

Madison County Mapping and Survey Results

Funded by the Virginia Department of Housing
and Community Development

Prepared for
Madison County

August, 2009



Disclaimer

The telecommunications business is continually evolving. We have made our best effort to apply our experience and knowledge to the business and technical information contained herein. We believe the data we have presented at this point in time to be accurate and to be representative of the current state of the telecommunications industry. Market changes and new technology breakthroughs may affect our recommendations over time.

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Sections

Mapping

County Overview

Low and Moderate Income

Downtown Government and Businesses

K-12 Schools and Libraries

Fire & Rescue, and Healthcare

Towers and MBC Fiber

Census Tracts and Blocks

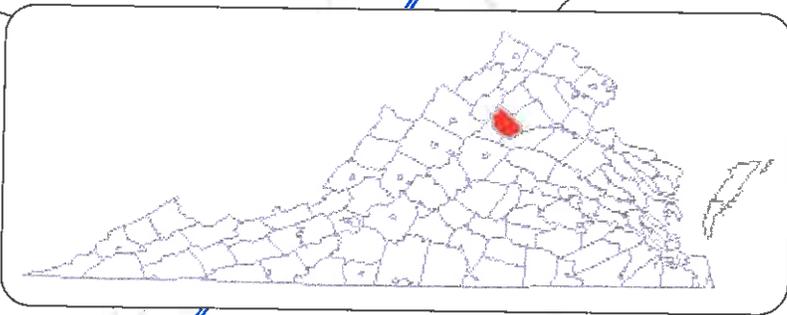
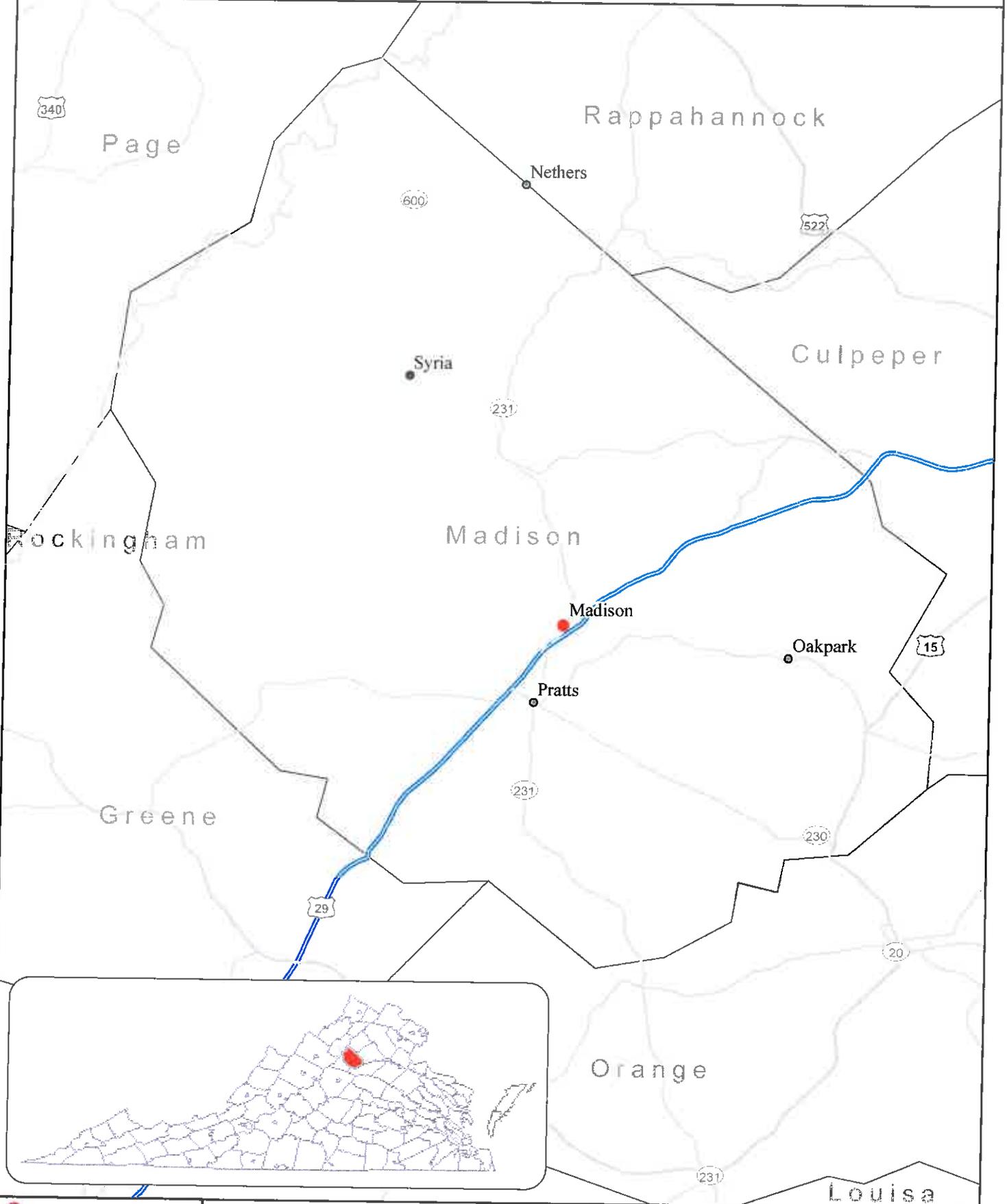
Map of residential survey results

