

Wireless Communications Initiative Study

Wireless Facilities Impact on Property Values

November 2012

Background

Wireless technology has dramatically changed the way the world communicates. There are over 6 billion wireless phones being used worldwide. In the United States the number of wireless phones is greater than the population. Conversely, with the advent of smart phones and wireless devices, there is increasing strain being put on already stressed wireless infrastructure. The goal of the Wireless Communications Initiative (WCI) is to enable the deployment of a 21st century wireless infrastructure. Silicon Valley is clearly driving wireless innovation and the region has consistently been an early adopter of these products.

However, compared to feature phones, smartphones place 24 times the demand on wireless networks, and smart devices such as tablets command 120 times as much. Carriers are trying to respond to this revolution in technology by deploying what is called Next Generation technology. Carriers tout the capacity of their 4G or LTE (Long Term Evolution) networks as significantly more efficient in managing the burgeoning demand placed on networks by applications such as streaming video.

The significant challenge facing the next phase in technology deployment is the need to place wireless facilities in residential neighborhoods. These facilities need to be closer to consumers to allow signals to be accessible within homes. This is increasingly important given that about 30 percent of homes rely solely on wireless phone service. In addition, almost 400,000 calls to 911 are made each day using wireless phones. Access to a wireless network has now become a public safety imperative.

Carriers are working with cities to identify neighborhood sites for wireless facilities. However, this task has been made more difficult in some cases when a few residents raise concerns about the placement of wireless towers. These residents oppose carrier applications because of

trepidations related to Radio Frequency (RF) emissions or suspicions about a negative impact on property values. The anxiety that wireless towers impact property values has been a powerful argument used by opponents to carrier applications. Oftentimes, anecdotal evidence is used to bolster these arguments, absent any factual evidence regarding the veracity of these claims.

Carrier and city attempts to address these concerns can lead to long delays in deploying and upgrading wireless facilities. It isn't unusual for a single application to be delayed for a year or more while community concerns are being addressed.

This study has been designed to assess the actual effects of wireless facilities on property values. We have the capability to consider wireless facilities that have been in place for several years. We can look at hundreds of recent real estate transactions to determine what effects are present.

The Study Partners

The Santa Clara County Association of REALTORS® and the Silicon Valley Association of REALTORS® (SILVAR) partnered with WCI to produce the study. The members of these two organizations are involved with most transactions involving single family residences in Silicon Valley. The Associations are over 100 years old and have a rich history paralleling the growth of the region. The organizations represent thousands of real estate agents who have a deep commitment to furthering the professionalism of the industry.

In addition, WCI partnered with MLS Listings to perform the actual data analysis. MLSListings, Inc. was founded in 2007 by a collaboration between several established regional multiple listing services, notably Silicon Valley's RE InfoLink and California's Central Valley MLS. The company created by this merger, MLSListings Inc. serves nearly 16,000 subscribers and 6,000 firms. MLSListings typically handles listings totaling nearly \$70 billion annually.

