

# Proposed Cell Tower at Maple Hill Park

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May 2015

# Brief History

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- T-Mobile applied for a permit to construct a 65' cell tower at Maple Hill Park
- Residents around the Park were opposed at Diamond Bar City Planning Commission Meeting on April 21, 2015
- The permit application was denied based on: <sup>1</sup>
  - It's not compatible with existing & future land uses in the vicinity
  - It's highly visible to a heavily used location & detrimental to public interest, health & safety
  - Does not blend into the surrounding environment in concealing structure
  - There may be alternative less intrusive sites available
- T-Mobile has filed an appeal to the DB City Council, hearing date is now set for June 2, 2015

# Proposed Cell Tower Location



# Current Permissible Exposure

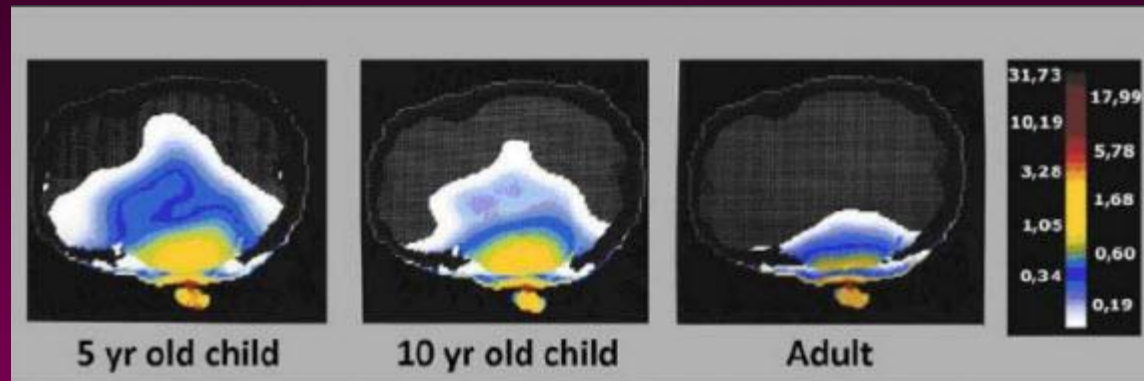
- Cell Towers generate Radio Frequency Radiation (RFR) – measured in Micro Watt / Square Centimeter ( $\mu\text{W}/\text{cm}^2$ )
- FCC Max Permissible Exposure is 1000  $\mu\text{W}/\text{cm}^2$  for 30 minutes (1996)
- The existing standards are based on thermal (heating) limits, and do not address non-thermal (or low-intensity) exposures which are widely reported to cause biological effects, some likely leading to adverse health effects with chronic exposure <sup>2</sup>

# RF Radiation Effects

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- Numerous studies in subsequent years (world wide) demonstrated adverse biological effects at exposure levels well below FCC limits, often by orders of magnitude
- Biological effects include DNA damage (genotoxicity that is directly linked to integrity of the human genome), cellular communication, cellular metabolism and repair, cancer surveillance within the body; and for protection against cancer and neurological diseases. Also reported are neurological effects including impairment of sleep and sleep architecture, cognitive function and memory; depression; cardiac effects; pathological leakage of the blood-brain barrier; and impairment of normal immune function, fertility and reproduction

# Brain Cell Radiation Absorption



Estimation of penetration of electromagnetic radiation from a cell phone based on age. (Frequency GSM 900 MHz). On the right showing the specific absorption rate in watts per kilogram <sup>3</sup>

