixed age, size, style and utility.

The County also had a category “Farm vacant” which included abandoned farmland, fallow fields and farms where residences were no longer habitable or of only marginal value. “Vacant small” included sales of small acreage tracts, between one and five acres that were suitable for rural residential development. Given that there is very little new development in the area, we found very inconsistent indications of sale activity.

Finally, we tabulated sales of all rural single family home sales. For Clinton County this excludes sales of houses and lots in urban areas like Plattsburgh, but would include rural residential activity on the outskirts. Hence lot sizes averaged just over 6.0 acres for sites selling in the county, whereas the building sites averaged 7.42 acres for the Towns of Clinton and Ellenburg.

These observations tell us a couple things. First, they support the U.S. Census projections relating to average home prices in the subject area, versus the County as a whole. Indeed, rural residential single family home sales in Clinton-Ellenburg averaged \$61,621 over 5 years, compared with \$112,000 within the county. Whereas County rural residences gradually appreciated (at varying annually), but overall at a 10.65% annual rate, Clinton-Ellenburg home values, based on average price of homes sold, averaged annual appreciation of only 1.7% per year over the past six years.

Second, so-called improved farms, those with a residence, and averaging 175 acres in size, also sold at prices, on average somewhat below County figures, though on an average price per acre basis, only 8.6% lower. This difference is explained by soil type, and farm use which varies much less throughout the county than the price differential on stand alone rural residences.

In most other respects, the bar charts show that the Clinton and Ellenburg Townships followed the same general trends, though with more variability and a fundamentally lower value range.

We then reviewed offerings listed for sale in the greater Clinton-Ellenburg area and found several listings where some influence from the project might be anticipated. These listings were priced within range of the sales activity. We did observe that more of the activity involved seasonal

cabins located at the southerly edge of Ellenburg, away from the project and much closer to the Adirondack Park and Chazy Lake.

We interviewed the Town Assessor and local Realtors (most were based out of Plattsburgh) and learned that the Clinton-Ellenburg area has relatively few market transactions, historically. This appears to be a function of the housing stock, the predominance of dairies and agricultural uses and a dormant low-growth local economy.

On balance we found that residential and farm transaction activity was steady around Clinton-Ellenburg and that the relatively low property values were present well before the wind project was planned or announced. Even though the announcement of the project was made over a year ago, it may be too early to observe any reaction in the market place. As an alternative we investigated market conditions surrounding four existing projects where wind turbines have been constructed and are operating elsewhere in the North Country and neighboring Vermont. Some experience from across the country in Washington State may also be instructive.

Clinton County Transactions

Property Type	Sale Year	# of Sales	Average \$SP	Average Acres	Average \$SP/Acre	% change
Farm Improved	2000	4	\$ 122,500	282.23	\$ 434	n/a
Farm Improved	2001	3	\$ 58,400	115.67	\$ 505	16.3%
Farm Improved	2002	7	\$ 129,407	143.80	\$ 900	78.2%
Farm Improved	2003	8	\$ 278,708	215.21	\$ 1,295	43.9%
Farm Improved	2004	3	\$ 127,400	122.37	\$ 1,041	-19.6%
Farm Improved	2005	7	\$ 148,800	168.43	\$ 883	-15.1%
5-year Average		5	\$ 143,283	175.86	\$ 835	
2005		7	\$ 148,800	168.43	\$ 883	5.8%

Property Type	Sale Year	# of Sales	Average \$SP	Average Acres	Average \$SP/Acre	% change
Farm Vacant	2000	2	\$ 48,500	289.85	\$ 167	n/a
Farm Vacant	2001	3	\$ 46,000	109.50	\$ 420	151.1%
Farm Vacant	2002	5	\$ 85,880	128.96	\$ 666	58.5%
Farm Vacant	2003	3	\$ 39,567	116.30	\$ 340	-48.9%
Farm Vacant	2004	2	\$ 100,500	109.40	\$ 919	170.0%
Farm Vacant	2005	2	\$ 125,000	86.05	\$ 1,453	58.1%
5-year Average		3	\$ 64,089	150.80	\$ 502	
2005		2	\$ 125,000	86.05	\$ 1,453	189.1%

Property Type	Sale Year	# of Sales	Average \$SP	Average Acres	Average \$SP/Acre	% change
Vacant Small	2000	22	\$ 20,268	3.85	\$ 5,264	n/a
Vacant Small	2001	27	\$ 16,640	3.53	\$ 4,714	-10.5%
Vacant Small	2002	31	\$ 18,132	2.96	\$ 6,126	29.9%
Vacant Small	2003	22	\$ 19,045	3.98	\$ 4,785	-21.9%
Vacant Small	2004	29	\$ 28,757	3.95	\$ 7,280	52.1%
Vacant Small	2005	33	\$ 21,086	3.84	\$ 5,491	-24.6%
5-year Average		26	\$ 20,568	3.65	\$ 5,634	
2005		33	\$ 21,086	3.84	\$ 5,491	-2.5%

