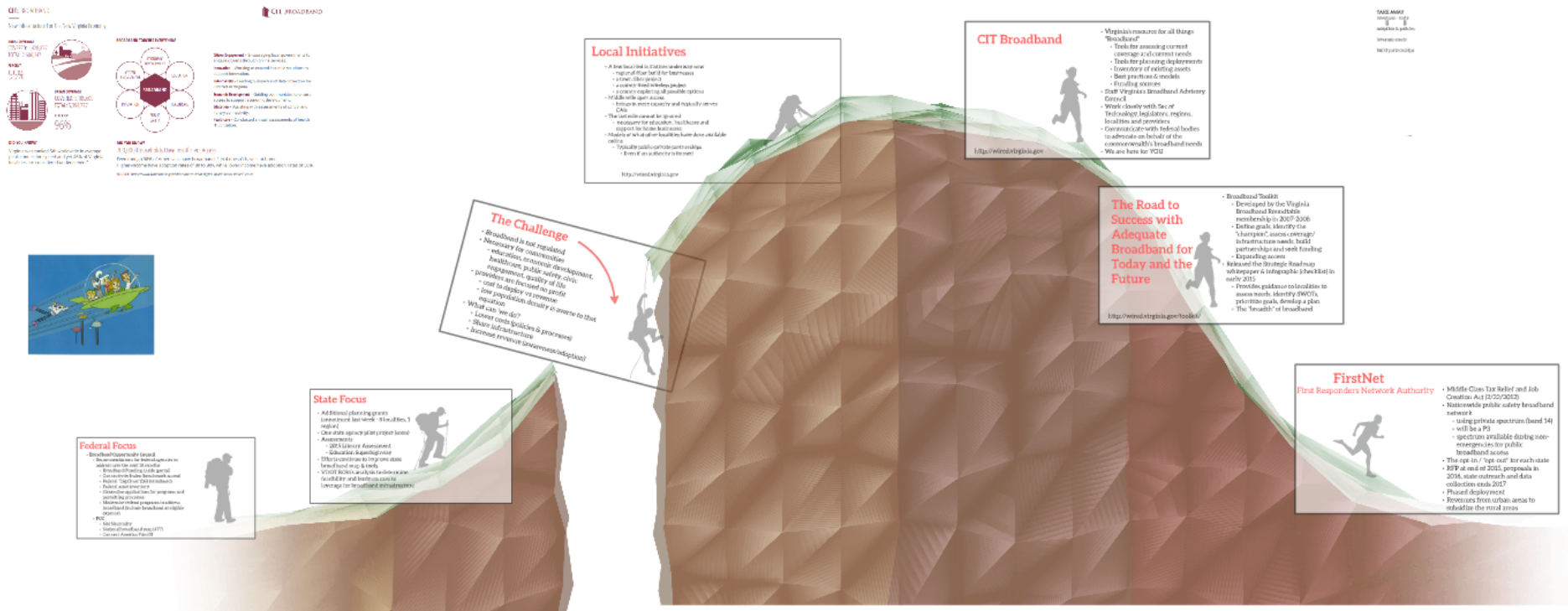


The Digital Divide

What is happening to bridge the divide?



<http://www.wired.virginia.gov>

What is happening to bridge the divide?



- A few issues related to Internet connectivity issues
 - region of fiber built for businesses
 - a trans-Atlantic project
 - a country-fitted wireless project
 - a country exporting all possible options
- Middle mile open access
 - attempt to meet capacity and topology needs
 - CLECs
- The last mile cannot be ignored
 - necessary for education, healthcare and support for home businesses
- Modeling of local office locations has become one of the critical criteria
 - typically public-private partnerships
 - Even if a facility is not used

- Virginia's resource for all things "Broadband"
 - Trends for assessing current coverage and current needs
 - Trends for planning deployments
 - Inventory of existing assets
 - Best practices & models
 - Funding sources
- Staff Virginia Broadband Advisory Council
- Work closely with Sec of Technology legislatures, regions, localities and providers
- Communicate with federal bodies to advocate on behalf of the commonwealth's broadband needs
- We are here for YOU

