

Crown Castle Proposed DAS System *Introduction & Overview*

Newpath Penderbrook ODAS Project
– 2232-MD10-14

March 23, 2011

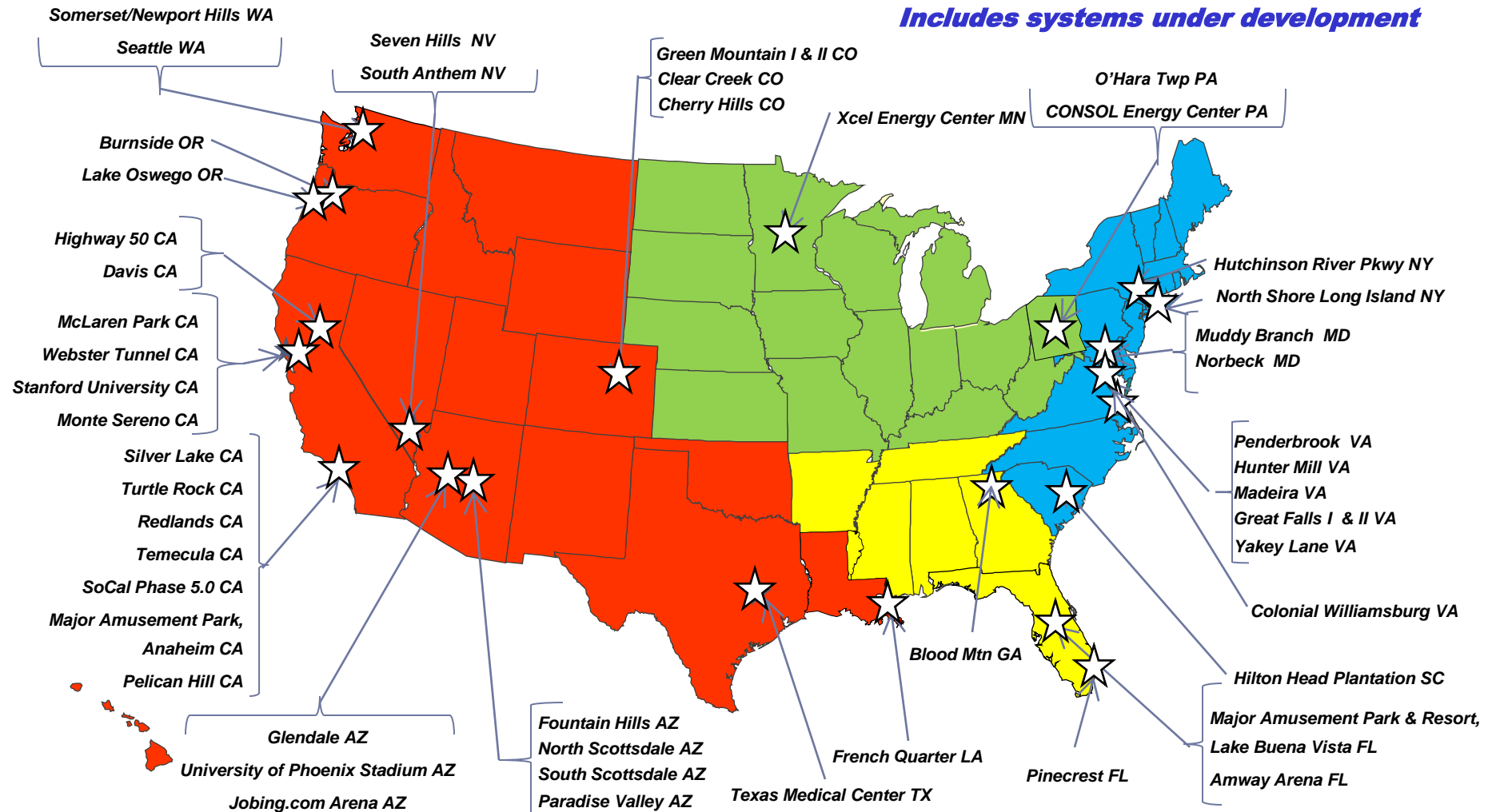
Introduction to Crown Castle

Our Mission is to deliver the highest level of service to our customers at all times – striving to be their critical partner as we assist them in growing efficient, ubiquitous wireless networks.

