Can you BRAG about your school?

How many antennas are near your school and is this something to BRAG about?
Our lives begin to end the day we become silent about things that matter.

Martin Luther King, Jr.
Acknowledgements

This research and its dissemination would not have been possible without the help of the following organizations and individuals: Students at Trent University, Citizens for Health, ElectromagneticHealth.org, ElectroSensitiveSociety.com, Jim Turner, Camilla Rees, Elizabeth Kelley, Barbara Payne, Leigh Currie, and Robert Williams. Thank you all for your support and contributions. The opinions expressed in this document are those of the author.
NOTE: The **BRAG™ Antenna Ranking of Schools** documents the proximity and density of telecommunication antennas near 6,140 schools across the U.S. during the period 2006-2010. The data were based on schools listed in [www.50states.com](http://www.50states.com) and [www.greatschools.com](http://www.greatschools.com). Before any action is taken at an individual school, we recommend that the antenna data be updated and verified. The number of antennas is a gage of the potential exposure to radio frequency and microwave radiation. On-site monitoring is the only way to know the actual exposure to microwave radiation of students in schools. With so much wireless technology, electromagnetic exposure needs to be part of routine testing of environmental toxins in schools. Note, we noticed discrepancies in the two school websites mentioned above. Antenna information was based on data at [www.antenna search.com](http://www.antenna search.com) for the period 2006 to 2010. We have no way to verify if the data tabulated in Antenna Search are accurate. Additional antennas continue to be added and some antennas may have been removed since this survey began. As a consequence, the number of antennas tabulated in this survey may differ from antennas currently near schools. Ideally, the data should be updated annually for each school by those in the community. Also, we use the term “microwave radiation” throughout this document, which is at the higher frequency band of the radio frequency electromagnetic spectrum ([see page 153](#)).
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Everything should be made as simple as possible, but not simpler.

Albert Einstein
Executive Summary

Rationale & Introduction

The invention of the mobile phone and the wireless internet has revolutionized the way many of us communicate and the demand for this technology seems inexhaustible. Our love-affair with wireless technology however, has its dark side. Each time we make a phone call our cell phone communicates with nearby antennas by emitting microwave radiation. With approximately 270 million cell phone users in the United States the amount of radiation, to which we are all exposed, is hundreds of thousands of times higher than background levels.

The question is ... how much of this radiation can the human body tolerate before it becomes ill and who among us is likely to be the most sensitive?

While there is controversy about how much of this radiation is “safe” there is no disagreement that children are the most sensitive to any form of environmental pollutant.

Despite knowing this, antennas are still erected on or near school property and students and their teachers are exposed to this radiation because microwave radiation penetrates buildings. Indeed a growing number of schools are installing WiFi for their computers, which exposes students and teachers to yet another source of microwave radiation.

School boards, strapped for funding, readily agree to decade-long contracts that bring in thousands of dollars of additional revenue by renting space to the wireless providers for their towers and antennas.
Executive Summary

What We Did 😞

Government officials tell us microwave radiation is safe if it doesn’t heat tissue, but scientific studies, going back decades, show adverse biological and health effects for those exposed to levels well below federal guidelines, which are based exclusively on this thermal effect. Guidelines don’t change overnight, especially when science to study the health effects of this technology is not funded and when vested commercial interest groups lobby the government to accelerate the process of providing more wireless infrastructure. We are literally microwaving the planet.

The purpose of this report is to raise awareness concerning the number of antennas near schools so we can begin the dialogue of how much microwave radiation is too much.

We asked a simple question . . . “How many antennas are near schools in the United States?” We limited our inquiry to schools in the 50 State Capitols and to Washington, D.C.

Information on the number of antennas near a particular address is available at the Antenna Search website (www.antennasearch.com). We based our comparisons on three different distances as follows: the closest antenna, the number of antennas within 0.25 miles (400 meters, which the science shows is the critical distance for adult exposure), and the number of antennas within 0.6 miles (1 km). We designed a special metric - the BRAG™ Color Code and Grade - to facilitate communication of the results. We documented antennas near 6,140 schools attended by 2.3 million students in 51 U.S. cities.
Executive Summary

**Good News:**
2,061 schools (35%) are classified as BRAG™ GREEN (fewest nearby antennas) and these schools are attended by 849,000 students (37%). These schools are likely to have the lowest exposure to microwave radiation coming from nearby antennas.

**Caution:**
3,067 schools (51%) with 1.1 million students (50%) attend BRAG™ AMBER schools and these schools are likely to get worse if the construction of antennas continues at the present rate.

**Bad News:**
1,012 schools (17%) with 299,000 students (13%) attend BRAG™ RED or BLACK schools. These schools may have the highest levels of microwave radiation coming from neighborhood antennas.

**Really Bad News:**

240 schools have more than 20 antennas within a quarter mile radius, 95 schools have more than 50 antennas, and 36 schools have more than 100 antennas within the same distance. The worst school in this survey has 304 antennas within 0.25 miles.
Good News: The 5 BEST state capitols are Richmond, Columbia, Nashville, Little Rock, and Jackson. These cities have composite grades above 80% and have predominantly GREEN schools.

Caution: Most of the state capitols are given a BRAG™ AMBER color code, which represents the majority of the schools in that city. This can change quickly if more antennas are erected near schools, leading to higher exposure of students to microwave radiation.

Bad News: The 5 WORST capitols are Carson City, Hartford, Washington, Honolulu, and Boston. These cities have composite grades below 60% and had predominantly AMBER or RED schools.

Really Bad News: In 30 state capitols there are more than 100 antennas within a 0.6 mile radius of schools. The worst offenders are Boston (with 749 antennas within 0.6 miles), Atlanta (679 antennas), Denver (581 antennas), and Indianapolis (459 antennas).
Executive Summary

The BRAG™ Report Recommends that . . .

1. schools, school districts, all municipalities and states call upon the FCC for a ruling that requires a 1,500 feet setback for any/all wireless infrastructure near schools. This is the distance at which the scientific literature indicates acute symptoms of electrohypersensitivity are not noticeable and background levels of radiation return to normal from most cellular infrastructure. Note this does not apply to WiMax, a high-powered series of antennas being installed across the U.S., for which the return to background level distance is likely to be much greater than 1,500 feet. Symptoms of electrohypersensitivity have been demonstrated at exposures that are a fraction (0.04%) of U.S. exposure guidelines, in part because the guidelines themselves only take into consideration a 30-minute exposure, not chronic exposures. Until guidelines are formally changed to reflect the current science, a policy of “prudent avoidance” would justify setbacks for antenna infrastructures near schools.

2. radio frequency radiation in school environments be monitored and documented on a regular basis, and especially after antennas are erected nearby or when new wireless technology is introduced into the school environment.

3. if levels of exposure to radiofrequency fields, magnetic fields or dirty electricity exceed the BRAG™ recommendations for these frequencies, that steps be taken to reduce these exposures on school property.

4. health complaints of electrohypersensitivity reported by students and staff be taken seriously, that they be documented, and that appropriate steps be taken in a timely fashion to address the complaint. This involves education of teachers and nursing staff.

Note: those who want to conduct a BRAG™ antenna search for their school, visit www.magdahavas.com for “how to” instructions.
Part Two

Background

- A Grim Fairy Tale . . .
- Up Front . . .
- Scientific Controversy . . .
- Precautionary Approach . . .
- FCC Consumer Facts . . .
- Scientific & Medical Concerns about Electrosmog . . .
- Introduction . . .
Welcome to Planet Irth . . .

Once upon a time, many, many years ago, creatures on planet Irth lived in harmony. Life was good. Slowly things began to change and it was called progress and almost everyone was excited.

Inventors discovered how to send information through the air without wires. Initially it was sound, click-click-click, and then words and then pictures and soon everyone on planet Irth was connected all the time. Life was good. Irthlings were happy.

Then something unexpected happened, a few creatures on planet Irth began to get ill. They had headaches and were tired. Some couldn’t sleep at night. Others had difficulty thinking and remembering. Some became depressed or anxious. Others were nauseous or dizzy. They called themselves “Sensitives”. They were an evolved race of beings who had come to warn Irthlings about ‘electrosmogitis’, a disease you get when you live in an electrosmog community.

It seems that the inventions that allowed Irthlings to communicate used antennas to send out invisible rays that were making Sensitives ill. The Sensitives tried to warn the Irthlings but no one listened. Irthlings enjoyed their toys and didn’t want to give them up. It was easier to think that “Sensitives” were imagining their problems. Sensitives were ignored by their families and friends and by their doctors. Some of them were unable to live in cities and moved to the country but the antennas—that generated these invisible rays—followed them.

Little did the Irthlings know that those antennas on hotels, on office and apartment buildings, on fire halls, on school property, at the end of their street and even in church steeples gave off invisible rays of light that entered their homes and flowed in and around their bodies. These invisible rays were making them sick. More and more Irthlings developed cancer, and diabetes, and multiple sclerosis. Some had difficulty reproducing and, when they were successful, their children had behavioral problems that they treated with drugs. Some of these children died of cancer . . . of the blood and the brain . . . and parents were unhappy. But still, no one paid attention to the Sensitives.
Then along came some scientists and doctors who began to listen to Sensitives and they learned all sorts of things. When they tried to share this information with their colleagues or with the medical profession or with the Global Health Organization (GHO), they were laughed at. Some gave up but a few persisted. They did research, much of it unfunded. They published papers that very few people read. They alerted the media but the media wanted to give 'balanced' reporting, such as "... some say it is harmful but others say it is safe ..." and this just confused everyone. Can't those darned scientists agree on anything!

In the meantime, schools began to install wireless computer networks and children, of all ages, had their own wireless phone and many used them all the time. Homes also had wireless computers and smart meters and cordless phones and wireless games and special TVs and lights that also produced these invisible rays, and wireless alarm systems to protect all this expensive equipment.

Then the media began to report stories, such as "... three children in one kindergarten die of leukemia, many others sick ... authorities deny this is a cancer cluster related to nearby antennas"; "... sharp increases in diabetes, autism, attention deficient disorder have experts baffled"; "... sick building syndrome, blamed for allergies and asthma, may be linked to dirty electricity". Some people were overheard saying, "These are the same symptoms Sensitives are warning us about. Perhaps we should listen to them."

Parents, concerned about the health of their children and these invisible rays, asked schools to remove WiFi antennas in schools and not to allow antennas on or near school property. But they were laughed at and shunned as anti-progressive technophobes who want to return to the "dark" ages.

But ... what if the Sensitives are right about electrosmogitis? After all, Irthlings are beings of light and perhaps these invisible rays of light are affecting them. Shouldn't they ... we ... at least listen?
Up Front

All truth passes through three stages. First, it is ridiculed. Second, it is violently opposed. Third, it is accepted as being self-evident.

Arthur Schopenhauer
Scientific Controversy

The international scientific community has not come to a “consensus” on the health effects of electromagnetic energy at the frequencies mentioned in this document. International and national agencies state that the scientific evidence showing harm is “inconsistent and inconclusive” and hence there is no move to change guidelines.

I disagree.

While there is much we have to learn about the harmful (and beneficial) effects of electromagnetic energies and especially about the mechanisms involved and the specific frequencies, intensities, and exposure periods that are biologically important, we have ample evidence indicating that electromagnetic exposure at levels well below present guidelines in North America are biologically active and can have adverse health effects. The threats are serious and the damage can be irreversible.

In September 2009, at the United States Senate Hearing on Cell Phones, experts from around the world stated the same thing . . . health effects associated with cell phone use occur below federal guidelines.

We can wait for the science or we can invoke the “Precautionary Approach” as outlined by the 1992 Rio Declaration on Environment and Development.
Precautionary Approach

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

FCC Consumer Facts

FCC recommends precautionary steps for use of cells phones.

www.fcc.gov/cgb/consumerfacts/mobilephone.html

“Recent reports by some health and safety interest groups have suggested that wireless device use can be linked to cancer and other illnesses. These questions have become more pressing as more and younger people are using the devices, and for longer periods of time. No scientific evidence currently establishes a definite link between wireless device use and cancer or other illnesses, but almost all parties debating the risks of using wireless devices agree that more and longer-term studies are needed. After listening to several expert witnesses, a United States Senate committee recently came to the same conclusion.”
Scientific & Medical Concerns about Electrosmog & Electrosensitivity

Facts are stubborn things.

Ronald Reagan
Scientists & Medical Concerns

Resolutions and Appeals

2000: **Salzburg Resolution, Austria.** Scientists recommend 0.1 microW/cm² for radio frequency radiation exposure [www.landsbg.gv.at/celltower]. Guideline in U.S. is 1000 microW/cm². No long-term guideline exists in the U.S.

2002: **Catania Resolution, Italy.** Scientists recognize adverse health effects of EMF at levels below international guidelines. [www.emrpolicy.org/faq/catania.pdf]


2005: **Irish Doctors’ Environmental Association (IDEA), Ireland.** Doctors recognize electrohypersensitivity (EHS) is increasing and request advice from government on how to treat EHS [www.idealireland.org].

2005: **Helsinki Appeal, Finland.** Call for new safety standards, reject International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines. [www.emrpolicy.org/headlines/helsinki_appeal_05.pdf]


2008: **Venice Appeal, Italy.** Scientists recognize biological effects at non-thermal levels, that standards are inadequate, that electro-sensitivity exists and that there is a need to research mechanisms. [www.icems.eu/resolution.htm]

2009: **Porto Alegre Resolution, Brazil.** Scientists and doctors recognize electrohypersensitivity and are concerned that exposure to electromagnetic fields may increase the risk of cancer and chronic diseases; that exposure levels established by international agencies (IEEE, ICNIRP, ICES) are obsolete; and that wireless technology places at risk the health of children, teens, pregnant women and others who are vulnerable.

2009: **CellPhones and Brain Tumors: 15 Reasons for Concern, Science Spin and the Truth Behind Interphone.** Call for precautionary action endorsed by 40 leadings international scientists.
"Our therapeutic efforts to restore health are becoming increasingly less effective: the unimpeded and continuous penetration of radiation into living and working areas... causes uninterrupted stress and prevents the patient’s thorough recovery.

In the face of this disquieting development, we feel obliged to inform the public of our observations...

What we experience in the daily reality of our medical practice is anything but hypothetical! We see the rising number of chronically sick patients also as the result of an irresponsible "safety limits policy", which fails to take the protection of the public... as its criteria for action. Instead, it submits to the dictates of a technology already long recognized as dangerous. For us, this is the beginning of a very serious development through which the health of many people is being threatened.

We will no longer be made to wait upon further unreal research results - which in our experience are often influenced by the communications industry, while evidential studies go on being ignored. We find it to be of urgent necessity that we act now!

Above all, we are, as doctors, the advocates for our patients. In the interest of all those concerned, whose basic right to life and freedom from bodily harm is currently being put at stake, we appeal to those in the spheres of politics and public health."

“. . . a phenomenon where individuals experience adverse health effects while using or being in the vicinity of devices emanating electric, magnetic, or electromagnetic fields.”

“. . . EHS is a real and sometimes a debilitating problem for the affected persons . . . Their exposures are generally several orders of magnitude under the limits in internationally accepted standards.”

The World Health Organization (WHO, 2006)

“The WHO recommends that people reporting sensitivities receive a comprehensive health evaluation. . . . Some studies suggest that certain physiological responses of EHS [Electrohypersensitive] individuals tend to be outside the normal range. In particular, hyperactivity in the central nervous system and imbalance in the autonomic nervous system need to be followed up in clinical investigations and the results for the individuals taken as input for possible treatment.”
Canadian Human Rights Commission, Margaret E. Sears. 2007. The Medical Perspective on Environmental Sensitivities.

Approximately 3% of Canadians have been diagnosed with environmental sensitivities. They usually experience neurological impairments, and often experience other symptoms including runny eyes and nose, headaches, fatigue, pain and breathing and digestive problems. Environmental sensitivities may develop gradually after chronic exposure to relatively low levels of chemicals as seen in "sick buildings," or suddenly after a major exposure to an environmental disaster or a chemical spill. This condition may be initiated by one or a combination of environmental factors such as mould, pesticides, solvents, chemicals off-gassing from carpets or furnishings, or electromagnetic phenomena.

"Certain members of the general public may be more susceptible to harm from RF and microwave exposure."


“In Sweden, electrohypersensitivity (EHS) is an officially recognized functional impairment . . . 230,000 to 290,000 Swedish men and women report a variety of symptoms when being in contact with electromagnetic field (EMF) sources.”

