IMLA ANNUAL MEETING MUNICIPAL LED BROADBAND UPDATE FALL 2022

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With

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THE MAJOR UPDATE IN 2022?

WE GOT MONEY!!
BILLIONS OF $$
FOR BROADBAND

BEST SHORT SUMMARY OF BB FUNDING

AS OF JUNE 2022

SLIDES FROM COMMON SENSE MEDIA

https://www.commonsensemedia.org/sites/default/files/featured-content/files/federal_broadband_funding_guide.pdf

Federal Broadband Funding Opportunities

https://www.commonsensemedia.org/sites/default/files/featured-content/files/federal_broadband_funding_guide.pdf

by common sense

Uses Key

Deployment	Construction and improvement of infrastructure
Devices	Provision of computers and tablets
Affordability	Cost support programs, provision of free/reduced cost connectivity
Inclusion	Digital literacy training, digital skills training, tech support

	Program Name	Agency	Type	Amount	Recipients	Timeline	Uses	Resources
Infrastructure Investment and Jobs Act (IIJA) Signed into law November 15, 2021. $1.2 trillion total	**Broadband Equity, Access, and Deployment Program (BEAD)**	NTIA	Formula allocation	$42,450,000,000	Block grants to states (or administering agency selected by governor), territories, and tribes. Funds may be subgranted.	NOFO likely by end of May 2022. Initial planning funds available after NOFO; remainder likely available in 2023 and after FCC releases new maps.	☑ Deployment ☑ Devices ☑ Affordability ☑ Inclusion	Benton Analysis K&H Analysis MDU Uses NCTA FBA Playbook ACAC/NCTA Tracker
	Block grants to states; each will get at least $100 million (most get much more). Eligible uses include: deploying infrastructure to un/underserved areas and anchor institutions; providing affordable devices; installing/providing wifi for multifamily residential buildings; mapping and planning; and other projects determined by NTIA. Deployment must: first prioritize areas where 80% residents lack 25/3, then areas where 80% lack 100/20, then anchor institutions; offer 100/20 speeds; provide a low-cost option; and not exclude municipal and cooperative providers. Subgrants should use 25% matching funds, but in-kind or CARES/ARPA funds are acceptable. States can initially access $5 million for planning and coordination with local stakeholders.							
	State Digital Equity Capacity Grant Program	NTIA	Formula allocation	$1,500,000,000	Block grants to states (or administering agency selected by governor), territories, and tribes. Funds may be subgranted.	$60m for planning available in FY2022. $1.4 b available between FY 2022-2026. States have 5 years to spend awards.	☑ Deployment ☑ Devices ☑ Affordability ☑ Inclusion	Benton Analysis NDIA Webinar Telecompetitor
	This program consists of two subprograms: one $60 million program to support the development of state digital equity plans, and a second $1.4 billion program to fund the implementation of those plans. To be eligible for the second program, a state must have its digital equity plan be approved by the NTIA. These plans must include: measurable objectives for promoting internet adoption in vulnerable populations; assessments of plan's impact on state goals for the economy, workforce, education, health, and civil society; and identification of and collaboration with stakeholders.							
	Digital Equity Competitive Grant Program	NTIA	Competitive grant	$1,250,000,000	Public entities, private companies, nonprofits, and cooperatives. State entities that receive State Digital Equity Capacity grants are ineligible.	$250m available per year FY 2022-2026. Awardees will submit annual evaluation reports. Grants must be spent within four years.	☑ Deployment ☑ Devices ☑ Affordability ☑ Inclusion	Benton Analysis NDIA Webinar Telecompetitor
	Public and private entities (except for those state agencies that receive allocations from the above program) may apply to the NTIA for grants from this program. Eligible uses include: digital inclusion activities; digital navigators; workforce training programs; low-cost devices; and deployment of public broadband. NTIA will prioritize projects that: expand access and adoption among vulnerable populations; represent geographically diverse regions; and do not duplicate other programs. Awardees must submit regular program evaluations to NTIA.							
	Middle Mile Broadband Infrastructure Grant Program (MMBI)	NTIA	Competitive grant	$1,000,000,000	State/local governments, tribes, private companies, public utilities, nonprofits, cooperatives, consortia.	NOFO likely by end of May 2022. Funds available until Sep. 30, 2026	☑ Deployment ☐ Devices ☐ Affordability ☐ Inclusion	Benton Analysis K&H Analysis
	Funds middle mile projects that reduce the cost of connecting un/underserved areas and/or promote resiliency by creating redundant network connections. Priority is given to projects that: adopt fiscally sustainable strategies; offer non-discriminatory interconnection to last-mile providers; collaborate with partners that will provide financially sustainable last-mile service; utilize other forms of support (e.g. waived permitting fees); and benefit national security and the DoD.							
	Affordable Connectivity Program (ACP)	FCC	Consumer subsidy	$14,200,000,000	Consumers and participating ISPs. Devices must be purchased through ISPs (note: some ISPs do not offer devices).	Transition from EBB to ACP on Dec 31, 2021. ACP lasts until funds exhausted.	☐ Deployment ☑ Devices ☑ Affordability ☐ Inclusion	Benton Analysis Common Sense Page Telecompetitor
	This is an extension and modification of Emergency Broadband Benefit (EBB) program. It makes the EBB permanent, decreases the benefit amount from $50/mo to $30/mo, and changes some eligibility criteria. Participating ISPs must: promote the benefit; allow the benefit to be applied to any service offering; notify subscribers of the transition; and implement new consumer protections.							
	Continuation and Modification of Emergency Broadband Benefit (CCA21)							
	Tribal Broadband Connectivity Funding	NTIA	Competitive grant	$2,000,000,000	Tribal governments, organizations, and universities	Not currently accepting applications. First awards made in Nov. 2021, and remainer expected by Spring 2022.	☑ Deployment ☑ Devices ☑ Affordability ☑ Inclusion	Benton Analysis Original NOFO NTIA Page
	Adds funds to the Tribal Broadband Connectivity program and modifies the program's rules to relax the original emergency timeline. The additional funding may be used for projects that were not funded in the first round of awards and to potentially open another window for applications. The program's rules are modified to allow: 18 months to commit funds (rather than the original 6 months); 4 years to expend funds (rather than the original 1 year); and additional spending on planning and feasibility studies. NTIA can extend deadlines if necessary.							
	Continuation of Tribal Broadband Connectivity Program (CAA21)							

