

**COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION**

In the Matter of:

THE APPLICATION OF)
NEW CINGULAR WIRELESS PCS, LLC,)
A DELAWARE LIMITED LIABILITY COMPANY,)
D/B/A AT&T MOBILITY)
AND TILLMAN INFRASTRUCTURE LLC, A DELAWARE)
LIMITED LIABILITY COMPANY)
FOR ISSUANCE OF A CERTIFICATE OF PUBLIC) CASE NO.: 2021-00398
CONVENIENCE AND NECESSITY TO CONSTRUCT)
A WIRELESS COMMUNICATIONS FACILITY)
IN THE COMMONWEALTH OF KENTUCKY)
IN THE COUNTY OF GRAYSON)

SITE NAME: FALLING BRANCH

* * * * *

**APPLICANT RESPONSE TO PUBLIC COMMENT
OF ROGER & JANELLE NICOLAI**

New Cingular Wireless PCS, LLC, a Delaware limited liability company, d/b/a AT&T Mobility and Tillman Infrastructure LLC, a Delaware limited liability company (“Applicant”), by counsel, make this Response to the comments submitted by Roger Nicolai and Janelle Nicolai in the within proceeding. Applicant respectfully states, as follows:

1. Roger Nicolai and Janelle Nicolai have voiced generalized concerns to the Kentucky Public Service Commission regarding “exposure”, aesthetics, property values, and the location of the facility proposed in the within Application. They request that the site be moved to another location on the same parcel, that the PSC “intervene on their behalf”, and if the request for intervention is denied, then schedule a public hearing. However, as presented in the subject Application and as discussed herein below, there

is no ground for denial of the subject application, and substantial evidence supports approval of the requested Certificate of Public Convenience and Necessity (“CPCN”).

2. In response to generalized concerns regarding “exposure”, in accordance with KRS Chapter 100 and the Telecommunications Act of 1996 (“TCA”), the environmental effects of radio frequency emissions are not at issue in this case and may not be considered by the Public Service Commission in its evaluation of the proposed facility. Radio frequency emissions are the subject of federal regulation, and the TCA expressly prohibits state regulation of wireless communications facilities on the basis of environmental effects or radio frequency emissions. Specifically, the Federal Telecommunications Act of 1996, as codified at 47 U.S.C. Section 332(7)(B)(iv), provides: “No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the [Federal Communication] Commission’s regulations concerning such emissions.”

3. The U.S. Court of Appeals for the Sixth Circuit has upheld the prohibition of consideration of the environmental effects of radio frequency emissions in Kentucky Public Service Commission proceedings regarding wireless communications facilities. Specifically, in Telespectrum, Inc. v. Public Service Commission, 227 F.3d 414 (6th Circuit 2000), the Court held: “[C]oncerns of health risks due to the emissions may not constitute substantial evidence in support of denial by statutory rule, as no state or local government or instrumentality thereof may regulate the construction of personal wireless facilities “on the basis of the environmental effects of radio frequency emissions to the

extent that such facilities comply with the Commission's regulations concerning such emissions.' 47 U.S.C. § 332(c)(7)(B)(iv)." Id at 425.

4. The Sixth Circuit reemphasized the federal statutory prohibition of consideration of radio frequency emissions effects in Robbins v. New Cingular Wireless PSC, LLC, 854 F.3d 315 (6th Cir. 2017): "Congress passed the TCA to foster industry competition in local markets, encourage the development of telecommunications technology, and provide consumers with affordable access to telecommunications services. Telecommunications Act of 1996, Preamble, Pub. L. No. 104-104, 110 Stat. 56 (1996). The TCA furthers those goals by preventing local governments from impeding the siting and construction of cell towers that conform to the FCC's RF-emissions standards. See 47 U.S.C. § 332(c)(7)(B)(iv). By delegating the task of setting RF-emissions levels to the FCC, Congress authorized the federal government—and not local governments—to strike the proper balance between protecting the public from RF-emissions exposure and promoting a robust telecommunications infrastructure. See *id.*; In the Matter of Procedures for Reviewing Requests for Relief from State & Local Regulations Pursuant to Section 332(c)(7)(b)(v) of the Commc'ns Act of 1934 in the Matter of Guidelines for Evaluating the Env'tl. Effects of Radiofrequency Radiation, 12 F.C.C. Rcd. 13494, 13505 (1997)." Id. at 319-320.

5. The proposed wireless communications facility has been designed and will be constructed and operated in accordance with all applicable federal, state and local regulations applicable to such facilities. The tower does not present a risk to public health and welfare.

6. In response to generalized concerns regarding property values, Applicant has

attached a report from Glen D. Katz, MAI, SRA, AI-GRS, AI-RRS, a property valuation expert, concluding that the proposed tower will not have a negative impact on surrounding property values as **EXHIBIT A**. In this instance, Grayson County has not adopted planning and zoning regulations, nor has it adopted regulations regarding the placement, construction and modification of wireless communications facilities. Any property purchased in Grayson County is acquired with the understanding that the surrounding neighbors are free to develop their property in any manner they desire without regulation from local government or input from area residents. This circumstance is factored into the sales price of all real estate in Grayson County. For this reason, area residents have no reasonable expectation of input into the land use of surrounding properties or the impact a proposed land use will have on their property values.

7. In response to generalized concerns regarding aesthetics, the proposed facility has been designed, configured, and located in such a manner that it will prevent or limit potential adverse effects on surrounding properties. Furthermore, the tower will be galvanized steel to minimize its visibility. The general area where the proposed facility is to be located is a heavily wooded rural area. The tower site is located on a large parcel and will be setback over 1,300' from Highway 110 (Blue Bird Road). Tower placement at this location is the most suitable and least intrusive method of resolving the existing coverage and/or capacity gap in this area.

8. AT&T's radio frequency engineers conducted studies and tests in order to develop a highly efficient network that is designed to handle voice and data traffic in the service area. The engineers determined an optimum area for the placement of the proposed facility in terms of elevation and location to provide the best quality service to

customers in the service area. A radio frequency design search area prepared in reference to these radio frequency studies was considered by the Applicant when searching for sites for its antennas that would provide the coverage deemed necessary by the Applicant. A map of the area in which the tower is proposed to be located which is drawn to scale and clearly depicts the necessary search area within which the site should be located pursuant to radio frequency requirements was submitted with the application. AT&T is a provider of essential wireless voice and data services to residential and commercial customers. AT&T delivers these services over a network of sites (i.e., antennas mounted on a support structure, with associated radio transmitting equipment) which are linked to one another and which transmit and receive signals to and from mobile phones and other wireless communication devices. The proposed facility is necessary to achieve coverage and capacity needs that cannot be established in any other manner in this part of Grayson County. It will provide needed capacity to offload the surrounding sites which are currently operating at or near maximum capacity in this area limiting the ability of user access to the network. This new tower is required as there is no other means of providing this service in this area.

