

# **Wireless Attitudes Among West Michigan Technology Professionals**

A study conducted by glimaWest  
for the City of Grand Rapids

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## Survey Methodology

Respondents were notified by email and invited to participate in a survey about their opinions on wireless broadband. As a result, there is a strong self-selection bias. They received no compensation for participating.

Invitees were on the mailing list for glimaWest, a networking and educational organization for the technology industry in West Michigan. GlimaWest conducted the survey.

The email invitation was sent to 526 West Michigan professionals. Initially, 108 responded, but some (14%) dropped out midway through the survey. These incomplete responses were not counted among the final results.

The remaining 94 respondents completed all required questions. This provides a +/-9% margin of error. Response rate was 18%, which is within the average range for online surveys.

## Respondent Demographics

### Summary

Respondents were typically technology professionals who live Kent County, work in the city of Grand Rapids, and do not currently subscribe to wireless broadband service. This person may own their own business or work for someone else.

### Details

- Most respondents live in Kent County (77%) and work in Grand Rapids (63%).
- Exactly 50% are business owners. Of these, 47% own a business inside the city of Grand Rapids, 36% own a business elsewhere in Kent County, and 21% own a business outside of Kent County.
- 71% consider themselves technology professionals, with most (60%) working for technology-focused businesses. Only 15% of respondents were non-technology professionals working for a non-technology business. These respondents were included in the survey because it is assumed that they have an interest in technology. The glimaWest mailing list is primarily an opt-in mailing list, in which recipients request to be added to the list.
- Just over half (55%) do *not* subscribe to wireless service; however, most of the remainder (44%) use wireless for business, personal use, or both.

## Wireless Attitudes

### Summary

Overall, approximately half of respondents thought that citywide wireless broadband would help their company or employer provide better customer service, and very few respondents expected a negative impact on their business.

However, many respondents had significant concerns about how the network would be implemented. Recurring concerns were costs and funding, including ongoing maintenance and customer service costs; security; and reliability. Some respondents even questioned whether local government could do an effective job of managing this service.

Approximately half said they would purchase wireless broadband at some point in the future if costs were equal to or less than current broadband service. However, respondents again cited security, speed, and reliability as additional considerations.

Though respondents expected the system to equally generate income and save money for their company, respondents were more inclined to expect that they could generate more income than they could save.

Most respondents said they would be likely to use citywide wireless for general Internet access or to access their business network, particularly during meetings outside the office. However, many were unsure how a city wireless broadband network could directly improve their business.

### Purchase Intent

*"If cost were equal to or less than current broadband service, would you purchase wireless broadband service for business purposes at some point in the future?"*

More than half of respondents (56%) say they would purchase wireless broadband service at some point in the future if cost were equal to or less than current broadband service. Exactly 28% said they weren't sure, and 16% said they would not purchase wireless broadband. (Note: This question required an answer, but further explanation was optional.)

#### Perceived Advantages

Respondents who said they would purchase wireless liked said they would do so primarily because it would provide flexibility and ease of use (10 responses) and allow them to have mobile access for business purposes (8 responses).

Less common reasons for purchasing broadband included ease of maintenance, increased productivity, additional broadband speed, and increased range of availability.

Representative responses included:

- "I am a mobile worker. If I could be connected as I move around Grand Rapids, that would significantly enhance my productivity."
- "The current broadband service provider (Comcast) for my home office is expensive and unreliable. I would be interested in any other options that become available."
- "I use SBC-Yahoo-DSL and have a wireless router for my home office. If purchasing wireless broadband service from the city meant simplifying the hookup or costing less,

or if using it meant ensuring availability for others in the community, I would subscribe.”

- “At least 40% of our 85 staff members (all accountants & auditors) travel to businesses throughout the greater Grand Rapids area, & we’re currently jumping through many hoops in some instances to provide remote access to our staff from those locations. We do have some Sprint PCS notebook PC cards, but the performance is extremely slow even on those. Our entire network infrastructure is based on Terminal Services, so a faster, city-wide wireless network would GREATLY streamline our efficiency.”
- “When cost is not a significant factor, having greater flexibility and mobility become the difference makers.”

