#### **Property Devaluation Due to Cell Phone Towers**

#### Tower Size and Degree of Devaluation

Many of the towers discussed in the references below are relatively small, and therefore, the effects described in many of the small cell tower references below are much less than the effects from higher towers. Specifically, real estate devaluation mentioned below is sometimes less than 5%, even as low as 1-2%. But Campanelli Law firm, which specializes in addressing cell phone towers, has stated (by telephone communication with the author) that property values from larger towers decreases 5%-30%.

### Reduction of Development, not just Sales and Sales Prices

It is important to note that real estate development, including new single home construction as well as larger area development, is often dependent on very small financial margins. Even 1-2% difference in margin can make the difference between a decision to build, and a decision to hold off. So even 1-2% decreased property values from cell towers can dramatically affect real estate development construction decisions. If large towers' devaluation starts at 5%, cell towers have very strong potential to basically freeze further real estate development, area and region-wide - not just reduced sales prices.

## The Long-Term 'Tower Prison'

It also must be kept in mind that whereas small cell transmitters can be moved and removed, a huge tower is not possible to move, and de-installation is extremely unlikely. Which means that the potential real estate property devaluation is frozen not just temporarily, not just short term, or mid-term, but quite long-term - possibly for over a century. A sort of 'tower prison' for nearby real estate sales - and development.

## Universality of Devaluation

The variety of geographical areas, and the variety of sociological and demographic variables represented in the references below also make it clear that property devaluation from cell phone towers is virtually universally found, whenever it is properly studied. Therefore, it is a reasonable and safe assumption that property values are likely to occur in most areas where cell towers are installed, and it is not necessary to 'prove' that any particular or specific area near a proposed tower or tower would be an exception. The general phenomenon of property devaluation from cell towers is sufficiently evidenced to the degree of universality needed to indicate that property value will probably decrease.

#### **Burden of Proof**

In other words, based on the references below, the burden of proof rests on a telecom company to show why property devaluation would not occur, rather than a burden of further proof being on a municipality or advocates to show how and why property devaluation would occur.

A reminder that the final checklist point of the FCC for Environmental Assessment is If the proposed facilities may have a significant impact on the human environment.

https://www.fcc.gov/wireless/support/antenna-structure-registration-asr-resources/filing-environmental-assessment

#### REFERENCES for PROPERTY DEVALUATION from CELL TOWERS

1. The US Department of Housing and Urban Development (HUD) considers cell towers as "Hazards and Nuisances."

"With regard to new FHA originations, the guide provides that "the appraiser must indicate whether the dwelling or related property improvements are located within the easement

serving a high-voltage transmission line, radio/TV transmission tower, cell phone tower, microwave relay dish or tower, or satellite dish," which is radio, TV cable, etc. "If the dwelling or related property improvement is located within such an easement, the DE Underwriter must obtain a letter from the owner or operator of the tower indicating that the dwelling and its related property improvements are not located within the tower's engineered fall distance in order to waive this requirement." 'If the dwelling and related property improvements are located outside the easement, the property is considered eligible and no further action is necessary. The appraiser, however, is instructed to note and comment on the effect of

marketability resulting from the proximity to such site hazards and nuisances."

- a.HUD requires its certified appraisers to take the presence of nearby cell towers into consideration when determining the value of a single family residential property.
- b.HUD guidelines categorize cell towers with "hazards and nuisances." HUD prohibits FHA underwriting of mortgages for homes that are within the engineered fall zone of a cell tower.
- c. "The appraiser must indicate whether the dwelling or related property improvements is located within the easement serving a high-voltage transmission line, radio/TV transmission tower, cell phone tower, microwave relay dish or tower, or satellite dish (radio, TV cable, etc)."

