

Republic of the Philippines
HOUSE OF REPRESENTATIVES
Quezon City

SIXTEENTH CONGRESS

First Regular Session

House Bill No. **4741**



Introduced by Hon. Delphine Gan Lee

EXPLANATORY NOTE

A study conducted in November of 2013 found out that there are more than 33 million active Internet users in the Philippines today. This translates to 3.5 out of 10 Filipinos who are online. Filipinos spend most of their online time on social networking, travel, and entertainment websites.¹ In the Southeast Asian region, the Philippines is considered the fastest growing Internet audience.² Filipinos are also more likely to browse a social networking site as compared to the entire world.

Wi-Fi refers to wireless networking technology which lets computers and other devices communicate over a wireless signal. This technology is supported by a very large number of applications and devices such as video game consoles, home networks, Personal Digital Assistants, mobile phones, major operating systems and other types of consumer electronics. Products tested and approved as "Wi-Fi Certified" by the Wi-Fi Alliance is certified as interoperable with each other.³

Municipal Wi-Fi is the idea of converting an entire city into a Wireless Access Zone. The end goal is to make wireless access to the Internet free and available to everyone. This is generally done by providing municipal broadband thru Wi-Fi to the main areas or all of a

¹ <http://www.forward.ph/blog/the-state-of-philippine-internet-usage-2013-infographic/>

² <http://www.rappler.com/life-and-style/technology/35384-philippine-internet-audience-growth-comscore>

³ <http://www.techterms.com/definition/wifi>

municipal area by creating a wireless mesh network. The usual design utilizes hundreds of routers deployed outdoors. The network operator acts as a wireless internet service provider.

New York City announced in December of last year the launch of what will be the biggest Wi-Fi network in the United States. This will blanket 95 blocks of Harlem. It is called the Harlem Wi-Fi Network and once completed, it will be the largest outdoor Wi-Fi network in the United States, serving approximately 80,000 Harlem residents, New York City's Mayor Michael Bloomberg said during his press conference on the matter.⁴

This is not limited to the industrialized world. Even developing countries have caught on with the trend of having a wired city. Bangalore has become the first city in India to have free wifi hotspots.⁵ The project, launched at the iconic MG Road in central Bangalore, allows a person to browse up to three hours a day and download up to 50 MB of data. The free Wi-Fi also comes with applications. Soon to be active will be the parking app, the garbage app and the likes. The parking app can show the nearest slot for parking and the garbage app would tell you the nearest garbage throw away point.

This bill aims to lay the groundwork for the creation of municipal Wi-Fi systems in the entire country. This will make Internet connection accessible to everyone and thus democratize information and education. A Wi-Fi city is also more attractive to tourists and businesses. Each city is different in its requirements for wireless broadband. Wireless communications are critical for public safety. First responders can set up an instant network at the scene of an incident with a wireless mesh. A citywide wireless mesh infrastructure can support secure mobile communication for police and fire departments. A wireless infrastructure may provide low-cost or free Internet access and could be part of a program to make computers and Internet access available to marginalized families. High-speed wireless Internet access can help revive ailing areas. Low-cost broadband Internet access can attract more businesses to town, help increase tourism in resorts, or simply make an area more attractive as a destination. Many government employees can do their jobs more efficiently if they have access to the city network out in the field. A municipal wireless network allows instant access to important city records and databases for tax collectors, auditors, and

⁴ <http://mashable.com/2013/12/10/new-york-city-harlem-wi-fi-network/>

⁵ <http://www.ndtv.com/article/cities/bangalore-becomes-first-indian-city-to-have-free-wifi-hotspots-475164>

building inspectors. Citywide wireless networks also enable new applications, such as automated meter reading for utilities and parking meters, or intelligent traffic networks. The possibilities are limitless. We are a wired country and this measure will serve a big number of Filipinos and integrate those who cannot afford to pay for an Internet connection with those who can.

The early passage of this measure is thus earnestly requested.



HON. DELPHINE GAN LEE
Representative, AGRI Party-List

mean:

(a) Wi-Fi refers to a wireless networking technology that uses radio waves to provide high-speed network and Internet connections. This also refers to wireless local area network (WLAN) products that are based on the Institute of Electrical and Electronics Engineers' (IEEE) 802.11 standards;

(b) Service Provider shall refer to a provider of online services or network access, or the operator of facilities therefor, including entities offering the transmission, routing, or providing of connections for online communications, digital or otherwise, between or among points specified by a user, of electronic documents of the user's choosing; or the necessary technical means by which electronic documents of an originator may be stored and made accessible to a designated or undesignated third party. Such service provider shall have no authority to modify or alter the content of the electronic data message or electronic document received or to make any entry therein on behalf of the originator, addressee, or any third party unless specifically authorized to do so, and who shall retain the electronic document in accordance with the specific request or as necessary for the purpose of performing the services it was engaged to perform.