9. The U.S. Court of Appeals for the Sixth Circuit has upheld that lay opinion or generalized concerns are not substantial evidence justifying a rejection of this application. Any decision rendered by state or local authorities must be in writing and supported by substantial evidence in a written record. Federal Courts in the 6th Circuit have defined “substantial evidence” in previous cases. For example, the locality’s own zoning requirements are an example of substantial evidence. Cellco Partnership v. Franklin Co., KY, 553 F. Supp. 2d 838, 845-846 (E.D. Ky. 2008). Of course, in this instance Grayson

County has not adopted zoning requirements. Courts in the 6th Circuit have found that lay opinion is not substantial evidence. Cellco Partnership at 852 and T-Mobile Central, LLC v. Charter Township of West Bloomfield, 691 F.3d 794, 804 (6th Cir. 2012). They have also found that unsupported opinion is not substantial evidence. Cellco Partnership at 849. Generalized expressions of concerns with “aesthetics” are not substantial evidence. Cellco Partnership at 851. Claims the tower is unsightly are generalized expressions of aesthetical concerns and the same objection could be made by any resident in any area in which a tower is placed. Cellco Partnership at 852. General concerns that the tower is ugly or unwanted near an individual’s residence are not sufficient to meet the 6th Circuit substantial evidence test. T-Mobile Central at 800. Finally, anyone who opposes a tower in their backyard can claim it would be bad for the community, not aesthetically pleasing, or is otherwise objectionable, but such claims would not constitute substantial evidence. T-Mobile Central at 801.

10. The public comment of Roger Nicolai and Janelle Nicolai does not present issues or develop facts that will assist the Commission in fully considering this matter.

WHEREFORE, there being no ground for denial of the subject application and substantial evidence in support of the requested CPCN, Applicant respectfully request the Kentucky Public Service Commission:

- (a) Accept this Response for filing;
- (b) Deny the request for intervention;
- (c) Issue a Certificate of Public Convenience and Necessity to construct and operate the WCF at the location set forth herein without further delay; and
- (d) Grant Applicant any other relief to which it is entitled.

Respectfully submitted,



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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on this 30th day of November 2021, a true and accurate copy of the foregoing was electronically filed with the PSC and sent by U.S. Postal Service first class mail, postage prepaid, to Roger Nicolai and Janelle Nicolai, 2663 Blue Bird Road, Falls of Rough, Kentucky 40119.



David A. Pike
Attorney for Applicant

EXHIBIT A

REAL ESTATE VALUE IMPACT STUDY

Real Estate Value Impact Study

For

**Proposed Wireless Communications Facility
New Cingular Wireless, PSC, LLC, d/b/a AT&T Mobility, & Tillman
Infrastructure LLC
Site Name: Falling Branch
PCS Case No.: 2021-00398
Assessor Parcel Number: 034-00-00-013
2589 Blue Bird Road
Falls of Rough, Grayson County, Kentucky 40119**

Date of Report:

November 23, 2021

Prepared For:

**Kent Chandler, Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, Kentucky 40602-00384**

Prepared By:

**Glen D. Katz, MAI, SRA, AI-GRS, AI-RRS
Realty Solutions Co., Inc.
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November 23, 2021

Kent Chandler, Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
P.O. Box 615
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Realty Solutions Co., Inc.
Finding Answers to Real Estate Questions

Subject: Real Estate Value Impact Study
Proposed Wireless Communications Facility
New Cingular Wireless, PSC, LLC, d/b/a AT&T Mobility, & Tillman Infrastructure LLC
Site Name: Falling Branch
PCS Case No.: 2021-00398
2589 Blue Bird Road
Falls of Rough, Grayson County, Kentucky 40119

Commissioners:

I have completed an impact study regarding potential influence of wireless communications tower facilities on market value of surrounding properties. The study consists of analyzing sale activity and value trends of properties located in proximity to tower structures and tower systems, as compared to properties which are not in proximity but are otherwise competitive as replacements in the market.

Public utilities provide a platform for economic sustainability, community growth, safety and education. These factors in turn influence value and demand for real estate. Based on the actions of buyers, occupants, and sellers of real estate, it is clear that communications towers are part of this platform. Consistently, market activity shows this type of facility has not, and does not, negatively impact surrounding property, and instead provides significant positive influences on value and demand for real estate. There are no indications for value diminution of properties with suburban, low-density residential, recreational, and agricultural characteristics similar to the project neighborhood, or neighborhoods in general.

This report is intended solely for use by Applicant, and the identified governmental review panel for the project, Kentucky Public Service Commission. The intended use of the reported opinions and conclusions is to assist Applicant, and the governmental review panel in making permitting decisions regarding the subject project. The undersigned, Glen D. Katz, recognizes this report will be submitted as part of the public record.

The attached report is a summary of the research and analysis performed. Thank you for the opportunity to present this information. Please contact me if you have questions or comments.

Respectfully,



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Scope of Work

Project identification

The project is identified by site and neighborhood analysis. Construction plans, aerial maps, and government census data are reviewed. Neighborhood and market characteristics are identified to understand the four forces that affect value:

- social forces;
- economic forces;
- governmental forces, and;
- environmental forces

Facility Description

The facility will be in a low-density residential, recreational, and agricultural area. Construction will be comprised of a 145' self-support structure with 4' lightning arrestor, totaling a height of 149 feet. Base elevation will be ~639.9 feet. The construction will be located on an approximately 100' x 100' leased site with a 60' x 60' fenced compound. There will be supporting storage cabinets and gravel ground cover. There is designed space for co-location of other wireless service providers in the facility. The facility will be accessed by a gravel-covered easement driveway extending from the south side of Highway 110 - Blue Bird Road. These characteristics comprise the most common features of wireless communications facilities in similar areas of the United States.

Data researched

Existing tower facilities, wireless communications, high voltage electric overhead transmission, or water tower storage tanks, are identified for analysis based on residential and commercial exposures. In some cases, there are multiple towers involved in a public utility system, such as high voltage electric overhead transmission lines.

Value Definition

The research analysis is based on 'market value' of real estate. The federal definition via the FDIC contains the most widely accepted components of market value.

Market value means the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- (1) Buyer and seller are typically motivated;*
- (2) Both parties are well informed or well advised, and acting in what they consider their own best interests;*
- (3) A reasonable time is allowed for exposure in the open market;*
- (4) Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and*
- (5) The price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.*

Analysis Applied

Sales of residential properties are tracked to establish rates of change in value due to external exposures, market conditions, and determine potential influence from proximity to tower facilities. Comparison is made between value trends of properties in proximity, and without proximity to tower facilities. Three methods of data extraction are discussed:

- Analysis of “before and after” sale data. This method tracks value trends before and after installation of a tower facility. Property sale data before a facility is installed is compared to sale data occurring after a facility is installed. This method will have limitations when a facility installation occurred in the distant past. Older sales occurring before the installation frequently experience significant changes before they are resold: physical changes such as renovation, updating, addition, and/or economic changes (i.e., 2007-2009 recession, Covid-19 pandemic, changes in highest and best use, etc.) In these cases, value change over a long time period may attributed to multiple overriding sources, and allocating value change solely to tower influence can be misleading.
- Comparison of “unit-value” of properties that are functionally identical in all aspects except proximity. The unit value will typically be price per-square-foot of gross living area (sale price / above-grade living area). The information will reveal any differences between proximity categories. While providing excellent evidence, this method has limitations due to the variety of property differences and related difficulty in matching properties that are adequately similar with the exception of proximity.
- One of the most common analysis methods is “market conditions” value trend analysis. This compares value trends of properties located with proximity to existing tower facilities, to value trends of properties located without proximity. Rates of value change due to market conditions are compared between the two property types to extract any differences due to proximity to a tower facility.

