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March 7, 2014

Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

RE: Connect America Fund, WC Docket No. 10-90

Federal Communications Commission

M-22 Internet Project, LLC (“M-22IP”) is pleased to submit this expression of interest (“EOI”) to participate in the Next Generation Network Experiments in Rural America program recently announced by the Federal Communications Commission (“Commission”).

As the technology continues to advance, fixed-wireless represents an increasingly important component of a cost-effective, long-term strategy for ensuring universal service in rural America as the IP transition unfolds. In order to optimize policy choices and maximize return on taxpayer investment over the intermediate term, the Commission would benefit from additional information regarding fixed-wireless deployments in rural markets.

Like many other wireless internet service providers, M-22IP entered this business to solve the last-mile problem in our area. We are eager to work with the Commission to demonstrate and document how rapidly and cost-effectively fixed wireless can be deployed to help solve this critical national issue.

As set forth in greater detail below, by funding the proposed network expansion (“Expansion”) described in this EOI, and reviewing the related data M-22IP would collect, the Commission will be able to evaluate (i) the superior value that fixed-wireless last-mile networks can offer in rural markets as compared to wireline alternatives, (ii) the relative speed with which fixed-wireless networks can be deployed, (iii) end user assessments of the desirability and quality of service a fixed-wireless last-mile connection can offer, (iv) the sufficiency of existing unlicensed spectrum in rural markets, and (v) the extent to which end users in rural markets continue to desire telephone service in addition to their mobile phones.

Consistent with the Commission's objectives for these experiments, the Expansion can be completed rapidly and for a one-time cost that represents approximately 16 months of the model based support that would be available to incumbent providers.

In many areas, the same incumbent providers who have largely opted not to invest in rural markets will not be able to provide the most cost-effective last-mile solutions. Instead, these solutions will be deployed by operators whose business models are optimized for smaller-scale deployments. For this reason, that the level of public support indicated in this EOI is small in comparison to the funding requested for other types of deployments should not be a barrier to the Commission's funding of experiments of this size. On the contrary, small-scale deployments are precisely the solutions about which the Commission needs a greater understanding, and the Commission should therefore ensure the funded experiments include several that require less than \$500,000 in public support.

1. About M-22IP

M-22IP uses fixed wireless technology to provide high-speed internet service to homes and businesses in Benzie and Manistee Counties in rural, northwest Michigan. Our service area and the area to be served by the Expansion are on the edge of the service areas of several wireline providers. For this reason these areas are unable to receive DSL or other services from incumbents, and do not represent an attractive area for expansion investment by any of the neighboring providers. Aside from limited pockets where wireline broadband service is available, in the vast majority of our service area, M-22IP is the only provider of broadband service. In the locations where our network is operating, we have solved the last-mile problem.

At present our principal offerings are our Basic and Economy tiers, which offer speeds of 20mbps down / 20mbps up and 5mbps down / 2 mbps up, for a monthly fee of \$89.99 and \$64.99, respectively.

Our service area and the area to be covered by the Expansion contain a broad variety of end users. Year-round residents across the income spectrum have never had broadband access and are being left behind in the IP transition. There are also a significant number of seasonal residents, who are accustomed to the types of services offered in urban markets and increasingly frustrated at their inability to remain connected while in this area. This lack of broadband access is causing seasonal residents to reduce the amount of time and money spent in this area each year. If left unaddressed, this lack of connectivity will have a significant impact on the long-term economic vitality of this region. At the same time, the heavy concentration of seasonal residents makes it more difficult to achieve and maintain the type of subscriber base that would be necessary to support private investment in capital-intensive FTTH deployments.

Our service area and the area to be covered by the Expansion also span a variety of geographic and topographic conditions. On the western edge, the Lake Michigan shoreline is characterized by more densely populated, bowl shaped valleys, the walls of which prevent customers from accessing 3G and 4G networks. In the east, the terrain becomes much more flat but the population density declines substantially. As such, this area is a microcosm for much of rural America and an excellent location to gather data with broad applicability.

The service area is also adjacent to an ARRA-funded middle-mile fiber network. As such, the Expansion presents an opportunity to test the impact of such networks on wholesale bandwidth costs.