American Rescue Plan Act (ARPA)
Signed into law March 11, 2021.
$1.9 trillion total

Coronavirus Capital Projects Fund	Treasury	Formula allocation	$10,000,000,000	Block grants to states (or administering agency selected by governor), territories, and tribes. Funds may be subgranted.	Request funding from Sep. 24 – Dec. 27, 2021 (Tribes Oct. 1 – June 1, 2022). Submit grant plan by Sept. 24, 2022. Funds must be expended by Dec. 31, 2026.	✓ Deployment ✓ Devices ✓ Affordability ✓ Inclusion	Treasury Overview State Allocations Treasury Rules NDIA Analysis Benton Analysis Pots and Pans
Block grants to states; each state will get at least $100 million. Eligible uses include: deploying infrastructure to areas that lack reliable wireline speeds of 100/20 and/or where service is unaffordable for a majority of residents; fostering adoption with low/no-cost devices, free wi-fi, digital literacy training, and tech support; and building or improving community anchor institutions to enable public internet access. Deployment projects should: offer a low-cost option; accept ACP/Lifeline; deliver 100/100 where possible; and prioritize last mile connections. Treasury encourages use of public, nonprofit, and cooperative networks. No matching requirements.							
Coronavirus State and Local Fiscal Recovery Fund (SLFRF)	Treasury	Formula allocation	$350,000,000,000	Block grants to states, territories, tribes, metropolitan cities, and counties. Funds may be subgranted.	Treasury is accepting submissions. Funds should be incurred by Dec. 31, 2024. Projects should be completed by Dec. 31, 2026.	✓ Deployment ✓ Devices ✓ Affordability ✓ Inclusion	Treasury Overview Treasury Rules NCSL Tracker Pots and Pans ILSR Projects List ILSR Analysis
Block grants to state/county/city governments for general COVID-19 relief, but recipients may use funds on broadband infrastructure, digital literacy training, and other programs that promote access to the internet. Projects should: prioritize areas with an identified need for additional broadband infrastructure investment (note: there is no specific speed requirement); prioritize last mile connections; deliver speeds of 100/100 and use fiber technology wherever feasible; offer low-cost service options; and encourage public, nonprofit, and cooperative service providers. RDOF and other grant areas are eligible for funding.							
Emergency Connectivity Fund (ECF)	FCC	Competitive grant	$7,170,000,000	Schools, libraries, consortia that qualify for E-Rate and/or the Libraries Services and Technology Act.	The first two application windows have closed. A third window may be announced for the remaining ~$1 billion.	✓ Deployment* ✓ Devices ✓ Affordability ☐ Inclusion	FCC Overview Common Sense Page Misconceptions Approved Grants
Intended to support remote education. Eligible schools and libraries apply to be reimbursed for costs associated with providing devices, hotspots, and internet service (including service to student homes) between July 1, 2021 and June 30, 2022 (future funding rounds may expand this window). *Spending on infrastructure is allowed only where infrastructure not otherwise available.							
Homeowner Assistance Fund (HAF)	Treasury	Formula allocation	$9,900,000,000	States, territories, and Tribes.	The application windows have closed.	☐ Deployment ☐ Devices ✓ Affordability ☐ Inclusion	Treasury Overview Treasury Guidane
Intended to help mid- and low-income homeowners who have experienced financial hardship after January 21, 2020. Each state receives a formula-determined allocation and may use it to help homeowners with eligible expenses. May be used to help homeowners pay for internet service.							
Elementary & Secondary School Emergency Relief (ESSER III)	OESE	Title I formula	$122,700,000,000	State educational agencies (SEAs) and then subgrants to local educational agencies (LEAs).	All funds awarded as of Sept. 30, 2021. Funds must be obligated by Sept. 30, 2022.	☐ Deployment ✓ Devices ✓ Affordability ☐ Inclusion	OESE Overview
Intended to help educational agencies and school districts operate safely and address the impact of the pandemic. Funding distributed to state educational agencies (SEAs) via formula, and SEAs provide subgrants to local educational agencies (LEAs). Funds may be used on hardware, software, and connectivity for students.							

Consolidated Appropriations Act 2021 (CAA21)
Signed into law December 27, 2020.
$2.3 trillion total

Emergency Broadband Benefit Program (EBB)	FCC	Consumer subsidy	$3,200,000,000	Participating ISPs. Devices must be purchased through ISPs (note: some ISPs do not offer devices).	Enrollment began May 2021. Program was transitioned into the Affordable Connectivity Program on Dec. 31, 2021.	☐ Deployment ☑ Devices ☑ Affordability ☐ Inclusion	FCC Overview NDIA Explainer Common Sense Page Provider Finder
Provides eligible low-income households with a monthly benefit up to $50 for broadband service ($75 on Tribal lands) and a one-time benefit of $100 for purchase of a device (if the recipient also contributes $10–$50). Households eligible if they: fall below 135% of federal poverty level; receive certain federal assistance (Lifeline, Medicaid, SNAP, free/reduced-price lunch, Pell Grant, certain Tribal programs, etc), or participate in an ISP's low-income program.							
Broadband Infrastructure Grant Program	NTIA	Competitive grant	$288,000,000	Partnerships between governments and fixed broadband providers, including public, nonprofit, and cooperative providers.	Not currently accepting applications. Awards pending.	☑ Deployment ☐ Devices ☐ Affordability ☐ Inclusion	NTIA Overview NTIA Guidance Benton Analysis
Grants for broadband infrastructure in predominantly rural areas with less than 25/3 and in which no entity is receiving federal or state funding to build infrastructure.							
Tribal Broadband Connectivity Program	NTIA	Competitive grant	$1,000,000,000	Tribal governments, organizations, and universities	Not currently accepting applications. First awards made in Nov. 2021 and remainder expected by Spring 2022.	☑ Deployment ☑ Devices ☑ Affordability ☑ Inclusion	NTIA Overview Benton Analysis Original NOFO
Funding is flexible and can be used for deployment (last mile and middle mile), affordability, adoption, distance learning, telehealth, and digital inclusion on tribal lands. Grants may be up to $50m for infrastructure and up to $2.5m for affordability and inclusion. Matching funds not required.							
Connecting Minority Communities Pilot Program (CMC)	NTIA	Competitive grant	$285,000,000	Historically Black Colleges and Universities (HBCU), Tribal Colleges Universities (TCU), Minority Serving Insts. (MSI), consortia.	Not currently accepting applications. Awards pending.	☐ Deployment ☑ Devices ☑ Affordability ☑ Inclusion	NTIA Overview NTIA Rule Benton Analysis Entity Definitions Funding Requests
Funds internet services, equipment, and IT personnel for minority-serving institutions, their students, and surrounding communities. Also funds daily operations for minority businesses and nonprofits.							
Governors Emergency Education Relief Fund (GEER II and EANS)	OESE	Formula allocation	$4,053,060,000	State governors. Funds may be subgranted to LEAs, IHEs, and/or education-related entities.	Governor must have awarded funds by Jan. 2022. Funds must be obligated by Sept. 30, 2023.	☐ Deployment ☑ Devices ☑ Affordability ☑ Inclusion	OESE Overview
Additional funding for the GEER program, which was started in the CARES Act to assist public schools, and for a new Emergency Assistance to Non-Public School (EANS) program. Funds are flexible but should be used to assist with COVID response, such as on technology infrastructure and professional development that will improve capacity to provide high quality, accessible, distance education, or remote learning.							