Surveys

Business Telecommunications Survey

Residential Telecommunications Survey

Madison County, VA



Madison - Low Moderate Income

Legend

LMI greater than 51%

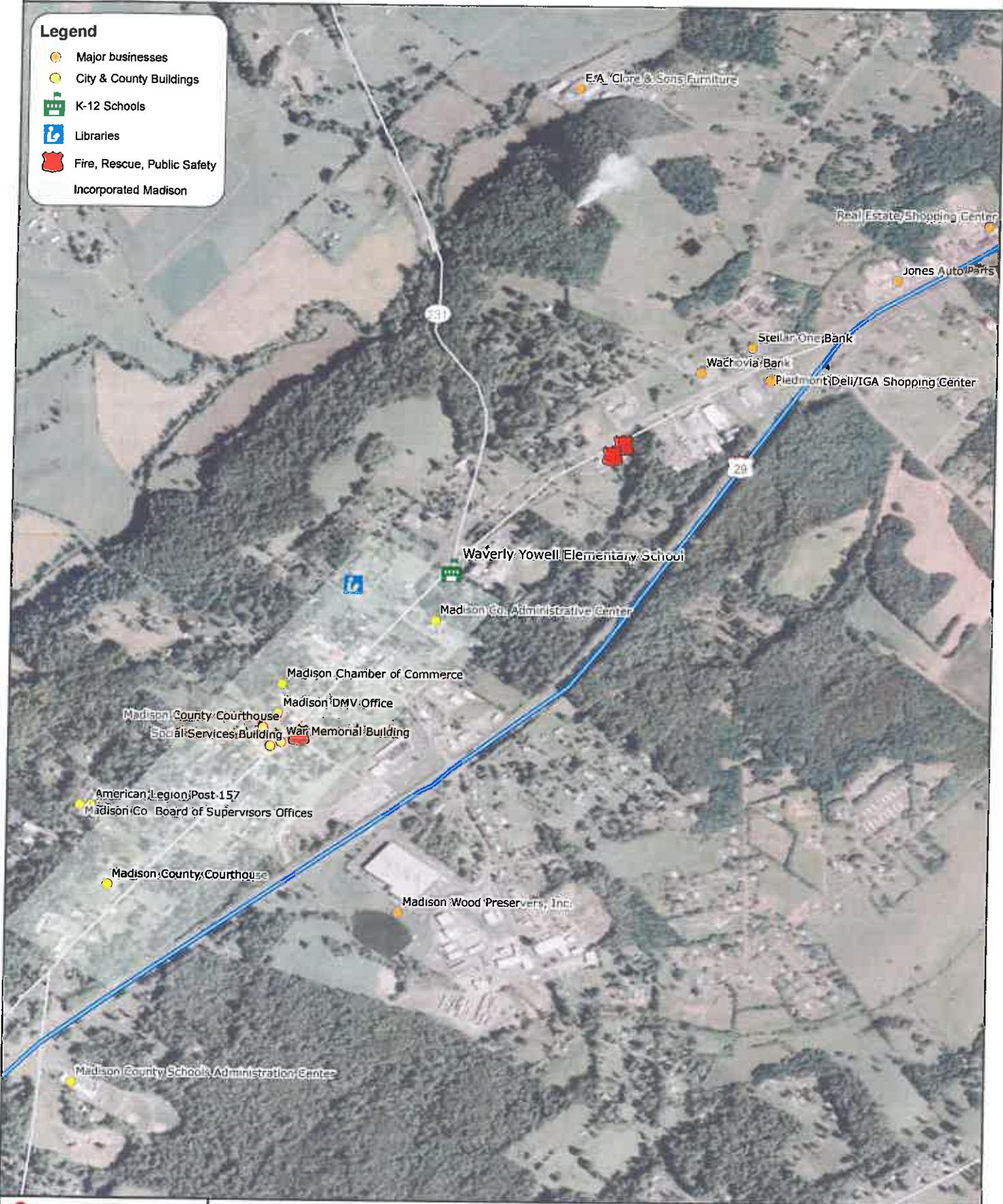
No



Madison - Government and Business

Legend

-  Major businesses
-  City & County Buildings
-  K-12 Schools
-  Libraries
-  Fire, Rescue, Public Safety
-  Incorporated Madison



E.A. Clone & Sons Furniture

Real Estate/Shopping Center

Jones Auto Parts

Stellar One Bank

Wachovia Bank

Piedmont Deli/IGA Shopping Center

Waverly Yowell Elementary School

Madison Co. Administrative Center

Madison Chamber of Commerce

Madison County Courthouse

Madison DMV Office

Social Services Building War Memorial Building

American Legion Post-157

Madison Co. Board of Supervisors Offices

Madison County Courthouse

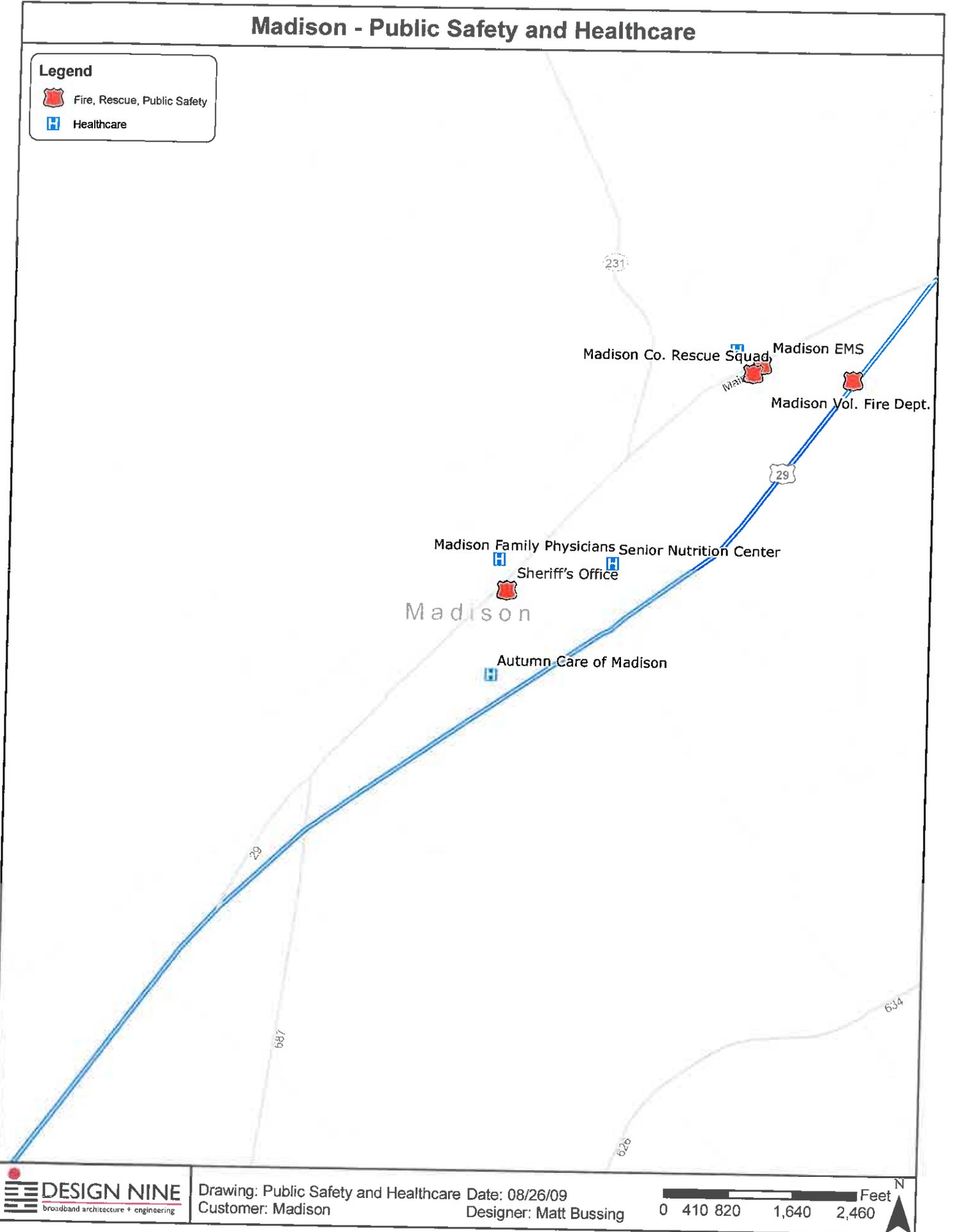
Madison Wood Preservers, Inc.