2. Expansion Service Area

Through the Expansion, M-22IP would expand its fixed-wireless coverage area into all of the unserved census blocks in the census tracts set forth in the table below¹:

Tract ID	Eligible High Cost Locations	Extremely High Cost Locations	Annual Support
26101000100	105	4	\$ 80,396.72
26101000200	80	9	\$ 48,425.64
26019000500	425	19	\$ 108,177.46
Totals	610	32	\$ 236,999.82

Maps depicting these areas in greater detail are attached as Exhibit A.

As expanded, the M-22IP service area would include many community anchor institutions, including the following:

Arcadia Township Hall	Blaine Township Hall
Pleasanton Township Hall	Joyfield Township Hall
Pleasant Valley Community Center	Benzie Shores District Library

¹ The Expansion would also extend M-22IP’s coverage area into all of the unserved blocks in census tract 26101000300. While this tract was not listed as “potentially eligible” in the Commission’s release of February 6, 2013 (available at: “<http://transition.fcc.gov/bureaus/wcb/ExperimentEligibleLocationsPN020514.csv>”), several blocks in this tract are identified as Connect America Fund Phase II Eligible on the “Commission’s Map” (available at: <http://a.tiles.mapbox.com/v3/fcc.l4qme7b9/page.html#10/44.3175/-85.7998>). In addition to those blocks within tract 26101000300 identified as eligible on the Commission’s Map, the Expansion would also serve the following blocks in the tract: 1000, 1001, 1015, 1019, 1016, 2012, 2013, 2016, 2017, 2018 2019 and 2066. These blocks are not identified as eligible on the Commission’s Map; however, M-22IP is aware that broadband service meeting the Commission’s standards is not presently available in these blocks.

M-22IP would provide, at discounted rates, high-capacity service suitable for educational and health care uses to community anchor institutions within the service area.

3. Project Scope

Through the Expansion, M-22IP would provide broadband data and VOIP service over a robust and reliable fixed-wireless network that is designed from the outset to scale to address future needs. We anticipate offering the broadband service tiers set forth in the table below to residential customers.

Mbps Down	Mbps Up	Monthly Fee
5	2	\$39.99
10	5	\$59.99
20	10	\$79.99

We contemplate making each of these service offerings available to any location within the service area.

Installation fees for residential customers would be as follows:

Service Commitment	Installation Fee
1 year	\$99.99
2 years	\$49.99

Our installation process would include basic digital literacy training for any customers requesting it.

The least expensive residential plan would include monthly usage of at least 150GB and higher tiered plans would include substantially greater data allowances. Customers would be offered incentives to conduct data-intensive activities during off-peak hours. Average latencies would not exceed 50ms.

Customers would have the ability to add unlimited VOIP service to any broadband plan for an additional monthly charge of \$19.99 (an amount that is less than one-half of the cost of a POTS line with comparable characteristics in any of the towns in the area). M-22IP would offer commercial customers comparable broadband and voice offerings at slightly higher prices. Commercial customers would also be offered dedicated broadband connections with higher speeds.

The Expansion network would be dual-homed with upstream connections through geographically diverse fiber networks. In the event of a power disruption, backup power sources would ensure the core of the Expansion network would continue to function properly for at least 48 hours.

The data and voice offerings the Expansion would support represent an exponential increase in connectivity in the covered blocks and will be sufficient to meet the foreseeable needs of homes and businesses in this area for many years. By funding the upfront capital costs, the Commission would enable M-22IP to immediately begin reserving a significant portion of ongoing revenue to support investment in future network upgrades. Thus, the Commission would be “seeding” a robust, scalable network that would be fully self-sufficient in the future.

The Expansion would offer service to at least 75% of the high and extremely high cost locations in the covered census blocks within 9 months of receipt of funding (and substantially sooner if funding is awarded in time to begin deployment before the winter). Service would be available to at least 90% of locations within 12 months. M-22IP will maintain location-specific data to track the rate of coverage expansion and verify that coverage objectives are achieved.

4. Funding Requirements

In order to complete the Expansion, M-22IP would require approximately \$300,000 in financial support (or 25% of the funding that would be available to incumbent providers over five years). This support would come in the form of a one-time payment, which M-22IP would use to fund the initial infrastructure costs associated with the Expansion. A high-level breakdown of these costs is set forth below.

