13-414

EXHIBIT
Binder A

Summit County Shared Broadband Initiative – Final Report

Local Government Innovation Fund grant proposal submitted by the County Of Summit

Summit County and the City of Tallmadge led a feasibility and cost benchmarking study to create a shared broadband infrastructure that will serve public, not-for-profit, and private organizations across Summit County. This shared broadband infrastructure, when implemented, will reduce costs, improve productivity, and most importantly provide the necessary broadband platform enabling collaboration and shared services. Further, the implementation of shared broadband enables previously inaccessible economic development potential with public-private partnerships. Primary drivers for this broadband initiative are achieving cost efficiencies through shared network services and the potential deployment of shared services using a common platform.

County of Summit

In partnership with Akron General Medical Center, Bath Township, Copley Township, City of Fairlawn, City of Hudson, City of Stow, City of Tallmadge, City of Twinsburg, Sourcing Office, Village of Mogadore, the University of Akron, and Tecquita (formerly Hosted Technology Exchange)

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COLLABORATIVE PARTNERS

The following entities participated as collaborative partners with Summit County in this grant application and project:

Bath Township (political subdivision)	**Copley Township** (political subdivision)
City of Fairlawn (political subdivision)	**City of Hudson** (political subdivision)
City of Stow (political subdivision)	**City of Tallmadge** (political subdivision)
City of Twinsburg (political subdivision)	**Akron General** (community hospital)
Village of Mogadore (political subdivision)	**University of Akron** (4-year public university)
Sourcing Office (Ohio-based council of governments and political subdivision serving more than 400 public sector and not-for-profit organizations across Ohio)	**Tecquiti LLC (formerly Hosted Technology Exchange, LLC)** (Ohio-based for profit company and Sourcing Office supplier partner)

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PROJECT INFORMATION

PROJECT NAME

Summit County Shared Broadband Initiative

EXECUTIVE SUMMARY

Broadband technology connections provide organizations the opportunity to share resources, initiate technology enhancements and provide economies of scale. Advanced communications networks are vital to the region's economic growth and job creation.

The following summarizes the broadband feasibility study conducted across Summit County and the eleven participants. This report identifies and evaluates vendors and carriers that currently have fiber/broadband infrastructure within Summit County, and the telecommunication infrastructure as supported by the eleven participants in this study.

Communication networks gain value by having everyone connected; the opportunities of shared services technology initiatives are endless. Per discovery, a managed network is the most viable group solution for the Summit County Broadband participants, because of its flexibility, ease of deployment, and inherent management by the provider.

A critical success factor in finalizing the connection design is the creation of an organizational governing body to engage the decisions and the execution of the service models. A collaborative decision-making process is imperative; several legal and governance options are identified in this report.

The go-forward and next stage recommendations include the following:

- Create the legal and governance structure and sponsoring organization
- Decide to move forward with managed network or fiber option
- Finalize the vendor and contracts under new legal structure
- Finalize the network design with vendor-of-choice
- Expand and roadmap the shared services opportunities
- Create the vetting process for shared service opportunities
- Engage professional services for operational management and implementation
- Evaluate funding opportunities for the next stage
- Investigate other interested Summit County participants

The Tecquiti team would like to take the opportunity to thank all the participants in their dedication and support to this project. We are looking forward to working with the participants throughout the next stages of this project.

GLOSSARY OF KEY TERMS

Broadband: a broad range of technologies, all of which provide high data speed access to the Internet and to similarly connected entities through a continuous connection that does not "hog" phone lines (source: Wikipedia.com).

Communication Systems: a collection of individual communications networks, transmission systems, relay stations, tributary stations, and data terminal equipment (such as computers, servers, and telephones) capable of interconnection and interoperation to form an integrated whole. The components of a communications system serve a common purpose, are technically compatible, use common procedures, respond to controls, and operate in unison (source: Wikipedia.com).

Convergence: describes emerging telecommunications technologies and network architecture used to migrate multiple communications services into a single network. Specifically, convergence involves the coming together of previously distinct media such as telephony and data communications into a single digital bit-stream (source: Wikipedia.com).

Fiber-optic Communications: a method of transmitting information from one place to another by sending pulses of light through an optical fiber. The light forms an electromagnetic carrier wave that is modulated to carry information. First developed in the 1970s, fiber-optic communication systems have revolutionized the telecommunications industry and have played a major role in the advent of the Information Age. Because of its advantages over electrical transmission, optical fibers have largely replaced copper wire communications in core networks in the developed world (source: Wikipedia.com).

Network: a system containing any combination of computers, computer terminals, printers, audio or visual display devices, or telephones interconnected by telecommunication equipment or cables: utilized to transmit or receive data and information (source: Dictionary.com).

Shared Broadband Infrastructure or Network: a broadband network utilized by multiple entities all connected to each other and to the Internet through fiber with high data speed and continuous connectivity (source: Wikipedia.com).

BRIEF PROJECT DESCRIPTION

Summit County and the collaborative partners led a feasibility and cost benchmarking study to create a shared broadband infrastructure that will serve public sector, not-for-profit, and private sector organizations throughout Summit County. This shared broadband infrastructure, when implemented, will reduce costs, improve productivity, and most importantly provide the necessary broadband platform to enable collaboration and shared services at scale. Further, the implementation of shared broadband enables previously inaccessible economic development potential through innovative public-private partnerships.

This project commenced in November 2012 consisting of a nine month project timeline. Bi-weekly project status updates were provided to all participants along with detailed monthly web conference.

This feasibility and cost benchmarking study final report consists of the following components:

Gathered Baseline Information and Verification:

- Baseline information was gathered from each of the participants by location including the total annual telecom/data costs and the external Wide Area Network (WAN) infrastructure by site, and any in-place fiber/broadband assets.

Conducted Contract Review and Opportunity Analysis

- Available inventory and in-place telecom/IT-related contracts information was gathered.

Researched Fiber Assets:

- Existing fiber or broadband assets ***within*** the geographical footprint of the participants were obtained.
- Additional fiber or broadband assets, such as those operated by Information Technology Centers, and local carriers was researched.

Solution Design:

- Solution design entailed dark fiber and managed services.
- Providers were asked to participate based on the fiber asset research.
- RFP released and evaluated.

Legal & Governance:

- Evaluation of several potential structures for the operating and governing the network.

PROJECT TIMELINES AND UPDATE

Project Timelines as scheduled have been completed for submission of the final report.

Description of Action Steps	Steps #	Duration Week(s)	Responsible Party	Start Date	Completion Date	Notes	% Complete
Kick Off Meeting		1		11/16/2012	11/19/2012		
Initial Research							
Gather Baseline Information (Verification)	1	8	Participants Tecquiti	11/26/2012	2/1/2013	Completed	100%
Baseline Data Due from Participants	3	6	Participants	11/26/2012	1/18/2013	Completed	100%
Update Meeting			Participants Tecquiti Sourcing Office	1/25/2013	1/25/2013	Completed	100%
Research Fiber Assets	2,3	10	Tecquiti	12/3/2012	2/22/2013	Completed	100%
Update Meeting			Participants Tecquiti Sourcing Office	2/22/2013	2/22/2013	Completed	100%
Conduct Contract Review and Opportunity Analysis	4	4	Tecquiti	1/28/2013	3/1/2013	Completed	100%
Initial Research Report		3	Tecquiti	3/4/2013	3/22/2012	Completed	100%
Update Meeting			Participants Tecquiti Sourcing Office	3/22/2013	3/22/2013	Completed	100%
Initial Research Report Review		1	Participants	3/24/2013	3/29/2012	Completed	100%
Initial Report Finalized & Submission		1	Tecquiti	4/1/2013	4/5/2013	Completed	100%
Solution Design							
Research Vendors	6	4	Tecquiti	1/14/2013	2/15/2013	Completed	100%
Project Cost Savings	5,9	2	Tecquiti	2/18/2013	5/17/2013	Completed	100%
Design Network	8	6	Tecquiti	4/8/2013	5/17/2013	Completed	100%
Update Meeting			Participants Tecquiti Sourcing Office	4/26/2013	4/26/2013	Completed	100%
Network Design		2	Tecquiti	5/20/2013	6/7/2013	Completed	100%

Description of Action Steps	Steps #	Duration Week(s)	Responsible Party	Start Date	Completion Date	Notes	% Complete
Update Meeting			Participants Tecquiti Sourcing Office	5/24/2013	5/24/2013	Completed	100%
Contracts Review	7	6	Tecquiti	6/10/2013	6/26/2013	Completed	100%
Develop LAN and Network Recommendations	10	6	Tecquiti	4/15/2013	5/17/2013	Completed	100%
Legal & Governance Issues							
Review Legal and Governance Issues	11	4	Sourcing Office	4/15/2013	5/17/2013	Completed	100%
Final Report							
Final Research Report		3	Tecquiti Sourcing Office	5/20/2013	6/7/2013	Completed	100%
Final Research Report Review		1	Participants	6/10/2013	6/14/2013		
Final Research Report Finalized		2	Tecquiti Sourcing Office	6/17/2013	7/31/2013	Completed	100%
Entity Resolution of Final Report		4	Participants	7/28/2013	8/30/2013		
Final Report Submission		1	Tecquiti Sourcing Office	9/2/2013	9/13/2013	In process	90%
Other							
Connectivity Potential Shared Applications Meeting			Tecquiti Sourcing Office Participants	Date June 19, 20,26 or 27 - TBD	6/26/2013	Completed	100%

COLLABORATIVE PARTNERS INFORMATION

INFORMATION REQUESTED

At the start of the project, Tecquiti requested that all participants complete an Excel workbook, which was made-up of the following three worksheets:

- Telecom Spend – The estimated annual cost for services such as local phone lines, long distance, WAN circuits, cellular service, pager service, Internet access, teleconferencing, telephone equipment maintenance, and teleworker expenses.

- Locations – A list of all current and future locations that are part of the participant's business footprint.
- WAN – A listing of all current locations which are interconnected via private, public, or subscriber based links. Information regarding contract agreements and their terms was also requested on this form.

The participants were allotted eight weeks to provide the requested information, with the projected completion date of February 1, 2013. Review of the submitted data revealed missing items, such as costs, connections, in-place contracts, and terms. Tecquiti worked with the various participant Project Managers to verify the entirety of the information. The following documented information is considered to be as complete as possible.

INFORMATION RECEIVED

Telecommunications Costs

The following table provides a summary of the participants estimated expenses. The highlighted areas identify estimated costs that were not provided (N/P), and costs that are knowingly not applicable (N/A).

Telecommunications Estimated Annual Costs

Participant	Local Exchange	Long Distance	Wide Area Network (WAN)	Cellular Service	Pager Service	Internet & Email Services	Conferencing Services	Telephone Equipment Maintenance	Telecom Expense from Home	Total Cost
Akron General	$ 725,806	$ 50,000	$ 369,479	$ 203,502	$ 15,000	$ 52,624	$ 60,000	$ 45,000	N/P	$ 1,521,411
Bath Township	$ 17,840	N/P	$ 5,850	$ 11,633	$ 2,771	$ 2,528	N/P	$ 2,000	N/P	$ 42,622
City of Fairlawn	$ 34,579	$ 1,877	N/A	$ 20,548	$ 6,776	$ 10,326	N/A	$ 24,627	N/A	$ 98,733
City of Hudson	$ 43,896	$ 3,084	N/A	$ 70,332	$ 8,592	$ 3,720	N/P	$ 5,652	N/P	$ 135,276
City of Stow	$ 91,269	$ 1,959	$ 21,651	$ 39,000	$ 7,300	$ 19,802	N/P	$ 29,732	N/P	$ 210,713
City of Tallmadge	$ 75,139	$ 52	$ 2,156	$ 39,652	$ 4,407	$ 17,578	N/P	$ 33,911	N/P	$ 172,894
City of Twinsburg	N/P	N/P	N/P	$ 40,000	N/P	N/P	N/P	N/P	N/P	$ 40,000
Copley Township	$ 16,793	$ 875	$ 16,747	$ 25,589	$ 4,737	$ 2,720	N/P	$ 1,950	N/P	$ 69,411
Summit County	$ 500,000	$ 22,000	N/P	$ 250,000	$ 10,000	$ 50,000	N/P	N/P	N/P	$ 832,000
The University of Akron	$ 214,446	$ 137,975	$ 130,320	N/P	N/P	$ 55,206	N/P	N/P	N/P	$ 537,948
Village of Peninsula	$ 12,300	N/P	N/A	$ 3,100	$ 1,450	$ 1,700	N/P	N/P	N/P	$ 18,550

Wide Area Network (WAN)

The following table provides a detailed description of each participant's WAN connectivity by circuit type and provider. The chart reveals the extent of both participant-owned it has no WAN connectivity (Internet only, no VPN).

