

Unwire Portland

Progress and Lessons Learned



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ONE WEEK. ONE PLACE.

Portland Background

	Portland	San Francisco	Seattle	U.S.
Population	533,000	739,000	573,000	288,370,000
Size	135 mi ²	47 mi ²	84 mi ²	

Vendor Selection Process

-  builds and operates the network
- Reasons for Selection
 - Proven Track Record
 - Pragmatic Business Plan
 - Free service (supported by ads)


 **MetroFi** Services Offered

- Consumer:
 - Free WiFi, ad-supported
 - Premium WiFi, \$19.95 monthly
- Business Services:
 - Fixed Wireless “Last Mile”
 - Wholesale relationship with local EasyStreet
- Municipal Services:
 - Identifying opportunities with City

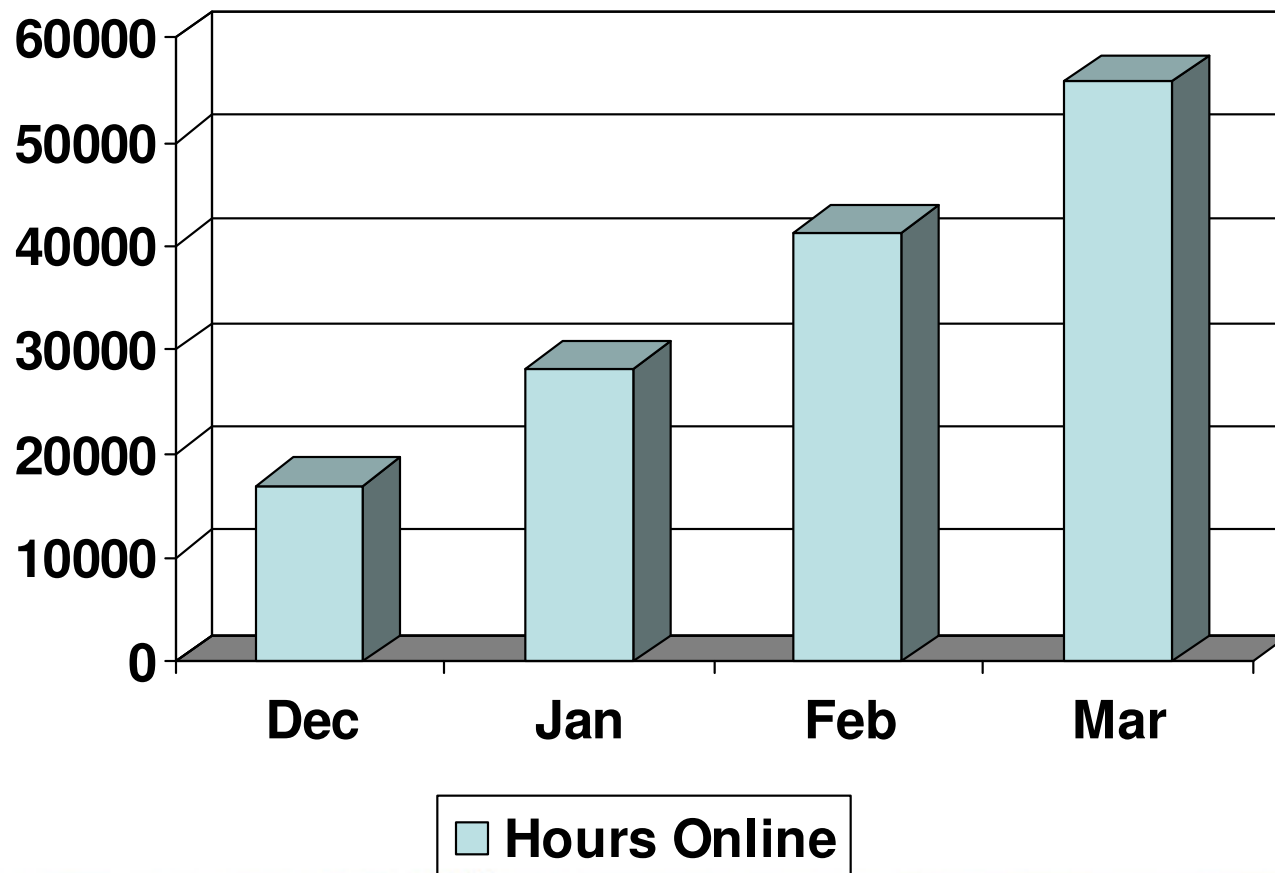
Deployment Status

- Timeline