Other Broadband Programs

ReConnect Grant Program	RUS	Competitive grant	$1,150,000,000	Private companies, cooperatives, nonprofits, state and local governments, tribes, territories	Accepting applications until Feb. 2, 2022.	☑ Deployment ☐ Devices ☐ Affordability ☐ Inclusion	USDA Overview Benton Analysis
Eligible projects must serve areas that lack speeds of 100/20 (was previously 10/1) and provide service of 100/100 to ever location in its service area. Projects will be prioritized if they: target low-density and/or low-income rural areas that lack speeds of 25/3; offer low-cost service options; agree to strong labor standards; are submitted by a local or tribal government, nonprofit, or cooperative. ReConnect offers multiple types of awards, including 100% funded grants, 75% grants, loan/grant combinations, and loans. RDOF and other grant areas are eligible for funding.							
Good Jobs Challenge	EDA	Competitive grant	$500,000,000	State, local, and tribal governments, nonprofits, and educational institutions.	Accepting applications until Feb. 10, 2022.	☐ Deployment ☐ Devices ☐ Connectivity ☑ Adoption	EDA Overview NOFO
Grants for projects that bring together employers and workforce trainers to develop and implement programs that train workers in the digital skills that lead to good-paying jobs. EDA prioritizes projects that reach historically underserved populations.							
Lifeline	FCC	Consumer subsidy	N/A	Consumers and participating ISPs.	Eligible consumers may apply by contacting their ISP.	☐ Deployment ☑ Devices ☑ Affordability ☐ Inclusion	FCC Overview USAC Overview Companies Near Me Eligibility Criteria
Monthly subsidy to help low-income consumers afford telephone and broadband bills. Provides $5.25/mo for telephone or $9.25 /mo for broadband (and up to $34.25 for those living on Tribal lands). Only one benefit allowed per household. Program funded by the USF.							

MORE CURRENT ISSUES

- **MAPS Holding Up Funding – FCC and NTIA working to improve BB availability maps previously relying solely upon Monopoly ISP Industry Data. See Map vetting process: "bdc-bulk-fabric-challenge-data-specifications.pdf"** https://us-fcc.app.box.com/v/bdc-bulk-fabric-challenge-spec Look for updates here: https://www.fcc.gov/BroadbandData/resources and https://www.fiercetelecom.com/telecom/**ntia-wont-have-broadband-map-it-needs-until-2023**
- **LABOR AND MATERIAL Supplies also a Problem**
- **State Legislation Restricting Muni Access to Federal Funds**

NOW BACK TO BASICS

- WHAT IS BROADBAND?
- WHY DO WE NEED BROADBAND?
- HISTORICAL ISSUES
- RFR CONCERNS
- ETC.

INTERNET ACCESS
Where We Are

- 150+ year old Copper Wire Transmission System



- Little Global Difference Between DSL and Cable when compared to Fiber

Where Everyone Else is that Matters



- Like Korea, Japan, France, Germany and all of our other major economic competitors

Municipal BB Introduction

- Setting the stage for Jim Baller's Municipal Broadband "Business Strategies and Legal Guide", my presentation will focus on:
  - Where we are and where we have been Re Internet Access Globally and as a nation
  - The Need for Hi-Speed Internet Access –The Information Super Hwy – To Compete with our Global Competitors
  - What Municipal Broadband Is Today: "Community Led BB"
  - National Examples
  - Review of Some Michigan projects (Sebewaing, Marshall, Holland, Traverse City, Lyndon Twp, Midwest Coop)
  - Some of the legal, political and regulatory hurdles to overcome in building your own
  - A couple thoughts re Best Practices
  - For an introductory Technical Review of various platforms, means and methods of actual connectivity – See MERIT's **Exploring the Basics of Broadband Webinar** offered by Chris Mitchell and delivered May 5, 2020

THE PANDEMIC LED US TO THE FUTURE AND THE FUTURE IS A VIRTUAL WORLD

- Communication – With Everyone
- Home
- Work
- School
- Medicine
- Research
- Even Travel
- Are Your Residents Ready?
- As many as 48 Million Americans have No Internet Access
  - https://broadbandnow.com/research/q1-broadband-report-2020

EFFECT OF COVID-19 ON US INTERNET TRAFFIC

AKAMAI APRIL 29, 2020

- Remote Work/Education/play in March - Internet traffic up 33%
- Patterns vary by State and even City based on Emergency Declarations
- Weekend use has leveled out with weekdays

https://blogs.akamai.com/sitr/2020/04/parts-of-a-whole-effect-of-covid-19-on-us-internet-traffic.html

EFFECT OF COVID-19 ON US CYBER SECURITY

- **1st - Stressed employees** are distracted and more likely to fall into malicious phishing emails or click on a "news" story that takes them to a malicious web page.
- **2nd Remote Access Home and Mobile = "target-rich environment"**
- Securing endpoint devices becomes a significantly bigger challenge
- Hackers using "off the shelf" malware kits - **Thousands** of new sites registered daily for phishing attacks, distributing malware, ransomware or for financial fraud - tricking users into paying for fake cures, supplements, or vaccines.
- Phishing attacks taking advantage of the health crisis. Phishing URLs include terms *corona*, *coronavirus*, or *World Health Organization (WHO)*.
- https://www.zdnet.com/article/thousands-of-covid-19-scam-and-malware-sites-are-being-created-on-a-daily-basis/
- https://www.akamai.com/