Property Type	Sale Year	# of Sales	Average \$SP	Average Acres	% change
All SFR	2000	151	\$ 89,228	6.89	n/a
All SFR	2001	190	\$ 106,538	5.37	19.4%
All SFR	2002	189	\$ 113,110	6.58	6.2%
All SFR	2003	180	\$ 115,143	5.56	1.8%
All SFR	2004	201	\$ 137,281	6.02	19.2%
All SFR	2005	223	\$ 146,220	5.44	6.5%
5-year Average		182	\$ 112,260	6.08	
2005		223	\$ 146,220	5.44	30.3%

Clinton-Ellenburg Town Transactions

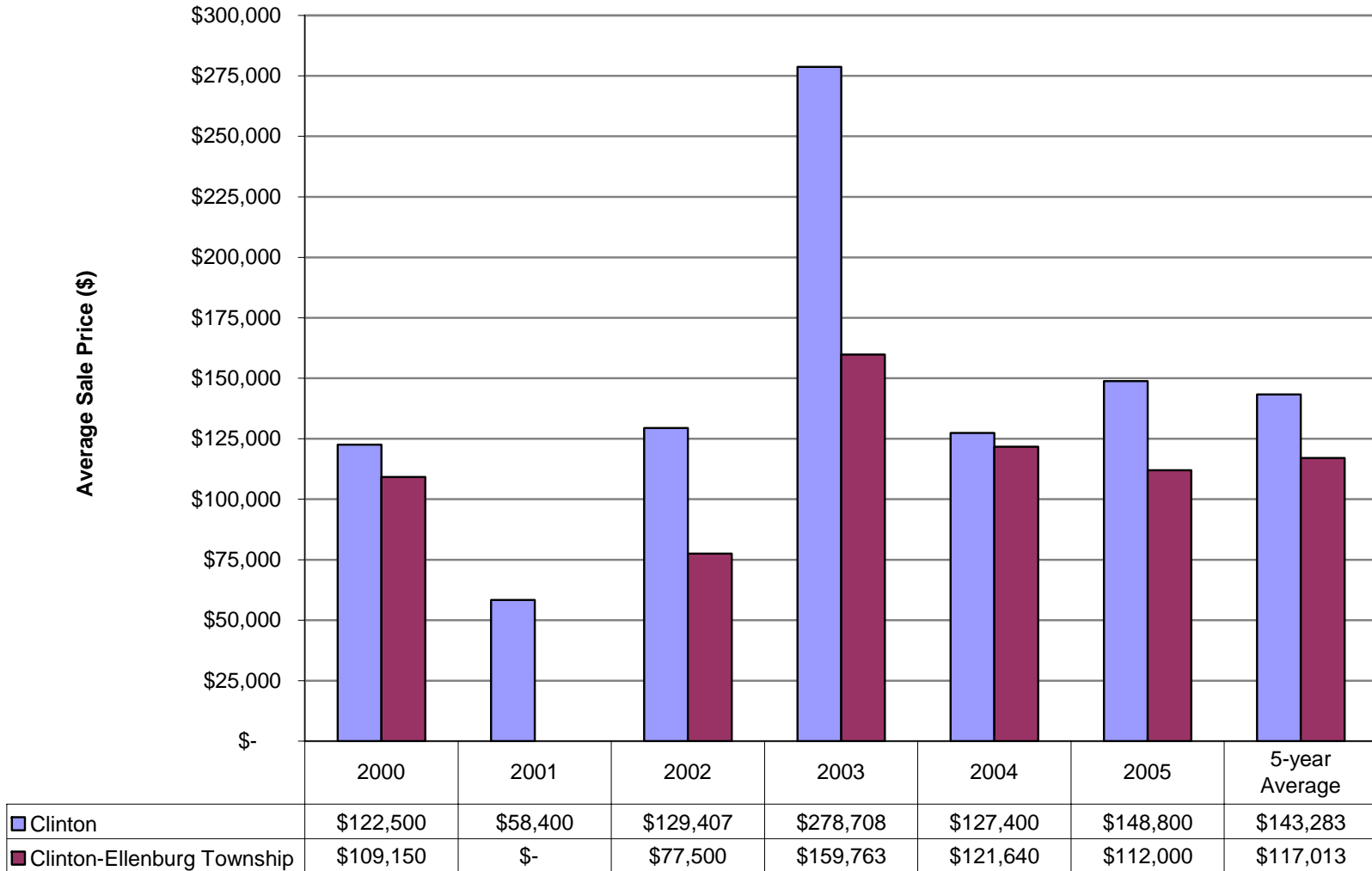
Property Type	Sale Year	# of Sales	Average \$SP	Average Acres	Average \$SP/Acre	% change
Farm Improved	2000	6	\$ 109,150	223.92	\$ 487	n/a
Farm Improved	2001	0	\$ -	-	\$ -	0.0%
Farm Improved	2002	3	\$ 77,500	176.33	\$ 440	-9.8%
Farm Improved	2003	2	\$ 159,763	106.15	\$ 1,505	242.4%
Farm Improved	2004	5	\$ 121,640	196.74	\$ 618	-58.9%
Farm Improved	2005	4	\$ 112,000	228.30	\$ 491	-20.6%
5-year Average		4	\$ 117,013	175.79	\$ 763	
2005		4	\$ 112,000	228.30	\$ 491	-35.6%