In all cases, the methodologies allow controlling physical and locational attributes of the two sets of properties. Price and value effects or differences due to other characteristics of the properties are held constant, and any effect due to proximity is isolated. For this study, because of the data available, the “before and after” and “market conditions” methods are utilized.

Data Summary

History of Proximity Impact

Proximity impact is a frequent question in real estate. In the course of studying value impact due to proximity of private or public utility facilities to residential, commercial and agricultural properties, I have analyzed wireless communications tower facilities, high-voltage overhead transmission lines (HVOT), storage towers, oil pipelines, agricultural facilities, and federal interstates. For this report, the analysis consists of analyzing value trends of properties in proximity to public utility tower facilities.

Residential and commercial properties, whether urban, suburban or rural, and agricultural properties, follow similar demand patterns. In an article published in *The Appraisal Journal*, (no. 1 (Winter 2012): 30-45), James A. Chalmers identifies three general characteristic that drive property sensitivity to price effects:

- use;
- size; and
- uniqueness.

Of all property types, if there is an impact from an external source, urban and suburban residential properties will be the most sensitive.

Non-suburban, rural residential and commercial properties are often part of agricultural or recreational environments. Site sizes are larger, or they may be adjacent to large land parcels. They are also unique; because of the low-density development characteristics, there are fewer available, and even fewer available with specific classes of features such as site size, quality, floor plan, or auxiliary buildings. Low density development area properties are similar to urban and suburban properties in terms of use, but are superior in the sensitivity categories of site size and uniqueness/scarcity. In summary, they share the same use characteristics, but are more resilient than other residential and commercial categories.

In this study, urban/suburban residential properties are researched because of high sale volume, and because they would be the first to show sensitivity. As shown, these properties and their values are not adversely sensitive to, and are not negatively impacted by, wireless communications tower facilities. Respectively, rural, agricultural, recreational, and commercial properties follow the same pattern.

Grayson County has not adopted planning and zoning for unincorporated areas of the County, and the project neighborhood is not subject to local zoning regulation. This is a frequent occurrence in low-density development and rural areas, and there are risks accepted by property owners because of the lack of control on land uses. Without localized land-use regulations, all legal uses of land are available. Land uses with a high impact on surrounding properties or a community in general, typically are characterized as producing adverse noise, odor, traffic, lighting, view, or neglected construction.

As a result, there is a higher risk expectation by buyers when making purchase decisions, regarding the quality and type of use of neighboring un-zoned properties. These risks are reflected in prices paid and resulting value trends. Regardless of these risks and buyer activity, communities without strict land-use controls continue to expand and develop need and demand for public utilities. The neighborhoods and communities remain influenced by social, economic, governmental, and environmental forces. There is no difference in regard to the positive impact from public utilities on surrounding values if a neighborhood does not have strict land-use zoning regulations.

Questions on Property Ownership

Concepts regarding property rights, property insurability, and mortgages, are frequent topics on value influence for discussion from property owners. The following information is provided for insight.

Property Rights: Property owners near cell tower facilities retain all rights normally associated with ownership. There are no additional easements, encroachments, or use restrictions on surrounding properties.

Insurability: There are no insurability risk changes to physical property, ownership, or insurance availability or cost change. Interviews with property owners, insurance professionals, lenders, and title companies, confirms there are no conflicts on availability or premiums for physical property, or title insurance, for properties located near cell towers.

Mortgage Terms: The following national programs influencing mortgages are researched to determine status of cell towers in relation to mortgage financing. In all cases, there is no influence on mortgage availability or terms.

FHA: Federal Housing Administration (FHA) through the Dept. of Housing and Urban Development (HUD), is the largest insurer of mortgage in the world and provides mortgage insurance on loans made by FHA-approved lenders throughout the U.S. FHA has minimum property standards contained in *HUD Handbook 4000.1*. In particular, there is a section on “Externalities” and requirements for property compliance. Externalities are off-site conditions that have an adverse influence on a property, such as heavy traffic, special airport hazards, proximity to high pressure gas lines, high voltage electric overhead transmission lines and local distribution lines, smoke, fumes, and other offensive or noxious odors, and stationary storage tanks.

Cell towers are not identified as a specific hazard for surrounding properties, and are not a specific criterion for hazard analysis in obtaining FHA/HUD funding insurance for mortgage lenders.

VA: Veterans Administration (VA) helps Servicemembers, Veterans, and eligible surviving spouses become homeowners. VA provides home loan guaranty benefits and other housing-related programs to help buy, build, repair, retain, or adapt homes for occupancy. VA Home Loans are provided by private lenders such as banks and mortgage companies. VA guarantees a portion of the loan and lowers risk as a result, enabling lenders to provide borrowers with more favorable terms.

VA guidelines (Chapters 10 and 12) identifies *HUD Handbook 4000.1* as the resource for minimum property requirements. In addition, in reiterating hazard issues in the VA guidelines, cell towers are not identified or mentioned as a specific hazard for surrounding properties. Cell towers are not a criterion for hazard analysis in obtaining VA loans.

USDA: United States Department of Agriculture (USDA), through its Rural Development program (RD), makes direct loans as well as assisting approved lenders in providing low- and moderate-income households the opportunity to own adequate, modest, decent, safe and sanitary dwellings as their primary residence in eligible rural areas. The program provides loan guarantees to approved lenders in order to reduce the risk of extending 100% loans to eligible rural homebuyers. USDA publishes *Handbook 3550 (HIB 3550)* containing minimum property requirements for USDA

loan programs. Cell Towers are not included for consideration, and are not a specific criterion in hazard analysis for obtaining loans under USDA programs.

FNMA: Federal National Mortgage Association (FNMA, aka Fannie Mae) is a government-sponsored enterprise (GSE). Fannie Mae purchases and guarantees mortgages made to borrowers via the secondary mortgage market. The mortgages it purchases and guarantees must meet strict criteria. Its “*Selling Guide*” publication is a primary information guide for secondary mortgage market lending. The *Selling Guide* does not include cell towers for specific analysis in the publication. Cell towers are not, and historically have not been, a hazard criterion in analysis for obtaining mortgage loans that will be purchased by Fannie Mae.

FHLMC: The Federal Home Loan Mortgage Corporation, (FHLMC, aka Freddie Mac) is a government-sponsored enterprise (GSE). Freddie Mac purchases and guarantees mortgages made to borrowers via the secondary mortgage market. The mortgages it purchases and guarantees must meet strict criteria. Its “*Seller/Servicer Guide*” publication is a primary information guide for secondary mortgage market lending. The *Seller/Servicer Guide* does not include cell towers for any specific analysis in the publication. Cell towers are not, and historically have not been, a hazard criterion in analysis for obtaining mortgage loans that will be purchased by Freddie Mac.

In addition, national, regional, local, and private sources of mortgage financing for commercial, industrial, agricultural, and residential property, have similar guidelines. In summary, cellular tower structures are not identified as a hazard criterion in making mortgage loan decisions.