WIDE AREA INFRASTRUCTURE

WIDE AREA INFRASTRUCTURE	Akron General	Bath Township	City of Fairlawn	City of Hudson	City of Stow	City of Tallmadge	City of Twinsburg	Copley Township	Summit County	The University of Akron
Total Locations	49	2	6	15	8	9	11	5	40	79
WAN Links	**33**	**1**	**6**	**10**	**9**	**9**	**10**	**3**	**12**	**72**
Private Fiber			4	8	2	8	6	1	1	63
Private Dedicated WI-FI P2P				2	2					
Private Dedicated Microwave Link			1							
Fiber Opt-E-MAN	12 AT&T								7 AT&T	
Fiber Dark										1 - AT&T 6 - TW 1 - Armstrong
Fiber										1 OARnet/ CenturyLink
Fiber I-Net		1 TW						2 TW		
Fiber 50 Mb	7 TW									
Fiber 10 Mb	1 TW									
Dedicated Line G.HSDSL P2P (dry copper loops)									4 AT&T	
Dedicated Line P2P T3	2 AT&T									
Dedicated Line P2P T1	7 AT&T				4 AT&T	1 AT&T				
Dedicated Line 6 Mb Bonded P2P					1 AT&T					
Dedicated Line MPLS 1.5 Mb	3 Windstream									
Dedicated Line MPLS 3 Mb	1 Windstream									
Internet VPN			1 Frontier				4 Windsteam			
Internet DIA			1 Frontier	1 NEOnet	1 AT&T	1 Windstream	2 Windstream			1 OARnet
Internet-Coax/DSL		1 TW			1 TW			1 TW		

CONTRACT REVIEW

This review is based on the information provided by the participants, in conjunction with Tecquiti's industry knowledge of standard pricing levels. The Contract Review matrix provides a summary of the contracts, followed by individual details.

CONTRACT REVIEW							
PARTICIPANT	VENDOR	CONNECTION TYPE	QTY	TERM (Mth)	TIME LEFT (Mth)	EXPIRES	ESTIMATED TERM LIABILITY
Akron General Health System	AT&T	Point-to-Point DS-3	2	60	29	12/01/15	$ 25,000
	AT&T	Point-to-Point DS-1	8	60	29	12/01/15	$ 75,000
	AT&T	MPLS (Opt-E-MAN)	12	60	29	12/01/15	$ 140,000
	TimeWarner	Metro Ethernet Fiber	8	60	54	01/01/17	*unknown*
Bath Township	TimeWarner	Broadband Internet	1	36	17	08/03/14	*unknown*
	TimeWarner	I-NET Fiber	1	36	17	08/03/14	$ 16,575
City of Fairlawn	Frontier	Broadband Internet	1	36	32	11/01/15	$ 150
	Frontier	Dedicated Internet Access	1	36	17	11/01/15	$ 12,291
City of Stow	AT&T	P2P DS-1 SOMACS	4	n/a	n/a	n/a	$ -
	AT&T	Point-to-Point DS-1	5	n/a	n/a	n/a	$ -
	AT&T	Dedicated Internet access	1	60	52	07/01/17	*unknown*
City of Tallmadge	AT&T	Point-to-Point DS-1	1	60	15	06/01/14	$ 2,700
City of Twinsburg	Windstream	Ethernet Internet access	2	?	?	?	*unknown*
Copley Township	TimeWarner	I-NET Fiber	2	36	17	08/03/14	$ 23,732
Summit County	AT&T	MPLS (Opt-E-MAN)	7	?	?	?	*unknown*
University of Akron	AT&T	Point-to-Point Fiber	1	12	?	?	*unknown*
	OARNet	Point-to-Point Fiber	1	12	?	?	*unknown*
	TimeWarner	Dark Fiber, lit by U of A	6	12	?	?	*unknown*
Village of Mogadore	TimeWarner	Broadband Internet	1	?	?	?	*unknown*

Akron General Health System

- AT&T: point-to-point DS-3 (Qty. 2) and DS-1 (Qty. 8) circuits are under contract until 12-01-15 as part of a master agreement. With 29 months left on contract, termination liability of 50% of the balance due would apply and is estimated to be at least $100,000.
- AT&T: 12 MPLS (OPT-E-MAN) circuits are under contract until 12-01-15 as part of the master agreement. With 29 months left on the contract, termination liability of 50% of the balance due would apply and is estimated to be at least $140,000.
- Time Warner: 8 Metro Ethernet fiber circuits are under contract until 01-01-17. Termination liability unknown.

Bath Township

- Time Warner: 1 broadband Internet connection under contract until 08-03-14. Contract can be terminated with 90-day advance notice with a one-time early termination fee (unknown).

- Time Warner: 1 I-Net fiber connection to Copley under contract until 08-03-14. Contract can be terminated with 90-day advance notice with early termination fees. With 17 months left on contract, termination liability of the remaining term would apply, and is estimated to be approximately $16,575.

City of Fairlawn

- Frontier: 1 broadband Internet connection under contract until November 2015, with a termination liability of $150.
- Frontier: 1 DIA under contract until November 2015, with a termination liability of the remaining term. With 17 months remaining, termination liability is estimated to be $12,291.

City of Stow

- AT&T: 4 point-to-point SOMACS DS-1 (State contract), and 5 point-to-point DS-1 circuits are installed but are not under any contractual agreement and can be disconnected without penalty at any time.
- AT&T: 1 dedicated Internet access connection is under contract until 07-01-17. With 52 months left on contract, termination liability of 50% of the balance due would apply.

City of Tallmadge

- AT&T: 1 Point-to-Point circuit under contract until June 2014. With 15 months remaining, and a 50% termination liability, the estimated termination cost would be $2,700.

City of Twinsburg

- Windstream: 2 Ethernet Internet access circuits are under contract, but end date is unknown. Early termination would result in a liability of 50% of the balance due but amount is unknown.

Copley Township

- Time Warner: 2 I-NET fiber connections (one shared with Bath) under contract until 08-03-14. Contract can be terminated with 90-day advance notice with early termination fees of the remaining term. With 17 months left on contract, termination liability is estimated to be $23,732.

Summit County

- AT&T: 7 MPLS (OPT-E-MAN) circuits are under contract but end date is unknown. Early termination would result in a liability of 50% of the balance due but amount is unknown.

University of Akron

- AT&T: 1 fiber connection is under agreement, renewable on a 1-year basis. Termination liability is unknown.
- OARnet/CenturyLink: 1 fiber connection is under agreement, renewable on a 1-year basis. Termination liability is unknown.
- Time Warner: 6 fiber connections (lit by U of A) are under agreement, renewable on a 1-year basis. Termination liability is unknown.

Village of Mogadore

- Time Warner: 1 broadband Internet connection under contract, but end date is unknown. Contract can be terminated with 90-day advance notice with a one-time early termination fee (unknown).

OPPORTUNITY OF NEW CONTRACT/SERVICES

Based on the information provided by the participants, it was difficult to provide an accurate projection of the new broadband services opportunities that could present themselves. Moreover, Akron General Health System alone would face over $200,000 in early termination liabilities, unless its WAN vendors could provide some sort of penalty relief. While a county-wide initiative of the scale of LGIF would greatly facilitate a greater degree of collaboration and enhance shared services among the participants, the switching costs to do so for some of them appear to be somewhat daunting.

FIBER ASSET RESEARCH

Tecquiti engaged the services of the Kent State University Entrepreneurship Program to research vendors and carriers that currently have fiber/broadband infrastructure within Summit County. The following organizations were uncovered and requested to provide network routing details within the County. Those vendors that are highlighted in green were able to provide detailed route maps, and the remainder considered the mapping information to be proprietary.

AireSpring	Involta	One Community
AT&T	Level 3 Communications	PowerNet Global
CenturyLink/Qwest	MegaPath	Time Warner
EarthLink	NCC East	Windstream Communications
Frontier Communications	NEOnet	Zayo Group

SOLUTION REQUESTED

Tecquiti developed a Request for Proposal (RFP), which defined two possible solutions for a countywide Wide Area Network providing connectivity to all participants:

- Dark fiber to all locations, with the head end at the Summit County Main Offices at 175 South Main Street (Ohio Building). An alternate location could be proposed if necessary.
- A managed network solution between all locations, with an initial 1 GB of bandwidth available to all locations, and support for 10 GB in the future. Availability of options for managed services such as email, virtual servers, remote backup, and disaster recovery should be provided.

The RFP was distributed to the fifteen carriers and service providers uncovered in the initial

research, requesting budgetary pricing for solution connectivity to the following head end locations provided by each participant:

Client	Location	Address	City	Zip	NPX-NXX
Akron General	AGMC Information Systems	180 W. Cedar	Akron	44307	330-253
Bath Township	Township Hall	3864 W. Bath Rd.	Fairlawn	44333	330-666
City of Fairlawn	City Hall/Police Dept.	3487 South Smith Rd.	Fairlawn	44333	330-668
City of Hudson	Police Department	36 South Oviatt St.	Hudson	44236	330-342
City of Stow	City Hall	3760 Darrow Rd.	Stow	44224	330-689
City of Tallmadge	Police Department	53 Northeast Ave.	Tallmadge	44278	330-633
City of Twinsburg	Twinsburg Government Center	10075 Ravenna Rd.	Twinsburg	44087	330-425
Copley Township	Police Department	1280 Sunset Dr.	Akron	44321	330-666
Summit County	Ohio Building	175 South Main St.	Akron	44308	330-643
University of Akron		1 Cascade Plaza	Akron	44224	330-376
Village of Mogadore	Village Hall/Fire Department	135 S. Cleveland Ave.	Mogadore	44260	330-628

VENDOR PARTICIPATION

The RFP was distributed on Wednesday, February 20, 2013, with a response due date of noon on Thursday, February 28, 2013. Several providers requested additional time, and as a result, Tecquiti distributed an amended RFP on Friday, February 22, 2013, with an extension to noon on Thursday, March 7, 2013.

RFP Responses

The following nine service providers did not provide solutions for the reasons indicated:

- **AireSpring** – Only able to provide connectivity to five locations. The remaining six locations would require other carrier meet-points and more time to price.
- **EarthLink** – Not able to provide a competitive solution. Chose not to respond.
- **Frontier** – Not able to provide a solution with connectivity outside of their footprint.
- **Involta** – Indicated they would only be able to provide a managed solution involving multiple carriers, but chose not to respond.
- **Level 3** – Requested additional information and indicated they could only provide a managed solution, but they would need additional time for Engineering site visits and further discussion. Tecquiti reached out for further discussion with no response.
- **MegaPath** – No response.
- **NCC East** – No response.
- **NEOnet** – No Response.
- **PowerNet Global** – No response.

On March 8, 2013, Tecquiti sent an email to each of the providers requesting confirmation that RFP responses were not submitted. AireSpring, EarthLink, Frontier, Involta, and Level3 confirmed, and there was no response from MegaPath, NCC East, NEOnet, and PowerNet Global.

The table below is a summary of the services and associated budgetary pricing provided by the six responding providers. Following the table is a more detailed explanation of their responses.