Provisioning and Site Preparation	\$ 49,000
Towers and Permanent Infrastructure	\$129,000
Wireless, VOIP and Networking Equipment	\$ 98,500
Data Collection, Analysis and Reporting	\$ 25,000
<u>Total Funding Requested</u>	<u>\$301,500</u>

This level of funding assumes that, upon completion of build-out, all ongoing operating expenses and future network upgrades would be funded from ongoing operating revenues. With additional financial support, M-22IP could offer plans at lower price points and/or with even greater features.

As demonstrated above, M-22IP can complete the Expansion, serve at least 90% of the high and extremely high cost locations in the covered blocks, and gather, analyze and report related data for a one-time investment in an amount representing less than sixteen months of the support that would be available under the Commission’s cost models. As such, the Expansion will be an excellent test case to demonstrate the ability of fixed-wireless to solve the last-mile problem in rural areas in a manner that represents a significant value for taxpayers.

5. Data Collection

In conjunction with the Expansion, M-22IP will undertake a comprehensive data collection effort that will provide the Commission with the type of real-world information that it needs to determine how to best allocate the limited public funding available to provide universal service and ease the IP transition in rural communities. Through regular customer surveys, network monitoring, and in-field testing and analysis, M-22IP would obtain data to enable to Commission to evaluate the following issues:

- a) The extent to which consumers continue to value or require a fixed telephone connection
- b) The extent to which consumers with a competitive VOIP alternative retain their legacy POTS service, replace such POTS service with VOIP, or abandon fixed phone service entirely in favor of a mobile-only alternative
- c) The availability and reliability of VOIP over a fixed-wireless last-mile network as compared to the availability and reliability of POTS service at select locations in our service area where both alternatives are available
- d) The extent to which consumers in areas with satisfactory mobile telephone service are willing to share the cost of providing at least 24 hours of battery backup for VOIP-related customer premises equipment
- e) The actual connection speeds required by end users across various time frames and categories of end user
- f) The aggregate data demands of end users, across various time frames and categories of end user
- g) The extent to which time-of-day incentives will encourage users to perform data intensive activities that are not time sensitive during off-peak hours
- h) The extent to which existing unlicensed spectrum is sufficient to provide a superior end-user experience in rural markets
- i) The extent to which consumers regard connectivity provided over a fixed-wireless last-mile connection as equivalent to a wireline alternative
- j) The extent to which a fixed-wireless last-mile solution can enhance connectivity and quality of life for persons with disabilities in markets where FTTH is unlikely to be offered for the foreseeable future
- k) The availability and reliability of a dual-homed, geographically diverse fixed-wireless broadband connection as compared to the availability and reliability of wireline service service at select locations in our service area where both alternatives are available
- l) The percentage of locations that can be served by fixed-wireless deployments and the speed at which such coverage can be achieved
- m) The suitability of fixed wireless as a last-mile solution in pockets of rural America that are on the edge of the networks of more than one incumbent provider
- n) The extent to which proximity to a publicly supported middle-mile fiber network reduces wholesale bandwidth costs
- o) The cost and other resource burdens associated with a last-mile provider's attainment of ETC status

Information would be collected in a manner that would enable the Commission to evaluate differences between year-round and seasonal residents, while preserving and protecting the anonymity and privacy of customers.

6. Local Government Support

M-22IP has enjoyed strong support from local governments since its inception. We are pleased to have received the specific letters of support for this EOI attached in Exhibit B. Additional letters of support will be forthcoming, but were not received in time for this submission in light of the short response timeframe and the fact most local government bodies in this area meet only once each month.

7. ETC Status

M-22IP is not presently regulated as an ETC and would obtain ETC status in order to accept the financial support requested in this EOI. M-22IP urges the Commission to use the Next Generation Network Experiments in Rural America program to re-evaluate the burdens associated with attaining such status and consider establishing a streamlined federal process for small-scale providers meeting certain criteria, that would apply if a state fails to act on an application from such a provider within a 60-day period.

8. Conclusion

We look forward to participating as the Commission advances the Next Generation Network Experiments in Rural America program and hope to have the opportunity to demonstrate the potential offered by fixed wireless.