- 2000+ on Streetlights

	Completion
Proof of Concept	Dec. 2006
Rest of City	Q2 2008

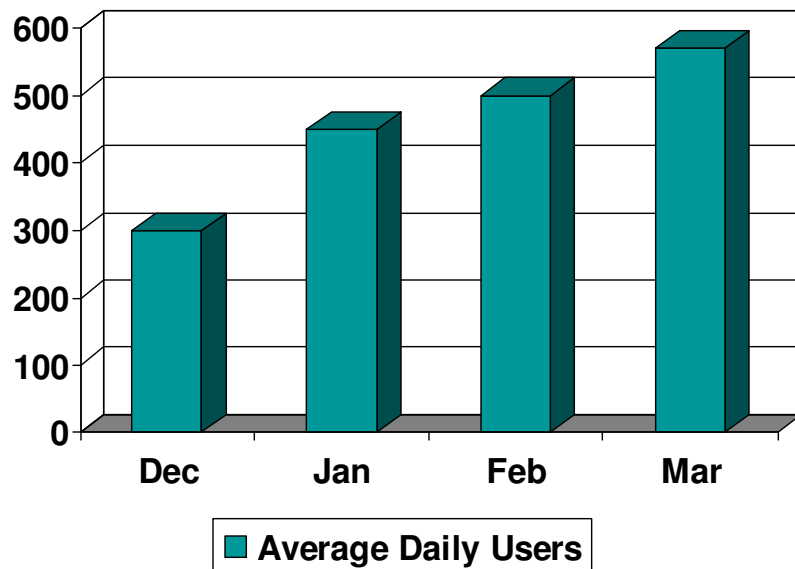


Usage Is Growing Every Month

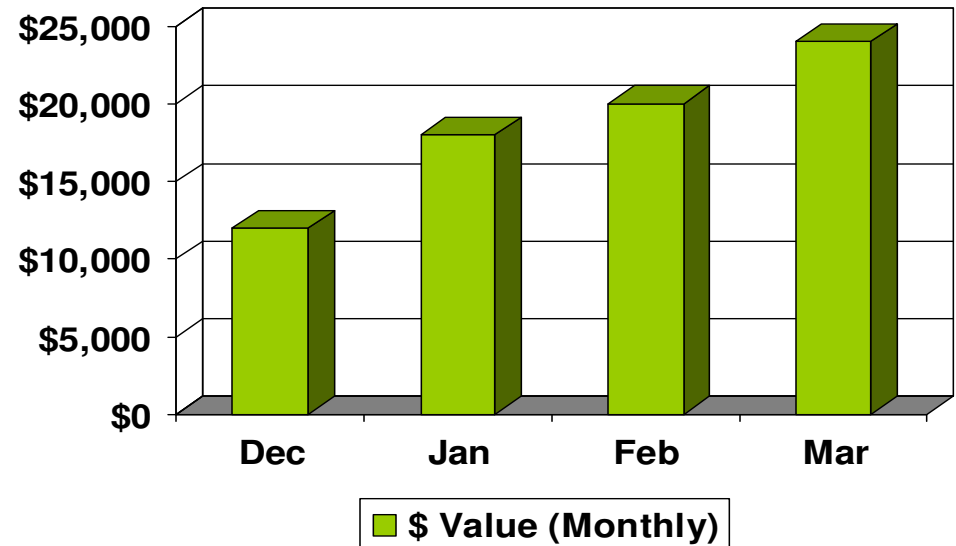


MetroFi Producing Strong Value for City of Portland

Daily Users Doubled



\$250K in Monetary Value



Lessons Learned

- “Small” Fees Add Up
 - Permitting Fees
 - Electrical Costs
 - Wiring
- OTARD Limits Local Zoning Code
- Managing Local Expectations is Hard Work
 - Ubiquitous Outdoor and Indoor Coverage “Expected”
 - Everybody’s a WiFi Expert

Permitting Fees Matter

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CITY OF PORTLAND, OREGON - BUREAU OF DEVELOPMENT SERVICES
 1900 SW Fourth Avenue • Portland, Oregon 97201 • 503-823-7526 • www.portlandonline.com/bds

