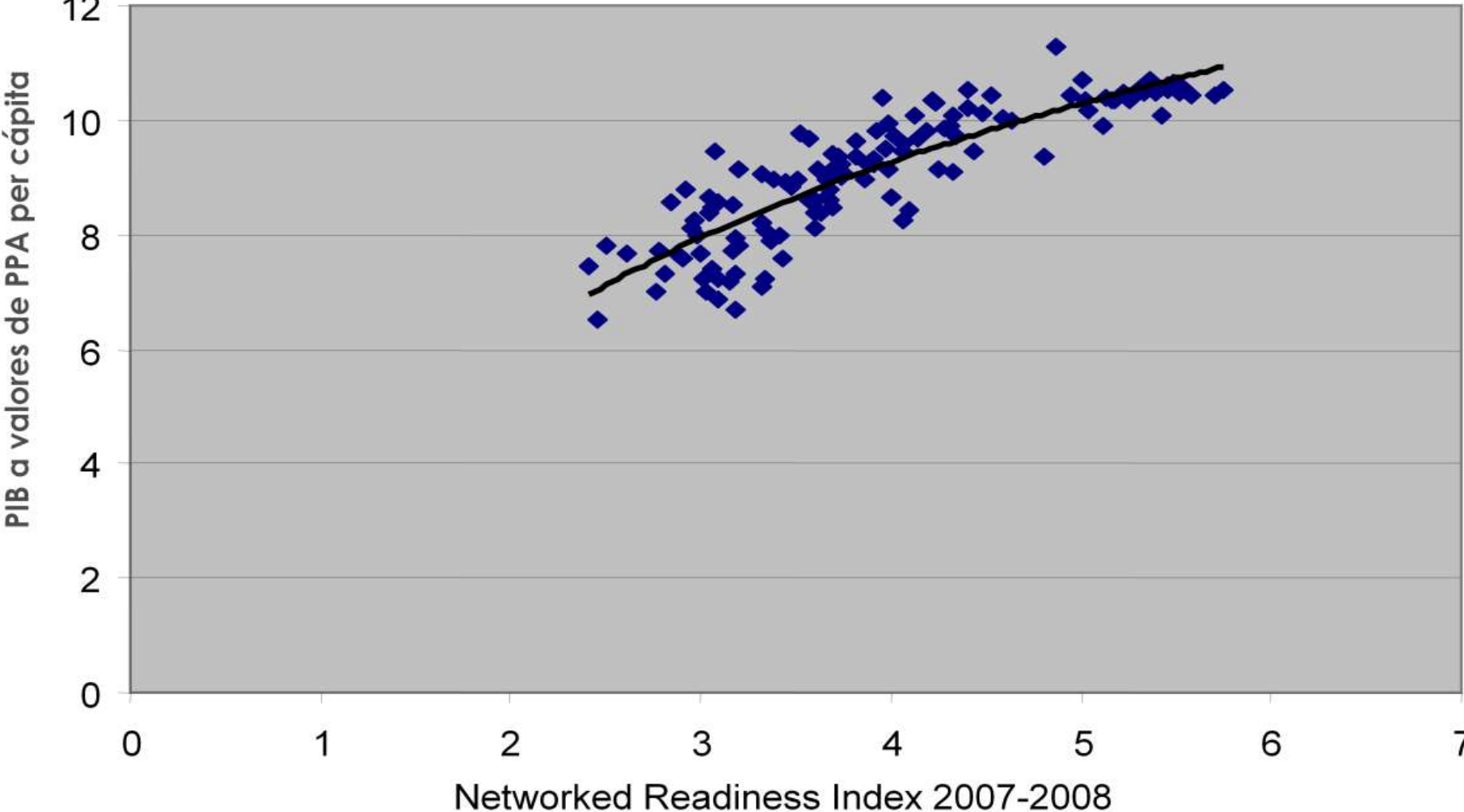


BROADBAND IN PUERTO RICO



Juan Eugenio Rodríguez de Hostos
CIO Gobierno de Puerto Rico

Positive correlation between GDP and NRI



* Fuente: International Monetary Fund, World Economic Outlook Octubre 2007: NRI 2007 - 2008

First UNDERSTAND, then PLAN, then EXECUTE

Thanks to funding provided by the NTIA, the government of Puerto Rico has launched an effort to:

1. Produce and maintain a comprehensive **broadband map**
2. Conduct business and residential **market research** to identify barriers to broadband adoption
3. Assess the level of connectivity across “**community anchor institutions**” (i.e., schools, libraries, healthcare institutions, etc.)
4. Contribute data from Puerto Rico to the **National Broadband Map**
5. Encourage **public/private partnership** across Puerto Rico’s broadband stakeholders to help grow the broadband landscape
6. Support the creation of a **strategic broadband plan**