Property Type	Sale Year	# of Sales	Average \$SP	Average Acres	Average \$SP/Acre	% change
Farm Vacant	2000	4	\$ 23,750	143.23	\$ 166	n/a
Farm Vacant	2001	10	\$ 15,010	48.19	\$ 311	87.8%
Farm Vacant	2002	5	\$ 37,750	73.38	\$ 514	65.2%
Farm Vacant	2003	9	\$ 59,428	177.41	\$ 335	-34.9%
Farm Vacant	2004	17	\$ 48,383	138.21	\$ 350	4.5%
Farm Vacant	2005	9	\$ 31,772	89.80	\$ 354	1.1%
5-year Average		9	\$ 36,864	116.08	\$ 335	
2005		9	\$ 31,772	89.80	\$ 354	5.5%

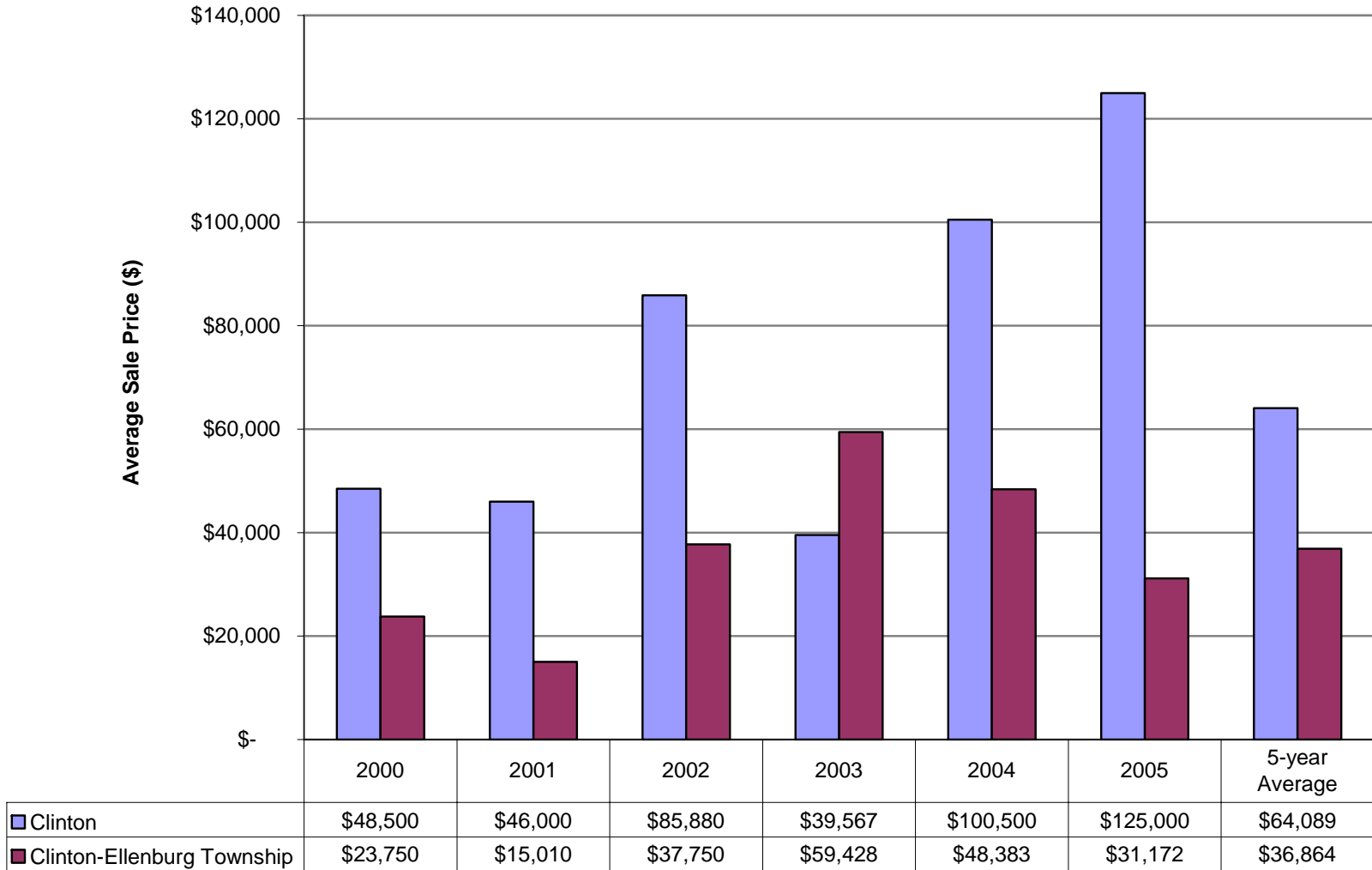
Property Type	Sale Year	# of Sales	Average \$SP	Average Acres	Average \$SP/Acre	% change
Vacant Small	2000	5	\$ 4,500	2.66	\$ 1,694	n/a
Vacant Small	2001	0	\$ -	-	\$ -	0.0%
Vacant Small	2002	0	\$ -	-	\$ -	0.0%
Vacant Small	2003	2	\$ 12,000	2.64	\$ 4,554	168.8%
Vacant Small	2004	12	\$ 6,965	7.32	\$ 952	-79.1%
Vacant Small	2005	5	\$ 7,000	6.44	\$ 1,087	14.2%
5-year Average		4	\$ 7,822	4.20	\$ 2,400	
2005		5	\$ 7,000	6.44	\$ 1,087	-54.7%

