COMMUNITY MEETING

Proposed Wireless Infrastructure at Carson Middle School

May 25, 2010

Objective

- Provide Background Information
- Review the Proposal
- Review Community Concerns
- Respond to Questions

Overall Process

- Written Request to School
- Submission of Site Plans
- Principal Review and Approval
- PTSA and Faculty Notification
- School Board Member Notification
- **Community Outreach and Feedback**
- Balloon Fly for Community
- Final Zoning Application
- Planning Commission Hearing
- Board of Supervisor Hearing
- Approval

1. FCPS PROGRAM
2. WIRELESS DEMAND
3. PROPOSAL ELEMENTS

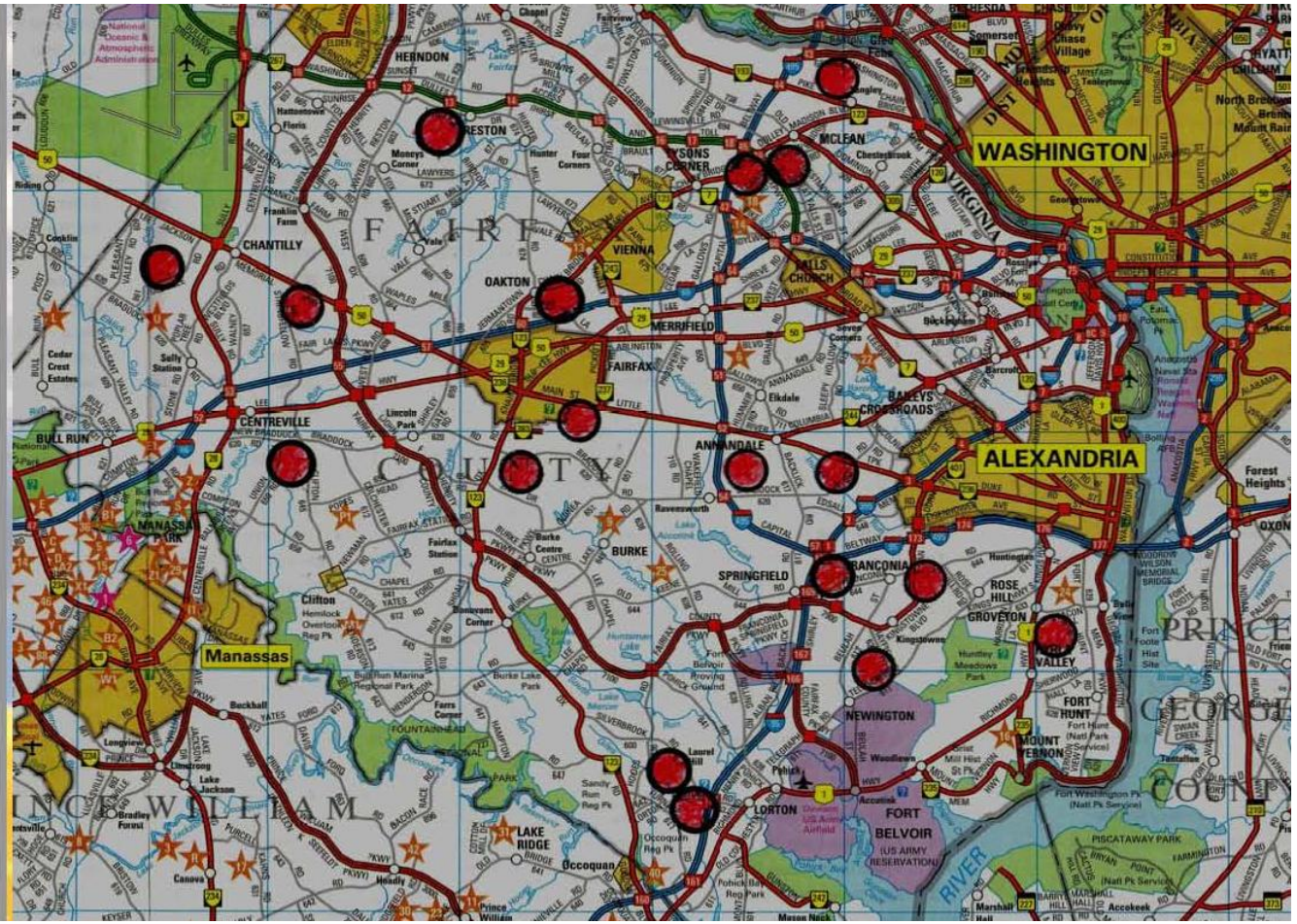
2003-2010 FCPS Towers Built by Milestone

	School Name	Year
1.	Oakton High School	2005
2.	Edison High School	2005
3.	Annandale High School	2005
4.	Robinson High School	2006
5.	McLean High School	2006
6.	Bryant Alt High School	2006
7.	Hayfield High School	2007
8.	Woodson High School	2007
9.	Centreville High School (2)	2009
10.	Chantilly High School (2)	2009
11.	South County High School	2009
12.	Langley High School (3)	2010
13.	Lee High School	2010
14.	Thomas Jefferson High School (2)	2010
15.	Westfield High School*	

