

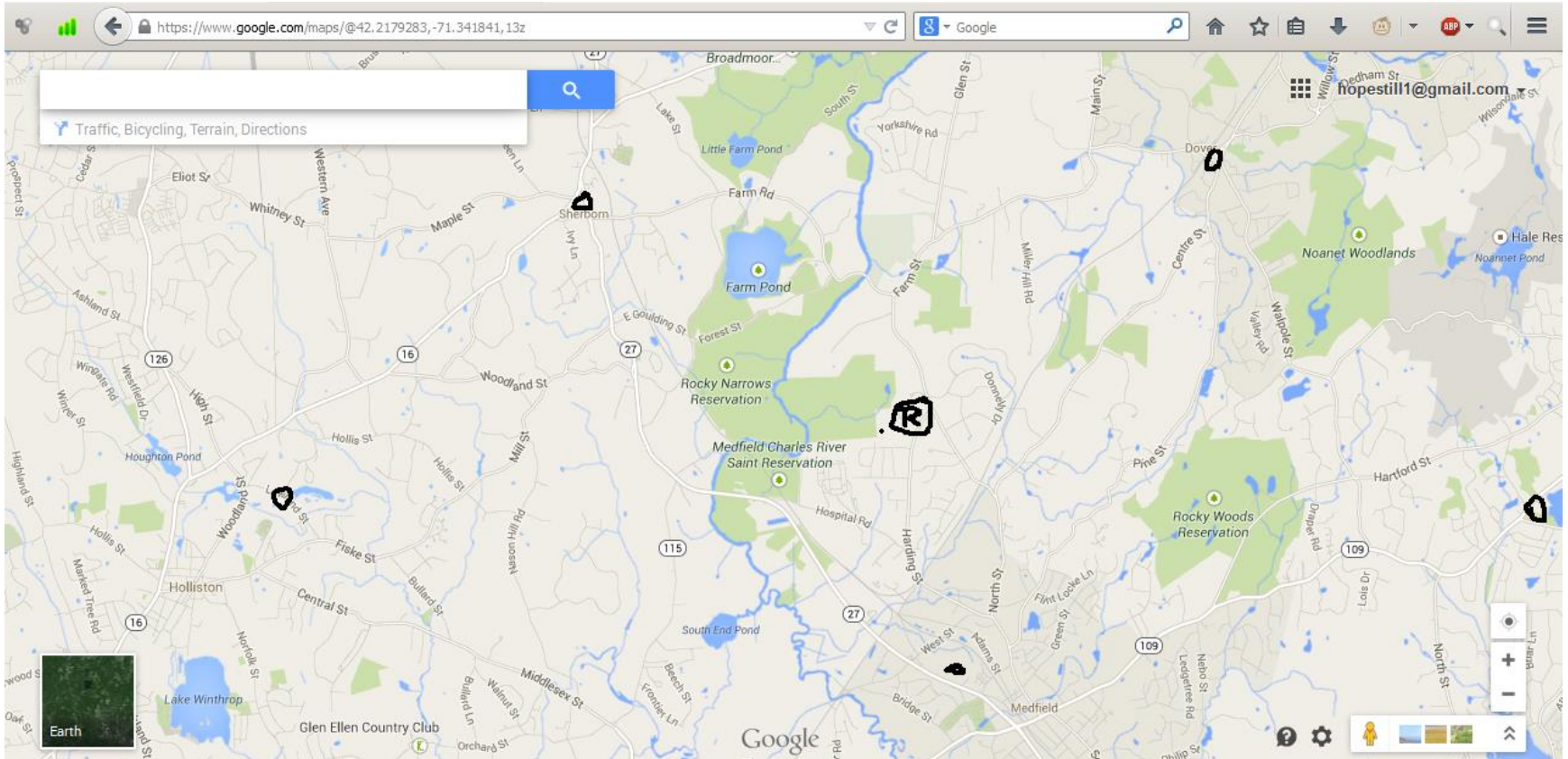
Cell Tower on the Regional Campus

Brief history, potential safety issues,
and site considerations

History

- RSC has been interested in siting a tower on the regional campus for many years
 - increased service = increased safety
 - revenue to reduce tax burdens
- In early 2014, we became aware of an application to Dover Planning Board by ATT for a tower on private land 120 feet behind the campus
- In February, RSC voted to investigate siting the tower on the regional campus
- Dover PB has continued the ATT hearing to allow RSC to issue a Request for Proposal
- In May, RSC voted to develop an RFP, expected to be issued in late June

