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VIA E-MAIL & PRIORITY MAIL

April 30, 2026

Louisville Metro Planning Commission
c/o Planning and Design Services
444 S. 5th Street
Louisville, KY 40202

RE: Supplements to Application to Construct a Wireless
Communications Facility
Location: 6406 Moorman Road, Louisville, KY 40272
Applicants: Cellco Partnership d/b/a Verizon Wireless and APC Towers
IV, LLC
Site Name: LV Medora
Docket Number: 26-CELL-0002

Dear Commission Members:

The following enclosed documents are provided as supplements to the filed Uniform Application in connection with the above-referenced case:

1. A legal memorandum prepared by the Pike Legal Group detailing the prohibition of reliance on radio frequency emissions evidence in public hearings.
2. A report prepared by Glen Katz and Kristin Mueller, real estate appraisers with combined experience of over 50 years. Mr. Katz and Mr. Mueller find that the proposed facility will not substantially diminish or impair property values within the neighborhood. Copies of the appraisers' resumes are also attached as a part of their report.
3. A revised version of the Site Development Plan. The C-3 drawing of the revised Site Development Plan includes revisions requested by Planning Reviewers and Metropolitan Sewer District ("MSD") during the Agency Review process. The revised Site Development Plan also reflects that Verizon Wireless no longer proposes to install a generator at this site.
4. Revised directions from the County Seat to the site location as requested by Planning Reviewers during the Agency Review process.

5. A list of each individual directly responsible for the design and construction of the proposed tower as requested by Planning Reviewers during the Agency Review process.

The following enclosed documents are provided as confirmation of Applicants' fulfillment of notice requirements in connection with the subject case:

1. Photographs of notice signs posted on and near the site parcel on March 19, 2026.
2. An affidavit confirming publication of a notice of construction advertisement placed in The Courier Journal on March 24, 2026.
3. Copies of mailing receipts for notice of construction letters mailed to adjoining landowners, landowners within a 500' radius of the proposed tower, residents as required by Louisville Metro policy, and applicable local officials on March 19, 2026.
4. An affidavit of notification confirming that the Applicants mailed notice of public hearing postcards on April 23, 2026 .

Please file this correspondence and attachments in the administrative case file for the application. Thank you for your assistance with this matter.

Sincerely,



F. Keith Brown
Attorney for Applicants

Enclosures



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PO Box 369
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April 30, 2026

Louisville Metro Planning Commission
c/o Planning and Design Services
444 S. 5th Street
Louisville, KY 40202

RE: RF Exclusion Memorandum
Location: 6406 Moorman Road, Louisville, KY 40272
Applicants: Cellco Partnership d/b/a Verizon Wireless and APC Towers IV, LLC
Site Name: LV Medora
Docket Number: 26-CELL-0002

Dear Commissioners:

As counsel for Applicants, we are providing this correspondence for inclusion in the administrative record of the above proceeding. The purpose of this correspondence is to address a potential issue that the Planning Commission ("Commission") may face in the course of consideration of the above-referenced matter and to request for appropriate measures to be taken by the Commission and/or staff or legal counsel to exclude receipt of testimony and other evidence regarding the environmental effects of radio frequency emissions in connection with any public hearing held to review the Uniform Application for construction of a cellular tower.

Local regulation of wireless communications facility siting based upon radio frequency emissions effects issues is prohibited specifically by the Telecommunications Act of 1996 and generally as a result of the FCC's pervasive jurisdiction over this area of regulatory concern. The Telecommunications Act of 1996 flatly prohibits local regulation of wireless communications facilities on the basis of the environmental effects of radio frequency emissions. This prohibition is codified at 47 USC Section 332(c)(7), as follows:

"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." (emphasis added). Id. at 47 U.S.C. Section 332(c)(7).

A copy of the relevant FCC license granted to T-Mobile for the area to be served by the proposed wireless telecommunications facility has been filed into the record for this site. As an FCC licensee, T-Mobile is subject to the FCC regulation referenced at 47 U.S.C. Section 332(7)(B)(iv), and courts have recognized that the Telecommunications Act prohibits state and local governments from regulating wireless telecommunications facilities on the basis of radio frequency interference issues.

Even though federal law makes Kentucky planning commissions subject to the aforementioned statutory prohibition regardless of any companion state statute, the Kentucky Legislature has used almost identical language in adopting the same statutory prohibition in KRS 100.986(1).