Types of Environmental Sensitivities

Some people are sensitive to peanuts or shell fish. Others are unable to digest milk or gluten and still others respond to pollen or mold. Our society accepts these sensitivities and takes steps to minimize any harm by placing warnings on packages, by making schools peanut-free, by giving pollen counts as part of the weather report.

Electrosensitivity is just another one of these sensitivities that requires our immediate attention because levels of exposure are escalating with no regard for those who may be or may become sensitive.
### Warnings about Cell Phones

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<tr>
<th>Country</th>
<th>Warning</th>
<th>Source and Year</th>
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<tr>
<td>United Kingdom</td>
<td>&quot;... we believe that the widespread use of mobile phones by children for non-essential calls should be discouraged.&quot; (Stewart Report 2000)</td>
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<td>Germany</td>
<td>People should avoid using Wi-Fi wherever possible because of the risks it may pose to health. (2007)</td>
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<td>France</td>
<td>The French government is warning consumers to avoid “excessive” cell phone use because of concerns that mobile phone use could increase the risk of some cancers ... children who use cell phones face the most danger from the devices. (2008). Cell phones banned in primary schools and models cannot be used near the ear.</td>
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<td>Russia</td>
<td>Children under the age of 18 should not use cell phones (2008).</td>
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<tr>
<td>India</td>
<td>Ministry of Telecommunication recommends that children, pregnant women and people suffering from heart ailments limit use of mobile phones (2008).</td>
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<tr>
<td>Toronto Board of Health</td>
<td>Children under 8 should use cell phones for emergencies only and teens should limit calls to under 10 minutes (2008).</td>
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<td>Pittsburgh Cancer Institute</td>
<td>Head of prominent cancer research institute warns faculty and staff to limit cell phone use because of the possible risk of cancer (2008).</td>
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<tr>
<td>Belgium</td>
<td>Discourage the use of cell phones by children (2008).</td>
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<tr>
<td>Finland</td>
<td>The Radiation and Nuclear Power Authority urges parents to err on the side of caution, because... there is no definitive research indicating the absence of health risks from cell phone use (2009).</td>
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<td>Seoul Korea</td>
<td>“Cellular phones could harm the study atmosphere at schools and could cause health risks for kids. It is desirable to prohibit students from using cell phones at schools.” (2009).</td>
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</table>
1. **Oxidative Damage.** Depletion of the body’s natural store of antioxidants like Super Oxide Dimutase (SOD), Catalase, Glutathione, CoQ10, and Melatonin. When the body becomes depleted in antioxidants, premature aging, increased infections, and sticky blood are a few of the consequences. With a depressed level of antioxidants in the blood, for example, high-density lipoproteins (HDL) or the good cholesterol will bind with free radicals (oxidants) turning the good cholesterol into bad cholesterol or low-density lipoproteins (LDL).

2. **Abnormal flux of calcium.** When there is an abnormal influx of calcium into mast cells, for example, they produce histamine. This is just one of the ways in which microwave exposure has been known to trigger or aggravate allergic reactions.

3. **Mitochondria dysfunction.** Dysfunctional mitochondria will interfere with the cells’ ability to produce energy and can be linked to fatigue and possibly even obesity.

4. **Clumping of blood cells.** The amount of oxygen getting to the brain cells and the cells of the body’s other organs is diminished substantially, leading to hypoxia. This can cause symptoms similar to altitude sickness: nausea, dizziness, inability to concentrate, and so on.

5. **Decrease in the numbers of Natural Killer (NK) cells.** This weakens the body’s ability to recover from viral and other types of infections. Long-term microwave radiation has been shown to change a particular form of white blood cell (lymphocyte) ratio - known as the T-helper/T-suppressor (T4/T8) cell ratio - from normal to abnormal. Abnormalities in this T-lymphocyte ratio have been shown to lead to an increased susceptibility to viral, fungal, and bacterial infections. Symptoms include sore throats, low-grade fevers, weakness, persistent fatigue, and swollen lymph glands.

6. **Increase in microbes** (viruses, bacteria, mold, parasites, and yeast) in human hosts and **Mycotoxins** (Klinghardt: chronic infection aggravated by EM exposure).
7. Induced "subliminal" stress causing the adrenal glands to excrete an abnormally greater amount of cortisol and adrenaline. Excretion of adrenaline, for one, can lead to irritability and a feeling of hyperactivity - the latter now very common in children with ADHD. In a continuous state this will eventually lead to adrenal exhaustion. Excessive cortisol has been linked to obesity.

8. Decrease of 5-HT in the blood. 5-HT is a precursor to the production of the brain hormone serotonin. Low levels of serotonin have been linked to anxiety and depression. An increase in anxiety and depression can in turn be linked to an increase in the number of suicides.

9. Decreased levels of brain norepinephrine. This hormone is essential for control of the autonomic nervous system, and lack of it can lead to autonomic nervous system disorders. The body will have trouble regulating its temperature. An abnormal decrease in norepinephrine levels has also been connected to short-term memory disturbances and depression.

10. Altered production of melatonin. This brain hormone and antioxidant is necessary for proper sleep. 42 million Americans (approximately one in five) now take sleep medication for insomnia. A drop in melatonin levels has also been connected with increases in breast cancer.

11. Decreased dopamine in brain. A drop in dopamine levels has been linked with depression, Parkinson's disease.

12. Decreased levels of acetylcholine. A drop in the levels of this neurotransmitter has been linked to a number of neurological and neuromuscular disorders - including Alzheimer’s disease.

13. Induced restlessness and may be responsible for restless leg syndrome (RLS).

14. Altered regional cerebral blood flow. In conditions like autism and chronic fatigue syndrome (CFS) it has been shown via SPECT scan.

15. Increased mobilization of mercury from fillings. This has been shown for cell phone use and for exposure to MRI.
Introduction

to the
BRAG
Antenna
Study

Honesty is the first chapter of the book of wisdom.
Thomas Jefferson
Fact . . .

- Each month, each year, more and more antennas are erected to provide drop-free coverage for the 270 million plus cell phone users in the United States.
- These antennas are placed on towers, fire halls, church steeples, high rise buildings, hospitals, and on or near school property. Some of them are camouflaged so you won’t always see them.
- Antennas emit microwave radiation and the more antennas there are, and the more often they are used, the more radiation they emit.
- The Federal Communication Commission (FCC) does not routinely measure radiation levels in the environment but relies on the calculated emissions provided by the telecommunications industry when they apply for a license to place an antenna in a particular area.
- Microwave radiation has been scientifically documented to have adverse biological and health effects on adults at levels below existing federal guidelines.
- Children are more sensitive than adults to microwave radiation and the risks of exposure are greater.

Question we asked . . .

- How many and how close are antennas to schools in Washington, D.C. and in the 50 State Capitols?

What we did to address this question . . .

- We identified and tabulated the proximity and density of telecommunication antennas at 6,140 school in 50 state capitols and in Washington, D.C.
- We graded, ranked, and color coded each school using a unique metric - the BRAG™ Antenna Ranking of Schools - described on the following pages.
The BRAG™ Antenna Ranking of Schools (BARS) has been prepared to educate and empower teachers, parents, students, school boards and surrounding communities about the potentially harmful effects of radio frequency and microwave radiation and wireless technology near schools.

Microwave radiation is hazardous to health. This has been known since at least the 1950s. A fallacious argument, supported by the telecommunication industry, is that there is no potential for harm if the non-ionizing radiation is not powerful enough to heat tissues. The BioInitiative Report (www.bioinitiative.org) references thousands of studies showing biological effects associated with electromagnetic radiation at non-thermal levels of exposure.

The "thermal" argument, however, is still the position held by many regulatory bodies. As a result, radio frequency guidelines for public exposure in the U.S. are far too high, 100 times higher than guidelines in Russia and 10,000 times higher than those in Salzburg, Austria.

Governments have failed in their responsibility to protect public health. Until such time as adequate exposure guidelines are provided to protect health, and especially the health of children who are more vulnerable, we recommend that families, communities and schools take precaution into their own hands.

The BRAG™ Antenna Ranking of Schools provides a tool to estimate a school's exposure to radiation-emitting antennas. It is based on the proximity and number of antennas and is a "gage of risk". To determine "actual risk", for any given school, measurement of radiation exposure is required since exposure can be affected by topography, height of antennas, presence of objects obstructing or reflecting the radiation, as well as other sources of external radiation (city-wide WiFi, broadcast antennas, radar) and internal radiation (wireless internet and other wireless devices).

We encourage School Boards to include microwave radiation exposure as a routine component of their environmental toxins audit and, ultimately, to create microwave radiation-free schools.

See the "BRAG™ Recommendations for Schools" for guidance on monitoring and mitigation.
Part Three

Method or What we did

☑ BRAG™ Color Code . . .
☑ BRAG™ Grade & Ranking

John Adams

Liberty cannot be preserved without general knowledge among people.
What we did . . .

- We identified schools and obtained street addresses for each school in each state capitol and in Washington, D.C. using www.greatschools.com and www.50states.com.

- We went to www.antennasearch.com, which lists antennas within a 4 to 8 mile radius of a particular address, and entered the school addresses for each school.

- We recorded the distance of the closest antenna to each school (total of 6,140 schools) and counted the number of antennas within a radius of 0.25 miles (400 meters) and 0.6 miles (1 km). These distances were chosen because they correspond to the scientific literature values for distances from cell phone antennas at which adverse health effects are documented.

- The example to the right is of Montgomery, Alabama: The closest antenna (x) to any school is at 0.06 miles. The most antennas within 0.25 miles (y) of a school is 44 and the most within 0.6 miles (z) is 149.
We designed the BRAG™ Color Code (red, amber, green and black) to provide a way to compare schools visually for each of the 3 distances (x, y, z).

We assigned the BRAG™ Color Code for each distance (x, y, z) and used the middle value (median) to classify the school (see examples to the right).

Once the schools were classified according to color, we calculated the percentage of schools within a state capitol for each of the 4 BRAG™ Color Codes (Black, Red, Amber, Green) (shown as a pie chart here for Montgomery, AL). The color category with the largest percentage of schools was designated the "State Capitol Color". Montgomery is classified as green because 56% of the schools in Montgomery were BRAG™ Green.

### BRAG™ Color Code

- **Black**: ≤ 0.06 mi, ≥ 13, ≥ 76
- **Red**: 0.061 - 0.25 mi, 6 - 12, 31 - 75
- **Amber**: 0.26 - 0.6 mi, 1 - 5, 6 - 30
- **Green**: > 0.6 mi, 0, ≤ 5

**Examples:**
- **School A**: x = 0.4, y = 0, z = 42, Color: amber
- **School B**: x = 0.02, y = 8, z = 50, Color: red
- **School C**: x = 0.8, y = 0, z = 0, Color: green

In these examples, School A is classified as amber, School B as red, and School C as green.
To determine a composite grade for the state capitol, we calculated a weighted-average as follows: the percentage of green schools were multiplied by 3; amber schools by 2; red schools by 1; and black schools by 0; and the total was divided by 3 to give a weighted-average value from 0 to 100%. We refer to this as the "State Capitol BRAG™ Grade".

We used the "State Capitol BRAG™ Grade" to rank all the 50 state capitols as well as Washington D.C. for comparison purposes. The Capitols were ranked in order from best (1) to worst (51) according to grade and the xyz distances and this provided the "State Capitol BRAG™ Rank".

The "BRAG™ Color Code" and the "State Capitol BRAG™ Grade" enables quick comparison of schools and cities and is based on just three simple metrics that provide information on density and proximity of antennas. These metrics can be applied to any location including hospitals, nursing homes, fire stations, and residences.

For information about what you can do to minimize exposure to microwave radiation for your school environment see "BRAG™ Recommendations for Schools."
Part Four

Results

✓ Summary of Results
✓ Results By State Capitol
   (from BEST to WORST)

Facts don’t cease to exist just because they are ignored.

NOTE: The BRAG™ Antenna Ranking of Schools documents the proximity and density of telecommunication antennas near 6,140 schools across the U.S. during the period 2006-2010. Additional antennas continue to be added and microwave radiation generated by cell phone antennas have likely increased since this survey began. Minimizing exposures to microwave radiation in schools is critical for protecting the health of students and staff.
Summary of Results... Overview

1. A total of 6,140 schools were identified for which antenna data were available in the 50 State Capitols and in Washington, D.C.

2. These schools provide education to approximately 2.3 million students.

3. Color Code: Of the 51 US cities in this study, 12 had predominantly "green" schools; 36 had predominantly "amber" schools; and 3 had predominantly "red" schools (Helena, MT, Montpellier, VT, and Honolulu, HI).

4. In these 51 US cities, approximately...
   - 72,000 students (3%) attend schools coded black (most antennas);
   - 227,000 students (10%) attend schools coded red;
   - 1,145,000 students (50%) attend schools coded amber; and
   - 849,000 students (37%) attend schools coded green (fewest antennas).

So... approximately 300,000 students in 51 US cities go to schools that have numerous antennas nearby (red and black). Students and staff in these schools are likely to be exposed to elevated levels of microwave radiation. It is important that microwave radiation at red and black schools have electromagnetic radiation monitoring conducted.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Summary of Results . . . Best & Worst

5. Composite Grade* for the 51 US Capitols ranged from 87% to 44%* and the Top 5 and Bottom 5 schools are shown in the table below.

<table>
<thead>
<tr>
<th>Rank</th>
<th>City, State</th>
<th>BRAG™ Grade</th>
<th>BRAG™ Color Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Richmond, VA</td>
<td>87%</td>
<td>Green</td>
</tr>
<tr>
<td>2</td>
<td>Columbia, SC</td>
<td>87%</td>
<td>Green</td>
</tr>
<tr>
<td>3</td>
<td>Nashville, TN</td>
<td>84%</td>
<td>Green</td>
</tr>
<tr>
<td>4</td>
<td>Little Rock, AK</td>
<td>83%</td>
<td>Green</td>
</tr>
<tr>
<td>5</td>
<td>Jackson, MS</td>
<td>83%</td>
<td>Green</td>
</tr>
<tr>
<td>47</td>
<td>Carson City, NV</td>
<td>56%</td>
<td>Amber</td>
</tr>
<tr>
<td>48**</td>
<td>Washington, D.C.</td>
<td>49%</td>
<td>Amber</td>
</tr>
<tr>
<td>49**</td>
<td>Hartford, CT</td>
<td>52%</td>
<td>Amber</td>
</tr>
<tr>
<td>50</td>
<td>Honolulu, HI</td>
<td>47%</td>
<td>Red</td>
</tr>
<tr>
<td>51</td>
<td>Boston, MA</td>
<td>44%</td>
<td>Amber</td>
</tr>
</tbody>
</table>

* Grade was calculated out of 100%
** Rank was based on more than just grade.
**BRAG™ Antenna Ranking of Schools**  
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

---

## Summary of Results . . .  **BRAG™ Rank, Grade, Color Code**

The BRAG™ rank, grade, and color code for each capitol city is shown below. Cities with the highest grade have the fewest antennas near schools. For BRAG™ Grade and Color Code refer to page 27/28.