Provider	Managed Service Estimated MRC (5-year)					Dark Fiber Est. MRC		
	1 Gb	10 Gb	Carrier Meet	Router	Install	10 Year	20 Year	Install
AT&T	$16K to $20K	$ 70K to $74K	?	No	?	NA	NA	NA
CenturyLink	$ 102,000	Yes	Included	No	Included	NA	NA	NA
One Community	$ 27,000	$ 61,000	NA	Yes	Included	Engineering Study Required		Included
Time Warner	$ 13,200	Yes	NA	No	$ 5,500	NA	NA	NA
Windstream	$ 55,000	$ 121,000	NA	No	Included	NA	NA	NA
Zayo Group	$ 30,000	Yes	NA	No	$ 11,000	$ 21,000	$ 19,000	$ 20,000

AT&T

- Not able to provide a dark fiber solution.
- AT&T Switched Metro Ethernet Solution, 5-year term. Router not included.
  - Secondary carriers will be required to complete connectivity.
  - There are six locations in AT&T territory that would have a monthly recurring charge or MRC of $1,300 for 1 GB and $6,100 for 10 GB, plus installation charges.
  - The MRC for the five locations outside of AT&T territory would include an additional local carrier meet-point/loop cost. This cost was not provided, but was estimated by Tecquiti to be approximately $300 per location.
  - Additional Managed and Cloud solutions, such as data center co-location, virtual servers, data storage, archiving and disaster recovery are available to compliment a shared services environment.
- Estimated annual cost: 1 GB = $192K to $240K, 10 GB = $840K to $888K.

CenturyLink

- Not able to provide a dark fiber solution.
- Metro Ethernet Solution, 5-year term. Router not included.
- Secondary carriers will be required to complete connectivity.
- MRC is approximately $9,300 per location for 1 GB, installation included.
- Bandwidth can be increase to 10 GB, but no pricing provided.
- Additional Managed and Cloud solutions, such as data center co-location, virtual servers, data storage, archiving and disaster recovery are available to compliment a shared services environment.
- Estimated annual cost: 1 GB = $1.2M.

One Community

- Dark fiber solution can be provided, but would require addition time for engineering studies.
- Managed Ethernet Solution, 5-year term. Managed router provided.
- Secondary carriers will be required to complete connectivity.
- Combined MRC for all locations with 1 GB is $27,000, and 10 GB is $61,000, installation included.
- Additional Managed and Cloud solutions, such as data center co-location, virtual servers, data storage, archiving and disaster recovery are available to compliment a shared services environment.
- Estimated annual cost: 1 GB = $324K, 10 GB = $732K.

Time Warner

- Not able to provide a dark fiber solution.
- Time Warner ELAN Solution, 5-year term. No router provided.
- Time Warner network; no secondary carriers required.
- MRC per location for 1 GB is $1,200, plus a one-time installation charge of $500.
- Solution can be increased to 10 GB, but additional survey time required for pricing.
- Additional Managed and Cloud solutions, such as data center co-location, virtual servers, data storage, archiving and disaster recovery are available to compliment a shared services environment.
- Estimated annual cost: 1 GB = $172K.

Windstream Communications

- No dark fiber solution provided.
- MPLS Solution, 5-year term. No router provided.
- Windstream network; no secondary carriers required.
- MRC for all locations with 1 GB is $55,000, and $121,000 for 10 GB, installation included.
- Additional Managed and Cloud solutions, such as data center co-location, virtual servers, data storage, archiving and disaster recovery are available to compliment a shared services environment.
- Estimated annual cost: 1 GB = $660K, 10 GB = $1.4M.

Zayo Group

- Dark fiber solution is a 2-strand ring architecture to all locations, which can easily accommodate additional sites. The 10-year lease, including maintenance, is $21,000 per month, and the 20-year lease is $19,000 per month. There is a one-time installation charge of $20,000 for both.
- Metro Ethernet Solution, 5-year and 7-year terms. No router provided.
- Zayo network; no secondary carriers required.
- The 5-year MRC for 1 GB at all locations is $30,000, and the 7-year MRC is $27,000, plus a one-time installation charge of $11,000 for both.

- Because of their high build-out cost to the Twinsburg location, Zayo also provided 1 GB pricing excluding Twinsburg, for comparison. The 5-year MRC for all locations is $15,000, and the 7-year MRC is $13,000, plus the one-time installation charge of $11,000 for both.
- No addition Managed or Cloud solutions were made available.
- Dark fiber estimated annual cost: 10-year = $252K ($2.52M total), 20-year = $228K ($4.56M total).
- Metro Ethernet estimated annual cost: All locations – 5-year = $360K, 7-year = $324K. All locations without Twinsburg – 5-year = $180K, 7-year = $156K.

SHARED SERVICES OPPORTUNITIES

Tecquiti is very optimistic that a robust connectivity can be established between the eleven participants for the capability of shared services. Once the network is established, technology applications can be shared including financial, human resources, payroll, accounting, and asset inventory. Additional services can be incorporated including managed and cloud solutions, such as data center co-location, virtual servers, data storage, archiving and disaster recovery etc.

Economies of scale savings from pricing through provider contract negotiation will help fund these technology opportunities.

On June 16, 2013 the following participants met to discuss shared services opportunities: City of Stow, City of Hudson, City of Fairlawn, Bath Township, Summit County, and City of Tallmadge. The broadband connectivity among the participants may provide the following opportunities:

Consolidated Dispatch: Both full consolidation and co-located consolidation are considerations. A consolidated center offer many advantages including cost savings in building, staffing, utilities, equipment; cross trained employees; operational efficiencies, opportunities to pool financial resources to fund system upgrades, increased communication abilities between agencies, efficient dispatch collaboration for police, fire and EMS, and a cost effective overall solution. In the anticipation of Next Generation, a financial consideration may move more discussions into consolidating dispatch centers as communities struggle with having to do more with less funding.

Business Functionalities: Back-End Office Shared services are enablers for enterprise transformation that provide numerous business benefits achievable by the participants, including cost reductions that can range from 15-25% due to process improvements, economies of scale, improved controls and standardization, working capital and wages. Back-end office functions can include purchasing, procurement, IT services, financial and business systems.

Financial Systems: Financial Systems are probably the most common platform to be integrated into a shared services model. In review of financial systems across the participants, there may be opportunities to integrate and share licenses and optimize workflow.

The following financial systems can be evaluated for a potential shared service model:

SSI – used by City of Stow, City of Hudson, and City of Fairlawn
Banner – used by Summit County
CMI – used by City of Tallmadge

Geographic Information Systems (GIS): A centralized data repository to display, analyze, store, retrieve, and manage spatial data is another area for shared service. Three primary objectives for considering GIS cloud services include cost efficiencies, flexibility and scalability, and reduction in staff support time.

Hosted Services: The biggest advantage of using hosted services is the cost avoidance for an initial capital investment in equipment or a staff to maintain and troubleshoot it. This is also a scalable solution based on the number of participants. Other savings potential with the hosted service include in areas of electrical power, backup, redundancy, expensive equipment or software updates. Hosted services opportunities include telecommunications, disaster recovery, e-mail, applications, back-up, and any other server-based solutions.

Staffing Services: Looking for opportunities like retirement or replacement of staff may provide for staffing shared services. Sharing resources in administrative, maintenance and back-end office areas may include co-locating administrative functions to a centralized facility which could address space problems and increase operational efficiency.

Equipment: Sharing equipment can be another area of consideration. A master scheduling system can be used to reserve equipment along with a pass-through cost structure that would allow for allocation of use charges.

LEGAL & GOVERNANCE REVIEW

PURPOSE OF THE LEGAL & GOVERNANCE REVIEW

As written in the initial Project Description: *to identify potential governance challenges and related issues that the participating institutions may encounter when sharing services across the broadband network.*

FORM FOLLOWS FUNCTION

In Sourcing Office and Tecquiti's experience with various shared services initiatives, we have learned that it is critical to develop a clear understanding of the desired functionality of the collaboration before developing a legal and governance structure to support the collaboration that will maximize the likelihood of success initially and over the long term.

Key questions for designing the governance and legal structure to support the implementation of the Summit County Broadband Initiative include:

1. **What applications will be provided over the network?** The project participants have developed a lengthy list of applications and services, including, for example:
    a. Telephone/voice over Internet Protocol systems
    b. Hosted email service
    c. Document management software
    d. Off-site disaster recovery
    e. Internet connectivity and back-up Internet connectivity
    f. Hosted financial software
2. **What types of entities will provide the applications?** The project participants have identified two types of likely application and service providers:
    a. Participants with existing or planned capabilities providing applications and services to other participants over the network
    b. Third-party service providers and vendors
3. **Will the initiative expand to allow other entities to join?** Currently, the participants' intention is to begin by providing applications and services to the existing participants and expand to other entities within Summit County. The possibility of broadening the initiative to entities outside of Summit County and/or non-public sector entities is a consideration as well.
4. **For how long is the initiative intended to exist?** Is the initiative intended to sustain over a period of time, long past the tenure of the individuals currently involved in the project? The participants' desire is to implement a long-term, sustainable initiative that can provide cost savings, improved efficiencies, and a platform for the participating entities to collaborate in the years and decades ahead.

5. **Is utilization of services and applications mandatory or optional?** Is the intention that every participant utilizes every application and service offered (i.e., mandatory participation)? Or is the intention that the applications and services be available such that each participant can choose which applications and services to utilize (i.e., an a la carte approach)? The participants' desire is that each participant can choose which applications and services to utilize based on their unique needs and capacity at the time.

SUMMARY OF POTENTIAL NETWORK FUNCTIONS

The participants identified a preliminary list of a) their individual planned technology investments in the next three (3) years, and b) applications and services that each participant could potentially provide to other participants over the network. Now that the viability of establishing the Summit County Broadband network has been established through this Phase 1, the participants are engaged in ongoing discussions to determine what core group of service and application offerings should be made available in the near term to best meet the needs of the largest group of participants.

The following table summarizes the initial responses of participants to two questions:

1. What meaningful technology investments is your organization considering/planning to make in the next three years? Responses are marked with a "U" for "Utilizer".
2. What Information Technology capabilities does your organization already have that could be offered to other participants through the shared broadband network? Responses are marked with a "P" for "Provider".

Potential Areas of Investment & Collaboration

Entity Responding	Application Development	Back-up Internet Connectivity	Desktop Application Support	Disaster Recovery	Document Management Software	GIS Software	Help Desk	High Speed Internet Connectivity	Hosted Email	Microsoft Office 365	Network & Application Monitoring	Off-site Storage	Online Training	Regional Dispatch	Security Cameras	Sharepoint Services	Telephone Switch/VOIP	Video Conferencing	Virtual Servers	Web-Hosting	Website Design	Workforce Management Software
Bath Township		U				U		U								U		U			U	
City of Fairlawn								U						U		P						
City of Hudson		U							U				U		U			U/P				
City of Stow					U	P		U					P			U						
City of Tallmadge		U			U						U							U				
City of Twinsburg		U		U	U			U	U	U		U			U	U						
County of Summit	P			P				U	P			U							U	P	P	
University of Akron			P				P				P		P				P	P	P	P	P	

It is critical that the participants identify the core list of applications and services that will be offered through the network initially, as that information and the associated costs of those applications and services will enable participants to determine the return on investment they will achieve (in terms of capital costs avoided/reduced, operating costs avoided/reduced, and

improved services levels) by participating in the network. This collaborative decision-making process is iterative and will be finalized in next stage of the project.

LEGAL STRUCTURE & GOVERNANCE OPTIONS

The project team evaluated several potential structures for the operating and governing the network. We also considered the potential political ramifications inherent in each structure, both from a "speed to market" and a long-term sustainability perspective.

We believe that there must be a legal structure that hosts and operates the shared broadband network on behalf of current and future participants. This initiative requires a public sector entity that can procure contracts for equipment, services, and applications on behalf of other public sector entities, meet public sector procurement and contracting guidelines, and also serve as a contract holder both with participants (whether as customers, service providers, or both) and third-party service providers.