- **Revised Roadmap**
 - Developed by the Virginia Roadway Knowledge Partnership in 2007-2008
 - Define goals, identify the "champions," assess coverage/ infrastructure needs, build partnerships and seek funding
 - Expanding access
- **Revised and Strategic Roadmap** with paper & infographic (scheduled early 2015)
 - Provides guidance on location to assess needs, identify SWOTs, prioritize goals, develop a plan
 - The "breadth" of broadband

- education is not regulated
- education for consumption
- education, economic development, health care, public safety, civic engagement, quality of life
- providers are focused on profit
- cost to display vs revenue
- low population density is aware to that education
- What can we do?
 - Lower costs (policies & processes)
 - Share infrastructure
 - Increase revenue (awareness/adoption)

- Additional planning grants (announced last week - 3 localities, 1 region)
- One state agency pilot project (none)
- Assessments
 - 2003 Literacy Assessment
 - Education Leadership/visit
- Efforts continue to improve state based fund map & funds
- VECOT RCMs analysis to determine feasibility and build on existing coverage for broad-based interventions

- **Brain and Ovarian reserve** (ovary)
 - Brain: oestrogen levels for 10 years ago in relation to the test 20 months
 - Brain: Diffusion (white matter)
 - Cerebrovascular blood flow: normal
 - Protein: (amyloid) β and tau
 - Protein: apolipoprotein
 - Abnormal: apolipoprotein for prognosis and survival in patients
 - Metabolic: insulin, progression in addition to insulin (protein breakdown as a single system)
- **PCC**
 - Met: Neurology
 - Met: Diffusion (pcc) (AT)
 - Cerebral: function (AT)

First Responders Network Authority

- Middle-Class Tax Relief and Job Creation Act (12/20/2002)
- Nationwide public safety broadband network
 - using private spectrum (band 14)
 - will be a P3
 - spectrum available during non-emergencies for public broadband access
 - The opt in / "opt out" for each state
 - BY end of 2015, proposals in 2016, state outreach and data collection ends 2017
 - Phased deployment
 - Revenues from urban areas to subsidize the rural areas

<http://www.wired.virginia.gov>

CIT: BROADBAND

New Infrastructure For The New Virginia Economy

RURAL COVERAGE

COVERED: 1,428,877
TOTAL: 2,606,247

PERCENT:

55%



URBAN COVERAGE

COVERED: 5,185,609
TOTAL: 5,394,777

PERCENT:

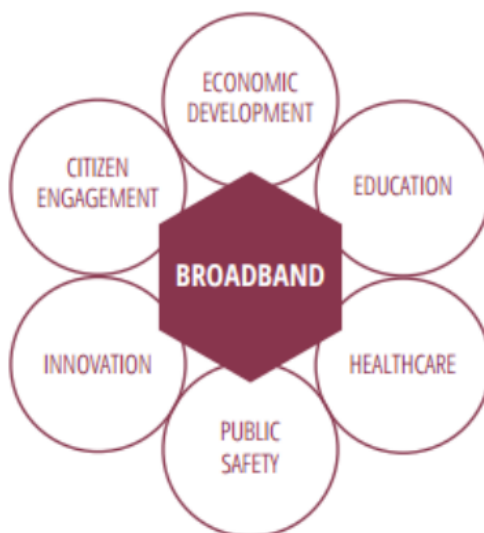
96%



DID YOU KNOW?

Virginia was ranked 5th worldwide in average peak connection speed and yet 46% of Virginia localities are considered underserved."