Current nearby cell towers



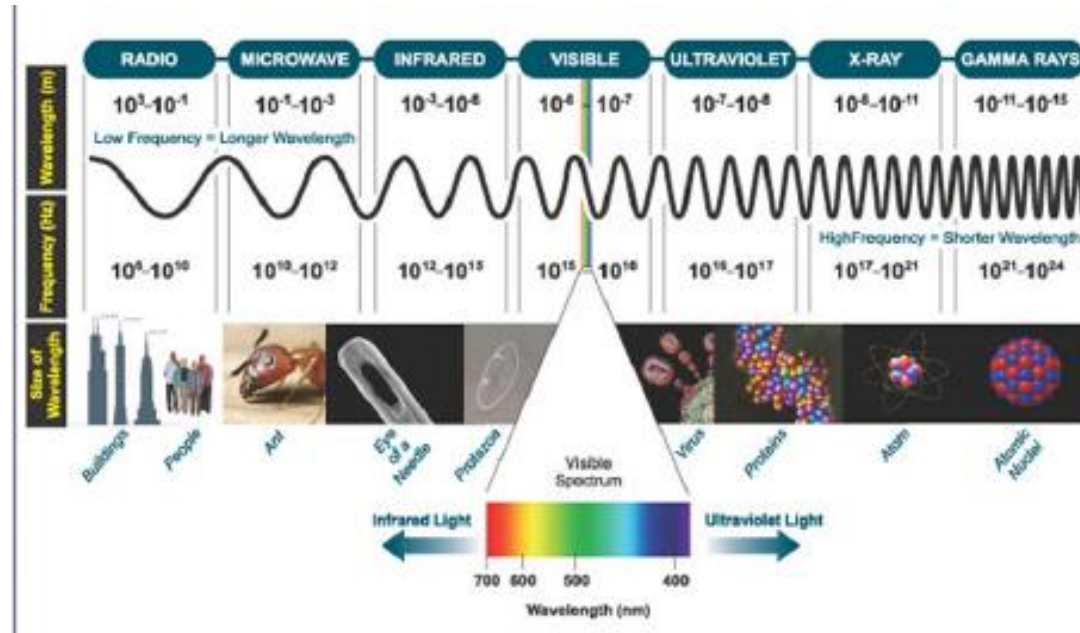
Regional campus (rough outline)



Potential safety issues: What is the concern?

- Cell towers, and cell phones, emit electromagnetic radiation in the radio/microwave range
- Is it safe to be around this form of radiation?

Radiofrequency (RF): radio and microwaves



Low energy—non-ionizing (don't break chemical bonds)
Harmless? No, but risks mainly involve heating

American Cancer Society

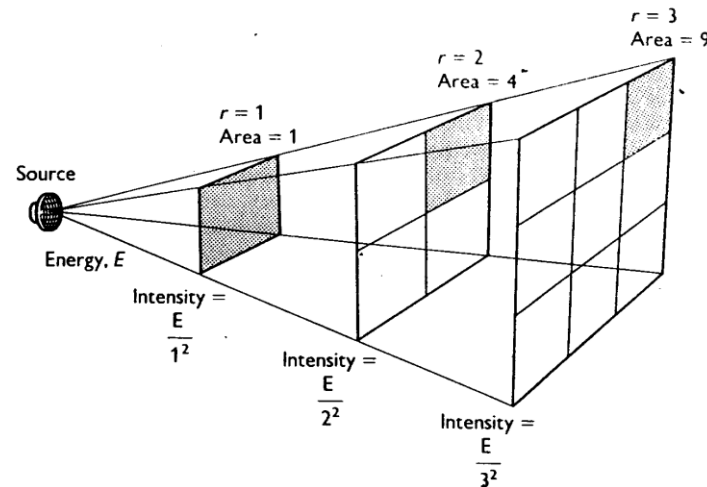
- “Some people have expressed concern that living, working, or going to school near a cell phone tower might increase the risk of cancer or other health problems. At this time, there is very little evidence to support this idea.”

FCC

- “In order to be exposed to levels near the FCC’s limit, an individual would essentially have to remain in the main transmitting beam (at the height of the antenna) and within a few feet of the antenna.”
- http://transition.fcc.gov/Bureaus/Engineering_Technology/Documents/bulletins/oet56/oet56e4.pdf

Intensity falls dramatically with distance: Inverse square law

- Twice the distance, $\frac{1}{4}$ the intensity



- Ten times “a few feet”, $\frac{1}{100}$ the intensity

RF exposure report, ATT application

- “proposed installation of up to twelve (12) wireless telecommunication antennas on a monotree (other carriers’ future proposed equipment was included in the modeling analysis)”
- “FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general public/uncontrolled exposure limits for members of the general public.”
- “limits are designed to provide a substantial margin of safety. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.”
- **“Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky.”**

RF exposure report, cont.

- “Based on worst-case predictive modeling, there are no modeled areas on any accessible ground level walking/working surface related to the proposed AT&T antennas that exceed the FCC’s occupational or general public exposure limits at this site.”
- “At the nearest walking/working surfaces to the AT&T antennas, the maximum power density generated by the AT&T antennas is approximately 1.70% of the FCC’s general public limit...The composite exposure level from all carriers on this site is approximately **3.80% of the FCC’s general public limit**”

As long as we're on the subject...

- Exposure from a phone is far higher than from a tower (lower power, but much closer)
- You could
 - Use a landline
 - Hold the phone further from your ear
 - Use an earpiece (not bluetooth)
 - Use the speaker
 - Text instead

WHO International Agency for Research on Cancer, 2011

- 31 scientists, 14 countries, evaluated literature (epidemiology, animal models, mechanistic studies) re **personal**(ie, phone use) and **environmental** exposure (towers, etc) to radiofrequency radiation
- Personal exposure: “Limited” evidence for glioma and acoustic neuroma (positive association, but chance, confounding, or bias could not be ruled out)
- Environmental exposure: “Inadequate” evidence (insufficient evidence to support or refute any association)

Other sources of radio/microwaves

- Wi-Fi routers, wi-fi laptops, smart boards, other wireless devices
- Is this a problem?
 - Princeton survey of the RF levels associated with the wireless network at the main library:
 - “RF levels present in all locations were so low that the levels were close to the lower limit of detection of the RF survey equipment.”
 - The maximum spatially-averaged level measured was 0.05% of the allowable limit.
 - <http://web.princeton.edu/sites/ehs/radiation/nirad.htm>

Considerations for Siting

- Access
- Wetlands
- Visibility
- Setbacks

Regional campus (rough outline)



Balloon test of 92' tower on private site



Balloon test of 92' tower on private site