**Puerto Rico
Broadband Inventory Estimates
October 2011**

Broadband Inventory at Higher Speeds

Broadband Availability – Fixed Networks (not including Mobile)

Speed Tier download/upload	Percentage of Households Served -ALL-	Percentage of Households Served -RURAL-
768 Kbps/200 Kbps	85.99%	78.18%
3 Mbps/768 Kbps	56.89%	40.96%
6 Mbps/768 Kbps	41.17%	34.48%

Broadband Availability



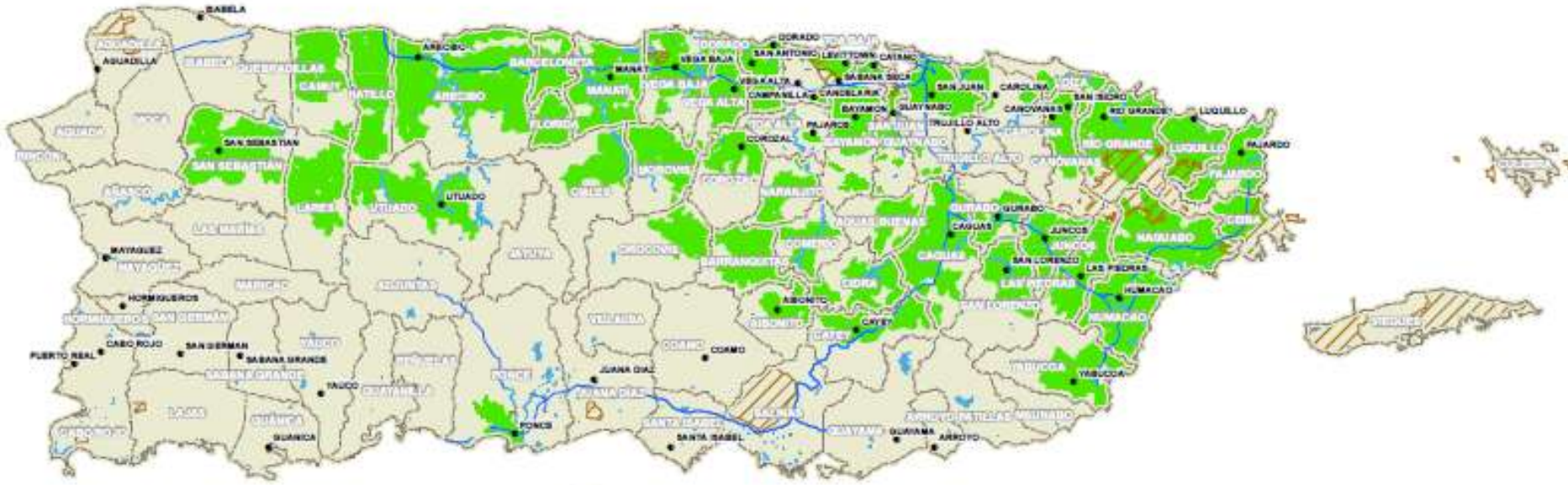
768 Kbps / 200 Kbps

Broadband Availability



3 Mbps / 768 Kbps

Broadband Availability



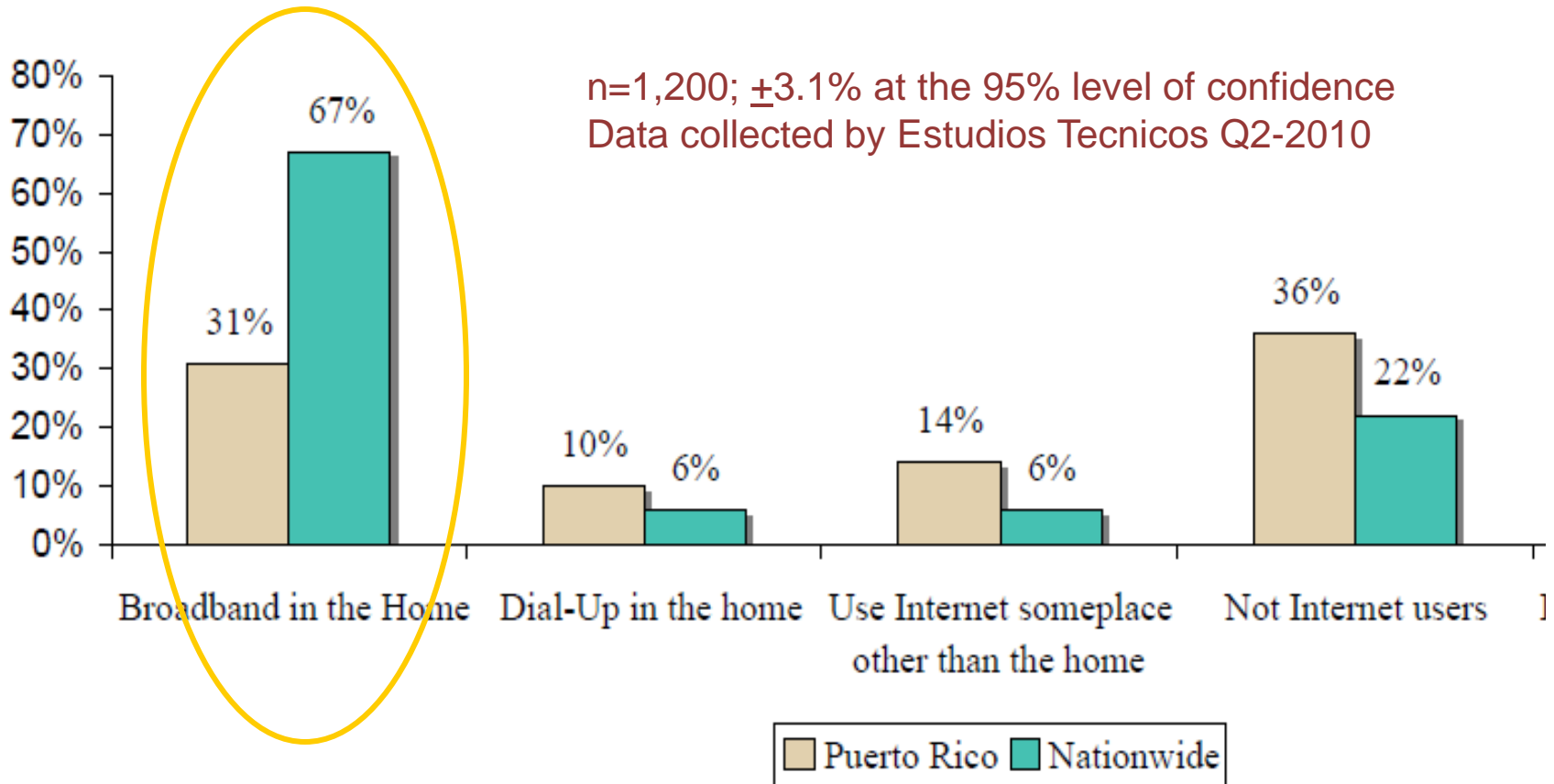
6 Mbps / 768 Kbps

Broadband Availability



6 Mbps / 1.5 Mbps

Puerto Rico Residential Technology Gap

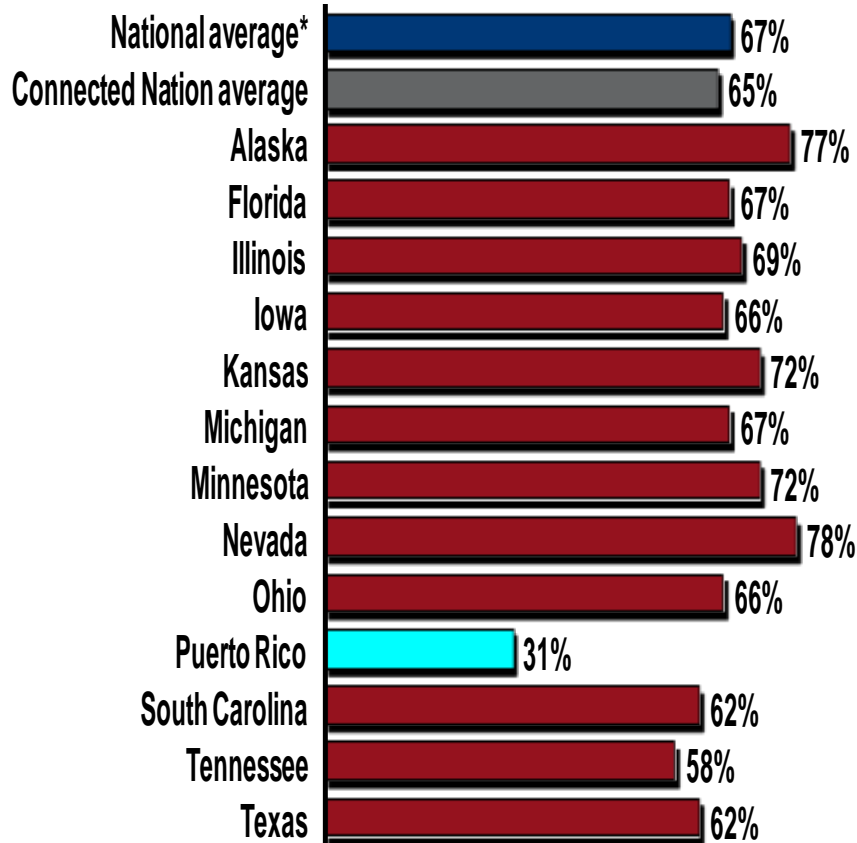


*Source: Federal Communications Commission, *Broadband Adoption and Use in America*, 2010.