### **Perceived Disadvantages**

Regardless of their decision to purchase wireless broadband, all groups of respondents expressed concerns about performance, speed, and reliability (13 responses) as well as security (11 responses). These were also the most common reasons that respondents gave for explaining why they wouldn’t purchase wireless broadband, or why they weren’t ready to make a decision.

Additional, though less common, reasons for answering “no” or “not sure” included a preference for existing free wireless access, a preference for an existing ISP, cost, competition with their business if they work for an ISP, and health issues.

Representative responses included:

- “I work from home and use a wireless router within my home. There is no subscription for that. Also, places like Panera Bread have broadband for free. Honestly, as a sales rep, I look for places that have it for free to set up my work for a few hours.”
- “The value assigned to any Internet access service is primarily a function of: (a) Security, (b) Reliability, and (c) Price. Any decision relative to Internet access would be a balance of each of the three elements.”
- “Would have to be as reliable as other forms of broadband. I have heard people say their wireless broadband is down a lot. It would also have to be secure.”
- “We have been on wireless in the past, and service level was the issue, not cost.”
- “I have both security and guaranteed speed concerns.”

### **Customer Service**

*“Do you feel that a citywide wireless network would help your company or employer provide better service to customers?”*

Nearly half (49%) said they thought a citywide wireless network would help their current business or employer provide better customer service. A smaller segment, 33%, said they weren’t sure, and 18% said they did not believe it would be of benefit. (Note: This question required an answer, but further explanation was optional.)

### **Perceived Advantages**

Approximately 30% of those who thought a citywide wireless network would help them provide better customer service said that it would give them flexibility for business purposes, such as letting them access the Internet during a meeting at a client's location. About 17% said that immediate access to information alone could improve customer service.

Other ways respondents said wireless might improve customer service included: enabling faster responses to clients, allowing remote access to client or company networks, increasing productivity, enhancing mobility, and providing an alternative broadband service to citizens unhappy with their current provider.

Representative responses included:

- "We commonly use the Internet to remotely access, maintain, and support our client's network. Any additional method for broadband access would definitely help. Clearly, this is based on the assumption that the wireless network operates within an acceptable quality of service."
- "We meet clients at downtown restaurants on a regular basis. If we had access to real-time information, we would be able to provide greater value to the conversation."
- "We have reporters who drive all over the city and metro area for stories. If they could tap into a WiFi network while out of the office and get pertinent information to help them with a story, then what more can be said?"
- "I would expect that a wireless service would allow for richer communication throughout the City limits for mobile users (my clients and my employees)."
- "There would be better capability and potential for mobility. Also, another option from the current DSL or cable that might be an inadequate connection."

### **Perceived Disadvantages**

The most common reasons for indicating that wireless access would not help respondents provide better customer service (or that they weren't sure if it would), were that the respondent was already happy with their current infrastructure (9 responses) and that they do business mostly outside of the Grand Rapids area (5 responses).

Other, less common, responses included competition with their own business, security concerns, and a belief that their company couldn't benefit from wireless service.

Representative responses included:

- "My company already has dedicated circuits allocated for Internet services, and therefore I don't see how a wireless service would be an improvement other than cost. But then again, I have both security and speed concerns."
- "We have a very capable wired infrastructure, and the vast majority of our customers are not in GR."
- "The technology firm that I work for services businesses and does not do any work in the residential market. From what I have heard, this is good for very small businesses and residential areas, but not for large businesses that consume a large amount of bandwidth."

- “High-speed Internet access is already available citywide. Having wireless would be very little, if any, value.”
- “We are out in Ada and many of our employees are in other cities. We have our own network for work and provide cable access for many employees from home, but most are not in GR.”
- “It would not affect my company personally. However, I think that having a citywide wireless network puts GR on the map as a technically savvy city. This could help bring more technology companies into the area, or recruit young professionals to GR.”

## Expected Use

*“In which of the following ways might your company or employer use a citywide wireless broadband network when it is available? (Please select all that apply.)”*

The 10 most common ways respondents said they might use a citywide wireless network are listed below. (Note: This question required an answer.)