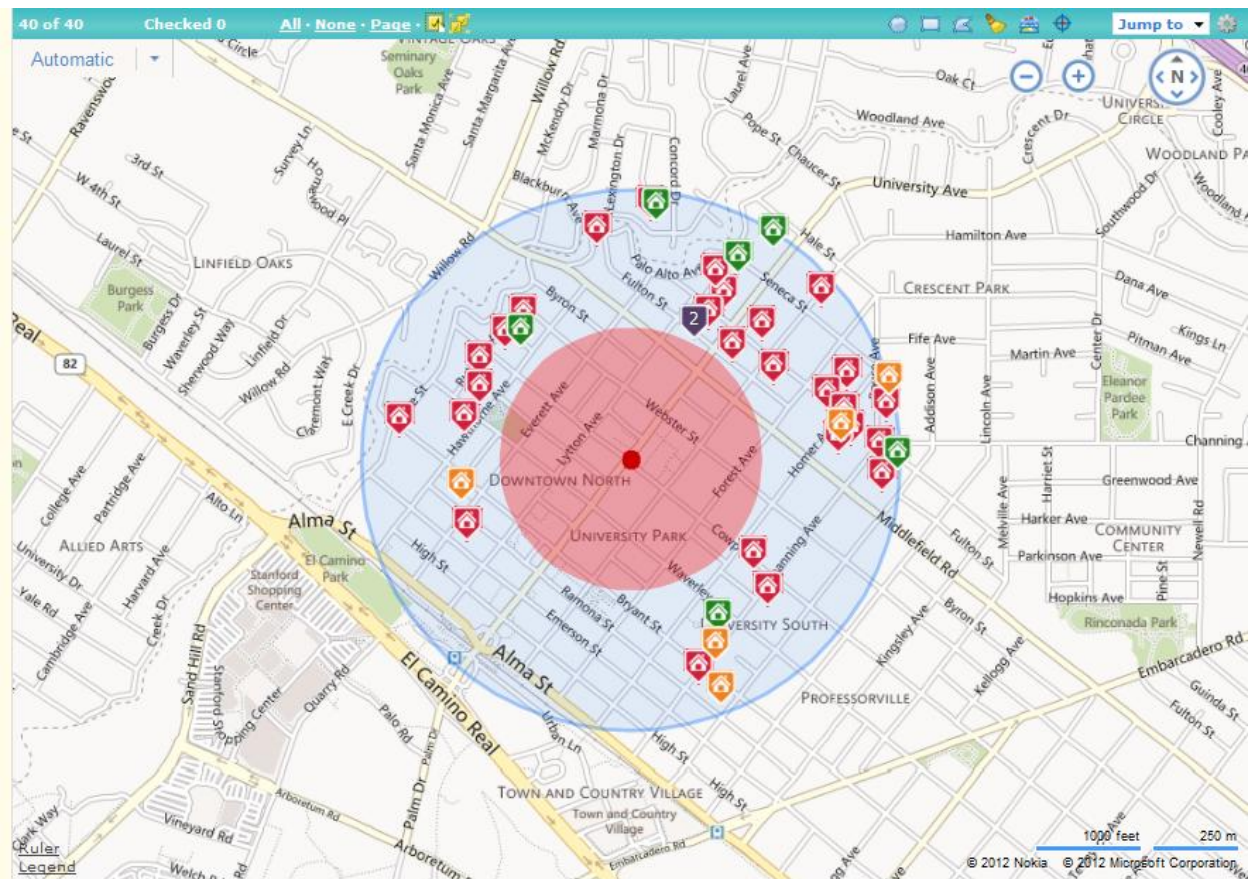
See Appendix B for more information about these organizations.

The Methodology

The data was compiled using over 1600 single-family home transactions from January to September 2012. A total of 70 wireless sites were selected in Palo Alto, Redwood City, Saratoga and San Jose. The survey compared the “list” and “sale” price for transactions based on the distant from the wireless facility. The transactions were grouped by those 1) within 1/8th of a mile, 2) 1/8 to a quarter mile and 3) a quarter to one-half mile.

In addition, the study included all types of wireless facilities. These facilities may be A) a wireless tower, B) equipment placed on buildings (e.g. church, offices) or C) placed on a utility structure (e.g. pole, tower).

See Appendix D for sample photographs of the sites.