CRITICAL REFERENCES

- **First and Last Place to check on Security issues:**
- **Dept. of Homeland Security's Cybersecurity & Infrastructure Security Agency (CISA)** https://www.cisa.gov/
- **Recent CISA Programs:**
- https://www.cisa.gov/cyber-essentials
- https://staysafeonline.org/
- https://www.nextgov.com/cybersecurity/2020/01/pentagon-announces-final-version-cyber-standards-contractors/162807/
- **$1 Billion Dollar Local Cyber Security Grant** (SLCGP) Announced 9/16/22 by Department of Homeland Security (DHS), through the Cybersecurity and Infrastructure Security Agency (CISA) designed to help underfunded local, state and territorial stakeholders across the country understand the severity of their unique local cyber threats including ransomware, and cultivate partnerships to reduce related risks.
- **https://www.cisa.gov/cybergrants**

Thank you to Gerry Lederer and Telecommunity for portions of this summary

KITCH
Attorneys & Counselors

MORE CISA PROGRAMS

- **"More than a Password Program June 2022**
  https://www.cisa.gov/news/2022/06/06/CISA-Launches-Morethanapassword

- **CISA Guidance** https://www.cisa.gov/ransomware

- **White House 6/2/2021 Ransomware Memo: What To do:**
  Fact Sheet: https://www.whitehouse.gov/briefing-room/statements-releases/2021/05/12/fact-sheet-president-signs-executive-order-charting-new-course-to-improve-the-nations-cybersecurity-and-protect-federal-government-networks/

- **Why are these programs important? See:**
  Ransomware: 2021 Colonial Pipeline: US fuel firm resumes service after cyber-attack
  https://news.yahoo.com/colonial-pipeline-us-petrol-prices-180345524.html

CRITICAL REFERENCES CONT'D

- **FCC Publishes Pandemic Scam List/Website**
  https://www.fcc.gov/covid-scams

- **From the "It Can happen to Anybody Department" - U.S. Health Agency Suffers Cyber-Attack During Covid-19 Outbreak**
  https://www.bloomberg.com/news/articles/2020-03-16/u-s-health-agency-suffers-cyber-attack-during-covid-19-response

ISP'S SAY WE ARE FINE – INDEPENDENT RESEARCH SAYS OTHERWISE

- **US's digital divide 'is going to kill people' as Covid-19 exposes inequalities**
  - https://www.theguardian.com/world/2020/apr/13/coronavirus-covid-19-exposes-cracks-us-digital-divide
- **The coronavirus pandemic is breaking the internet**
  - https://thehill.com/opinion/technology/495806-the-coronavirus-pandemic-is-breaking-the-internet-and-what-to-do-about-it?utm_source=sendgrid&utm_medium=email&utm_campaign=Newsletters&mc_cid=11102b986e&mc_eid=771aa08db7
  - Study by M-Lab
    - And What is M-Lab? https://www.measurementlab.net/faq/

HOW GOOD CAN MUNI-BROADBAND GET?

CHATTANOOGA TENNESSEE EPB

- City Built and Operated Broadband
- 100% Fiber
- Speeds up to 10 GIG are here.
- **300 Mbps @ $57.99**/mo.
- **1 GIG $67.99**
- Free Installation
- No Hidden Fees – No Contracts
- No Data Caps
- Internet Access – By the People-For the People
  - https://epb.com/themes/epb-one/assets/cmpgn/internet-resi/internet-061319.html?gclid=CjwKCAjw1v_0BRAkEiwALFkj5iQP8-zNpamP8i1vfevb995OhwHgjjeOoDP_Piy66VCdNsWM55DvIhoCsQ0QAvD_BwE

AKAMAI APRIL 2020 STATE OF THE INTERNET

- Internet use up 30% due to Pandemic
- Security Attacks increase significantly
- US Adoption Rate 45%
- ----------
  - Why so low? **Cost** and performance
  - FCC BB = 25Mbps Down and 2Mbps Up
    - Near Dial Up compared to our global competitors

World Bank Report

- "Broadband is a … technology that significantly affects how people live and work. **It is a key driver of economic growth and national competitiveness** …Countries in the top tier of broadband penetration have exhibited **2 percent higher GDP growth than countries in the bottom tier**."‖(Citing Federal Communications Commission, Industry Analysis and Technology Division Wireline Competition Bureau, High-Speed Services for Internet Access: *Status as of June 30, 2008* (July 2009); available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-292191A1.pdf.
- World Bank 2010 Report at: http://siteresources.worldbank.org/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/Resources/282822-1208273252769/Building_broadband.pdf
  - See 2016 Report here: http://pubdocs.worldbank.org/en/391452529895999/WDR16-BP-Exploring-the-Relationship-between-Broadband-and-Economic-Growth-Minges.pdf
  - Reaching similar conclusions as in 2010