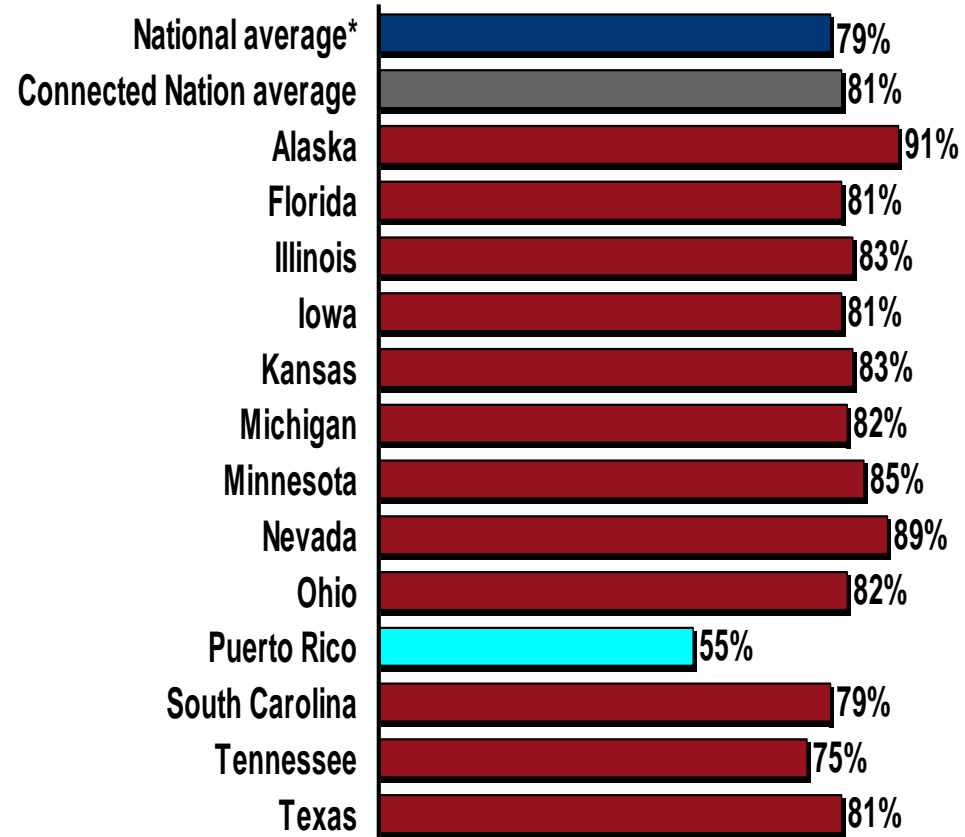
Source: 2010 Connect Puerto Rico Residential Technology Assessment