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th># schools</th>
<th># students</th>
<th>Grade</th>
<th>Color Code</th>
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</thead>
<tbody>
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<tr>
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<td>49,715</td>
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<tr>
<td>3</td>
<td>Nashville, TN</td>
<td>109</td>
<td>55,206</td>
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<tr>
<td>4</td>
<td>Little Rock, AR</td>
<td>94</td>
<td>37,444</td>
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<tr>
<td>5</td>
<td>Jackson, MS</td>
<td>44</td>
<td>16,187</td>
<td>83%</td>
<td>green</td>
</tr>
<tr>
<td>6</td>
<td>Montgomery, AL</td>
<td>68</td>
<td>35,001</td>
<td>82%</td>
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</tr>
<tr>
<td>7</td>
<td>Lincoln, NE</td>
<td>86</td>
<td>36,805</td>
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<td>green</td>
</tr>
<tr>
<td>8</td>
<td>Olympia, WA</td>
<td>33</td>
<td>13,577</td>
<td>82%</td>
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</tr>
<tr>
<td>9</td>
<td>Baton Rouge, LA</td>
<td>123</td>
<td>57,947</td>
<td>80%</td>
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<tr>
<td>10</td>
<td>Salem, OR</td>
<td>84</td>
<td>33,504</td>
<td>80%</td>
<td>green</td>
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<tr>
<td>11</td>
<td>Topeka, KS</td>
<td>59</td>
<td>24,746</td>
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<tr>
<td>12</td>
<td>Sacramento, CA</td>
<td>260</td>
<td>128,612</td>
<td>79%</td>
<td>amber</td>
</tr>
<tr>
<td>13</td>
<td>Lansing, MI</td>
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<td>24,511</td>
<td>78%</td>
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<tr>
<td>14</td>
<td>Madison, WI</td>
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<td>28,815</td>
<td>78%</td>
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<tr>
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<tr>
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<tr>
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<tr>
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<tr>
<td>21</td>
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<td>9,039</td>
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<tr>
<td>22</td>
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<td>11,842</td>
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<tr>
<td>23</td>
<td>Phoenix, AZ</td>
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<td>227,212</td>
<td>73%</td>
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<tr>
<td>24</td>
<td>Austin, TX</td>
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<td>113,484</td>
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<tr>
<td>25</td>
<td>Springfield, IL</td>
<td>63</td>
<td>19,798</td>
<td>74%</td>
<td>amber</td>
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<tr>
<td>26</td>
<td>Salt Lake City, UT</td>
<td>116</td>
<td>44,050</td>
<td>74%</td>
<td>amber</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th># schools</th>
<th># students</th>
<th>Grade</th>
<th>Color Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>Tallahassee, FL</td>
<td>61</td>
<td>36,713</td>
<td>74%</td>
<td>amber</td>
</tr>
<tr>
<td>28</td>
<td>Raleigh, NC</td>
<td>85</td>
<td>61,327</td>
<td>73%</td>
<td>green</td>
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<tr>
<td>29</td>
<td>Denver, CO</td>
<td>200</td>
<td>91,843</td>
<td>73%</td>
<td>amber</td>
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<tr>
<td>30</td>
<td>Trenton, NJ</td>
<td>67</td>
<td>28,912</td>
<td>73%</td>
<td>amber</td>
</tr>
<tr>
<td>31</td>
<td>Frankfort, KY</td>
<td>19</td>
<td>nd</td>
<td>70%</td>
<td>amber</td>
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<tr>
<td>32</td>
<td>Saint Paul, MN</td>
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<tr>
<td>33</td>
<td>Charleston, WV</td>
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<tr>
<td>34</td>
<td>Santa Fe, NM</td>
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<td>13,233</td>
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<td>amber</td>
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<tr>
<td>35</td>
<td>Bismarck, ND</td>
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<td>11,770</td>
<td>70%</td>
<td>amber</td>
</tr>
<tr>
<td>36</td>
<td>Cheyenne, WY</td>
<td>35</td>
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<td>70%</td>
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<tr>
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<td>Atlanta, GA</td>
<td>440</td>
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<td>67%</td>
<td>amber</td>
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<tr>
<td>38</td>
<td>Concord, NH</td>
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<td>5,900</td>
<td>65%</td>
<td>amber</td>
</tr>
<tr>
<td>39</td>
<td>Juneau, AK</td>
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<td>5,698</td>
<td>65%</td>
<td>amber</td>
</tr>
<tr>
<td>40</td>
<td>Providence, RI</td>
<td>73</td>
<td>33,292</td>
<td>64%</td>
<td>amber</td>
</tr>
<tr>
<td>41</td>
<td>Augusta, ME</td>
<td>32</td>
<td>3,354</td>
<td>63%</td>
<td>amber</td>
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<tr>
<td>42</td>
<td>Pierre, SD</td>
<td>10</td>
<td>3,255</td>
<td>63%</td>
<td>amber</td>
</tr>
<tr>
<td>43</td>
<td>Helena, MT</td>
<td>19</td>
<td>7,569</td>
<td>63%</td>
<td>amber</td>
</tr>
<tr>
<td>44</td>
<td>Albany, NY</td>
<td>55</td>
<td>nd</td>
<td>64%</td>
<td>amber</td>
</tr>
<tr>
<td>45</td>
<td>Harrisburg, PA</td>
<td>118</td>
<td>28,344</td>
<td>63%</td>
<td>amber</td>
</tr>
<tr>
<td>46</td>
<td>Montpellier, VT</td>
<td>15</td>
<td>1,934</td>
<td>60%</td>
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</tr>
<tr>
<td>47</td>
<td>Carson City, NV</td>
<td>12</td>
<td>8,959</td>
<td>56%</td>
<td>amber</td>
</tr>
<tr>
<td>48</td>
<td>Washington, DC</td>
<td>448</td>
<td>93,529</td>
<td>49%</td>
<td>amber</td>
</tr>
<tr>
<td>49</td>
<td>Hartford, CT</td>
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<td>nd</td>
<td>52%</td>
<td>amber</td>
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<tr>
<td>50</td>
<td>Honolulu, HI</td>
<td>121</td>
<td>61,269</td>
<td>47%</td>
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</tr>
<tr>
<td>51</td>
<td>Boston, MA</td>
<td>280</td>
<td>75,187</td>
<td>44%</td>
<td>amber</td>
</tr>
</tbody>
</table>

Total 6,140 2,293,194 71% Average
## Summary of Results... Worst Cases

Worst case examples for the most antennas near schools are provided below. Of particular concern are those schools that have antennas within 0.25 km. Notice that there are 28 cities with 30 or more antennas within 0.25 miles of schools! Every city has antennas within 0.1 miles of schools.

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th>nearest (miles)</th>
<th># within 0.25 miles</th>
<th># within 0.6 miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Richmond, VA</td>
<td>0.01</td>
<td>5</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>Columbia, SC</td>
<td>0.01</td>
<td>37</td>
<td>151</td>
</tr>
<tr>
<td>3</td>
<td>Nashville, TN</td>
<td>0.02</td>
<td>49</td>
<td>235</td>
</tr>
<tr>
<td>4</td>
<td>Little Rock, AR</td>
<td>0.04</td>
<td>17</td>
<td>52</td>
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<tr>
<td>5</td>
<td>Jackson, MS</td>
<td>0.01</td>
<td>31</td>
<td>96</td>
</tr>
<tr>
<td>6</td>
<td>Montgomery, AL</td>
<td>0.06</td>
<td>44</td>
<td>149</td>
</tr>
<tr>
<td>7</td>
<td>Lincoln, NE</td>
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<tr>
<td>8</td>
<td>Olympia, WA</td>
<td>0.04</td>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>9</td>
<td>Baton Rouge, LA</td>
<td>0.03</td>
<td>83</td>
<td>164</td>
</tr>
<tr>
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<td>Salem, OR</td>
<td>0.00</td>
<td>40</td>
<td>108</td>
</tr>
<tr>
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<td>Topeka, KS</td>
<td>0.03</td>
<td>14</td>
<td>94</td>
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<tr>
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<td>Sacramento, CA</td>
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<td>158</td>
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<td>135</td>
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<td>Salt Lake City, UT</td>
<td>0.02</td>
<td>40</td>
<td>221</td>
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</table>

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th>nearest (miles)</th>
<th># within 0.25 miles</th>
<th># within 0.6 miles</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td>Tallahassee, FL</td>
<td>0.01</td>
<td>13</td>
<td>95</td>
</tr>
<tr>
<td>28</td>
<td>Raleigh, NC</td>
<td>0.02</td>
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<td>201</td>
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<td>29</td>
<td>Denver, CO</td>
<td>0.00</td>
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<td>581</td>
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<td>Frankfort, KY</td>
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<tr>
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<td>49</td>
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<td>Bismarck, ND</td>
<td>0.05</td>
<td>16</td>
<td>109</td>
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<tr>
<td>36</td>
<td>Cheyenne, WY</td>
<td>0.01</td>
<td>26</td>
<td>84</td>
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<td>679</td>
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<td>52</td>
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<tr>
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<td>Juneau, AK</td>
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<td>21</td>
</tr>
<tr>
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<td>Providence, RI</td>
<td>0.03</td>
<td>29</td>
<td>120</td>
</tr>
<tr>
<td>41</td>
<td>Augusta, ME</td>
<td>0.04</td>
<td>22</td>
<td>59</td>
</tr>
<tr>
<td>42</td>
<td>Pierre, SD</td>
<td>0.10</td>
<td>12</td>
<td>29</td>
</tr>
<tr>
<td>43</td>
<td>Helena, MT</td>
<td>0.00</td>
<td>38</td>
<td>70</td>
</tr>
<tr>
<td>44</td>
<td>Albany, NY</td>
<td>0.01</td>
<td>36</td>
<td>197</td>
</tr>
<tr>
<td>45</td>
<td>Harrisburg, PA</td>
<td>0.01</td>
<td>107</td>
<td>181</td>
</tr>
<tr>
<td>46</td>
<td>Montpellier, VT</td>
<td>0.04</td>
<td>10</td>
<td>34</td>
</tr>
<tr>
<td>47</td>
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</tr>
<tr>
<td>48</td>
<td>Washington, DC</td>
<td>0.00</td>
<td>149</td>
<td>353</td>
</tr>
<tr>
<td>49</td>
<td>Hartford, CT</td>
<td>0.01</td>
<td>122</td>
<td>257</td>
</tr>
<tr>
<td>50</td>
<td>Honolulu, HI</td>
<td>0.01</td>
<td>101</td>
<td>291</td>
</tr>
<tr>
<td>51</td>
<td>Boston, MA</td>
<td>0.00</td>
<td>304</td>
<td>749</td>
</tr>
</tbody>
</table>

Range: 0 - 0.1, 4 - 304, 16 - 749
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Summary of Results . . . Ranking of State Capitols & Distribution of Schools from best to worst

1. Richmond, VA (178 schools)
   - 40% B red
   - 60% G green

2. Columbia, SC (78 schools)
   - 33% B red
   - 63% G green

3. Nashville, TN (108 schools)
   - 40% B red
   - 56% G green

4. Little Rock, AR (94 schools)
   - 44% B red
   - 52% G green

5. Jackson, MS (44 schools)
   - 36% B red
   - 57% G green

6. Montgomery, AL (68 schools)
   - 38% B red
   - 56% G green

7. Lincoln, NE (86 schools)
   - 41% B red
   - 53% G green

8. Olympia, WA (33 schools)
   - 48% B red
   - 48% G green

9. Baton Rouge, LA (123 schools)
   - 37% B red
   - 54% G green

10. Salem, OR (84 schools)
    - 25% B red
    - 61% G green

11. Topeka, KS (59 schools)
    - 44% B red
    - 47% G green

12. Sacramento, CA (260 schools)
    - 47% B red
    - 45% G green

Legend:
- B black
- R red
- A amber
- G green

Survey by Magda Havas, Ph.D., www.magdahavas.com
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Summary of Results . . . Ranking of State Capitols & Distribution of Schools from best to worst

Lansing, MI (67 schools)
- 6% BR
- 0% RA
- 40% RG
- 54% B

Annapolis, MD (42 schools)
- 7% BR
- 0% RA
- 38% RG
- 55% B

Oklahoma City, OK (155 schools)
- 6% BR
- 2% RA
- 40% RG
- 52% B

Jefferson City, MO (25 schools)
- 16% BR
- 0% RA
- 40% RG
- 44% B

Madison, WI (67 schools)
- 4% BR
- 1% RA
- 40% RG
- 54% B

Boise, ID (74 schools)
- 12% BR
- 1% RA
- 46% RG
- 41% B

Des Moines, IA (76 schools)
- 5% BR
- 4% RA
- 42% RG
- 49% B

Phoenix, AZ (393 schools)
- 5% BR
- 2% RA
- 32% RG
- 62% B

Columbus, OH (476 schools)
- 6% BR
- 1% RA
- 39% RG
- 54% B

Indianapolis, IN (504 schools)
- 6% BR
- 2% RA
- 40% RG
- 52% B

Dover, DE (61 schools)
- 11% BR
- 0% RA
- 40% RG
- 49% B

Austin, TX (188 schools)
- 10% BR
- 2% RA
- 37% RG
- 52% B

Survey by Magda Havas, Ph.D., www.magdahavas.com
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Summary of Results . . . Ranking of State Capitols & Distribution of Schools from best to worst

Springfield, IL (63 schools)
- 25
- 38%
- 52%
- 6%
- 3%

Raleigh, NC (85 schools)
- 28
- 42%
- 6%
- 11%
- 11%

Frankfort, KY (19 schools)
- 31
- 37%
- 26%
- 0%
- 6%

Santa Fe, NM (32 schools)
- 34
- 66%
- 13%
- 0%
- 22%

Salt Lake City, UT (116 schools)
- 26
- 38%
- 50%
- 4%
- 8%

Denver, CO (200 schools)
- 29
- 33%
- 54%
- 1%
- 12%

Saint Paul, MN (358 schools)
- 32
- 23%
- 67%
- 3%
- 7%

Bismarck, ND (32 schools)
- 35
- 47%
- 22%
- 0%
- 22%

Tallahassee, FL (61 schools)
- 27
- 34%
- 54%
- 10%
- 10%

Trenton, NJ (67 schools)
- 30
- 31%
- 57%
- 10%
- 10%

Charleston, WV (38 schools)
- 33
- 34%
- 47%
- 13%
- 5%

Cheyenne, WY (35 schools)
- 36
- 34%
- 46%
- 14%
- 6%
Summary of Results... Ranking of State Capitols & Distribution of Schools from best to worst

Atlanta, GA (440 schools)

Providence, RI (73 schools)

Helena, MT (19 schools)

Montpelier, VT (15 schools)

Concord, NH (20 schools)

Augusta, ME (32 schools)

Albany, NY (55 schools)

Carson City, NV (12 schools)

Juneau, AK (18 schools)

Pierre, SD (10 schools)

Harrisburg, PA (118 schools)

Washington, DC (448 schools)

BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Legend:
- B black
- R red
- A amber
- G green

Survey by Magda Havas, Ph.D., www.magdahavas.com
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Summary of Results . . . Ranking of State Capitols & Distribution of Schools from best to worst

Hartford, CT (49 schools)
- 14%
- 14%
- 29%
- 43%

Honolulu, HI (121 schools)
- 11%
- 5%
- 43%
- 41%

Boston, MA (280 schools)
- 27%
- 7%
- 22%
- 44%

Legend:
- B black
- R red
- A amber
- G green

Survey by Magda Havas, Ph.D., www.magdahavas.com
Education is the most powerful weapon which you can use to change the world.

NOTE: The BRAG™ Antenna Ranking of Schools documents the proximity and density of telecommunication antennas near 6,140 schools across the U.S. during the period 2006-2010. Additional antennas continue to be added and exposure exposures generated by cell phone antennas have likely increased since this survey began. Minimizing exposure to microwave radiation in schools is critical for protecting the health of students and staff.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Richmond, Virginia
BRAG™ Antenna Ranking of Schools

Most schools in Richmond, VA: BRAG™ GREEN
Of the 178 schools in Richmond, VA surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (60% of the schools) fell in the lowest exposure category or BRAG™ green, 40% were classified as amber, 0% as red and 0% as black.

Richmond Overall Grade: 87%
Antennas near schools in Richmond, VA generated a composite BRAG™ grade for this state capitol of 87%, ranking Richmond the 1st best school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Richmond.

Worst School Cases found in Richmond, VA:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 5 antennas within 0.25 miles (~400 meters); or 16 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this means microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
**BRAG™ Antenna Ranking of Schools**

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

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**Richmond, Virginia**

*BRAG™ Antenna Ranking of Schools*

The **BRAG™ School Color Code** is based on:
- a) the closest antenna to schools,
- b) the number of antennas within 0.25 miles,
- c) the number of antennas within 0.6 miles.

---

**87%**

State Capitol Grade

**Grade - Richmond**

**Richmond Color Code: BRAG™ GREEN**

The percentage of schools in each **BRAG™ category** are shown on the right. Most of the schools (60%) in Richmond, VA are in the lowest exposure category (**BRAG™ green**) and 0% of the schools are in the two highest categories (**BRAG™ red & black**).

---

**ATTENTION NEEDED!**

**The Worst BRAG™ Schools** found in Richmond, VA had...

- Closest antenna to a school - 0.01 miles away!
- antennas within 0.25 miles - 5 antennas!
- antennas within 0.6 miles - 16 antennas!

---

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.
Most schools in Columbia, SC: **BRAG™ GREEN**

Of the 78 schools in Columbia, SC surveyed as part of the **BRAG™ Antenna Ranking of Schools**, the majority (63% of the schools) fell in the lowest exposure category or **BRAG™ green**, 33% were classified as **amber**, 3% as **red** and 1% as **black**.

**Columbia Overall Grade: 87%**

Antennas near schools in Columbia, SC generated a composite **BRAG™ grade** for this state capitol of 87%, ranking Columbia the 2nd **best school district** among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Columbia.