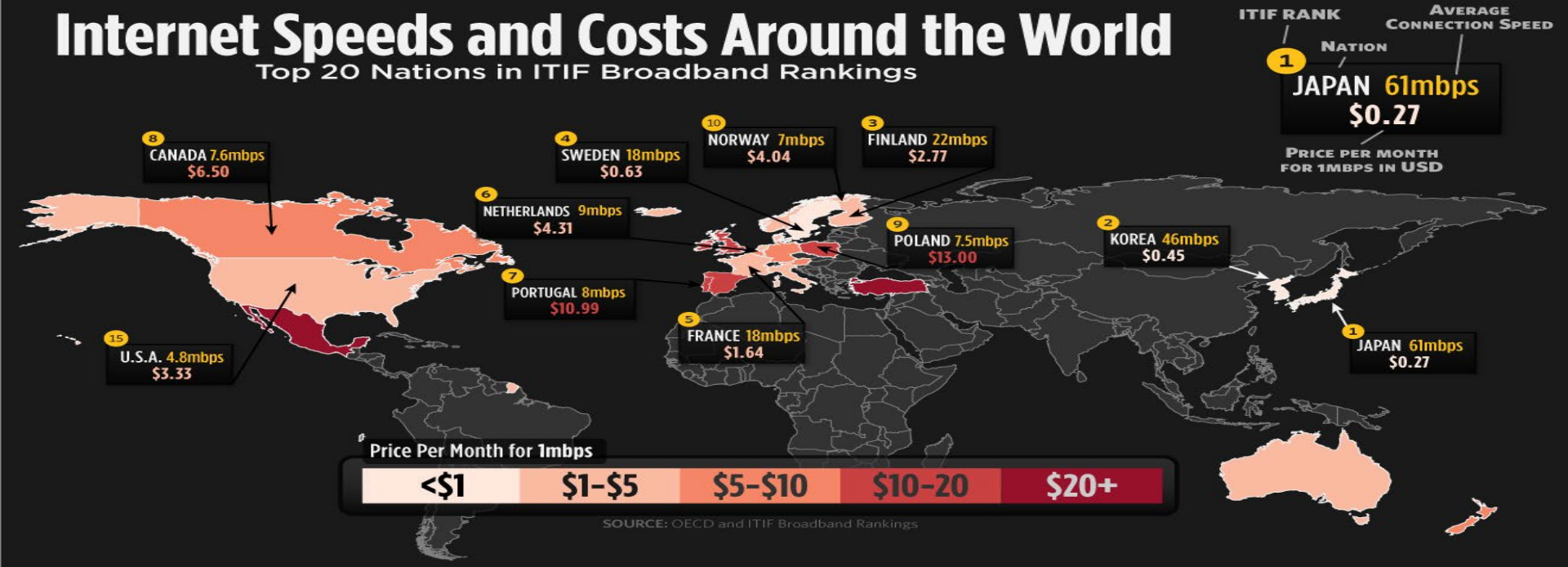
Akamai Internet Connectivity Report Q1 2017 Connection Speeds & Adoption

_	Country/Region Global	Q1 2017 Avg. Mbps 7.2	QoQ Change 2.3%	YoY Change 15%
1	South Korea	28.6	9.3%	-1.7%
2	Norway	23.5	-0.4%	10%
3	Sweden	22.5	-1.3%	9.2%
4	Hong Kong	21.9	-0.2%	10%
5	Switzerland	21.7	2.1%	16%
6	Finland	20.5	-0.7%	15%
7	Singapore	20.3	0.8%	23%
8	Japan	20.2	3.1%	11%
9	Denmark	20.1	-2.9%	17%
10	United States	18.7	8.8%	22%

https://www.akamai.com/us/en/about/our-thinking/state-of-the-internet-report/global-state-of-the-internet-connectivity-reports.jsp

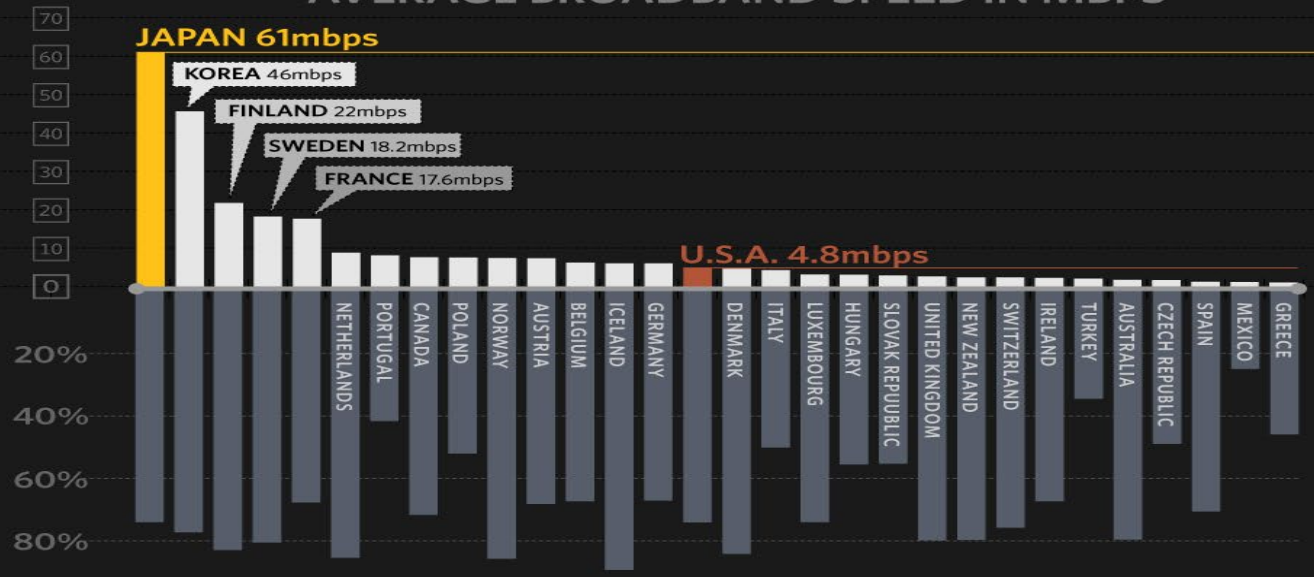
Internet Speeds and Costs Around the World

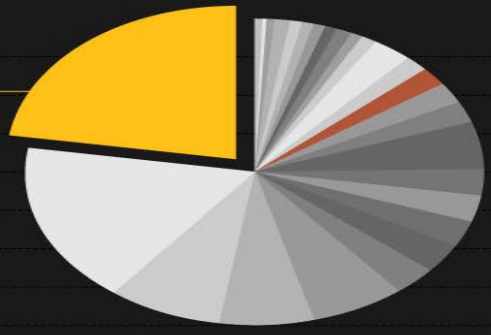
Top 20 Nations in ITIF Broadband Rankings



SOURCE: OECD and ITIF Broadband Rankings

AVERAGE BROADBAND SPEED IN MBPS





BROADBAND PENETRATION PERCENTAGE

SOURCE: Internet World Stats Broadband Penetration

Akamai Report Cont'd

- *"Some states are working to advance legislation that would restrict **community/municipal broadband** efforts, which could effectively limit consumer choice to the service tiers and speeds that the incumbent telecom and cable providers have made available to that market, slowing the progress towards ubiquitous broadband and universal broadband adoption."*
- http://www.akamai.com/dl/whitepapers/akamai_soti_q112.pdf?curl=/dl/whitepapers/akamai_soti_q112.pdf&solcheck=1&WT.mc_id=soti_Q112&
- 2014 Report Here: http://www.akamai.com/dl/akamai/akamai-soti-q114.pdf?WT.mc_id=soti_Q114 US continues to occupy 14th globally in avg speeds

2018 FCC Broadband Study

- Utilizing a BB Definition of 25 Mbps/3 Mbps
  - Over 24 million Americans still lack fixed terrestrial broadband at speeds of– Current FCC Approved BB Speed
  - Current FCC Chair is pressing for 100/20 Mbps
  - Approximately 14 million rural Americans and 1.2 million Americans living on Tribal lands still lack broadband at speeds of 10 Mbps/3 Mbps.