# DNA Damage at Below Safe Cell Phone Radiation Levels

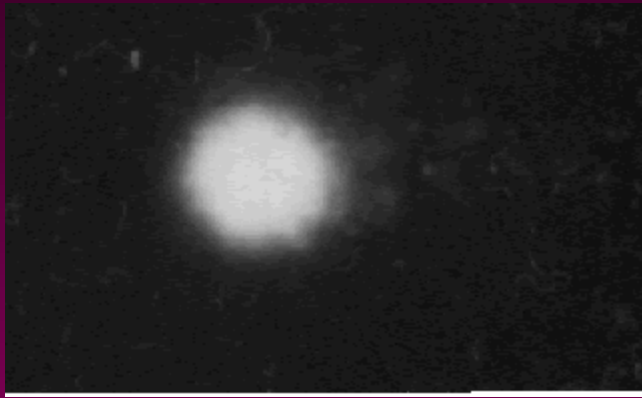


Fig.1 Unexposed control. The bundle is simply DNA

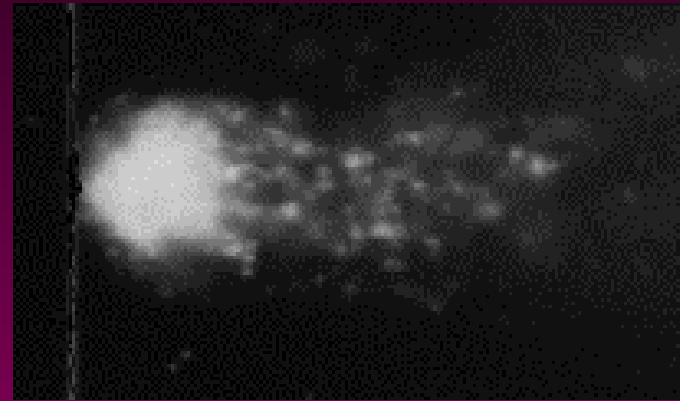


Fig.2 X-ray calibration: After 25.6 rads. DNA strand breaks are now very obvious

- In a ground breaking series of experiments between 1994–1998, Dr. Henry Lai and Dr. NP Singh demonstrated convincingly that moderate levels of microwave (2.45 GHz) radiation (below that of cell phone radiation levels) for exposure of 2 hours, could increase the frequency of single-strand DNA break in brain cells of live animals. <sup>4</sup>
- Accumulative and long term DNA disruption may lead to cancer cell development

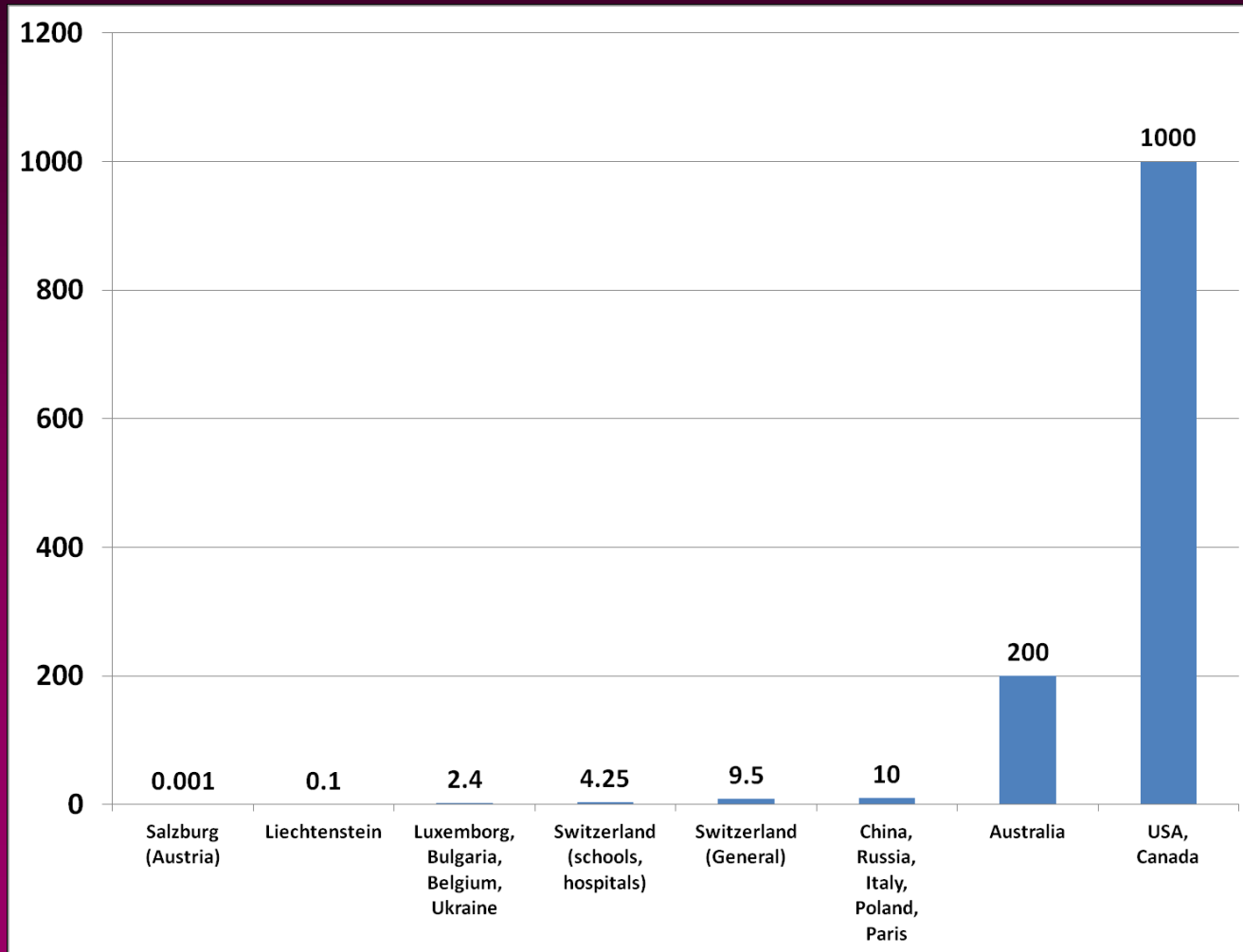
# International RFR Exposure Limits ( $\mu\text{W}/\text{cm}^2$ )