Respondents’ most common applications for wireless broadband were:

1. Internet access (84%)
2. Meetings outside the office (68%)
3. High-speed data and voice communications (59%)
4. VPN access to the business network (50%)
5. Inside vehicles (42%)
6. Inside the office (37%)
7. E-commerce (30%)
8. Real-time field reporting (20%)
9. Wireless kiosks (19%)
10. Remote monitoring and control of critical infrastructure systems (15%)

## Negative Effects

*“Do you feel that a citywide wireless broadband network might negatively affect your company or employer in any way?”*

Most respondents (80%) felt that a citywide wireless network would not negatively affect their company or employer in any way. However, 13% were not sure, and 6% felt that it would have an adverse affect. (Note: This question required an answer, but further explanation was optional.)

### Perceived Advantages

There were few common reasons among respondents who felt that the network would not negatively impact their company, except for the fact that they did not see a downside to wireless. These respondents had the following to say:

- “We understand the points of vulnerability that wireless presents viz [sic] security issues. We can easily handle that.”
- “It would be beneficial, but I don’t think it would matter one way or another if it is made available.”
- “Could only be good for the area...to be able to have wireless access wherever you are.”

- “Because I have a wireless router in my home and operate two computers from it, I know its value and I see nothing from a citywide network that would detract from my business.”
- “Short of finding out that all this wireless traffic leads to cancer or something, I cannot see any reason why this would have a negative impact on the community. I would argue with anyone that has any reasons they claim support this notion.”

### **Perceived Disadvantages**

There were two common reasons for a feeling that wireless access could – or might – have a negative impact on their business. The most common reason was that it could affect sales of current Internet service providers (5 responses). The second most common reason involved security concerns (3 responses).

Representative responses included:

- “If security was not adequately implemented and maintained, our business might be threatened.”
- “My company sells voice and data services. Our sales would most likely suffer with small to mid-sized businesses.”
- “That answer is really: Possibly. There is the issue of protecting one’s work and utilizing a firewall. I’m not sure how or if a firewall can be utilized when on a WiFi connection.”

### **Financial Savings**

*“How much additional revenue do you think your company or employer could save annually by using a citywide wireless broadband network?”*

Though answering this question was optional, nearly all participants responded. The bulk of respondents (66%) were unsure how much money their company or employer could save annually by using a citywide wireless broadband network. However, 29% felt it could save them up to \$10,000. Only 5% thought it could save them more than \$10,000.

### **Revenue Generation**

*“How much additional revenue do you think your company or employer could generate annually by using a citywide wireless broadband network?”*

Though answering this question was also optional, nearly all participants responded. The majority of respondents (71%) said they were unsure of how much revenue their company or employer could generate annually by using a citywide network. A smaller percentage, 15%, felt they could generate up to an additional \$10,000. However, 14% believed it would help them generate more, up to \$500,000.

### **Challenges & Successes**

*“What do you see as the city’s biggest challenges and potential successes in deploying a citywide wireless broadband network?”*

Though this was an optional question, 65% of respondents answered. As is typical for a question asking for both positive and negative feedback, respondents listed many more potential challenges than successes. This highlights the need for clear definition of the city's intended uses for a wireless broadband network and points to a need for educating target users.

### **Perceived Challenges**

The most common challenges listed, along with percentage of respondents who mentioned this concern, were:

1. Cost and funding – 33%
2. Security – 21%
3. Consistent, reliable high-speed coverage – 20%
4. Ongoing maintenance and customer support – 13%
5. Government bureaucracy – 11%
6. Competition from for-profit providers – 11%
7. Educating the community – 10%
8. Providing a wide-enough coverage area – 10%
9. Quality of technology selected – 7%
10. Equipment location – 7%

Other challenges included getting computers to citizens who cannot afford them, selecting a quality vendor, providing enough bandwidth to handle potential capacity, weather and physical obstructions, telecommunications regulation, and ease of access.