Municipal Broadband
A Case Study

In 2015, the Federal Communications Commission issued an Opinion and Order in its Municipal Broadband (Muni BB Order) proceeding which was the culmination of years of effort by citizens across America to achieve competitive, high speed, low cost fiber based internet access, an essential service which America still lags far behind our global competitors.

In the Matter of City of Wilson, North Carolina Petition for Preemption of North Carolina General Statute Sections 160A-340 et seq. WC Docket No.14-115; and The Electric Power Board of Chattanooga, Tennessee Petition for Preemption of a Portion of Tennessee Code Annotated Section 7-52-601. WC Docket No. 14-116

https://www.fcc.gov/ecfs/search/filings?proceedings_name=14-115&sort=date_disseminated,DESC

This Opinion and Order remains the leading authority on the subject and will serve as our guide for this course today.

Note: in 2016, the US 6th Circuit Court of Appeals overturned the FCC Order on procedural grounds, noting however, that like the US Cir Ct of Appeals did in early decisions on the FCC's Open Internet Orders, it did not find error in the substance of the approach taken by the FCC. (1) the 6th Circuit ruled only that the FCC lacks authority to preempt state barriers to municipal broadband initiatives; it did not question the FCC's factual determinations; (2) based on an extensive public record, the FCC found that state laws like Tennessee's and North Carolina have significant negative effects on broadband investment, etc.; and (3) the FCC also examined the North Carolina law in copious detail and found that, contrary to its proponents' claims that it is intended to achieve fair competition and a level playing field, the law's provisions, taken together, impose severe and one-sided barriers to public entry, broadband investment, and competition.

Tennessee v. FCC 832 F.3d 597; 2016 U.S. App. LEXIS 14681, 2016 FED App. 0189P (6th Cir.), 65 Comm. Reg. (P & F) 330

http://www.opn.ca6.uscourts.gov/opinions.pdf/16a0189p-06.pdf

See also: https://www.bna.com/fcc-drops-municipal-n73014447004/

Why BB?

- *"Today, Americans turn to broadband Internet access service for every facet of daily life, from finding a job to finding a doctor, from connecting with family to making new friends, from becoming educated to being entertained. The availability of sufficient broadband capability can erase the distance to high-quality health care and education, bring the world into homes and schools, drive American economic growth, and improve the nation's global competitiveness. New technologies and services such as real-time distance learning, telemedicine, and higher quality video services are being offered in the market today and are pushing demand for higher broadband speeds."*

  - FCC Muni BB Order p.3 Sec 3 quoting FCC 2015 BB Progress Report

FCC Muni BB Order Context

Both the EPB [Electric Power Board of Chattanooga, Tenn.] and Wilson [City of Wilson, North Carolina] networks provide 1 Gbps broadband to their communities today and were constructed in significant part because of the economic, educational, healthcare, public safety and other community benefits they would bring. These communities are seeing those benefits now, particularly in the form of greater competition, economic development and increased educational opportunities. EPB and Wilson filed their preemption requests because communities neighboring their service territories that have limited or no broadband availability or competition have requested expansion in order to garner the benefits such state-of-the-art networks can deliver. Both EPB and Wilson want to expand to serve their neighbors but are precluded by the state laws at issue here.[6] In Tennessee, state law imposes a flat limitation on municipal electric service providers providing broadband and video outside their electric service territory, despite the fact that they are authorized to provide telecommunications services beyond their territory, and the services likely would be provided over the same infrastructure. In North Carolina, the restriction takes the form of a series of costly hoops through which a service provider must jump. Although characterized as intended to "level the playing field" with private providers when passed, it is clear that the combination of requirements effectively raises the cost of market entry so high as to effectively block entry and protect the private providers that advocated for such legislation from competition.

- Both statutes heavily influenced by the "private sector".

Why Muni BB?

"…financial incentives for private deployment of competitive networks are sometimes insufficient. As recognized by Congress in section 706, the need for broadband is everywhere, even if the business case is not."

- FCC Muni BB Order p.3 Sec 3

"while the FCC backed away from directly imposing internet rate regulation for the benefit of consumers in its Open Internet Order, what the FCC left on the cutting room floor in that Title II Order, it provided more quietly in the companion proceeding concerning the encouragement and unshackling from restrictive state laws of Municipal Broadband Networks…[and] by now freeing these communities to build on their own or partner with such high speed and low cost internet friendly private partners as Google, which has been actively pursuing such systems where incumbent monopoly providers have not, it is clear that the FCC is aggressively supporting rate control by the best alternative option in a free market: Competition!"

- **The Internet and Municipal Broadband Network Systems** *Watza MBJ September , 2015*

Why Not Muni BB

Industry Complaint: *"municipal entry into the broadband market discourages or "crowds out" private sector investment; ...because the public sector has advantages that the private sector does not have. [and] competition from municipalities is "unfair" to private sector rivals, contending that because the public sector has advantages that the private sector does not, competition is not on "a level playing field."*

FCC Response: [Noting the FCC Goal under Sec 706 is to promote the rapid deployment of BB] **"**the very factors that distinguish municipalities such as Chattanooga and Wilson — including focus on policy objectives rather than short-term profitability, access to capital, and in some cases preexisting electrical plant infrastructure — **are what enable them to invest where private entities have not,** thereby serving Congress's goal of increasing broadband investment and competition."