For further reference, I have attached a memorandum discussing case law authority on these issues.

In light of federal and state statutory prohibitions, it is clear that an inquiry into alleged radio frequency issues by the Commission as part of this review would put the Commission directly at odds with the Federal Communications Act, the Telecommunications Act of 1996, FCC policy, and Kentucky law. Consequently, the introduction of any radio frequency interference or health effects evidence during the public hearing would likely be improperly and unfairly prejudicial to the Applicants and outside the Commission's proper scope of review.

Applicants request that the Commission implement affirmative measures to prevent introduction and consideration of testimony and other evidence on radio frequency issues at the public hearing and from its deliberations on the subject application.

Please file this correspondence and enclosures in the administrative case file for the Application and we ask that staff not hesitate to contact us should you have any questions or comments concerning this information.

Sincerely,



F. Keith Brown
Attorney for Applicants

MEMORANDUM

FEDERAL PROHIBITION ON LOCAL REGULATION OF WIRELESS COMMUNICATIONS FACILITIES ON THE BASIS OF THE ENVIRONMENTAL EFFECTS OF RADIO FREQUENCY EMISSIONS

Radio frequency considerations have been preempted specifically by the Telecommunications Act of 1996 and generally as a result of the Federal Communications Commission's ("FCC's") pervasive jurisdiction over this area of regulatory concern. Because of this preemption, local zoning bodies should take care to avoid the introduction of improper radio frequency evidence in proceedings on an application requesting approval for a wireless communications facility so that the focus remains on the land use planning issues that are the proper subject for review and decision.

The Federal Telecommunications Act of 1996, as codified at 47 U.S.C. Section 332(7)(B)(iv) (the "Act"), 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." Accordingly, federal and state courts have recognized that the Telecommunications Act prohibits state and local governments from regulating wireless telecommunications facilities on the basis of radio frequency interference issues.

Case precedent supports the Federal statutory prohibition in reference to applications of the type now pending. The U.S. Supreme Court's 2015 Opinion in T-Mobile South, LLC v. City of Roswell Georgia, 135 S.Ct. 808, 190 L.Ed.2d 679 (U.S. 2015) explains: "The Act provides that localities ... may not regulate the construction 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 Communications Commission's] regulations concerning such emissions." §§332(c)(7)(B)(i)(I), (iv)." Id. at 688-689.

As far back as 2000, the U.S. Court of Appeals for the Sixth Circuit¹ recognized the statutory exclusion of radio frequency emissions issues in wireless site permitting cases in its Opinion in Telespectrum, Inc. v. PSC, 227 F.3d 414 (6th Cir. 2000).² The U.S. Court of Appeals explained:

"... [W]e recognize that concerns 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

¹ Kentucky, Tennessee, Ohio, and Michigan are in the jurisdiction of the Sixth Circuit.

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 424.

Of course, in any judicial review of a denial of the Uniform Application by the Commission, a District Court would apply the law of the Sixth Circuit. Fortunately, the Sixth Circuit's direction is unambiguous. In 2012, the U.S. Court of Appeals for the Sixth Circuit in its T-Mobile Central, LLC v. Charter Township of West Bloomfield, 691 F.3d 794, 800 (6th Cir. 2012) Opinion was very clear regarding the express application of the Telecommunications Act's limitations on local governments authority to consider RF emissions evidence. In reviewing a local government denial of a wireless facility application, the Sixth Circuit explained:

"... There was no evidence whatsoever that the wireless facility would have any impact on the conifers, beyond Mr. Grondin's accusation. Further, concerns that RF emissions could potentially impact trees or children at the daycare were prohibited by statute as grounds to deny a wireless permit. "No state or local government or instrumentality thereof may regulate the construction of personal wireless facilities on the basis of environmental effects of RF emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions. 47 U.S.C. Section 332(c)(7)(B)(iv)...." (Emphasis added) Id. at 800.

Thus, the U.S. District Courts and local governments in the Sixth Circuit have unequivocal guidance from the relevant U.S. Court of Appeals on the continuing validity of the prohibition on regulation of the permitting of wireless facilities on the basis of purported environmental effects of radio frequency emissions.