Comments included:

- “The biggest challenge I see ahead for the city is to provide a reliable, dependable, resilient network that has a throughput:cost ratio that is competitive. I really don't think they can do it. I have no confidence in their technical capabilities, nor do I believe they will be able to price the service at an attractive point without subsidizing it from other funds or raising funds in other ways.”
- “Challenges: 1. Not using the best technology. 2. Getting a vendor to actually follow through to self-fund the project. 3. Relying on biased opinions to make vendor or technology decisions. (Recommendation: get 2-3 outside wireless consultants, not just one.) 4. Realizing that something done in Texas (or other states) may not be feasible in Michigan.”
- “Pricing ... will it be widely available for free or competitive price. How could area hotels or bar/restaurants, for example, let their patrons take advantage of the technology for short term stays, as well as have residents and corporations be able to subscribe at a good rate. There needs to be flexible pricing to those businesses ... so they can offer free to their clientele ... bring more business into the city.”
- “Security would be the biggest challenge followed by speed or amount of guaranteed bandwidth. I can see more individuals purchasing than companies because of these concerns. However with the SOHO this could be a huge win if the price was lower.”
- “Challenges: \* Security issues ... use of firewalls for sensitive info; \* Getting Bluetooth-enabled "computers" (PDA, cell phone, laptop, et al) into the hands of the poor; \* Increasing the speed of WiFi connection; \* When connections fail; backup plans; \* Training individuals and businesses how to use the system. Successes: As stated above, there are so many successes awaiting such a system.”
- “1. Competition from local ISP/s and other vendors who may think this is a non-fair type of competition 2. Price barriers. People may expect this service to be free 3.

Coverage areas - what is the limit to the coverage area and where is the service agreements within those areas.”

- “Challenges: Lawsuits from Internet access providers now having to compete with the government. Governments generally have great difficulty doing anything well and cost-effectively. Success: new channel of revenue for the city --at the expense of private enterprise.”
- “It could be controlled by people that have no financial stake in the success or failure of the network... typical government bureaucracy that tries to act like a business. And "free" typically doesn't last that long. The success would be just having the capabilities that they are looking for at an affordable price. The needs are always going to be there and the demand ongoing.”
- “A municipality stepping into the role of providing a service .99999 dependability requirement.....NO THANKS! Let them figure out water/sewer first, then move on to trash removal.”

### **Perceived Successes**

Only a handful of respondents listed potential successes. These included:

1. Attracting small businesses – 3%
2. Attracting young professionals – 3%
3. Providing an alternative to current broadband services – 3%

Comments included:

- “I believe it is just a step to putting GR on the map with regards to being technically savvy. This could appeal to young people just graduating from college and moving away from West Michigan.”
- “Biggest success would be due to the fact that current city-wide wireless (i.e. Sprint PCS) is only marginally faster than a slow dialup modem, making it more efficient in most cases to find hard-wired solutions to speed up the connection, or accept lost efficiencies by requiring staff to wait until the make it back to the office or to their home where they have their own high-speed internet connection to re-establish connection back to the main network. Our field staff would benefit significantly by city-wide high-speed wireless.”
- “Attract small businesses with offer of cheaper and more flexible assets.”

### **Additional Comments & Suggestions**

*“Please provide any additional comments or suggestions below.”*

Of the 26% of respondents who provided additional comments, 50% of the comments were supportive, and the remainder were neutral or expressed concerns. However, there were few clear recurring themes among these comments, except for concerns over the cost of supporting wireless service.

### **Supportive Comments**

- “I think this is a GREAT idea, and makes living in serviced areas really attractive. People don't like the current telco monopoly on broadband services, and a PTP wireless solution would be huge for the area. With population density the way it is (especially if you include

some suburbs like Kentwood, Grandville, Cascade, Ada, etc.), you can service a broad base of individuals and businesses without difficulty.”

- “If the city invested in this network, as an application developer we would begin to invest in applications and business models that use this network. We already have one underway.”
- “Citywide wireless is the way to go for the future. It enables access to the greatest number of people and businesses without many of the limitations of either phone DSL and cable modem service. Furthermore, it provides the community with more control over that access.”
- “I think this would be a great service for the city. Too bad it’s not for the county!”