Respectfully Submitted,

/s/

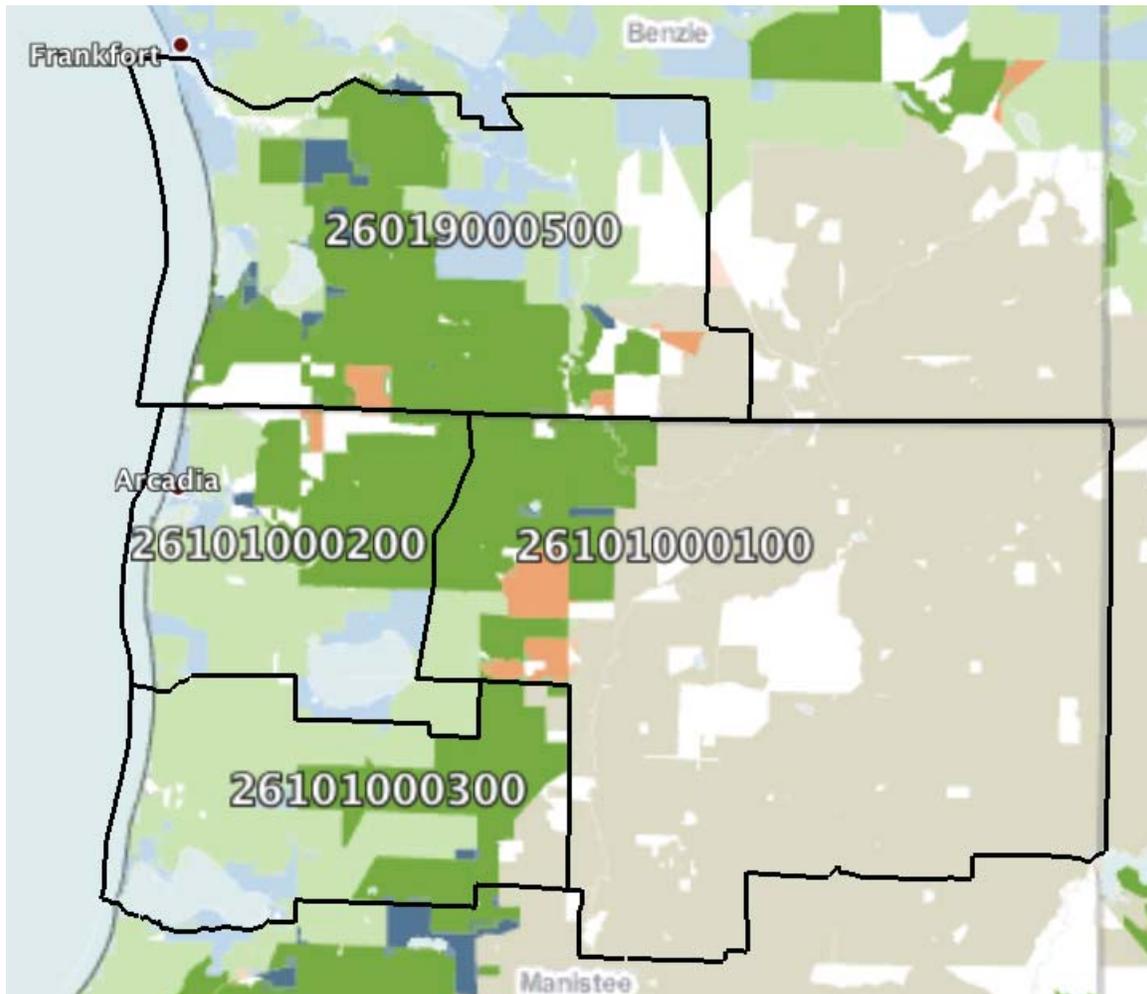
James G. Carr
President

Attachments

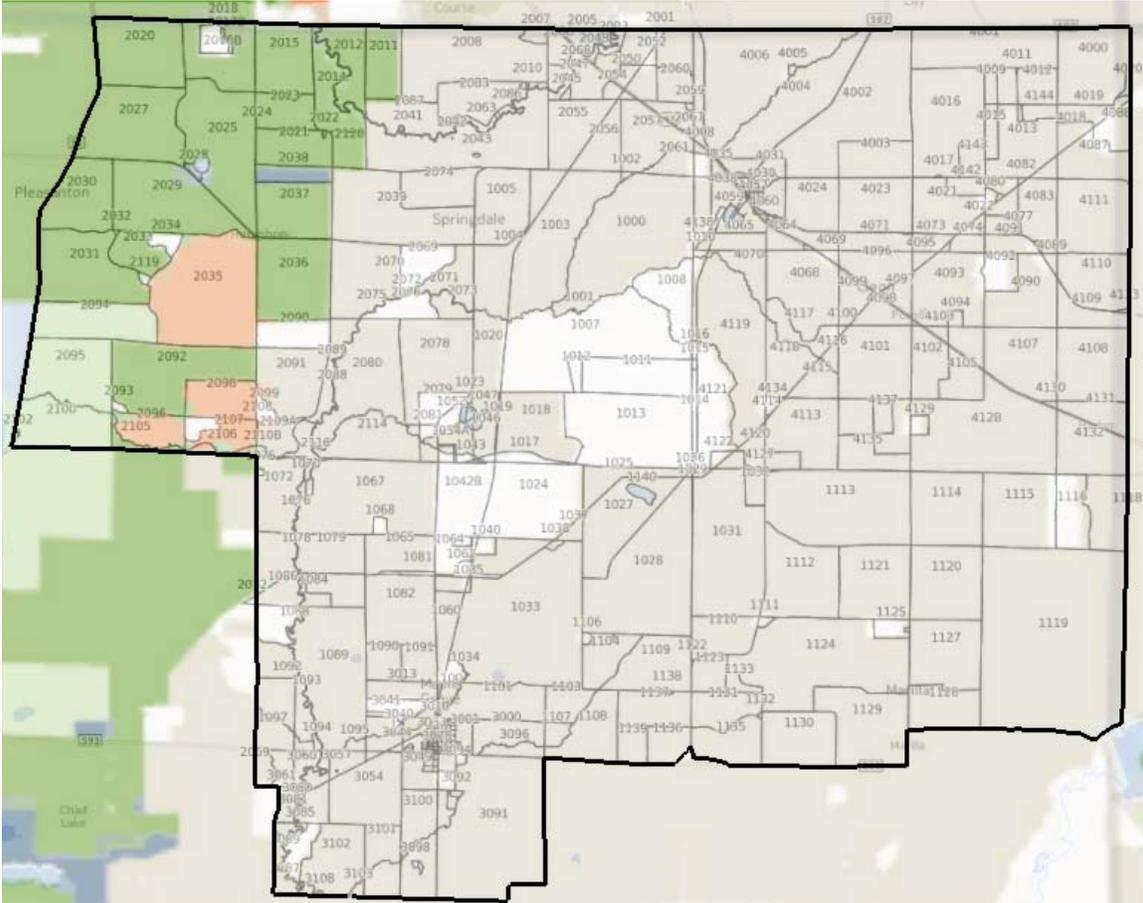
Exhibit A – Tracts to be Served