Madison County Schools Administration Center

Madison - Public Safety and Healthcare

Legend

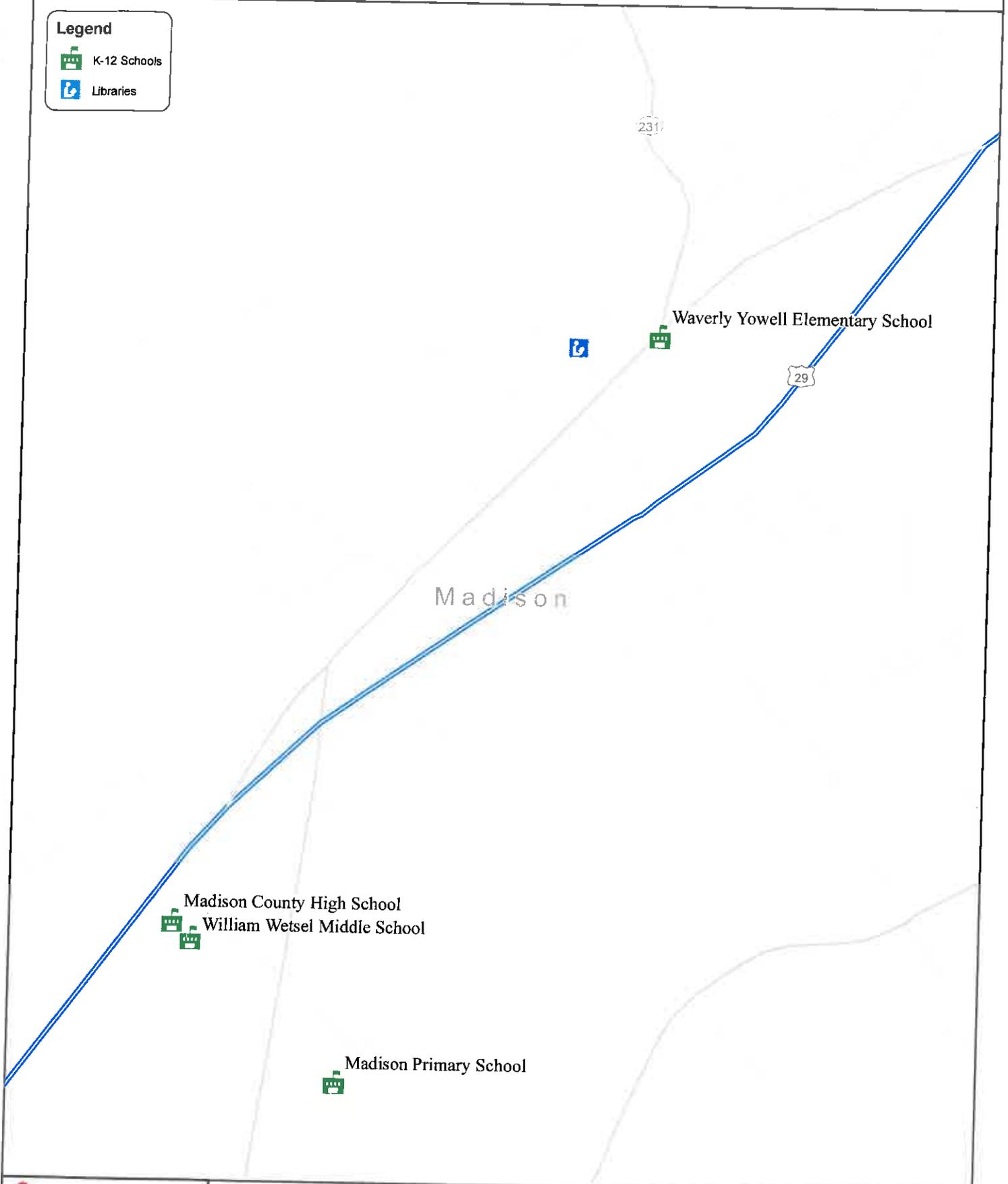
-  Fire, Rescue, Public Safety
-  Healthcare