Land Use Services Fee Schedule, Effective July 1, 2006

Land Use Reviews ¹	Process Type	BDS Fee (\$)	Water ¹	BES ¹	PDOT	Fire	Hearings Officer	TOTAL
Adjustment Review								
Residential-Fences / Decks / Eaves ²	II	300	N/A	N/A	N/A	N/A	N/A	300
Residential-Lots with existing single dwelling	II	450	N/A	50	95	N/A	N/A	595
All other residential adjustments	II	520	N/A	50	95	N/A	N/A	665
Non-Residential or Mixed Use	II	775	N/A	123	100	30	N/A	1,028
Cascade Station/Portland International Center Transportation Impact Analysis	II	969	N/A	N/A	3,360	N/A	136	4,465
Central City Parking Review	III	5,741	N/A	N/A	931	N/A	1,250	7,922
Comprehensive Plan & Zone Map Amendment	III	17,975	N/A	236	2,883	30	1,250	22,374
Comp Plan & Zone Map Amend, Single Family Res to Single Family Residential Upzoning	III	10,150	N/A	236	2,883	30	1,250	14,549
Conditional Use								
Minor	II	2,150	N/A	N/A	N/A	N/A	N/A	2,150
Minor - Radio Frequency Facilities	II	2,400	90	123	396	30	136	3,175
Minor - New	III	3,995	N/A	N/A	N/A	N/A	136	4,131
Major - New	III	8,000	90	236	1,513	30	1,250	11,119
Major - Existing	III	3,200	90	123	1,513	30	1,250	6,206
Major - Radio Frequency	III	9,975	N/A	N/A	1,513	N/A	1,250	12,738
Design Review								
Major								
Minor A, except								minimum 5,927 maximum 22,450
Minor C, including more units; and radio frequency facilities								minimum 2,929 maximum 6,580
Minor B	(B)I & II	0.0046 of valuation minimum 555 maximum 3,079 ³	N/A	50	50	N/A	N/A	minimum 655 maximum 3,179
•Residential project •Improvements with but more than \$2,500 •Parking areas 10,000 sq. ft. or less •Awnings, signs, rooftop mechanical equipment								

Minimum \$555 Per Access Point

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Utility Costs Affect Profitability

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Portland General Electric Company
P.U.C. Oregon No. E-18 Original Sheet No. 32-1

SCHEDULE 32
SMALL NONRESIDENTIAL
STANDARD SERVICE

AVAILABLE

In all territory served by the Company.

APPLICABLE

To Small Nonresidential Customers. A Small Nonresidential Customer is a Customer that has not exceeded 30 kW more than once within the preceding 13 months, or with seven months or less of service has not exceeded 30 kW.

MONTHLY RATE

The sum of the following charges:

\$12 per month is 12X over cost		
<u>Basic Charge</u>		
Single Phase Service	\$12.00	
Three Phase Service	\$16.00	
<u>Transmission and Related Services Charge</u>		
	0.205	¢ per kWh
<u>Distribution Charge</u>		
First 5,000 kWh	2.801	¢ per kWh
Over 5,000 kWh	0.557	¢ per kWh
<u>Energy Charge</u>		
Standard Service	5.511	¢ per kWh

