



**REQUEST FOR INFORMATION (RFI)
CONCERNING
WIRELESS BROADBAND SYSTEM DEVELOPMENT
FOR THE MEMBERS OF
THE MARIN GENERAL SERVICES AUTHORITY (MGSA)**

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I. PURPOSE

A. Creative and Innovative Wireless Broadband System Concepts Sought

In the latter part of 2006 and the early part of 2007, the Marin General Services Authority (MGSA) and its consultant, CBG Communications, Inc., conducted a wide-ranging Wireless Broadband Needs Assessment Study (this Study can be found as Attachment 1 to this RFI). ***The Study indicated that there is tremendous interest across many segments of the Marin community in development of a comprehensive, advanced wireless broadband network*** that would serve the various Communities of Interest (residential, business, nonprofit, educational, public agency, community group, etc.) within the member jurisdictions of the MGSA. For example, the study found that a majority of residents believe individual access to a wireless network is very important or important and also say that they would pay between \$10.00 and \$20.00 a month for wireless access. Additionally, both residents and governmental entities strongly agree that it is important for public safety and other government agencies to have access to an advanced wireless network. A detailed description of the needs, interests and concerns of all the community segments assessed can be found in Attachment 1.

Throughout this document, the MGSA asks a number of key questions concerning wireless broadband system development. The MGSA is looking for information regarding creative and innovative system solutions that will address the questions and point to elements that the MGSA will incorporate into a specific system concept for Marin. Specifically, the MGSA is seeking to develop a solid, supportable, sustainable system model for wireless broadband deployment in Marin.

After reviewing the information provided in response to this request, the MGSA intends to then move forward to facilitate development of a wireless broadband system that ***best fits the needs of system providers and users. Respondents are encouraged***

to respond to any or all of the information requests made herein. Any information provided will be thoroughly and carefully considered by the MGSA for incorporation into its ultimate system concept.

B. Background

The Marin General Services Authority (MGSA) is a Joint Powers Agency (JPA) comprised of Marin County, California (County) as well as the Cities, Towns and Unincorporated Districts within Marin County including the Cities of Belvedere, Larkspur, Mill Valley, Novato, San Rafael, Sausalito and the Towns of Corte Madera, Fairfax, Ross, San Anselmo and Tiburon. The MGSA has responsibility for a variety of activities pertaining to its member jurisdictions, including control of all streetlight operations within Marin County and its incorporated municipalities. The MGSA will be working “hand in hand” throughout this process with four other Marin agencies with aligned wireless interests to ensure that the ultimate concept chosen for moving forward has the consensus support of all pertinent Marin constituencies. These agencies are: the Marin Telecommunications Agency (“MTA”), a JPA representing the County and 10 other member local governments, the Marin Emergency Radio Authority (“MERA,” another JPA), the JPA Oversight Committee, and the Wireless Marin Advisory Committee (comprised of two representatives from each involved JPA [MGSA, MERA, MTA] and the Oversight Committee).

The MGSA is seeking information for its membership on ***the best ways to facilitate deployment of a wireless broadband system or systems*** to serve both the internal needs of its member jurisdictions as well as the external needs of their residents, businesses and visitors.

C. Area and Market Information

A vibrant, communications-minded population of 246,960 people reside in the various Cities, Towns and Unincorporated Districts within the County’s 520 square miles. Marin County is located in the North San Francisco Bay Area directly across the Golden Gate

Bridge from San Francisco. Marin combines **a strong and diverse economy with the highest per capita income of any county in the country**. The County is home to numerous high tech companies and approximately 2000 employers, ranging in size from 1 to over 1000 employees. Industries in Marin include: healthcare, agriculture, ranching and dairying, movie and video production, computer software and communications equipment manufacturing, printing, manufacturing of plastics, ceramics and cheese and numerous service-based businesses such as restaurants. Marin County competes successfully in regional, national and global markets.

Much of the County consists of hilly terrain with elevations within the County ranging from sea level at the coastline to 2,600 feet above sea level at Mount Tamalpais. Of the 520 square miles of land area within the County, approximately 45% is comprised of federal, state and County parkland and open spaces as well as water district land devoted to recreation. This promotes the County as a recreation area for the entire Bay area and beyond. We know that overcoming terrain obstacles as well as working to provide the broadest possible coverage present significant technological and economic challenges to widespread wireless broadband rollout in Marin. Consequently, we seek information on hybrid models, phased approaches and other elements that may be necessary to serve the needs of various community segments and provide coverage to less populated areas such as West Marin (comprised of Inverness, Marshall, Muir Beach, Olema, Point Reyes, Stinson Beach and Tomales).