Broadband Adoption by State/Territory

Home Broadband Adoption



Computer Ownership

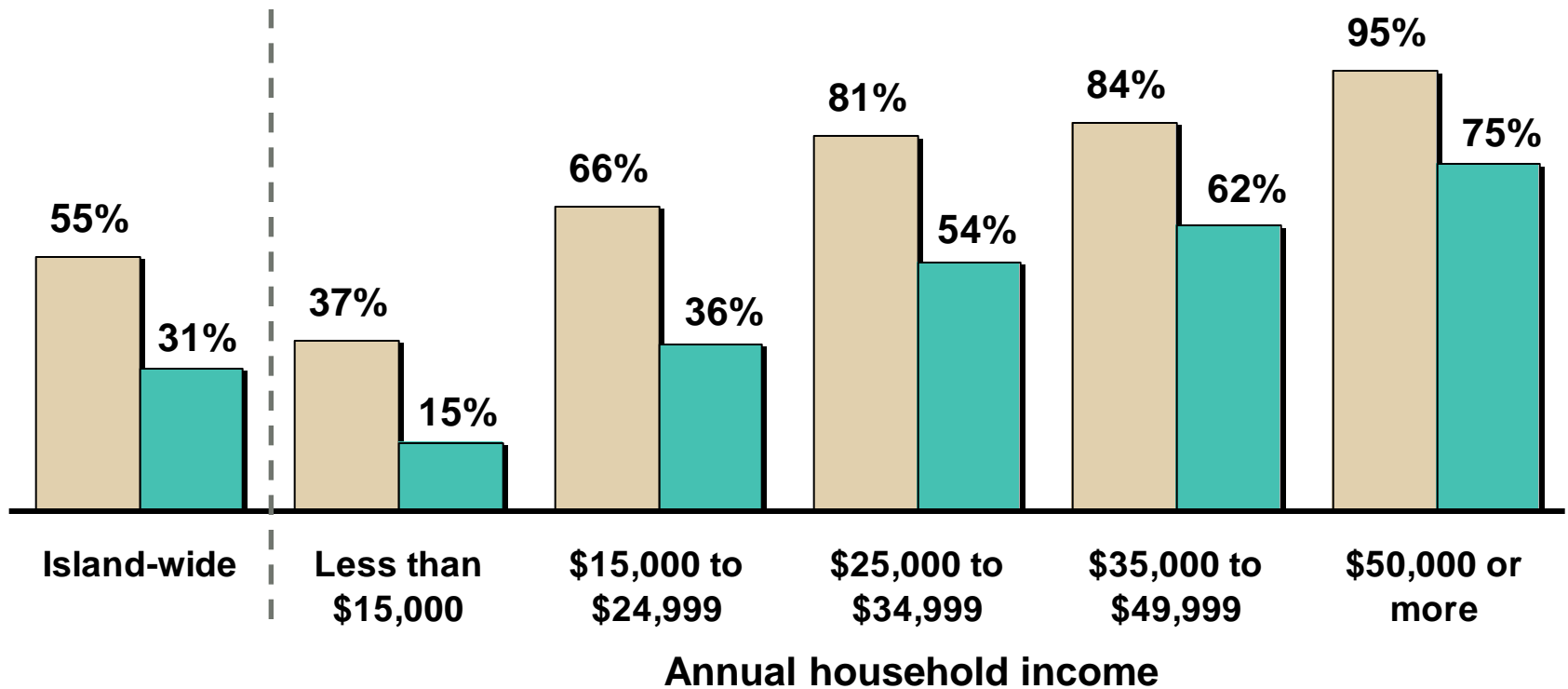


*National source: Federal Communications Commission, *Broadband Adoption and Use in America: OBI Working Paper Series No. 1.*

Source: 2010 Connected Nation Residential Technology Assessments
www.connectednation.org