Property Type	Sale Year	# of Sales	Average \$SP	Average Acres	% change
All SFR	2000	15	\$ 63,670	6.29	n/a
All SFR	2001	19	\$ 53,351	8.31	-16.2%
All SFR	2002	21	\$ 74,444	7.38	39.5%
All SFR	2003	12	\$ 55,917	5.73	-24.9%
All SFR	2004	23	\$ 60,722	9.41	8.6%
All SFR	2005	11	\$ 70,167	3.00	15.6%
5-year Average		18	\$ 61,621	7.42	
2005		11	\$ 70,167	3.00	13.9%

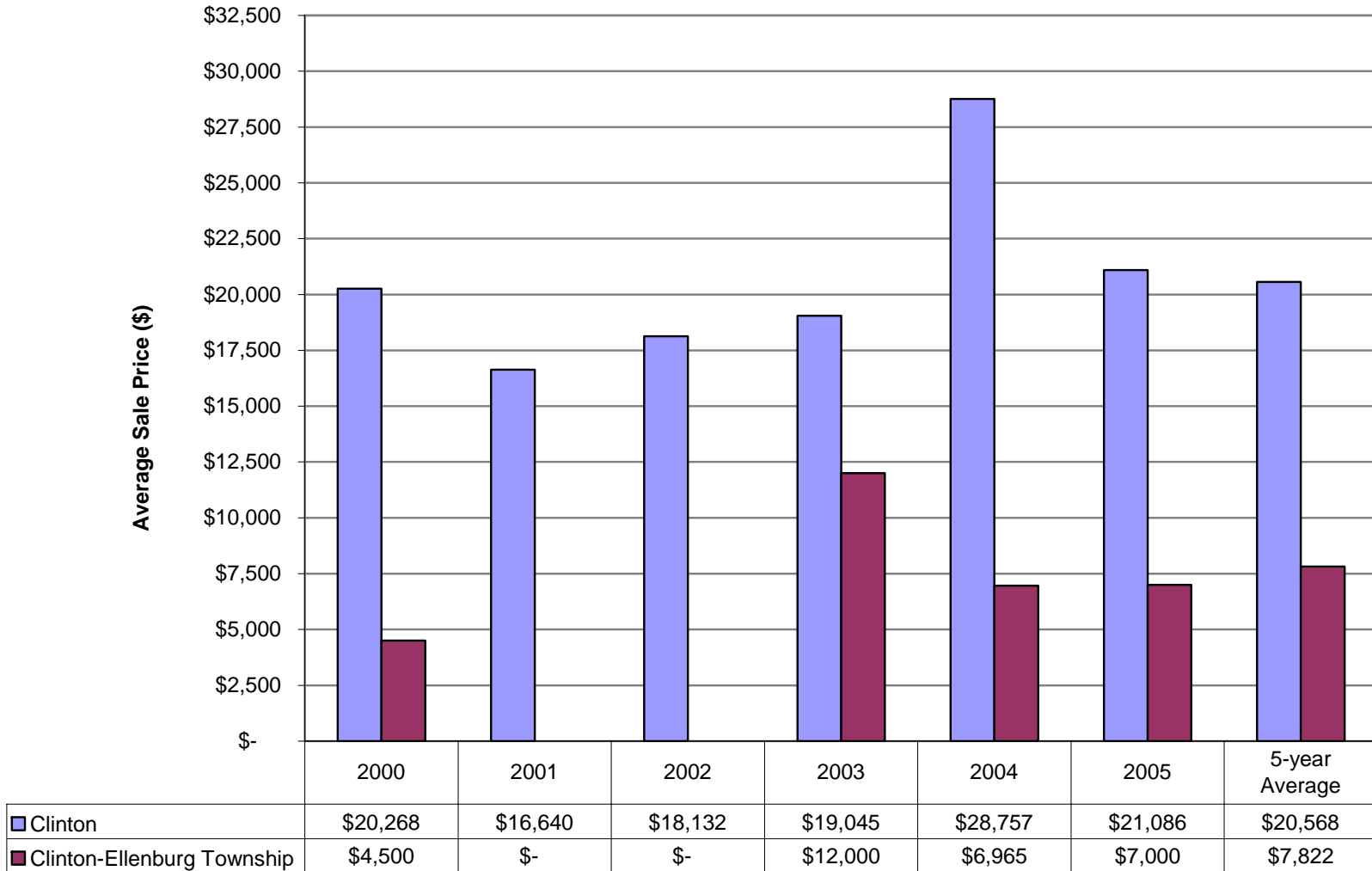
Clinton County vs. Clinton Ellenburg Townships (Farm Improved)