Impact Study Methodology

This impact study consists of studying real estate value trends at existing tower locations. The methodology is comprised of;

- paired sales and sale/resale analyses, focusing on measurement of value change due to market conditions, and;
- direct comparison of properties with, and without, physical or view proximity exposure.

Specifically, the following steps form the analysis:

- Identify existing tower locations with surrounding developed land uses.
- Examine the neighborhood and market area to determine if there are compatible and competing properties with adequate sale volume to provide reliable and valid results.
- Categorize sales by proximity characteristics for measurement of influence: A distance of 500’ to 750’ is the threshold of measure for the close-proximity category, depending on the topography and direction of development characteristics. At further distances, the category changes to non-proximity, as tower views become blurred or obscured by topography, trees, roofs, tanks, power lines, or other towers.
- Track value change over time for the two proximity categories and compare the results to determine if there is a difference due to tower facility exposure, or;
- Track value change of properties before and after a tower facility is constructed. Then compare results to determine if is a difference between the categories attributed to tower facility exposure.

Based on the data and analysis for tower projects; values and rates of value change for proximity and non-proximity properties are similar. There is no compelling evidence that either the anticipation of, or

the existence of, tower facilities negatively impacts surrounding property values. This is not unexpected. Market forces that drive real estate value also create complimentary demand for public utility projects. These market forces are discussed as follows:

- **Social Forces:** Social forces are influenced by; population, education, and lifestyles. There has been an exponential increase in digital data, and the public demands satisfying that need as part of the core supply of public services. In particular, cellular service is essential infrastructure and has become a predominant function in businesses, schools, and social services. Regarding U.S. households, over 59% are served solely by cellular phone service, and only 2.5% of households have only landline service. Over 70% of children live in homes with only cellular service, and less than 1% live in homes with only landline service. Regarding emergency services, over 70% of emergency calls are made with cellular phones. As a result, anything less than consistent in-building service is detrimental to value and demand for real estate.
- **Economic Forces:** Economic forces are influenced by; employment, wages, business, schools, and regional community development. Communications facilities are required for education and efficient and competitive diversification of work forces. Cellular service has a direct connection to economic development. Cellular signal capacity creates a significant number of positive impacts for its users and their communities.
- **Governmental Forces:** Government responds to community needs for, laws and policies, public services, zoning, and building codes. Many jurisdictions have comprehensive plans requiring government agencies to expand public utilities and services. The regulations enabling public utilities are a direct reaction to public needs, particularly for education, economic purposes, and health and safety services. Another major impact of governmental influence in expansion of public services is developing wider choices of service providers, which translates to competition in service quality and costs for consumers. This helps erase the digital divide problem, which is the economic gap between those who have adequate access to services and those who do not. This gap is influenced by income, location, and level of education among other factors, and can affect further development in areas where the divide exists.

As indicated, the subject neighborhood does not have strict land-use zoning regulations. Buyers have absorbed the risk associated with lack of zoning when making purchase decisions regarding the quality and type of use of neighboring un-zoned properties, and related influences on value. Regardless of these risks and buyer activity, communities without strict land-use controls continue to expand and develop need for public utilities on a positive trend.

- **Environmental Forces:** Environmental forces are the final determining factor. They deal with climate, topography/soil, natural barriers, transportation systems and linkages, and the nature and desirability of the neighborhood surrounding a property. These forces shape population location, growth, and where supporting infrastructure will be most effective and valuable as a resource.

Study Conclusions

As illustrated by measured market response, both in this report and in nationally published studies, the forces of value are consistent. Public utilities and related services are essential to meeting current and future requirements for progressive standards of living. Public utilities and related services, by nature, expand to meet demands of expanding population and community growth. The benefits of communication facilities for economic and community development are clear. Without adequate services, there will be a tendency for decreasing demand and property values in a community. Where services already exist, coverage and data capacity may need to be adjusted due to population changes. As a result of meeting population needs, telecommunications facilities have become a part of the landscape in the same way that power, telephone, and other utilities have. Like all utilities, there is requirement for telecommunications facilities in strategic locations in any community.

Property owners near tower facilities, highly visible utility structures, associated easements, etc., are not penalized on value. There are no changes to ownership rights. Insurability is not affected. Mortgage terms to buyers and owners are not influenced. Consistently, communications tower structures, like overhead electric distribution lines, water towers, and buried utility easements, are beneficial and necessary infrastructure. As a result of expanding utilities and increased services, neighborhoods and properties experience positive influences. Because of the deployment of cellular facilities over the past several decades, owners and buyers of real estate expect excellent cell phone reception, and that connectivity requires adequate infrastructure. Cell towers satisfy demand and are visibly absorbed by the landscape of a neighborhood and lifestyles of the population. Cell towers are much like other modern infrastructure. Although cell towers may be noticed initially, they quickly fade into the background and have no negative effect on value – just as streets, easements, telephone poles, utility lines, streetlights, and the other visible infrastructure components of modern life do not generally have negative influences on real estate values.

Therefore, based on the actions of market participants buying, occupying, investing, and selling real estate properties, consistent market evidence shows this type of tower facility has not, and does not, negatively impact surrounding property, and supports the positive influences on value and demand for real estate due to expansion of public utilities, which includes wireless telecommunications tower infrastructure.

Addendum

Professional Disclosure

I certify that:

- The statements of fact contained in this report are true and correct to the best of my knowledge and belief.
- The reported analyses, opinions and conclusions are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
- I have no present or prospective interest in the project that is the subject of this report and no personal interest with respect to the parties involved.
- I have no bias with respect to the project that is the subject of this report or to the parties involved with this assignment.
- My engagement and compensation for completing this assignment is not contingent upon the development or reporting of a predetermined opinion that favors the cause of the client, the magnitude of the opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this report.
- This report complies with applicable sections of the Uniform Standards of Professional Appraisal Practice for Valuation Services and Appraisal Practice: Preamble, Definitions, Ethics Rule, Jurisdictional Exception Rule, Competency Rule.



Glen D. Katz, MAI, SRA, AI-GRS, AI-RRS

Professional Qualifications

Glen Katz has been in the field of real estate analysis for over 25 years. Beginning in both the commercial and residential arenas, he has transitioned to roles as consultant, reviewer, subject matter expert witness, and appraisal practice instructor. As principal of Realty Solutions Co. Inc., relationships have been developed with user-clients, peer appraisers, and appraisal firms. Resulting projects have been performed individually and as coordinating peer groups.

In appraisal practice, Mr. Katz has achieved the Appraisal Institute MAI (general/commercial) designation, and SRA (residential) designation. In specialized appraisal practice, Mr. Katz has achieved the Appraisal Institute appraisal review designations of AI-GRS (general/commercial) and AI-RRS (residential), as well as completing the following Appraisal Institute Professional Development Programs:

- Litigation
- Valuation of the Components of a Business Enterprise
- Valuation of Conservation Easements
- Valuation of Sustainable Buildings: Residential
- Valuation of Sustainable Buildings: Commercial

As a reviewer of appraisals, Mr. Katz serves clients in both the litigation and lending fields. Appraisal review reports are commonly performed under Uniform Standards of Professional Appraisal Practice (USPAP), Uniform Appraisal Standards for Federal Land Acquisitions (Yellowbook), and local jurisdictional guidelines.