Technology Adoption by Income

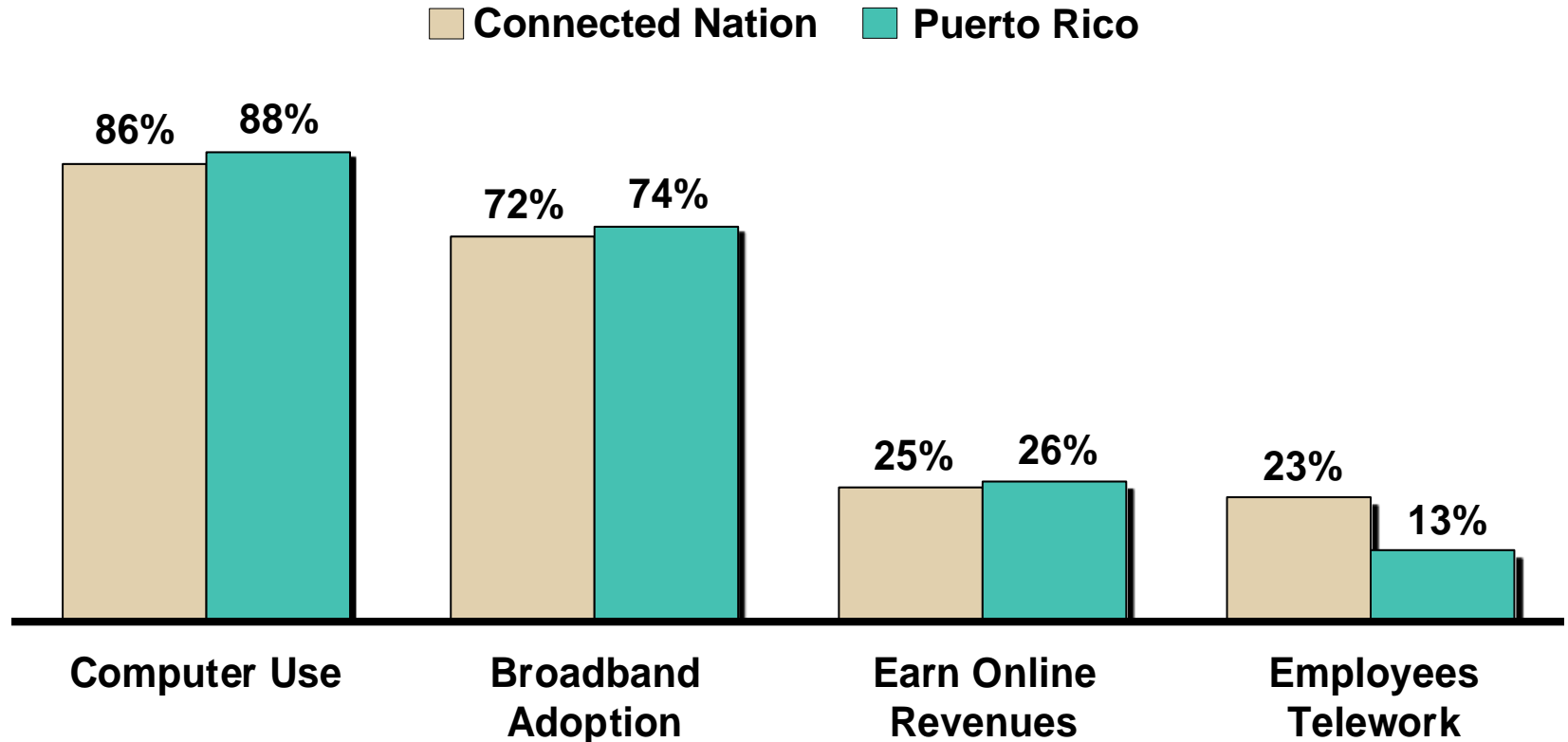
Computer ownership Broadband adoption



Q: Does your household have a computer? and
Q: Which of the following describe the type of Internet service you have at home?
(n=1,200 PR residents)

Source: 2010 Connect Puerto Rico
Residential Technology Assessment
www.connectpr.org

The Business Sector



Q: Does your company use any type of computer technology to handle business functions?,

Q: Which of the following describes the type of Internet access your company has?,

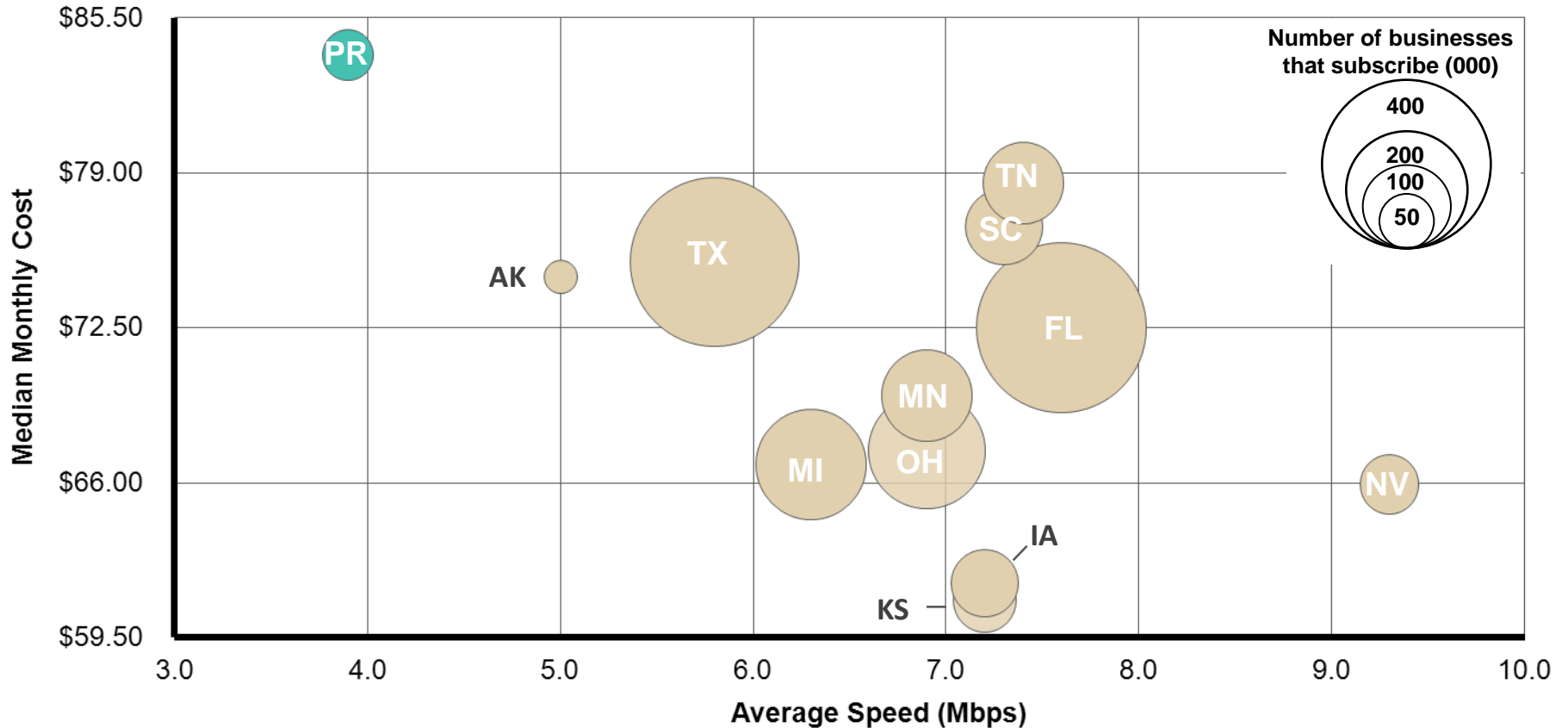
Q: What percentage of your company's total sales revenue takes place online? and

Q: Do any employees within your organization work from home during normal business hours on a regular basis?