**Worst School Cases found in Columbia, SC:**

The schools with the **highest potential microwave exposures** (from external sources) had an antenna within 0.01 miles (~15 meters); 37 antennas within 0.25 miles (~400 meters); or 151 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

**What you can do:**

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by **wireless technologies inside school buildings**. If you want to improve your school environment see [BRAG™ Recommendations for Schools](#).
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

**BRAG™ Antenna Ranking of Schools**
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

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**Columbia, South Carolina**

BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on:
- a) the closest antenna to schools,
- b) the number of antennas within 0.25 miles, &
- c) the number of antennas within 0.6 miles.

**Grade—Columbia**

Composite Grade
0-100% possible, Lower grade means more antennas nearby with greater potential for microwave exposure.

**Columbia Color Code: BRAG™ GREEN**
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (63%) in Columbia, SC are in the lowest exposure category (BRAG™ green) and fewer than 5% of the schools are in the two highest categories (BRAG™ red & black).

---

**ATTENTION NEEDED!**
The Worst BRAG™ Schools found in Columbia, SC had...
- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 37 antennas!
- Antennas within 0.6 miles - 151 antennas!

---

*Find your favorite school*

Survey by Magda Havas, Ph.D., www.magdahavas.com
**Nashville, Tennessee**

**BRAG™ Antenna Ranking of Schools**

**Grade for Nashville**

Composite Grade: 0-100% possible, Lower grade means more antennas nearby with greater potential for microwave exposure.

- **Ranked 3rd State Capitol!**
- **Gold Star**
- **Nashville can BRAG!**

---

**Most schools in Nashville, TN: BRAG™ GREEN**

Of the 108 schools in Nashville, TN surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (56% of the schools) fell in the lowest exposure category or BRAG™ green, 40% were classified as amber, 3% as red and 1% as black.

**Nashville Overall Grade: 84%**

Antennas near schools in Nashville, TN generated a composite BRAG™ grade for this state capitol of 84%, ranking Nashville the 3rd best school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Nashville.

**Worst School Cases found in Nashville, TN:**

The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.02 miles (~30 meters); 49 antennas within 0.25 miles (~400 meters); or 235 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

**What you can do:**

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

**BRAG™ Antenna Ranking of Schools**

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

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The **BRAG™ School Color Code** is based on:

a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

---

**Nashville, Tennessee**

BRAG™ Antenna Ranking of Schools

- **State Capitol Ranking**: 3rd
- **Composite Grade**: 84%
- **State Capitol Grade**: GREEN
- **Nashville Color Code**: BRAG™ GREEN

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (56%) in Nashville, TN are in the lowest exposure category (BRAG™ green) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

---

**ATTENTION NEEDED!**

The **Worst BRAG™ Schools** found in Nashville, TN had . . .

- Closest antenna to a school - 0.02 miles away!
- Antennas within 0.25 miles - 49 antennas!
- Antennas within 0.6 miles - 235 antennas!

---

Find your favorite school

---

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Little Rock, AR: BRAG™ GREEN
Of the 94 schools in Little Rock, AR surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (52% of the schools) fell in the lowest exposure category or BRAG™ green, 44% were classified as amber, 4% as red, and 0% as black.

Little Rock Overall Grade: 83%
Antennas near schools in Little Rock, AR generated a composite BRAG™ grade for this state capitol of 83%, ranking Little Rock the 4th best school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Little Rock.

Worst School Cases found in Little Rock, AR:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.04 miles (~60 meters); 17 antennas within 0.25 miles (~400 meters); or 52 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this means microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
The BRAG™ School Color Code is based on:

a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Little Rock, Arkansas
BRAG™ Antenna Ranking of Schools

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (52%) in Little Rock, AR are in the 2nd lowest exposure category (BRAG™ green) and fewer than 5% of the schools are in the two highest categories (BRAG™ red & black).

**Little Rock Color Code: BRAG™ GREEN**

**Little Rock, AR (94 schools)**

- **4%** Closest antenna to a school - 0.04 miles away!
- **44%** Antennas within 0.25 miles - 17 antennas!
- **52%** Antennas within 0.6 miles - 52 antennas!

Little Rock, AR

ATTENTION NEEDED!

The Worst BRAG™ Schools found in Little Rock, AR had...

- **0%** Closest antenna to a school
- **44%** Antennas within 0.25 miles
- **52%** Antennas within 0.6 miles

Worst Cases!

Find your favorite school

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Jackson, MS: BRAG™ GREEN
Of the 44 schools in Jackson, MS surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (57% of the schools) fell in the lowest exposure category or BRAG™ green, 36% were classified as amber, 5% as red and 2% as black.

Jackson Overall Grade: 83%
Antennas near schools in Jackson, MS generated a composite BRAG™ grade for this state capitol of 83%, ranking Jackson the 5th best school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Jackson.

Worst School Cases found in Jackson, MS:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 31 antennas within 0.25 miles (~400 meters); or 96 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
The BRAG™ School Color Code is based on:

a) the closest antenna to schools,

b) the number of antennas within 0.25 miles, and

c) the number of antennas within 0.6 miles.

The Worst BRAG™ Schools found in Jackson, MS had...

- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 31 antennas!
- Antennas within 0.6 miles - 96 antennas!

Jackson, Mississippi
BRAG™ Antenna Ranking of Schools

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (57%) in Jackson, MS are in the lowest exposure category (BRAG™ green) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

Jackson, MS
BRAG™ Antenna Ranking of Schools

Gold Star Award!

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade - Jackson

Jackson Color Code: BRAG™ GREEN

ANTENTION NEEDED!

The Worst BRAG™ Schools found in Jackson, MS had...

- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 31 antennas!
- Antennas within 0.6 miles - 96 antennas!

Jackson, MS
BRAG™ Antenna Ranking of Schools

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Jackson, MS (44 schools)

5th U.S. state capitol.

JACKSON, MISSISSIPPI
BRAG™ Antenna Ranking of Schools

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Jackson, MS (44 schools)

5th U.S. state capitol.

JACKSON, MISSISSIPPI
BRAG™ Antenna Ranking of Schools

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Jackson, MS (44 schools)

5th U.S. state capitol.

JACKSON, MISSISSIPPI
BRAG™ Antenna Ranking of Schools

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Jackson, MS (44 schools)

5th U.S. state capitol.

JACKSON, MISSISSIPPI
BRAG™ Antenna Ranking of Schools

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Jackson, MS (44 schools)

5th U.S. state capitol.
Most schools in Montgomery, AL: BRAG™ GREEN
Of the 68 schools in Montgomery, AL surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (56% of the schools) fell in the lowest exposure category or BRAG™ green, 38% were classified as amber, 3% as red and 3% as black.

Montgomery Overall Grade: 82%
Antennas near schools in Montgomery, AL generated a composite BRAG™ grade for this state capitol of 82%, ranking Montgomery the 6th best school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Montgomery.

Worst School Cases found in Montgomery, AL:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.06 miles (~100 meters); 44 antennas within 0.25 miles (~400 meters); or 149 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

**BRAG™ Antenna Ranking of Schools**

*Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols*

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**Montgomery, Alabama**

**BRAG™ Antenna Ranking of Schools**

The **BRAG™ School Color Code** is based on:

- a) The closest antenna to schools,
- b) The number of antennas within 0.25 miles, &
- c) The number of antennas within 0.6 miles.

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**Montgomery Color Code:** BRAG™ **GREEN**

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (56%) in Montgomery, AL are in the lowest exposure category (BRAG™ green) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

---

**ATTENTION NEEDED!**

The **Worst BRAG™ Schools** found in Montgomery, AL had . . .

- Closest antenna to a school - 0.06 miles away!
- Antennas within 0.25 miles - 44 antennas!
- Antennas within 0.6 miles - 149 antennas!

---

Find your favorite school
Survey by Magda Havas, Ph.D., www.magdahavas.com

BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Lincoln, Nebraska
BRAG™ Antenna Ranking of Schools

Most schools in Lincoln, NE: BRAG™ GREEN
Of the 86 schools in Lincoln, NE surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (53% of the schools) fell in the lowest exposure category or BRAG™ green, 41% were classified as amber, 3% as red and 2% as black.

Lincoln Overall Grade: 82%
Antennas near schools in Lincoln, NE generated a composite BRAG™ grade for this state capitol of 82%, ranking Lincoln the 7th best school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Lincoln.

Worst School Cases found in Lincoln, NE:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.02 miles (~30 meters); 50 antennas within 0.25 miles (~400 meters); or 112 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
BRAG™ Antenna Ranking of Schools

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Lincoln, Nebraska

BRAG™ Antenna Ranking of Schools

The Worst BRAG™ Schools found in Lincoln, NE had . . .

- Closest antenna to a school - 0.02 miles away!
- Antennas within 0.25 miles - 50 antennas!
- Antennas within 0.6 miles - 112 antennas!

Grade-Lincoln

Composite Grade
0-100% possible,
lower grade means more antennas nearby with greater potential for microwave exposure.

Lincoln Color Code: BRAG™ GREEN

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (53%) in Lincoln, NE are in the lowest exposure category (BRAG™ green) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.
Most schools in Olympia, WA: BRAG™ AMBER
Of the 33 schools in Olympia, WA surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (48% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 3% were classified as red, 0% as black, and 48% as green.

Olympia Overall Grade: 82%
Antennas near schools in Olympia, WA generated a composite BRAG™ grade for this state capitol of 82% ranking Olympia the 8th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Olympia.

Worst School Cases found in Olympia, WA:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.04 miles (~60 meters); 4 antennas within 0.25 miles (~400 meters); or 40 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Olympia, Washington
BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on:
- The closest antenna to the school,
- The number of antennas within 0.25 miles, and
- The number of antennas within 0.6 miles.

Olympia Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (48%) in Olympia, WA are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 5% of the schools are in the two highest categories (BRAG™ red & black).

Olympia, WA (33 schools)

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Olympia, WA had...
- Closest antenna to a school - 0.04 miles away!
- Antennas within 0.25 miles - 4 antennas!
- Antennas within 0.6 miles - 40 antennas!

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.
Most schools in Baton Rouge, LA: **BRAG™ GREEN**

Of the 123 schools in Baton Rouge, LA surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (54% of the schools) fell in the lowest exposure category or BRAG™ green, 37% were classified as amber, 7% as red and 3% as black.

**Baton Rouge Overall Grade: 80%**

Antennas near schools in Baton Rouge, LA generated a composite **BRAG™ grade** for this state capitol of 80%, ranking Baton Rouge the 9th **best school district** among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Baton Rouge.

**Worst School Cases found in Baton Rouge, LA:**

The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.03 miles (~50 meters); 83 antennas within 0.25 miles (~400 meters); or 164 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

**What you can do:**

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see [BRAG™ Recommendations for Schools](#).
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

**BRAG™ Antenna Ranking of Schools**

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

**Baton Rouge, Louisiana**

**BRAG™ Antenna Ranking of Schools**

**Composite Grade**

0-100% possible, Lower grade means more antennas nearby with greater potential for microwave exposure.

**Grade—Baton Rouge**

**Baton Rouge Color Code:** **BRAG™ GREEN**

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (54%) in Baton Rouge, LA are in the lowest exposure category (BRAG™ green) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

**ATTENTION NEEDED!**

The Worst BRAG™ Schools found in Baton Rouge, LA had...

- Closest antenna to a school - 0.03 miles away!
- Antennas within 0.25 miles - 83 antennas!
- Antennas within 0.6 miles - 164 antennas!

**Find your favorite school**

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Salem, OR: BRAG™ GREEN
Of the 84 schools in Salem, OR surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (61% of the schools) fell in the lowest exposure category or BRAG™ green, 25% were classified as amber, 7% as red and 7% as black.

Salem Overall Grade: 80%
Antennas near schools in Salem, OR generated a composite BRAG™ grade for this state capitol of 80%, ranking Salem the 10th best school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Salem.

Worst School Cases found in Salem, OR:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0 miles (<15 meters); 40 antennas within 0.25 miles (~400 meters); or 108 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
The BRAG™ School Color Code is based on
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

The Worst BRAG™ Schools found in Salem, OR had . . .
- Closest antenna to a school - 0 miles away!
- Antennas within 0.25 miles - 40 antennas!
- Antennas within 0.6 miles - 108 antennas!

Salem, Oregon
BRAG™ Antenna Ranking of Schools

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (61%) in Salem, OR are in the lowest exposure category (BRAG™ green) and fewer than 15% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Topeka, KS: BRAG™ GREEN
Of the 59 schools in Topeka, KS surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority 47% of the schools) fell in the lowest exposure category or BRAG™ green, 44% were classified as amber, 8% as red and 0% as black.

Topeka Overall Grade: 80%
Antennas near schools in Topeka, KS generated a composite BRAG™ grade for this state capitol of 80%, ranking Topeka the 11th best school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Topeka.

Worst School Cases found in Topeka, KS:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.03 miles (~50 meters); 14 antennas within 0.25 miles (~400 meters); or 94 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Topeka, Kansas
BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Topeka, KS (59 schools)

State Capitol Ranking
11th

Grade - Topeka
Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Composite Grade
80%

Topeka Color Code: BRAG™ GREEN
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (47%) in Topeka, KS are in the lowest exposure category (BRAG™ green) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Topeka, KS had...
• Closest antenna to a school - 0.03 miles away!
• Antennas within 0.25 miles - 14 antennas!
• Antennas within 0.6 miles - 94 antennas!

Find your favorite school

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Sacramento, CA: BRAG™ AMBER
Of the 260 schools in Capitol, ST surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (47% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 7% were classified as red, 1% as black, and 45% as green.

Sacramento Overall Grade: 79%
Antennas near schools in Sacramento, CA generated a composite BRAG™ grade for this state capitol of 79% ranking Sacramento the 12th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Sacramento.

Worst School Cases found in Sacramento, CA:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 18 antennas within 0.25 miles (~400 meters); or 158 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this means microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
The BRAG™ School Color Code is based on:

a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Sacramento, California

Sacramento can't BRAG!
Ranked 12th U.S. state capitol.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade - Sacramento

Sacramento Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (47%) in Sacramento, CA are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Sacramento, CA had...

- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 18 antennas!
- Antennas within 0.6 miles - 158 antennas!

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Lansing, MI: BRAG™ AMBER

Of the 67 schools in Lansing, MI surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (54% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 6% were classified as red, 0% as black, and 40% as green.

Lansing Overall Grade: 78%

Antennas near schools in Lansing, MI generated a composite BRAG™ grade for this state capitol of 78% ranking Lansing the 13th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Lansing.

Worst School Cases found in Lansing, MI:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.02 miles (~30 meters); 16 antennas within 0.25 miles (~400 meters); or 135 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

**BRAG™ Antenna Ranking of Schools**

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

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**13**

State Capitol Ranking

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**78%**

State Capitol Grade

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**AMBER**

State Capitol Color Code

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Lansing can't BRAG!

Ranked 13th U.S. state capital.

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Composite Grade

0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade - Lansing

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Lansing Color Code: BRAG™ AMBER

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (54%) in Lansing, MI are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

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ATTENTION NEEDED!

The Worst BRAG™ Schools found in Lansing, MI had . . .

- Closest antenna to a school - 0.02 miles away!
- Antennas within 0.25 miles - 16 antennas!
- Antennas within 0.6 miles - 135 antennas!

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Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Madison, WI: BRAG™ AMBER
Of the 67 schools in Madison, WI surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (54% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 4% were classified as red, 1% as black, and 40% as green.

City Overall Grade: 78%
Antennas near schools in Madison, WI generated a composite BRAG™ grade for this state capitol of 78% ranking Madison the 14th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Madison.

Worst School Cases found in Madison, WI:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.02 miles (~30 meters); 7 antennas within 0.25 miles (~400 meters); or 106 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this means microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

**BRAG™ Antenna Ranking of Schools**

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

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**Madison, Wisconsin**

BRAG™ Antenna Ranking of Schools

**14** State Capitol Ranking

**78%** State Capitol Grade

**AMBER** State Capitol Color Code

54% Madison Color Code: BRAG™ AMBER

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (54%) in Madison, WI are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

**ATTEMPT NEEDED!**

The Worst BRAG™ Schools found in Madison, WI had . . .

• Closest antenna to a school - 0.02 miles away!
• Antennas within 0.25 miles - 7 antennas!
• Antennas within 0.6 miles - 106 antennas!

Find your favorite school

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The BRAG™ School Color Code is based on

a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

**BRAG™ Antenna Ranking of Schools**

*Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols*

**Columbus, Ohio**

**BRAG™ Antenna Ranking of Schools**

**Grade for Columbus**

- **Composite Grade:** 0-100% possible, Lower grade means more antennas nearby with greater potential for microwave exposure.