The Sixth Circuit reemphasized the federal statutory prohibition of consideration of radio frequency emissions effects in its 2017 Opinion styled 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 Envntl. Effects of Radiofrequency Radiation, 12 F.C.C. Rcd. 13494, 13505 (1997)." Id. at 319-320.

In short, the U.S. Court of Appeals for the Sixth Circuit, in multiple published opinions from 2000 to 2017 has upheld and enforced the federal Telecommunications Act of 1996 prohibition on regulation of proposed cellular towers based on environmental effects of radio frequency emissions.

KENTUCKY STATUTORY PROHIBITION ON LOCAL REGULATION OF WIRELESS COMMUNICATIONS FACILITIES ON THE BASIS OF THE ENVIRONMENTAL EFFECTS OF RADIO FREQUENCY EMISSIONS

The Kentucky Legislature has effectively incorporated the federal statutory prohibition into KRS100.986(1):

"In regulating the placement of cellular antenna towers, a planning commission shall not:

(1) Regulate the placement of a cellular antenna tower on the basis of the environmental effects of radio frequency emissions to the extent that these facilities comply with the regulations of the Federal Communications Commission concerning radio frequency emissions;" (Emphasis added). Id. at KRS 100.986(1).

KRS 446.010(39) provides "As used in the statute laws of this state, unless the context requires otherwise: ... (39) "shall" is mandatory;" Thus, a planning commission has no discretion to fail to comply with KRS 100.986(1). The statutory prohibition against consideration of environmental effects of radio frequency emissions is mandatory.

CONCLUSION

In summary, the statutory prohibition of basing a wireless permitting decision on the effects of radio frequency emissions is unquestionably binding on local governments in Kentucky. 47 U.S.C. § 332(c)(7)(B)(iv) has been recognized by the U.S. Supreme Court, the federal courts in the Sixth Circuit, and the federal courts of other circuits since shortly after adoption of the Act in 1996. The Kentucky Legislature has adopted the same prohibition at KRS 100.986(1).

Applicants request the Commission make its decision on the Application consistent with such federal and state statutes and precedent in order to avoid violation of the Applicant's clear rights in connection with the consideration of the Application pursuant to all applicable law.

Real Estate Value Impact Study

For

**Proposed Wireless Communications Facility
Cellco Partnership d/b/a Verizon Wireless &
APC Towers IV, LLC
Site Name: LV Medora
Project #: KY-4057
Assessor Parcel Number: 1052-0130-0000
6406 Moorman Road
Louisville, Jefferson County
Kentucky 40272**

Date of Report:

April 3, 2026

Prepared For:

**Louisville Metro Planning Commission
Metro Development Center
444 S. 5th Street, Suite 300
Louisville, Kentucky 40202**

Prepared By:

**Glen D. Katz, MAI, SRA, AI-GRS, AI-RRS
Kristin J. Mueller, MAI, SRA, CCIM
Realty Solutions Co., Inc.
3815 Stonyrun Circle
Louisville, KY 40220**

April 3, 2026

Louisville Metro Planning Commission
Metro Development Center
444 S. 5th Street, Suite 300
Louisville, Kentucky 40202



Subject: Real Estate Value Impact Study, Proposed Wireless Communications Facility
Cellco Partnership d/b/a Verizon Wireless & APC Towers IV, LLC
Site Name: LV Medora
6406 Moorman Road
Louisville, Jefferson County, Kentucky 40272

Commissioners:

We 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, and safety. 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, measured market activity shows this type of facility has not, and does not, negatively impact surrounding property; instead, providing significant positive impact on value and demand for real estate. There are no indications for value diminution of properties with suburban residential 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, Louisville Metro Planning 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, MAI, SRA, AI-GRS, AI-RRS, 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,

A handwritten signature in black ink that reads "Glen D. Katz".

Glen D. Katz, MAI, SRA, AI-GRS, AI-RRS
Realty Solutions Co., Inc.
3815 Stonyrun Circle
Louisville, Kentucky 40220

A handwritten signature in blue ink that reads "Kristin J. Mueller".