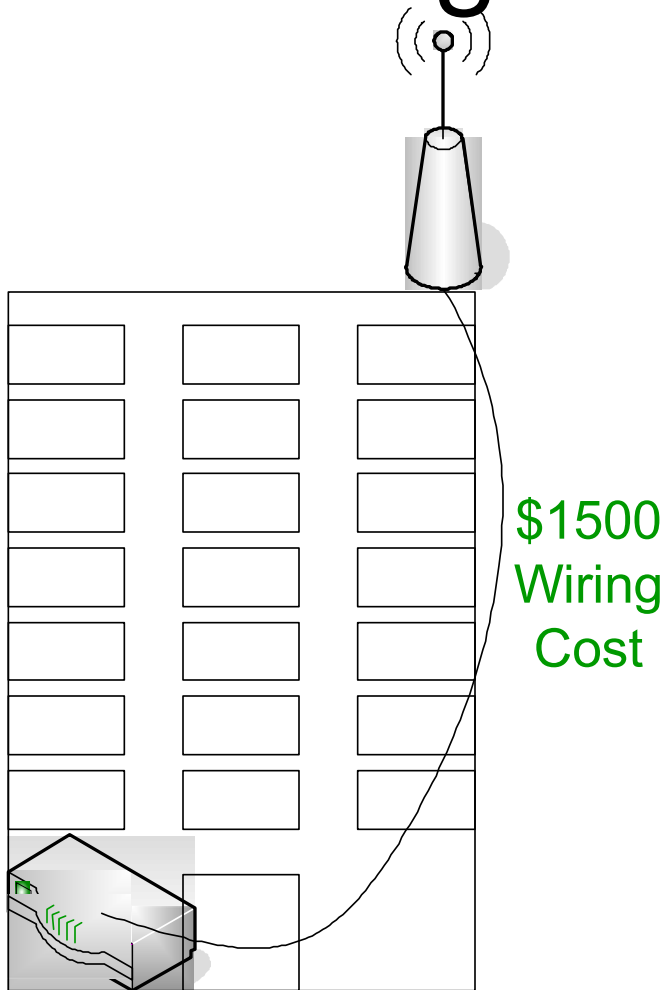
Attachments

Comments

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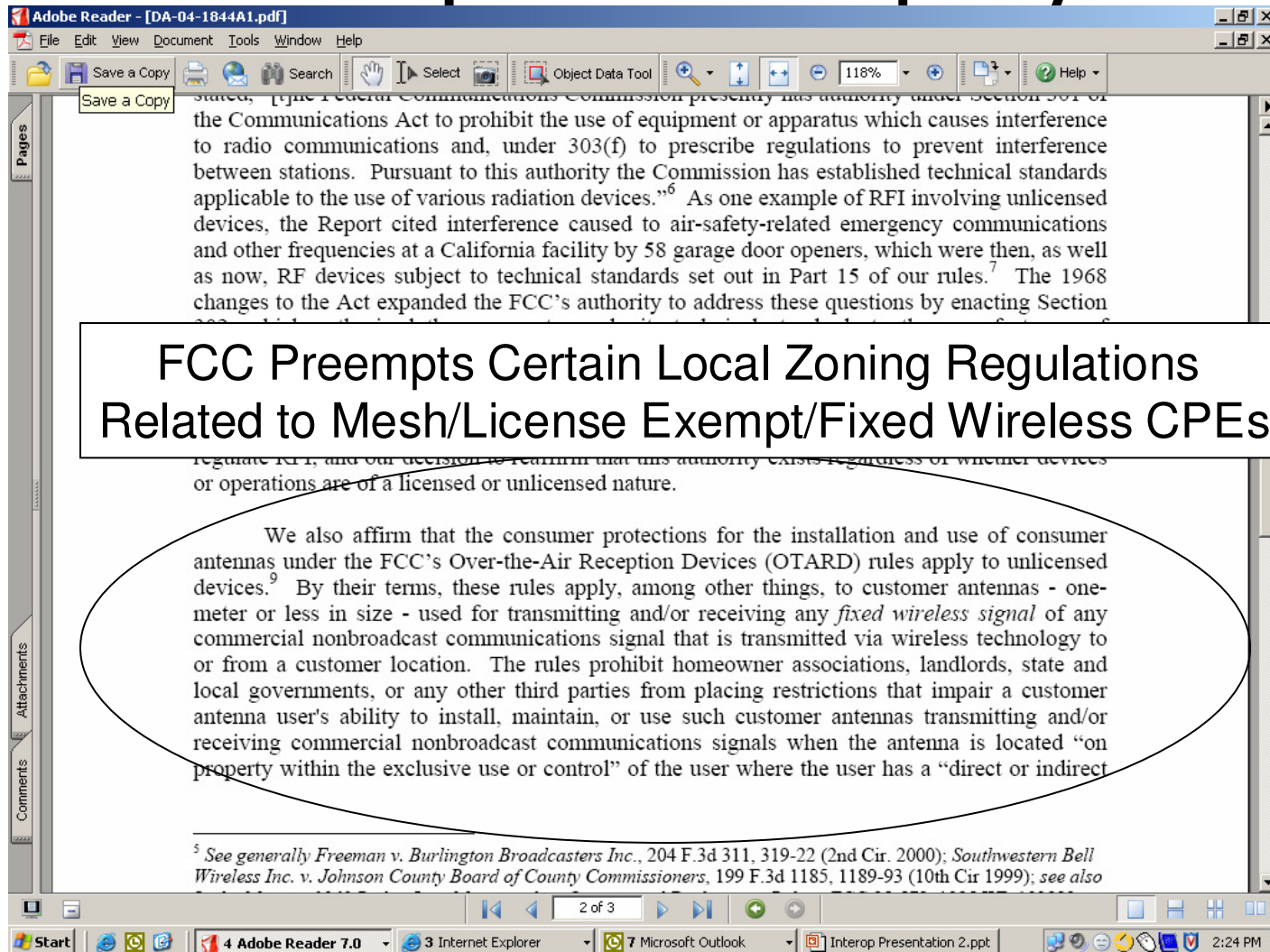
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Buildings Start in the Basement