As described at <http://www.marin.org/comres/education.cfm>, the County's education system is comprised of 19 school districts with enrollments ranging from 12 to 7000 students. In addition, the College of Marin has two campuses, one in Kentfield and the other in Novato, and Dominican University's campus is in San Rafael. There are also numerous private schools in the County. A number of these educational entities are currently involved in development and/or operation of wireless broadband networks for their campuses.

Regarding current broadband access options, during the Needs Assessment Study it was found that a variety of broadband options currently exist in areas within Marin

including; cable modem, DSL, cellular networks, satellite, fiber optic networks (for businesses) and wireless hot spots. However, the Study also indicated that residents, businesses, government agencies and others have significant issues and concerns with the existing broadband options in Marin, ranging from high cost and slow speeds to non-availability in their area and lack of portability and mobility.

D. Goals and Objectives

As determined during the needs assessment process and as described in detail in the Wireless Broadband Study (Attachment 1), eight different goals and objectives were found to be key drivers of a Network that would best serve Marin. These goals and objectives can be summarized as follows and grouped according to developmental priorities. The wireless broadband system should first provide the highest available bandwidth in a highly reliable and secure manner by utilizing the latest technological advances. In addition, the system will need to provide service to public safety entities as well as facilitate applications for other public agencies. Furthermore, the system, likely through a phased implementation, should provide service to geographic areas of the County that do not currently receive a high degree of broadband services, such as West Marin, as well as communities that cannot currently afford broadband services. The system should ultimately allow for the maximum value to be gained by the MGSA related to utilization of public vertical assets and its members' Rights of Way (ROW) and also must not compromise environmental health.

Together these goals are designed to satisfy the three core values for any Marin system: Coverage, Mobility and Equality. The MGSA understands that more than one business/operational model may need to be implemented to achieve all of these goals and objectives. We encourage Respondents to provide information on **how these goals and objectives can be achieved using various models** that are successfully in service in other systems.

Implicit in these stated goals is the need for any design to have the following essential elements:

- **Functionality:** A system that provides an “easy to use” experience and basic functions such as access to email, mobile applications, and voice/data needs;
- **Reliability:** A system that is “always on” despite the network’s evolving characteristics, the mobile setting, or environmental factors;
- **Commonality:** A system with a common user experience notwithstanding geography, overlapping technologies and varying environments;
- **Scalability:** A system that can be replicable to expanded and new applications and locations;
- **Supportability:** A system that can be maintained remotely, and can be monitored and configured for evolving needs;
- **ROI:** A system with a demonstrable Return on Investment.

E. Treatment of Proprietary Information

The MGSA operates under the California Public Records Act, Government Code Section 6250 et seq. Information submitted in response to this RFI will be protected to the extent permitted under the Act. There are specific sections of that Act which provided for the protection of trade secrets and other proprietary information. No representation is made by the MGSA that any of the information you may submit is protected under the Act. It is the responsibility of the respondent to duly note any information it asserts is protected under the act.

F. Next Steps

Information provided at this RFI stage is very important and will help enable the MGSA and its member jurisdictions to proceed forward to facilitate deployment of wireless broadband technology, most likely on a joint member basis. Specifically, members have expressed that they may wish to, ***after reviewing the information provided by RFI respondents:***

- Proceed with a pilot project(s)

- Develop an RFP for specific implementation of infrastructure and/or services, and/or
- Proceed with region-wide, multiple member-wide or municipality-wide, full scale implementation of a wireless broadband concept

II. WHAT IS THE BEST BUSINESS/OPERATIONAL MODEL?

The MGSA and its member jurisdictions are interested in exploring the variety of different types of business and operational models to determine the model or models that would provide the best business case for sustainable wireless system deployment while also meeting the goals and objectives detailed further in this RFI.