As a subject matter expert witness, Mr. Katz has participated in cases regarding land and building damage, proximity influence, insurance claims, property tax assessment, construction defects, divorce settlements, boundary disputes, zoning noncompliance, bankruptcy, and alleged fraud.

As an appraisal practice instructor, Katz is qualified to teach the following Appraisal Institute residential, commercial, and specialized practice classes and seminars.

- Basic Appraisal Principles
- Basic Appraisal Procedures
- General Appraiser Sales Comparison Approach
- General Appraiser Site Valuation and Cost Approach
- Residential Market Analysis and Highest and Best Use
- Residential Sales Comparison and Income Approaches
- Residential Site Valuation and Cost Approach
- Appraisal of Manufactured Homes Featuring Next Generation Manufactured Homes
- Residential Applications: Using Technology to Measure and Support Assignment Results
- Rural Area Appraisals: Freddie Mac Guidelines and Property Eligibility Requirements
- Desktop Appraisals (Bifurcated, Hybrid) and Evaluations
- FHA Appraising for Valuation Professionals: FHA Single Family Housing Appraisal Requirements
- Ignorance Isn't Bliss: Understanding an Investigation by a State Appraiser Regulatory Board or Agency

Areas of appraisal expertise include:

- Commercial, industrial, complex residential, agricultural, special purpose properties
- Appraisal review, commercial and residential
- Proximity impact
- Eminent domain
- Expert witness/litigation support
- Property damages
- Insurance claims and reconstruction cost analysis
- Tax Appeal
- Estate valuation
- Green/high performance residential and commercial construction (sustainable/energy efficient)

Education

- Bachelor of Science in Business Administration, Marketing, University of Louisville
- Study focusing on real estate economics, Eastern Kentucky University
- Ongoing real estate economics education since 1993 has been obtained through the Appraisal Institute, and other professional groups serving specific real estate related fields.

Professional Qualifications and Memberships

- Certified General Real Property Appraiser, Kentucky License #1533
- MAI designated Member, Appraisal Institute
 - *(MAI designation is held by professionals who can provide services relating to all types of real property, such as value opinions, evaluations, review, consulting and advice regarding investment decisions, among others. Property types may include commercial, industrial, agricultural, residential, vacant land and others.)
- SRA designated Member, Appraisal Institute
 - *(SRA designation is held by professionals who can provide services relating to residential properties, including opinions of value, evaluations, review, consulting and advice regarding investment decisions, among others)
- AI-GRS designated Member, Appraisal Institute
 - *(AI-GRS designation is held by professionals who can provide reviews of appraisals, including commercial, industrial, agricultural, residential, vacant land and others.
- AI-RRS designated Member, Appraisal Institute
 - *(AI-RRS designation is held by professionals who have the tools to provide reviews and address the related issues unique to residential real property appraisals.
- Professional Development Programs – Appraisal Institute
 - Litigation
 - Valuation of the Components of a Business Enterprise
 - Valuation of Conservation Easements
 - Valuation of Sustainable Buildings: Commercial
 - Valuation of Sustainable Buildings: Residential

Appraisal Institute Service

- 2018 to present – Appraisal Institute National Education Committee Liaison, Region V (Indiana, Kentucky, North Carolina, Ohio, Virginia, West Virginia)
- 2008 to 2017, 2020 to present – Education Chair, Bluegrass Chapter, Appraisal Institute
- 2018 – President, Bluegrass Chapter, Appraisal Institute
- 2014 to 2017 – Vice President, Bluegrass Chapter, Appraisal Institute
- 2016 and 2017 – Government Relations Committee, Bluegrass Chapter, Appraisal Institute
- 2016 and 2017 – Regional Representative, Bluegrass Chapter, Appraisal Institute
- 2013, 2014 and 2016 – Leadership Development & Advisory Council, Appraisal Institute
- Candidate Advisor - MAI, SRA, AI-GRS, and AI-RRS, Appraisal Institute

ADVANCED STUDY CURRICULUM

Provider/Title
Appraisal Institute Professional Development Programs
Valuation Of Sustainable Buildings: Commercial - Registry Valuation of Sustainable Buildings: Residential - Registry Valuation of the Components of A Business Enterprise - Registry Litigation Professional Development Program - Registry Valuation of Conservation Easements - Registry
Appraisal Institute, Courses
Appraisal of Manufactured Homes Featuring Next-Generation Manufactured Homes Application & Interpretation of Simple Linear Regression Practical Applications in Appraising Green Commercial Properties Uniform Appraisal Standards for Federal Land Acquisitions Residential & Commercial Valuation of Solar Case Studies in Appraising Green Residential Buildings Review Theory - General Review Theory - Residential Quantitative Analysis Fundamentals of Separating Real Property, Personal Property, and Intangible Business Assets The Appraiser as an Expert Witness: Preparation and Testimony Litigation Appraising: Specialized Topics and Applications Condemnation Appraising: Principles and Applications Advanced Sales Comparison & Cost Approaches Advanced Residential Report Writing, Part II Advanced Residential Applications & Case Studies, Part I Condemnation Appraising: Basic Principles & Applications
Appraisal Institute, Seminars
The Cost Approach: Unnecessary or Vital to a Healthy Practice? Desktop Appraisals (Bifurcated, Hybrid) and Evaluations Artificial Intelligence, AVMs, and Blockchain: Implications for Valuation FHA Appraising for Valuation Professionals: FHA Single Family Housing Appraisal Requirements Rural Area Appraisals: Freddie Mac Guidelines and Property Eligibility Requirements Drone Technology & Its Impact On the Appraisal Industry Residential Applications: Using Technology to Measure & Support Appraisal Assignment Results Residential Applications 2: Using Microsoft Excel to Analyze & Support Appraisal Assignment Results Income Approach for Residential Appraisers Marketability Studies: Advanced Considerations & Applications Appraising the Appraisal: Appraisal Review-General Advanced Spreadsheet Modeling for Valuation Applications Valuation of Green Residential Properties Appraising Distressed Commercial Real Estate: Here We Go again Evaluating Residential Construction REO Appraisal: Appraisal of Residential Property Foreclosure Regression Analysis in Appraisal Practice: Concepts & Applications Self Storage Economics and Appraisal Appraisal Review – General Subdivision Valuation: A Comprehensive Guide Appraising Convenience Stores Evaluating Commercial Construction Appraisal Consulting: A Solutions Approach for Professionals Appraising the Tough Ones Attacking & Defending an Appraisal in Litigation Appraisal of Nonconforming Uses Eminent Domain and Condemnation Appraising Dynamics of Office Building Valuation Environmental Risk and the Appraisal Process Litigation Skills for the Appraiser Appraisal of Special-Purpose Properties