### **Cost of Supporting Wireless Access**

One concern included the cost of supporting wireless access and how that money might be better used within the community. Comments supporting this view included the following:

- “As mentioned above, money seems to be tight. I would rather have the fire station open by my home than wireless access.”
- “Citywide wireless is nice for public relations, but I doubt enough revenue can be generated to sustain this venture. The cost for ongoing customer support alone will kill the reputation of this project, if it ever gets off the ground.”
- “Offhand, unless a municipality intends to provide free wireless access to its constituents – which few can afford to do – they should even [sic] be entertaining the notion of entering the Internet access arena. It’s not the purpose of government.”

### **Other Concerns**

Security, current availability of free hotspots, fear of competition with other wireless Internet service providers, and lack of clear regulatory standards were also mentioned. Comments included:

- “I live in Belmont and would be onboard in a second if service could match what I have with Comcast, especially if there was significant cost savings. Outside of personal use, I think the security concern would result in only marginal interest for most small businesses and retail shops.”
- “I would advise holding off making any technology decisions until the WI-MAX standard is worked out and regulatory issues have been solved. WI-MAX is supposed to become the defacto standard so any network put in place now should be upgradeable to it.”
- “I have also heard rumors that the state wants to do this statewide. Why not wait to see what their plan is? I think most technical users know how to find a free hotspot already, so they are not going to pay for wireless service when they can walk a couple blocks or drive a couple miles to a free hotspot.”

## Conclusions

Though most do not anticipate a negative impact on their business, West Michigan technology professionals have many concerns about using citywide wireless broadband. These concerns particularly relate to ongoing costs, funding, security, speed, and reliability.

While a citywide wireless broadband network could bring the city additional revenue, city leaders should weigh each of these concerns and determine whether the cost of commercial implementation is too high.

If the city decides to offer access for business and personal use, city leaders should consider the following steps:

### **Address Concerns**

To gain the full support of local businesses, the city needs to address each of the concerns raised by this survey and ensure that key concerns continue to be satisfied. While many technology professionals support the network in theory, they have many unanswered questions. The city's answers to these questions will impact technology professionals' ultimate support.

### **Educate**

In addition to satisfying key concerns, the city needs to educate technology professionals about the benefits of a citywide network. This can be done in a variety of ways, including through media stories, by providing printed guides for businesses, or by holding information sessions.

There must be a focus on how the network can help businesses improve sales, productivity, and customer service. City leaders might also consider targeting general Internet access for small businesses and mobile access for large businesses and traveling professionals.

### **Create an Affordable Cost Structure**

Not only do local professionals want a wireless service that is as fast and reliable as current wired broadband services, they want something that is also cost-effective. Cost will continue to be a significant factor as the city makes the network available to local businesses and professionals.

## Appendix A – Survey

### West Michigan Wireless Networks: Attitudes and Experience

#### 1. Introduction

The City of Grand Rapids is planning to deploy a wireless broadband solution. This solution will be cost-effective, self-funded (not tax-funded), and serve citizens for an extended period.

This survey is an effort to evaluate business community support, possible business applications, and the potential economic impact of a citywide wireless broadband network. Your input will be utilized as the city seeks funding opportunities, establishes best practices, and determines specifications for the network.

Please help us by answering the following questions based on your professional knowledge and experience. Your answers will be kept confidential.

#### 2. Background

**\* 1. Where do you live?**

- City of Grand Rapids
- Elsewhere in Kent County
- Allegan County
- Barry County
- Ionia County
- Montcalm County
- Muskegon County
- Newaygo County
- Ottawa County
- Kalamazoo County
- Other

**\* 2. Where do you primarily work? (Please select all that apply.)**

- City of Grand Rapids
- Elsewhere in Kent County
- Allegan County
- Barry County
- Ionia County
- Montcalm County
- Muskegon County
- Newaygo County
- Ottawa County
- Kalamazoo County
- Other (please specify)

**\* 3. Do you own a business in any of the following locations? (Please select all that apply.)**

- City of Grand Rapids
- Elsewhere in Kent County
- Ottawa County
- Other county
- No, I don't own a business