* Under construction

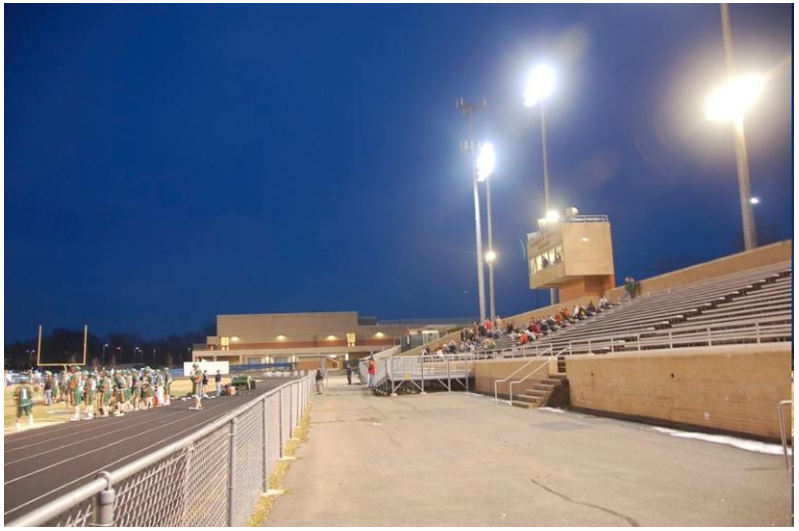
FCPS Tower Location Map

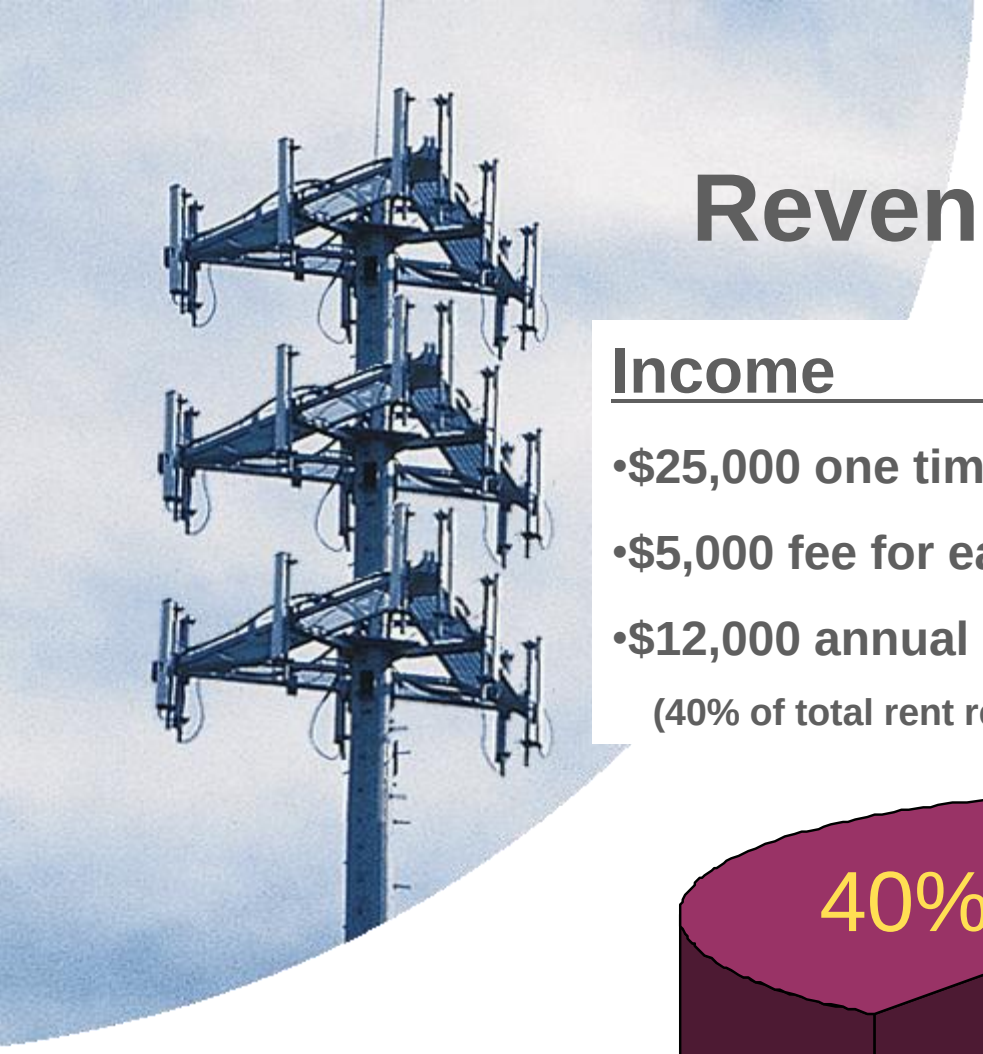
- Annandale High School
- Bryant High School
- Centreville High School 1 & 2
- Chantilly High School 1& 2
- Edison High School
- Hayfield Secondary School
- Langley High School 1, 2 & 3
- Lee High School
- Lorton Administrative Center
- McLean High School
- Oakton High School
- Robinson Secondary School
- South County High
- South Lakes High School 1& 2
- T.Jefferson High School 1& 2
- Westfield High School
- Westgate Elementary School
- Woodson High School



Examples of Stealth Towers Located at Athletic Fields

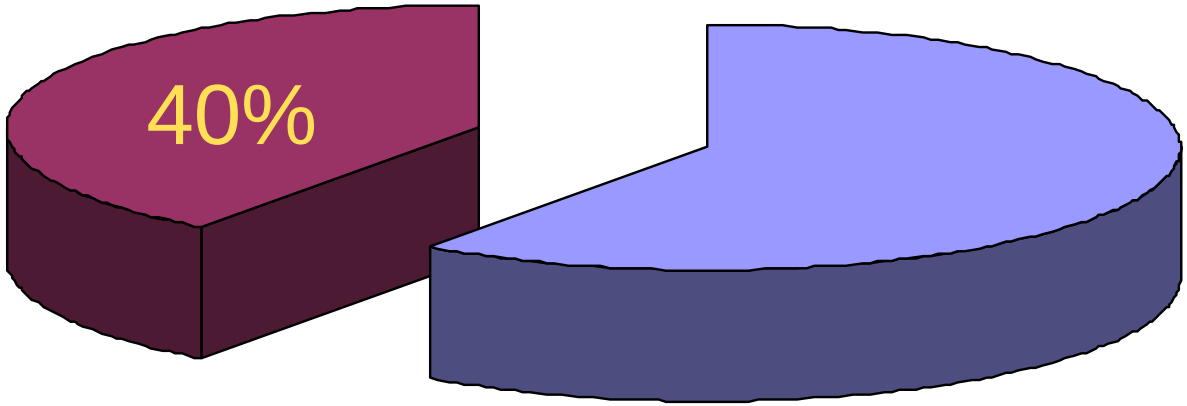
Examples of Stealth Towers Located at Athletic Fields





Revenue to FCPS:

Income	Recipient
•$25,000 one time tower fee	School
•$5,000 fee for each new carrier	School
•$12,000 annual rent per carrier	FCPS → School Share
(40% of total rent revenue)	



Ten Year Total FCPS Income Per Tower:

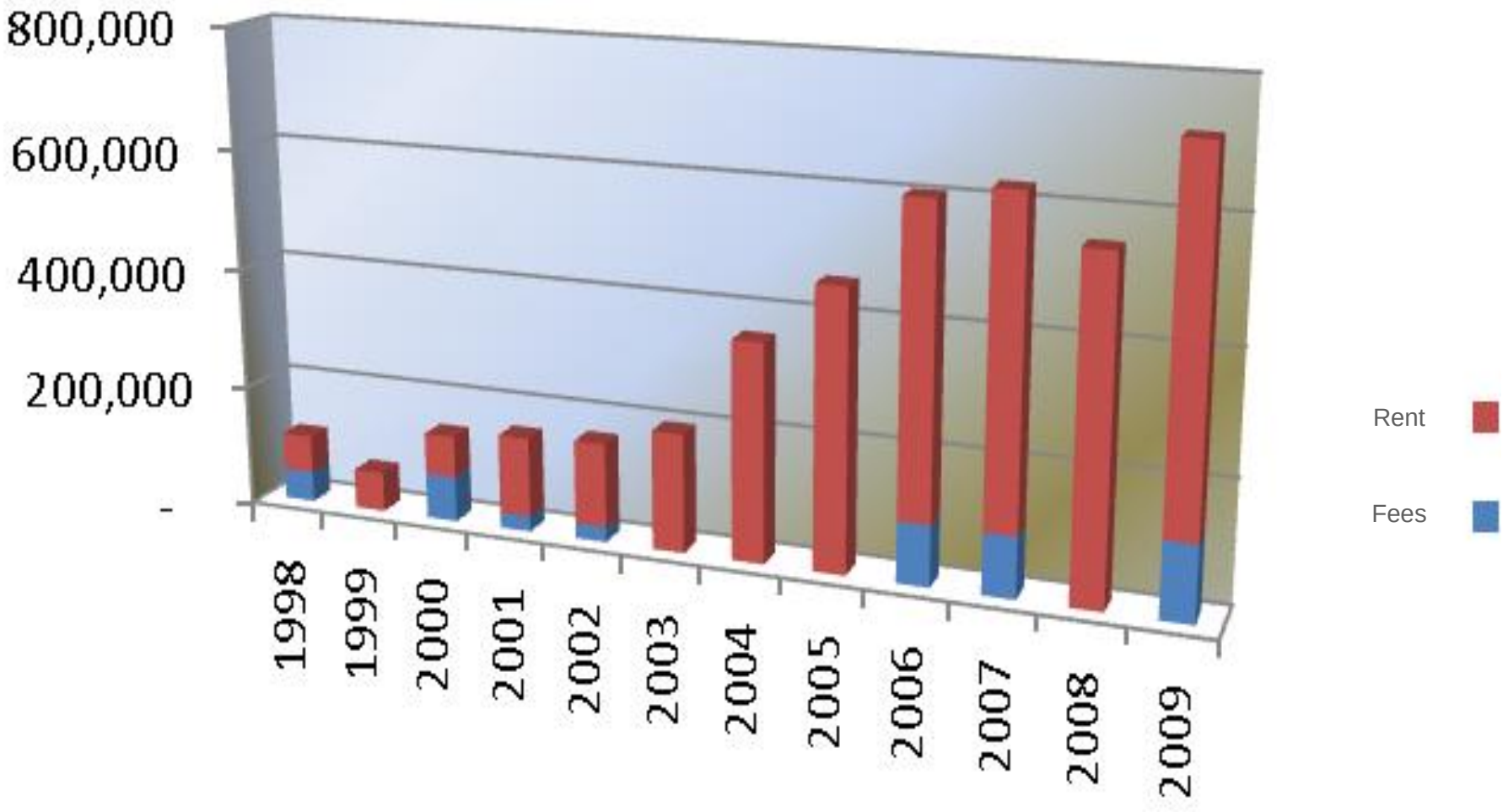
$400,000+

(assuming three carriers)

Schools' Use Of Additional Revenue:

- Mobile Computer Labs
- Smartboards
- Technology Devices
- Staff Training
- Educational Equipment