Option 1: The Lead Partner Model

In this model, one entity serves as the network host and service provider to the other participants. The lead partner makes the operating decisions, such as what services to offer, what entity will provide those services, and cost structures for each service, and also manages the procurement process and contracting with third party providers. The participating entities are effectively customers of the lead partner, and while there may be some type of advisory council or group to provide suggestions and direction to the lead partner, it is the lead partner that makes the critical operating decisions and is responsible for the network's performance.

While the lead partner model has clear advantages in terms of streamlined decision-making and improving "speed to market" of new applications and services, there are inherent weaknesses that we believe disqualify the model from further consideration:

1. **Alienation**. Participants will likely feel alienated from various decision-making processes; this model is the least collaborative of the models we evaluated.
2. **Sustainability**. The lead partner model is highly dependent upon the motivation and interest of the lead partner to serve in this role; any changes in elected or appointed leadership within the lead partner could lead to a change in priorities for the lead partner and the potential dissolution of the network in the future.
3. **Politics**. Political and personal relationship considerations could arise in the lead partner determining whether to offer the services of a participant to other participants.
4. **Breadth of Services**. This model is best-suited for a multi-party collaboration with a single application offered to the other participants, such as one entity hosting joint dispatch or a shared telecommunication system, rather than a system that is designed to offer multiple services from multiple service providers to multiple participants.

5. **Focus**. The lead partner has a full-time role meeting and responding to the needs of its constituents, be they residents and business, students, or patients. A core challenge for a lead partner is that the priorities of its constituents typically take precedence over its responsibilities to the participants of a shared services collaboration.

Option 2: Partner with an Existing Entity

In this model, the participants engage an existing third-party public sector entity to serve as the legal structure, at a minimum, for the network. The existing entity can fill the procurement and contracting roles (both with participants and with third-party service providers) on behalf of the network and all of the participants, much like a fiscal agent in the not-for-profit world. The third-party entity could also serve as the operator of the network, or procure a relationship with a public or private sector entity to serve as the manager and operator of the network at the direction of the participants.

What types of existing public sector entities could perform this role on behalf of the network and the participants? Educational Services Centers, Information Technology Centers, and councils of governments are three potential types of existing entities that can fulfill this role.

The potential advantages of this approach include:

1. **Speed-to-market**. The network can be launched and become operational more quickly by leveraging an existing legal structure.
2. **Reduced costs**. It is less expensive to utilize an existing legal entity, particularly one that has experience, expertise, and existing documents that can be applied to launching and operating the network. Structurally, the network is not "starting from scratch."
3. **Specialization**. There are existing entities that already provide Information Technology services to public sector entities, whether through in-house capabilities, third-party relationships, or a combination of the two. Some, such as Information Technology Centers, already have established services that could be provided over the network to participants.

The potential drawbacks include:

1. **Mission Creep**. Does the existing entity's mission and purpose coincide with the objectives of the participants? Is the entity willing to serve the various types of participants and do the entity's existing governing documents allow for it to perform this type of role for the network and its participants?
2. **Control**. Will the existing entity be willing to create a governance or oversight structure that enables the participants to guide the development and growth of the network?
3. **Politics**. Will the selection of an existing entity result in some participants choosing not to participate due to historical relationship challenges or negative previous interactions between the existing entity and any of the participants.

4. **Conflicting Objectives**. If the existing entity already provides services that the participants choose to incorporate in the network, but the participants want to use another provider for those services (whether one of the participants or a third-party provider), will the existing entity agree to allow another entity to compete with services it already offers? How will those decisions be made and adjudicated?

The project team believes that an existing entity that can meet the needs of the network and the participants may exist, but determining which entity or entities would be the best match cannot be determined until the participants a) finalize what types of services and applications will be offered through the network, and b) determine which services and applications will be offered by existing participants versus by third-party providers. Finalizing these types of decisions is a necessary precursor to evaluating a potential partnership with an existing organization.

Option 3: Create a Special Purpose Entity to Govern & Operate the Network

In this model, the participants partner to create a council of governments (a "COG") or other special purpose, public sector entity to establish and operate the network. Once the participants have determined which applications and services to offer, agreed upon a decision-making process and oversight model, and decided who is eligible to participate (i.e., the types of entities, whether entities must be located within Summit County or some other defined geography, the process to join the network, etc.), the participants can design and implement a new legal structure specifically tailored to meet the network's needs and objectives. With consideration and foresight, the participants can design a model that meets their needs today and is flexible to adapt to ongoing changes and requirements that will arise in the years ahead.

The potential advantages of this approach include:

1. **Control**. The participants will have complete control over the design, implementation, and operation of the network.
2. **Politics**. The politics involved in the creation and operation of the network will be limited to the politics between the participants and not include political situations involving any existing third-party entity.
3. **Focus**. The special purpose entity will be solely focused on developing, launching, and maintaining the network.
4. **Participant as Service Provider**. The participants can jointly develop and agree upon approaches to evaluate when to offer services and applications from participants over the network, when to procure such services from third-party service providers, and when to pursue both approaches.
5. **Flexibility**. The participants can choose to develop a model in which operations are managed by "loaned" staff from various participants, to procure the services of third-party experts to manage the day-to-day operations on behalf of the participants, or some combination of both approaches. And this operating model can readily change over time as the organization, the marketplace, and the needs of the participants evolve.

The potential disadvantages of this approach include:

1. **Speed-to-market**. The development of a new legal structure can take six (6) to twenty four (24) months. The longer it takes to negotiate and achieve resolution regarding the governance and decision-making processes of a new legal structure, the greater the risk that the initiative will not launch and become operational.
2. **Cost**. Participants will incur additional legal costs, individually and collectively, in the process of developing a new legal structure.
3. **Staffing**. The typical inclination of public sector entities seeking to collaborate in through a new legal structure is to "loan" existing staff to fill various roles on behalf of the collaborative and the participants. The challenge with this approach is that each loaned staffer has full-time responsibilities with their "day job," and their day job responsibilities will typically take precedence over their responsibilities to the network. As a result, the effectiveness of the network's execution and service levels for participants will likely be inconsistent unless a) dedicated staff is hired, and/or b) day-to-day operations are outsourced to third-party specialists who report to the participants' oversight structure.

PROJECT TEAM RECOMMENDATIONS

The project team recommends that the participants continue to focus on identifying the services and applications that will be offered initially through the network. As that work continues, participants will be able to estimate the return on investment they will achieve from establishing the network and leveraging the resources available to them as a result. These analyses will enable participants to determine how much capital can be invested in creating the network and implementing the various services and applications to which they will have access.

Based on our work to date, the project team believes that the optimal scenario to secure the maximum benefit of the network for the participants, mitigate out-of-pocket expenses, establish control over the network and how it operates, and provide the most flexibility to enable the network to evolve and sustain itself over time is for the participant to create a special purpose entity to manage and operate the network under the oversight of the participants.

We also believe that political and relationship challenges can best be minimized in this model, and speed-to-market and ongoing service levels can best be maximized by engaging an expert third-party service provider(s) to manage and operate the network, its applications, and its services on behalf of all the participants, rather than relying primarily on loaned staff.

An additional benefit to leveraging third-party service providers to manage the network is that they can be easily replaced if their performance does not meet expectations with a minimum of political and relationship challenges between the participants.

NETWORK RECOMMENDATION

Based on the initial services and pricing information obtained through the RFP process, Tecquiti took a closer look at the Managed Network and Dark Fiber solution options.

Dark Fiber

Only two carriers, OneCommunity and Zayo Group, are in a position to provide Dark Fiber solutions, under 10-year or 20-year IRU (Indefeasible Right of Use) agreements. This would not only entail a monthly or annual lease, but there would also be an associated monthly/annual maintenance cost for the length of the agreements. Dark fiber would not be a viable solution for the Summit County Broadband participants for the following reasons:

- Long term lease structure does not lend itself well to the anticipated dynamic needs of the group
- Lease is based on the number and location of the initial participants, thus the cost does not decrease if participation decreases
- Other than maintenance (damaged/cut fiber), the provider does not manage the configuration, performance, and applications on the participant network, thus there will be the additional expense of a third party for management

Managed Network

The Managed Network is the most viable group solution for the Summit County Broadband participants, because of its flexibility, ease of deployment, and inherent management by the provider.

The two providers that stand out are AT&T and Time Warner, with AT&T at approximately $16K to $20K per month, and Time Warner at approximately $13.2K per month for all eleven sites, on a 5-year term. Both carriers are able to provide additional Managed and Cloud services, but a deeper analysis of the two provider solutions reveals Time Warner Cable to be the most cost effective for the following reasons:

AT&T

- MRC of $2,800 more, at a minimum
- The need to involve secondary carriers at five of the sites that are outside of AT&T territory, if possible
- Unknown build-out costs in addition to the per-site installation costs

Time Warner

- Lowest cost MRC per site of $1,200, plus $500 installation fee
- All sites are within the Time Warner service area, thus no need for secondary providers
- Except for the installation fee, all build-out costs are included in the MRC
  - Anticipated MRC for additional sites to be the same

CONCLUSION

Upon identification by the participants of the applications and services that will be initially offered on the network, the establishment of a governing body to operate the network under the oversight of the members, and the determination of the level of participation, Tecquiti recommends that the Summit County Broadband Initiative members move forward by engaging the services of Time Warner Cable Business Class in the final design and pricing of their ELAN Managed Solution. This solution will provide any-to-any connectivity to all locations, allowing any participant network to communicate with any other participant network.

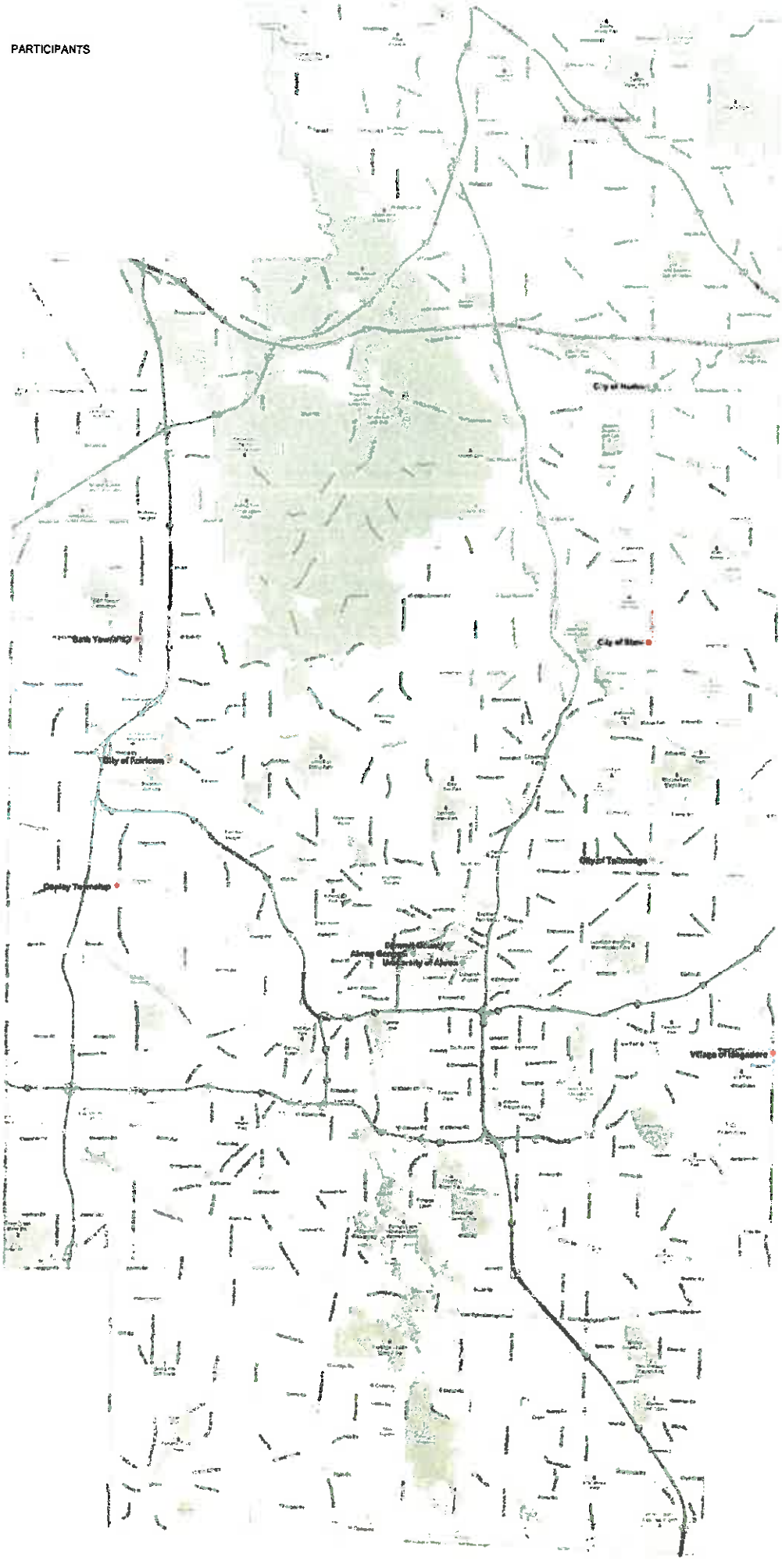
The need for Managed and Cloud solutions outside of the member community, such as hosted applications, data center co-location, virtual servers, data storage, archiving, and disaster recovery can be provided through Time Warner's Navi-Site subsidiary, or through alternate local providers such as NEOnet and Involta. These sites can simply be added to the network as another link.