**\* 4. Which of the following best describes your employment?**

- Technology professional for a non-tech business
- Technology professional for a technology business
- Non-technology professional for a non-tech business
- Non-technology professional for a technology business
- Other (please specify)

### **3. Wireless Attitudes**

**\* 5. Do you currently subscribe to a wireless service for personal or work use?**

- Yes, for both personal and work use
- Yes, for personal use only
- Yes, for work use only
- No, I do not subscribe to a wireless service
- Not sure

**\* 6. If cost were equal to or less than current broadband service, would you purchase wireless broadband service for business purposes at some point in the future?**

- Yes
- No
- Not sure

**7. Why or why not?**

**\* 8. Do you feel that a citywide wireless network would help your company or employer provide better service to customers?**

- Yes
- No
- Not sure

**9. Why or why not?**

**\* 10. In which of the following ways might your company or employer use a citywide wireless broadband network when it is available? (Please select all that apply.)**

- Meetings outside the office
- E-commerce
- Automatic vehicle locator
- Inside vehicles
- Video surveillance and transfer
- Remote monitoring and control of critical infrastructure systems (such as HVAC)
- Asset management and tracking
- Wireless kiosks
- High-speed data and voice communications
- VPN access to the business network
- Real-time field reporting
- Internet access
- GIS mapping data
- Will not use a wireless broadband network
- Inside the office
- Other (please specify)

**\* 11. Do you feel that a citywide wireless broadband network might negatively affect your company or employer in any way?**

- Yes

- No
- Not sure

**12. Why or why not?**

**13. How much money do you think your company (or employer) could save annually by using a citywide wireless broadband network?**

- \$1-\$10,000
- \$10,001-\$50,000
- \$50,001-\$100,000
- \$100,001-\$500,000
- \$500,001-\$1 million
- More than \$1 million
- Not sure

**14. How much additional revenue do you think your company or employer could generate annually by using a citywide wireless broadband network?**

- \$1-\$10,000
- \$10,001-\$50,000
- \$50,001-\$100,000
- \$100,001-\$500,000
- \$500,001-\$1 million
- More than \$1 million
- Not sure

**15. What do you see as the city's biggest challenges and potential successes in deploying a citywide wireless broadband network?**

**16. Please provide any additional comments or suggestions below.**

**4. Attitudes**

Thanks for your participation. To submit your responses and close this window, please click "Done" below.

## Appendix B – First Invitation Email

Members of the glimaWest mailing list received the following message on March 15, 2005.

**Subject:**

GlimaWest & Grand Rapids seek your opinion on wireless

**Body:**

GlimaWest and the City of Grand Rapids are conducting a survey to assess attitudes toward a citywide wireless broadband network. As a member of the local technology community, we greatly value your opinion.

Please take less than five minutes to share your thoughts by completing the following survey:  
[SurveyLink]

If you have any questions about this survey, please contact glimaWest board advisor Tonya Wilholt at [twilholt@webexperiences.com](mailto:twilholt@webexperiences.com) or (616) 784-2599.

Thank you for your time!

- GlimaWest Board of Directors

You have received this email because you are subscribed to the glimaWest mailing list. If you would like to be removed from all future mailings, please click the link below:  
[RemoveLink]

## Appendix C – Second Invitation Email

Nonresponders (those who did not fill out the survey as a result of the previous email) received the following message on March 21, 2005.

**Subject:**

Last chance to respond to glimaWest & Grand Rapids wireless survey

**Body:**

GlimaWest and the City of Grand Rapids are conducting a survey to assess attitudes toward a citywide wireless broadband network. As a member of the local technology community, we greatly value your opinion.

If you have not yet responded to this survey, please take less than five minutes to share your thoughts. The survey will be closed at 5 p.m. on Friday, March 25. You may access the survey at the following address:

[SurveyLink]

If you have any questions about this survey, please contact glimaWest board advisor Tonya Wilholt at [twilholt@webexperiences.com](mailto:twilholt@webexperiences.com) or (616) 784-2599. Thank you for your time.

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You have received this email because you are subscribed to the glimaWest mailing list. If you would like to be removed from all future mailings, click the link below:

[RemoveLink]