Actual FCPS Revenue 1998-2009

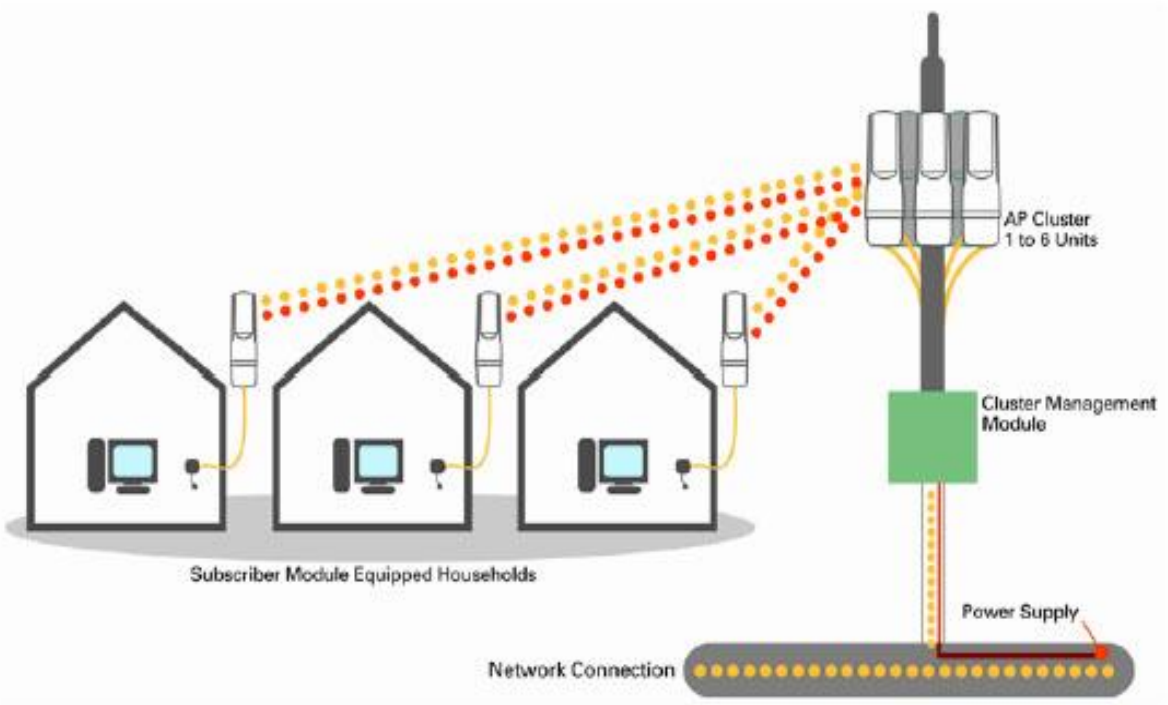


Over $4.1 Million Total Revenue

School Tower Can Broadcast Internet for 2 Miles

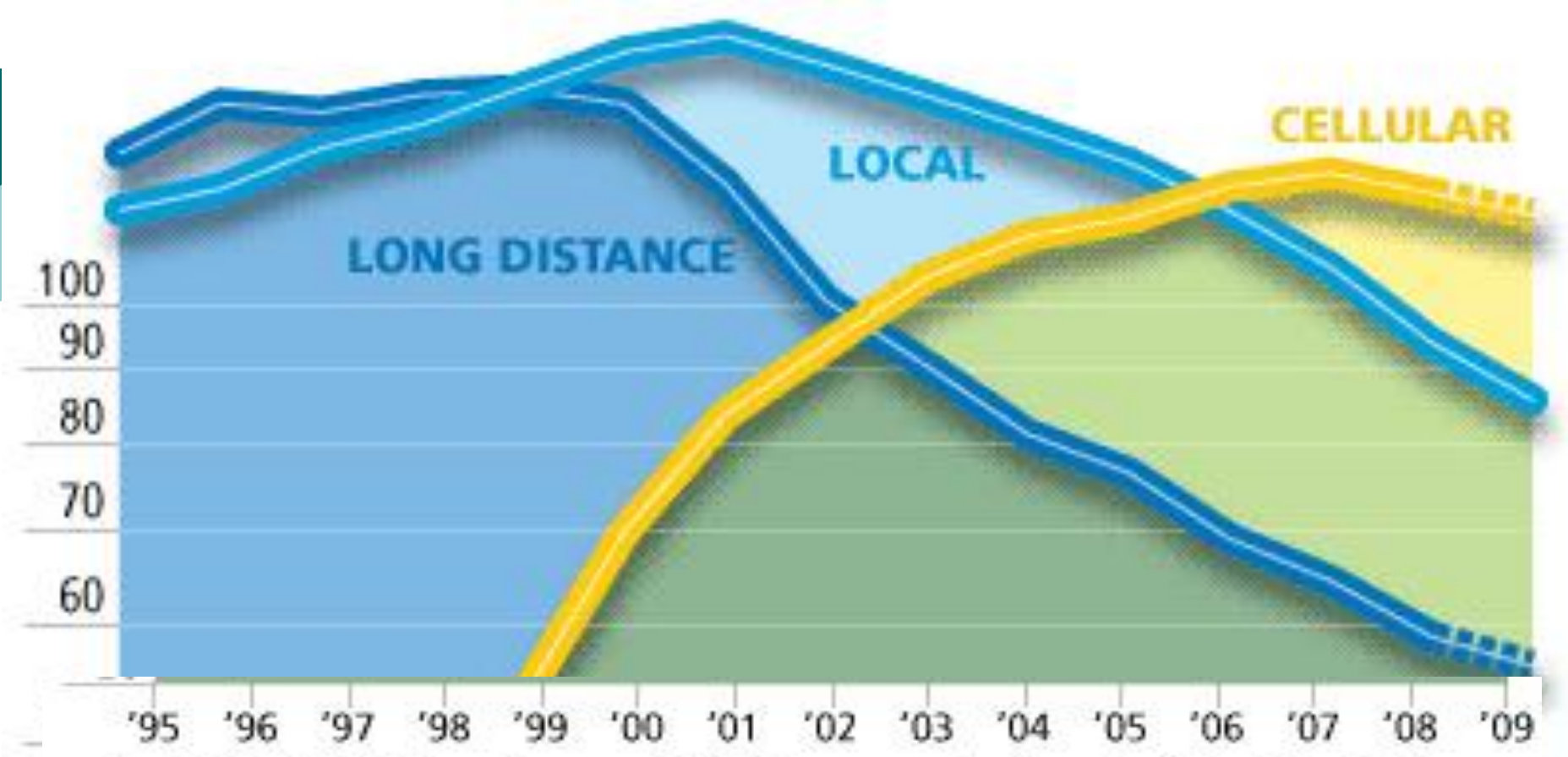
1. **Broadcast FILTERED Broadband directly to Economically Disadvantaged Students**
2. **Wireless Tower has an Educational Purpose**
3. **Tower can distribute WiFi signal**