(c) Computer refers to any device or apparatus which, by electronic, electro-mechanical, or magnetic impulse, or by any other means, is capable of receiving, recording, transmitting, storing, processing, retrieving, or producing information, data, figures, symbols, or other modes of written expression according to mathematical and logical rules or of performing any one or more of those functions. Computer shall be deemed to include smart phones, personal digital assistants, laptops, tablets, and other similar devices;

(d) Center shall refer to the National Computer Center or NCC; and

(e) Director General shall refer to the head or Commissioner of the National Computer Center.

SECTION 4. *Wi-Fi Feasibility Study.* – (a) The National Computer Center (NCC) shall be the lead agency in evaluating and studying the feasibility of building a municipal Wi-Fi network. At the city or municipality level, project developers shall be required to ask the NCC to perform a feasibility study prior to the granting of the subsidies under this Act.

(b) The NCC shall undertake to: (1) promote the growth of Wi-Fi technology in cities and municipalities; (2) formulate the Wi-Fi development process in these local government units; and (3) evaluate the Wi-Fi process upon its completion in a given LGU.

SECTION 5. *Municipal Wi-Fi Program.* – There is hereby created a Municipal Wi-Fi Program which shall address the needs of local government units in building a Wi-Fi network at the city or municipal level. The capacity in municipal wireless networks can be increased through the following:

(a) Making more wireless spectrum available for municipal networks to increase capacity;

(b) As usage increases, decrease the radio frequency power and reduce the size of the coverage area of each access point. The first step is to deploy smaller base stations mounted lower so they cover a smaller area, just as the cellular industry did in big cities. This leads to more access points in a given area operating on different channels. More access points, with each one supporting fewer users, means more capacity is delivered throughout the system;

(c) Directional antennas can increase capacity on the wireless backhaul network by reducing the number of nodes that share the same radio link. Initially, backhaul mesh interconnection is a shared wireless mesh, with omnidirectional antennas at every node. For more capacity, separate access and backhaul in different bands. The next step to increase capacity is adding directional antennas on towers to form dedicated point-to-point links at the core of the backhaul network. Then, as

1 demand increases, move directional antennas out to the edge to increase capacity
2 in high-traffic areas;

3 (d) The municipal wireless system of the future will most likely be a single
4 infrastructure that supports different wireless access technologies: Wi-Fi,
5 WiMAX, cellular, and the 4.9-GHz public safety band. The infrastructure may
6 include a mix of different technologies. The network may be owned and operated
7 by a service provider. Some of the services may support city applications, and
8 some may be commercial wireless services.

9 SECTION 6. **Grants.** – The NCC shall release grants to qualified LGUs pursuant to
10 standards set in the Implementing Rules and Regulations. The LGU shall cover half of the
11 cost necessary for the implementation of the Municipal Wi-Fi Program.

12 SECTION 7. **Funding.** – The amount of five hundred million pesos
13 (P500,000,000.00) is hereby appropriated for the initial year of this Act. Every year
14 thereafter, Congress shall allocate an amount not less than thirty million pesos
15 (P30,000,000.00) to be included in the budget of the NCC for the implementation and
16 continued expansion of this program.

17 SECTION 8. **Implementing Rules and Regulations.** – The Secretaries of the
18 Department of Science and Technology and the Department of Transportation and
19 Communication shall adopt rules and regulation to implement the provisions of this Act
20 within ninety (90) days from the date of effectivity of this Act.

21 SECTION 9. **Separability Clause.** - If any provision or part hereof, is held invalid or
22 unconstitutional, the remainder of the law or the provision not otherwise affected shall remain
23 valid and subsisting.

1 SECTION 10. *Repealing Clause.* - Any law, presidential decree or issuance,
2 executive order, letter of instruction, administrative order, rule or regulation contrary to, or
3 inconsistent with, the provisions of this Act is hereby repealed, modified or amended
4 accordingly.

5 SECTION 11. *Effectivity Clause.* - This Act shall take effect fifteen (15) days after its
6 publication in at least two (2) newspapers of general circulation.

Approved.