(n=9,650 businesses located in states/territories served by Connected Nation)

Source: 2010 Connected Nation®
Business Technology Assessments
www.connectednation.org

Median Monthly Broadband Cost and Average Download Speed



Q: Which of the following describe the type of Internet service you have at home? and
Q: How much per month does your organization pay for its Internet connection?
(n=9,650 businesses located in states/territories served by Connected Nation)

Source: 2010 Connected Nation®
Business Technology Assessments
www.connectednation.org

Impact of USF Reform Across PR and advocacy efforts at FCC

Universal Service Fund Across USA and Puerto Rico

Universal Service Fund Disbursements— 2010

USF Program	Total USF Subsidies (Billion)	Puerto Rico USF Subsidies (Million)	Puerto Rico Subsidies as Percentage of USF Disbursements
High Cost Program	\$4.27	\$208.6	4.89%
Low Income	\$1.31	\$39.9	3.03%
Rural Health Care	\$0.21	\$0.0	0.00%
E-Rate	\$2.28	\$23.2	1.02%
Total USF Disbursement	\$7.95	\$271.8	3.42%

FCC Universal Service Fund Reform

- On October 27 the FCC voted a drastic reform of the High-Cost USF program **from subsidies to provide dial-up service** in remote areas to **“Connect America Fund”** that will
 - Subsidize provision of **4 Mbps down/1 Mbps up (*actual*) fixed broadband** service in “unserved” areas
 - Create a **Mobility Fund** to subsidize mobile broadband, while transitions out CETC funds
 - **Immediate one-time injection of \$600 Million as early as July 2012**
- Areas without broadband of 4 Mbps down/ 1 Mbps up *actual* speeds stand to win
- Competitive ETC funding of \$163 per year to be phased out under new program

Impact Across Puerto Rico Broadband Stakeholders

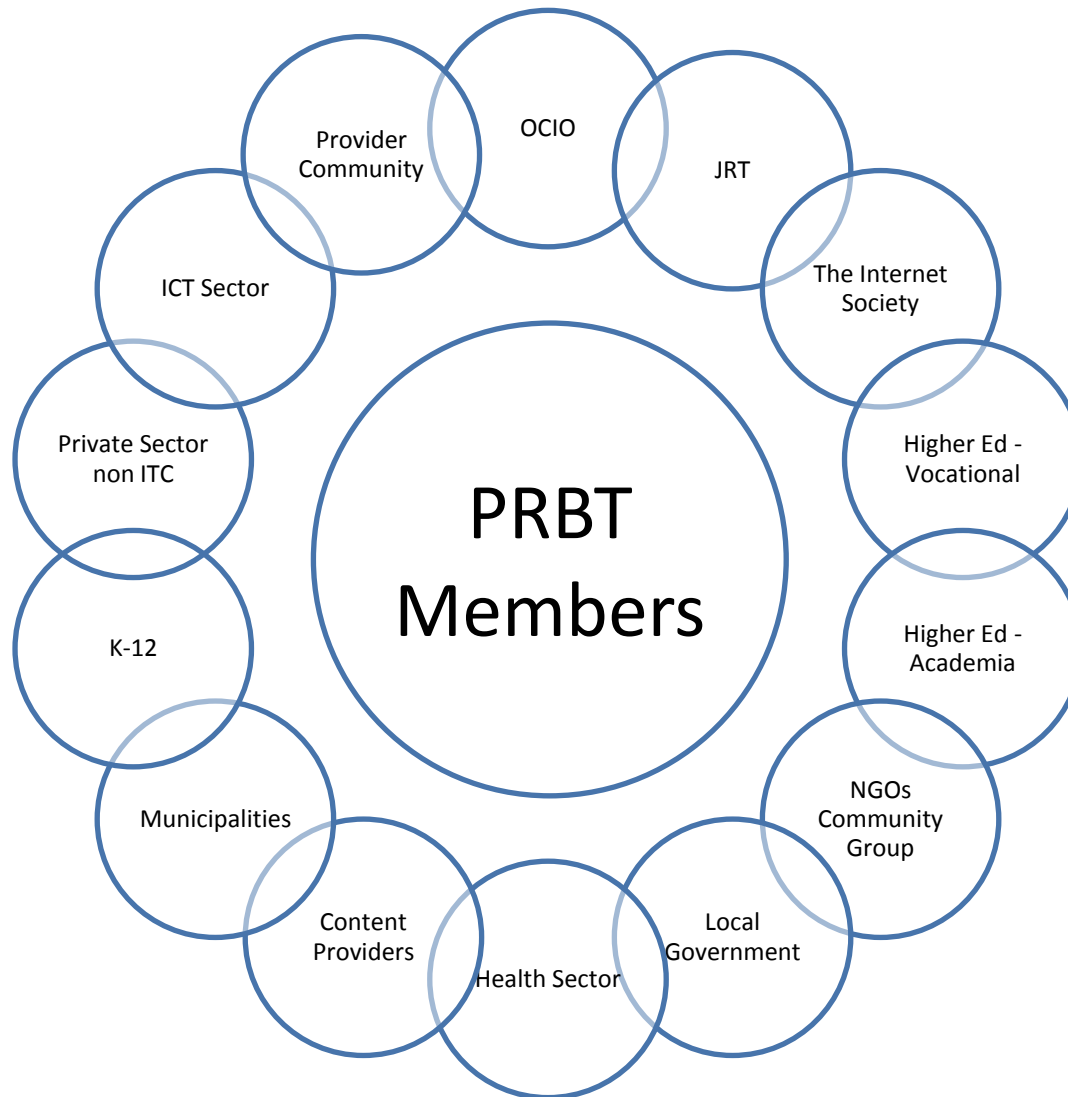
High-Cost Program Funds in Puerto Rico by Company - 2010