- Austria (Salzburg) 0.001
- Liechtenstein 0.100
- China, Russia, Italy, Poland, Paris 10.000
- Switzerland 9.500
- Switzerland (schools, hospitals, etc.) 4.250
- Luxemburg, Bulgaria, Belgium, Ukraine 2.400
- Australia 200.000
- USA & Canada 1000.000

USA & Canada have the highest exposure limit!



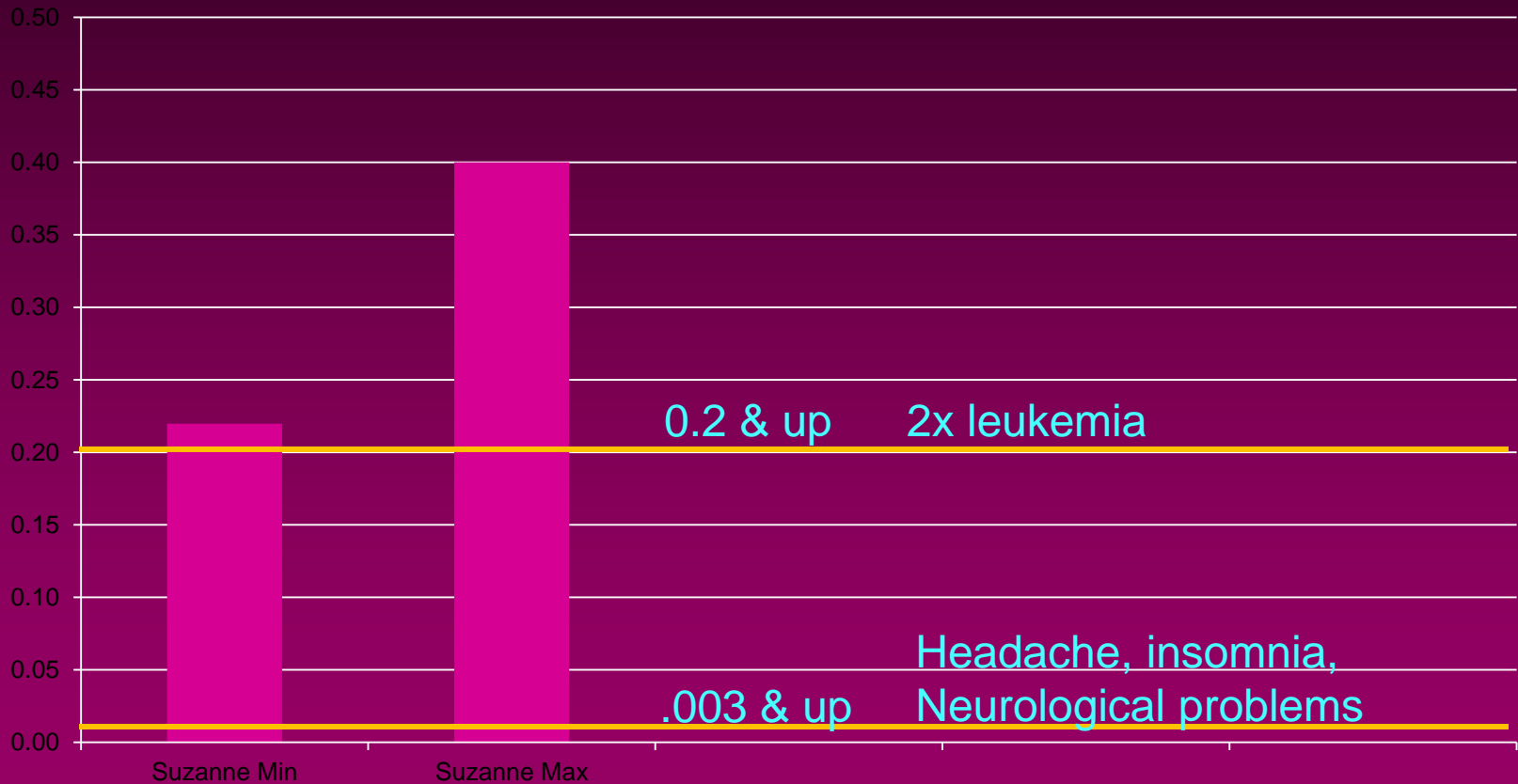
# International RFR Exposure Limits in $\mu\text{W}/\text{cm}^2$