BROADBAND TOUCHES EVERYTHING

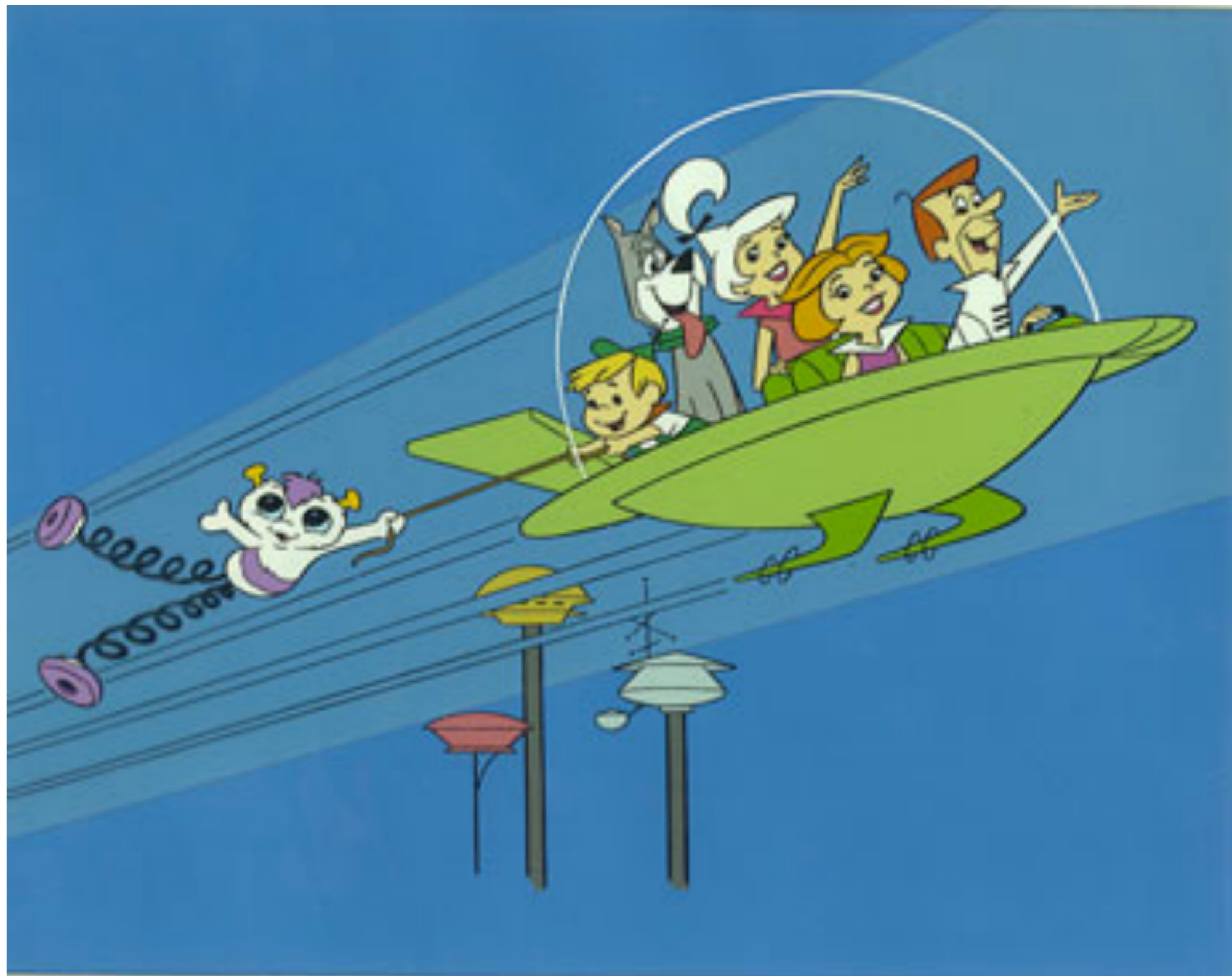


DID YOU KNOW?

700,000 Households Have Insufficient Access

Even though 98% of Americans have broadband, 1 in 4 doesn't have it at home. Higher-income have adoption rates of 80 to 90% while lower income have adoption rates of 50%.

SOURCE: <https://www.whitehouse.gov/share/heres-what-digital-divide-looks-united-states>



Federal Focus

- **Broadband Opportunity Council**
 - Recommendations for federal agencies to address over the next 18 months
 - Broadband Funding Guide (portal)
 - Connectivity Index (benchmark access)
 - Federal "Dig Once" (bill introduced)
 - Federal asset inventory
 - Streamline applications for programs and permitting processes
 - Modernize federal programs to address broadband (include broadband as eligible expense)
- **FCC**
 - Net Neutrality
 - National broadband map (477)
 - Connect America Fund II