#### https://archives.hud.gov/offices/hsg/sfh/ref/sfh1-18f.cfm

2. HUD Branch Chief Testimony US House of Representatives

Written Testimony of Bobbi Borland Acting Branch Chief, HUD Santa Ana Homeownership Center Hearing before the Subcommittee on Insurance, Housing and Community Opportunity U.S. House of Representatives Committee on Financial Services on "The Impact of Overhead High Voltage Transmission Towers and Lines on Eligibility for Federal Housing Administration (FHA) Insured Mortgage Programs" Saturday, April 14, 2012

With regard to the new FHA originations, the guide provides that: "The appraiser must indicate whether the dwelling or related property improvements are located within the easement serving a high-voltage transmission line, radio/TV transmission tower, cell phone tower, microwave relay dish or tower, or satellite dish (radio, TV cable, etc)."

# https://financialservices.house.gov/uploadedfiles/hhrg-112-ba04-wstate-bborland-20120414.pdf

3. The National Association of REALTORS® and other real estate organizations are urging the FCC to heed caution and ensure that its proposal to expand high-speed 5G networks nationwide doesn't violate property owners' rights:

https://magazine.realtor/daily-news/2019/06/24/nar-fcc-s-5g-plan-could-hurt-property-owners

- 4. "Cell Tower Antennas Problematic for Buyers" REALTOR® Magazine: "Increasing numbers of people don't want to live near cell towers. In some areas with new towers, property values have decreased by up to 20%." <a href="https://magazine.realtor/daily-news/2014/07/25/cell-towers-antennas-problematic-for-buyers">https://magazine.realtor/daily-news/2014/07/25/cell-towers-antennas-problematic-for-buyers</a>
- 5. A coalition of real estate groups, including National Association of Realtors, the National Multifamily Housing Council, the National Apartment Association, and the Institute of Real Estate Management, among others, submitted a letter to the FCC expressing concern over its proposed rule regarding over-the-air reception devices. The coalition says the rule could make it easier for antennas and other devices to be placed on properties without the owners' consent. The coalition flagged these potential issues:
- a. The rule could allow residential or commercial tenants to install a 5G small cell or other wireless infrastructure on a balcony or within a leased space to boost

individual coverage and also transmit a signal to other customers of the telecom provider.

- b. The rule could allow a telecom carrier who already leases rooftop space from a property owner (for antennas or other equipment) to be able to attach a 5G small cell or other wireless infrastructure on that existing equipment without having to change their agreement with the property owner.
- c. "The real estate associations believe strongly the marketplace is working, and so we urge the Commission to avoid measures that could prove counterproductive, and thereby harm investment, constrain competition, and limit consumer access to broadband service. We are also concerned that inopportune regulation could raise the cost of developing multifamily housing and commercial real estate."

https://magazine.realtor/daily-news/2019/06/24/nar-fcc-s-5g-plan-could-hurt-property-owners

6.94% of People Said a Nearby Cell Tower ... Would Negatively Impact Interest In A Property Or The Price "

A survey conducted in June 2014 by the National Institute for Science, Law and Public Policy (NISLAPP) in Washington, D.C....shows home buyers and renters are less interested in properties located near cell towers and antennas, as well as in properties where a cell tower or group of antennas are placed on top of or attached to a building. And 79% said under no circumstances would they ever purchase or rent a property within a few blocks of a cell tower or antennas. And almost 90% of respondents said they were concerned about the increasing number of cell towers and antennas in their residential neighborhood, generally."

http://www.businesswire.com/news/home/20140703005726/en/Survey-National-Institute-Science-Law-Public-Policy

https://electromagnetichealth.org/electromagnetic-health-blog/survey-property-desirability/

7. Reduction in Tax Assessment by Montgomery County, MD. Appeals Board for Probable Cell Tower

The Property Tax Assessment Appeal Board for Montgomery County, MD lowered a Rockville home's assessment: "Comparables warrant a reduction in value. Probability of neighboring cell tower also affects value negatively. April 2011, reversing determination by the Department of Assessments and Taxation.

https://www.scribd.com/document/64222439/Probability-of-neighboring-cell-tower-also-affects-valuenegatively

8. Wireless Towers in Visual Range "values declining ... up to 9.78% for homes within tower visibility range compared to homes outside tower visibility range"