Madison - Schools and Libraries

Legend

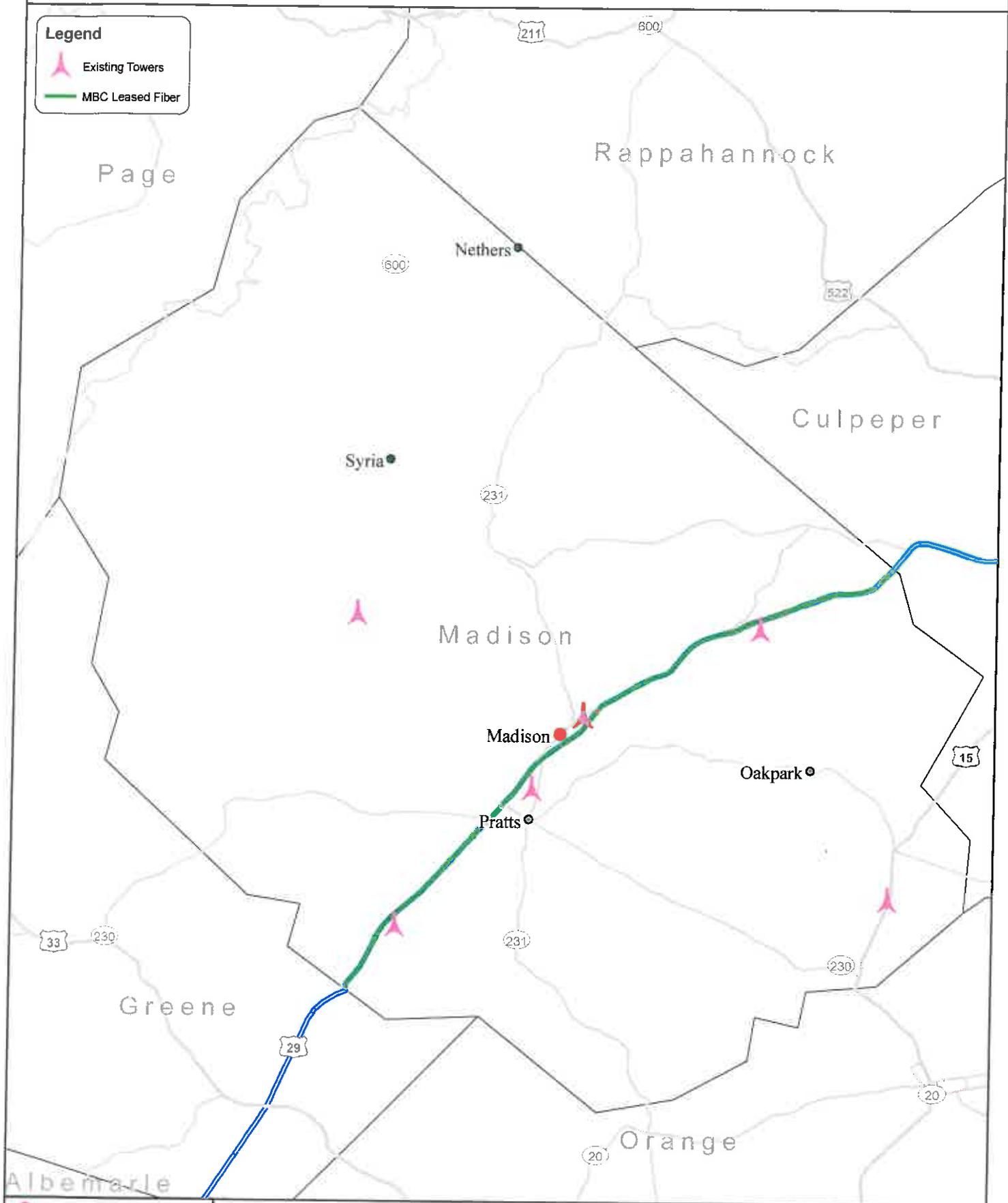
-  K-12 Schools
-  Libraries



Madison - Towers and MBC Leased Fiber

Legend

- Existing Towers
- MBC Leased Fiber



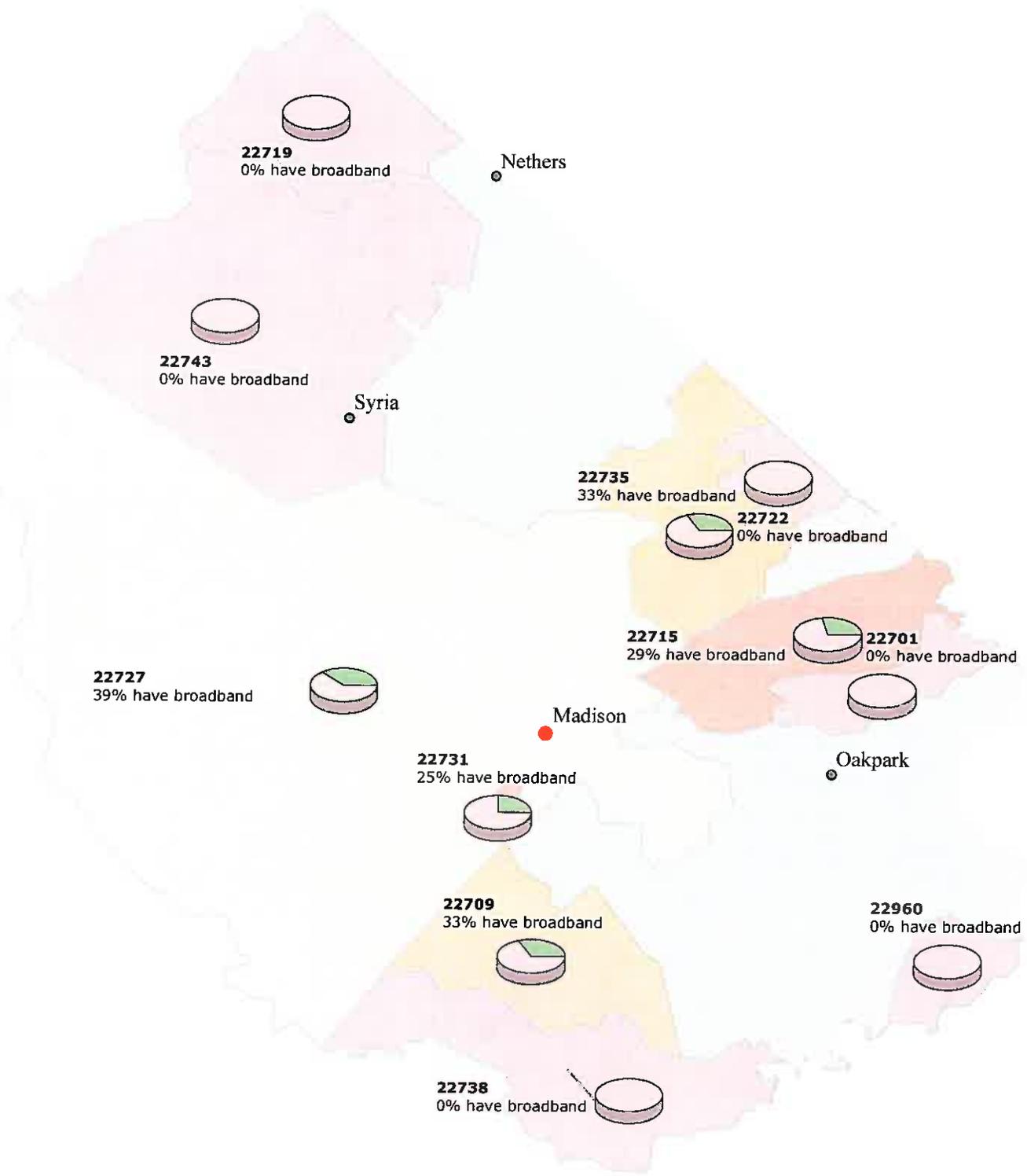
Madison - Census Tracts and Blocks

Legend

- Census Tracts
- Census Blocks



Madison - Residential Survey Results



Some zip codes on this map received no responses.
 Those zip codes are as follows: 22948, 22740,
 22732, 22730, 22725

Madison County Business Telecommunications Survey

A total of 13 valid responses were received as of 8/28/2009. Not all responders answered every question.