The following Supporting Documents section contains the Time Warner Cable Business Class Service agreement for ELAN services to the eleven current participants. Tecquiti understands that without the existence of a controlling entity to represent the current and future participants, any endorsement of the agreement cannot take place. It is merely provided as a participant reference for pricing, Terms & Conditions, and a baseline for future negotiations, as the participants pursue the approval process with their respective Councils, Trustees, and Boards.

SUPPORTING DOCUMENTS:

- Fiber Asset Maps
- Tecquiti RFP
- Time Warner Cable Business Class Agreement

PARTICIPANTS



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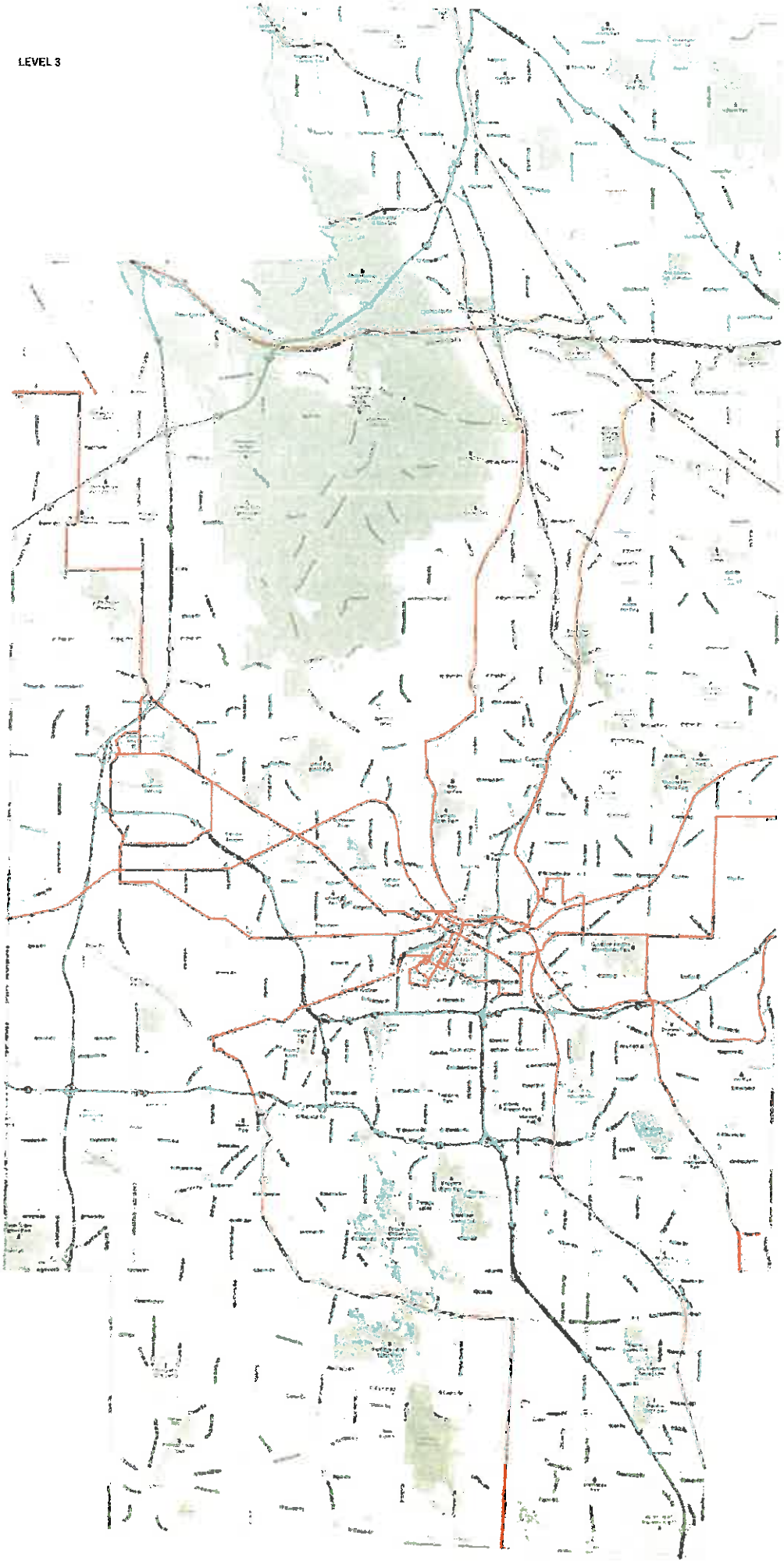

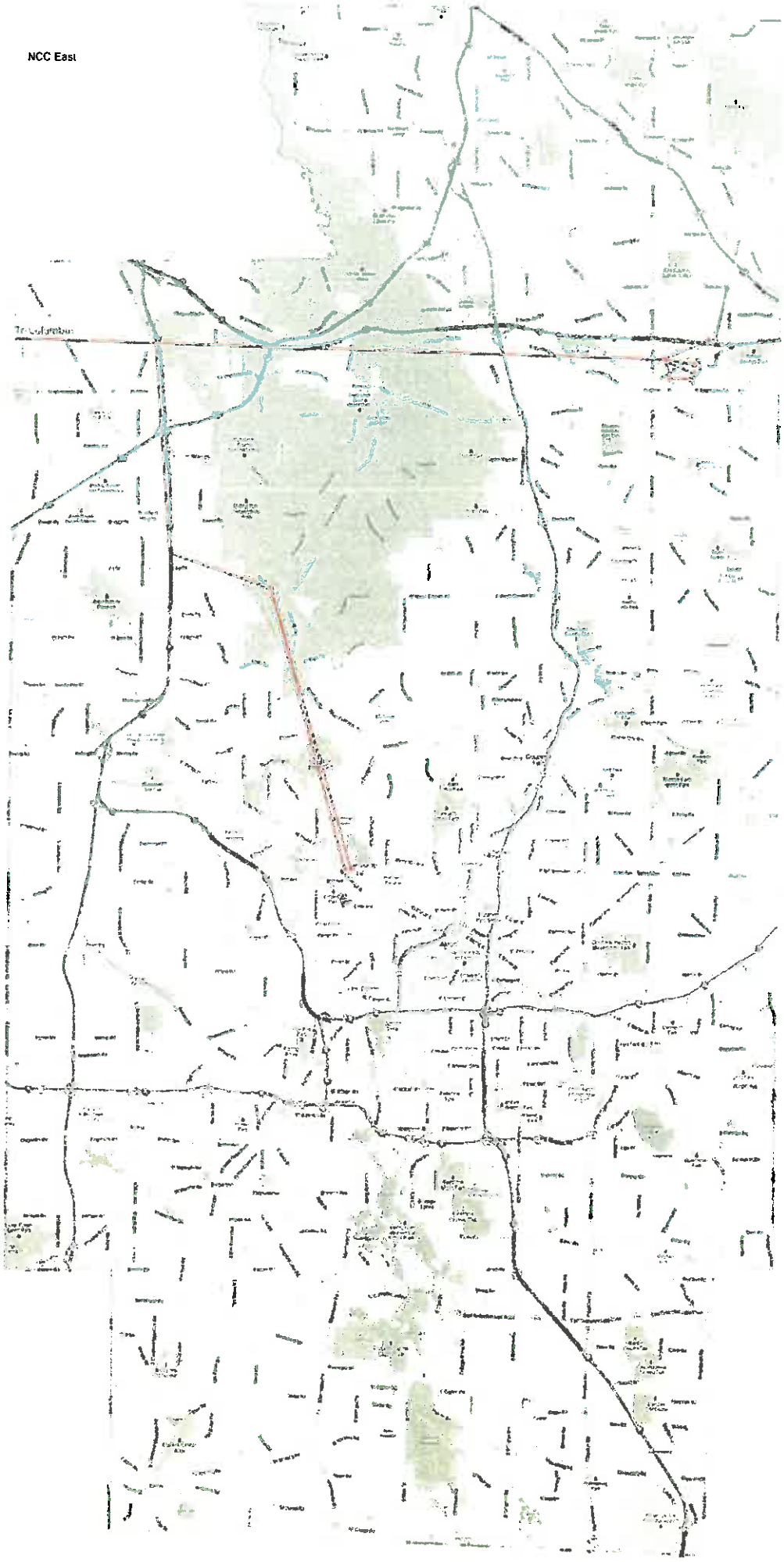
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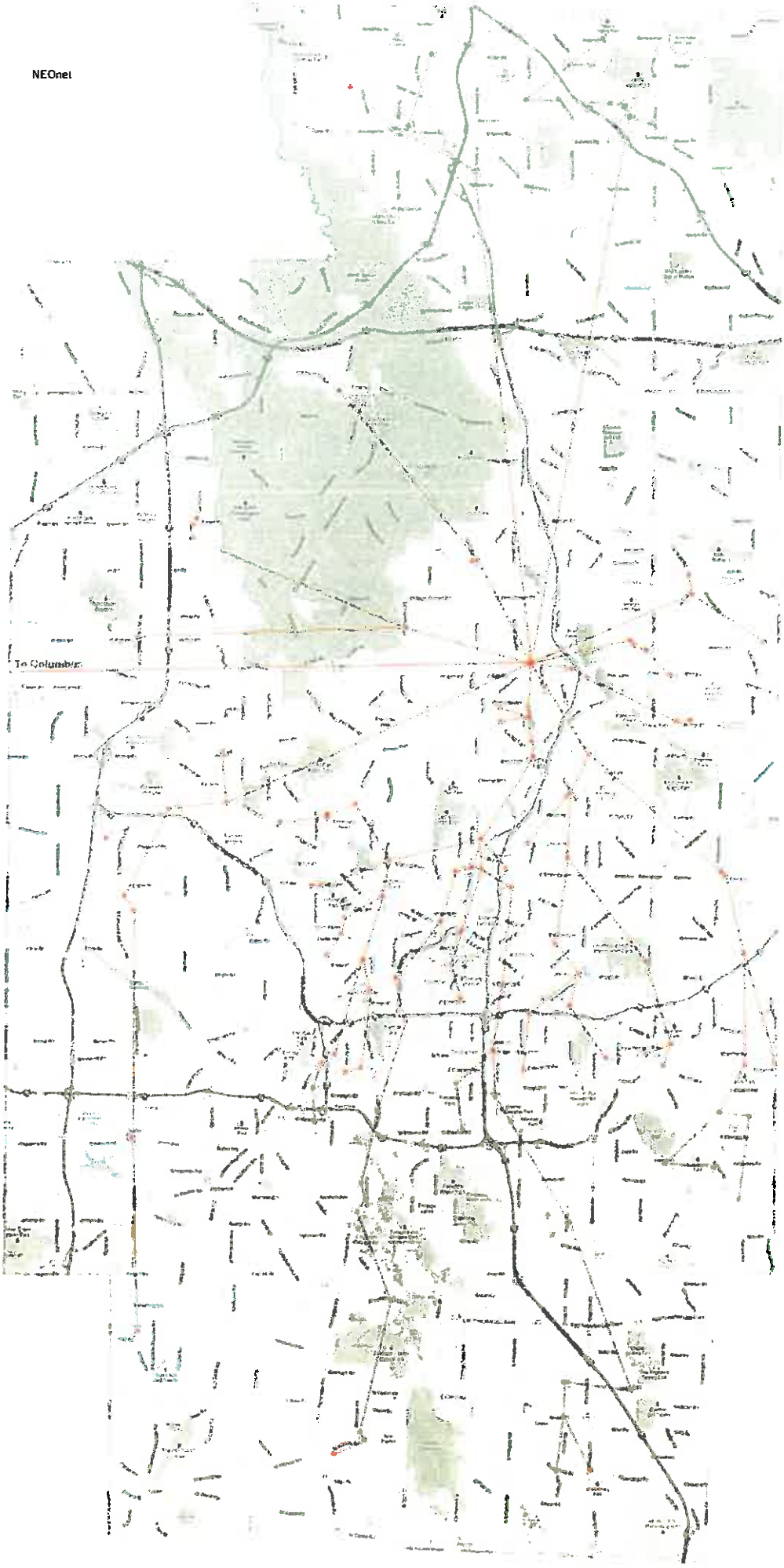
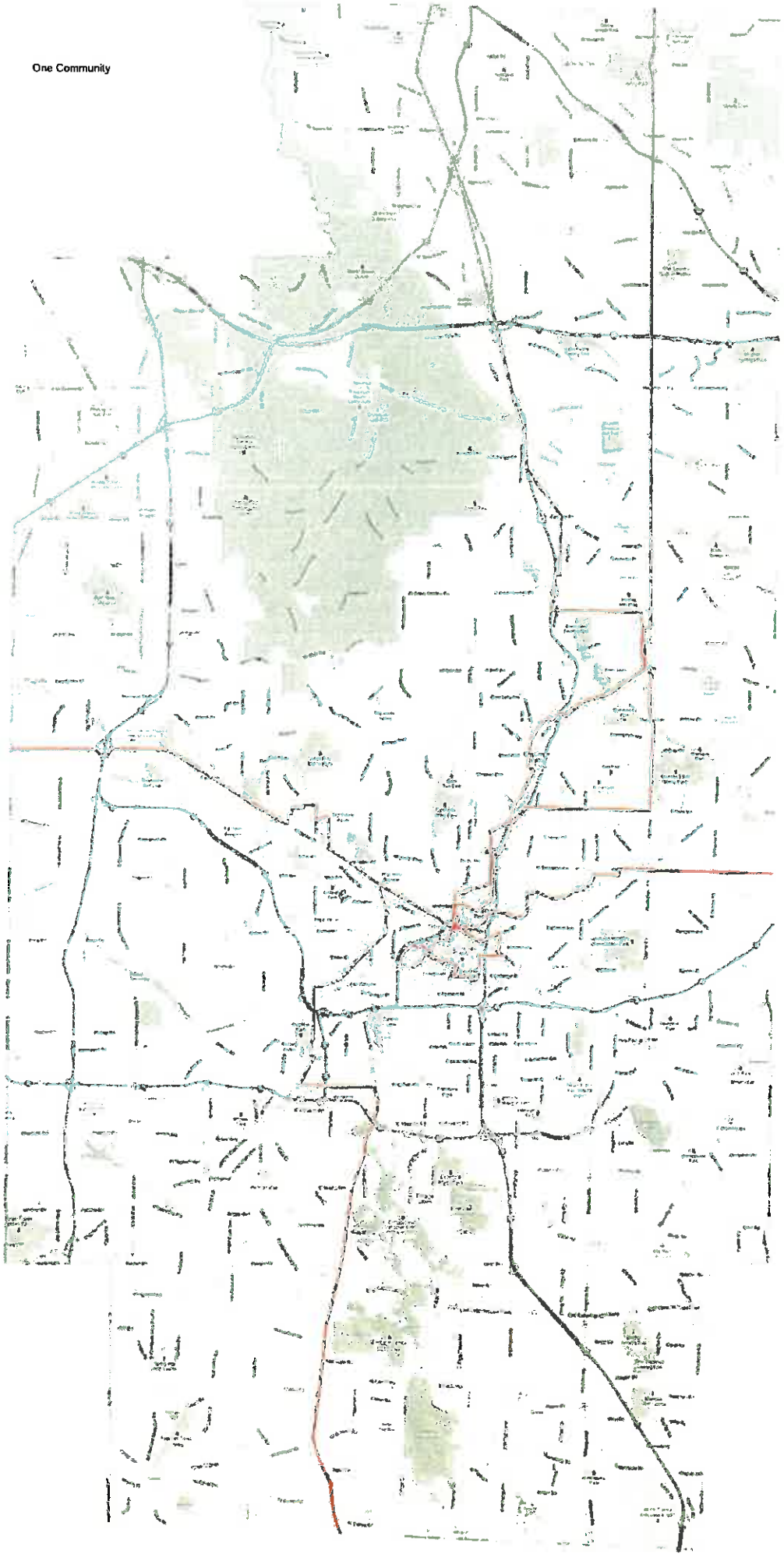