Wireless Towers and Home Values: An Alternative Valuation Approach Using a Spatial Econometric Analysis (Journal of Real Estate Finance & Economics, May 1, 2018):

https://www.researchgate.net/publication/ 313840814\_Wireless\_Towers\_and\_Home\_Values\_An\_Alternative\_Valuation\_Appro ach Using a Spatial Econometric Analysis

9. 20-25% Devaluation Found in Peer-Reviewed Study for Homes Near Cell Towers

The Appraisal Institute, the largest global professional membership organization for appraisers with 91 chapters throughout the world, spotlighted the issue of cell towers and the fair market value of a home and educated its members that a cell tower should, in fact, cause a decrease in home value.

Definitive work on this subject was done by Dr. Sandy Bond, who concluded that "media attention to the potential health hazards of [cellular phone towers and antennas] has spread concerns among the public, resulting in increased resistance" to sites near those towers.

Three studies on property devaluation due to cell towers by Dr. Sandy Bond:

10. "Using GIS to Measure to Measure the Impact of Distance to Cell Phone Towers on House Prices in Florida" by Sandy Bond, Appraisal Journal, Fall 2007:

http://www.prres.net/papers/Bond\_Squires\_Using\_GIS\_to\_Measure.pdf

11. "The Impact of Cell Phone Towers on House Prices in Residential Neighborhoods" by Sandy Bond, PhD, and Ko-Kang Wang. A peer-reviewed study found homes near cell phone towers were devalued 20% to 25%:

https://www.emfanalysis.com/wp-content/uploads/2016/04/Impact-of-Cell-Towers-on-House-Prices.pdf

12. "Cellular Phone Towers: Perceived Impact on Residents and Property Values" University of Auckland, paper presented at the Ninth Pacific-Rim Real Estate Society Conference, Brisbane, Australia, January 19-22, 2003

http://www.prres.net/Papers/

Bond\_The\_Impact\_Of\_Cellular\_Phone\_Base\_Station\_Towers\_On\_Property\_Values.pdf

13. Future 5G MM Waves May Require Cutting Down Trees in Yards - Reduces Value By Several Thousand Dollars

https://www.greenblue.com/na/how-trees-increase-property-values/

If this tower ever transmitted MM waves in the future, that transmission would, under current 5G MM wave capability, require direct "line of sight" from the transmitter to each house. So hundreds or thousands of trees would need major branches removed or cutting down.

14. NASA scientist sells home of 25 years in Piedmont, CA (wealthy suburb of San Francisco) because city council approves a DAS cell tower near his home:

http://sanfrancisco.cbslocal.com/2017/11/15/east-bay-homeowners-challenge-proposed-cellphone-towers/

15. "More than 50% of people would not buy a house near a 5G tower"

https://www.standard.net.au/story/7066248/one-in-four-believe-5g-poses-health-risk/

16. WLWT Major Metro TV News Video, #13 on this page:

https://www.emfanalysis.com/property-values-declining-cell-towers/

check all these: <a href="https://scientists4wiredtech.com/2019/01/proposed-4g-and-5g-wtfs-lower-property-values/">https://scientists4wiredtech.com/2019/01/proposed-4g-and-5g-wtfs-lower-property-values/</a>

and these: https://scientists4wiredtech.com/what-are-4g-5g/cell-tower-installation-plans-lower-property-values/

17. Montgomery County, MD Government States Cell Towers Near Homes Decrease Property Values

In a filing in a lawsuit against the Federal Communications Commission, Montgomery County, Maryland said through its experts that "...the placement of small cells - depending on their size and visibility - may affect neighboring property values....even as small reduction in value of homes in a neighborhood may have a multi-million dollar effect." Expert testimony states that "studies have concluded that a visible antenna up to 1,000 feet away results in property value reduction of 1.82% for a residential home or \$3,342 in the market studied."