Total # of employees

1-4	5-9	10-19	20-49	50-99	100-249	250-499	500-999	1000+
6	3	1	2	0	0	1	0	0

Total # of computer users

1-4	5-9	10-19	20-49	50-99	100-249	250-499	500-999	1000+
9	2	0	0	0	0	0	0	2

Type of organizational activities conducted at this facility

Government	Education (Primary & Secondary)	Business and Economic	Development	Non-profit	Medical (health care)	Higher Education	Internet Access Service Providers	Other
0	2	9	0	1	0	0	1	1

Does your organization have an Internet Connection?

All businesses have an Internet connection, indicating that the Internet is an essential business service in Madison county.

Yes	No
13	0
100%	0%

Does your organization have an Internet connection?



What type of connection does your organization have?

Dial-up	ISDN Line	DSL Line	Cable Modem	Wireless	T1 Line	Satellite	Don't Know	Other (Please Specify)
4	0	3	1	1	0	2	0	2
31%	0%	23%	8%	8%	0%	15%	0%	15%

Internet Access Cost

No Internet	\$10 to \$20	\$21 to \$40	\$41 to \$60	\$61 to \$100	\$101 to \$150	\$151 to \$300	\$301 to \$500	\$501 to \$1000	\$1001 to \$5000	Greater than \$5000
0	2	4	4	1	0	0	0	0	1	1
0%	15%	31%	31%	8%	0%	0%	0%	0%	8%	8%

Internet Access Speed

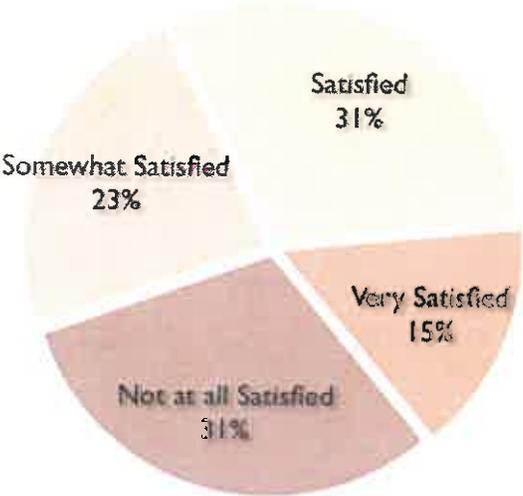
Less than 56K	56K to 256K	256K to 512K	512K to 768K	768K to 1 Mb	1 Mb to 1.5 Mb	1.5 to 3 Mb	3 to 5 Mb	5 to 10 Mb	10 to 50 Mb	50 to 100 Mb	100 to 1000 Mb	GigE and above
3	1	1	1	1	0	1	0	1	0	2	1	0
25%	8%	8%	8%	8%	0%	8%	0%	8%	0%	17%	8%	0%

How satisfied are you with the speed of your current service?

Almost a third of the respondents are “not at all satisfied” with their current service, indicating demand for higher bandwidth services.

Not at all Satisfied	Somewhat Satisfied	Satisfied	Very Satisfied
4	3	4	2
31%	23%	31%	15%

How satisfied are you with the speed of your current service?



Check all applicable uses of the Internet needed for your business now

31% of respondents are already using videoconferencing services, and video streaming services--today. 46% are transferring large files, and 62% are linking more than one location. All these are high bandwidth applications.

Application	Response	Percentage
e-Mail	13	100%
Browsing/research	13	100%
Voice over IP	3	23%
Teleworking at home	6	46%
Banking	7	54%
Web site for marketing/advertising/information	11	85%
Placing orders	11	85%
Making payments	10	77%
Receiving orders/payments	6	46%
Customer/employee services	6	46%
Education/Training	8	62%
Audio streaming/audio on demand	5	38%
Video streaming/video on demand	4	31%
Videoconferencing	4	31%
Transfer large files	6	46%
Network storage/backup	3	23%
Communications between home office site and remote sites	8	62%
Monitor & control for security, alarms, health, processes, etc.	2	15%
Disaster Recovery/Avoidance	2	15%
Other	0	0%

Check all applicable uses of the Internet needed for your business in the future

Videoconference services and video streaming services will see increases based on these responses. Video services require high capacity networks to provide adequate quality of service.

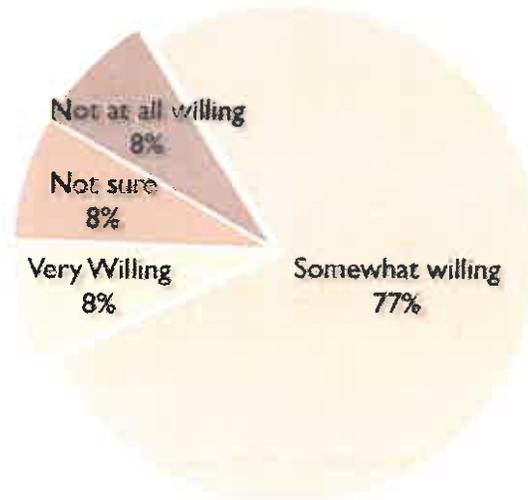
Application	Response	Percentage
e-Mail	12	92%
Browsing/research	12	92%
Voice over IP	8	62%
Teleworking at home	8	62%
Banking	10	77%
Web site for marketing/advertising/information	11	85%
Placing orders	11	85%
Making payments	11	85%
Receiving orders/payments	10	77%
Customer/employee services	10	77%
Education/Training	11	85%
Audio streaming/audio on demand	7	54%
Video streaming/video on demand	8	62%
Videoconferencing	7	54%
Transfer large files	7	54%
Network storage/backup	6	46%
Communications between home office site and remote sites	10	77%
Monitor & control for security, alarms, health, processes, etc.	5	38%
Disaster Recovery/Avoidance	4	31%
Other	0	0%

Would you be willing to pay more for faster, higher quality Internet access?

85% of respondents indicated some willingness to pay more for faster Internet access, indicating that current services are viewed as inadequate (if the services were available, they would already be paying more).

Not at all willing	Somewhat willing	Very willing	Not sure
1	10	1	1
8%	77%	8%	8%

Would you be willing to pay more for faster, higher quality Internet access?

