

# Master Participation Agreement

## Schedule 1 – Description of Initiative

This Schedule 1 (“Schedule”) is made pursuant to the terms of the Master Participation Agreement (“Agreement”) between Washtenaw County (the “Governing Entity”) and the undersigned entity (“Participant”). Capitalized terms not defined herein shall have the meanings ascribed to them in the Agreement. The Agreement shall govern any conflict or inconsistency with the terms of this Schedule.

### **1. About “Wireless Washtenaw”**

The Wireless Washtenaw initiative (“Initiative”) is intended to facilitate the deployment of a high-speed wireless network for the urban, suburban and rural settings throughout Washtenaw County. The goal of the Initiative is to have the wireless network available to urban, suburban, and rural residents on or before December 31, 2007.

To facilitate this deployment, Participants in Washtenaw County will allow Providers to place Facilities on various Assets. In exchange, Washtenaw County residents will receive a restricted level of free wireless Internet service from Providers.

The Goals of Wireless Washtenaw include:

- Blanket Washtenaw County’s 720 square miles with wireless Internet service and provide free wireless Internet access to every resident, school, community organization, business, and visitor in Washtenaw County. A wireless infrastructure throughout Washtenaw County will provide seamless access to web pages, email, and other Internet services anywhere in Washtenaw County.
- Provide “free” and “for fee” wireless Internet access to every resident, business, and visitor in Washtenaw County.
- Address the digital divide in Washtenaw County.
- Enhance the Washtenaw County community by creating public-private partnerships and a new spirit of collaboration to improve the quality of life.

This Initiative was launched by Ann Arbor IT Zone, City of Ann Arbor, Eastern Michigan University, Internet 2, Merit, Michigan Townships Association, State of Michigan, The University of Michigan Washtenaw County, Washtenaw County Local Units of Government, Washtenaw Development Council, Washtenaw County Road Commission, and the Washtenaw Intermediate School District.

Each partner recognizes the potential benefits of a wireless network. These benefits include:

- Improving Washtenaw County’s ability to attract and retain businesses.
- Enhancing the residential character of the local communities.
- Allowing for a rapid expansion of the community’s growing mobile workforce.
- Reducing the costs, and improving the reliability of mobile computing.
- Supporting further economic development within Washtenaw County.
- Enabling enhanced educational opportunities to students.

## **2. Governance Structure**

Currently the Initiative is guided by the Governing Entity, subject to the direction of an Advisory Board, with representatives from key stakeholders in the Washtenaw County community. This Advisory Board provides strategic oversight and makes decisions on major project milestones.

Reporting to the Advisory Board is the Steering Committee, which oversees the day-to-day operations of the Initiative. This committee also coordinates with the various subcommittees for the Initiative. Those subcommittees include Business, Governance, Information Technology, and Communications/Marketing.

Each subcommittee was given a charter and a set of deliverables to accomplish. Over a five month period these subcommittees met regularly and proposed the recommendations that are outlined in this Schedule. These recommendations are designed to make the Initiative and the new governance entity self-sustaining.

The current Governing Entity does not intend to own or operate the wireless network. Hence, the Governing Entity and the stakeholders would like to reorganize the current governance structure into a separate legal entity – either as an Advisory Board, an authority or a not-for-profit entity (the “Operating Entity”). The Operating Entity would be designed to incorporate all Participants that are donating Assets towards this Initiative. Due to the number of possible Participants, the project team envisions the Operating Entity appointing individuals to a smaller Operating Board. This Operating Board would consist of six to ten members and would handle the day-to-day operations of the Initiative. The Board would administer the Master Participant Agreements and the Provider Agreements, investigate any issues that arise, and make recommendations to the Operating Entity. The Operating Entity would act on all issues brought before it by the Operating Board. Each stakeholder would receive one vote when deciding such matters.