Kristin J. Mueller, MAI, SRA, CCIM

Office: (502) 396-6664

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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 residential area. Construction will be comprised of a 185' monopole structure with 5' lightning arrestor, totaling a height of 190 feet. Base elevation will be ~437.1 feet AMSL. The construction will be located on an approximately 100' x 100' leased site with a 50' x 50' fenced compound. There will be supporting storage cabinets, treed buffering, 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 an easement drive extending from the east side of Woodsbend Lane. 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 is one of 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

This analysis and report is solely focused on determining if there is a negative impact of cell tower structures on surrounding property values. While the predominant knowledge is that public utilities, including cellular phone service, provide positive value impacts, the negative impact question remains.

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 be 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.

The case study is based on analysis of residential properties. Because those kinds of properties sell more often and tend to be more homogeneous than commercial or agricultural properties, there is a better opportunity of finding comparable sales that meet the criteria of being similar enough with respect to the value-determining variables.

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, we 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.

In this study, urban/suburban residential properties are researched because of their high sale volume, and because they would be the first to show sensitivity. Residential properties experience high rates of occupancy, site sizes are generally smaller, and there are continuous alternative options for buyers. Of all property types, if there is an impact from an external source, urban and suburban residential properties will be the most sensitive. Respectively, rural residential, agricultural, recreational, and commercial properties are superior in the sensitivity categories of use, site size and uniqueness/scarcity. In summary, they are more resilient than residential categories. As illustrated, these properties and their values are not adversely sensitive to, and are not negatively impacted by, wireless communications tower facilities

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 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 residential 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 (HB 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 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 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 there 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 76% adults live in homes served solely by cellular phone service, and over 86% of children live in homes with only cellular 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.

- **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

We 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



Kristin J. Mueller, MAI, SRA, CCIM

Professional Qualifications

Glen Katz has been in the field of real estate analysis for over 30 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 appraisal practice courses and seminars.

- Appraisal of Manufactured Homes Featuring Next Generation Manufactured Homes
- Basic Appraisal Principles (Associate instructor)
- Basic Appraisal Procedures (Associate instructor)
- Desktop Appraisals (Bifurcated, Hybrid) and Evaluations
- FHA Appraising for Valuation Professionals: FHA Single Family Housing Appraisal Requirements
- General Appraiser Sales Comparison Approach (Associate instructor)
- General Appraiser Site Valuation and Cost Approach (Associate instructor)
- Ignorance Isn't Bliss: Understanding an Investigation by a State Appraiser Regulatory Board or Agency
- Inconsistency: It's hiding in Plain Sight in Your Residential Appraisal – Next Level Analysis
- Litigation Assignments for Residential Appraisers: Doing Expert Work on Atypical Cases
- Residential Applications: Using Technology to Measure and Support Assignment Results
- Residential Market Analysis and Highest and Best Use (Associate instructor)
- Residential Sales Comparison and Income Approaches (Associate instructor)
- Residential Site Valuation and Cost Approach (Associate instructor)
- Rural Area Appraisals: Freddie Mac Guidelines and Property Eligibility Requirements
- The Cost Approach; Unnecessary or Vital to a Healthy Practice:
- Valuation Overview of Accessory Dwelling Units

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 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