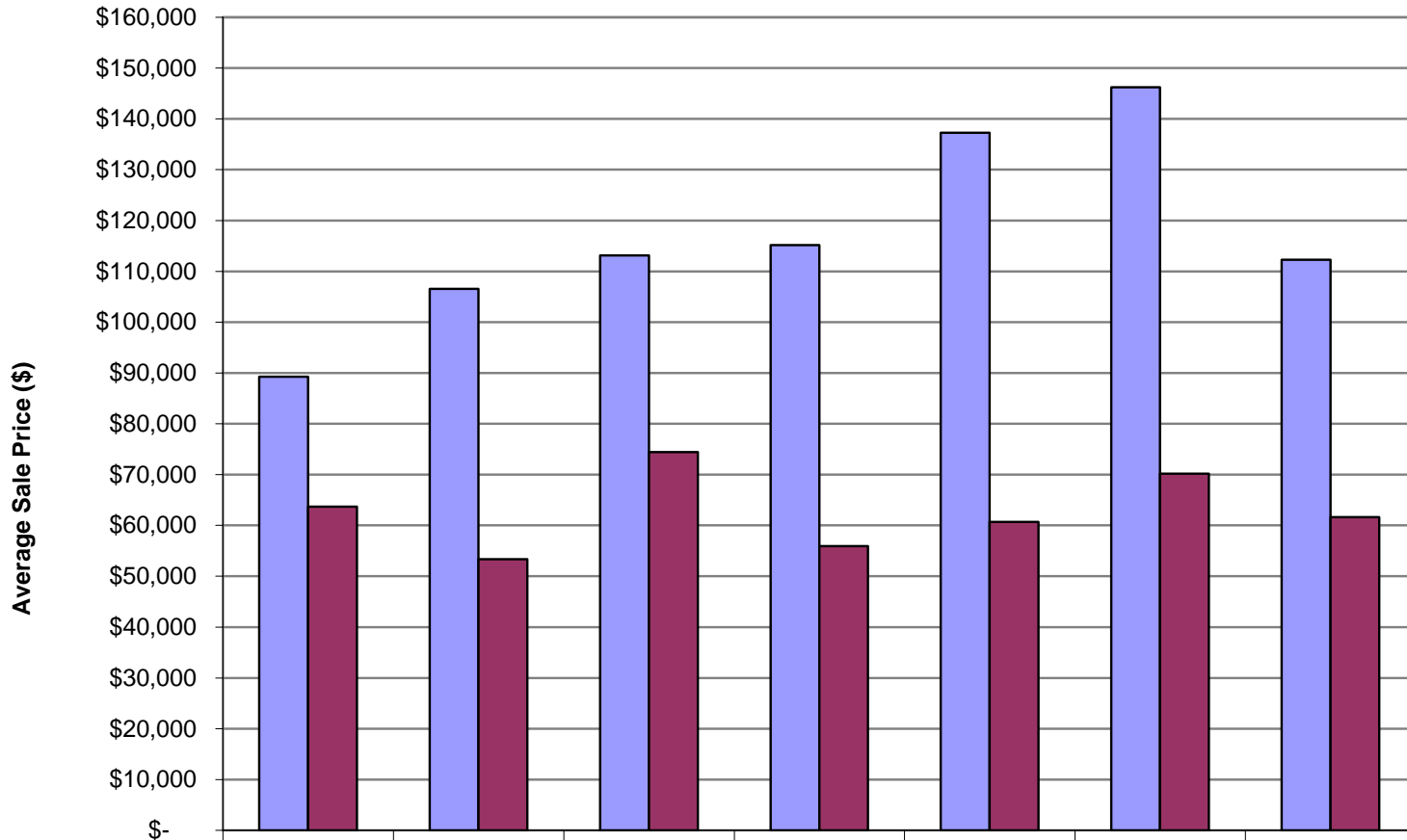
Clinton County vs. Clinton Ellenburg Townships (Farm Vacant)