- FCC Muni BB Order pp's.28-30 Sec's 56-57

Why Not Muni BB Cont'd

- **Industry Complaint:** Municipal deployment is economically inefficient…municipal entry will crowd out pvt investment [and] municipal entry distorts the marketplace because the municipality functions as both regulator and competitor and could use its authority anti-competitively

- **FCC Response:** Commenters offer -0- evidence of such assertions
  - FCC Muni BB Opinion pp. 30-31 Sec's59-60

Why Not Muni BB Cont'd

- **Industry Complaint:** There Is a High Rate of Municipal Broadband Failure due to lack of technical skills and that the industry is **concerned for the welfare of taxpayers**.☺
- **FCC Response:** Commenters offer -0- evidence of such assertions, in fact, "2012 Standard and Poor's upgraded EPB's bond rating to AA+…[and] EPB's broadband operations are not subsidized by its electric operations"…[and therefore not jeopardizing that related municipal asset.
  - Muni BB Opinion pp.31-36 Sec's 61-70

Why Not Muni BB Cont'd

- **Industry Complaint:** municipal provider's overbuilding of private broadband networks imposes higher prices on consumers (An argument similar to the electric industry's about promoting alternative suppliers)
- **FCC Response:** Commenters offer -0- evidence of such assertions
  - Despite being asked for such information dating back to at least 2011
  - FCC Muni BB Opinion p. 37 Sec 74 and fn 221

The Heart of it:
Pvt Industry Supported State Barriers to Entry

- The FCC went after these State laws because they were intended as Barriers to entry erected by incumbent ISP's to avoid competition:

*"…where a state has authorized municipalities to provide broadband, and then chooses to impose regulations on that municipal provider in order to effectuate the state's preferred communications policy objectives, such as the **protection of incumbent ISPs**, such laws fall within our authority to preempt…*

…Such a statutory scheme does not further any core state function of ordering its political subdivisions, such as limiting the expenditures of a city. It serves only to effectuate state communications policy preferences by enforcing inefficiency and protecting incumbents from competition…

…The formal title of the statute — "An Act to Protect Jobs and Investment by Regulating Local Government Competition with Private Business" — underscores this. Any one of the law's provisions, taken separately, might seem to be cast in terms of state limitations on municipal authority. But viewed as a whole and in context, each of the statutory provisions are actually sector-specific regulatory limitations that single out a specific service — broadband communications — and impose burdens on municipal providers of such services…

- FCC Muni BB Order p. 5-6 Sec's 11,13,14

Successful Examples of Muni BB

- Lafayette La. Service and Fees: 3Mbps symmetrical $19.95
  - 60Mbps symmetrical $39.95
  - Gig symmetrical $59.95
  - http://www.lusfiber.com/index.php/internet/pricing-guide
- Chattanooga Tn. Service and Fees:
  - 100 Mbps symmetrical $57.99
  - Gig symmetrical $ 69.99
  - https://epb.com/home-store/pricing
- Sebewaing Mi. Service and Fees:
  - 30 Mbps symmetrical $35.00/month
  - 50 Mbps symmetrical $55.00/month
  - 100 Mbps symmetrical $105.00/month
  - 1 Gbps symmetrical $160.00/month
  - http://www.slandw.com/index.php/services/wireless-internet
- Common Themes? No Caps; No Contracts; No Profit Tax; Local Control
  - Each of these and many of the others are communities which already have Internal Municipal Electric Utilities
    - Thus the infrastructure and knowledge base is present; But not Essential

CHATTANOOGA TENNESSEE EPB

- City Built and Operated Broadband
- 100% Fiber
- Speeds up to 10 GIG.
- **300 Mbps @ $57.99**/mo.
- **1 GIG $67.99**
- Free Installation
- No Hidden Fees – No Contracts
- No Data Caps
- Internet Access – By the People-For the People

https://epb.com/themes/epb-one/assets/cmpgn/internet-resi/internet-061319.html?gclid=CjwKCAjw1v_0BRAkEiwALFkj5iQP8-zNpamP8i1vfevb995OhwHgjjeOoDP_Piy66VCdNsWM55DvIhoCsQ0QAvD_BwE

Sebewaing Light & Water
Financial Model Summary

Project Summary	Original Model	12/17/13 Model		Resources Needed		Original Model 12/17/13 Model
Services Offered			Price			
Aerial Miles	10.5	18.8	Data	$35/$55/$105		
UG Miles	4.5	2.7	Admin / Marketing	0	0	Voice $35
Homes Passed	900	938	Maintenance Tech	0	0	Package $70 / $80
Businesses Passed	45	183	Install Tech 1	1	Business	$75 for 50MB
Expected Penetration	50.0%	50.0%	**Total Resources**	**1**	**1**	$10 add 5 IP
Customers	468	542	$40 Phone			

Project Budget	Original Model	12/17/13 Model		Customer Margin		Original Model 12/17/13 Model
Project Capital Expenditures		**Margin Per Customer**				
Headend Building/Electronics		$150,000	$123,000	Revenue	$62.92	$61.64
Remote Cabinets/Electronics		$0	$0	Direct Costs	$26.95	$19.58
Plant Materials & Equipment		$130,800	$194,702	Operating Costs		$15.58 $13.84
Aerial Labor	$137,340	$268,255	**Total Margin**	**$20.39**	**$28.22**	
UG Labor	$155,610	$92,148				
Make Ready	$93,000	$0	*Direct costs include bandwidth, VoiP costs and customer care.*			
Engineering/Constr. Mgmt		$30,000	$134,520	*Operating costs include administrative/marketing wages, outsourced installation costs, vehicles and fuel, plant maintenance, property taxes, marketing connection costs and other miscellaneous expenses.*		
Drops	$245,700	$284,655				
Total Project Capital	**$942,450**	**$1,097,280**				
Operating Capital Budget						
Capitalizable Installation Costs		$34,939	$40,478	Key Indicators	Original Model	12/6/2013 Model
Installation Materials	$7,794	$9,029				
Total Operating Capital		**$42,733**	**$49,507**	Outside Plant Cost per Mile	$36,450	$32,122
Project Cost per Passing		**$1,043**	**$1,023**			

References to Consider

- PROTEC https://www.protec-mi.org/
- MERIT Networks https://www.merit.edu/
  - **See Multiple BB Programs such as May 28, 2020 Moonshot Webinar:** https://www.merit.edu/event-courses/local-community-broadband-a-good-answer-to-internet-connectivity-concerns/
- *The Future of Broadband* by Richard Adler – Technology Institute for the Future 2012
  - http://www.broadbandforamerica.com/sites/default/files/Richard%20Adler%20Report%202.pdf
- *The Book of Broken Promises* by Bruce Kushnick – New Networks Institute 2014
  - http://www.huffingtonpost.com/bruce-kushnick/the-book-of-broken-promis_b_5839394.html
- *Captive Audience: The Telecom Industry and Monopoly Power in the New Gilded Age* by Susan Crawford – Yale Press 2013
- Community Networks: Correcting Community Fiber Fallacies https://muninetworks.org/content/correcting-community-fiber-fallacies-page
- Broadband Communities Website
  - http://www.bbpmag.com/MuniPortal/FTTHLand.php
- *Last Week Tonight with John Oliver: The Internet* - June 2014
  - Warning: Coarse Language ☺
  - http://www.youtube.com/watch?v=fpbOEoRrHyU