NEOnet
To Columbus

One Community



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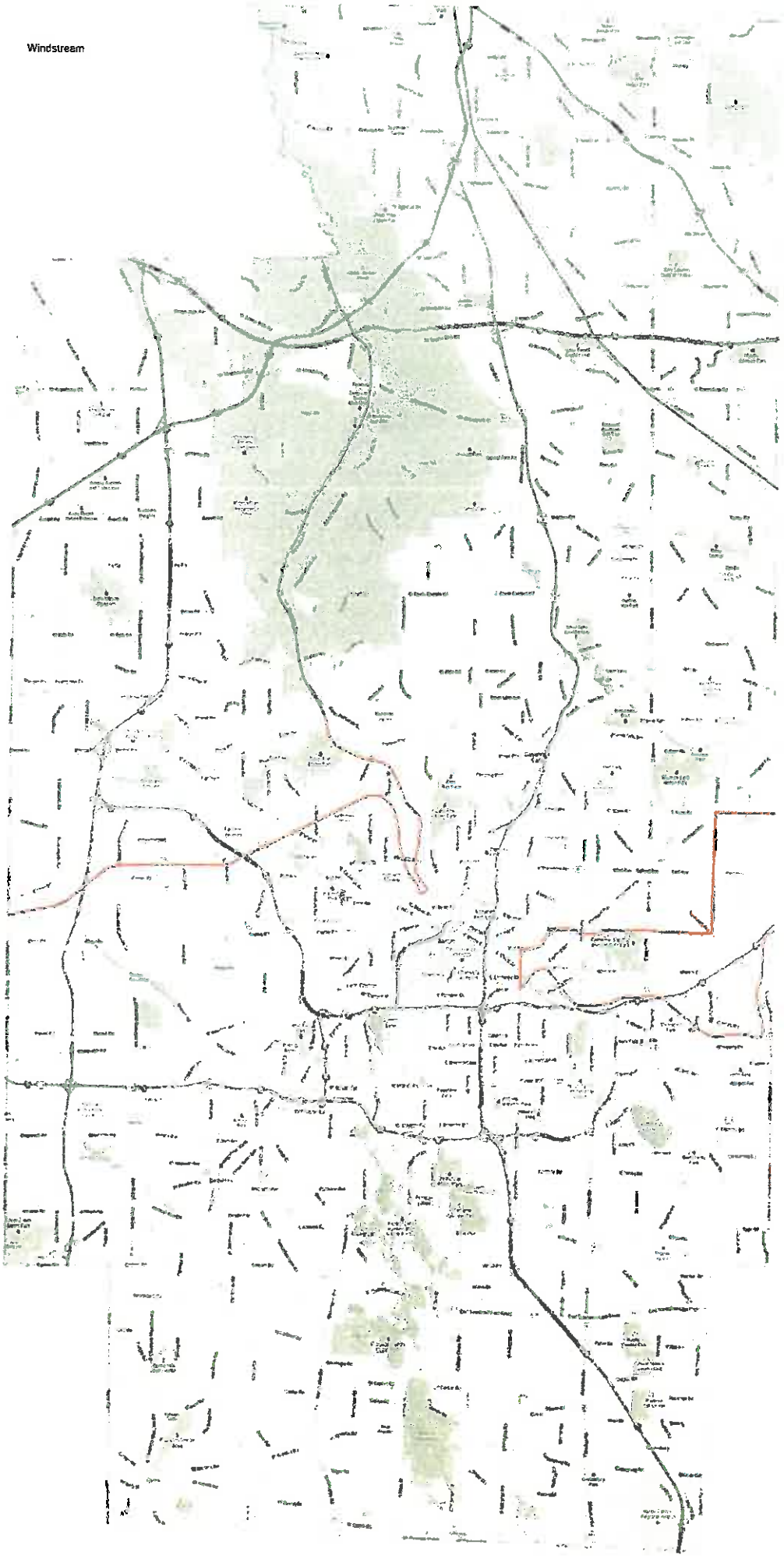
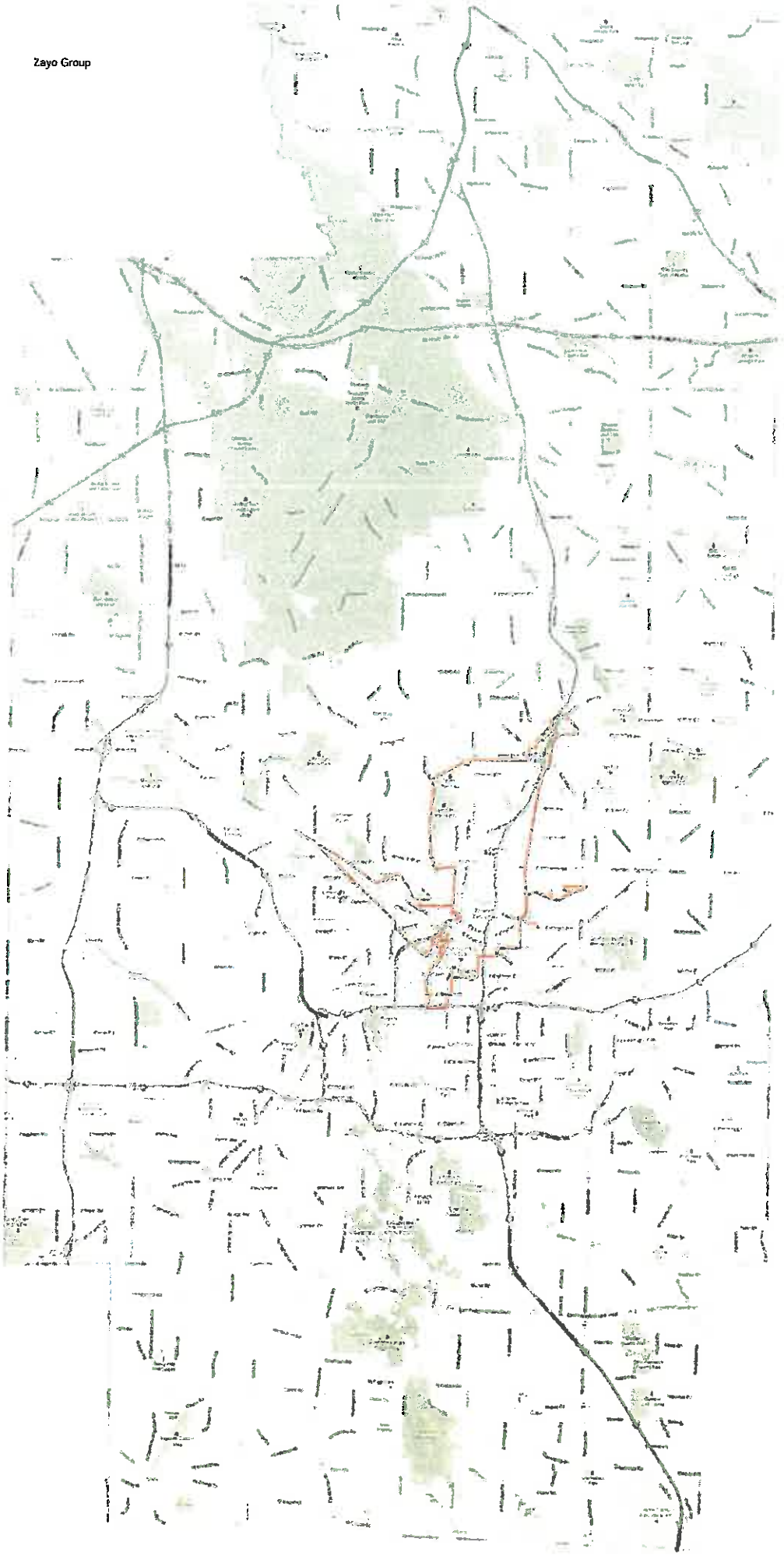