Exhibit B – Letters of Support:
 Lakes to Land Initiative
 Blaine Township
 Arcadia Township

Exhibit A

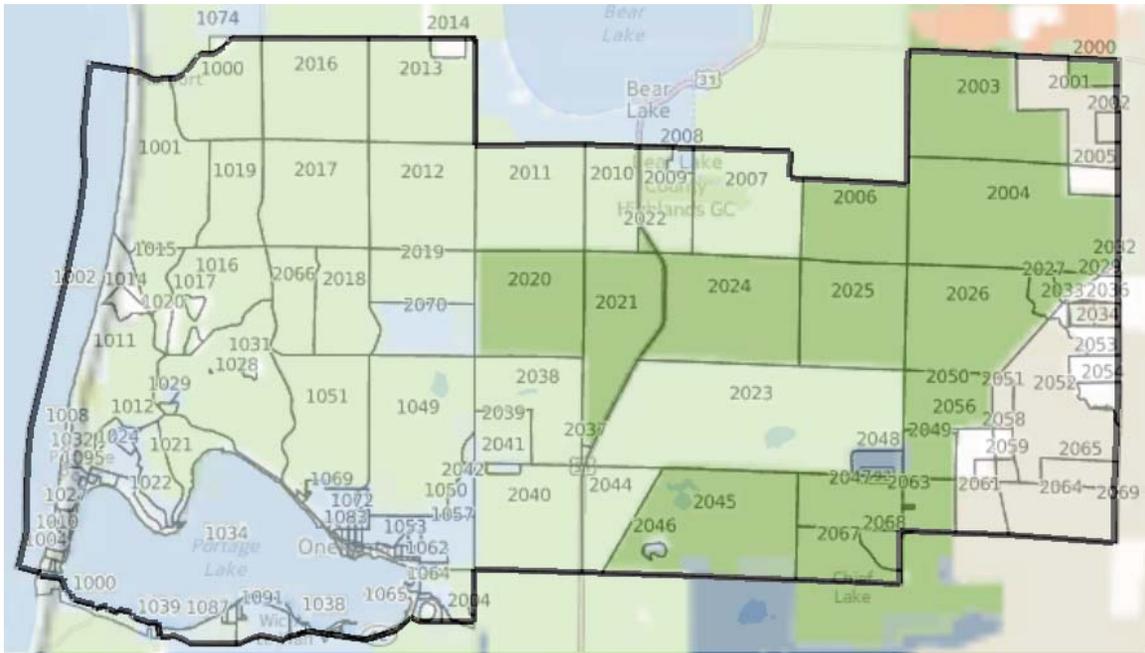
**Tracts To Be Served
Manistee and Benzie Counties**