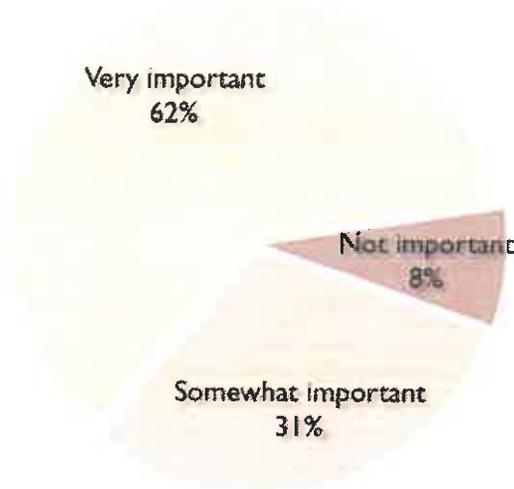


How important do you think Internet technology will be for the the success of your company over the next 5 years?

62% of respondents said that the Internet is “very important” to the success of their business over the next five years.

Not Important	Somewhat Important	Very Important
1	4	8
8%	31%	62%

How important do you think Internet technology will be for the success of your company...



How difficult is it to find personnel with the needed computer, software, and Internet skills from the local area?

53% of respondents indicated having some difficulty finding employees with the right technology skills. This indicates an urgent need for more technology-focused training at both the high school and community college level.

Very Difficult	Somewhat Difficult	Not Difficult
5	2	6
38%	15%	46%

How difficult is it to find and provide the appropriate training for employees in computer, software and Internet applications?

Very Difficult	Somewhat Difficult	Not Difficult
3	4	6
23%	31%	46%

If you need better, more affordable, services at your location, please indicate below

Telephone	Internet/data	TV
7	10	3
54%	77%	23%

Broadband is not a system or a technology, but rather refers to speed and capacity (bandwidth) of a network connection. Broadband in this context refers to high-speed Internet connections that are always connected (no dial-up) to very high-speed networks, enabling super-fast downloads and uploads. Broadband networks have the potential to dramatically change, enhance, and transform the types of applications and services currently available through today's narrowband Internet. A broadband network can provide customers with a choice of service providers and services.

Given the definition above, do you believe your organization would benefit from an affordable broadband Internet connection?

Yes	No
7	10
41%	59%

Broadband: What is affordable and at what speed?

Schools can always benefit from more affordable options.

\$30-\$40 per month. 50MB

\$30-\$40 per month. 50MB

\$100 a month, and speeds faster than 750k

Main issues is bandwidth/speed. At present the available DSL or Satellite are asynchronous and top speed is about 756 down and 1500 up. Really wish we could have fiber optic service. Our needs for data could be satisfied in every respect, we could view video, and stream live audio while doing other work if this were available.

Affordable? Less than Hughes Net and Wild Blue. Speed? I have never had faster than 52k. How can I judge?

My budget is around \$60.00 per month. Due to the economic situation, I am not willing to go higher than that. Would love to find something cheaper if available. We also use the internet to process our company credit card transactions.

Wholesale ISP's in major, competitive markets pay approximately \$30-\$50 per megabit/second when purchased in blocks of 10 megs. Rural ISP's are being squeezed by the incumbent carriers who are constantly raising wholesale prices at one end of the business model and simultaneously lowering retail service prices (DSL) at the other end. The consequence is that the ISP's are squeezed in such a way that capital which could be used for network growth is being used to pay higher operating costs.

Who is your dial-tone provider?

Verizon	VoIP	Other
12	1	0
92%	8%	0%

Who is your long-distance telephone service provider?

Verizon	AT&T	MCI	Sprint	Cellphone Only	VoIP	Other
9	1	0	0	0	1	2
69%	8%	0%	0%	0%	8%	15%

Who is your Internet Service provider?

Verizon	Comcast	Virginia Broadband	Satellite	Other
4	2	0	1	6
31%	15%	0%	8%	46%

Who is your cable/satellite TV provider?

Comcast	Cox	DirecTV	Echostar	Other
4	0	2	0	3
44%	0%	22%	0%	33%

What other telecommunication needs do you have that were not covered in this survey?

None as of today.

the ability to purchase Broadband,Phone and TV packages bundled together.

Just speed. And availability in remote, mountainous locations.

Reliable wholesale bandwidth and the need to establish long term contracts with governments and schools to serve as anchor tenants on the network.

If more affordable broadband allowed your business to add new jobs, will the jobs to be filled require no more than a HS degree and no special skills required for employment? (unless training will be available from the company/business):

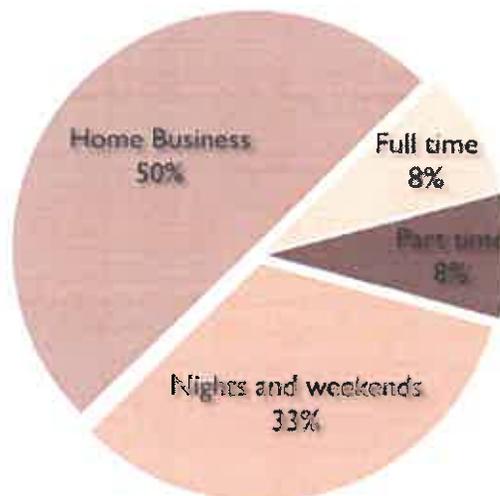
Yes	No
7	5
58%	42%

Do you work from home?

50% of respondents are working full time from home, and all respondents do some work from home, indicating the need for business class services to residences in the area.

I have a full-time home-based business	I work full-time from home for another company	I work only part time from home	I need nights and weekends access to my place of work	I never work from home.
6	1	1	4	0
50%	8%	8%	33%	0%

Do you work from home?



Madison County Residential Telecommunications Survey

A total of 96 responses were received as of 8/28/2009.

Total # of people in the household

1	2	3	4	5	6	7+
7	35	17	32	3	2	0

Total # of computer users

1	2	3	4	5	6	7+
14	43	16	19	2	1	1

Does your home have an Internet Connection?

Yes	No
91	5
95%	5%

Does your home have an Internet connection?



What type of connection does your home have?

52% of respondents are still on dial up, and the rest have some form of “little” broadband service.

Dial-up	DSL Line	Fiber	Cable Modem	Wireless	Satellite	Don't Know	Other
46	10	0	10	7	11	0	4
52%	11%	0%	11%	8%	13%	0%	5%

How much do you pay for Internet access each month?