	T-1 (1.5 Mbps) Monthly Costs			
Qwest	\$170	\$180	\$190	\$200
MetroFi	\$145	\$145	\$145	\$145
Months to Recover Wiring Costs	60	43	33	27

OTARD Speeds Deployment



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stated, "[t]he Federal Communications Commission presently has authority under Section 301 of the Communications Act to prohibit the use of equipment or apparatus which causes interference to radio communications and, under 303(f) to prescribe regulations to prevent interference between stations. Pursuant to this authority the Commission has established technical standards applicable to the use of various radiation devices."⁶ As one example of RFI involving unlicensed devices, the Report cited interference caused to air-safety-related emergency communications and other frequencies at a California facility by 58 garage door openers, which were then, as well as now, RF devices subject to technical standards set out in Part 15 of our rules.⁷ The 1968 changes to the Act expanded the FCC's authority to address these questions by enacting Section 303

FCC Preempts Certain Local Zoning Regulations Related to Mesh/License Exempt/Fixed Wireless CPEs

regulate RFI, and our decision to reaffirm that this authority exists regardless of whether devices or operations are of a licensed or unlicensed nature.

We also affirm that the consumer protections for the installation and use of consumer antennas under the FCC's Over-the-Air Reception Devices (OTARD) rules apply to unlicensed devices.⁹ By their terms, these rules apply, among other things, to customer antennas - one-meter or less in size - used for transmitting and/or receiving any *fixed wireless signal* of any commercial nonbroadcast communications signal that is transmitted via wireless technology to or from a customer location. The rules prohibit homeowner associations, landlords, state and local governments, or any other third parties from placing restrictions that impair a customer antenna user's ability to install, maintain, or use such customer antennas transmitting and/or receiving commercial nonbroadcast communications signals when the antenna is located "on property within the exclusive use or control" of the user where the user has a "direct or indirect

⁵ See generally *Freeman v. Burlington Broadcasters Inc.*, 204 F.3d 311, 319-22 (2nd Cir. 2000); *Southwestern Bell Wireless Inc. v. Johnson County Board of County Commissioners*, 199 F.3d 1185, 1189-93 (10th Cir 1999); see also

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Indoor Coverage Expected

The Wi-Fi's free but not the connection - Microsoft Internet Explorer

Address: <http://www.oregonlive.com/business/oregonian/index.ssf?/base/business/1173500722170380.xml&coll=7>

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The Wi-Fi's free but not the connection

Some Portlanders on the east side learn that going

Sunday, March 11, 2007

MIKE ROGOWAY

Turn on your laptop in many a Portland home and your computer will find two, three or even half a dozen Wi-Fi hot spots close by, spilling over from houses and businesses all around.

If you're looking for Portland's free wireless Web network, though, you might well draw a blank.

"It doesn't even come up on the screen as an option," laments Melissa Stewart, who can see one of the network's Wi-Fi antennas from her house in the Buckman neighborhood but can't sign on.

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- Town Square
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Internet

Service Expectations = Cellular Quality

WiMAX Rules the Media

-----Original Message-----

From:

Sent: Monday, February 19, 2007 9:31 AM

To: unwireportland@ci.portland.or.us

Subject: Portland Monthly/MetroFi

Mr. Klier,

I am working on a story for *Portland Monthly* about the MetroFi municipal wireless network.....

In basic layman's terms, why can't wifi signals such as those used by the network penetrate buildings or other physical obstacles?

What do you make of WiMAX technology as an alternative for municipal networks like ours?

But Everyone Keeps Forgetting.....

Draft 2 of 802.11n Standard Sails Through

**Intel reveals wireless connectivity roadmap
Wi-Fi N, WiMAX and HSDPA on laptops next year**



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