Actual Antennae Mounted on Robinson Tower



1. FCPS PROGRAM
2. WIRELESS DEMAND
3. PROPOSAL ELEMENTS

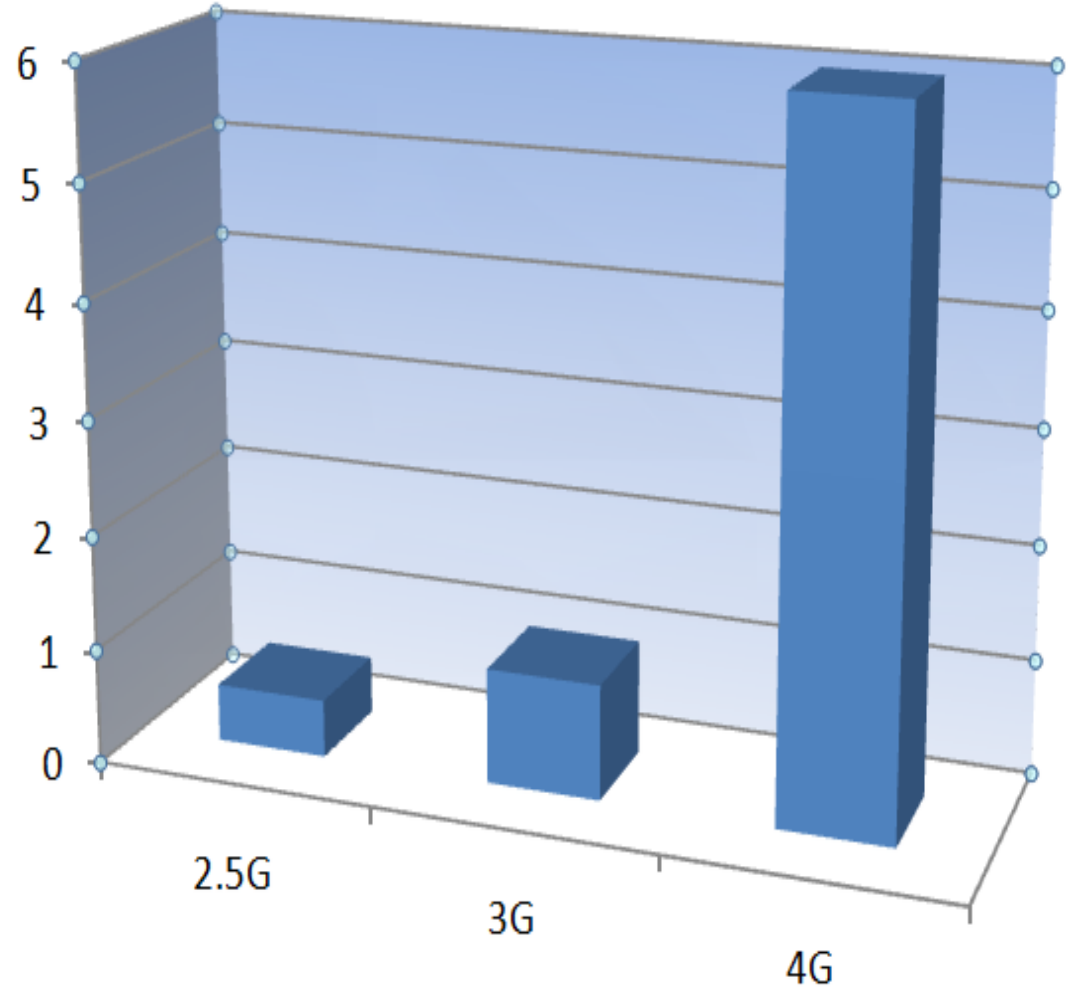
First Time in Wireless History…
Consumers are Talking Less



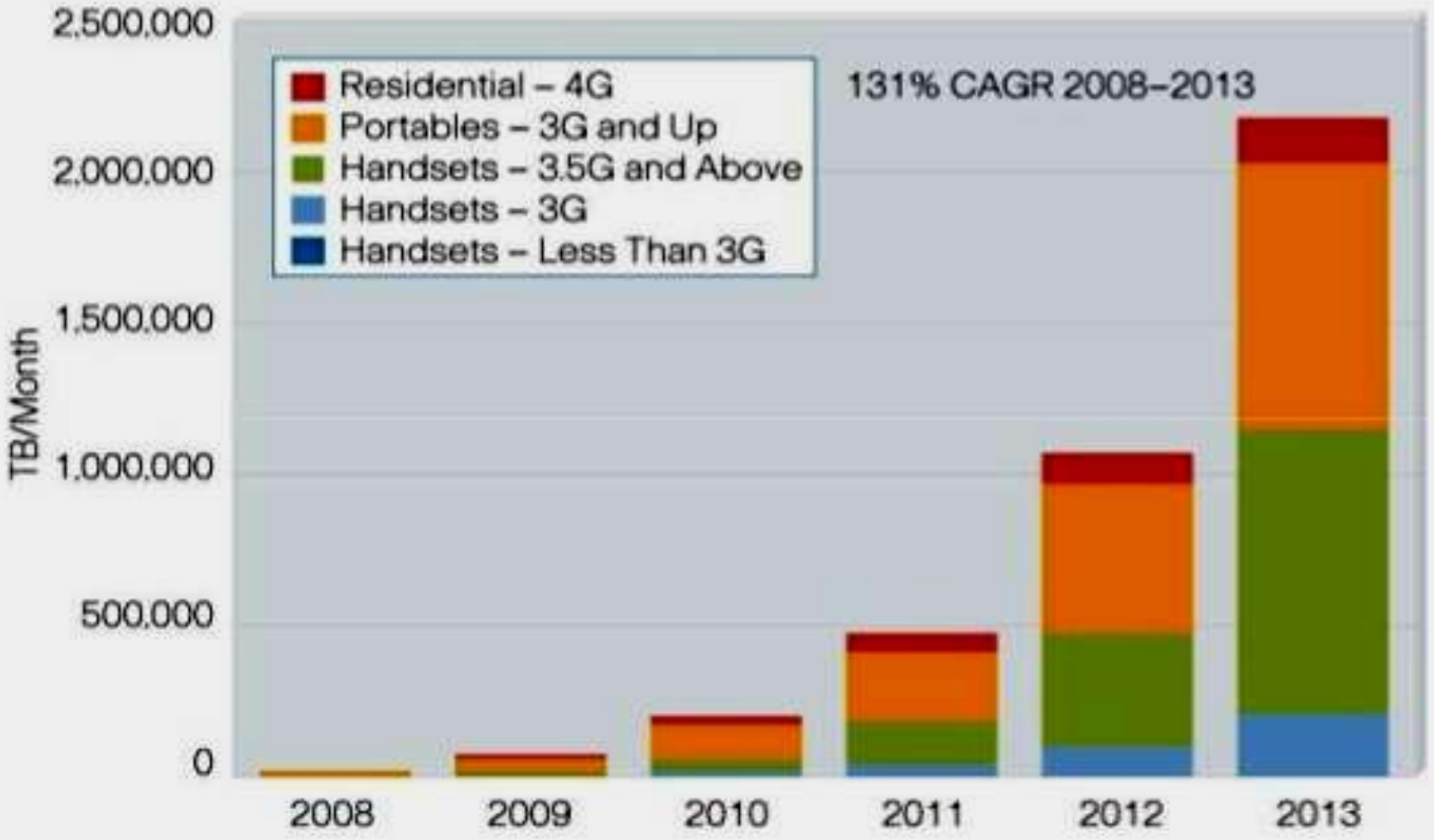
Constant 2009 dollars. Sources: FCC; Telecommunications Industry Association; Wilkofsky Gruen Associates; Forbes.

Mobile Devices are Driving Demand

Networks are Getting Faster



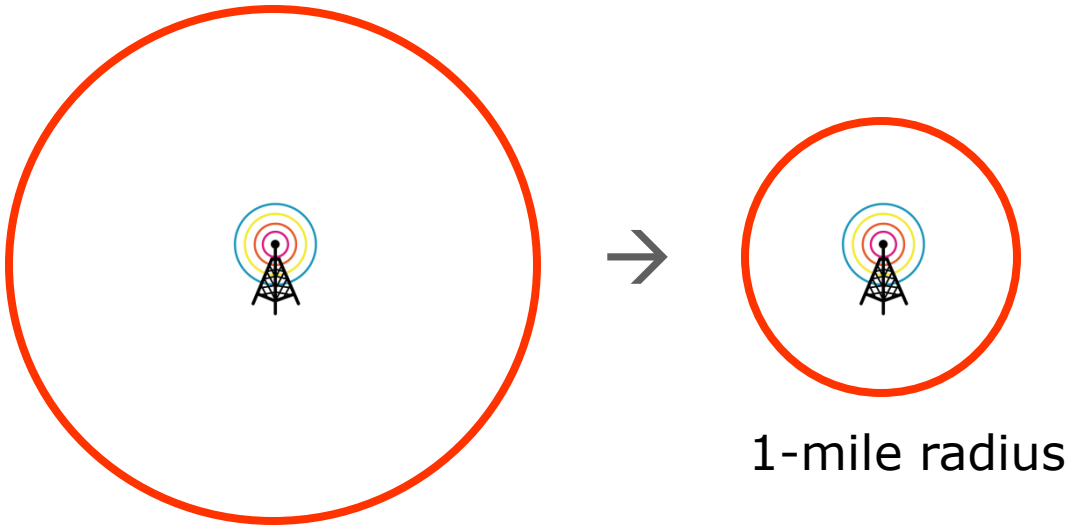
Mobile Web will Double Data Traffic ANNUALLY