Clinton County vs. Clinton Ellenburg Townships (Vacant Small)

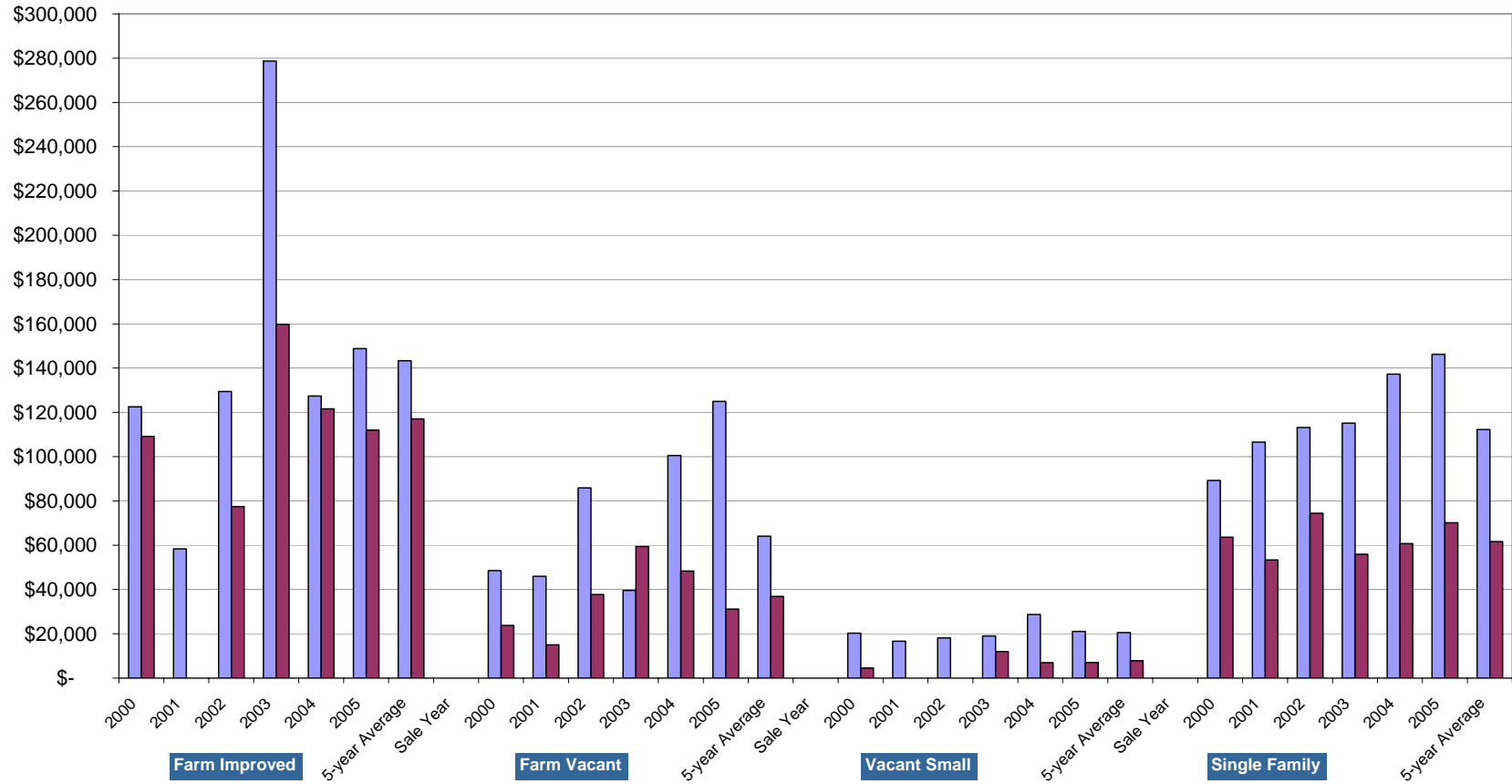


Clinton County vs. Clinton Ellenburg Townships (All Single Family)