- **Best:**
  - Columbus can't BRAG!

- **Worst:**
  - Ranked 15th State Capitol!

- **Most schools in Columbus, OH: BRAG™ AMBER**
  - Of the 476 schools in Columbus, OH surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (54% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 6% were classified as red, 1% as black, and 39% as green.

- **Columbus Overall Grade: 77%**
  - Antennas near schools in Columbus, OH generated a composite BRAG™ grade for this state capital of 77% ranking Columbus the 15th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Columbus.

- **Worst School Cases found in Columbus, OH:**
  - The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 252 antennas within 0.25 miles (~400 meters); or 414 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

- **What you can do:**
  - It is important to keep levels of microwave radiation as low as possible and this means microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see **BRAG™ Recommendations for Schools**.
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Columbus, Ohio
BRAG™ Antenna Ranking of Schools

15 State Capitol Ranking

Columbus can't BRAG!
Ranked 15th U.S. state capital.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade - Columbus

Columbus Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (54%) in Columbus, OH are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Columbus, OH had . . .

- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 252 antennas!
- Antennas within 0.6 miles - 414 antennas!

Find your favorite school

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Annapolis, MD: BRAG™ AMBER
Of the 42 schools in Annapolis, MD surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (55% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 7% were classified as red, 0% as black, and 38% as green.

Annapolis Overall Grade: 77%
Antennas near schools in Annapolis, MD generated a composite BRAG™ grade for this state capitol of 77% ranking Annapolis the 16th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Annapolis.

Worst School Cases found in Annapolis, MD:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.02 miles (~30 meters); 9 antennas within 0.25 miles (~400 meters); or 38 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
Annapolis can’t BRAG!

Ranked 16th U.S. state capitol.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Annapolis Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (55%) in Annapolis, MD are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Annapolis, MD had . . .
• Closest antenna to a school - 0.02 miles away!
• Antennas within 0.25 miles - 9 antennas!
• Antennas within 0.6 miles - 38 antennas!

Find your favorite school

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Boise, ID: **BRAG™ GREEN**

Of the 74 schools in Boise, ID surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (46% of the schools) fell in the **lowest** exposure category or **BRAG™ green**, 41% were classified as **amber**, 12% as **red** and 1% as **black**.

Boise Overall Grade: **77%**

Antennas near schools in Boise, ID generated a composite **BRAG™ grade** for this state capitol of **77%**, ranking Boise the 17th best school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Boise.

Worst School Cases found in Boise, ID:

The schools with the **highest potential microwave exposures** (from external sources) had an antenna within 0.01 miles (~15 meters); 17 antennas within 0.25 miles (~400 meters); or 117 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by **antennas near school property** but also by **wireless technologies inside school buildings**. If you want to improve your school environment see [BRAG™ Recommendations for Schools](#).
The BRAG™ School Color Code is based on
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Boise, Idaho
BRAG™ Antenna Ranking of Schools

Grade-Boise

Composite Grade
0-100% possible, Lower grade means more antennas nearby with greater potential for microwave exposure.

Boise Color Code: BRAG™ GREEN
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (46%) in Boise, ID are in the lowest exposure category (BRAG™ green) and fewer than 15% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Boise, ID had . . .
• Closest antenna to a school - 0.01 miles away!
• Antennas within 0.25 miles - 17 antennas!
• Antennas within 0.6 miles - 117 antennas!

Silver Star Award!
Boise can BRAG!

Ranking 17th U.S. state capital.

77% Grade - Boise

77% Report Card

State Capitol Ranking

17
State Capitol
77%
State Capitol
Grade

Grade-Boise

BRAG™ Schools

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Indianapolis, IN: BRAG™ AMBER
Of the 504 schools in Indianapolis, IN surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (52% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 6% were classified as red, 2% as black, and 40% as green.

Indianapolis Overall Grade: 77%
Antennas near schools in Indianapolis, IN generated a composite BRAG™ grade for this state capital of 77% ranking Indianapolis the 18th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Indianapolis.

Worst School Cases found in Indianapolis, IN:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0 miles (<15 meters); 134 antennas within 0.25 miles (~400 meters); or 469 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this means microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
The \textit{BRAG\textsuperscript{TM}} School Color Code is based on:

\begin{itemize}
\item[a)] the closest antenna to schools,
\item[b)] the number of antennas within 0.25 miles, \&
\item[c)] the number of antennas within 0.6 miles.
\end{itemize}

Indianapolis, IN (504 schools)

\begin{itemize}
\item 52\% of schools have the \textit{BRAG\textsuperscript{TM}} AMBER color code.
\item The percentage of schools in each \textit{BRAG\textsuperscript{TM}} category are shown on the right.
\item Most of the schools (52\%) in Indianapolis, IN are in the 2nd lowest exposure category (BRAG\textsuperscript{TM} amber) and fewer than 10\% of the schools are in the two highest categories (BRAG\textsuperscript{TM} red \& black).
\end{itemize}

\textbf{ATTENTION NEEDED!}

\begin{itemize}
\item The \textbf{Worst BRAG\textsuperscript{TM}} Schools found in Indianapolis, IN had . . .
\item Closest antenna to a school - 0 miles away!
\item Antennas within 0.25 miles - 134 antennas!
\item Antennas within 0.6 miles - 469 antennas!
\end{itemize}

\textbf{Indianapolis, Indiana}

\textbf{BRAG\textsuperscript{TM} Antenna Ranking of Schools}

\begin{itemize}
\item Indianapolis can't BRAG!
\item Ranked 18\textsuperscript{th} U.S. state capitol.
\end{itemize}

\textbf{Composite Grade}

0-100\% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

\textbf{Grade - Indianapolis}

\textbf{AMBER}

\textbf{Indianapolis Color Code: BRAG\textsuperscript{TM} AMBER}

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Oklahoma City, OK: BRAG™ AMBER
Of the 155 schools in Oklahoma City, OK surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (52% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 6% were classified as red, 2% as black, and 40% as green.

Oklahoma City Overall Grade: 77%
Antennas near schools in Oklahoma City, OK generated a composite BRAG™ grade for this state capitol of 77% ranking Oklahoma City the 19th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Oklahoma City.

Worst School Cases found in Oklahoma City, OK:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 26 antennas within 0.25 miles (~400 meters); or 209 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
The BRAG™ School Color Code is based on:

a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Oklahoma City can't BRAG!

Oklahoma City, Oklahoma

Ranked 19th U.S. state capitol.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

State Capitol Grade
77%

Grade-Oklahoma City

Oklahoma City Color Code: BRAG™ AMBER

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (52%) in Oklahoma City, OK are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!

The Worst BRAG™ Schools found in Oklahoma City, OK had . . .

- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 26 antennas!
- Antennas within 0.6 miles - 209 antennas!

Survey by Magda Havas, Ph.D., www.magdahavas.com
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Most schools in Des Moines, IA: BRAG™ AMBER
Of the 76 schools in Des Moines, IA surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (49% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 5% were classified as red, 4% as black, and 42% as green.

Des Moines Overall Grade: 76%
Antennas near schools in Des Moines, IA generated a composite BRAG™ grade for this state capitol of 76% ranking Des Moines the 20th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Des Moines.

Worst School Cases found in Des Moines, IA:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.02 miles (~30 meters); 90 antennas within 0.25 miles (~400 meters); or 180 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Des Moines, Iowa
BRAG™ Antenna Ranking of Schools

Des Moines can’t BRAG!
Ranked 20th U.S. state capitol.

Des Moines Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (49%) in Des Moines, IA are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Des Moines, IA had...
- Closest antenna to a school - 0.02 miles away!
- Antennas within 0.25 miles - 90 antennas!
- Antennas within 0.6 miles - 180 antennas!

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Dover, DE: BRAG™ AMBER
Of the 61 schools in Dover, DE surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (49% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 11% were classified as red, 0% as black, and 40% as green.

Dover Overall Grade: 76%
Antennas near schools in Dover, DE generated a composite BRAG™ grade for this state capitol of 76%, ranking Dover the 21st school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Dover.

Worst School Cases found in Dover, DE:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 9 antennas within 0.25 miles (~400 meters); or 31 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.

Survey by Magda Havas, Ph.D., www.magdahavas.com
BRAG™ Antenna Ranking of Schools

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

21
State Capitol Ranking

76%
State Capitol Grade

AMBER
State Capitol Color Code

49%

Dover can't BRAG!
Ranked 21st U.S. state capital.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade-Dover

Dover Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (49%) in Dover, DE are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 15% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Dover, DE had . . .
- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 9 antennas!
- Antennas within 0.6 miles - 31 antennas!

Attention Level: 76%

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Jefferson City, MO: BRAG™ AMBER
Of the 25 schools in Jefferson City, MO surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (44% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 16% were classified as red, 0% as black, and 40% as green.

Jefferson City Overall Grade: 75%
Antennas near schools in Jefferson City, MO generated a composite BRAG™ grade for this state capitol of 75% ranking Jefferson City the 22nd school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Jefferson City.

Worst School Cases found in Jefferson City, MO:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 12 antennas within 0.25 miles (~400 meters); or 35 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
Jefferson City can't BRAG!

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Jefferson City, Missouri
BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on:
1) the closest antenna to schools,
2) the number of antennas within 0.25 miles,
3) the number of antennas within 0.6 miles.

Jefferson City, MO (25 schools)

composite grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Jefferson City Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (44%) in Jefferson City, MO are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 20% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Jefferson City, MO had...
- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 12 antennas!
- Antennas within 0.6 miles - 35 antennas!

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.
Most schools in Phoenix, AZ: BRAG™ AMBER

Of the 393 schools* in Phoenix, AZ surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (62% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 5% were classified as red, 2% as black, and 32% as green. *represents half of the schools in Phoenix.

Phoenix Overall Grade: 74%

Antennas near schools in Phoenix, AZ generated a composite BRAG™ grade for this state capitol of 74% ranking Phoenix the 23rd school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Phoenix.

Worst School Cases found in Phoenix, AZ:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0 miles (~15 meters); 49 antennas within 0.25 miles (~400 meters); or 390 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
The BRAG™ School Color Code is based on:

a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Phoenix, Arizona
BRAG™ Antenna Ranking of Schools

Phoenix can't BRAG!
Ranked 23rd U.S. state capitol.

Composite Grade
0-100% possible,
Lower grade means more
antennas nearby with
greater potential for
microwave exposure.

Grade-Phoenix

Phoenix Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are
shown on the right. Most of the schools (62%) in Phoenix,
AZ are in the 2nd lowest exposure category (BRAG™
amber) and fewer than 10% of the schools are in the two
highest categories (BRAG™ red & black). 393 schools
represents half of the school in Phoenix.

Phoenix, AZ (393 schools)

State Capitol
Color Code
AMBER
62%

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Phoenix, AZ had . . .

- Closest antenna to a school - 0 miles away!
- Antennas within 0.25 miles - 49 antennas!
- Antennas within 0.6 miles - 390 antennas!

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.
Most schools in Austin, TX: BRAG™ AMBER

Of the 188 schools in Austin, TX surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (52% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 10% were classified as red, 2% as black, and 37% as green.

Austin Overall Grade: 74%

Antennas near schools in Austin, RI generated a composite BRAG™ grade for this state capitol of 74% ranking Austin the 24th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Austin.

Worst School Cases found in Austin, TX:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.02 miles (~30 meters); 111 antennas within 0.25 miles (~400 meters); or 274 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
The WORST BRAG™ Schools found in Austin, TX had...

- Closest antenna to a school - 0.02 miles away!
- Antennas within 0.25 miles - 111 antennas!
- Antennas within 0.6 miles - 274 antennas!

Find your favorite school

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Springfield, IL: BRAG™ AMBER
Of the 63 schools in Springfield, IL surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (52% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 3% were classified as red, 6% as black, and 38% as green.

Springfield Overall Grade: 74%
Antennas near schools in Springfield, IL generated a composite BRAG™ grade for this state capitol of 74% ranking Springfield the 25th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Springfield.

Worst School Cases found in Springfield, IL:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 92 antennas within 0.25 miles (~400 meters); or 169 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
The BRAG™ School Color Code is based on:
1) the closest antenna to schools,
2) the number of antennas within 0.25 miles, &
3) the number of antennas within 0.6 miles.

Springfield, Illinois
BRAG™ School Color Code

Springfield High School

Worst Cases!
- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 92 antennas!
- Antennas within 0.6 miles - 169 antennas!

Springfield can’t BRAG!
Ranked 25th U.S. state capital.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade - Springfield
AMBER

Springfield Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (52%) in Springfield, IL are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!

The Worst BRAG™ Schools found in Springfield, IL had...
- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 92 antennas!
- Antennas within 0.6 miles - 169 antennas!

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.
Most schools in Salt Lake City, UT: BRAG™ AMBER
Of the 116 schools in Salt Lake City, UT surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (50% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 8% were classified as red, 4% as black, and 38% as green.

Salt Lake City Overall Grade: 74%
Antennas near schools in Salt Lake City, RI generated a composite BRAG™ grade for this state capitol of 74% ranking Salt Lake City the 26th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Salt Lake City.

Worst School Cases found in Salt Lake City, UT:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.02 miles (~30 meters); 40 antennas within 0.25 miles (~400 meters); or 221 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Salt Lake City, Utah
BRAG™ Antenna Ranking of Schools

Salt Lake City, UT (116 schools)

The BRAG™ School Color Code is based on
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Salt Lake City Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (50%) in Salt Lake City, UT are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 15% of the schools are in the two highest categories (BRAG™ red & black).

Attention Needed!
The Worst BRAG™ Schools found in Salt Lake City, UT had...
- Closest antenna to a school - 0.02 miles away!
- Antennas within 0.25 miles - 40 antennas!
- Antennas within 0.6 miles - 221 antennas!

Survey by Magda Havas, Ph.D., www.magdahavas.com

26
State Capitol Ranking

Salt Lake City can't BRAG!
Ranked 26th U.S. state capitol.

74%
State Capitol Grade

Salt Lake City Color Code
Salt Lake City, UT (116 schools)

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Salt Lake City, UT had...
- Closest antenna to a school - 0.02 miles away!
- Antennas within 0.25 miles - 40 antennas!
- Antennas within 0.6 miles - 221 antennas!

Composite Grade
0-100% possible,
Lower grade means more
antennas nearby with
greater potential for
microwave exposure.

Grade - Salt Lake City

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Tallahassee, FL: 

Of the 61 schools in Tallahassee, FL surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (54% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 10% were classified as red, 2% as black, and 34% as green.

Tallahassee Overall Grade: 74%

Antennas near schools in Tallahassee, FL generated a composite BRAG™ grade for this state capitol of 74% ranking Tallahassee the 27th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Tallahassee.

Worst School Cases found in Tallahassee, FL:

The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 13 antennas within 0.25 miles (~400 meters); or 95 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
The BRAG™ School Color Code is based on:

a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

**Tallahassee, Florida**

**BRAG™ Antenna Ranking of Schools**

The Worst BRAG™ Schools found in Tallahassee, FL had...

- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 13 antennas!
- Antennas within 0.6 miles - 95 antennas!

**Grade-Tallahassee**

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

**Tallahassee Color Code: BRAG™ AMBER**

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (54%) in Tallahassee, FL are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 15% of the schools are in the two highest categories (BRAG™ red & black).

**ATTENTION NEEDED!**

The Worst BRAG™ Schools found in Tallahassee, FL had...

= Find your favorite school
Most schools in Raleigh, NC: BRAG™ GREEN

Of the 85 schools in Raleigh, NC surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (42% of the schools) fell in the lowest exposure category or BRAG™ green, 41% were classified as amber, 11% as red and 6% as black.

Raleigh Overall Grade: 73%

Antennas near schools in Raleigh, NC generated a composite BRAG™ grade for this state capitol of 73%, ranking Raleigh the 28th best school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Raleigh.

Worst School Cases found in Raleigh, NC:

The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.02 miles (~30 meters); 118 antennas within 0.25 miles (~400 meters); or 201 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

**BRAG™ Antenna Ranking of Schools**

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

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**Raleigh, North Carolina**

**BRAG™ Antenna Ranking of Schools**

The **BRAG™ School Color Code** is based on:

a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

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**Raleigh can't BRAG!**

Ranked **28th** U.S. state capital.

**Composite Grade**

0-100% possible, Lower grade means more antennas nearby with greater potential for microwave exposure.