We desire the respondent to provide information on ***the model or models that would be the most effective in Marin***, include the following:

- ***Public/Private Partnership*** – the best combination of public and private involvement to successfully deploy the wireless broadband system.
- ***Anchor Tenant*** – the MGSA would reach agreement with a private network provider to utilize the MGSA's vertical assets, as well as each jurisdiction reaching agreement on the use of other vertical assets and ROW, in exchange for certain forms of compensation to the public. As part of this, agreement would also be reached for a paid level of service to be utilized by the MGSA's member jurisdictions.
- ***Commercial*** – a commercially sponsored and implemented model, including a model designed to be self-sustaining at some level of no or low cost user access by, for example, selling commercial advertising as the underlying support mechanism.
- ***Non-profit Owned*** – the development of a public non-profit or private non-profit to spearhead system deployment and manage system operation and service provision.
- ***Joint Powers Agency (JPA) Managed*** – the development of a JPA to spearhead system development and coordinate system operation.

- **Public Utility Model** – developed and managed by the member jurisdictions
- **Private/Internal Network** – wireless system deployment for the sole use of the jurisdiction and its allied public entities, including a system strictly designed to enable Public Safety personnel to coordinate efforts, particularly during emergency response efforts. The MGSA is least interested at this time in a private/internal-only network since it wants to also provide access for its residents, visitors and businesses. However, it would like to review any additional information provided by respondents on this model.

Please provide examples of municipalities, counties, regions, etc. where the models you describe have been successfully implemented. Also, knowing that many of the issues discussed herein (infrastructure considerations, backhaul and ISP access, service, maintenance and repair, system cost. etc.) are significantly affected by the business/operational model(s) chosen, it is important for the respondent to discuss these issues in light of the preferred model(s) that it would recommend deploying. For example, how would service, maintenance and repair best be accomplished in the public/private partnership model versus the entirely public utility or commercial models?

III. HOW CAN NEEDED APPLICATIONS BE ENABLED?

The MGSA, its member jurisdictions, and their residents and businesses desire a system implementation that can, either from inception or through various migration phases, serve a wide variety of uses and users. Accordingly, please ***provide information on how the system can best be developed and configured to successfully enable the following applications*** in a reliable manner throughout Marin:

- **Various tiers of residential and business-class internet access**
- **High capacity broadband connections (primary or back-up) between public facilities**, such as school district buildings
- Enablement of **remote/field operations**, such as:

- Inspection and other field services
- Services for many types of public agency and commercial teleworkers
- Public Safety and transportation services data terminal transmission and reception
- Receipt and transport of graphic intensive data such as GIS maps, photographs and mug shots, other image files, etc.
- **Critical emergency service communications** including everything from medical telemetry to Reverse 911 messages
 - In your response to Reverse 911, describe how either current or future technology could be utilized to target emergency messages to just one or a small group of Access Point (AP) locations.
- **Internet Protocol (IP) Video** communications, including:
 - Streaming video
 - Video for first responder and incident management use
 - Surveillance video
 - Training and educational video
 - Public, Educational and Governmental (PEG) access video, including live community event and meeting coverage as well as outreach information about government and educational programs and services
- **Voice over IP** communications
- **Telecommuting**, including both portable and mobile (buses, trains, ferries, etc.)
- **Monitoring and control services** (supervisory control and data acquisition [SCADA], automatic meter reading [AMR], etc.), including enablement of automatic polling systems for meter reading, pump and flow readings and environmental instrument monitoring, as well as traffic signal control and traffic monitoring
- **Location based services** such as automatic vehicle locators (AVL) and overall radio frequency identification (RFID) devices
- **Directional services**, such as those through integrated geographical information system (GIS)/global positioning system (GPS) platforms
- **Personalization services** for e-government and e-commerce purposes
- **Transactional-based services** including immediate request services and

access to fee based services

- **Digital Inclusion** - During the Needs Assessment Study it was found that there is a critical need within the MGSA jurisdictions for addressing both un-served and underserved areas and populations of Marin, which currently combine to create a digital divide within the County. Respondents should propose methods to assist the MGSA in overcoming, in particular, the obstacles and issues profiled below in order to achieve a greater degree of digital inclusion (in other words, promotion of a common user experience throughout Marin), including:
 - **Computer literacy training**
 - What are the most viable methods of offering computer and network literacy training, or funding for such, to organizations and people within Marin that cannot utilize network communications, in whole or in part, because of the lack of computer and networking knowledge or training?
 - **Hardware and software for accessing the proposed network**
 - What is the best way to help bridge the digital divide issues that are based on the affordability of hardware and software needed to access the proposed network? For example, can refurbished computers and equipment or funding for such be provided as part of network development and operation?
 - **Services for entities that offer network access to the public via on-site computers and equipment**
 - Can higher levels of no or low cost service, at least 3 Mbps symmetrical, be offered to public agency, community and non-profit organizations that provide public access to the Internet including such locations as libraries, recreation centers, community centers and the Canal Alliance?