State Focus

- Additional planning grants (announced last week - 8 localities, 1 region)
- One state agency pilot project (soon)
- Assessments
 - 2015 Library Assessment
 - Education Superhighway
- Efforts continue to improve state broadband map & tools
- VDOT ROWs analysis to determine feasibility and business case to leverage for broadband infrastructure



The Challenge

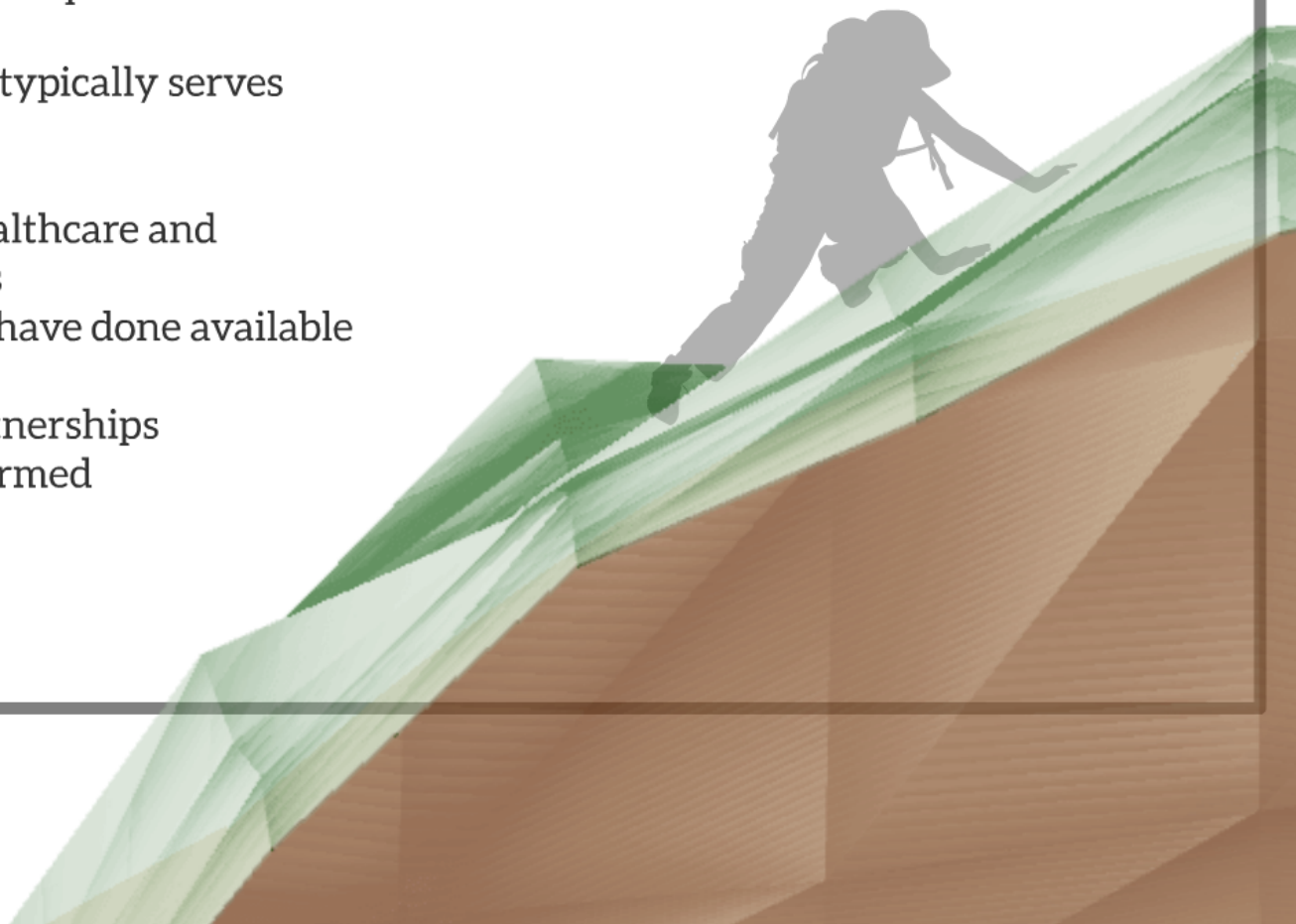
- Broadband is not regulated
- Necessary for communities
 - education, economic development, healthcare, public safety, civic engagement, quality of life
- providers are focused on profit
 - cost to deploy vs revenue
 - low population density is averse to that equation
- What can 'we do'?
 - Lower costs (policies & processes)
 - Share infrastructure
 - Increase revenue (awareness/adoption)