Sample MLS listing data query

The chart below displays the aggregated results for the study. The list and sale prices are an aggregate of the all of the transactions that occurred within the specified distance from the wireless site during January to September 2012. The fourth column is derived as a percentage of the sale price to the list price.

| | Total List Price | Total Sale Price | %List to Sale |
|---------------------|-------------------------|-------------------------|----------------------|
| Palo Alto | | | |
| 0-0.125 mile | \$ 33,093,000 | \$ 34,243,125 | 103% |
| 0.125-0.25 | \$ 219,641,507 | \$ 233,276,629 | 106% |
| 0.25-0.5 | \$ 1,058,288,821 | \$ 1,094,507,081 | 103% |
| Redwood City | | | |
| 0-0.125 mile | \$ 9,111,888 | \$ 9,306,000 | 102% |
| 0.125-0.25 | \$ 36,670,398 | \$ 36,738,500 | 100% |
| 0.25-0.5 | \$ 91,938,794 | \$ 92,571,249 | 101% |
| Saratoga | | | |
| 0-0.125 mile | \$ 11,116,000 | \$ 11,168,000 | 100% |
| 0.125-0.25 | \$ 77,914,560 | \$ 77,601,045 | 100% |
| 0.25-0.5 | \$ 353,092,390 | \$ 350,550,126 | 99% |
| San Jose | | | |
| 0-0.125 mile | \$ 29,024,249 | \$ 28,695,250 | 99% |
| 0.125-0.25 | \$ 57,135,400 | \$ 57,075,940 | 100% |
| 0.25-0.5 | \$ 157,404,541 | \$ 158,404,215 | 101% |

A listing of the addresses for the wireless sites is in Appendix A.

Conclusion

It is quite clear from the data that the distance from a wireless facility has no apparent impact on the value or sale price of a home. The relationship between the list and sale price remained the same no matter how close the property was to the wireless facility. In addition, we see that all the cities in the survey had similar results. The sites across all cities represent a variety of properties including those in neighborhoods with higher priced homes versus those in communities with more moderately priced homes.

Most real estate professionals believe there are multiple factors that affect property values. These professionals still believe in the old adage that there are three factors: location, location, location. However, it is quite obvious that the overall economic climate can have an overriding effect on the real estate market. This year has seen a significantly stronger market for home sales, both in the number of transactions and sellers' ability to obtain their asking price. Other factors that tend to impact property values include schools and access to transportation.

This study should provide a data-based explanation of the relationship between home values and the proximity to wireless facilities. The conclusions can be understood to suggest that communities and carriers have done well in considering the placement of the technology. The Wireless Communications Initiative believes this continued commitment to resolving deployment issues will benefit our region and its neighborhoods.

(Appendix A)

Wireless Facilities Included In Study

Palo Alto

1082 Coronado
101 Alma St
1985 Louis Road
3990 El Camino
305 N California
10950 Channing
1501 Page Mill Rd
200 Page Mill Rd
2047 bayshore
2300 Geng Rd
260 Sheridan
2666 E Bayshore Rd
2675 Hanover St
2701 Middlefield Rd
300 Pasteur Dr
3000 Alexis
3141 Maddux Dr
3401 & 3431 Hillview
345 Hamilton Ave
3475 Deer Creek Rd
3600 W Bayshore Rd
3600 Middlefield
3672 Middlefield
3862 Middlefield
4009 Miranda
4243 Manuela Ave
4249 El Camino Real
488 University Ave
525 University Ave

531 Stanford Ave
695 Arastradero
711 Colorado
724 Arastradero
850 Webster St
855 El Camino
900 Blake Wilbur Dr
799 Arastradero
760 Porter
3000 El Camino Real
675 El Camino Real
2595 E Bayshore
Junipero & Stanford
Page Mill & Foothill

Redwood City

3025 Jefferson Ave
468 Grand St
1175 Palomar
1251 Annette
2900 Whipple Ave

Saratoga

14407 Big Basin Way
14000 Fruitvale
13000 Glen Brae
13750 Prune Blossom
14091 Quito Rd
12770 Saratoga Ave
1777 Saratoga Ave
13601 Saratoga Ave
20508 Saratoga Los Gatos
19491 Saratoga Los Gatos
12393 Saratoga Sunnyvale