"Comments of Smart Communities Siting Coalition" (of which Montgomery County is one) before the FCC. March 8, 2017. "Streamlining Deployment of Small Cell Infrastructure by Improving Wireless Facilities/WT Docket No. 16-421)" See Exhibit 3.

https://www.montgomerycountymd.gov/cable/Resources/Files/Towers/documents/Mobilitie%20Comments%20-%20SMART%20COMMUNITIES%20SITING%20COALITION%20(2017).pdf

18. Industry Canada (Canadian government department promoting Canadian economy), "Report On the National Antenna Tower Policy Review, Section D - The Six Policy Questions, Question 6. What evidence exists that property values are impacted by the placement of antenna towers?"

http://www.ic.gc.ca/eic/site/smt-gst.nsf/eng/sf08353.html website

- 19. New Zealand Ministry for the Environment, "Appendix 5: The Impact of Cellphone Towers on Property Values"; see attached. Source: New Zealand Ministry for the Environment website, <a href="http://www.mfe.govt.nz/publications/rma/nes-telecommunications-section32-aug08/html/page12.html">http://www.mfe.govt.nz/publications/rma/nes-telecommunications-section32-aug08/html/page12.html</a>
- <u>20.</u> New York Times, September 7, 2000 "The Future is Here, and It's Ugly: a Spreading of Techno-blight of Wires, Cables and Towers Sparks a Revolt" <a href="https://www.nytimes.com/2000/09/07/technology/future-here-it-s-ugly-spreading-techno-blight-wires-cables-towers-sparks-revolt.html">https://www.nytimes.com/2000/09/07/technology/future-here-it-s-ugly-spreading-techno-blight-wires-cables-towers-sparks-revolt.html</a>
- 21. NY Times Real Estate section article Aug. 29, 2010 "A Pushback Against Cell Towers," on how realtors have a hard time selling homes next to cell towers:

"If they have the opportunity to buy another home, they do."
She said cell antennas and towers near homes affected property values, adding,
"You can see a buyer's dismay over the sight of a cell tower near a home just by
their expression, even if they don't say anything."

http://www.nytimes.com/2010/08/29/realestate/29Lizo.html

22. NYTimes Aug. 29, 2010 (same day) on decreasing property values from cell towers:

http://www.nytimes.com/2010/08/29/realestate/29Lizo.html?

<u>r=2&ref=realestate</u>26. "Cell Towers Are Sprouting in Unlikely Places," The New York Times, January 9, 2000 (fears that property values could drop between 5 and 40 percent because of neighboring cell towers)

23. NY Times Aug. 30, 2016: Palo Alto, CA 5G towers, including property devaluation:

https://www.nytimes.com/2016/08/30/us/spotty-cell-reception-in-the-heart-of-silicon-valley.html

24. National Association of Realtors on Property Devaluation Due to Cell Phone Towers:

http://www.realtor.org/field-guides/field-guide-to-cell-phone-towers

25. Nolo Press article noting successful litigation against cell phone tower installations related to declining property values:

http://www.nolo.com/legal-encyclopedia/emf-radiofrequency-exposure-from-cell-32210-2.html

26. Press articles from around the country related to declining property values around cell towers:

https://sites.google.com/site/nocelltowerinourneighborhood/home/decreased-real-estate-value

27. Glendale, CA: During the January 7, 2009 Glendale City Council public hearing about a proposed T-mobile cell tower in a residential neighborhood, local real estate professional Addora Beall described how a Spanish home in the Verdugo Woodlands, listed for 1 million dollars, sold \$25,000 less because of a power pole across the street. "Perception is everything," said Ms. Beall stated. "It the public perceives it to be a problem, then it is a problem. It really does affect property values." See Glendale City Council meeting, January 7, 2009, video of Addora Beall comments @2:35:24:

http://glendale.granicus.com/MediaPlayer.php?view id=12&clip id=1227

28. Windsor Hills/View Park, CA: residents who were fighting off a T-Mobile antenna in their neighborhood received letters from real estate companies, homeowner associations and resident organizations in their community confirming that real estate values would decrease with a cell phone antenna in their neighborhood. To see copies of their letters to city officials, look at the . Report from Los Angeles County Regional Planning Commission regarding CUP Case No. 200700020-(2), from L.A. County Board of Supervisors September 16, 2009, Meeting documents, Los Angeles County website:

#### http://file.lacounty.gov/bos/supdocs/48444.pdf

- a. See page 295, August 31, 2008 Letter from Donna Bohanna, President/Realtor of Solstice International Realty and resident of Baldwin Hills to Los Angeles Board of Supervisors explaining negative effect of cell tower on property values of surrounding properties. "As a realtor, I must disclose to potential buyers where there are any cell towers nearby. I have found in my own experience that there is a very real stigma and cellular facilities near homes are perceived as undesirable."
- b. See page 296, March 26, 2008 Letter from real estate professional Beverly Clark, "Those who would otherwise purchase a home, now considered desirable, can be deterred by a facility like the one proposed and this significantly reduces sales prices and does so immediately...I believe a facility such as the one proposed will diminish the buyer pool, significantly reduce homes sales prices, alter the character of the surrounding area and impair the use of the residential properties for their primary uses."
- c. See Page 298, The Appraiser Squad Comment Addendum, about the reduced value of a home of resident directly behind the proposed installation after the city had approved the CUP for a wireless facility there: "The property owner has listed the property...and has had a potential buyer back out of the deal once this particular information of the satellite communication center was announced....there has been a canceled potential sale therefore it is relevant and determined that this new planning decision can have some negative effect on the subject property."
- d. See Page 301, PowerPower presentation by residents about real estate values: "The California Association of Realtors maintains that 'sellers and licensees must disclose material facts that affect the value or desirability of the property,' including 'known conditions outside of and surrounding' it. This includes 'nuisances' and zoning changes that allow for commercial uses."
- e. See Pages 302-305 from the Baldwin Hills Estates Homeowners Association, the United Homeowners Association, and the Windsor Hills Block Club, opposing the proposed cell tower and addressing the effects on homes there: "Many residents are prepared to sell in an already depressed market or, in the case of one new resident with little to no equity, simply walk away if these antennas are installed.
- f. See Pages 362-363, September 17, 2008, Letter from resident Sally Hampton, of the Windsor Hills Homeowner's Assoc., Item K, addressing effects of the proposed facility on real estate values.
- 29. Santa Cruz, CA: A preschool closed up because of a cell tower installed on its grounds; "Santa Cruz Preschool Closes Citing Cell Tower Radiation," Santa Cruz Sentinel, May 17, 2006; Source, EMFacts:

#### http://www.emfacts.com/weblog/?p=466.

30. Merrick, NY: NextG wireless facilities installation resulted in declining home real estate values. See Best Buyers Brokers Realty website ad from this area, "Residents of Merrick, Seaford and Wantaugh Complain Over Perceived Declining Property Values:

#### http://www.bestbuyerbroker.com/blog/?p=86.

31. Burbank, CA: City Council public hearing on December 8, 2009: hillside resident and a California licensed real estate professional Alex Safarian informed city officials that local real estate professionals he spoke with agree about the adverse effects the proposed cell tower would have on property values:

"I've done research on the subject as well as spoken to many real estate professionals in the area, and they all agree that there's no doubt that cell towers negatively affect real estate values. Steve Hovakimian, a resident near Brace park, and a California real estate broker, and the publisher of *Home by Design* monthly real estate magazine, stated that he has seen properties near cell towers lose up to 10% of their value due to proximity of the cell tower...So even if they try to disguise them as tacky fake metal pine trees, as a real estate professional you're required by the California Association of Realtors: that sellers and licensees must disclose material facts that affect the value or desirability of a property including conditions that are known outside and surrounding areas."