**Manistee County, MI Census Blocks
Tract ID 26101000100**



**Manistee County, MI Census Blocks
Tract ID 26101000300**



**Benzie County, MI Census Blocks
Tract ID 26019000500**

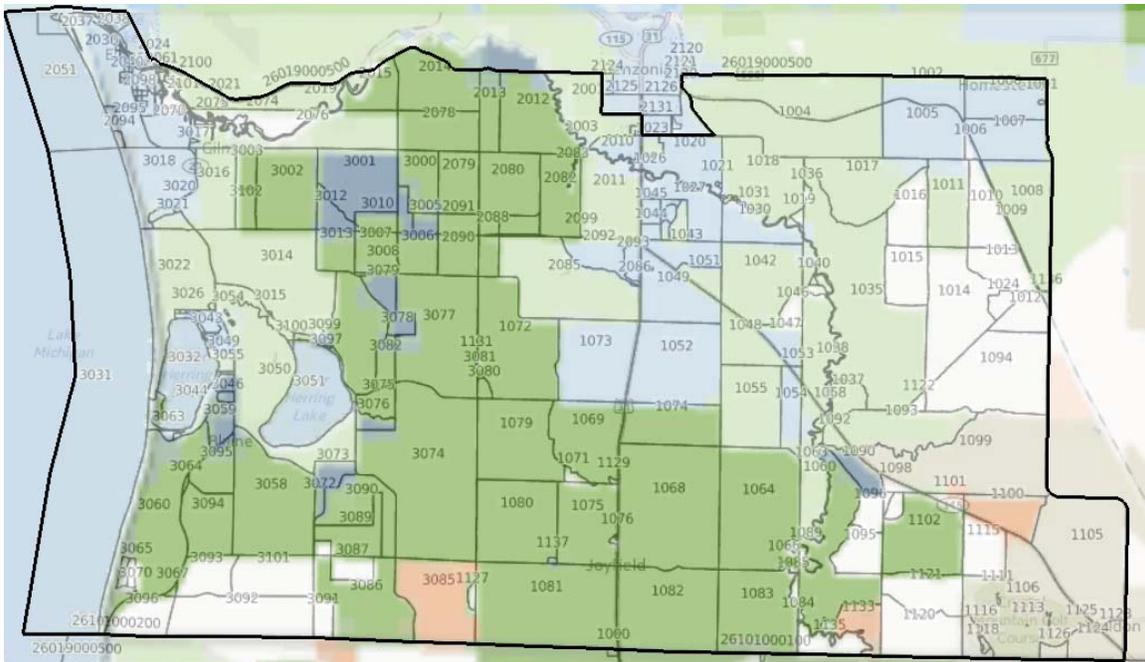


Exhibit B

Letters of Support



PO Box 169
Arcadia, MI 49613

March 6, 2014

To the Federal Communications Commission:

As Co-Chair of The Lakes to Land Regional Initiative, I am pleased to express my strong support for the M-22 Internet Project's Expression of Interest to participate in the Next Generation Network Experiment program. The Initiative is a unique joint planning effort among the northwestern Michigan townships of Arcadia, Blaine, Crystal Lake, Gilmore, Bear Lake, Joyfield, Lake, Manistee, Onekama, and Pleasanton, the Villages of Honor, Onekama, Bear Lake, and Elberta, and the Cities of Frankfort and Manistee. It seeks to bring voices from throughout the region into an articulation of a vision for the region's future.