The Governing Entity and the stakeholders initially intended to establish the Operating Entity in calendar year 2005. However, current and future legislation in the State of Michigan may prohibit or limit the establishment of the Operating Entity as an Advisory Board, authority and/or not-for-profit entity, and/or the limit the matters over which an Operating Entity may govern. As such, the Governing Entity is willing and prepared to serve as the Operating Entity on a going forward basis, and will continue to work with Participants to maintain the cooperative governance of the Initiative. In addition, the Governing Entity and the stakeholders will continue to work to determine what legal rights and options they have regarding the establishment of an Operating Entity as an Advisory Board, authority and/or not-for-profit entity.

## **3. Business and Technical Requirements for Wireless Washtenaw**

The wireless network developed as a result of the Initiative will be owned and operated by Providers. Providers will be asked to provide a self-sustaining business model as part of the Request for Proposal (“RFP”) requirements. The following paragraphs outline the business and technical recommendations made by the subcommittees.

Free Model: In exchange for rights to select Assets, all potential users will receive a restricted level of free wireless Internet service. The project team is recommending the following form of free wireless Internet service:

*Users will receive a continuous and uninterrupted connection to the Internet. The first five hours of service will be at 384k speeds. Afterwards, the speed will drop to 56k for the remainder of the month.*

A Provider may or may not elect to display advertising on the user's web browser. This type of access would preferably allow for full web browsing of the Internet and other uses.

Additional Services: Users will be able to upgrade their wireless Internet service package for a fee designated by each Provider. Residents will have the opportunity to purchase a more robust wireless Internet service with higher performance. It will provide at least 500Kbps actual sustained throughput per device with low latency that is able to provide real time services such as VoIP (voice over IP) and low quality digital video service.

Each Provider will be asked to provide a list of services that it envisions offering through the wireless network. This will most likely include services for businesses and guests, as well as VOIP and other unforeseen services.

The full extent of these upgrade packages will not be determined until each Provider's response to the RFP is returned and evaluated. However, the project team foresees speed and security as being the prime upgrade options.

Advertising: Advertising will be allowed on the network access/sign-in pages for free users as a possible source of revenue for the Providers. There must be no pop-up style advertisements for for-fee users.

Compatibility: Most important is the use of standard WiFi technologies for the users of the wireless network. Specifically, access to the infrastructure must support the use of current "consumer-based" client access technologies including both 802.11b and 802.11g. The ability to upgrade this requirement is imperative as technology standards evolve.

The wireless Internet service must provide access to 802.11b and 802.11g clients including Mac OS, Microsoft Windows, Linux, and other WiFi capable devices such as PDAs, smart phones, and other 802.11b or 802.11g WiFi certified products. Access and performance is to be based on clients typical default hardware such as a 30mW PC card radio with built in antenna. When moving to the WiMax solution, it must need to be compatible and interoperate with all WiMax Forum certified portability and mobility products.

County-Wide Coverage and Standards: It must be the Provider's responsibility to ensure that the wireless Internet service covers the entire county. All services (free, for-fee, and upgrades) must be equally available to all potential users.

In urban and suburban areas, the wireless Internet service must be provided on major streets and be available in first floor storefronts and offices directly on those streets. Most building occupants may continue to provide their own wireless Internet service or purchase additional equipment to extend service into their building for a fee. Adding this service can be done by extending the signal or through separate access points and “last mile” wireless backhaul depending on the Providers’ designs. End users in buildings must be able to continue to use their own private WiFi networks.

In some cases the signal might penetrate an entire residential structure. In other cases, the user might have to install additional equipment to extend service into their building. This could result in additional charges for the resident, depending on the provider and the technology chosen.

The initial technology to be deployed will be 802.11g but there will be interference issues to be managed since many technologies share the use of the 2.4 GHz spectrum. Providers must have a process for resolving interference conflicts with businesses and residents using the same wireless frequencies.

In rural areas, basic WiFi technology might not be technologically sufficient to provide complete coverage. Therefore Providers are not required to provide WiFi coverage, however they are required to provide coverage through other wireless technology, such as Pre-WiMax architecture, bridge or mesh network.