See City of Burbank Website, Video, Alex Safarian comments @ 6:24:28:

http://burbank.granicus.com/MediaPlayer.php?view\_id=6&clip\_id=848)

32. 27 Burbank real estate professionals, in December 2009, signed a petition/statement offering their professional opinion that the proposed T-Mobile cell tower at Brace Canyon Park would negatively impact the surrounding homes, stating:

"It is our professional opinion that cell towers decrease the value of homes in the area tremendously. Peer reviewed research also concurs that cell sites do indeed cause a decrease in home value. We encourage you to respect the wishes of the residents and deny the proposed T-Mobile lease at this location. We also request that you strengthen your zoning ordinance regarding wireless facilities like the neighboring city of Glendale has done, to create preferred and non-preferred zones that will protect the welfare of our residents and their properties as well as Burbank's real estate business professionals and the City of Burbank. Higher property values mean more tax revenue for the city, which helps improve our city." (Submitted to City Council, Planning Board, City Manager, City Clerk and other city officials via e-mail on June 18, 2010:

 $\frac{http://sites.google.com/site/nocelltowerinourneighborhood/home/decreased-real-estate-value/burbank-real-estate-professionals-statement)$ 

33. The Observer (U.K.) "Phone masts blight house sales: Health fears are alarming buyers as masts spread across Britain to meet rising demand for mobiles," Sunday May 25, 2003

http://www.guardian.co.uk/money/2003/may/25/houseprices.uknews

34. Chicago Tribune, January 18, 2000 "Quarrel over Phone Tower Now Court's Call," (fear of lowered property values due to cell tower)

http://cingari.in/carbon-brush-hbsre/rogers-cell-towers.html

35. Barrington [Illinois] Courier-Review, February 15, 1999 "Tower Opponents Ring Up a Victory," Cuba Township assessor reduced the value of twelve homes following the construction of a cell tower in Lake County, IL.

http://spot.colorado.edu/~maziara/appeal&attachments/Newton-43-LoweredPropertyValuation/

36.\$1.2 million awarded to a couple because a 100-foot-tall cell tower was determined to have lessened the value of their property and caused them mental anguish: "GTE Wireless Loses Lawsuit over Cell-Phone Tower," *Houston Chronicle*, February 23, 1999, Section A, page 11.

https://sites.google.com/site/nocelltowerinourneighborhood/home/decreased-real-estate-value?

tmpl=%2Fsystem%2Fapp%2Ftemplates%2Fprint%2F&showPrintDialog=1

37. Anne Arundel Board of Education Cell Tower Public Comment

"Research indicates that over 90% of home buyers and renters are less interested in properties near cell towers *and* would pay less for a property in close vicinity to cellular antennas."

https://ehtrust.org/cell-phone-towers-lower-property-values-documentation-research/

38. The Impact of Overhead High Voltage Transmission Towers...on Eligibility For Federal Housing Administration (FHA) Insured Mortgage Programs, Committee on Financial Services U.S. House of Representatives (I do not know if cell towers are high voltage).

https://www.govinfo.gov/content/pkg/CHRG-112hhrg75087/html/CHRG-112hhrg75087.htm

39. Most people are unaware that once a tower is built, it can go up to 20 feet higher with no public process. In other words, a 100 foot tower can be increased to 120 feet after it is constructed and the community will have no input.

Middle Class Tax Relief and Job Creation Act of 2012, Sec. 6409(a)

The FCC has proposed and is currently considering rules to clarify and implement the requirements of Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012. Under section 6409(a), "a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station." The FCC considers eligible facilities' requests to include requests for carrier co-locations and for replacing existing antennas and ground equipment with larger antennas/equipment or more antennas/equipment.

The FCC has proposed, as part of these rules, applying a four-pronged test, which could lead to cell towers increasing in height by 20-plus feet beyond their approved construction heights.

Applying the test may also lead increases in the sizes of compounds, equipment cabinets and shelters, and hazardous materials used for back-up power supplies, beyond what was originally approved.