- 2008 to 2017, 2020 to present – Education Chair, Bluegrass Chapter, Appraisal Institute
- 2018-2021 – Appraisal Institute National Education Committee Liaison, Region V (Indiana, Kentucky, North Carolina, Ohio, Virginia, West Virginia)
- 2018 – 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/Content
<p>Appraisal Institute Professional Development Programs</p>	<p>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 General Demonstration Report - Capstone Program Instructor Qualifying Conference Leadership Development & Advisory Council - Washington D.C.</p>
<p>Appraisal Institute Courses</p>	<p>Uniform Appraisal Standards for Federal Land Acquisitions (Yellowbook) Appraisal of Manufactured Homes Featuring Next-Generation Manufactured Homes Application & Interpretation of Simple Linear Regression Quantitative Analysis Practical Applications in Appraising Green Commercial Properties Residential & Commercial Valuation of Solar Case Studies in Appraising Green Residential Buildings Review Theory - General Review Theory - Residential Fundamentals of Separating Real Property, Personal Property, and Intangible Business The Appraiser as an Expert Witness: Preparation and Testimony Litigation Appraising: Specialized Topics and Applications Condemnation Appraising: Principles and Applications Valuation of Conservation Easements Advanced Sales Comparison & Cost Approaches Advanced Residential Report Writing, Part II Advanced Residential Applications & Case Studies, Part I</p>
<p>Appraisal Institute and Related Seminars</p>	<p>Practical Application of Fundamental Analysis Complex Valuation Inconsistency: it's Hiding in Plain Sight in Your (Residential) Appraisal Inconsistency: it's Hiding in Plain Sight in Your (General) Appraisal Avoiding Bias: Building a Bias Defense Appraising in Floodplains Litigation Assignments for Residential Appraisers: Doing Expert Work on Atypical Cases Valuation Overview of Accessory Dwelling Units The Cost Approach: Unnecessary or Vital to a Healthy Practice? Artificial Intelligence, AVMs, and Blockchain: Implications for Valuation Rural Area Appraisals: Freddie Mac Guidelines and Property Eligibility Requirements Advanced Spreadsheet Modeling for Valuation Applications Income Approach for Residential Appraisers Marketability Studies: Advanced Considerations & Applications Appraising Distressed Commercial Real Estate: Here We Go again REO Appraisal: Appraisal of Residential Property Foreclosure Evaluating Residential Construction Evaluating Commercial Construction Regression Analysis in Appraisal Practice: Concepts & Applications Self Storage Economics and Appraisal Subdivision Valuation: A Comprehensive Guide Appraising Convenience Stores Appraisal of Nonconforming Uses Appraisal of Special-Purpose Properties Dynamics of Office Building Valuation Environmental Risk and the Appraisal Process</p>

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Provider	Title/Content
International Right of Way Association	Course 105 - The Uniform Act - Executive Summary
Marshall Valuation Service	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, U.S. Department Of Energy Appraising FHA Properties
Home Builders Association of Louisville	Site Planning Basics of Building; Blueprint Reading, Building Codes, Siting
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

Kris Mueller, MAI, SRA, CCIM

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Experience

Mueller Appraisal Inc, Owner, 1997 to Present
PNC Mortgage Corp., Staff Appraiser, 1996 to 1997
Galloway Appraisal, Staff Appraiser, 1993 to 1996

Education

University of Kentucky, Lexington, KY
Bachelor of Business Administration
Major: Finance

Advanced Real Estate Study

- **Appraisal Institute:**
 - Practical Application of Fundamental Analysis
 - Complex Valuation
 - Appraisal of Medical Office Buildings
 - Analyzing Operating Expenses
 - Real Estate Finance Statistics and Valuation Modeling
 - Principle Applications in Appraising Green Commercial Properties
 - Residential & Commercial Valuation of Solar
 - Case Studies in Appraising Green Residential Buildings
 - FHA Appraising for Valuation Professionals
 - The Discounted Cash Flow Model: Concepts, Issues and Apps
 - Introduction to Green Buildings: Principles & Concepts
 - Property Obsolescence & Marketability Analysis
 - Litigation Appraising: The Appraiser as an Expert Witness
 - Litigation Appraising: Specialized Topics and Applications
 - Appraising Distressed Commercial Real Estate
 - Condemnation Appraising: Applications
 - Advanced Appraisal Applications
 - Advanced Sales Comparison and Cost Approach
 - General Market Analysis and Highest and Best Use
 - Residential Market Analysis and Highest and Best Use
 - General Market Analysis and Highest and Best Use
 - Uniform Appraisal Standards for Federal Land Acquisitions
 - Advanced Residential Applications and Case Study / Part 1
 - Advanced Residential Report Writing / Part 2
 - Appraising Manufactured Homes
 - Advanced Income Capitalization

- **CCIM Institute:**

- #101 Financial Analysis for Commercial Real Estate
- #102 Market Analysis for Commercial Real Estate
- #103 User Decision Analysis
- #104 Investment Analysis
- Core Concepts Review Course

Professional Affiliations

- Member of the Appraisal Institute #374886
- CCIM Member #25209
- Kentucky General Real Property Appraiser #003551
- Indiana General Real Property Appraiser #CG41001339
- Kentucky Real Estate Sales Associate #008040
- Member Louisville Board of Realtors #15109
- HUD Lender Selection Roster of Appraisers
- VA Roster of Appraisers
- Bluegrass Chapter of Appraisal Institute, Board of Directors 2014-2015, 2020 to 2024
- President of the Bluegrass Chapter of the Appraisal Institute, 2025

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 and onward, not including sales and resales spanning the Covid 19 pandemic impact. This minimizes potential influence from significant imbalance between supply and demand resulting from the Covid 19 pandemic. 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.