Company Name	Study Area Name	2010 Support
AT&T Inc.	CENTENNIAL PUERTO RICO OPERATIONS CORP.	\$27,058,494
AT&T Inc.	CINGULAR WIRELESS	\$37,380,228
América Móvil	P R T C - CENTRAL	\$6,996,693
América Móvil	PUERTO RICO TEL CO	\$38,918,358
América Móvil	PUERTO RICO TELEPHONE COMPANY D/B/A VERIZON WIRELESS PUERTO	\$46,091,439
Deutsche Telekom AG	SUNCOM WIRELESS PUERTO RICO OPERATING CO.	\$26,658,105
PR Wireless LLC	PR WIRELESS INC.	\$17,010,954
Sprint Nextel Corporation	SPRINT SPECTRUM, LP	\$7,935,228
Worldnet Telecommunications	WORLDNET TELECOMMUNICATIONS	\$576,753
TOTAL		\$208,626,252

PR Recent Advocacy Efforts at the FCC regarding changes to USF fund

- Connect Puerto Rico's broadband map key to determining areas that are eligible for funding
- Puerto Rico is engaged with the FCC to ensure we leverage this opportunity
 - Outreach from Governor Fortuño – Oct 17 2011:
<http://fjallfoss.fcc.gov/ecfs/document/view?id=7021714838>
 - Outreach from Representative Pierluisi: Sep/Oct 2011
 - Letter from Broadband PPP Coalition – Oct 21 2011:
<http://fjallfoss.fcc.gov/ecfs/document/view?id=7021716816>
- Also Puerto Rican government working with FCC to institute special adoption pilot to address dire demand situation

Puerto Rico Broadband Taskforce



Addressing Challenges Across the Broadband Ecosystem

Access

- Serve the Unserved
- Increase Speed Capacity
- Better Quality of Service
- More Competition

Adoption

- Home and Mobile Broadband
- Public Computing Centers and IT-Literacy Training
- K-12
- Vulnerable Communities

Use

- e-Health
- e-Education
- Smart grids

PRBT Speed Capacity Goals

Fixed Networks (not including Mobile)

TARGET DATE	ACTUAL SPEED CAPACITY (Download /Upload) Mbps	PRBT GOAL Percent of Locations with Available Fixed Broadband
2015	4/1	98% All PR locations
2015	10/3	100% Urban 50% Rural Locations
2015	25/10	70% Urban Locations
2015	50/10	50% Urban Locations
2020	100/50	85% All Locations

PRBT Adoption Goals

TARGET DATE	RESIDENTIAL ADOPTION	BUSINESS ADOPTION
2013	55%	85%
2015	75%	100%

HIE



EHR #1



EHR #2



HIE/HIO



PRBT HIE Speed Capacity Goals

Broadband Availability – Fixed Networks By 2015

ACTUAL SPEED CAPACITY (Download) Mbps	PRBT HEALTH SECTOR
4	All Healthcare Providers
10	Nursing Homes and Rural Healthcare
25	Clinics and Large Physicians practices
100	Hospitals
1000	Academic and Large Medical Centers

- **Q & A**