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<u>Provider/Title</u>
International Right of Way Association
Course 105 - The Uniform Act - Executive Summary
Marshall & Swift
Commercial Cost Approach Certification Program
American Bankers Association
Federal Appraisal Policies: Hotlines, Complaint Forms and Revised Policy Statements
CCIM Institute
Course CI-101, Financial Analysis for Commercial Investment Real Estate Course CI-103, User Decision Analysis for Commercial Investment Real Estate Course CI-104, Investment Analysis for Commercial Investment Real Estate Course 411, Gap Analysis and Real Estate Market Dynamics Course 412, Economics of Commercial Leases, and 1031 Exchanges
HUD/FHA
HUD/FHA Appraiser Test and Certification The Model Energy Code (MED), U.S. Department Of Energy Appraising FHA Properties
Home Builders Association of Louisville
Site Planning Basics of Building: Blueprint Reading, Building Codes, Siting
Shelby County Industrial Foundation
Environmental Issues Seminar
CLE International
Eminent Domain, the Law of Condemnation and Land Use
Eastern Kentucky University
Real Estate Finance, RST 330 Advanced Appraisal Application / Income Property Valuation, RST 410 Appraisal of Residential Property, RST 340
University of Louisville
Bachelor of Science in Business Administration - Marketing

Case Studies

The case studies are developed through researching market activity of residential properties in neighborhoods adjacent to tower facilities. After identification of a tower facility, whether wireless communications, high voltage electric overhead transmission, or water storage tower, sale activity of homes are analyzed. The following methods of data extraction are discussed.

Market Conditions Value Trend Analysis

For projects that have been in place for a long period, market conditions analysis is very applicable. The steps of analysis consist of:

- Research properties with tower proximity that have sold repeatedly in the identified period.
- Determine the periodic rate of market value change, appreciation or depreciation, for properties in the proximity category.
- Research properties in the same neighborhood, without tower proximity, with repeat or back-to-back sales.
- Determine the periodic rate of market value change, appreciation or depreciation for properties in the non-proximity category.
- Compare value change trends between the two groups of properties to extract any value change differences related to proximity influence.

Before and After Method

For projects recently constructed, the before and after method steps of analysis consist of:

- Research residential properties with tower proximity that sold prior to the tower installation, and then sold again after the tower installation.
- Determine the periodic rate of market value change, appreciation or depreciation, for properties in the proximity category.
- Research properties in the same neighborhood without tower proximity that sold prior to the tower installation, and then sold again after the tower installation.
- Determine the periodic rate of market value change, appreciation or depreciation, for properties in the non-proximity category.
- Compare value change trends between the two groups of properties to extract any value change differences related to proximity influence.

Methodology Summary

The time range for sale data is from 2011 to the market prior to the Covid-19 pandemic. This minimizes potential influence from the 2007-2009 recession, and removes influence from significant imbalance between supply and demand resulting from the pandemic. In order to track rates of value change during the period, repeat or back-to-back sales of individual residential properties inside and outside a proximity distance range of 500' to 750' from a facility are researched.

In order to focus on the influence market conditions and proximity on appreciation or depreciation, emphasis is placed on properties with stable physical characteristics, and without unusual sale conditions or buyer/seller motivation influences. Specifically, sales involving properties with the following characteristics are discounted from analysis:

- Properties with substantial physical changes that influence value between the initial and subsequent transfers, such as renovation, construction addition, or suffering from deferred maintenance or neglect resulting in unusual physical deterioration and market response.
- Properties with distress socioeconomic characteristics, such as foreclosure, short-sales, auctions, and sales of bank-owned homes.
- Properties with unusual buyer or seller motivations, such as family transactions, estate liquidation, or investor activity in a predominantly owner-occupied market.
- Properties close to interstates and limited access roads are avoided to ensure home sales were not affected by highway access or traffic noise variables.
- In the study, sale price is adjusted by netting out seller-paid concessions if they occur.

If the above types of transfer activity are prevalent in a neighborhood, the facility and neighborhood is removed from consideration. The focus is to measure market activity that is not influenced by unusual property-specific or market-specific characteristics.

The following case studies illustrate analysis for two categories of tower facilities; wireless communications tower facilities and high voltage electric overhead transmission lines (HVOT). Two of the case studies compare rates of value change between proximity and non-proximity properties at existing facilities, and one case study additionally compares values of proximity and non-proximity properties before and after installation of a tower facility. In the case of the HVOT study, there are multiple towers involved in the utility system.

Case Study Introduction

Case Study 1 – This study involves a high voltage electric overhead transmission power line corridor with 100' height lattice construction towers. The corridor traverses a residential single-family and condominium neighborhood. The tower structures and overhead electric lines in this location are located in easements amidst residential subdivision development, crossing a public street in a long diagonal direction, and continuing through residential subdivision development. The tower structures are generally spaced approximately 1,000' apart.

The project was installed pre-1993. The value evidence represents sales and resales of properties within 500' proximity to the facility, and outside 500' proximity to the facility. Rates of value change for each of the categories measured, and the results of the two categories of proximity are compared to analyze any potential impact.

Case Study 2 – This study involves a wireless communications facility adjacent to a residential single-family and condominium neighborhood. The tower structure is 219’ height, self-support construction.

Installation of the project occurred in 2002. The value evidence represents sales and resales of properties within 500’ proximity to the facility, and outside 500’ proximity to the facility. Rates of value change of each of the categories are measured, and the two categories are compared to analyze any potential impact.

Case Study 3 – This study involves a wireless communications facility adjacent to a residential single-family detached neighborhood. The structure is 140’ height, monopole construction.

Installation of the project occurred in 2016. The value evidence represents sales and resales of properties within 750’ proximity to the facility, and outside 750’ proximity to the facility. Rates of value change in each of the categories are measured, and the two categories are compared to analyze any potential impact.

For Case Study 3, it is important to note there are repeat sales of individual properties in each category, before and after installation, that illustrate consistent values and rates of value change.

Case Study 1 – Group 1 (Proximity Sales)

- Facility: High voltage electric overhead transmission power lines and lattice construction towers, residential single-family detached and condominium subdivision location.
- Address: Gutenberg Road, Louisville, Jefferson County, Kentucky
- FCC Identification: N/A
- Year of installation: Pre-1993
- Information source: Maps and individual research
- Neighborhood location: Jeffersontown
- Property Group Identification: Within 500' proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2013. Each property transferred two or more times in the period. The price difference between transfers of each property is value change due to market conditions. The range of annual value change is 0.84% to 9.10%. The average rate of annual appreciation is 4.07%, and the median or middle point of the range is 4.28%.