Under this test, a "substantial increase in the size of the tower" occurs if:

- 1) [t]he mounting of the proposed antenna on the tower would increase the existing height of the tower by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to avoid interference with existing antennas; or
- 2) [t]he mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter; or
- 3) [t]he mounting of the proposed antenna would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or
- 4) [t]he mounting of the proposed antenna would involve excavation outside the current tower site, defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site.

https://www.congress.gov/112/plaws/publ96/PLAW-112publ96.pdf

#### https://ecfsapi.fcc.gov/file/7521070994.pdf

40. The California Association of Realtors' Property Sellers Questionnaire lists "cell towers" on the disclosure form for sellers of real estate. The seller must note "neighborhood noise, nuisance or other problems from..." and includes cell towers on the long list problems.

https://ehtrust.org/wp-content/uploads/Real-Estate-Seller-Property-Questionaire-reduced-12-17-1.pdf

41. "Wireless Towers and Home Values: An Alternative Valuation Approach Using a Spatial Econometric Analysis" (Journal of Real Estate Finance & Economics, May 1, 2018)

For properties located within 0.72 kilometers of the closest tower, results reveal significant social welfare costs with values declining 2.46% on average, and up to 9.78% for homes within tower visibility range compared to homes outside tower

visibility range; in aggregate, properties within the 0.72-kilometer band lose over \$24 million dollars ("Impact of Communication Towers and Equipment on Nearby Property Values" prepared by Burgoyne Appraisal Company, March 7, 2017) https://ehtrust.org/wp-content/uploads/Cell-Towers-Home-Values.pdf

42. "In 32 years of experience as a Real Estate Appraiser specializing in detrimental conditions, takings, adverse impacts and right-of-way, I have found that aesthetics (or rather the adverse impact on aesthetics) of externalities routinely has the largest impact on property values. As a result, proximity to towers of all types (cell, wind turbine, and electric transmission) has an impact on property values. The same is true with all sorts of surface installations such as pump stations and communication equipment boxes. This would apply to new small cell and DAS equipment, although again, one would expect that the less intrusive the facility, the less significant the impact. Small cell and DAS installations can be unsightly, bulky, inconsistent, and even noisy."

"The Cost of Convenience: Estimating the Impact of Communication Antennas on Residential Property Values" (Land Economics, Feb. 2016)

https://gattonweb.uky.edu/Faculty/blomquist/ LE%202016%20Locke%20Blomquist%20towers.pdf

43. "The Lo Down on Cell Towers, Neighborhood Values, and the Secretive Telecoms" "The best estimate of the impact is that a property with a visible antenna located 1,000 feet away sells for 1.82% (\$3,342) less than a similar property located 4,500 feet away. The aggregate impact is \$10.0 million for properties located within 1,000 feet"

https://dissidentvoice.org/2015/12/the-lo-down-on-cell-towers-neighborhoodvalues-and-the-secretive-telecoms/

44. "Fake Metal Trees" "Despite the obvious advantages of cell towers for communication, they're a common source of tension for local communities. Here's why."

https://tedium.co/2015/08/04/cell-towers-nimby-trees/

45. "Examining invisible urban pollution and its effect on real estate value in New York City"

"Understanding EMF values of business and residential locations is relatively new for the real estate industry. Cell phone towers bring extra tax revenue and better reception to a section of the city, but many are skeptical because of potential health risks and the impact on property values. Increasing numbers of people don't want to live near cell towers. In some areas with new towers, property values have decreased by up to 20%."

https://nyrej.com/examining-invisible-urban-pollution-and-its-effect-on-real-estate-value-in-new-york-city-by-william-gati

46. <u>Best Best and Krieger Letter to Ms. Marlene H. Dortch, Secretary FCC September 19, 2018</u> "RE" Smart Communities and Special Districts Coalition - Ex Parte Submission: Accelerating Wireless Broadband Deployment by Removing Barriers to Infrastructure Investment, WT Docket No. 17-79; Accelerating Wireline Broadband Deployment by Removing Barriers to Infrastructure Investment, WC Docket No. 17-84"

"Further, the assumption that there is little to consider in a small cell application is belied by the definition the Commission adopts for "small wireless facility": while it justifies its rules based on the assumption that many small cells are the size of a pizza box, a pizza box is about 1/2 cu. ft. in size, while the Commission proposes to expedite permitting of equipment cabinets 28 cu. ft. in size - a stack of 56 pizza boxes - on front lawns throughout the country. Considering that the Smart Communities' prior filings show that the addition of facilities of this size diminish property values, it is strange for the Commission to assume that approval can be granted in the regulatory blink of an eye."