When coverage or capacity gaps are identified by the wireless carriers, Crown Castle will either:

- Provide a fix by easily & simply collocating on one of our towers, rooftops or DAS systems
- If we do not have a suitable Crown asset, we will identify another structure that will solve the problem
- If there are no towers or other suitable structures, we will build a tower
- If a tower is not appropriate for the location, we will build a distributed antenna system

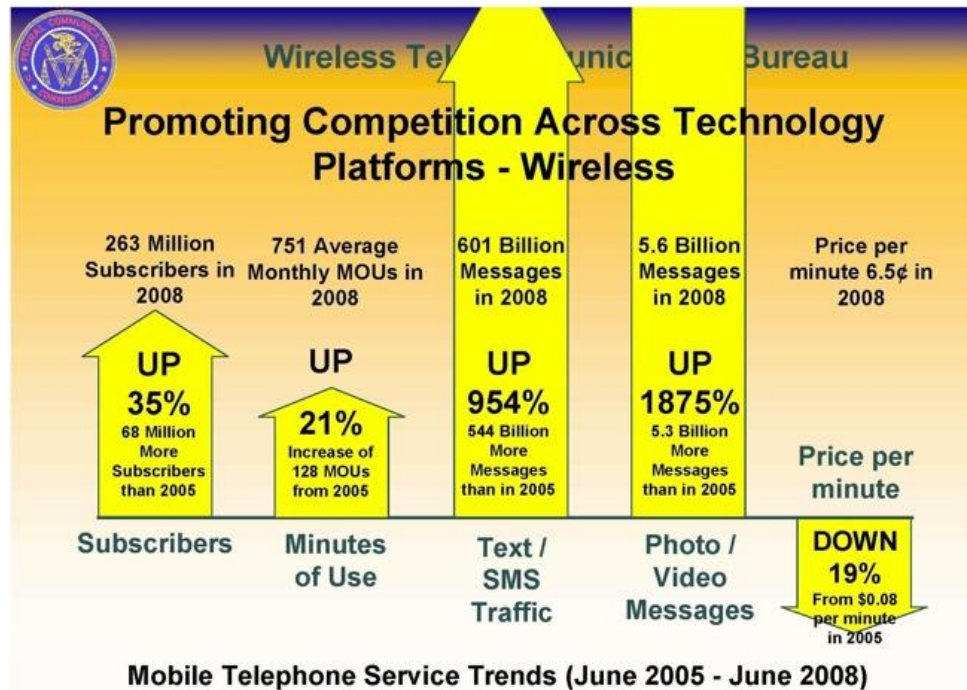
Crown Castle DAS Operations



Why DAS?

***THERE IS EXPLOSIVE GROWTH IN THE USE OF WIRELESS DEVICES,
PARTICULARLY THOSE ACCESSING THE INTERNET AT BROADBAND SPEEDS:***

From 3.1 Million in 2005, to 21.9 Million 1 year later in 2006.