Local Initiatives

- A few local-led initiatives underway now
 - regional fiber build for businesses
 - a town fiber project
 - a county fixed wireless project
 - a county exploring all possible options
- Middle mile open access
 - brings in more capacity and typically serves CAIs
- The last mile cannot be ignored
 - necessary for education, healthcare and support for home businesses
- Models of what other localities have done available online
 - Typically public-private partnerships
 - Even if an authority is formed

<http://wired.virginia.gov>



CIT Broadband



<http://wired.virginia.gov>

- Virginia's resource for all things "Broadband"
 - Tools for assessing current coverage and current needs
 - Tools for planning deployments
 - Inventory of existing assets
 - Best practices & models
 - Funding sources
- Staff Virginia's Broadband Advisory Council
- Work closely with Sec of Technology, legislators, regions, localities and providers
- Communicate with federal bodies to advocate on behalf of the commonwealth's broadband needs
- We are here for YOU

The Road to Success with Adequate Broadband for Today and the Future



- Broadband Toolkit
 - Developed by the Virginia Broadband Roundtable membership in 2007-2008
 - Define goals, identify the "champion", assess coverage/infrastructure needs, build partnerships and seek funding
 - Expanding access
- Released the Strategic Roadmap whitepaper & infographic (checklist) in early 2015
 - Provides guidance to localities to assess needs, identify SWOTs, prioritize goals, develop a plan
 - The "breadth" of broadband

<http://wired.virginia.gov/toolkit/>

FirstNet

First Responders Network Authority



- Middle Class Tax Relief and Job Creation Act (2/22/2012)
- Nationwide public safety broadband network
 - using private spectrum (band 14)
 - will be a P3
 - spectrum available during non-emergencies for public broadband access
- The opt-in / "opt-out" for each state
- RFP at end of 2015, proposals in 2016, state outreach and data collection ends 2017
- Phased deployment
- Revenues from urban areas to subsidize the rural areas

TAKE AWAY

revenues - costs



adoption & policies

leverage assets

build partnerships

Thank You!

What is happening to bridge the divide?



- A few issues related to Internet connectivity issues
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 - a country funded wireless project
 - a country exploring all possible options
- Middle mile open access
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- Modeling of local office locations has become one of the leading efforts
 - typically public-private partnerships
 - Even if a city is not interested

- Virginia's resource for all things "Broadband"
 - Trends for assessing current coverage and current needs
 - Trends for planning deployments
 - Inventory of existing assets
 - Best practices & models
 - Funding sources
- Staff Virginia Broadband Advisory Council
- Work closely with Sec of Technology legislatures, regions, localities and providers
- Communicate with federal bodies to advocate on behalf of the commonwealth's broadband needs
- We are here for YOU

- **Educational Toolkit**
 - Developed by the Virginia Broadband Consortium
 - Released in 2007-2008
 - Define goals, identify the "champion", assess coverage/infrastructure needs, build partnerships and seek funding
 - Expanding access
- Released the Strategic Roadmap with paper & infographic (object that) in early 2015
 - Provides guidance to localities to assess needs, identify SWOTs, prioritize goals, develop a plan
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 - Education Leadership survey
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- **Brain and Ovarian reserve** (ovary)
 - Brain: can regenerate, but limited capacity to replace lost cells over the rest of life
 - Brain: Diffusible (with gap)
 - Can survive 6 weeks without blood supply
 - Protein: "long-term" (2000000000)
 - Protein: short-term (1000000000)
 - Glutamate: apoptosis for program and survival in neurons
 - Mitochondria: ordered progression in addition to normal (include branched in single system)
- **PFC**
 - Not Neurally
 - Station of brain and pfc (277)
 - Cerebral function (277)

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- Recovers from urban areas to outbuild the rural areas

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