**Grade - Raleigh**

**Raleigh Color Code: BRAG™ GREEN**

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (42%) in Raleigh, NC are in the lowest exposure category (BRAG™ green) and fewer than 20% of the schools are in the two highest categories (BRAG™ red & black).

**ATTENTION NEEDED!**

The **Worst BRAG™ Schools** found in Raleigh, NC had:

- Closest antenna to a school - 0.02 miles away!
- Antennas within 0.25 miles - 118 antennas!
- Antennas within 0.6 miles - 201 antennas!

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**Survey by Magda Havas, Ph.D., www.magdahavas.com**
Most schools in Denver, CO: BRAG™ AMBER
Of the 200 schools in Denver, CO surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (54% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 12% were classified as red, 1% as black, and 33% as green.

Denver Overall Grade: 73%
Antennas near schools in Denver, CO generated a composite BRAG™ grade for this state capitol of 73%, ranking Denver the 29th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Denver.

Worst School Cases found in Denver, CO:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0 miles (<15 meters); 58 antennas within 0.25 miles (~400 meters); or 581 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Denver, Colorado
BRAG™ Antenna Ranking of Schools

Denver can’t BRAG!
Ranked 29th U.S. state capitol.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade - Denver

AMBER
Denver Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (62%) in Denver, CO are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 10% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Denver, CO had . . .
• Closest antenna to a school - 0 miles away!
• Antennas within 0.25 miles - 58 antennas!
• Antennas within 0.6 miles - 581 antennas!

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Trenton, NY: **BRAG™ AMBER**

Of the 67 schools in Trenton, NY surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (57% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 10% were classified as red, 1% as black, and 31% as green.

**Trenton Overall Grade: 73%**

Antennas near schools in Trenton, NY generated a composite BRAG™ grade for this state capitol of 73% ranking Trenton the 30th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Trenton.

Worst School Cases found in Trenton, NY:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.03 miles (~50 meters); 36 antennas within 0.25 miles (~400 meters); or 98 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this means microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

The Worst BRAG™ Schools found in Trenton, NJ had . . .
• Closest antenna to a school - 0.03 miles away!
• Antennas within 0.25 miles - 36 antennas!
• Antennas within 0.6 miles - 98 antennas!

Trenton can’t BRAG!
Ranked 30th U.S. state capitol.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade - Trenton

Trenton Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (57%) in Trenton, NJ are in the 2nd lowest exposure category (BRAG™ amber) and 11% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!

Trenton, New Jersey
BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on
a) the closest antenna to schools,
 b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (57%) in Trenton, NJ are in the 2nd lowest exposure category (BRAG™ amber) and 11% of the schools are in the two highest categories (BRAG™ red & black).

Find your favorite school
Most schools in Frankfort, KY: BRAG™ AMBER

Of the 19 schools in Frankfort, KY surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (37% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 26% were classified as red, 0% as black, and 37% as green.

Frankfort Overall Grade: 70%

Antennas near schools in Frankfort, KY generated a composite BRAG™ grade for this state capitol of 70% ranking Frankfort the 31st school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Frankfort.

Worst School Cases found in Frankfort, KY:

The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.09 miles (~150 meters); 11 antennas within 0.25 miles (~400 meters); or 18 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.
BRAG™ Antenna Ranking of Schools

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Frankfort can’t BRAG!

Frankfort, Kentucky

BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade—Frankfort

Frankfort Color Code: BRAG™ AMBER

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (37%) in Frankfort, KY are in the 1st and 2nd lowest exposure category (BRAG™ green & amber) and almost 30% of the schools are in the 2nd highest categories (BRAG™ red).

11 antennas within 0.25 miles

18 antennas within 0.6 miles

Frankfort, KY

Worst Cases!

The Worst BRAG™ Schools found in Frankfort, KY had . . .

• Closest antenna to a school - 0.09 miles away!
• Antennas within 0.25 miles - 11 antennas!
• Antennas within 0.6 miles - 18 antennas!

Find your favorite school

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Saint Paul, MN: BRAG™ AMBER
Of the 358 schools in Lansing, MI surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (67% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 7% were classified as red, 3% as black, and 23% as green.

Saint Paul Overall Grade: 70%
Antennas near schools in Saint Paul, MN generated a composite BRAG™ grade for this state capitol of 70% ranking Saint Paul the 32nd school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Saint Paul.

Worst School Cases found in Saint Paul, MN:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 146 antennas within 0.25 miles (~400 meters); or 340 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

32
State Capitol Ranking

70%
State Capitol Grade

AMBER
State Capitol Color Code

67%

Saint Paul can't BRAG!
Ranked 32nd U.S. state capital.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade - Saint Paul

Saint Paul, Minnesota
BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Saint Paul Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (67%) in Saint Paul, MN are in the 2nd lowest exposure category (BRAG™ amber) and 10% of the schools are in the two highest categories (BRAG™ red & black).

Saint Paul, MN (358 schools)

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Saint Paul, MN had . . .
• Closest antenna to a school - 0.01 miles away!
• Antennas within 0.25 miles - 146 antennas!
• Antennas within 0.6 miles - 340 antennas!

Find your favorite school

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Charleston, WV: BRAG™ AMBER
Of the 38 schools in Charleston, WV surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (47% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 13% were classified as red, 5% as black, and 34% as green.

Charleston Overall Grade: 70%
Antennas near schools in Charleston, WV generated a composite BRAG™ grade for this state capitol of 70% ranking Charleston the 33rd school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Charleston.

Worst School Cases found in Charleston, WV:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.02 miles (~30 meters); 40 antennas within 0.25 miles (~400 meters); or 93 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this means microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Charleston, West Virginia
BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Charleston, WV (38 schools)

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade-Charleston

Charleston can't BRAG!
Ranked 33rd U.S. state capitol.

The Worst BRAG™ Schools found in Charleston, WV had...
• Closest antenna to a school - 0.02 miles away!
• Antennas within 0.25 miles - 40 antennas!
• Antennas within 0.6 miles - 93 antennas!

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

ATTENTION NEEDED!

The Worst BRAG™ Schools found in Charleston, WV had...

Find your favorite school

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Santa Fe, NM: BRAG™ AMBER
Of the 32 schools in Santa Fe, NM surveyed as part of
the BRAG™ Antenna Ranking of Schools, the majority (66% of
the schools) fell in the 2nd lowest exposure category or BRAG™ amber,
13% were classified as red, 0% as black, and 22% as green.

Santa Fe Overall Grade: 70%
Antennas near schools in Santa Fe, NM generated a composite
BRAG™ grade for this state capitol of 70% ranking Santa Fe the 34th
school district among state capitols based on the proximity and density
of cell phone antennas near schools. See ranking of individual schools in
Santa Fe.

Worst School Cases found in Santa Fe, NM:
The schools with the highest potential microwave exposures
(from external sources) had an antenna within 0.05 miles (~80 meters);
31 antennas within 0.25 miles (~400 meters); or 49 antennas within 0.6
miles (~1 km). The more antennas near schools the higher the potential
exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as
possible and this includes microwaves generated by antennas near school
property but also by wireless technologies inside school buildings. If you
want to improve your school environment see BRAG™ Recommendations for Schools.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Santa Fe, New Mexico
BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on:
- a) the closest antenna to schools,
- b) the number of antennas within 0.25 miles, &
- c) the number of antennas within 0.6 miles.

Santa Fe can't BRAG!
Ranked 34th U.S. state capital.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade—Santa Fe

Santa Fe Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (66%) in Santa Fe, NM are in the 2nd lowest exposure category (BRAG™ amber) and 13% of the schools are in the 2nd highest category (BRAG™ red).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Santa Fe, NM had . . .
- Closest antenna to a school – 0.05 miles away!
- Antennas within 0.25 miles – 31 antennas!
- Antennas within 0.6 miles – 49 antennas!

Find your favorite school

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Bismarck, ND: BRAG™ AMBER
Of the 32 schools in Bismarck, ND surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (47% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 22% were classified as red, 0% as black, and 31% as green.

Bismarck Overall Grade: 70%
Antennas near schools in Bismarck, ND generated a composite BRAG™ grade for this state capital of 70% ranking Bismarck the 35th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Bismarck.

Worst School Cases found in Bismarck, ND:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.05 miles (~80 meters); 16 antennas within 0.25 miles (~400 meters); or 109 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
BRAG™ Antenna Ranking of Schools

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Bismarck, North Dakota

BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Bismarck can't BRAG!

Ranked 35th U.S. state capitol.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with
greater potential for microwave exposure.

Grade - Bismarck

Bismarck Color Code: BRAG™ AMBER

The percentage of schools in each BRAG™ category are
shown on the right. Most of the schools (47%) in
Bismarck, ND are in the 2nd lowest exposure category
(BRAG™ amber) and more than 20% of the schools are in
the 2nd highest category (BRAG™ red).

ATTENTION NEEDED!

The Worst BRAG™ Schools found in Bismarck, ND had . . .

- Closest antenna to a school - 0.05 miles away!
- Antennas within 0.25 miles - 16 antennas!
- Antennas within 0.6 miles - 109 antennas!

Find your favorite school

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.
Most schools in Cheyenne, WY: BRAG™ AMBER
Of the 35 schools in Cheyenne, WY surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (46% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 14% were classified as red, 6% as black, and 34% as green.

Cheyenne Overall Grade: 70%
Antennas near schools in Cheyenne, WY generated a composite BRAG™ grade for this state capitol of 70% ranking Cheyenne the 36th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Cheyenne.

Worst School Cases found in Cheyenne, WY:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 26 antennas within 0.25 miles (~400 meters); or 84 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.
The BRAG™ School Color Code is based on:

- The closest antenna to schools,
- The number of antennas within 0.25 miles, and
- The number of antennas within 0.6 miles.

Cheyenne, Wyoming

**BRAG™ Antenna Ranking of Schools**

**Cheyenne can’t BRAG!**

Ranked 36th U.S. state capitol.

**Composite Grade**

0-100% possible, lower grade means more antennas nearby with greater potential for microwave exposure.

**Grade - Cheyenne**

70%

Cheyenne Color Code: BRAG™ AMBER

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (46%) in Cheyenne, WY are in the 2nd lowest exposure category (BRAG™ amber) and 20% of the schools are in the two highest categories (BRAG™ red & black).

**ATTENTION NEEDED!**

The Worst BRAG™ Schools found in Cheyenne, WY had . . .

- Closest antenna to a school – 0.01 miles away!
- Antennas within 0.25 miles – 26 antennas!
- Antennas within 0.6 miles – 84 antennas!

Find your favorite school
Most schools in Atlanta, GA: BRAG™ AMBER
Of the 440 schools in Atlanta, GA surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (49% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 16% were classified as red, 6% as black, and 29% as green.

Atlanta Overall Grade: 67%
Antennas near schools in Atlanta, GA generated a composite BRAG™ grade for this state capitol of 67%, ranking Atlanta the 37th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Atlanta.

Worst School Cases found in Atlanta, GA:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 207 antennas within 0.25 miles (~400 meters); or 679 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Atlanta, Georgia
BRAG™ Antenna Ranking of Schools

Atlanta can't BRAG!
Ranked 37th U.S. state capitol.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade - Atlanta

Atlanta Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (49%) in Atlanta, GA are in the 2nd lowest exposure category (BRAG™ amber) and more than 20% of the schools are in the two highest categories (BRAG™ red & black).

Attention Needed!
The Worst BRAG™ Schools found in Atlanta, GA had...
- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 207 antennas!
- Antennas within 0.6 miles - 679 antennas!

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Capitol, ST: BRAG™ AMBER
Of the 20 schools in Concord, NH surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (40% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 25% were classified as red, 5% as black, and 30% as green.

Concord Overall Grade: 65%
Antennas near schools in Concord, NH generated a composite BRAG™ grade for this state capitol of 65% ranking Concord the 38th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Concord.

Worst School Cases found in Concord, NH:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.02 miles (~30 meters); 24 antennas within 0.25 miles (~400 meters); or 52 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Concord can't BRAG!
Ranked 38th U.S. state capitol.

Concord, New Hampshire
BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on:
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Concord Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (40%) in Concord, NH are in the 2nd lowest exposure category (BRAG™ amber) and 30% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Concord, NH had . . .
- Closest antenna to a school - 0.02 miles away!
- Antennas within 0.25 miles - 24 antennas!
- Antennas within 0.6 miles - 52 antennas!

Find your favorite school
Most schools in Juneau, AK: BRAG™ AMBER
Of the 18 schools in Juneau, AK surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (50% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 28% were classified as red, 0% as black, and 22% as green.

Juneau Overall Grade: 65%
Antennas near schools in Juneau, AK generated a composite BRAG™ grade for this state capitol of 65% ranking Juneau the 39th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Juneau.

Worst School Cases found in Juneau, AK:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.02 miles (~30 meters); 9 antennas within 0.25 miles (~400 meters); or 21 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
The BRAG™ School Color Code is based on:
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Juneau, Alaska

BRAG™ Antenna Ranking of Schools

The Worst BRAG™ Schools found in Juneau, AK had . . .

- Closest antenna to a school - 0.02 miles away!
- Antennas within 0.25 miles - 9 antennas!
- Antennas within 0.6 miles - 21 antennas!

Juneau can’t BRAG!

Ranked 39th BEST U.S. state capitol.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade - Juneau

Juneau Color Code: BRAG™ AMBER

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (50%) in Juneau, AK are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 30% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!

The Worst BRAG™ Schools found in Juneau, AK had . . .

- Closest antenna to a school - 0.02 miles away!
- Antennas within 0.25 miles - 9 antennas!
- Antennas within 0.6 miles - 21 antennas!

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

Survey by Magda Havas, Ph.D., www.magdahavas.com
Survey by Magda Havas, Ph.D., www.magdahavas.com

Most schools in Providence, RI: BRAG™ AMBER
Of the 73 schools in Providence, RI surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (64% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 11% were classified as red, 7% as black, and 18% as green.

Providence Overall Grade: 64%
Antennas near schools in Providence, RI generated a composite BRAG™ grade for this state capitol of 64% ranking Providence the 40th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Providence.

Worst School Cases found in Providence, RI:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.03 miles (~50 meters); 29 antennas within 0.25 miles (~400 meters); or 120 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.
The BRAG™ School Color Code is based on:
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

The Worst BRAG™ Schools found in Providence, RI had:
- Closest antenna to a school - 0.03 miles away!
- Antennas within 0.25 miles - 29 antennas!
- Antennas within 0.6 miles - 120 antennas!

Providence, RI (73 schools):
- Composite Grade: 64%
- Providence Color Code: BRAG™ AMBER
- The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (64%) in Providence, RI are in the 2nd lowest exposure category (BRAG™ amber) and fewer than 20% of the schools are in the two highest categories (BRAG™ red & black).

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Augusta, ME: BRAG™ AMBER
Of the 32 schools in Augusta, ME surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (38% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 31% were classified as red, 3% as black, and 28% as green.

Augusta Overall Grade: 64%
Antennas near schools in Augusta, ME generated a composite BRAG™ grade for this state capitol of 64% ranking Augusta the 41st school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Augusta.

Worst School Cases found in Augusta, ME:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.04 miles (~60 meters); 22 antennas within 0.25 miles (~400 meters); or 59 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
**BRAG™ Antenna Ranking of Schools**

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

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**Augusta, Maine**

**BRAG™ Antenna Ranking of Schools**

The BRAG™ School Color Code is based on:
- a) the closest antenna to schools,
- b) the number of antennas within 0.25 miles,
- c) the number of antennas within 0.6 miles.

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**AMBER**

*Grade - Augusta*

- **State Capitol Color Code:** AMBER
- **State Capitol Ranking:** 41st U.S. state capitol.
- **Composite Grade: 64%**

*Augusta can't BRAG!*

Find your favorite school

- **22 antennas within 0.25 miles**
- **59 antennas within 0.6 miles**
- **Closest antenna to a school - 0.04 miles away!**
- **Antennas within 0.25 miles - 22 antennas!**
- **Antennas within 0.6 miles - 59 antennas!**

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It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

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Survey by Magda Havas, Ph.D., www.magdahavas.com

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Most schools in Pierre, SD: BRAG™ AMBER
Of the 10 schools in Pierre, SD surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (50% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 30% were classified as red, 0% as black, and 20% as green.

Pierre Overall Grade: 63%
Antennas near schools in Pierre, RI generated a composite BRAG™ grade for this state capitol of 63% ranking Pierre the 42nd school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Pierre.