For more detail on the wealth of desired applications, see Attachment 1.

IV. WHAT IS THE BEST TECHNOLOGY OPTION?

The MGSA is aware that technology for wireless broadband system deployment is rapidly evolving. Consequently, we seek information about the **best option, or the best range of options, to deploy a system** that not only has proven viability under the range of conditions that will be present, but that allows for evolution into systems that may provide greater capabilities in the future.

A. Wi-Fi – What is the best use of technology based on established IEEE 802.11 a/b/g /n (commonly known as Wi-Fi) and related wireless broadband specifications?

B. WiMAX - What is the best use of technology based on IEEE 802.16a/d/e and related WiMAX specifications?

C. Overall Design Characteristics – Describe the best practices in a system design that could be employed in Marin. The MGSA is especially interested in current developments regarding:

- Mesh technology.
- Systems designed for only outdoor coverage.
- Systems designed for both outdoor and indoor coverage – Discuss methods for and costs to customers, such as a requirement for necessary CPE, for overcoming obstacles in order to receive service indoors. In particular, discuss reception in homes incorporating stucco siding and other materials not conducive to allowing signals to reach indoor equipment.
- System implementation needed to support priority based services (for Voice over IP, emergency communications, etc.), VPN's and VLAN's.
- How effective throughputs of at least one Megabit per second (Mbps) upstream and downstream per subscriber and up to 5 Mbps for broadcast quality video can be achieved and the basis or underlying assumptions to support the ability to

deliver such throughputs (costs, average take rates, number of AP's vs. residential or business user density, etc.).

- The technology refresh cycles that should be incorporated into network design and operation to ensure that the system does not become obsolete.
- Mechanisms for interfacing with broadband over cellular systems such as GPRS and EV-DO.
- The scalability of the system to support an increasing number of users and uses.
- Development of the 4.9 GHz spectrum on the system for utilization by public safety entities.
- Potential benefits for and enhancements to the MERA (Marin Emergency Radio Authority) and MIDAS (Marin Information and Data Access System) networks currently in use by the County and allied entities.

V. HOW WILL THE SYSTEM BE DEVELOPED?

A. Infrastructure Considerations

It will be important for the MGSA and its members to understand the physical nature of the technology to be deployed. MGSA members have oversight of various assets that can be used in deployment of the system, including thousands of streetlights and some streetlight poles as well as buildings. In addition, other assets in Marin, such as those overseen by the Marin Municipal Water District (MMWD), MERA, the Marin County Office of Education (MCOE), individual school districts and County agencies, as well as assets owned by individual Jurisdictions, may be available for utilization for the build-out of the system such as communications towers, water towers, buildings, conduit and fiber optic for backhaul purposes, other above ground structures, and Right-of-Way (ROW) locations for placement of ground mounted appurtenances. ***A listing of MGSA controlled streetlights and a web link to a detailed map of vertical assets can be found in Attachments 2 and 3.*** A review of this information shows that public vertical assets cover a minimum of 72% of parcels in Marin within a 300 foot radius.

Access to infrastructure beyond that controlled by the MGSA would need to be gained through the owners of those facilities, including also utility poles owned by AT&T, Comcast and Pacific Gas & Electric (PG&E), private buildings, infrastructure owned by various competitive local exchange carriers (CLECs), and other entities' infrastructure.