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 deducting 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 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 600’ proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2020. 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 5.00% to 15.57%. The average rate of annual appreciation is 9.66%, and the median or middle point of the range is 8.54%. The average sale price per square foot of above grade living area is \$182.

Address		Sold Date	Sale Price	% Change	Months	% Change /Year
4603 Scott	Ct	4/30/2024	\$305,000	17.31%	32	6.49%
4603 Scott	Ct	8/31/2021	\$260,000			
4615 Haeringdon	Dr	9/9/2022	\$286,500	15.06%	24	7.48%
4615 Haeringdon	Dr	9/4/2020	\$249,000			
4808 Redmon	Ct	11/2/2022	\$272,000	6.67%	10	7.68%
4808 Redmon	Ct	12/20/2021	\$255,000			
4810 Hat	Ct	7/24/2024	\$280,000	20.69%	38	6.50%
4810 Hat	Ct	5/19/2021	\$232,000			
4901 Bova	Way	4/24/2023	\$290,500	27.13%	30	10.85%
4901 Bova	Way	10/23/2020	\$228,500			
8906 Hatlerhall	Dr	12/11/2023	\$242,800	15.67%	38	5.00%
8906 Hatlerhall	Dr	10/23/2020	\$209,900			
9403 Gutenberg	Rd	6/28/2022	\$250,100	29.38%	24	14.63%
9403 Gutenberg	Rd	6/25/2020	\$193,300			
9405 Gutenberg	Rd	12/30/2021	\$225,000	12.95%	17	9.40%
9405 Gutenberg	Rd	8/14/2020	\$199,200			
10506 Vintage Creek	Dr	5/17/2023	\$365,000	41.47%	38	13.05%
10506 Vintage Creek	Dr	3/13/2020	\$258,000			
10700 Vintage Creek	Dr	6/30/2022	\$400,000	31.15%	24	15.57%
10700 Vintage Creek	Dr	6/30/2020	\$305,000			

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 600’ proximity to facility installation
- Reconciliation: The data represents sale activity beginning 01/01/2020. 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 2.48% to 19.20%. The average rate of annual appreciation is 8.91%, and the median or middle point of the appreciation range is 8.58%. The average sale price per square foot of above grade living area is \$184.

Address	Sold Date	Sale Price	% Change	Months	% Change /Year
4102 Willowview Blvd	3/7/2022	\$242,500	19.46%	23	9.95%
4102 Willowview Blvd	3/23/2020	\$203,000			
4208 Willowview Blvd	8/4/2023	\$290,000	10.27%	24	5.12%
4208 Willowview Blvd	8/2/2021	\$263,000			
4220 Willowview Blvd	5/16/2022	\$286,700	26.08%	20	15.28%
4220 Willowview Blvd	8/31/2020	\$227,400			
4407 Renaissance Dr	3/21/2024	\$445,000	14.10%	19	8.97%
4407 Renaissance Dr	8/25/2022	\$390,000			
4520 Stony Brook Dr	6/17/2024	\$326,000	18.55%	32	6.86%
4520 Stony Brook Dr	10/4/2021	\$275,000			
4614 Stony Brook Dr	9/13/2021	\$280,000	4.67%	6	9.58%
4614 Stony Brook Dr	3/19/2021	\$267,500			
4702 Nottinghamshire Dr	5/2/2024	\$257,500	5.32%	17	3.69%
4702 Nottinghamshire Dr	11/23/2022	\$244,500			
4804 Clarmar Rd	4/27/2021	\$270,000	10.66%	9	13.55%
4804 Clarmar Rd	7/14/2020	\$244,000			
4808 Chenwood Ln	12/1/2021	\$389,000	34.14%	21	19.20%
4808 Chenwood Ln	2/21/2020	\$290,000			
4823 Napa Ridge Way	2/17/2023	\$395,000	9.72%	11	10.29%
4823 Napa Ridge Way	3/9/2022	\$360,000			
5003 Stony Brook Dr	7/12/2024	\$237,700	24.45%	40	7.36%
5003 Stony Brook Dr	3/18/2021	\$191,000			
5006 Flora Springs Cir	4/10/2024	\$359,600	30.76%	43	8.49%
5006 Flora Springs Cir	8/27/2020	\$275,000			
5007 Stony Brook Dr	9/22/2021	\$255,000	13.84%	13	12.92%
5007 Stony Brook Dr	8/27/2020	\$224,000			
5101 Jonar Ct	7/6/2023	\$300,500	21.66%	24	10.97%
5101 Jonar Ct	7/15/2021	\$247,000			
5112 Fairwood Ln	4/11/2024	\$215,000	30.30%	50	7.28%
5112 Fairwood Ln	2/12/2020	\$165,000			
5113 Stony Brook Dr	8/31/2023	\$295,000	10.07%	23	5.34%
5113 Stony Brook Dr	10/12/2021	\$268,000			
5120 Stony Brook Dr	4/7/2023	\$275,000	30.33%	33	11.02%
5120 Stony Brook Dr	7/6/2020	\$211,000			
5306 Idlewood Ln	11/22/2023	\$261,000	3.16%	4	9.78%
5306 Idlewood Ln	7/27/2023	\$253,000			