The Future of Muni BB

- Certainly the need continues.
- Current FCC Position?
  - Chairman Pai Dissent to 2015 Order:
    - The bulk of his remarks focus on the FCC interfering with State and local management of their jurisdiction
    - Other comment includes acknowledgement of muni BB as a further source of competitiveness in a favorable light, with the caution:
    - "…entry by municipalities into telecommunications may raise issues regarding taxpayer protection from the economic risks of entry, as well as questions concerning possible regulatory bias when separate arms of a municipality act as both a regulator and a competitor." Pai dissent at p.6 fn 35 quoting a 1997 FCC Order on similar issues – citation omitted
    - https://www.fcc.gov/ecfs/filing/60001026486

- State Law Positions
- Industry Position
- Can Muni/Pvt partnering ameliorate the friction between the two?
- Federal Reserve Support
- And NO, 5G and Satellite are not the Answer
  https://muninetworks.org/content/pocket-guide-5g-hype-fact-sheet

The Future of Muni BB Cont'd

- While the vast majority of the early municipal broadband projects were operated by municipal electric utilities, including almost all of the most successful, the trend to day is public-private partnerships, particularly among communities that do not operate their own electric utilities. Also, one must be very careful in using success stories, especially detailed data on market shares, take rates, etc. Market conditions today are very different than they were 5-10 years ago, as competition from DOCSIS 3.1-enabled cable broadband and 4G wireless is much more robust than the early municipal broadband ventures faced. Success is still available, but each project needs to evaluated carefully on its own merits.
  - Jim Baller of Keller &Heckman in Wash DC

Why Fiber 1st; Wireless in Support?

- Wireless will play a role, but requires fiber access
- Wireless has a 5 to 7 year life depreciation cost vs. 20 plus for fiber (need to compare total cost of ownership)
- Wireless has limits on supported service speeds
- And other concerns: Substantial concerns about the viability of wireless (Wall Street) and the growing RFR Issue
- Andrew Afflerbach (CTC) Report on Fixed Wireless for BB https://www.benton.org/publications/FixedWireless

- Slide in part, courtesy of CTC Technology & Energy

IS WIRELESS THE NEXT TOBACCO? ASBESTOS?

National Toxicology Program National Institutes of Health Public Health Service U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

March, 2018

https://ntp.niehs.nih.gov/ntp/about_ntp/trpanel/2018/march/tr595peerdraft.pdf

FCC Claims safest Cell (Phone) standards in the world (August 9, 2019)

https://www.fcc.gov/document/chairman-pai-proposes-maintain-current-rf-exposure-safety-standards

Wireless RFR Cont'd

NTP TECHNICAL REPORT ON THE TOXICOLOGY AND CARCINOGENESIS STUDIES

IN…RATS EXPOSED TO WHOLE-BODY RADIO FREQUENCY RADIATION AT A FREQUENCY (900 MHz) AND MODULATIONS (GSM AND CDMA) USED BY CELL PHONES

March, 2018

WIRELESS RFR CONT'D

- "2-YEAR STUD[Y]…increased incidences of **cardiomyopathy**…**malignant** schwannoma in the **heart**…**malignant** glioma in the **brain**, adenomas in the **pituitary** gland…pheochromocytomas of the **adrenal**…in the **liver**…**malignant** glioma…**prostate** …of GSM and CDMA male rats and CDMA female rats that were not observed in sham control animals…. And…significant increase in **DNA damage …**observed in hippocampus cells of male rats exposed to the CDMA modulation.
- Pp 8-10

"What? Me Worry about 5G?"





WHY THE FUSS OVER "SMALL" CELLS IN THE ROW?







- https://www.youtube.com/watch?v=NaO7QTPWzYg

Michael J. Watza Biography



Martindale Hubbell AV Rating
Super Lawyer Designation
Detroit Business Top Lawyer

- Michael J. Watza is Chair of the Governmental Practice Group at Kitch, a full service Law firm based in Detroit, with offices in Lansing, Marquette, Mt. Clemens, Chicago, Ill. and Toledo, OH.
- Mr. Watza's practice provides litigated, legislative and regulatory solutions on behalf of municipal, health care and private sector clients concerning legislation, Complex Litigation, Governance Issues, Telecommunications including Cable and Cell Towers, Energy and Insurance.
- Michael has managed multiple legislative initiatives, represented clients in State and Federal trial and appellate courts across Michigan as well as attended to regulatory matters before the Michigan Public Service Commission, Michigan Tax Tribunal, Department of Labor and Economic Growth and the Federal Communications Commission and Department of Transportation (PHSMA).
- Michael has represented clients in the halls of the Michigan Legislature and Congress through negotiation, drafting and testimony regarding legislation on various issues including energy, transmission line siting, telecommunications (cable and cell towers), pipeline regulation, the formation of inter-governmental authorities and tort reform.
- Michael also serves as General Counsel to PROTEC, Chairman of the Novi EDC, Chairman of Attorney Grievance Commission Grievance Panel #9, Immediate Past Chairman of the Administrative Law Section of the State Bar and Treasurer/Secretary of the Government Law Section of the State Bar, Chairman of the International Municipal Lawyers Technology Committee and past board member of the Michigan Gaming Control Board and Covenant House Central School Board in Detroit. He has also served as special counsel to the Michigan Municipal Risk Mgt Authority.
- Michael has served as an adjunct faculty member at Michigan State University College of Law having taught Communications Law and Policy and Ethics and the Practice of Law.
- In 2008, Michael successfully led a coalition of Michigan Cities to Federal Court and Congress to oppose Comcast's effort to move PEG channels to the 900 channel range and digital, at a time when all other cable channels were analog.
- In 2013, Michael provided the legal components to the development of the 1st new Municipal Fiber to the Home and Business (FTTP) project and the development of other fiber and WIFI systems in Michigan in the face of legislative impediments

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