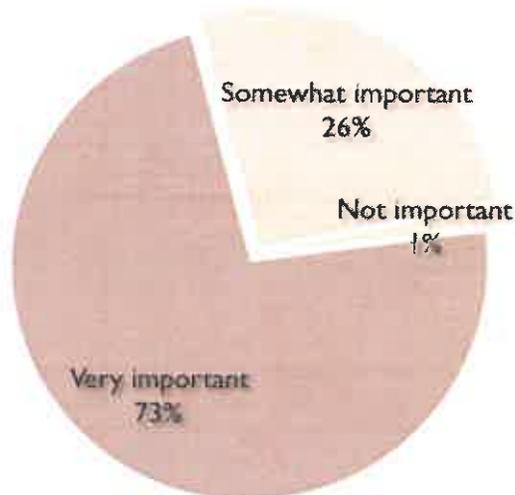
No Internet	\$10 to \$20	\$21 to \$40	\$41 to \$60	\$61 to \$80	More than \$80 per month
4	32	29	13	9	5
4%	35%	32%	14%	10%	5%

How important is Internet access to your or your household?

73% of respondents indicate that the Internet is very important. Only 1 respondent indicated that it is unimportant or have no opinion.

Very Important	Somewhat Important	Not Important	No Opinion
70	25	1	0
73%	26%	1%	0%

How important is Internet access to you or your household?



How satisfied are you with your current landline telephone service?

Not at all Satisfied	Somewhat Satisfied	Satisfied	Very Satisfied
32	29	22	12
34%	31%	23%	13%

How satisfied are you with your TV service (cable or satellite)?

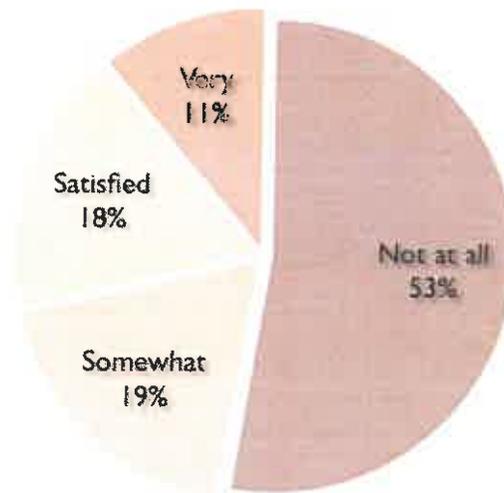
Not at all Satisfied	Somewhat Satisfied	Satisfied	Very Satisfied
8	29	44	13
9%	31%	47%	14%

How satisfied are you with the speed of your Internet service?

72% of respondents are “somewhat” or “not at all” satisfied with their current service, indicating there is a market for alternative service providers.

Not at all Satisfied	Somewhat Satisfied	Satisfied	Very Satisfied
48	17	16	10
53%	19%	18%	11%

How satisfied are you with the speed of your Internet service?

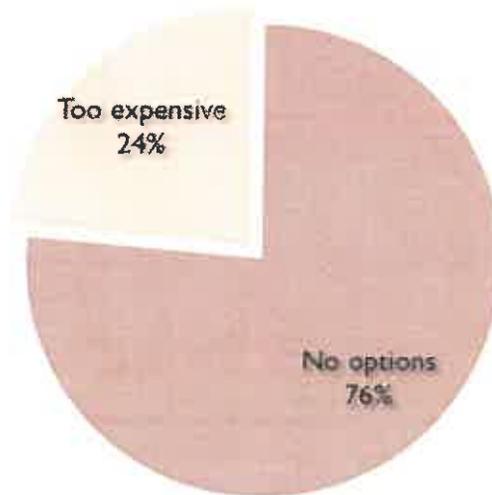


If you are still on dial up, (no broadband connection), why are you?

76% of dial up users are still on dial up, not by their choice, but because they can't get any other service option.

No broadband options in my area	Too expensive	Not interested	Lack of help/support
39	12	0	0
76%	24%	0%	0%

If you are still on dial up, why are you?

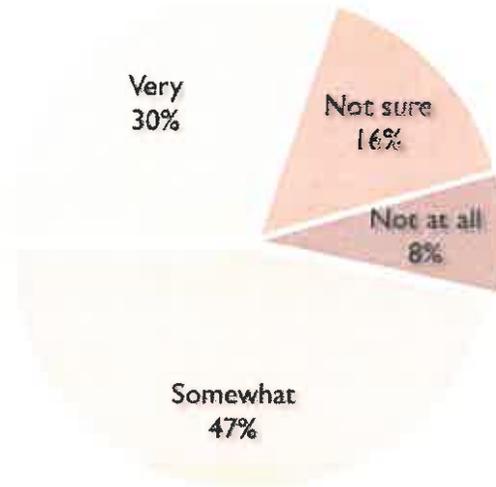


Would you be willing to pay more for faster, higher quality Internet access?

77% of respondents would pay more for better broadband services.

Not at all willing	Somewhat willing	Very willing	Not sure
6	36	23	12
8%	47%	30%	16%

Would you be willing to pay more for faster, higher quality Internet access?



Check all items you use the Internet for now

Note that 31% of respondents are already using the Internet to view video, and 6% are using the Internet for videoconferencing. 94 out of 96 people responded to this question.

Application	Response	Percentage
E-mail	93	99%
Teleworking at home	32	34%
Homework	43	46%
News and current events	74	79%
Video streaming/video on demand	29	31%
Backup files, pictures, music	48	51%
Browsing / Research	87	93%
Banking	61	65%
Downloading music	41	44%
Podcasts	9	10%
Videoconferencing with family, friends in other places	6	6%
Connect to office or business network	39	41%
Voice over IP telephone (VoIP)	1	1%
Watching video (like YouTube)	34	36%
Downloading movies	5	5%
Audio streaming/audio on demand	14	15%
Other	0	0%

Check all items you plan to use in the future

Application	Response	Percentage
E-mail	80	90%
Teleworking at home	40	45%
Homework	37	42%
News and current events	68	76%
Video streaming/video on demand	42	47%
Backup files, pictures, music	63	71%
Browsing / Research	74	83%
Banking	63	71%
Downloading music	55	62%
Podcasts	24	27%
Videoconferencing with family, friends in other places	35	39%
Connect to office or business network	49	55%
Voice over IP telephone (VoIP)	19	21%
Watching video (like YouTube)	49	55%
Downloading movies	39	44%
Audio streaming/audio on demand	28	31%
Other	0	0%

Does anyone in your household use the Internet to complete school assignments or job training course work?