Address	Sold Date	Sale Price	% Change	Months	% Change /Year
8412 Michael Edward Dr	7/11/2022	\$315,000	25.95%	21	14.76%
8412 Michael Edward Dr	10/7/2020	\$250,090			
8503 Image Way	8/1/2022	\$294,900	16.10%	23	8.58%
8503 Image Way	9/15/2020	\$254,000			
8600 Ivinell Ave	7/24/2023	\$275,750	30.38%	35	10.43%
8600 Ivinell Ave	8/25/2020	\$211,500			
8601 Chipstone Ct	7/24/2024	\$285,000	18.75%	46	4.90%
8601 Chipstone Ct	9/25/2020	\$240,000			
8605 Chipstone Ct	8/28/2023	\$294,400	15.00%	25	7.19%
8605 Chipstone Ct	7/28/2021	\$256,000			
8704 Wattlee Rd	8/29/2022	\$273,000	10.98%	20	6.50%
8704 Wattlee Rd	12/21/2020	\$246,000			
8909 Michael Edward Dr	3/23/2022	\$252,000	5.00%	8	7.45%
8909 Michael Edward Dr	7/21/2021	\$240,000			
9208 Morgan Jaymes Ct	12/13/2021	\$310,000	25.00%	23	13.24%
9208 Morgan Jaymes Ct	1/24/2020	\$248,000			
9308 Justine Ct	7/5/2023	\$276,000	33.27%	37	10.84%
9308 Justine Ct	6/10/2020	\$207,100			
10117 John Ashley Ct	7/1/2022	\$307,500	3.54%	2	17.44%
10117 John Ashley Ct	4/18/2022	\$297,000			
10203 Westwego Pl	3/17/2023	\$275,000	14.58%	21	8.27%
10203 Westwego Pl	6/11/2021	\$240,000			
10205 Westwego Pl	1/5/2024	\$285,000	35.71%	47	9.13%
10205 Westwego Pl	2/7/2020	\$210,000			
10502 Monticello Forest Cir	9/13/2023	\$293,000	7.96%	12	7.94%
10502 Monticello Forest Cir	9/12/2022	\$271,400			
10511 Bayport Rd	8/15/2023	\$266,500	2.90%	14	2.48%
10511 Bayport Rd	6/15/2022	\$259,000			
10514 Firview Ct	4/21/2023	\$240,000	6.71%	17	4.76%
10514 Firview Ct	11/22/2021	\$224,900			
10727 Vine Hill Dr	2/9/2024	\$355,000	2.54%	27	1.12%
10727 Vine Hill Dr	11/5/2021	\$346,200			
10907 Conti Ln	5/20/2024	\$243,100	33.13%	36	10.93%
10907 Conti Ln	5/10/2021	\$182,600			
11601 Locust View Ct	1/8/2024	\$272,000	7.09%	31	2.74%
11601 Locust View Ct	6/9/2021	\$254,000			
11612 Chinook Ct	10/27/2023	\$334,000	17.19%	38	5.47%
11612 Chinook Ct	9/4/2020	\$285,000			

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 2020 and 2024. The proximity sales show a slightly higher average rate of appreciation, and a similar median rate. The price per square foot of living area is also similar.

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, and the sales of 5914 Woodhaven Ridge occurred prior to the 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.