Worst School Cases found in Pierre, SD:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.1 miles (~160 meters); 12 antennas within 0.25 miles (~400 meters); or 29 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Pierre, South Dakota
BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Pierre can't BRAG!
Ranked 42nd U.S. state capital.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade-Pierre

Pierre Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (50%) in Pierre, SD are in the 2nd lowest exposure category (BRAG™ amber) and 30% of the schools are in the 2nd highest category (BRAG™ red).

AMBER

50%
State Capitol Color Code

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Pierre, SD had . . .
- Closest antenna to a school - 0.1 miles away!
- Antennas within 0.25 miles - 12 antennas!
- Antennas within 0.6 miles - 29 antennas!

Find your favorite school

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Helena, MT: BRAG™ RED
Of the 19 schools in Helena, MT surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (32% of the schools) fell in the 2nd highest exposure category or BRAG™ red, 5% were classified as black, 32% as amber, and 32% as green.

Helena Overall Grade: 63%
Antennas near schools in Helena, MT generated a composite BRAG™ grade for this state capitol of 63% ranking Helena the 43rd school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Helena.

Worst School Cases found in Helena, MT:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0 miles (<15 meters); 28 antennas within 0.25 miles (~400 meters); or 70 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
**BRAG™ Antenna Ranking of Schools**
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

**Helena, Montana**
BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

**Grade-Helena**
Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

**Helena can’t BRAG!**
Ranked 43rd U.S. state capitol.

AMBER
Helena Color Code: BRAG™ RED
The percentage of schools in each BRAG™ category are shown on the right. Almost one third of the schools (32%) in Helena, MT are in the 2nd highest exposure category (BRAG™ red) and another 5% of the schools are in the highest categories (BRAG™ black).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Helena, MT had . . .
- Closest antenna to a school - 0 miles away!
- Antennas within 0.25 miles - 28 antennas!
- Antennas within 0.6 miles - 70 antennas!

**Survey by Magda Havas, Ph.D., www.magdahavas.com**
Most schools in Albany, NY: BRAG™ AMBER
Of the 55 schools in Albany, NY surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (69% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 7% were classified as red, 9% as black, and 15% as green.

Albany Overall Grade: 63%
Antennas near schools in Albany, NY generated a composite BRAG™ grade for this state capitol of 63% ranking Albany the 44th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Albany.

Worst School Cases found in Albany, NY:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 36 antennas within 0.25 miles (~400 meters); or 197 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

**BRAG™ Antenna Ranking of Schools**

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

**Albany, New York**

Ranked 44th U.S. state capitol.

**Composite Grade**

0-100% possible, Lower grade means more antennas nearby with greater potential for microwave exposure.

**Grade - Albany**

63%

**State Capitol Grade**

63%

**State Capitol Color Code**

69%

**AMBER**

Albany Color Code: BRAG™ AMBER

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (69%) in Albany, NY are in the 2nd lowest exposure category (BRAG™ amber) and 16% of the schools are in the two highest categories (BRAG™ red & black).

**ATTENTION NEEDED!**

The Worst BRAG™ Schools found in Albany, NY had...

- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 36 antennas!
- Antennas within 0.6 miles - 197 antennas!

**Worst Cases!**

Find your favorite school

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Harrisburg, PA: **BRAG™ AMBER**

Of the 118 schools in Harrisburg, PA surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (65% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 16% were classified as red, 5% as black, and 14% as green.

Harrisburg Overall Grade: 62%

Antennas near schools in Harrisburg, PA generated a composite BRAG™ grade for this state capitol of 62% ranking Harrisburg the 45th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Harrisburg.

Worst School Cases found in Harrisburg, PA:

The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 107 antennas within 0.25 miles (~400 meters); or 181 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see [BRAG™ Recommendations for Schools](#).

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Survey by Magda Havas, Ph.D., www.magdahavas.com
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Harrisburg can't BRAG!
Ranked 45th U.S. state capitol.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade - Harrisburg

Harrisburg Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (65%) in Harrisburg, PA are in the 2nd lowest exposure category (BRAG™ amber) and more than 20% of the schools are in the two highest categories (BRAG™ red & black).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Harrisburg, PA had...
- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 107 antennas!
- Antennas within 0.6 miles - 181 antennas!

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Montpelier, VT: BRAG™ RED
Of the 15 schools in Montpelier, VT surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (40% of the schools) fell in the 2nd highest exposure category or BRAG™ red, 0% were classified as black, 40% as amber, and 20% as green.

Montpelier Overall Grade: 60%
Antennas near schools in Montpelier, VT generated a composite BRAG™ grade for this state capitol of 60% ranking Montpelier the 46th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Montpelier.

Worst School Cases found in Montpelier, VT:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0 miles (<15 meters); 10 antennas within 0.25 miles (~400 meters); or 34 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
Montpelier can't BRAG!

Montpelier, Vermont
Ranked 46th U.S. state capitol.

Montpelier Color Code: BRAG™ RED
The percentage of schools in each BRAG™ category are shown on the right. Almost one third of the schools (40%) in Montpelier, VT are in the 2nd highest exposure category (BRAG™ red) and only 20% of the schools are in the lowest exposure category (BRAG™ green).

Composite Grade
0-100% possible, Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade - Montpelier

Worst Cases!

The Worst BRAG™ Schools found in Montpelier, VT had...
- Closest antenna to a school - 0 miles away!
- Antennas within 0.25 miles - 10 antennas!
- Antennas within 0.6 miles - 34 antennas!

Montpelier, VT (15 schools)

Montpelier, can't BRAG!

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

The BRAG™ School Color Code is based on
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

ATTENTION NEEDED!

The Worst BRAG™ Schools found in Montpelier, VT had...

Find your favorite school
Most schools in Carson City, NV: BRAG™ AMBER
Of the 12 schools in Carson City, NV surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (50% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 28% were classified as red, 0% as black, and 22% as green.

Carson City Overall Grade: 56%
Antennas near schools in Carson City, NV generated a composite BRAG™ grade for this state capitol of 56% ranking Carson Carson City the 47th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Carson Carson City.

Worst School Cases found in Carson City, NV:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.03 miles (~50 meters); 18 antennas within 0.25 miles (~400 meters); or 55 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
**BRAG™ Antenna Ranking of Schools**

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

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**Carson City, Nevada**

**BRAG™ Antenna Ranking of Schools**

- The BRAG™ School Color Code is based on:
  - a) the closest antenna to schools,
  - b) the number of antennas within 0.25 miles, &
  - c) the number of antennas within 0.6 miles.

---

**Carson City can’t BRAG!**

Ranked 47th U.S. state capitol.

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**Composite Grade**

0-100% possible, Lower grade means more antennas nearby with greater potential for microwave exposure.

**Grade - Carson City**

- 56% Composite Grade

---

**Carson City Color Code:** BRAG™ AMBER

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (50%) in Carson City, NV are in the 2nd lowest exposure category (BRAG™ amber) and just under 30% of the schools are in the second highest category (BRAG™ red).

---

**ATTENTION NEEDED!**

The Worst BRAG™ Schools found in Carson City, NV had . . .

- Closest antenna to a school - 0.03 miles away!
- Antennas within 0.25 miles - 18 antennas!
- Antennas within 0.6 miles - 55 antennas!

---

**Find your favorite school**

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Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Washington, D.C.: BRAG™ AMBER

Of the 448 schools in Washington, D.C. surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (49% of the schools) fell in the second exposure category or BRAG™ amber, 6% were classified as green, 31% as red and 14% as black.

Washington Overall Grade: 49%

Antennas near schools in Washington, D.C. generated a composite BRAG™ grade for this state capitol of 49%, ranking Washington the 49th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Washington.

Worst School Cases found in Washington, D.C.:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0 miles (<15 meters); 149 antennas within 0.25 miles (~400 meters); or 353 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Washington, District of Columbia
BRAG™ Antenna Ranking of Schools

48
State Capitol Ranking

49%
State Capitol Grade

AMBER
State Capitol Color Code

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Washington, D.C. had...
• Closest antenna to a school - 0 miles away!
• Antennas within 0.25 miles - 149 antennas!
• Antennas within 0.6 miles - 353 antennas!

ATTRASTIOMS NECESSARY!
The BRAG™ School Color Code is based on
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Composite Grade
0-100% possible,
Lower grade means more
antennas nearby with
greater potential for
microwave exposure.

Grade - Richmond

Washington can BRAG!
Ranked 48th among U.S. state capitol.

Washington Color Code: BRAG™ AMBER
The percentage of schools in each BRAG™ category are
shown on the right. Most of the schools (49%) in
Washington, D.C. are in the 2nd lowest exposure
category (BRAG™ amber), only 6% are in the lowest exposure
category (BRAG™ green), while 45% of the schools are in
the two highest categories (BRAG™ red & black).

WASHINGTON, D.C. (448 schools)

76%
14%
6%
31%
49%

WASHINGTON, D.C.
149 antennas within 0.25 miles
353 antennas within 0.6 miles

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.
Most schools in Hartford, CT: BRAG™ AMBER
Of the 49 schools in Hartford, CT surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (43% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 14% were classified as black, 29% as red, and 14% as green.

Hartford Overall Grade: 48%
Antennas near schools in Hartford, CT generated a composite BRAG™ grade for this state capitol of 48% ranking Hartford the 48th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Hartford.

Worst School Cases found in Hartford, CT:
The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 122 antennas within 0.25 miles (~400 meters); or 257 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Hartford, Connecticut
BRAG™ Antenna Ranking of Schools

The BRAG™ School Color Code is based on
a) the closest antenna to schools,
b) the number of antennas within 0.25 miles, &
c) the number of antennas within 0.6 miles.

Hartford can't BRAG!
Ranked 49th U.S. state capitol.

Composite Grade
0-100% possible,
Lower grade means more antennas nearby with greater potential for microwave exposure.

Grade-Hartford

Hartford Color Code: BRAG™ Amber
The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (43%) in Hartford, CT are in the 2nd lowest exposure category (BRAG™ amber) and only 14% of the schools are in the lowest category (BRAG™ green), while 43% of the schools are in the two highest exposure categories (BRAG™ red & black).

ATTENTION NEEDED!
The Worst BRAG™ Schools found in Hartford, CT had...
• Closest antenna to a school - 0.01 miles away!
• Antennas within 0.25 miles - 122 antennas!
• Antennas within 0.6 miles - 257 antennas!

Find your favorite school

Survey by Magda Havas, Ph.D., www.magdahavas.com
Survey by Magda Havas, Ph.D., www.magdahavas.com

**Honolulu, Hawaii**

**BRAG™ Antenna Ranking of Schools**

- **Most schools in Honolulu, HI: BRAG™ RED**
  - Of the 121 schools in Honolulu, HI surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (43% of the schools) fell in the 2nd highest exposure category or BRAG™ red, 11% were classified as black, 41% as amber, and 5% as green.

- **Honolulu Overall Grade: 47%**
  - Antennas near schools in Honolulu, HI generated a composite BRAG™ grade for this state capitol of 47% ranking Honolulu the 49th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Honolulu.

- **Worst School Cases found in Honolulu, HI:**
  - The schools with the highest potential microwave exposures (from external sources) had an antenna within 0.01 miles (~15 meters); 17 antennas within 0.25 miles (~400 meters); or 117 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

- **What you can do:**
  - It is important to keep levels of microwave radiation as low as possible and this means microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see **BRAG™ Recommendations for Schools**.
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

**BRAG™ Antenna Ranking of Schools**

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

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**Honolulu, Hawaii**

**BRAG™ Antenna Ranking of Schools**

The **BRAG™ School Color Code** is based on:
- **a)** the closest antenna to schools,
- **b)** the number of antennas within 0.25 miles, &
- **c)** the number of antennas within 0.6 miles.

---

**Honolulu can’t BRAG!**

Ranked **50th** U.S. state capitol.

**Composite Grade**

0-100% possible, Lower grade means more antennas nearby with greater potential for microwave exposure.

**Grade-Honolulu**

**Honolulu Color Code:** **BRAG™ RED**

The percentage of schools in each **BRAG™ category** are shown on the right. Most of the schools (43%) in Honolulu, HI are in the 2nd highest exposure category (BRAG™ red) and only 5% of the schools are in the lowest category (BRAG™ green).

---

**ATTENTION NEEDED!**

The **Worst BRAG™ Schools** found in Honolulu, HI had . . .

- Closest antenna to a school - 0.01 miles away!
- Antennas within 0.25 miles - 101 antennas!
- Antennas within 0.6 miles - 291 antennas!

---

Survey by Magda Havas, Ph.D., www.magdahavas.com
Most schools in Boston, MA: BRAG™ AMBER

Of the 280 schools in Boston, MA surveyed as part of the BRAG™ Antenna Ranking of Schools, the majority (44% of the schools) fell in the 2nd lowest exposure category or BRAG™ amber, 22% were classified as red, 27% as black, and 7% as green.

Boston Overall Grade: 44%

Antennas near schools in Boston, MA generated a composite BRAG™ grade for this state capitol of 44% ranking Boston the 50th school district among state capitols based on the proximity and density of cell phone antennas near schools. See ranking of individual schools in Boston.

Worst School Cases found in Boston, MA:

The schools with the highest potential microwave exposures (from external sources) had an antenna within 0 miles (<15 meters); 304 antennas within 0.25 miles (~400 meters); or 749 antennas within 0.6 miles (~1 km). The more antennas near schools the higher the potential exposure to microwave radiation.

What you can do:

It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property but also by wireless technologies inside school buildings. If you want to improve your school environment see BRAG™ Recommendations for Schools.
It is important to keep levels of microwave radiation as low as possible and this includes microwaves generated by antennas near school property and by wireless technology inside school buildings.

**BRAG™ Antenna Ranking of Schools**

Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

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**51**

State Capitol Ranking

**44%**

State Capitol Grade

**Grade-Boston**

**Boston, Massachusetts**

**AMBER**

State Capitol Color Code

**44%**

**Boston Color Code: BRAG™ AMBER**

The percentage of schools in each BRAG™ category are shown on the right. Most of the schools (44%) in Boston, MA are in the 2nd lowest exposure category (BRAG™ amber) and less than 10% of the schools are in the lowest category (BRAG™ green).

---

**ATTENTION NEEDED!**

The Worst BRAG™ Schools found in Boston, MA had...

- Closest antenna to a school - 0 miles away!
- Antennas within 0.25 miles - 304 antennas!
- Antennas within 0.6 miles - 749 antennas!

---

**Worst Cases!**

**Find your favorite school**

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**Survey by Magda Havas, Ph.D., www.magdahavas.com**
A child miseducated is a child lost. — John F. Kennedy
1. Schools, school districts, all municipalities and states call upon the FCC for a ruling that requires a 1,500 feet setback for any/all wireless infrastructure near schools. This is the distance at which the scientific literature indicates acute symptoms of electrohypersensitivity are not noticeable and background levels of radiation return to normal from most cellular infrastructure. Note this does not apply to WiMax, a high-powered series of antennas being installed across the U.S., for which the return to background level distance is likely to be much greater than 1,500 feet. Symptoms of electrohypersensitivity have been demonstrated at exposures that are a fraction (0.04%) of U.S. exposure guidelines, in part because the guidelines themselves only take into consideration a 30-minute exposure, not chronic exposures. Until guidelines are formally changed to reflect the current science, a policy of “prudent avoidance” would justify setbacks for antenna infrastructures near schools.

2. Radio frequency radiation in school environments be monitored and documented on a regular basis, and especially after antennas are erected nearby or when new wireless technology is introduced into the school environment.

3. If levels of exposure to radiofrequency fields, magnetic fields or dirty electricity exceed the BRAG™ recommendations for these frequencies, that steps be taken to reduce these exposures on school property.

4. Health complaints of electrohypersensitivity reported by students and staff be taken seriously, that they be documented, and that appropriate steps be taken in a timely fashion to address the complaint. This involves education of teachers and nursing staff.

Note: those who want to conduct a BRAG™ antenna search for their school, visit www.magdahavas.com for “how to” instructions.
Part Five

BRAG™ Recommendations for Schools

- Recommendations
- Backgrounder
- Monitoring
- Mitigation

A child miseducated is a child lost.

John F. Kennedy
There are at least three types of electrosmog in school environments. They include extremely low frequency (ELF) magnetic fields; dirty electricity; and radio frequency radiation. All of these operate at different frequencies (or vibrations) as shown by the signatures and characters below.