Zayo Group



Request for Proposal

Summit County, Ohio, has engaged the services of Tecquiti, LLC to research the implementation of the Summit County Broadband Initiative project, which is being funded by the Local Government Innovation Fund (LGIF) grant awarded to Summit County by the Ohio Department of Development. The intent of the project is to determine the feasibility of implementing a county-wide broadband network that will provide connectivity to the eleven participants for the sharing of data, voice, video, and applications.

Please provide pricing under the following two scenarios:

- Dark fiber to all locations, with the head end at the Summit County Main Offices at 175 South Main St., Akron, OH 44308. An alternate location may be proposed if necessary.
- Managed network solution between all locations, with an initial 1Gb of bandwidth available to all locations, and support for 10Gb in the future. Include options for managed services such as email, virtual server, remote backup, and disaster recovery.

The eleven locations are as follows:

Client	Location	Address	City	Zip	NPX-NXX
Akron General	AGMC Information Systems	180 W. Cedar	Akron	44307	330-253
Bath Township	Township Hall	3864 W. Bath Rd.	Fairlawn	44333	330-666
City of Fairlawn	City Hall/Police Dept.	3487 South Smith Rd.	Fairlawn	44333	330-668
City of Hudson	Police Department	36 South Oviatt St.	Hudson	44236	330-342
City of Stow	City Hall	3760 Darrow Rd.	Stow	44224	330-689
City of Tallmadge	Police Department	53 Northeast Ave.	Tallmadge	44278	330-633
City of Twinsburg	Twinsburg Government Center	10075 Ravenna Rd.	Twinsburg	44087	330-425
Copley Township	Police Department	1280 Sunset Dr.	Akron	44321	330-666
Summit County	Ohio Building	175 South Main St.	Akron	44308	330-643
University of Akron		1 Cascade Plaza	Akron	44224	330-376
Village of Mogadore	Village Hall/Fire Department	135 S. Cleveland Ave.	Mogadore	44260	330-628

Please submit solution pricing by 12:00 noon on March 7, 2013 to Tecquiti.Engineering@tecquiti.com. Any questions can be directed to Joe Holliday, 330 656 5276, joe.holliday@tecquiti.com.

TIME WARNER CABLE Business Class

Business Class Customer Service Order

Account Executive: Bruce Swartz
Phone: (330) 604-7352 ext:
Cell Phone:
Fax:
Email: bruce.swartz@twcable.com

Business Name	County of Summit Ohio	**Customer Type:**
Federal Tax ID	**Tax Exempt Status** Federal/State/Local	**Tax Exempt Certificate #**
Billing Address 175 S Main St Floor 8 Akron OH 44308		**Account Number**
Billing Contact	**Billing Contact Phone**	**Billing Contact Email Address**
Joe Holiday	(330) 656-5276	joe.holiday@tecquity.com

Authorized Contact	Authorized Contact Phone	Authorized Contact Email Address
Joe Holiday	(330) 656-5276	joe.holiday@tecquity.com

Technical Contact	Technical Contact Phone	Technical Contact Email Address

Dedicated Internet, Metro Ethernet, and Private Line Service Order Information For 1 Cascade Plz Akron OH 44308

Site Name	Address Location	Location Type	Bandwidth	Customer Requested Due Date
	1 Cascade Plz Akron, OH 44308		1 Gigabit	

Dedicated Internet, Metro Ethernet, and Private Line Service Order Information For 10075 Ravenna Rd Twins Govmt Center Twinsburg OH 44087

Site Name	Address Location	Location Type	Bandwidth	Customer Requested Due Date
	10075 Ravenna Rd Twinsburg, OH 44087		1 Gigabit	

Dedicated Internet, Metro Ethernet, and Private Line Service Order Information For 135 S Cleveland Ave Mogadore OH 44260

Site Name	Address Location	Location Type	Bandwidth	Customer Requested Due Date
	135 S Cleveland Ave Mogadore, OH 44260		1 Gigabit	

Dedicated Internet, Metro Ethernet, and Private Line Service Order Information For 1280 Sunset Dr Copley OH 44321

Site Name	Address Location	Location Type	Bandwidth	Customer Requested Due Date
	1280 Sunset Dr Copley, OH 44321		1 Gigabit	

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Dedicated Internet, Metro Ethernet, and Private Line Service Order Information For 175 S Main St Floor 8 Akron OH 44308

Site Name	Address Location	Location Type	Bandwidth	Customer Requested Due Date
	175 S Main St Akron, OH 44308		1 Gigabit	

Dedicated Internet, Metro Ethernet, and Private Line Service Order Information For 180 W Cedar St Akron OH 44307

Site Name	Address Location	Location Type	Bandwidth	Customer Requested Due Date
	180 W Cedar St Akron, OH 44307		1 Gigabit	

Dedicated Internet, Metro Ethernet, and Private Line Service Order Information For 3487 S Smith Rd Fairlawn OH 44333

Site Name	Address Location	Location Type	Bandwidth	Customer Requested Due Date
	3487 S Smith Rd Fairlawn, OH 44333		1 Gigabit	

Dedicated Internet, Metro Ethernet, and Private Line Service Order Information For 36 S Oviatt St Police Dept Hudson OH 44236

Site Name	Address Location	Location Type	Bandwidth	Customer Requested Due Date
	36 S Oviatt St Hudson, OH 44236		1 Gigabit	

Dedicated Internet, Metro Ethernet, and Private Line Service Order Information For 3864 W Bath Rd Akron OH 44333

Site Name	Address Location	Location Type	Bandwidth	Customer Requested Due Date
	3864 W Bath Rd Akron, OH 44333		1 Gigabit	

Dedicated Internet, Metro Ethernet, and Private Line Service Order Information For 3760 Darrow Rd City Hall Stow OH 44224

Site Name	Address Location	Location Type	Bandwidth	Customer Requested Due Date
	3760 Darrow Rd Stow, OH 44224		1 Gigabit	

Dedicated Internet, Metro Ethernet, and Private Line Service Order Information For 53 Northeast Ave Police Dept Tallmadge OH 44278

Site Name	Address Location	Location Type	Bandwidth	Customer Requested Due Date
	53 Northeast Ave Tallmadge, OH 44278		1 Gigabit	

New and Revised Services and Monthly Charges At 1 Cascade Plz , Akron OH 44308

Description	Quantity	Sales Price	Monthly Recurring Total	Contract Term
METRO ETHERNET 1 GIG	1	$1,200.00	$1,200.00	60 Months
*Total			**$1,200.00**	

*Prices do not include taxes and fees.

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New and Revised Services and Monthly Charges At 180 W Cedar St , Akron OH 44307

Description	Quantity	Sales Price	Monthly Recurring Total	Contract Term
METRO ETHERNET 1 GIG	1	$1,200.00	$1,200.00	60 Months
*Total			$1,200.00	

*Prices do not include taxes and fees.

New and Revised Services and Monthly Charges At 3864 W Bath Rd , Akron OH 44333

Description	Quantity	Sales Price	Monthly Recurring Total	Contract Term
METRO ETHERNET 1 GIG	1	$1,200.00	$1,200.00	60 Months
*Total			$1,200.00	

*Prices do not include taxes and fees.

New and Revised Services and Monthly Charges At 1280 Sunset Dr , Copley OH 44321

Description	Quantity	Sales Price	Monthly Recurring Total	Contract Term
METRO ETHERNET 1 GIG	1	$1,200.00	$1,200.00	60 Months
*Total			$1,200.00	

*Prices do not include taxes and fees.

New and Revised Services and Monthly Charges At 3487 S Smith Rd , Fairlawn OH 44333

Description	Quantity	Sales Price	Monthly Recurring Total	Contract Term
METRO ETHERNET 1 GIG	1	$1,200.00	$1,200.00	60 Months
*Total			$1,200.00	

*Prices do not include taxes and fees.

New and Revised Services and Monthly Charges At 135 S Cleveland Ave , Mogadore OH 44260

Description	Quantity	Sales Price	Monthly Recurring Total	Contract Term
METRO ETHERNET 1 GIG	1	$1,200.00	$1,200.00	60 Months
*Total			$1,200.00	

*Prices do not include taxes and fees.

New and Revised Services and Monthly Charges At 175 S Main St Unit Floor 8, Akron OH 44308

Description	Quantity	Sales Price	Monthly Recurring Total	Contract Term
METRO ETHERNET 1 GIG	1	$1,200.00	$1,200.00	60 Months
*Total			$1,200.00	

*Prices do not include taxes and fees.

New and Revised Services and Monthly Charges At 3760 Darrow Rd Unit City Hall, Stow OH 44224

Description	Quantity	Sales Price	Monthly Recurring Total	Contract Term
METRO ETHERNET 1 GIG	1	$1,200.00	$1,200.00	60 Months
*Total			$1,200.00	

*Prices do not include taxes and fees.

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New and Revised Services and Monthly Charges At 36 S Oviatt St Unit Police Dept, Hudson OH 44236

Description	Quantity	Sales Price	Monthly Recurring Total	Contract Term
METRO ETHERNET 1 GIG	1	$1,200.00	$1,200.00	60 Months
***Total**			**$1,200.00**	

*Prices do not include taxes and fees.

New and Revised Services and Monthly Charges At 53 Northeast Ave Unit Police Dept, Tallmadge OH 44278

Description	Quantity	Sales Price	Monthly Recurring Total	Contract Term
METRO ETHERNET 1 GIG	1	$1,200.00	$1,200.00	60 Months
***Total**			**$1,200.00**	

*Prices do not include taxes and fees.

New and Revised Services and Monthly Charges At 10075 Ravenna Rd Unit Twins Govmt Center, Twinsburg OH 44087

Description	Quantity	Sales Price	Monthly Recurring Total	Contract Term
METRO ETHERNET 1 GIG	1	$1,200.00	$1,200.00	60 Months
*Total			**$1,200.00**	

*Prices do not include taxes and fees.

One Time fees At 180 W Cedar St , Akron OH 44307

Description	Quantity	Sales Price	Total
Installation Charge - Metro E	1	$500.00	$500.00
Total			**$500.00**

*Prices do not include taxes and fees.

One Time fees At 3864 W Bath Rd , Akron OH 44333

Description	Quantity	Sales Price	Total
Installation Charge - Metro E	1	$500.00	$500.00
Total			**$500.00**

*Prices do not include taxes and fees.