Address		Sale Date	Sale Price	% Change	Months	% Change /Month	% Change /Year
4701 Silverado	PI	10/26/2018 11/30/2016	\$273,000 \$264,000	3.41%	23	0.15%	1.79%
4704 Silverado	PI	9/1/2016 3/21/2013	\$270,000 \$235,000	14.89%	41	0.36%	4.31%
4709 Stony Brook	Dr	5/31/2019 6/8/2017	\$195,000 \$186,000	4.84%	24	0.20%	2.44%
4723 Ferrer	Way	6/15/2018 12/5/2014	\$185,000 \$140,000	32.14%	42	0.76%	9.10%
4916 Bova	Way	4/29/2019 5/30/2014	\$193,000 \$155,000	24.52%	59	0.42%	4.98%
8804 Loch Lea	Ln	12/2/2016 12/6/2013	\$149,900 \$133,000	12.71%	36	0.35%	4.24%
9319 Villa Fair	Ct	5/18/2018 1/22/2015	\$174,000 \$150,000	16.00%	40	0.40%	4.82%
10509 Vintage Creek	Dr	9/11/2015 4/15/2014	\$255,000 \$252,000	1.19%	17	0.07%	0.84%
Average						0.34%	4.07%
Median						0.36%	4.28%

Case Study 1 – Group 2 (Non-Proximity Sales)

- Facility: High voltage electric overhead power lines and lattice construction towers, residential single-family detached and condominium subdivision location.
- Address: Gutenberg Road, Louisville, Jefferson County, Kentucky
- FCC Identification: N/A
- Year of installation: Pre-1993
- Information source: Maps and research
- Neighborhood location: Jeffersontown
- Property Group Identification: Outside 500' proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2015. Each property transferred two or more times in the period. The price difference between transfers of each property is value change due to market conditions. The range of annual value change is 1.12% to 6.59%. The average rate of annual appreciation is 4.00%, and the median or middle point of the appreciation range is 3.64%.

Address		Sold Date	Sale Price	% Change	Months	% Change /Month	% Change /Year
4310 Lochridge	Pkwy	1/14/2016	\$195,000	0.52%	6	0.09%	1.12%
4310 Lochridge	Pkwy	7/30/2015	\$194,000				
4510 Jolynn	Dr	6/24/2019	\$225,400	12.70%	31	0.42%	4.98%
4510 Jolynn	Dr	12/6/2016	\$200,000				
5003 Fairwood	Ln	3/28/2019	\$175,000	21.53%	39	0.55%	6.57%
5003 Fairwood	Ln	12/18/2015	\$144,000				
5008 Bowcester	Dr	3/4/2019	\$176,000	21.38%	39	0.55%	6.59%
5008 Bowcester	Dr	12/7/2015	\$145,000				
5105 Cynthia	Dr	1/4/2019	\$163,500	7.57%	34	0.22%	2.69%
5105 Cynthia	Dr	3/15/2016	\$152,000				
8711 Michael Edward	Dr	11/13/2018	\$175,000	12.54%	44	0.28%	3.39%
8711 Michael Edward	Dr	3/4/2015	\$155,500				
8902 Loch Lea	Ln	8/7/2019	\$182,000	10.98%	52	0.21%	2.54%
8902 Loch Lea	Ln	4/16/2015	\$164,000				
9105 Talitha	Dr	2/22/2019	\$187,000	5.95%	27	0.22%	2.61%
9105 Talitha	Dr	11/14/2016	\$176,500				
9115 Marse Henry	Dr	5/15/2017	\$188,000	13.25%	24	0.55%	6.54%
9115 Marse Henry	Dr	5/7/2015	\$166,000				
9402 Talitha	Dr	9/27/2019	\$200,000	11.11%	34	0.32%	3.90%
9402 Talitha	Dr	11/21/2016	\$180,000				
10202 Saint Rene	Rd	5/9/2018	\$222,513	11.31%	32	0.35%	4.21%
10202 Saint Rene	Rd	9/1/2015	\$199,900				
10609 Wildflower Woods	Ct	9/4/2019	\$248,000	12.73%	54	0.24%	2.84%
10609 Wildflower Woods	Ct	3/13/2015	\$220,000				
Average						0.33%	4.00%
Median						0.30%	3.64%

Case Study 1 Reconciliation

The sale evidence represents sales and resales of residential properties in a neighborhood containing a high voltage electric overhead transmission power lines with lattice construction towers. The tower facility existed prior to construction of homes in the neighborhood. There is volume sale evidence for analysis between 2013 and 2020. The proximity sales show a slightly higher average rate of appreciation, and a slightly higher median rate. The difference is negligible.

Additionally, the average sale price per square foot of gross living area and total living area for each proximity category is illustrated in the following table.

Category	In Proximity	Outside Proximity
Price Per Square Foot Gross Living Area	\$124	\$121
Price Per Sq. Foot Total Finished Area	\$103	\$95

The difference between all indications is negligible and not statistically significant. Comparing proximity sales to non-proximity sales in the neighborhood, both categories show a consistent trend of value change, and price based on dwelling size per square foot. In summary, there is no negative value impact from the tower facility.

Case Study 2 – Group 1 (Proximity Sales)

- Facility: Wireless Communications Facility, self-support construction, 219' height, residential single-family detached and condominium subdivision location
- Address: 8400 Bardstown Road, Louisville, Jefferson County, Kentucky
- FCC Registration: 1232839
- Year of installation: 03/7/2002
- Information source: FCC recordings, maps and individual research
- Neighborhood location: Fern Creek
- Property Group Identification: Inside 500' proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2014. Each property transferred two or more times in the period. The price difference between transfers of each property is value change due to market conditions. The range of annual value change is 0.64% to 3.29%. The average annual appreciation is 2.25%, and the median or middle point of the range is 2.67%.

Address	Sold Date	Sale Price	% Change	Months	% Change /Month	% Change /Year
8503 Missionary Ct	9/27/2018	\$302,000	12.48%	50	0.25%	3.02%
	8/12/2014	\$268,500				
8505 Missionary Ct	8/25/2017	\$239,000	6.22%	28	0.22%	2.67%
	4/28/2015	\$225,000				
8931 Gentlewind Way	5/15/2018	\$280,000	1.82%	34	0.05%	0.64%
	7/13/2015	\$275,000				
8937 Gentlewind Way	3/15/2019	\$282,000	5.22%	38	0.14%	1.64%
	1/8/2016	\$268,000				
10619 Glenmary Springs Dr	11/14/2016	\$244,900	6.50%	24	0.27%	3.29%
	11/24/2014	\$229,950				
Average					0.19%	2.25%
Median					0.22%	2.67%

Case Study 2 – Group 2 (Non-Proximity Sales)

- Facility: Wireless Communications Facility, self-support construction, 219’ height, residential single-family detached and condominium subdivision location
- Address: 8400 Bardstown Road, Louisville, Jefferson County, Kentucky
- FCC Registration: 1232839
- Year of installation: 03/7/2002
- Information source: FCC recordings, maps and individual research
- Neighborhood location: Fern Creek
- Property Group Identification: Outside 500’ proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2014. Each property transferred two or more times in the period. The price difference between transfers of each property is value change due to market conditions. The range of annual value change is -0.25% to 3.60%. The average annual appreciation is 2.26%, and the median or middle point of the range is 2.22%.