# 2012 Bio-Initiative Report

- Authored by 29 individuals from around the world (10 from US), 21 PhDs, 10 MDs <sup>2</sup>
- Summary of 3,800 peer reviewed, published scientific studies on bio-effect on radio frequency radiation
- Concluded various levels of RFR can cause:
  - **.003 & up** - *Impaired memory & attention, sleep & concentration problems, cardio-vascular problems, headache and fatigue, lowered sperm counts, behavioral problems in children, and depressive tendency*
  - **0.2 & up** - *Two-fold increase in leukemia in children (Hocking 1996) as well as decreased survival rate for leukemia at levels of 0.2 uW/cm<sup>2</sup> and above (Hocking 2000)*

# RFR Level (uW/cm<sup>2</sup>)



\* Data Collected by Angela Cinader, Walnut, CA <sup>5</sup>

# Projecting RFR Level at Maple Hill Park

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- RFR level collected at Suzanne Middle School's T-Mobile cell tower at 200' from school grounds
- RFR level outdoor is at .2197  $\mu\text{W}/\text{cm}^2$  reaching max level of .3999  $\mu\text{W}/\text{cm}^2$
- Maple Hill Elementary School, Maple Hill Park and nearby residents will most likely experience equivalent RFR exposure

# 1996 Telecom. Act

- Section 704 prohibits citizens and local governments from litigating over cell tower placements due to health concerns. *So local gov't is not allowed to consider health issues, even when placing cell towers next to schools*
- No federal regulations regarding cell tower setback – up to local government's zoning laws to decide
- City of Walnut and Los Angeles Unified School District are reviewing cell tower setback zoning codes
- Diamond Bar should join forces with them because a 1,500 ft. setback will dis-allow any cell tower construction at Maple Hill Park

# 1,500 ft. Setback Recommended

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- Scientists recommend a 1,500 ft. setback of cell towers from schools and high intensity use facilities
- Some cities have adopted this setback
  - Hempstead Town, Long Island, NY
  - Bar Harbor, ME
  - Greenwich, CT

# References

- 1) Resolution of Denial of Conditional Use Permit (CUP) # PL2014-518 Cell Site At Maple Hill Park, Diamond Bar, CA.
- 2) Bio-initiative 2012, A Rationale for Biologically Based Exposure Standard for Low Intensity Electromagnetic Radiation
- 3) Dr. Ronald Herberman, Director of the University of Pittsburgh Cancer Institute (UPCI) and the UPMC Cancer Center. He is also Associate Vice Chancellor for cancer research within the School of Medicine, Department of Health Sciences. This is a modification of the iconic illustration made in 1996 by Om Gandhi, Professor and Chairman of Department of Electrical Engineering at the University of Utah, Salt Lake City. Dr. Herberman worked with Gandhi to turn the illustration into a three-dimensional model that estimates the absorption of electromagnetic radiation.
- 4) Fact: DNA damage at below safe cell phone radiation levels - <http://www.rfsafe.com/fact-dna-damage-safe-cell-phone-radiation-levels/>
- 5) Presentation to Walnut City Council (Angela Cinader, 2015)

# To Do List

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- Inform all parents of Maple Hill Elementary School on T-Mobile's cell tower plan at Maple Hill Park and the potential health to children, teachers and employees. We need to get their signatures and submit to the Diamond Bar City Council before the Appeal Date
- Inform the Organizers of the various sports teams using the Maple Hill Park (soccer, basketball, tennis etc.). Acquire their signatures
- Inform Maple Hill neighborhood of the same via multi-lingual fliers and e-mail. Acquire their signatures



# To Do List (Cont'd)

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- Prepare presentation on cell tower issues and push for setback objectives. To be presented to Maple Hill Community Club, City Council Members and Mayor of Diamond Bar
- Review T-Mobile's appeal and develop strategy to counter as necessary
- Get volunteers!