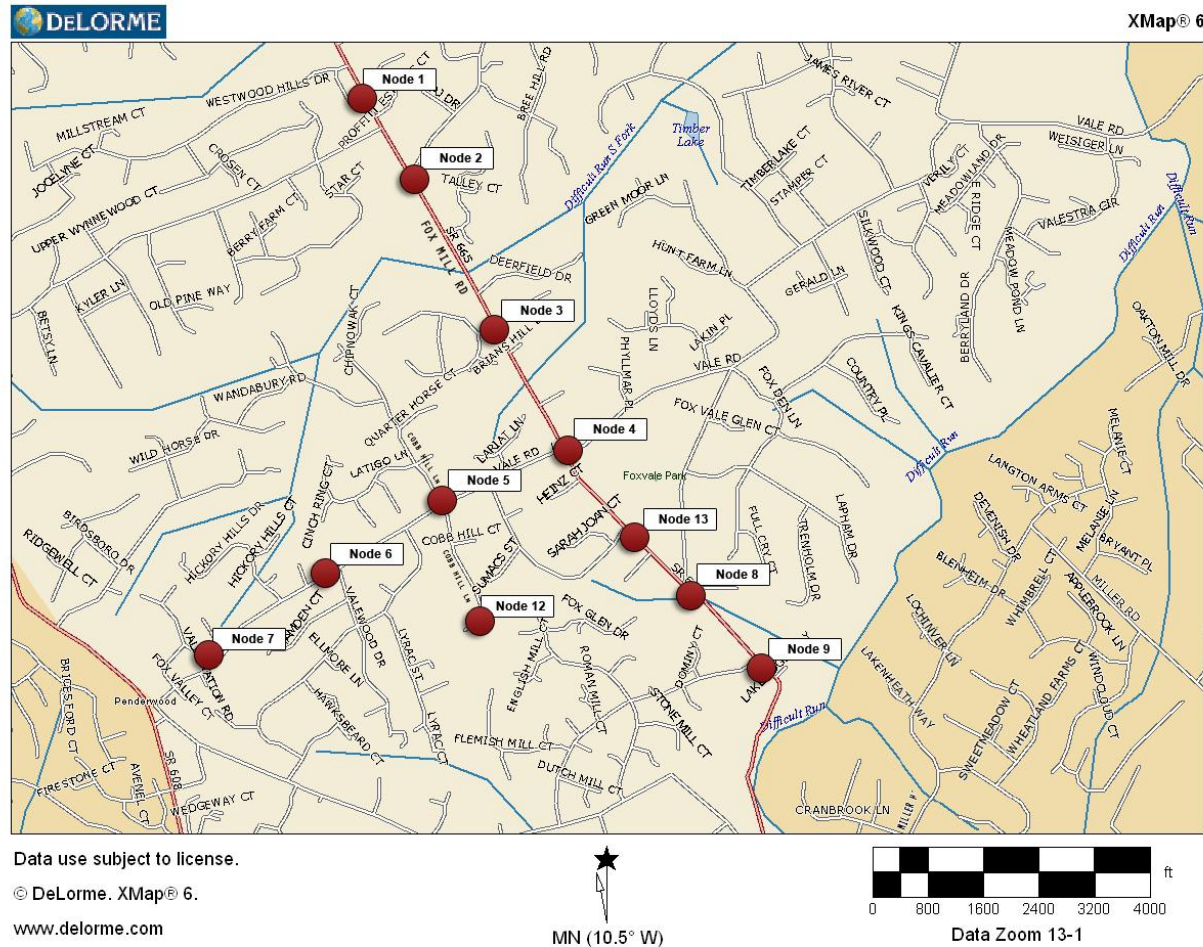


Source: CTIA - The Wireless Association; FCC.

Proposed DAS network: Penderbrook

- Fourteen (14) total outdoor DAS nodes connected to hub location
- Eleven (11) outdoor DAS nodes located in Sully District, three (3) located in Providence District
- AT&T Wireless as anchor tenant
- Neutral host platform to be marketed to all Wireless Service Providers

Proposed DAS network: Network Design – Sully District Nodes



Fairfax County Process For DAS

- Permitted use under Section 2-514 of the Fairfax County, VA Zoning Ordinance
- Subject to Comprehensive Plan Review (2232 Review) with one (1) public hearing before Fairfax County Planning Commission
- Planning Commission hearing date TBD

Fairfax County Comprehensive Plan - DAS

- Objective 42, a) – Avoid construction of new structures by locating telecommunication facilities on available structures such as electric utility poles
- Objective 42, b) – Consider public lands as the preferred location
- Objective 42, j) - Mitigate the visual impact...using effective design options such as...increasing the height of or replacing existing structures to reduce the need for another structure when such height increases...are appropriate

Newpath Penderbrook – Photo-Simulations

Node Photo-Simulations – Sully Nodes

Penderbrook– Node 1 – Photo Simulation

Before



After



Penderbrook– Node 2 – Photo Simulation

Before



After



Penderbrook– Node 3 – Photo Simulation

Before



After



Penderbrook– Node 4 – Photo Simulation

Before



After



Penderbrook– Node 5 – Photo Simulation

Before



After



Penderbrook– Node 6 – Photo Simulation

Before



After



Penderbrook– Node 7 – Photo Simulation

Before



After



Penderbrook– Node 8 – Photo Simulation

Before



After



Penderbrook– Node 9 – Photo Simulation

Before



After



Penderbrook– Node 12 – Photo Simulation

Before



After



Penderbrook– Node 13 – Photo Simulation

Before



After



NewPath ODAS Development History – Fairfax County, VA

- 2007 – Hunter Mill Project (Phase I) – Four (4) outdoor DAS nodes plus hub location approved via 2232 process and constructed on Hunter Mill Road. Two tenants on system: **Sprint, AT&T.**
- 2008, 2009 – Great Falls Project (Phases I and II) – Forty-eight (48) outdoor DAS nodes plus hub location approved via 2232 process and constructed in Great Falls, VA. One tenant on system: **AT&T.**
- 2011 – Hunter Mill Phase II – Five (5) additional outdoor DAS nodes proposed on Hunter Mill Road and in 2232 process. System proposed for **AT&T.**