43% of respondents are using the Internet weekly for school or job training, and a total of 63% are using at least once a month--almost two-thirds of all survey respondents. This is a very high percentage, and suggests that broadband access is important to workforce development and training.

Yes, several times a week	Yes, at least once a week	Yes, at least once a month	No
26	15	19	36
27%	16%	20%	38%

How difficult is it to find help and training for things you would like to do on the computer or on the Internet?

Very Difficult	Somewhat Difficult	Not Difficult
7	38	51
7%	40%	53%

If you need better, more affordable, services at your location, please indicate below

More than 88% of respondents want more choice in Internet services.

Telephone	Internet/data	TV
39	70	48
49%	88%	60%

80 people responded to this question.

For your household, how much do you spend each month for local and long distance telephone, TV, and Internet?

72% of respondents are spending more than \$100 per month on telecommunications services (not including cellphone services).

\$50 or less	\$50 to \$75	\$75 to \$100	\$100 to \$150	\$150 to \$200	More than \$200 per month
3	4	19	36	24	9
3%	4%	20%	38%	25%	9%

Who is your Internet Service provider?

Verizon	Comcast	Virginia Broadband	Satellite	Other
15	15	6	10	45
16%	16%	7%	11%	49%

Who is your cable/satellite TV provider?

Comcast	Cox	DirecTV	EchoStar	Other
26	0	32	3	29
29%	0%	36%	3%	32%

Who is your local dial-tone provider?

Verizon	VoIP	Other
89	0	3
97%	0%	3%

Who is your long-distance telephone service provider?

Verizon	AT&T	MCI	Sprint	Cellphone only	VoIP	Other
57	12	1	0	12	0	11
61%	13%	1%	0%	13%	0%	12%

What other telecommunication needs do you have that were not covered in this survey?

My life-style is fairly simple, and I can think of none at this time.

I want a "work at home" job and can't even be considered because we only have dial up. Also our local dish network company is absolutely horrible. We have had them out at least 5 times to correct the installation problems. I am about to be a first time grandma and my son and his wife live in California. I want to see my grand-baby live so please hurry. Their due date is 1-7-09!

TV,broadband and phone under one bill

Main issue is internet connectivity. We are deep in the mountains, so VABB which is a viable alternative, is not possible. We may be a tough case, but if fiber optic were available where ever phone lines are, then all would be well.

Ability to have cell phone coverage at home in Criglersville.....

Dish Network

Virginia broadband has been promising me service for over two years now. They still don't meet the needs of our community. I live less than a half mile from a major road and am not in a valley at all. I hope that the frequencies opened up by digitalizing TV broadcast will mean I'll get service at some point. Hughes net does not meet my requirements as the uploads speed to not work for gaming online. I also fall between the cracks as my cell phone provider does not offer a signal at my house. Hope you all get it right soon. I'm less than five miles from the Town of Orange. Not exactly a rural address.

Cell phone service

There is no cable TV available here..... have an antennae, limited reception. Land line is unreliable..... Earthlink dial up is much too slow.....

Just to clarify - we do not have internet at home, REALLY...I have a Blackberry and I can use it at home for internet if needed. I also have (in summer months, when I'm off work) paid the extra fee to Alltel to use my phone as an uplink to satellite internet. My Alltel bill is \$30 more a month when I enable that feature, so I suppose that means we can get high speed satellite for that much a month.

None I would love for all services (cable, phone, internet to be under one bill.

CELL PHONE

None-We do not have cable or satellite TV because we do not watch or own a TV. We would very much like high speed internet via VABB or cable/DSL.

We need Broadband internet access -- not available here without satellite and it would be separate from our Dish Network Satellite service. We would use TV (local and national) and broadband internet plus local and long distance telephone as well as CapTel and emergency Cell Phone service for two people.

Local Channels provided on DirecTV

BROADBAND, BROADBAND, BROADBAND!!!! Reliable broadband internet connectivity would enable me to work more effectively at home - in particular video and other conferencing (netmeeting) and instant messaging. I would very likely discontinue my land-line phone service in favor of VOIP. I would be able to listen to streaming audio and watch streaming video - such as YouTube. Broadband would be a tremendous boon for research into sites such as WebMD. It would make access to online services from government (i.e. on-line tax preparation) or other sources, such as banks. It is the single most significant improvement in infrastructure that can be made in the county today.

Cell Phone Service. My cell phone gets no bars at my house.

Virginia Broadband has services in my area, my next door neighbor has excellent service, however at our house the connection is not sufficient to support Broadband. My neighbor directly across the street and around the corner from my house has COMCAST, however they will not run the service to my house since I'm at the end of the line on both Beautiful Run Road and Good Hope Church Road. There is no cable commission in Madison County to require cable companies to provide service to all residents. I have spent hours on the phone requesting site surveys, offered to pay for the line to be run to my house with no success. Va Broadband at least truly attempted to provide the service, even though in the end the signal was not strong enough to support the service. I have the opportunity to work at home full time, but due to poor internet service I have to go to my office several times a week. Fortunately my neighbor allows me to use their Va Broadband connection as necessary, but I prefer service at my home. We have direct TV, but their high speed does not work with my VPN connection and will not interface with my network. A recent cell tower has been constructed down the street from on on Beautiful Run Road and I hope that VA Broadband can have service on the tower and hopefully will be able to get VA Broadband service. Thanks for the opportunity to respond. I actually had to wait until I was in my office to respond to this survey, dial up, timed out at home. *(name removed)* I will be happy to do anything I can to support improved services throughout the county.

I have Hughes net and every time the weather is bad is shuts me down. I run several businesses out of my home and I take online courses and this makes it very hard for me. I look forward to seeing what will come to the Aroda/Radiant area SOON!

Does your employer use a VPN (Virtual Private Network) to allow remote access to the corporate network?

29% of respondents already work for companies using VPNs for remote access to company networks. VPN connections typically need higher bandwidth to support access to company data and services. Another way of looking at this figure is that 29% of homes may already need work from home broadband services.

Yes	No	Don't know
27	21	44
29%	23%	48%

Do you work from home?

34% of respondents work from home part time or full time, and 8% of respondents are already working from home full time, indicating the changing nature of neighborhoods and the importance of residential broadband to support businesses and jobs.

I have a full-time home-based business	I work full-time from home for another company	I work only part time from home	I need nights and weekends access to my place of work	I never work from home.
5	3	24	31	29
5%	3%	26%	34%	32%

Do you work from home?