**Magneta Field**
(magnetic personality, ELF Community)

**Doity Power alias 'Spiky'**
(transient personality, Kilohertz Community)

**Radia Frequency**
(high energy personality, Megahertz Community)
What is electrosmog?

Electrosmog refers to electromagnetic fields (EMF) and radio frequency radiation (RFR) generated by our use of electricity, electronic equipment, and wireless devices. Electrosmog, as it is used here, refers to LOW, INTERMEDIATE or HIGH frequencies within the non-ionizing part of the electromagnetic spectrum.

**LOW** frequency, technically called “extremely low frequency” (ELF), vibrates at or below 300 cycles per second (Hertz abbreviated to Hz) and includes electricity in North America at 60 Hz. Computers, photocopy machines, electric heaters, clock radios all generate ELF electric and magnetic fields. The closer someone stands to these devices the higher their exposure is likely to be. Wiring inside buildings can also generate electromagnetic fields, as can power lines or substations near a school.

**INTERMEDIATE** frequency refers to electromagnetic energy vibrating thousands of times per second. It is sometimes referred to as “dirty electricity” and is generated by electronic devices, transformers, fluorescent lighting, and computers. This energy flows along wires and radiates from them. Dirty electricity can also come into schools from nearby buildings. Filters can reduce dirty electricity on wires.

**HIGH** frequency is called “radio frequency radiation” and, at the top end of this scale are “microwaves” and “radar”. These frequencies oscillate millions and billions of times per second and are generated by our wireless technology including wireless computers and routers, cell phones, cordless phones, wireless smart boards, smart meters, and wireless audio systems. Nearby cell phone antennas, city-wide WiFi, radio and TV antennas, as well as radar can contribute to exposure on school yards and inside school buildings.
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Waves

1 cycle

cycles/second = Hertz (Hz)

Frequencies

HIGH
Radio Frequency (MHz & GHz)

INTERMEDIATE
Dirty Electricity (kHz)

LOW
Electricity (<60 TO 300 Hz)

Effects

Ionization (subatomic)

Thermal (molecular)

Bio-effects (sub-cellular to organism)

Electromagnetic Spectrum

IONIZING

GAMMA RAYS

10^22

X-RAYS

10^18

ULTRAVIOLET

10^14

VISIBLE LIGHT

10^10

INFRARED

10^6

MICROWAVES

10^3

RADAR

10^1

RADIO

10^{-1}

DIRTY ELECTRICITY

1 Hz

ELF (Extremely Low Frequency)

Power Lines

Radio [680 kHz]

Television

Cell Phones

Radar

Survey by Magda Havas, Ph.D., www.magdahavas.com
Where does electrosmog come from?

Electrosmog can be generated within a school by computers, lighting, photocopy machines, cordless phones, wireless computers and WiFi antennas. It can also enter school buildings from nearby power lines, transformers, substations, cell phone antennas, radio and TV antennas, and from radar near airports, near military installations, or weather stations.

Electrosmog

Electromagnetic Fields  Dirty Electricity  Radio Frequency

<table>
<thead>
<tr>
<th>frequency cycles/sec (Hz)</th>
<th>LOW</th>
<th>INTERMEDIATE</th>
<th>HIGH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt; 300 Hertz</td>
<td>thousands Hertz</td>
<td>millions &amp; billions Hertz</td>
</tr>
</tbody>
</table>

| sources inside schools | building wiring | electronic equipment | wireless technology, for example routers, computers, mobile phones, smart boards, antennas, for example cell phone, broadcast, radar, city-wide WiFi |
| sources outside schools | electric equipment | lighting, computers | |
|                         | power lines | nearby factories |
|                         | substations |
|                         | transformers |
What are the health effects of electrosmog?

**Extremely LOW frequency (ELF) electromagnetic fields** have been associated with childhood leukemia at levels at or above 2 milli Gauss (mG) [this is the strength of the magnetic field]. The International Association for Research on Cancer (IARC) classified magnetic fields as a class 2B carcinogen (possibly carcinogenic). These fields have been associated with adult cancers (leukemia, brain tumors, and breast cancer) with occupational exposure at values between 2 and 12 mG. Miscarriages have also been linked to high magnetic field exposure during the first trimester of pregnancy (above 16 mG). For this reason it is important to keep magnetic fields in schools as low as possible and definitely below 2 mG. Refer to scientific references on ELF magnetic fields.

**INTERMEDIATE frequencies, in the form of dirty electricity,** have been linked to higher blood sugar among diabetics, tremors among those with multiple sclerosis, asthma, and a broad range of symptoms collectively called electrohypersensitivity (EHS). Symptoms of EHS include fatigue, chronic pain, mood disorders including depression and/or anxiety, difficulty concentrating and problems with short-term memory (not ideal in a school setting), nausea, dizziness, ringing in the ears, and skin disorders. These frequencies may contribute to attention deficit disorder, more research is needed to test this. Refer to scientific references on dirty electricity.

**HIGH frequencies (radio frequency radiation, microwaves and radar)** produced by wireless technology have been associated with hypersensitivity symptoms mentioned above as well as various types of cancer, especially leukemia for those living near antennas. Use of cell phones and cordless phones has been linked to various tumors of the head (including brain tumors, tumors of the acoustic nerve, eye, and salivary gland). Children are particularly vulnerable. Refer to scientific references on radio frequency radiation.

**NOTE:** The international scientific community has not come to a consensus on the health effects of electromagnetic energy at the frequencies mentioned above. There is controversy about biologically active frequencies and intensities and much remains to be learned about the mechanisms involved. We can wait for the science or we can invoke the “Precautionary Approach” and act now to promote cost-effective measures to reduce exposure and potential damage to the health of our children. Better safe than sorry! See BRAG™ Recommendations.
Part Five

BRAG™ Recommendations for Schools

✓ Recommendations
✓ Backgrounder
✓ Monitoring
✓ Mitigation

Eleanor Roosevelt: All of life is a constant education.

Survey by Magda Havas, Ph.D., www.magdahavas.com
Measuring Electrosmog

The only way to determine if electrosmog is present in your school is to measure it. Ideally this should be done by professionals trained in this area. However, since electrosmog is not recognized as an environmental pollutant there are few agencies that conduct these tests as part of their environmental assessment. In the meantime some of the testing can be done in-house with equipment that is not too expensive. For those schools or school boards that are willing to set aside funding to cover testing equipment, this is what I would recommend.

How do we know if Magneta Field* is in our school?

Extremely Low Frequency (ELF) magnetic fields can be measured with a trifield meter. This is moderately good for magnetic fields but not for electric fields or for microwave radiation. Levels should be below 2 milliGauss (mG) and preferably below 1 mG in schools. Important to measure at each desk (at floor, seat, and head) for students and staff. Measure near electrical panels, computers, photocopy machines, and other electric equipment. Identify magnetic “hot spots” and make certain that people don’t spend time near these areas. Remember that the magnetic field can come from electrical equipment/appliances, electrical wiring, and from external sources including power lines, substations, and transformers. The closer you move toward the source the higher the readings will be. Distance can make a difference in exposure to magnetic fields.

Trifield meters are made in the US by AlphaLab Inc. I recommend the EX100 Version. Cost under $150. More expensive and more accurate meters (for example GigaHertz Solutions ME3851A) are available at www.lessemf.com.

Disclaimer: The author of this report does not receive any financial benefits related to the sale of any of the products mentioned in this document. They are provided here for those who want to start monitoring. Other products are available at the websites mentioned and at other sites.

*Magneta Field is the BRAG™ character for magnetic field.
INTERMEDIATE frequencies or dirty electricity on wires can be measured with a microsurge meter. You plug this meter into an electrical outlet and it will provide information on the amount of dirty electricity on the wires measured in GS units. These units are frequency and intensity dependent and measure the “energy” associated with high frequency microsurges or spikes on wiring from 4 to 150 kHz. For more information about dirty electricity visit www.electricalpollution.com.

Ideally the values should be less than 40 GS units but many schools will have values in the 100s and some will have readings above 1,000. A study in California showed that teachers had a higher risk of cancer if they ever taught in a room where the readings were above, 2000 GS units (see Milham and Morgan 2009). It is important to test outlets in classrooms and offices where people spend hours each day.

If your school has dirty electricity, the levels can be reduced with special power surge filters. Some work at kHz frequencies (GS filter) and some at MHz frequencies (Belkin). Using both of these surge suppressors provides an inexpensive insurance policy against dirty electricity and also protects sensitive computer equipment. KHz frequencies are easy to measure with a GS meter, however, MHz frequencies are more difficult to measure and require expensive monitoring equipment (scope meter).

The microsurge meter and GS GS filters are produced by Stetzer Electric in Blair, Wisconsin and are available at www.stetzerelectric.com. Belkin surge suppressors can be purchased at hardware stores.

*Doity Power is the BRAG™ character for dirty electricity.
HIGH frequencies (radio frequency radiation, microwaves and radar) from wireless technology can be measured using a variety of meters that vary in price, accuracy, and frequency range.

The Electrosmog Detector is an inexpensive (~$100) and useful meter that detects frequencies from 50 MHz to 3000 MHz. This includes cell phone frequencies, DECT cordless phone frequencies, WiFi and even microwave ovens. All of these sources emit microwave frequencies and the detector provides an audio output that relates to the type and intensity of exposure. See www.safelivingtechnologies.ca for examples. The closer the source and the higher the intensity of radio frequency radiation, the louder the sound emitted by this meter. This meter is ideal for detecting exposure and locating the source. However, it does not provide an actual reading of power density.

Accurate meters that measure a broad range of frequencies are expensive (hundreds to thousands of dollars). For a list of recommended meters visit www.microwavenews.com (EMF/EMR meters), www.lessemf.com and www.emfsafetystore.com.

*Radia Frequency is the BRAG™ character for radio frequency radiation including microwave radiation.
Never doubt that a small group of thoughtful, committed people can change the world. Indeed, it is the only thing that ever has.

Margaret Mead
Ideally magnetic fields should be less than 1 milliGauss (mG). Levels of 2 to 4 mG have been associated with childhood leukemia. Levels of 2 to 12 mG have been associated with breast cancer as well as adult leukemia and brain tumors. Levels of 16 mG have been associated with increased risk of miscarriages (Havas 2000). Magnetic fields have been classified by the National Institute of Environmental Health Sciences as a Class 2b Carcinogen, "possibly carcinogenic".

**What to do . . .**

- If the magnetic field is coming from **electric/electronic sources** (computers, photocopy machine, etc.), move the equipment further away from where students and staff work. Even a few feet can make a big difference. This is particularly important at computer work stations. Aim to have levels of magnetic fields less than 1 milliGauss, if possible.

- If the magnetic field is coming from **wiring inside the wall or under the floor**, move desks far enough away to reduce the magnetic field to less than 1 mG, if possible.

- In some cases, faulty wiring can lead to high magnetic fields and this requires rewiring.

- If the magnetic field is coming from **power lines, transformers, or substations** outside the school, little can be done to reduce exposure within the school without expensive shielding. High voltage power lines should not be built near schools.
Little research has been done on the biological effects of dirty electricity. What research exists shows that dirty electricity exacerbates symptoms of asthma among school children, diabetes, multiple sclerosis, and symptoms of electrohypersensitivity that include difficulty concentrating, poor short-term memory, dizziness, nausea, depression, anxiety, fatigue, pain, skin problems, ringing in the ears, etc. It may be related to ADD/ADHD and possibly to autism, although much of the evidence is anecdotal. A scientific study that involved reducing dirty electricity in three Minnesota schools documented improvements in the health, mood and energy of teachers and the behavior of students. Teachers in classrooms with high levels of dirty electricity (>2000 GS units) have a greater risk of developing cancer according to a study in a California school.

**What to do . . .**

- Until electronic equipment is manufactured without producing dirty power, filters are necessary to keep the levels of dirty electricity as low as possible.

- Ideally dirty electricity should be less than 40 GS units on a microsurge meter. If levels within a classroom are higher, they can be reduced with appropriate filters/capacitors that plug into an electrical outlet.

- A school needs 2 GS filters for each computer, photocopy machine, television set. If fluorescent lighting is used, additional filters may be required (see information about filters on page 158).
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

BRAG™ Recommendations for Schools

How to minimize Radio Frequency Radiation and establish good electromagnetic hygiene.

Radio frequency and microwave radiation at levels below existing federal guidelines have been shown to have adverse biological and health effects. Studies report increased incidence of cancers and symptoms of electrohypersensitivity near cell phone antennas, often within 300 and 400 meters (~0.25 miles) and at levels that are less than 0.1% of existing guidelines (see references in Part Six). Symptoms include fatigue, sleep disturbances, headaches, depression, difficulty concentrating, memory loss, visual and hearing disruptions, irritability, cardiovascular problems, skin problems, and dizziness. Symptoms such as these would be counterproductive to learning in a school setting. If staff or students experience these symptoms, the school should be monitored for electrosmog, for chemical exposure, and for mold. It is highly recommended that schools classified as BRAG™ red or black be monitored for radio frequency radiation. If levels in classrooms exceed 0.1 microW/cm², steps need to be taken to reduce exposure.

What to do . . .

- Replace wireless technology (cordless phones, wireless routers, wireless headsets) with wired technology within the school building. Fiber optic technology is faster, more secure than wireless routers and it does not emit microwave radiation.
- Do not permit cell phone, broadcast, or radar antennas near schools. Cell phone antennas should be at least 1,500 feet away, and broadcast and radar antennas, depending on their strength, should be at least 2 miles away from schools.
- If antennas are near school property and radiation levels within the school are above 0.1 microWatts/cm², then special film can be placed on windows to reflect the radiation and special paint can be put on walls and ceilings to keep the levels as low as possible.
- It is important NOT to renew licenses of antennas near schools once they expire.
Part Six
Sources & Links

- Web Sites . . .
- Scientific Reports . . .
- School Links . . .
- References . . .
  - Magnetic Fields
  - Dirty Electricity
  - Radio Frequency Radiation
- Facebook: Radiation FreeSchools

Barack Obama
We are the change that we seek.
Web Sites on Electrosmog and ElectroSensitivity

www.antennafreeunion.org
www.bevolution.dk
www.bioInitiative.org
www.buergerwelle.de/cms/content/view/57/70
www.cloutnow.org
www.electricalpollution.com
www.electromagnetichealth.org
www.emfacts.com
www.emrnetwork.org
www.emrpolicy.org
www.emwatch.com
www.es-uk.info
www.expelcelltowers.org
www.feb.se/index_int.htm

www.hese-project.org/hese-uk/en/main/index.php
www.icnirp.de/activities.htm
www.magdahavas.com
www.mast-victims.org
www.mastsanity.org
www.microwavenews.com
www.powerwatch.org.uk
www.publichealthSOS.com
www.radiationresearch.org
www.wave-guide.org/index.html
www.weepinitiative.org
www.wifiinschools.org.uk
www.wiredchild.org
BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols

Scientific Reports & Abstracts  EMF Health-Effects Research

cell-phone-dangers.com/research/cellPhonePrecautionPittsburgh.html
www.BioInitiative.org
www.chrc-ccdp.ca/research_program_recherche/esensitivities_hypersensibilittee/toc_tdm-en.asp
electricwords.emfacts.com
www.feb.se/emfguru/CellPhone/probable-health/Probable-health.htm
www.iaff.org/hs/Facts/CellTowerFinal.asp
www.iegmp.org.uk
www.icems.eu
www.niehs.nih.gov/health/topics/agents/emf
www.psrast.org/mobileng/mobilstarteng.htm
www.who.int/peh-emf/en
www.wifiinschools.org.uk/6.html
School Links  

Cell Towers and WiFi

- Greenwich Delegation introduces Legislation on Cell Towers next to Schools or Daycares, Feb 10, 2010. [repfloren.com/?p=163](repfloren.com/?p=163)

- Wi-Fi in the Classroom: Health advice to schools [www.scribd.com/doc/24004604/Wi-Fi-in-the-Classroom-Health-Advice-to-Schools](www.scribd.com/doc/24004604/Wi-Fi-in-the-Classroom-Health-Advice-to-Schools)


- [www.expelcelltowers.org](www.expelcelltowers.org)  
- [www.wiredchild.org](www.wiredchild.org)

- [www.wifiinschools.org.uk](www.wifiinschools.org.uk)  
- [www.feb.se/Bridlewood/index.html](www.feb.se/Bridlewood/index.html)

References

Health Effects of Magnetic Fields


References


BRAG™ Antenna Ranking of Schools
Survey of schools exposed to radio frequency radiation from neighborhood antennas in U.S. State Capitols
References

Health Effects of Dirty Electricity


References


This is just the beginning . . .

visit facebook Campaign for Radiation FreeSchools (http://sn.im/veri4)

For more information read: Public Health SOS (www.amazon.com)