WiMax Service: Once the WiMax (802.16d through 802.16e for mobility and portability) has been ratified, and products are commercially available, each Provider must have a plan for expansion of the service to cover the entire county and include WiMax for workstation mobility. The WiMax service must be deployed within a year of when 50% of the end user equipment providers in the WiMax forum are selling solutions in the US. The selected Providers must maintain the legacy WiFi systems until WiFi use of the system drops below 10% of users. The WiMax service must be available throughout Washtenaw County, including the interior of all buildings. Devices that have WiMax installed must be able to use this service directly. Some rural residences may require a bridge to be installed that converts the WiMax signal to WiFi for access within the residence. It is assumed that the free service will use the unlicensed bands; however a Provider may license frequencies and use those frequencies to provide fee-based services.

WiMax equipment needed to attach a user to the wireless network may be sold by Providers or be available through other sources not affiliated with the Initiative.

Seamless Service: Those who purchase broadband service must be able to access the service throughout Washtenaw County without having to purchase it from multiple carriers. Regardless of the solution by any Provider, service must be transferable amongst carriers. Users must not have a need for different accounts, and preferably not have to reauthenticate once connected to the wireless Internet service.

User Accounts: Each Provider will need to provide a system for the creation of user accounts to be used across Washtenaw County. In addition to any requirements a Provider might have for accounting purposes, the Initiative would have the following requirements:

- An account be established for all users including free accounts
- Identification verification method such as drivers license number, credit card, etc.
- Privacy policy regarding personal information collected as part of the account setup.
- Provide authentication across the entire wireless network

Mobility: Mobility is defined as the ability to utilize and maintain a session such as a VPN session. Each Provider's solution must initially provide a for fee mobility option, for mobility such a mobile IP. Once technology changes, mobility must be supported with WiMax technology. Mobile coverage will be for the same areas as covered by the stationary service.

Security: The wireless network shall prohibit one wireless client from seeing another wireless client's computer through use of devices such as wireless portals. The free and for fee services must support the use of VPNs at layer 3 and layer 2 VPN tunnels by stationary clients. Mobile VPN support can be a fee based option. Each Provider must have a system in place to detect jamming and other denial of service events (intentional or not) against the wireless network. Each Provider must have a process for responding to such incidents. Back end authentication systems must be secured from attack. Any system with usage accounting or personal information must need to be secured in accordance with regulatory standards for protecting private information. Each Provider may be required to annually demonstrate that back end systems are secured via a security audit.

Equipment is to be securely installed in a way that resists theft, vandalism, and weather damage.

Authentication: Accounting must be in place to determine when each account is in use for billing if necessary and investigative purposes. The goals for authentication are as follows:

- Identify a user with an account
- Prevent bandwidth theft of the use time of another individual's free account and theft of services from paid accounts
- Assigning features to accounts such as the elimination of filters or for fee features
- Recording when the account is in use and the assigned addresses

The wireless network must authenticate the user and reliably link them to the correct account using a login and password rather than just a MAC address. Accounting must be in place to determine when each account is in use for billing if necessary and investigative purposes. It must include the account information, time connected, time disconnected, MAC address used, and IP address assigned. The authentication mechanism must be able to meet the aforementioned device compatibility requirements. Records regarding login use of the wireless network will need to be retained for 90 days. There is no requirement to retain information regarding where users go on the Internet. If tracking of sites is done, each Provider must provide a copy of the policy regarding tracking of sites accessed and how it will be used.

*Performance:* Free wireless Internet service must have five (5) hours per month at 384Kbps throughput and drop to 56Kbps throughput for the remainder of the month. For fee upgraded wireless Internet service must minimally deliver 500Kbps of sustained, effective throughput. Throughput is defined as actual data transferred using standard half duplex radios. Each coverage area shall provide access to the Internet 99.9% of the time during any time of the year without reduction of the planned coverage area. The entire wireless network must be able to remain operational during a power outage of up to one hour, excluding components in individual residence and businesses. Latency for either system from a wireless client to any point on a Provider’s network shall not exceed 100 ms.