	2000	2001	2002	2003	2004	2005	5-year Average
■ Clinton	\$89,228	\$106,538	\$113,110	\$115,143	\$137,281	\$146,220	\$112,260
■ Clinton-Ellenburg Township	\$63,670	\$53,351	\$74,444	\$55,917	\$60,722	\$70,167	\$61,621

Clinton vs. Clinton-Ellenburg Township



Discussion of Comparable Wind Projects

The 198 MW Maple Ridge Wind Farm has just become operational near Lowville, New York, in Lewis County, on the west side of the Adirondack Park. The wind project is located west of Lowville on Tug Hill, an elevated plateau known for its strong wind resource. The turbines have been under construction for the past year and have permanently altered the landscape. They are visible from 5 miles away and easily in sight of many residential developments in Lowville.

The 2000 reported census of Lowville was 3,476, while all of Lewis County is 26,944. Most of Lowville lies within a five mile radius of Maple Ridge, which is centered of Eagle Factory Road and US 12, west of town. Population surrounding the 120 turbine project is very similar to Clinton-Ellenburg. However while population projections show a marginal drop in counts, local Realtors and the Maple Ridge manager argue that an expansion of nearby Fort Drum, to the north, has triggered both a housing shortage and unexpected population growth.

Average estimated housing values range from \$90,000 to \$100,000 within a five mile radius, at least 40% higher than the corner of Clinton County where the Marble River farm is planned.

year	2001	2002	2003	2004	2005
<i>no. sales</i>	13	29	22	36	49
<i>Avg. SP</i>	\$ 57,569	\$ 67,810	\$ 53,262	\$ 88,159	\$ 84,763
<i>Avg. DOM</i>	137	160	200	68	88
Average annual increase 2001-2005					9.4%

Sales statistics from the assessor's office in Lewis County tell much the same story.

Property Type	Sale Year	# of Sales	Average \$SP	Average Acres	% change
All SFR	2001	75	\$ 61,796	5.41	n/a
All SFR	2002	93	\$ 69,960	4.68	13.2%
All SFR	2003	78	\$ 69,744	5.79	-0.3%
All SFR	2004	99	\$ 79,024	6.91	13.3%
All SFR	2005	112	\$ 88,981	5.17	12.6%
Average annual increase 2000-2005					8.8%

In fact, Lowville area sales have increased at a small margin more than county wide. We asked a couple local Realtors and an appraiser about the apparent drop in average home prices between 2004 and 2005 in Lowville compared with the county. Did it have anything to do with the construction at Maple Ridge? To a person, each insisted that the apparent drop in average sales price was simply the shortage of higher quality product. Note that days on market ("DOM") reported by MLS decreased by over 60% between 2003 and 2004 then held that level. Meanwhile, the number of units sold increased 63% 2003 to 2004 then again another 36% through 2005.

Ken Erb, a Lowville Realtor and appraiser admitted to buying his home in the exclusive Hillcrest neighborhood where wind turbine are clearly visible 3-5 miles to the west. Home prices there for popular raised ranch style homes range from \$110,000 to \$125,000, well above city and county averages.

Mr. Erb also reported that the wind farm was not affecting recreational use in the Tug Hill area. As proof he cited a “seasonal” 5 acre property that sold for \$30,000 off Sweet Road and NY 177 in January 2006; practically beneath the turbines. He had understood that the buyer bought the site in part because the wind farm had improved infrastructure in the area. In contrast, vacant small lots in Lewis County sold, on average for only \$11,279 in 2005 (29 transactions averaging about four acres in size), up 10% from 2004.

The experience observed and reported at the Maple Ridge project suggests that in a market where average home values are demonstrably higher and where recreational uses more prevalent, demand and property appreciation have kept pace with areas elsewhere in the county where a wind farm is not evident. Further it underscores the influence of exogenous influence (like the Fort Drum expansion) which can swamp demand in local markets, notwithstanding any concerns about wind farm impacts.

In Clinton County, the opposite might be the case. Housing demand might otherwise drop because of the pending closure of the Wyeth plant in Rouses Point. Perhaps the concomitant construction of the Marble River wind farm will offset that blow to the local Clinton county economy.