Accordingly, related to the preferred technological solution described by the respondent under Section IV, please provide information (i.e. narrative, specification sheets, URL links or other pertinent materials) concerning the following:

- The **physical antenna, transmission, and reception equipment that must be deployed on the streetlight, pole or other aerial infrastructure**, including a description of specifications (dimensions, weight, power consumption, transmission and reception radius, structural support required, etc.).
- A description of **how the connection to the power source is made**. This should include connections to streetlights and particularly how the respondent anticipates overcoming powering issues presented by streetlights wired utilizing a bank or gang-type method.
- The **types of supporting appurtenances** that would be collocated above ground or underground adjacent to the wireless access point (such as a wireline interface for backhaul purposes).
- The **number and nature of the access points** that would be needed under a variety of different scenarios taking into account the number and types of users, topography and overcoming dense foliage, dense building areas and other environmental factors that would impact deployment.
- A description of the **server hardware, system software, backoffice infrastructure and other components** that would be needed to support the external system.
- The **system monitoring tools** that would be employed to track performance and system usage, and alert the operator to the need to address peak periods and boost capacity.

B. Backhaul and ISP Access

The MGSA member jurisdictions have some capabilities, as well as relationships with allied entities such as agreements with private carriers for infrastructure utilization, which may be able to help facilitate provision of backhaul and/or ISP services. Additionally, Marin and the surrounding area is home to a number of ISPs who would desire access to a new wireless broadband network in order to provide services. Accordingly, please provide information regarding the following:

- What types of **wireless and/or wireline backhaul infrastructure and services**, including backhaul capacities and connection transfer rates to the Internet, are typically utilized for the type of deployment you described under Section IV above?
- How could **the MGSA or its member jurisdictions assist in maximizing capabilities while minimizing costs** to develop the appropriate backhaul network and ISP access?
- Describe the typical **ability and subject terms for Network use by third party** ISPs or other service providers. Describe any limitations or obligations on the content or delivery of information and services that would be placed on these providers.
- How is backhaul or network aggregation accomplished for public entities that are primarily looking at **private networking over the wireless broadband system** between their facilities, without going through the Internet?

C. Construction, Installation and Acceptance Testing

The MGSA and its member jurisdictions are prepared to **consider a variety of potential system construction and installation possibilities**, including everything from a complete service provider or turnkey installation to installations that would include local government contractor support personnel assisting in the development of the network. Related to this, please provide information regarding the following:

- For the best organizational model(s) and system concepts for Marin described in your response to Sections II and IV, the most efficient and cost effective way to install the system.
- **The typical timeframe for walk-out, design and other pre-construction work related to your proposed system concept** including gaining all necessary zoning approvals and other required permits.
- The **typical time** from the beginning of construction and installation **to complete system turn-up and service activation.**
- **How pilot, and ultimately complete system, acceptance testing would occur,** including both physical plant compliance with all required codes and electronic system compliance with all required regulations for either the licensed or unlicensed spectrum utilized, as well as a demonstration that all performance criteria are met or exceeded.

D. Implementation of a Pilot

Regarding pilot projects, the MGSA has observed that for other jurisdictions that have successfully implemented wireless broadband systems, or are in the process of implementing such a system, pilot projects were developed and studied prior to full system deployment. Accordingly, please provide information on the following:

- **Does the respondent recommend implementation of a pilot project** before making decisions on full system deployment? If so, why? If not, why not?
- **Should the pilot be constructed to test every conceivable variable** or parameter related to the technology chosen, service and technical support, capacity needed, etc.? If not, what subset of all the system development elements are the most critical to test?
- **How long should such a pilot last** in order to make an informed decision regarding larger system deployment?
- **What is the typical cost** (per user, per square mile, per AP, etc.) for a successful pilot implementation?

VI. HOW WILL THE SYSTEM BE OPERATED?

A. Service, Maintenance and Repair

The MGSA and its member jurisdictions are concerned about ongoing support requirements from several different perspectives. First, the MGSA wants to ensure that the system will continue to be viable and useful in the long term for internal applications as well as resident, business and visitor use. Second, the MGSA is concerned about the impact on its member jurisdictions' operations from a technical and customer service support point of view, including both manpower and material considerations. In light of this, please provide information concerning the following:

- Examples of **the types of service level agreements that have been developed** that ensure a high degree of system performance, including preventative and demand system maintenance and user support services.
- What are **the ranges of technical support that are typically expected to be provided** by local governments, vendors and service providers?
- **Who typically provides customer service** as part of a partnership or other joint local government/vendor or service provider arrangement? How is it best provided (800 number call center; tier one service funneled through a local number at the member jurisdiction; by voice, e-mail or a combination of both; initial use of self diagnostic programs; etc.)?
- How is **multilingual support** provided?
- What **types of network user agreements** are typically employed?
 - Do **such agreements typically indemnify the provider** concerning any misuse of the network by the user?
 - Do such agreements typically indicate that **CPE support is the responsibility of the user?**
- What is the **typical manpower, hardware and software required to develop a suitable backoffice** for support of a small to medium size, jurisdictional or regional member jurisdictions' system?