One Time fees At 1280 Sunset Dr , Copley OH 44321

Description	Quantity	Sales Price	Total
Installation Charge - Metro E	1	$500.00	$500.00
Total			**$500.00**

*Prices do not include taxes and fees.

One Time fees At 3487 S Smith Rd , Fairlawn OH 44333

Description	Quantity	Sales Price	Total
Installation Charge - Metro E	1	$500.00	$500.00
Total			**$500.00**

*Prices do not include taxes and fees.

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One Time fees At 135 S Cleveland Ave , Mogadore OH 44260

Description	Quantity	Sales Price	Total
Installation Charge - Metro E	1	$500.00	$500.00
Total			**$500.00**

*Prices do not include taxes and fees.

One Time fees At 175 S Main St Unit Floor 8, Akron OH 44308

Description	Quantity	Sales Price	Total
Installation Charge - Metro E	1	$500.00	$500.00
Total			**$500.00**

*Prices do not include taxes and fees.

One Time fees At 3760 Darrow Rd Unit City Hall, Stow OH 44224

Description	Quantity	Sales Price	Total
Installation Charge - Metro E	1	$500.00	$500.00
Total			**$500.00**

*Prices do not include taxes and fees.

One Time fees At 36 S Oviatt St Unit Police Dept, Hudson OH 44236

Description	Quantity	Sales Price	Total
Installation Charge - Metro E	1	$500.00	$500.00
Total			**$500.00**

*Prices do not include taxes and fees.

One Time fees At 53 Northeast Ave Unit Police Dept, Tallmadge OH 44278

Description	Quantity	Sales Price	Total
Installation Charge - Metro E	1	$500.00	$500.00
Total			**$500.00**

*Prices do not include taxes and fees.

One Time fees At 10075 Ravenna Rd Unit Twins Govmt Center, Twinsburg OH 44087

Description	Quantity	Sales Price	Total
Installation Charge - Metro E	1	$500.00	$500.00
Total			**$500.00**

*Prices do not include taxes and fees.

TIME WARNER CABLE
Business Class

Special Terms

The services, products, prices and terms identified on this Service Order constitute Time Warner Cable's offer to provide such services on such terms. Until Customer has accepted this offer by signing as appropriate below, Time Warner Cable reserves the right to rescind this offer at any time, at its sole discretion.

The Agreement shall be renewable for successive terms unless at least thirty (30) days prior to the expiration of the then-current term, either party notifies the other party of such party's intent not to renew this Agreement. Agreement term and corresponding monthly billing will commence on actual service installation date. Cable television and Work-at-home services are subject to annual price change.

Electronic Signature Disclosure

By signing and accepting below you are acknowledging that you have read and agree to the terms and conditions outlined in this document.

Authorized Signature for Time Warner Cable	**Authorized Signature for Customer**
Printed Name and Title	**Printed Name and Title**
Date Signed	**Date Signed**

Time Warner Cable Business Class

Ethernet and Dedicated Internet Access Service Level Agreement

This document outlines the Service Level Agreement ("SLA") for the Ethernet and Dedicated Internet Access ("DIA") fiber-based Services (each, a "Service"). Capitalized words used, but not defined herein, shall have the meanings given to them in the Time Warner Cable Business Class Service Agreement (including the terms and conditions, attachments, and Service Orders described therein, the "Agreement"). This SLA is a part of, and hereby incorporated by reference into, the Agreement. If any provision of this SLA, on the one hand, and any provision of the Agreement, on the other hand, are inconsistent or conflicting, the inconsistent or conflicting provision of this SLA shall control.

I. SLA Targets:

Service	Availability	Mean Time To Restore ("MTTR")	Latency (Roundtrip)	Packet Loss
DIA / Ethernet (Metro and Regional Services)	End to End: 99.99% (On-Net Circuit)	Priority 1 Outages within 4 hours	DIA: 45ms Ethernet: Metro Market - 10ms Wide Area Market - 25ms Metro Market Exception - 45 ms	<0.1%

II. Priority Classification:

A "Service Disruption" is defined as a disruption or degradation that interferes with the ability of a TWC network hub to: (i) transmit and receive network traffic on Customer's dedicated access port at the TWC network hub; and (ii) exchange network traffic with another TWC network hub. The Service Disruption period begins when Customer reports a Service Disruption using TWC's trouble ticketing system by contacting Customer Care, TWC acknowledges receipt of such trouble ticket, and TWC validates that the Service is affected. The Service Disruption ends when the affected Service has been restored.

TWC will classify Service Disruptions as follows:

Priority	Criteria
Priority 1	a. Total loss of Service other than as a result of Excluded Disruptions (as defined below) b. Service degradation to the point where Customer is unable to use the Service and is prepared to release it for immediate testing.
Priority 2	Degraded Service where Customer is able to use the Service and is not prepared to release it for immediate testing.
Priority 3	a. A service problem that does not impact the Service. b. A single non-circuit specific quality of Service inquiry.

III. Network Availability

"Network Availability" is calculated as the total number of minutes in a calendar month less the number of minutes that the circuit is unavailable due to a Priority 1 Outage ("Downtime"), divided by the total number of minutes in a calendar month. Downtime excludes (i) planned outages, (ii) routine maintenance, (iii) time when TWC is unable to gain access to Customer's premises to troubleshoot, repair or replace equipment or the circuit, (iv) service problems resulting from acts or omissions of Customer, (v) Customer equipment failures, and (vi) Force Majeure Events (collectively "Excluded Disruptions").

Commitment:
TWC's monthly Network Availability Target is 99.99% for that portion of the circuit that is part of TWC's own network ("On-Net Circuit") and not any portion that is provided by a third party.

The following table contains examples of the percentage of Network Availability translated into minutes of Downtime for the 99.99% Network Availability target:

Percentage by Days Per Month	Total Minutes / Month	Downtime Minutes
99.99% for 31 Days	44,640	4.5
99.99% for 30 Days	43,200	4.3
99.99% for 29 Days	41,760	4.2
99.99% for 28 Days	40,320	4

IV. Mean Time To Restore ("MTTR")

The MTTR measurement for a Priority 1 Outage is the average time to restore Priority 1 Outages during a calendar month calculated as the cumulative length of time it takes TWC to restore Service for an On-Net Circuit following a Priority 1 Outage in a calendar month divided by the corresponding number of trouble tickets for Priority 1 Outages opened during the calendar month for that circuit.

MTTR per calendar month is calculated as follows:

$$\frac{\text{Cumulative length of time to restore Priority 1 Outage(s) per On-Net Circuit}}{\text{Total number of Priority 1 Outage trouble tickets per On-Net Circuit}}$$

V. Latency (On-Net Circuit)

Latency is the average roundtrip network delay, measured every 5 minutes during a calendar month, to adequately determine a consistent average monthly performance level for latency for each On-Net Circuit. The roundtrip delay is expressed in milliseconds (ms).

For DIA, TWC measures latency using a standard 64 byte ping from the Customer dedicated access port at the TWC network hub to the TWC Internet access router in a roundtrip fashion between TWC inter-regional transit backbone (TBONE) routers.

For Ethernet, TWC measures latency using a standard 64 byte ping between closest TWC network hubs to corresponding site A and site Z locations in a roundtrip fashion.

Latency is calculated as follows:

$$\text{Latency} = \frac{\text{Sum of the roundtrip delay measurements for an On-Net Circuit}}{\text{Total \# of measurements for an On-Net Circuit}}$$

Latency targets for Ethernet circuits in defined Metro Area Markets, Wide Area Markets, and Metro Market Area Exceptions are as follows:

Metro Area Market – 10ms Latency		Wide Area Market – 25ms Latency	Metro Area Market Exceptions – 45ms Latency
Round trip where both sites A and Z are *within* the same Metro Area Market		Round trip *between* any 2 Metro Area Markets within Wide Area Market	Round Trip *between* any Metro Area Market and Metro Area Market Exception within same Wide Area Market, except that where both sites A and Z are within the same Metro Market Area Exception, the Latency target is 10ms.
• Austin, TX • Beaumont, TX • Corpus Christi, TX • Dallas, TX	• Laredo, TX • San Antonio, TX • Wichita Falls, TX	Texas Region	• El Paso, TX • Rio Grande Valley, TX

Metro Area Market – 10ms Latency		Wide Area Market – 25ms Latency	Metro Area Market Exceptions – 45ms Latency
Round trip where both sites A and Z are *within* the same Metro Area Market		Round trip *between* any 2 Metro Area Markets within Wide Area Market	Round Trip *between* any Metro Area Market and Metro Area Market Exception within same Wide Area Market, except that where both sites A and Z are within the same Metro Market Area Exception, the Latency target is 10ms.
○ North Los Angeles, CA ○ South Los Angeles, CA ○ San Diego, CA ○ Palm Springs, CA	○ Desert Cities, CA ○ Yuma, AZ ○ Honolulu, HI	PacWest Region	○ Coeur d'Alene, ID ○ Gunnison, CO ○ Telluride, CO ○ Pullman, WA
• Columbus, OH • Cincinnati, OH • Dayton, OH • Akron, OH • Cleveland, OH • Green Bay, WI • Milwaukee, WI	• Louisville, KY • Lexington, KY • Richmond, KY • Lincoln, NE • Kansas City, MO • Kansas City, KS • Lima, OH	Mid-West Region	• Libby, MT • Dothan, AL
○ New York City (including all surrounding boroughs and metro areas in New Jersey and Pennsylvania)	• Albany, NY ○ Buffalo, NY • Rochester, NY • Syracuse, NY	Northeast/ NYC Region	○ Portland, ME
• Greensboro, NC • Raleigh, NC • Charlotte, NC • Wilmington, SC	• Columbia, SC • Myrtle Beach, SC • Hilton Head, SC	Carolinas	• None

VI. Packet Loss (On Net)

Packet Loss is defined as the percentage of packets that are not successfully received compared to the total packets that are sent in a calendar month. The percentage calculation is based on packets that are transmitted from a network origination point and received at a network destination point (TWC network hub to TWC network hub).

Packet Loss is calculated as follows:

Packet Loss (%)	=	**100 (%)**	–	**Packets Received (%)**

VII. Network Maintenance

Maintenance Notice:
Customer understands that from time to time, TWC will perform network maintenance for network improvements and preventive maintenance, and in some cases, TWC will have to perform urgent network maintenance, which will usually be conducted within the routine maintenance windows. TWC will use reasonable efforts to provide advance notice of the approximate time, duration, and reason for any urgent maintenance.

Maintenance Windows:
Routine maintenance may be performed during the following maintenance windows:

Monday – Friday 12 a.m. – 6 a.m. Local Time

VIII. Service Credits

Any SLA credits shall be calculated based on a percentage of the Service Charges for the Service that was affected by the Service Disruption. All credits must be (a) requested by the Customer within 30 days of a Service Disruption by calling the Customer Care Center and opening a trouble ticket and (b) confirmed by TWCBC engineering support teams as associated with a trouble ticket and as failing to meet the Network Availability and/or MTTR targets. The credits described in this SLA shall constitute Customer's sole and exclusive remedies, and TWC's sole and exclusive liabilities, with respect to TWC's failure to meet any service level commitments outlined herein. Customer shall not be eligible for credits exceeding four (4) months of Customer's applicable monthly Service Charges during any calendar year.

Network Availability Credits

In the event that Network Availability is less than 99.99% in any calendar month, then upon Customer's compliance with this section, Customer is entitled to receive a credit equal to thirty percent (30%) of the applicable monthly Service Charges for the affected Service, to be applied as a credit or set-off against any amounts otherwise due by Customer to TWC.

Meantime to Restore Credits

In the event that MTTR for Priority 1 Outage averages greater than 03:59:59 hours, then upon Customer's compliance with this section, Customer is entitled to receive a credit equal to the percentage of the applicable monthly Service Charges for the affected Service as set forth below, to be applied as a credit or set-off against any amounts otherwise due by Customer to TWC.

MTTR	Monthly Credit (% of Service Charges)
> 4 hours ≤ 7:59:59 hours	4%
> 8 hours	10%