Source: Cisco, 2009

Summary

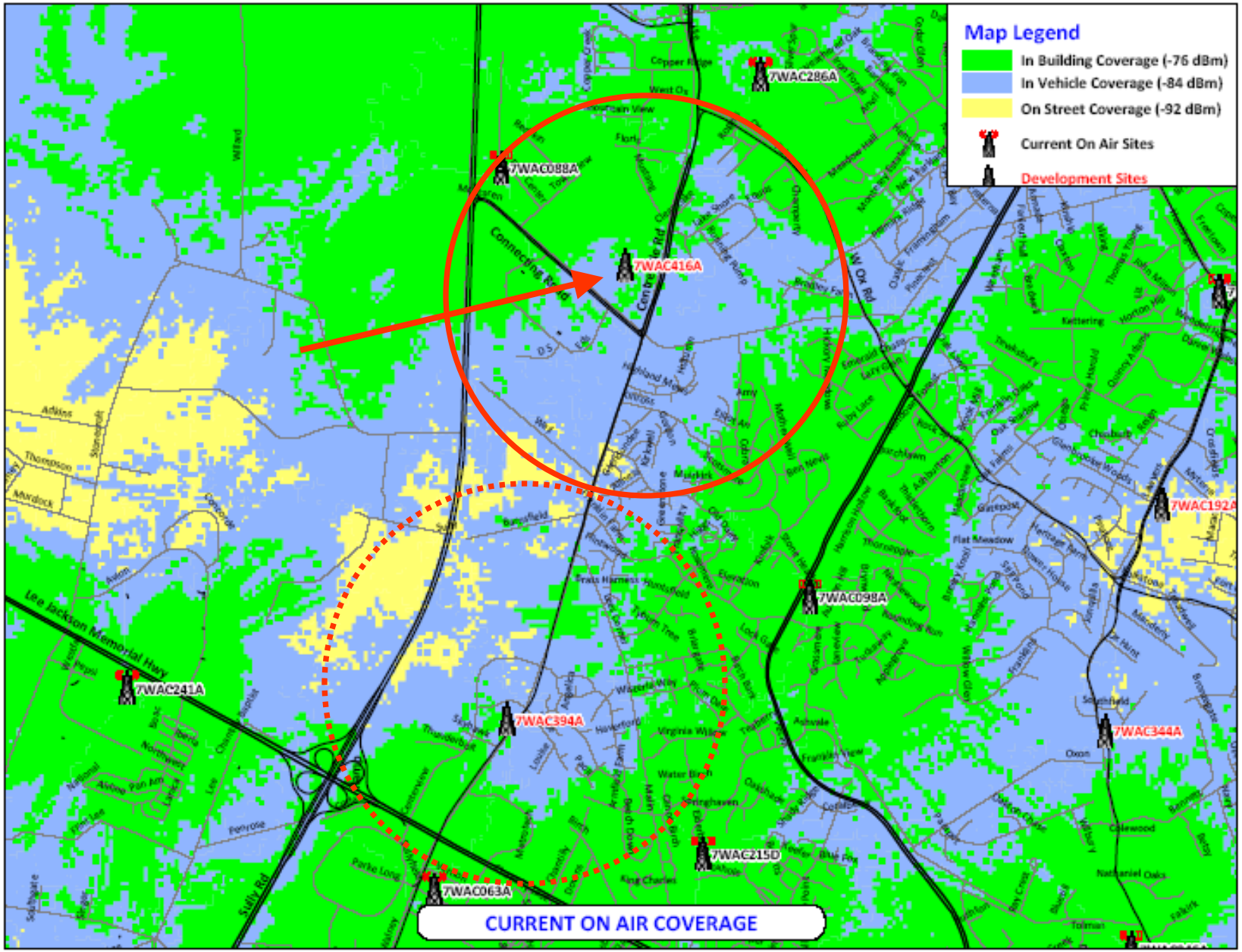
- Voice → Data
- Along Roads → In Neighborhoods
- Coverage → Capacity and Speed
- Search Rings Getting Smaller