B. System Survivability, Security and User Privacy

The MGSA and its member jurisdictions are significantly concerned, based on both a past and recent historical perspective, about survivability of the wireless broadband system, especially as it may be utilized for critical emergency communications in a natural or man-made disaster (such as an earthquake or terrorist attack), as well as system security and user privacy. Accordingly, please provide information related to the following:

- Discuss the **Disaster Recovery Plan (DRP)** that can be put in place to enhance the reliability of individual components and the overall system, as well as the availability of the network during catastrophic emergencies. Potential network components to be addressed in your response should include:
 - Redundant access points
 - Redundant powering for network components
 - Alternate backhaul paths
 - Alternate ISP access
 - Interface with other wireline and wireless systems, especially those used for emergency communications. These will likely include broadband over 3G cellular technologies such as AT&T's High-Speed Downlink Packet Access (HSDPA) and Sprint and Verizon's Evolution-Data Optimized (EV-DO) systems.
 - Hardened equipment, especially as it relates to the ability to withstand excessive amounts of heat, wind, rain and other natural phenomena.
- Respondents should discuss **company philosophies and technology approaches relating to security** and associated utilization of methods needed to assure that maximum security measures are continually in place over the life of the Network. As part of this, discuss initial implementation of security mechanisms such as Wireless Equivalent Privacy (WEP), Wi-Fi Protected Access (WPA and WPA2 (802.11i

standard)), Temporal Key Integrity Protocol (TKIP), and Counter Mode with Cipher Block Chaining Message Authentication Code Protocol (CCMP), as well as plans for evaluating and implementing new security mechanisms in the future.

- In addition, what **measures** does the Respondent suggest that end users, including Governmental entities, take **to further insure an optimum level of secure transport** over the network?
- Describe how the Network operator will **comply with all applicable privacy laws** and track uses and users on the network only to facilitate easy access to the network.

C. Environmental Health

A significant concern ascertained throughout the Needs Assessment process is the effects of wireless broadband system RF radiation on the general public. Respondents should provide the following information to help assure the residents of Marin that all steps will be taken to ensure a safe and healthy environment for the public related to the effects of RF radiation:

- Describe the **individual output power specifications of all wireless equipment** to be utilized in the network and the **effective radiated power (ERP) of the network Access Points** and backhaul locations as they would be implemented to provide wireless network communications in the MGSA jurisdictions areas.
- Describe how the ERP will **comply with the levels specified by the FCC.**
- Describe how the system could be built to **minimize RF radiation and mitigate any potentially harmful effects.**
- Describe how the system operator would **continually monitor RF radiation and power output.**

- Describe how the system operator would **respond to and resolve resident complaints.**

VII. WHAT ARE THE ECONOMIC FACTORS INVOLVED?

A. Costs

As for any system implementation, meeting both economic viability objectives and public policy goals will require the best possible wireless system deployment for the lowest possible cost. Accordingly, for the range of information previously provided (i.e. applications to be enabled; type of technology; scalable network architecture; ranges of technical and customer service support; ranges of system reliability and network availability; environmental and other challenges to be overcome; etc.) please provide the following cost information:

- Construction, installation and system integration costs – this should include all costs from system design through initial turn-up and activation.
- **Hardware and replacement/upgrade costs for the network, backoffice and technical support** – please delineate and describe in as much detail as possible.
- **Software costs for all transport network connectivity, network access, security, customer service and other allied systems** – this should include initial implementation as well as software update and upgrade costs over the projected life of the system.
- **Human resources costs** - including construction, installation, maintenance, network support, backoffice support, customer service support and any other human resources costs.
- **Internet access costs, including initial and expanded costs as greater levels of Internet access are needed** – this should also include any typical backhaul transport costs for the transfer rate required from the central server location to the ISP.

Additionally, for the business/organizational model(s) you described above, what typically are the:

- **Overall costs** that must be borne by the local government or consortium of local governments.
- **Costs to users** of the network.