Note: If a Provider chooses to implement advertising for free users, additional speed is required to maintain the throughput parameters noted above.

*Implementation Plan (Section 4):* Washtenaw County covers a diverse geographic region that encompasses urban, suburban, and rural landscapes. A key element of the Initiative is the assurance that wireless Internet access is provided throughout all of Washtenaw County. The general deployment timeline has been established as follows:

First Half 2006	Pilot Program
Second Half 2006	Begin County-wide deployment, target approximately one-third of the geographical area of the county
First Half 2007	Continue County-wide deployment, target approximately two-thirds of the geographical area of the county
Second Half 2007	Complete County-wide deployment

**4. Pilot**

The goal of the pilot will be to verify that the finalist Providers have a viable solution and is capable of performing the implementation. It will be the intent to award Provider Agreements to the finalists, if in the opinion of the selection committee, they have a successful pilot. If any pilot is not successful, the committee may decide to perform pilots with one or more of the other proposed solution Providers.

Each pilot will be conducted for a period of 2 months. Pilots will be conducted at urban, suburban and rural locations; the number of these locations will be determined from the responses to RFP.

The costs associated with the pilot projects are solely that of the Providers, however, if a pilot is successful it is the intention that the pilot would be designed such that it could become part of the final wireless network. If a pilot is not successful, the Provider conducting the pilot will be responsible for the timely removal of its Facilities and other equipment at no cost to the Participant and/or to the Governing Entity.

## 5. Projected Timelines

RFP Released	November 10, 2005
Proposal Conference with Providers	December 1, 2005
Deadline for Submitting Questions Regarding RFP	December 15, 2005
RFP Due	December 22, 2005
Governing Entity Established	December 30, 2005
Master Participation Agreements Due	December 30, 2005
RFP Evaluations Due	January 31, 2006
Advisory Board Meeting	February 7, 2006
Complete Site Visits of Provider Demonstrations	February 15, 2006
Extend Invitations to Conduct Pilot Trials	February 24, 2006
Provider Pilot Agreement(s) Signed	March 10, 2006
Build Pilot(s) Networks	March 21, 2006
Pilot(s) Begin	April 3, 2006
Pilot(s) End	June 3, 2006
Evaluation of Pilot(s)	June 19, 2006
Provider Agreement(s) Awarded	June 30, 2006

After a Provider Agreement is awarded, the Provider will be expected to roll out its wireless network in a timely manner. Each Provider will be asked to specify its own rollout time frame in its response to the RFP.

## 6. Conditions

The information contained within this Schedule is based on recommendations from the Wireless Washtenaw committees. Over a four month period, the committees researched wireless municipal projects, interviewed prospective solution providers, and consulted industry leading experts. This information establishes a framework for a network in Washtenaw County; however, the precise details are subject to change, pending responses from the solution providers in their RFP bid.

## 7. Glossary

Channel – The number of access points that can cover the same area without interfering with each other.

WiFi – Wireless Fidelity

Specification	Maximum Speed (shared)	Qty of Channels	Frequency	Coverage (radius)	Status
802.11a	Up to 54Mbps	8	5Ghz	60 foot	Available, limited use
802.11b	Up to 11Mbps	3	2.4Ghz	200 foot	Available, popular

802.11b/g	Up to 54Mbps	3	2.4Ghz	200 foot	Available, popular
802.11n	200Mbps+	23	TBD	200 foot	Expected in 2007

**WiMax**

802.16d/802.16-2004, fixed service, 70Mbps dedicated to one link

802.16e, mobile service, 280Mbps shared on one antenna

**AGREED AND ACCEPTED:**

**Washtenaw County**

\_\_\_\_\_  
(Participant's Full Legal Name)

By: \_\_\_\_\_  
(Signature)

By: \_\_\_\_\_  
(Signature)

Name: \_\_\_\_\_  
(Printed)

Name: \_\_\_\_\_  
(Printed)

Title: \_\_\_\_\_

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