Our process will result in a series of master plans which include a detailed assessment of the community, coming to consensus on a shared vision, and translating this vision into policy and action statements. The communities will then collaborate on a clear set of strategies for achieving that vision, across municipal boundaries to view the region as a whole.

Lack of broadband access is a critical issue throughout this region and addressing the digital divide is a key area of focus in our efforts. In several participating jurisdictions the M-22 Internet Project is now providing homes and businesses with cost-effective connectivity.

By providing the resources required to fund the initial capital costs of the M-22 Internet Project's proposed expansion, the Commission would help ensure this region will have the basic infrastructure required to grow and compete in the global economy. The Commission would also demonstrate the value that fixed wireless can offer in rural areas that lack the density required to attract significant investment from incumbent providers. Because the expansion can be substantially complete in less than one year, the Commission would also have timely information to inform its future policy decisions.

The M-22 Internet Project's proposed expansion is an ideal opportunity to achieve the Commission's objectives for these rural experiments and would quickly provide an exponential improvement in access for a fraction of the cost of wireline alternatives. We urge the Commission to work with the M-22 Internet Project to advance this critical project.

Sincerely,

Brad Hopwood
Co-Chair, Lakes to Land Regional Initiative
Chair, Arcadia Township Planning Commission

Blaine Township
4760 Herring Grove Road
Arcadia, MI 49613

March 5, 2014

Federal Communications Commission
Washington, DC 20554

To the Federal Communications Commission:

I am pleased to offer Blaine Township's support for the M-22 Internet Project's Expression of Interest to participate in the Next Generation Network Experiment program.

Blaine Township is an excellent example of the significant unmet need for modern information technology solutions in rural communities. Our citizens are not served by the incumbent cable provider and do not have access to DSL service. By virtue of our geography and topography, even the already substandard offerings of cellular and satellite providers are difficult to access and unreliable.

Our township was pleased to make an initial financial commitment to the M-22 Internet Project to help it expand service here. The project has given portions of our township a new, high quality internet offering, which our citizens and seasonal residents were previously told would only be available in urban areas. The M-22 Internet Project provides service to the township hall, and many residents are using its service for applications such as voice-over-IP, streaming video and for educational and other purposes.

With access to additional funding to support its network expansion, the M-22 Internet Project would be able to provide additional segments of this township with the internet connectivity we need to ensure continued economic vitality. If the M-22 Internet Project is selected to receive funding through this program, our township will continue to support its efforts.

The M-22 Internet Project's Expression of Interest to expand service in this region would provide an essential benefit for our citizens and serve as a demonstration project for similar communities in the future. Blaine Township is pleased to offer its strong support for this proposal and we urge the FCC to look favorably on the M-22 Internet Project's submission.

Sincerely, 

Thomas V. Campbell
Township Supervisor

ARCADIA TOWNSHIP

3422 Lake Street
PO Box 318
Arcadia, Michigan 49613

March 3, 2014

Federal Communications Commission
Washington, DC 20554

To the Federal Communications Commission:

Arcadia Township is pleased to offer its support for the Expression of Interest submitted by the M-22 Internet Project to participate in the Next Generation Network Experiment program.

We applaud the FCC's decision to create this funding mechanism as it seeks to determine how best to support the IP transition. Arcadia and our neighboring townships are exactly the type of rural markets that universal service was intended to benefit, and are the ideal location for a project to demonstrate how a redesigned public funding mechanism can provide superior outcomes at reduced cost.

Before the M-22 Internet Project commenced operations, citizens in large segments of our township did not have access to reliable, high-speed access internet access with data allowances consistent with the needs of modern homes and businesses. The M-22 Internet Project has demonstrated the ability of fixed wireless technology to solve the "last-mile" problem in communities such as ours. Access to additional capital will help accelerate our community's connection to the global economy.

If the M-22 Internet Project is selected to receive funding through this program, our township will continue to support its efforts in all appropriate ways, including through planning coordination, efficient and streamlined approval processes, and by providing in-kind support.

We encourage the FCC to accept the M-22 Internet Project's Expression of Interest and look forward to working with the FCC, and other state and local authorities to demonstrate the viability of new approaches to connecting communities such as ours.

Sincerely,



Douglas C. Carter
Supervisor
Arcadia Township