A small 11 turbine project opened in Searsburg, Vermont at the juncture of State Roads 8 and 9, between Bennington and Wilmington in 1997. The REPP study showed that area sales before and after indicated no adverse impacts before and after operations began, as of 2003. We interviewed local brokers and tracked sales activity of the nearby resort at Chimney Hill. There, we found sales of rather modest recreational cabins in the \$225,000 to \$300,000 price range.

The project sits on a ridge line where the turbines tower over the canopy and can be seen from several vantage points from Route 8. A feature story in the Cape Cod Times (May 12, 2002) noted that a parking lot had been created to accommodate sightseers. While Searsburg is a much smaller project, it was sited on a very visible Green Mountain Ridge in the heart of scenic Vermont where tourism and recreational uses abound. Our studies have shown that such areas are much more sensitive to esthetic concerns than would be the case in a more traditional farming communities.

In Central Washington (ironically near a similarly named town of Ellensburg) the Kittitas Valley Project (“KV”) has been in the planning stages for nearly four years. The valley is traversed by Interstate 90 and at least 80 2 MW turbines will be erected. The view shed in this area is rimmed with windswept, treeless mountains, yet has long been compromised by multiple electric transmission towers and overhead lines, so characteristic of the power corridors that extend from the hydro-electric dams to large Northwest cities. However, some of the affected property on the eastern slope of the Cascades still enjoyed pristine views. Yet even though turbines were planned for these limited view sheds, speculative land sale activity and recreational housing continues, because of strong demand spilling over from a nearby resort, Suncadia.

What was remarkable about the study area was the relative high number of paired sales which were reported since announcement of the Project (12, or nearly 20% of the parcel inventory, a very high rate for a rural area). In virtually every case, robust appreciation rates were indicated. This suggests that the marketability of the sites was unaffected by the proposed Project and that land values were unaffected as indicated by the rates of value appreciation.

We found that paired sales in the area surrounding the KV Project were appreciating at rates well above that of the county in general and the city of Ellensburg. This holds true for the four-year pre-

announcement period and the 2-year post-announcement period with rates above the 10% range in the vicinity of the Project versus rates below 10% in Ellensburg and Lower Kittitas County.

General Findings

- Given the relatively low median incomes, slow growth and limited base economy near the Towns of Clinton and Ellensburg, the proposed Marble River project may yield net economic benefits, which could in turn, spur demand for housing and increase property values over time.
- Having reviewed the inventory of affected parcels, we find that they include a mix of rural residential tracts interspersed with commercial dairies and small farming operations. Our studies show that the most sensitive of these properties will be the rural homesites.
- We find that dairy farms, hay fields and vacant land are unlikely to be affected since value of such lies in the relative productivity of the soil and the age and functional utility of farm and dairy related structures. Residences are incidental to the business not located for the view shed.
- We have reviewed the age, quality and values of housing stock in area and extensively surveyed property sale records going back to 2000. We have found that property values in the affected area are as low as anywhere in New York state or New England. This is due to the remoteness of the area, low productivity of the soil, and a fairly stagnant economy. We did not find any new development or executive type housing where view considerations have more impact.
- Our study finds no adverse impact attributable to the announcement of the project in the immediate area, although it may be too early to tell. However, our study of property values at Maple Ridge near Lowville, where 120 turbines have been erected suggests that there, again, has been no adverse impact on property values there, and may even have improved values of some types of recreation or seasonal properties.

Summary of Property Value Impacts

The Project will have no impact upon property values for undeveloped properties or existing farms. Developed properties, on the aggregate, appear to have appreciated in value since the announcement of the Project. There appear to be no executive or second homes located in the project area or viewshed. The existing stock of rural residential housing are already significantly lower valued compared with otherwise comparable communities in the North Country of New York, surround the Adirondack Park. Local property values will be much more susceptible to the local economy than to changes in the view shed created by the project. We find that the Project should have no impact upon the future sales or values of developed properties given these prevailing conditions.

CERTIFICATION OF CONSULTING ENGAGEMENT

I certify that, to the best of my knowledge and belief:

1. The statements of fact contained in this report are true and correct.
2. The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
3. I have no present or prospective interest in the property that is the subject of this report, and no personal interest with respect to the parties involved.
4. I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
5. My engagement in this assignment was not contingent upon developing or reporting predetermined results.
6. My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
7. The reported analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of professional Ethics and Standards of Professional Practice of the Appraisal Institute which include the *Uniform Standards of Professional Appraisal Practice*.
8. I have made a personal inspection of the property that is the subject of this report. No one provided significant consulting assistance to the persons signing this report.
9. The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
10. As of the date of this report, I have completed the continuing education program for the Appraisal Institute.



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