12413 Saratoga Sunnyvale
Hwy 9 & Quito

San Jose

2827 Flint Ave

930 Remillard Ct

3675 Payne Ave

144 S Jackson

366 Saint Julie Dr

1529 Newport Ave

1200 Fleming Ave

2110 Story Rd

1635 Park Ave

1700 Moffat St

Disclaimer: the data was pulled on 10/2/2012 pulling only single family residence (class 1 in MLSListings, Inc.) with a time frame of all sales from 1/1/2012 to 10/2/2012

Appendix B

Santa Clara County Association of REALTORS®

History

Santa Clara County Association of REALTORS®, established in 1896, has a long and rich history paralleling the history of Santa Clara Valley. SCCAOR, the first trade association in California, is the largest real estate board in Northern California, and was listed as one of the nation's top 20 associations by the Foundation of the American Society of Association Executives. It has come a long way since its first members took potential buyers to preview properties in horse-drawn buggies.

Over the years, its members have made very significant contributions, both in the real estate industry and to the quality of life in Santa Clara County, through their community service activities. Santa Clara County Association of REALTORS®'s history is one of recognizing changing needs in the real estate industry, economy, and technology, and leading the way in responding to those needs.

Santa Clara County Association of REALTORS® was the first real estate board in California to employ a Government Affairs Director to represent the interest of property owners, REALTORS® and the real estate industry, at all levels of government. Threats to property rights remain an increasingly "hot" item on legislative agendas.

The Board's educational activities for members and the public consistently win state and national awards for high quality and leadership, including the Real Estate Assistants Program, developed in 1994. Ongoing classes and seminars provide Members with the most current, professional education for the benefit of their clients and their careers.

In support of the many communities our members serve, SCC REALTORS® FOUNDATION, a nonprofit corporation designed to direct Member's monetary contributions to the most vital community needs, was formed in 1991.

Integrity, strength and innovation are the foundation of Santa Clara County Association of REALTORS®'s history. In the same tradition, established during the past century, we are committed to being an industry leader, bringing positive action and service to our Members and communities for the next 100 years.

The Silicon Valley Association of REALTORS®

The Silicon Valley Association of REALTORS® (SILVAR) is a professional trade organization representing over 4000 REALTORS® and Affiliate members engaged in the real estate business on the Peninsula and in the South Bay. SILVAR promotes the highest ethical standards of real estate practice, serves as an advocate for homeownership and homeowners, and represents the interests of property owners in Silicon Valley.

It is the duty and responsibility of every REALTOR® member of this Association to abide by the "Code of Ethics" of the National Association of REALTORS®. The term "REALTOR®" is a registered collective membership mark which identifies a real estate professional who is a member of the National Association of REALTORS® & who subscribes to its strict Code of Ethics.



MLSListings, Inc. was founded in 2007 as a collaboration between several established regional multiple listing services, notably Silicon Valley's RE InfoLink and California's Central Valley MLS. As the company created by this merger, MLSListings Inc. serves nearly 16,000 subscribers and 6,000 firms in Santa Clara, Santa Cruz, Monterey, San Mateo, San Benito, Merced, San Joaquin and Stanislaus Counties – an area of approximately 28,000 square miles, reaching from San Francisco to Big Sur, and including some of the most valuable real estate in the world. MLSListings typically handles listings totaling nearly \$70 billion annually.

In April, 2008, MLSListings, Inc. joined with three other Northern California MLS services – San Francisco MLS, Bay Area Real Estate Services, and MetroList Services – in an unprecedented alliance to share multiple listing data throughout Northern California. This new alliance serves nearly 50,000 brokers in 19 Northern California Counties, a total population of nearly 9 million people.

Appendix C
Wireless Site Photographs (Sampling)



366 St. Julie Drive, San Jose



2110 Story Road, San Jose



3675 Payne, San Jose



12770 Saratoga Ave, Saratoga



14407 Big Basin Way



675 El Camino, Palo Alto



1082 Colorado St. Palo Alto



1985 Louis Road, Palo Alto



4009 Miranda, Palo Alto



4243 Manuela, Palo Alto, CA



2575 Hanover, Palo Alto