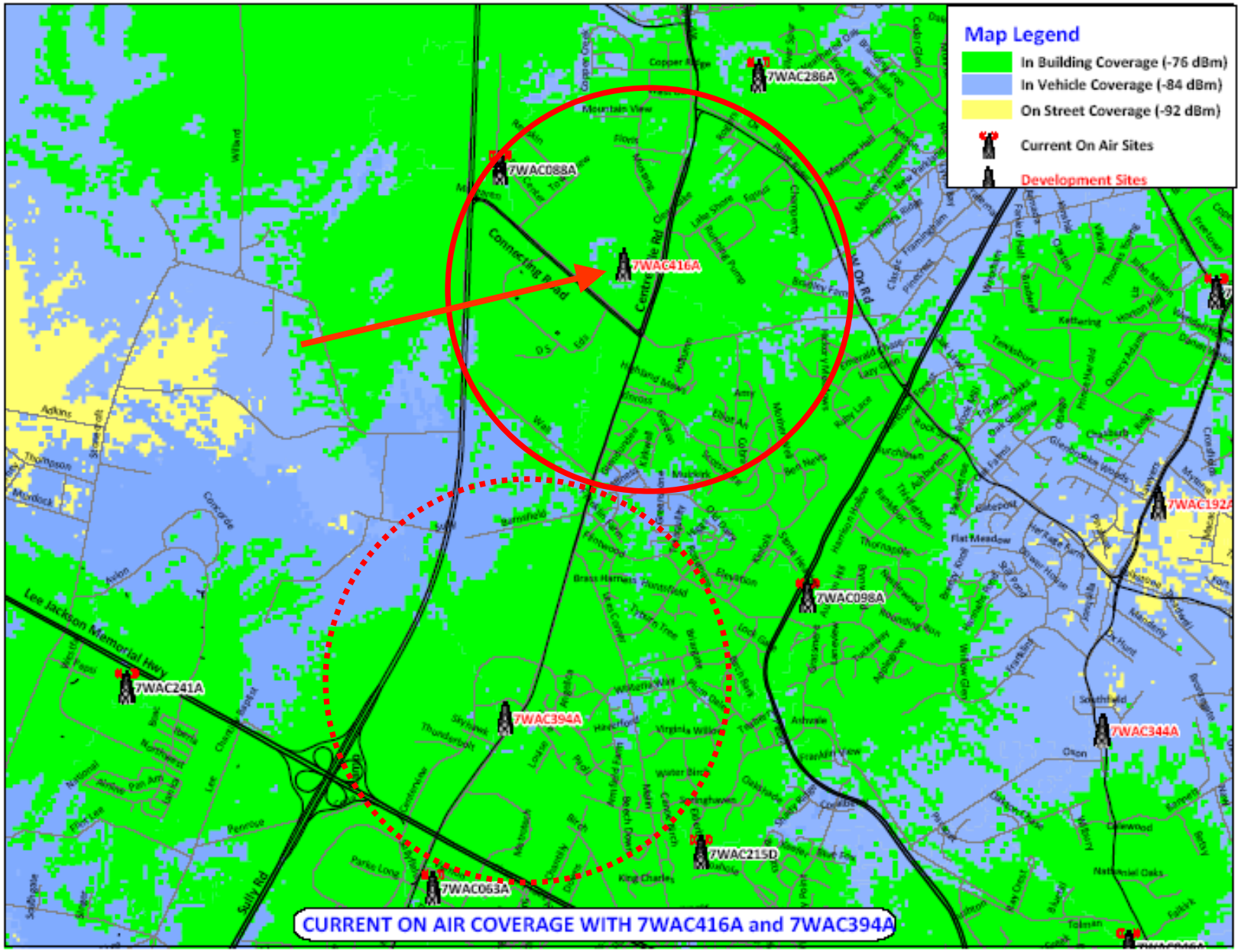
1. FCPS PROGRAM
2. WIRELESS DEMAND
3. PROPOSAL ELEMENTS

Proposed Location and Search Ring

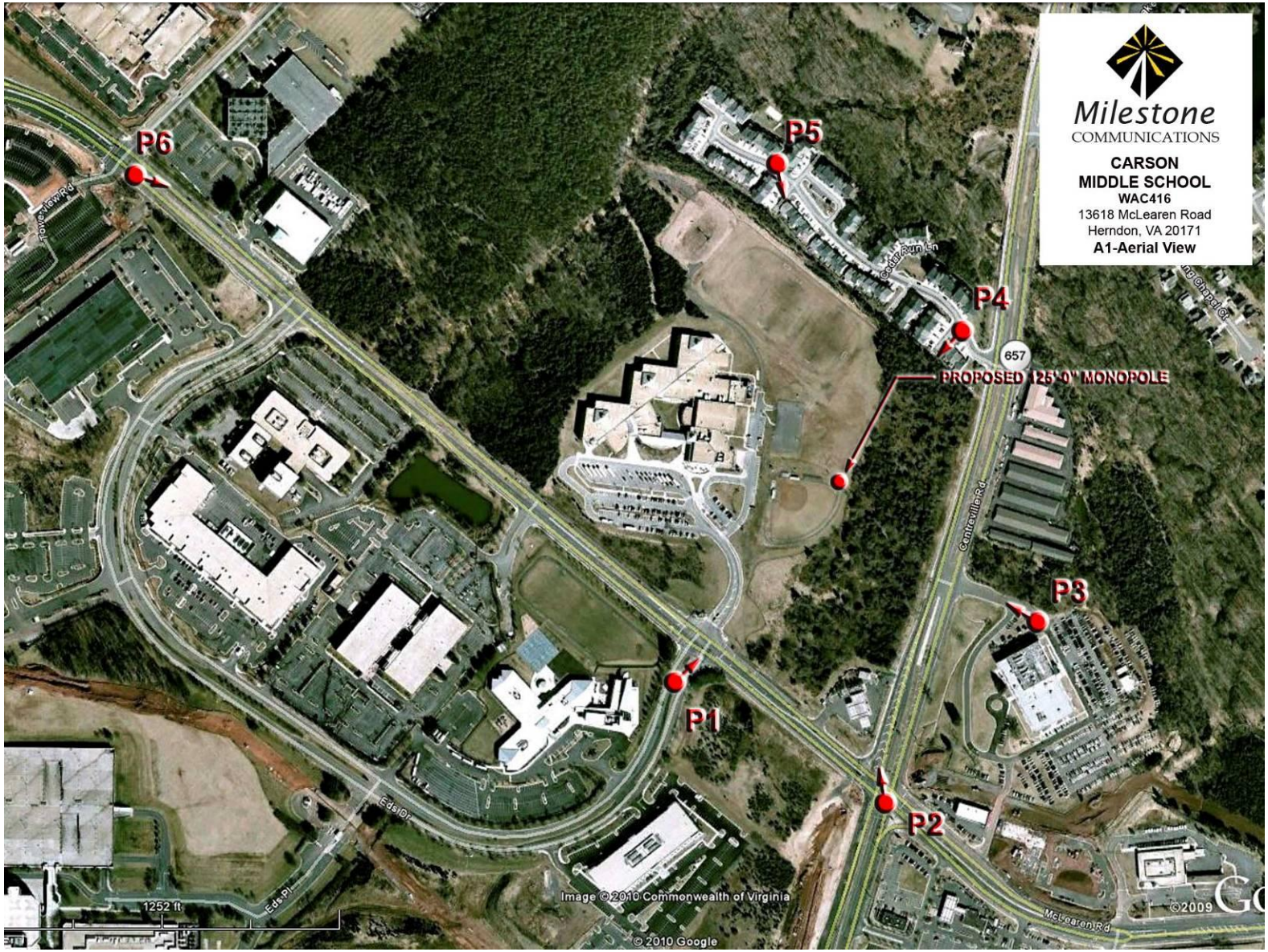
T-Mobile Propagation Without Tower



T-Mobile Propagation With Tower

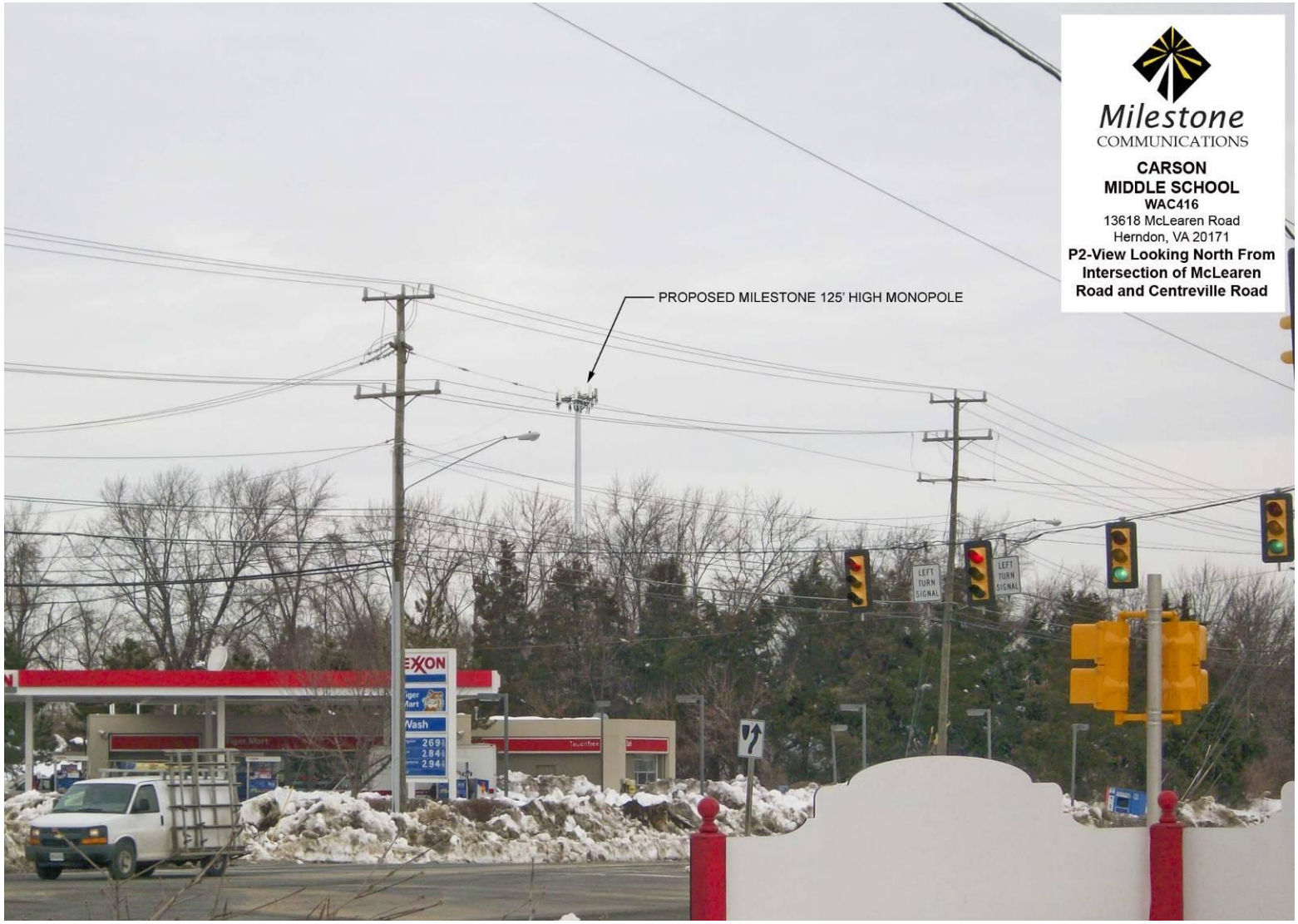


Tower Location Exhibit



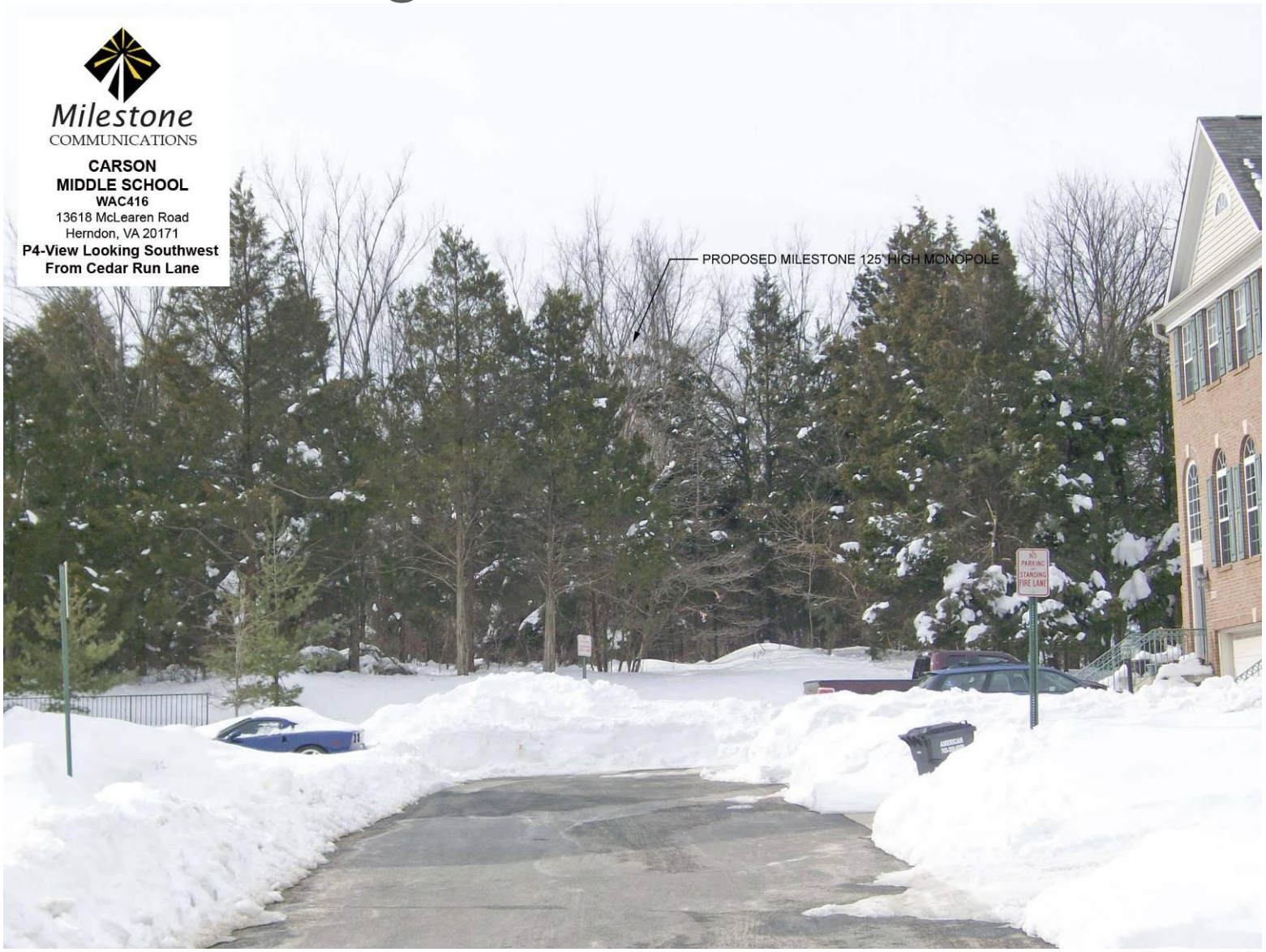
P-1 Looking Northeast from Eds Drive

P-2 Looking North from Intersection of McLearen Road and Centreville Road



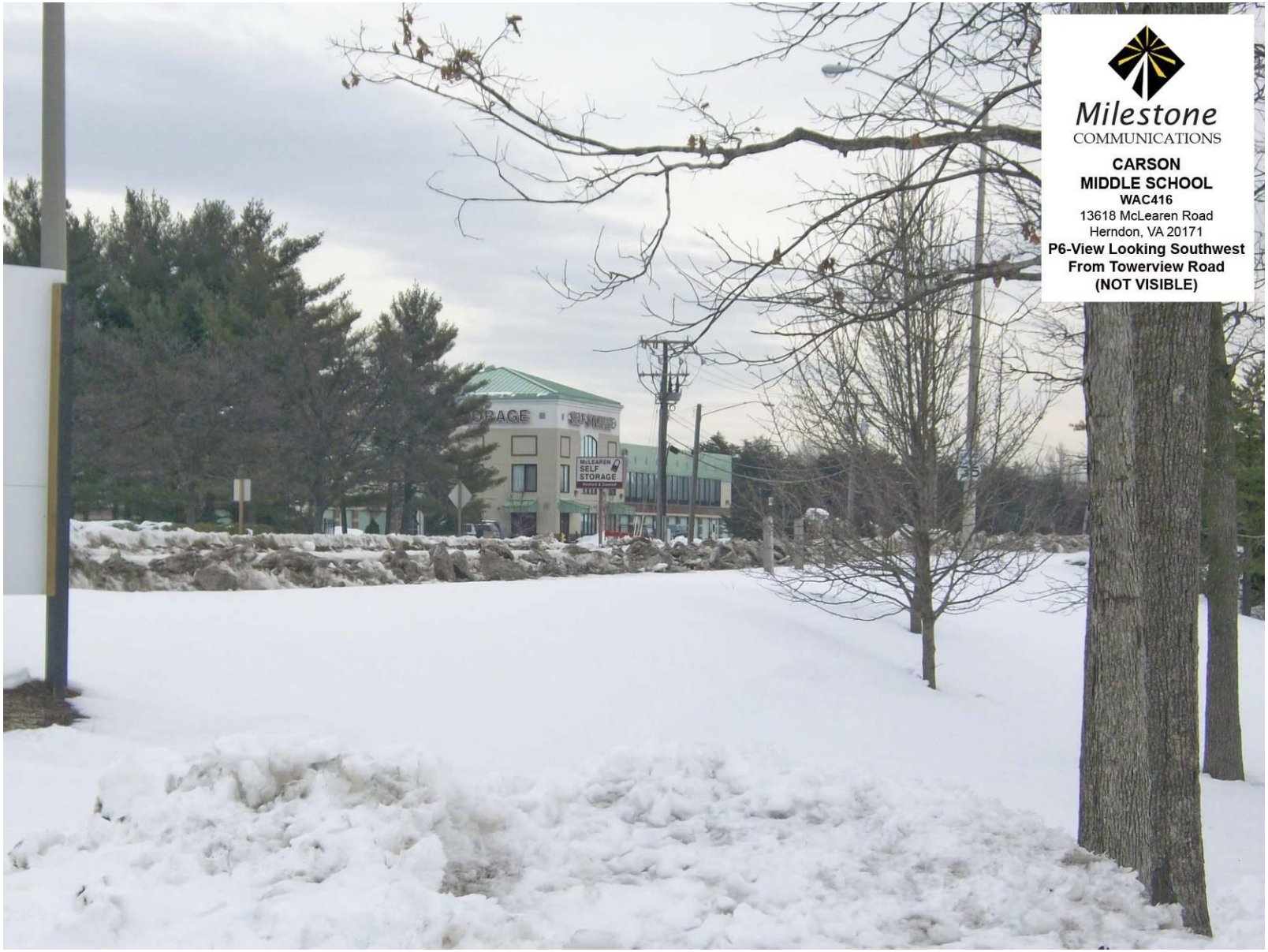
P-3 Looking NW from Church Parking Lot

P-4 Looking SW from Cedar Run Lane



P-5 Looking South from Cedar Run Lane

P-6 Looking SW from Towerview Road



Community Concerns
(HOA Meeting 5/20)

- Radiofrequency Safety
  → RF emanates horizontally from antennas; measured radiation on ground level is 0.1% of FCC limit; equivalent to wireless router, lower than cell phones. Referred to WHO, American Cancer Society reports.

- Impact on Home Values
  → 2010 analysis by Thorne Consultants found no negative impact on home values resulting from monopole views.

- Alternative Sites Considered

- Alternative Location on School Property

- Mitigation of Visual Impact

Alternative Sites Considered by T-Mobile

Alternative Locations Considered

Proposed Conditions to Mitigate Visual Impact

LEGEND:

DENOTES AREAS TO BE SUPPLEMENTED WITH ADDITIONAL EVERGREEN SCREENING OF 10’-12’ HT.

Please contact us with questions and concerns.

Milestone Communications
Christian Winkler
1890 Preston White Drive #103
Reston, VA 20191
703-620-2555 x109
christian@milestonecorp.com

What is Wireless?