Address	Sold Date	Sale Price	% Change	Months	% Change /Month	% Change /Year
8607 Sanctuary Ln	3/30/2016	\$245,000	6.06%	20	0.30%	3.60%
	7/25/2014	\$231,000				
8622 Sanctuary Ln	12/21/2017	\$265,000	2.91%	29	0.10%	1.19%
	7/13/2015	\$257,500				
8627 Sanctuary Ln	10/31/2018	\$279,300	-0.57%	27	-0.02%	-0.25%
	8/5/2016	\$280,900				
8728 Broadwood Ct	6/11/2019	\$204,000	22.89%	40	0.57%	6.90%
	2/16/2016	\$166,000				
8737 Broadwood Ct	4/29/2019	\$188,900	16.25%	59	0.28%	3.31%
	6/6/2014	\$162,500				
8819 Gentlewind Way	5/18/2018	\$255,000	4.94%	36	0.14%	1.65%
	5/22/2015	\$243,000				
8903 Gentlewind Way	9/30/2016	\$307,500	6.03%	26	0.23%	2.78%
	8/1/2014	\$290,000				
10105 Cedar Garden Dr	11/1/2019	\$299,900	4.81%	17	0.28%	3.38%
	5/30/2018	\$286,130				
10500 Parkhurst Ct	8/27/2018	\$220,000	0.23%	13	0.02%	0.20%
	7/14/2017	\$219,500				
10502 Gentlewind Ct	2/29/2016	\$270,000	0.93%	24	0.04%	0.46%
	2/19/2014	\$267,500				
10504 Providence Dr	10/19/2017	\$254,000	2.13%	40	0.05%	0.65%
	7/3/2014	\$248,700				
10614 Providence Dr	9/20/2019	\$290,000	18.37%	67	0.27%	3.28%
	2/18/2014	\$245,000				
Average					0.19%	2.26%
Median					0.18%	2.22%

Case Study 2 Reconciliation

The evidence represents sales and resales of residential properties in a neighborhood containing a wireless communications tower facility. The tower existed prior to construction of homes in the project. There is volume sale evidence for analysis between 2014 and 2020. The rates of value change between the two categories are consistent. The non-proximity sales show a slightly higher average rate of appreciation, and the proximity sales show a slightly higher median rate.

Additionally, the average sale price per square foot of gross living area and total living area for each proximity category is illustrated in the following table.

Category	In Proximity	Outside Proximity
Price Per Square Foot Gross Living Area	\$111	\$116
Price Per Sq. Foot Total Finished Area	\$99	\$108

The difference between all indications is negligible and not statistically significant. Comparing proximity sales to non-proximity sales in the neighborhood, both categories show a consistent trend of value change, and price based on dwelling size per square foot. In summary, there is no negative value impact from the tower facility.

Case Study 3 – Group 1 (Proximity Sales)

- Facility: Wireless Communications Facility, monopole construction, 140’ height, residential single-family detached location
- Address: 7200 Woodhaven Road, Louisville, Jefferson County, Kentucky
- FCC Registration: 1298049
- Year/Date of installation: 05/13/2016
- Information source: FCC recordings, maps and individual research
- Neighborhood location: Woodhaven
- Property Group Identification: Inside 750’ proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2011. Each property transferred two or more times in the period. The price difference between transfers of each property is value change due to market conditions. The range of annual value change is 2.79% to 9.47%. The average appreciation is 5.73%, and the median or middle point of the range is 5.58%. Note that sales of 5900 Woodhaven Ridge Court, 5921 Woodhaven Ridge Court, and 6005 Hurstview Road occur before and after the facility installation. The rates of value change are consistent.

Street #	Street	St	Sale Date	Adj Sale Price	Percent Change	Months	% Annual Change
5900	Woodhaven Ridge	Ct	8/22/2011	\$180,000			
5900	Woodhaven Ridge	Ct	10/19/2017	\$211,000	17.22%	74	2.79%
5914	Woodhaven Ridge	Ct	12/14/2012	\$155,000			
5914	Woodhaven Ridge	Ct	8/1/2014	\$172,675	11.40%	20	7.00%
5921	Woodhaven Ridge	Ct	12/20/2011	\$125,000			
5921	Woodhaven Ridge	Ct	1/24/2013	\$138,000	10.40%	13	9.47%
5921	Woodhaven Ridge	Ct	10/22/2014	\$148,000	7.25%	21	4.16%
5921	Woodhaven Ridge	Ct	7/25/2018	\$187,400	26.62%	45	7.08%
6005	Hurstview	Rd	7/30/2013	\$124,900			
6005	Hurstview	Rd	4/20/2018	\$148,000	18.49%	57	3.91%
						Annual Average	5.73%
						Annual Median	5.58%

Case Study 3 – Group 2 (Non-Proximity Sales)

- Facility: Wireless Communications Facility, monopole construction, 140’ height, residential single-family detached and condominium subdivision location
- Address: 7200 Woodhaven Road, Louisville, Jefferson County, Kentucky
- FCC Registration: 1298049
- Year/Date of installation: 05/13/2016
- Information source: FCC recordings, maps and individual research
- Neighborhood location: Woodhaven
- Property Group Identification: Outside 750’ proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2011. Each property transferred two or more times in the period. The price difference between transfers of each property is value change due to market conditions. The range of annual value change is 2.31% to 7.99%. The average appreciation is 4.97%, and the median or middle point of the range is 5.21%. Note that sales of 7118 Ridge Creek Road, 7102 Ridge Creek Road, and 7403 Covey Place occurred before and after the tower facility installation. The rates of value change are consistent.

Street #	Street	St	Sale Date	Adj Sale Price	Percent Change	Months	% Annual Change
5904	Bluffington	Ct	7/28/2011	\$124,000			
5904	Bluffington	Ct	11/21/2012	\$130,685	5.39%	16	4.08%
7102	Ridge Creek	Rd	10/3/2011	\$135,500			
7102	Ridge Creek	Rd	5/6/2016	\$149,900	10.63%	55	2.31%
7118	Ridge Creek	Rd	3/28/2011	\$119,000			
7118	Ridge Creek	Rd	3/25/2016	\$150,000	26.05%	60	5.21%
7215	Chestnut Tree	Ln	6/10/2011	\$131,000			
7215	Chestnut Tree	Ln	11/1/2013	\$140,000	6.87%	29	2.87%
7403	Covey	Pl	2/26/2014	\$135,500			
7403	Covey	Pl	10/31/2016	\$156,000	15.13%	32	5.65%
7404	Covey	Pl	2/8/2013	\$109,000			
7404	Covey	Pl	12/30/2015	\$130,000	19.27%	35	6.67%
7405	Stone Bluff	Ct	3/28/2017	\$190,000			
7405	Stone Bluff	Ct	8/27/2018	\$211,500	11.32%	17	7.99%
Annual Average							4.97%
Annual Median							5.21%

Case Study 3 Reconciliation

The evidence represents sales and resales of residential properties in a neighborhood containing a wireless communications tower facility. Tower installation occurred after homes were constructed in the neighborhood. There is volume sale evidence for analysis between 2011 and 2020. The non-proximity sales show a slightly higher median rate of appreciation, and the proximity sales show a slightly higher average rate. As noted, properties with sales both before and after the installation date illustrate consistent values trends.

Additionally, the average sale price per square foot of gross living area and total living area for each proximity category is illustrated in the following table.

Category	In Proximity	Outside Proximity
Price Per Square Foot Gross Living Area	\$116	\$115
Price Per Sq. Foot Total Finished Area	\$93	\$88

The difference between all indications is negligible and not statistically significant. Comparing proximity sales to non-proximity sales in the neighborhood, both categories show a consistent trend of value change, and price based on dwelling size per square foot. In summary, there is no negative value impact from the tower facility.