Funding Mechanisms – The MGSA is aware of certain **grant opportunities that are available** to support at least certain portions of wireless broadband network development. For example, federal grants are used by some jurisdictions to fund new CPE requirements in order to utilize Wi-Fi and (currently pre-certified) mobile WIMAX systems. In light of this, based on your experience, please provide information on funding sources beyond the MGSA, its member jurisdictions or users of the network (such as state and federal grants, rural development grants, private grants, matching funds, etc.).

B. Compensation

The MGSA understands that there is significant value for use of its members' ROW and its vertical assets. Please describe the anticipated compensation to the MGSA for utilization of these assets. Compensation models could include some or all of the following:

- Monthly or annual payments for each vertical asset being utilized for network deployment. This would include reimbursement for fees imposed by PG&E on the MGSA for the additional power consumption needed for wireless equipment located on the aforementioned streetlights and other infrastructure.
- Revenue sharing.
- In-kind services such as certain levels of network access provided to various public safety and other government agencies.

- Access availability for persons affected by Digital Divide issues (see further details in the earlier subsection of this RFI entitled Digital Inclusion).
- Other compensation mechanisms.

VIII. ALTERNATIVE CONCEPTS

Related to the information sought by the MGSA and its member jurisdictions herein, if there are any ***alternative concepts that have heretofore not been mentioned*** that you think that the MGSA and its member jurisdictions should consider, please describe them within this section.

IX. ANCILLARY MATERIALS

Please provide ***descriptive materials that describe your organization***, its experience, its capabilities, and any other attributes of which you believe the MGSA and its member jurisdictions should be aware.

X. AUTHORIZED RFI RESPONSE CONTACT PERSONS

Respondents are advised that **the Authorized Contact Person for questions regarding format for submission, information about the MGSA and similar matters is:**

Name: Michael Garvey
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E-Mail Address: rfi@marin.org

Respondents are advised that **the Authorized Contact Person for questions and requests for clarifications related to the RFI is:**

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Mailing Address: MGSA Technical Consultant
Wireless Broadband System RFI Response
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Paoli, PA 19301
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Fax #: 610-889-7475 (e-mail preferred)
E-Mail Address: rfi@marin.org

There will be a pre-response conference at 1:30 PM (Pacific Time) on May 10, 2007 at 371 Bel Marin Keys, Suite 110, Novato, CA 94949-6188. All prospective respondents are encouraged to attend to discuss any issues related to the RFI in detail.

For those that cannot attend in person, there is a conference call in number (415-473-7717 passcode: 682682). Remote attendees will also have the opportunity to submit questions at that time by e-mail to rfi@marin.org. Please RSVP concerning your on-site or remote participation to rfi@marin.org by May 7, 2007.

All other questions regarding this Request for Information should be submitted ONLY to the above Authorized Contact Persons. Straightforward questions will be answered orally. All substantive questions must be made in writing, and submitted by mail, e-mail, or fax. **All questions should be submitted at least three weeks prior to the submission date for responses to the RFI. Answers to the questions will be posted at <http://www.maringsa.org> at least ten (10) days prior to the RFI response submission deadline.** All answers to substantive questions, and any Addenda to this Request for Information, will be available to all prospective respondents.

XI. RFI RESPONSE SUBMISSION INFORMATION

Date: Responses should be submitted by **June 15, 2007**

Time: **3:00 PM – (Pacific Time)**

Location: Responses to this RFI should be submitted to:

Name: Michael Garvey

Mailing Address: Wireless Broadband System RFI Response
Executive Director

Marin General Services Authority

371 Bel Marin Keys, Suite 100

Novato, CA 94949-6188

Submission Type: If submitting by hard copy, to the address above, please submit a minimum of two copies, at least one of which should be unbound for duplication purposes.

Responses may also be submitted by e-mail to the MGSA's Executive Director, Michael Garvey, at: rfi@marin.org

XII. ATTACHMENTS

1. Report on the Wireless Broadband Needs Assessment – March, 2007. Available at <http://www.maringsa.org>.
2. Streetlight List (MSLAJPA Streetlight Inventory). Available at <http://www.maringsa.org>.
3. Vertical Assets Link (Map of vertical assets)
<http://gis.co.marin.ca.us/WirelessStudy/viewer.htm>