- Radio Frequency (RF) Energy Used to Exchange Information
- Similar to Radio and Television: Higher in Frequency but Lower in Power

	Frequency	Power
FM Radio	~100 MHz	Up to 50,000 W
TV	50-700 MHz	Up to 1 Million W+
Wireless	850-2100 MHz	500-1,000 W

- Broadcast Radius of Wireless is Much Smaller
- Has Been Commercially Used Around Communities for Almost 100 Years

FCPS RF Health Safety Study

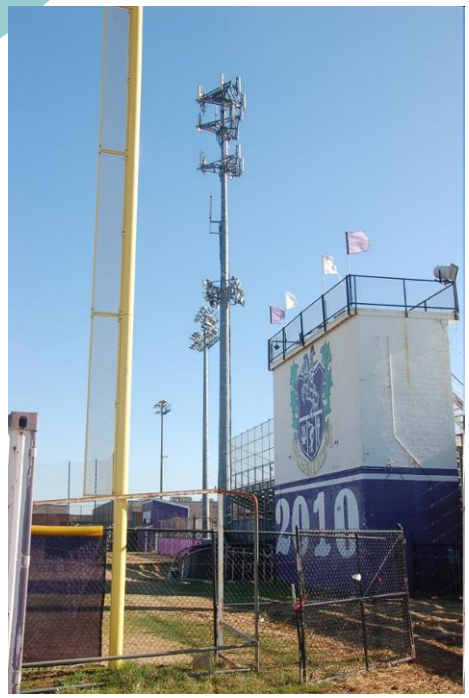
- Wireless Base Station send most of their energy toward the horizon
- Jan 2005: FCPS tested 7 existing tower locations + 7 random locations. Results = all sites tested at <0.1% of FCC limit
- Dec 2009: 2005 Study replicated by Site Safe, RF consulting group. Results confirm safety of 2005 data
- The maximum levels measured from cell towers are similar to the exposure close to a wireless home WiFi access point

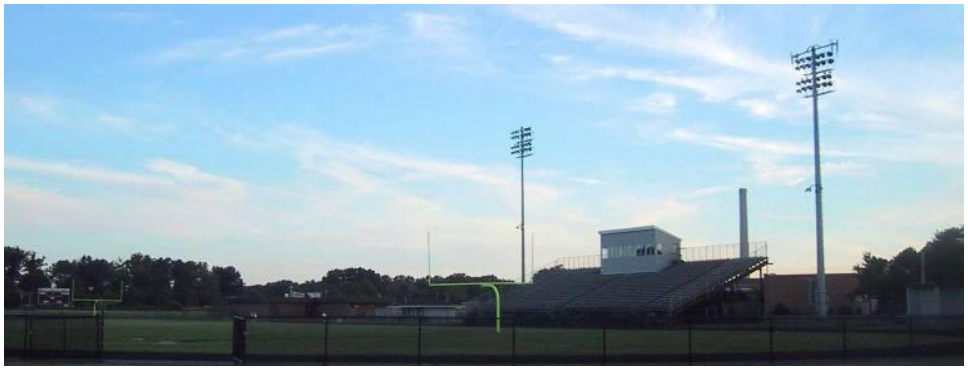
Are Wireless Towers Safe?

Examples of Stealth Tree Poles

Dozens of New Towers Proposed Proximate to Fairfax County Schools

Examples of Stealth Towers Located at Athletic Fields





Examples of Equipment Compounds

Wireless Infrastructure Drives Broadband Competition

Broadband & Cable Providers

Wireless Providers

Competition = Lower Cost = Digital Divide Narrows

FCC Policy Announcement

“creating a federal mandate for…erecting many cell phone towers”..

and

“operate a dedicated network for public safety responders”

Washington Post 3-17-2010

FCC plans massive broadband expansion

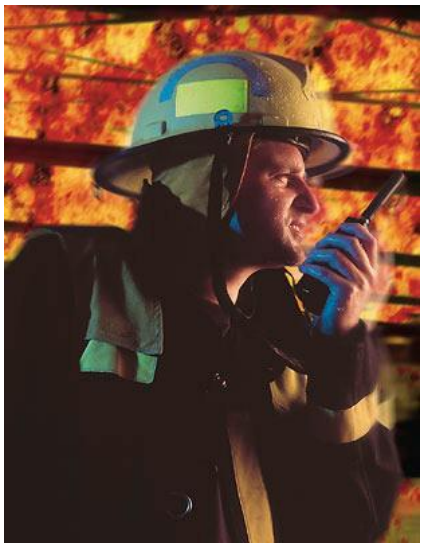
Proposal would close digital gap between rural and urban areas

BY CECILIA KANG

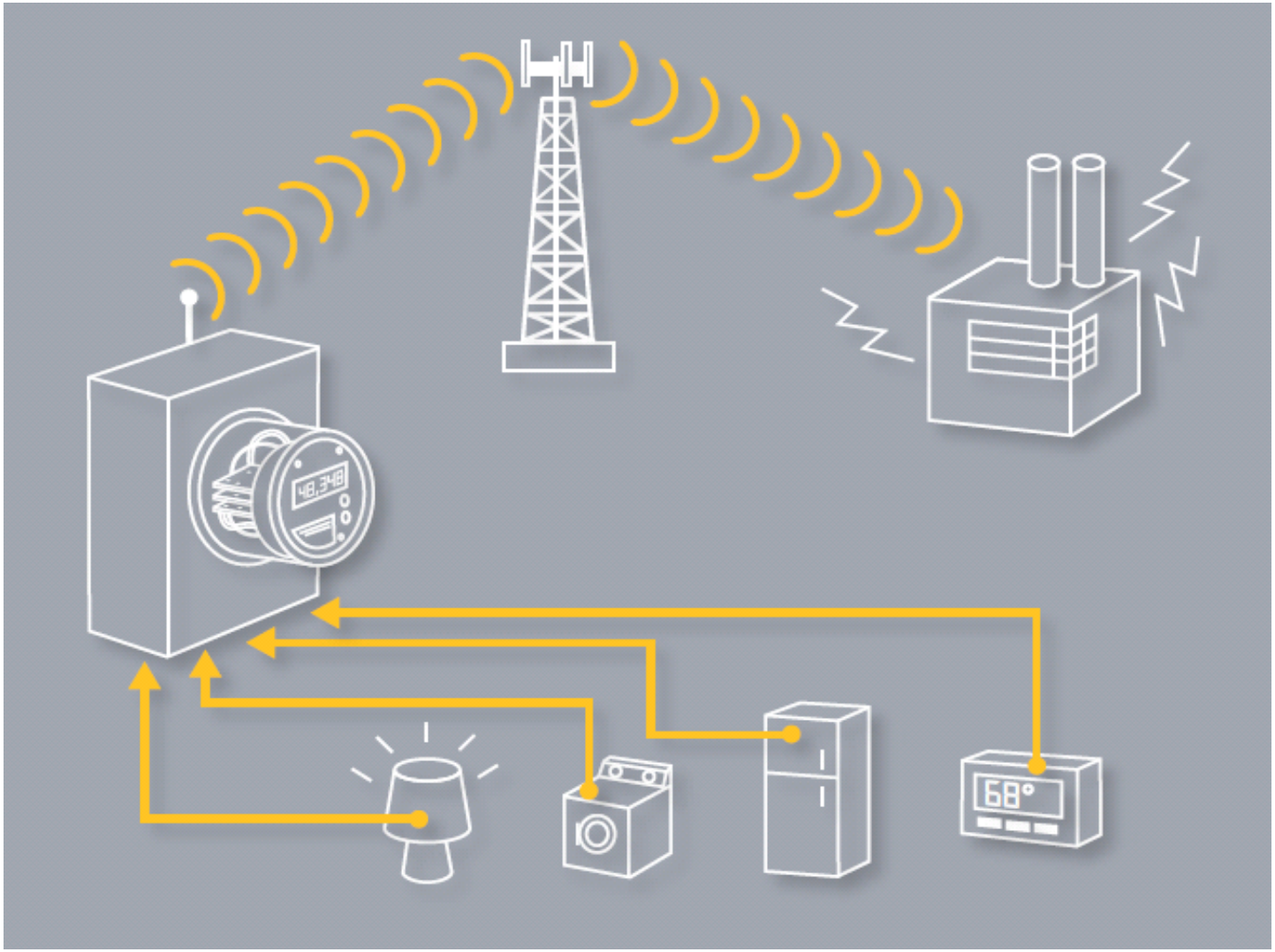
The Federal Communications Commission announced on Monday its long-awaited plan to bring broadband Internet connections to every home and business in the United States, part of an ambitious, multibillion-dollar attempt to create a new digital infrastructure for the nation's economy.

The national broadband plan outlines dozens of policy recommendations aimed at raising the portion of people with high-speed Internet connections to 90 percent, from the current 65 percent, over the next decade and significantly increasing the connection speeds of homes with such service.

Mandated by last year's stimulus legislation, the plan will be presented to Congress on Tuesday and is widely expected to set the FCC's agenda for years to come. It would move the commission squarely into the age of the Internet, creating a federal mandate for installing thousands of miles of new fiber-optic cable and erecting many cellphone towers.



Wireless Infrastructure Enables SmartGrid



Summary of Benefits

- Additional School Revenue
- Educational Technology
- Improved Wireless Coverage and Capacity
- More Competition → Lower Prices
- First Responder Network
- Conservation Technology