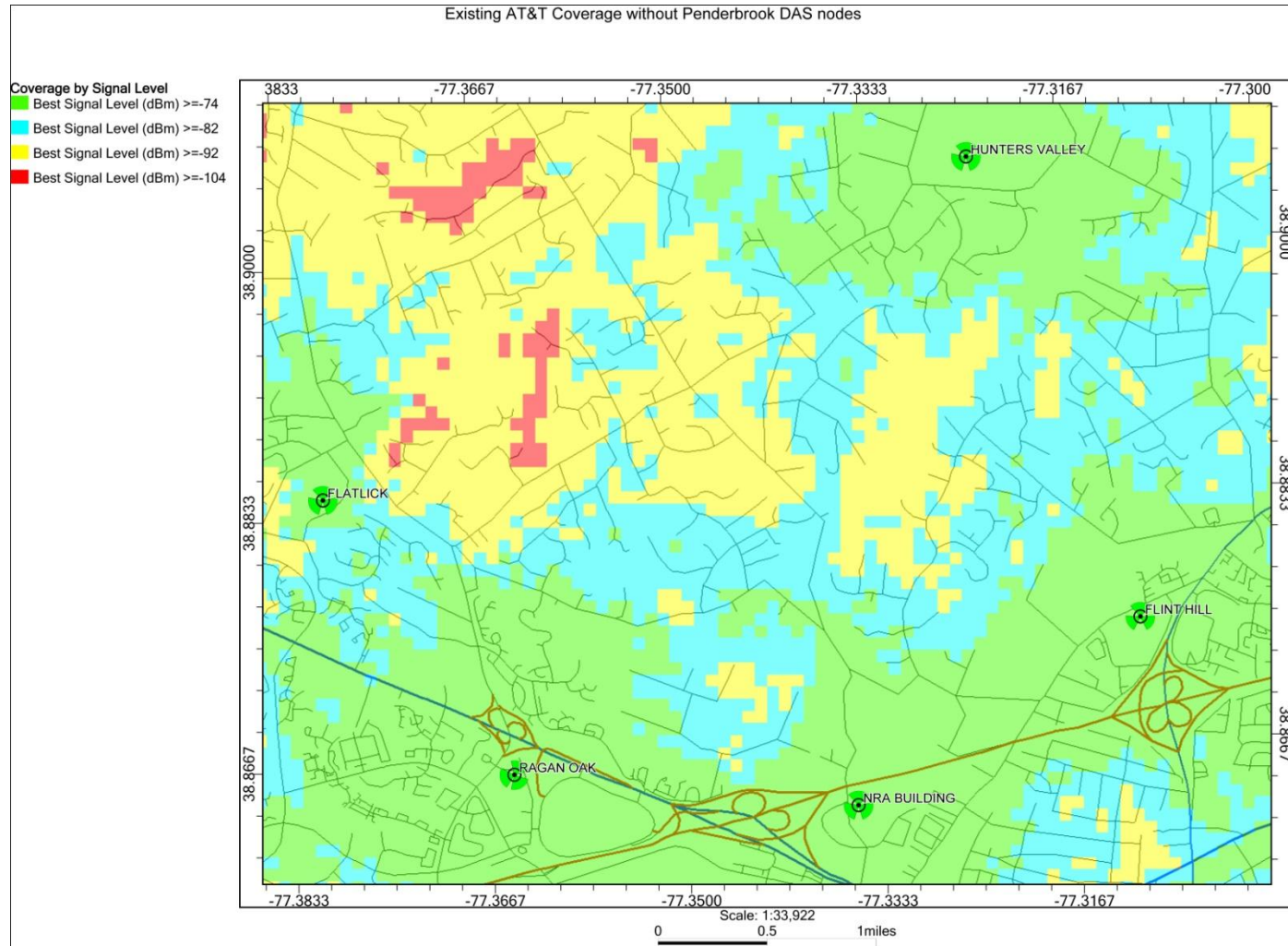
Example Outdoor DAS Nodes

Existing Node on Hunter Mill Road

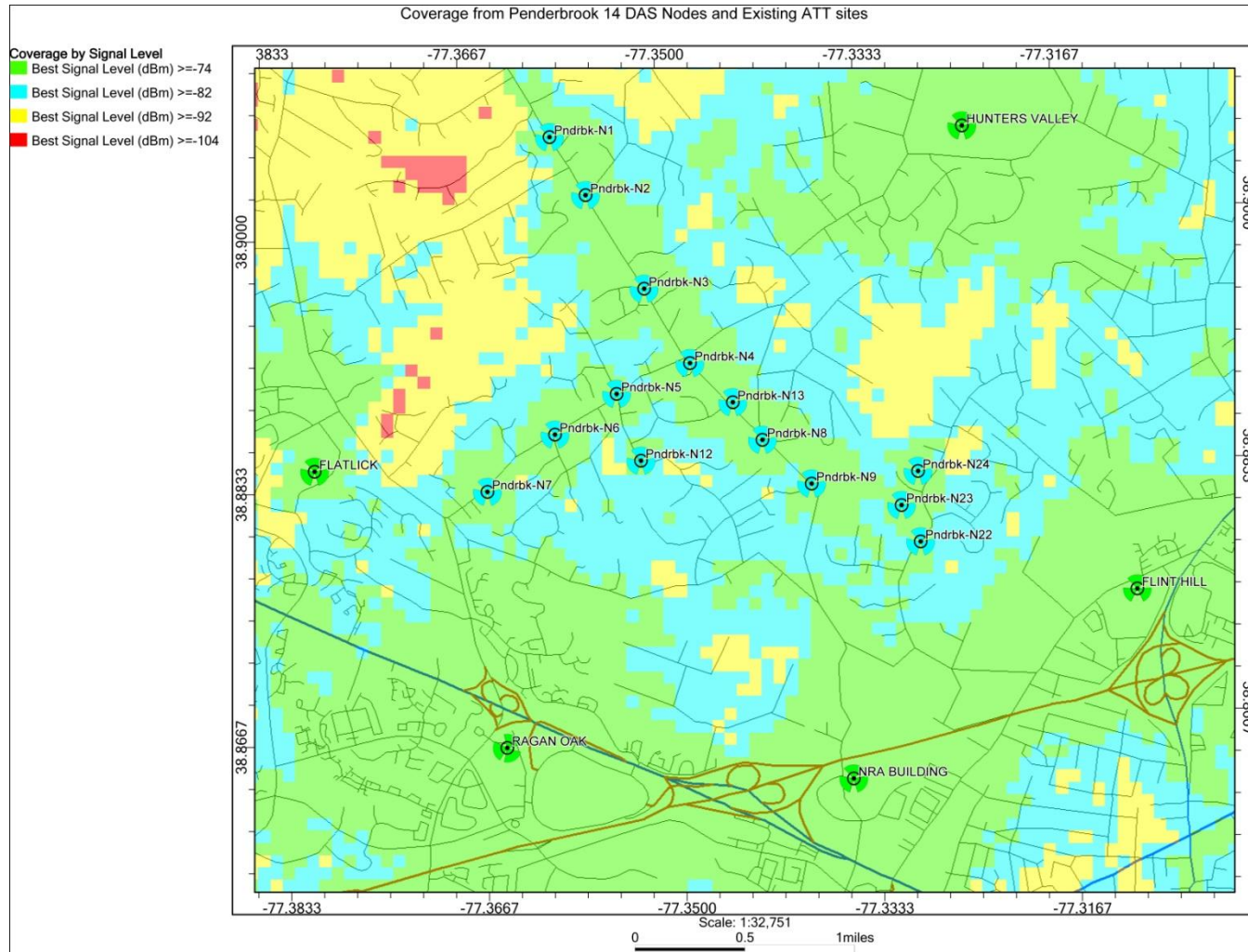
Hunter Mill Node 2 – Pole QD58 – Hunter Mill Road & Vale Road – 42 feet



NewPath Penderbrook – RF Data – Existing



NewPath Penderbrook – RF Data - Proposed



DAS Safety Basics

The Federal Communications Commission (FCC) established RF Standards for wireless transmission facilities based on a three year rulemaking process

- Process included evaluation of the two most widely recognized standards of ANSI (American National Standards Institute) and NCRP (National Council on Radiation Protection)
- Input received from the public, academia, scientists, the telecommunications industry and federal health & safety agencies
- The maximum standards adopted were recommended by both the EPA and FDA
- The FCC standard is 50 times below a level that the majority of the scientific community believes may pose a potential health risk

DAS Safety Basics



FCC Maximum Exposure Limits

PCS (1900 MHz) 1.00 Milliwatts per cm²

Cell (800MHz) .533 Milliwatts per cm²

DAS General Population Exposure

Example Case (person standing at base of pole)

<u>Wireless Operators</u>	<u>% of FCC Exposure Limit</u>
4 PCS Operators	0.6%
3 Cell/SMR , 1 PCS	0.2%

Exposure standing at base of standard 42' pole is less than exposure sitting next to someone on a cell phone.

Thank you for your consideration

Questions and Additional Information:

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