"A good example lies in the Commission's discussion of undergrounding.62 The Commission at once appears to recognize that communities spend millions of dollars on undergrounding projects, and that allowing poles to go up in areas where poles have been take down has significant impacts on aesthetics (not to mention property values)."

https://www.montgomerycountymd.gov/cable/Resources/Files/Towers/cellTowerInfo/Ex%20Parte-

Smart%20Communities%20and%20Special%20Districst%2009-19-18-c2%20(1).pdf

The fact the following is from India does not mean it is irrelevant to Jefferson County, IA. It indicates the universality, and therefore depth of the principle that cell towers decrease property values.

47. <u>The Times of India</u>: "Property hit where signal masts rise" July 2012 "Property dealers across the city say that buildings which host mobile phone towers have 10-20 % less market value.

"Forget buying these properties, people don't want to take them on rent even, particularly when they have a choice. If a person is going to invest crores, why would he buy a property with a tower?" asks Pal. According to LK Thakkar, a Defence Colony-based property dealer, while the cost of the building which has the tower is relatively less, other buildings in the vicinity also get affected. "No one wants to buy a house within 100 metres of the building which has the tower. The rates for such properties drop by 10-20 %, and sometimes even more," said Thakkar, co-owner of A-One Associates."

48. Pennsylvania Association of Realtors: "Do Neighborhood Cell Towers Impact Property Values?"

https://www.parealtors.org/cell-towers-impact-property-values/

49. TMobile Hearing: Appraiser: "Cell Towers Will Affect Property Values"

https://patch.com/new-jersey/bridgewater/appraiser-t-mobile-cell-tower-will-affect-property-values

50. Florida State University Law Review: "The Power Line Dilemma: Compensation for Diminished Property Value Caused by Fear of Electromagnetic Fields"

https://ir.law.fsu.edu/cgi/viewcontent.cgi? referer=&httpsredir=1&article=1427&context=lr

51. New Zealand Ministry of the Environment: "The Impact of Cell Phone Towers on Property Values"

https://www.mfe.govt.nz/publications/rma/nes-telecommunications-section32-aug08/html/page12.html#footnote-24

52. Towers, Turbines and Transmission Lines: Impacts on Property Value (Book) Bond, Sims, Dent:

https://onlinelibrary.wiley.com/doi/book/10.1002/9781118533215

53. HUD Branch Chief Testimony US House of Representatives

Written Testimony of Bobbi Borland Acting Branch Chief, HUD Santa Ana Homeownership Center Hearing before the Subcommittee on Insurance, Housing and Community Opportunity U.S. House of Representatives Committee on Financial Services on "The Impact of Overhead High Voltage Transmission Towers and Lines on Eligibility for Federal Housing Administration (FHA) Insured Mortgage Programs" Saturday, April 14, 2012

With regard to the new FHA originations, the guide provides that: "The appraiser must indicate whether the dwelling or related property improvements are located within the easement serving a high-voltage transmission line, radio/TV transmission tower, cell phone tower, microwave relay dish or tower, or satellite dish (radio, TV cable, etc)."

https://financialservices.house.gov/uploadedfiles/hhrg-112-ba04-wstate-bborland-20120414.pdf

54. "Cell Towers on Schools Near Homes Lower Property Values" PGCPS Board of Education Hearing Video #2:

https://ehtrust.org/cell-phone-towers-lower-property-values-documentation-research/

55. WLWT TV "Homeowners speak out against plans to build 2 cell phone towers"

Video #3: <a href="https://ehtrust.org/cell-phone-towers-lower-property-values-documentation-research/">https://ehtrust.org/cell-phone-towers-lower-property-values-documentation-research/</a>

56. Township Trustee Fights Cell Tower Construction: Video #4:

https://ehtrust.org/cell-phone-towers-lower-property-values-documentation-research/