

Broadband Adoption & Growth: From Access to Impact

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Overview of tech usage trends

(among individuals, data from Pew & NTIA)

	Cell Phone	Internet Use	Broadband at home	Smartphone
1998	37%	36%	n/a	n/a
2000	53	50	3	n/a
2003	65	61	16	n/a
2006	73	70	42	n/a
2009	82	74	63	17
2012	88	81	72	45
2013	91	85	*	56

Internet, Broadband, Smartphone Adoption

(Pew April 2012 & 2013 Data)

- 82% of all Americans are Internet users
- 66% of all Americans have broadband at home
- 56% of all Americans have a Smartphone

Group	% who use the Internet	% with broadband at home	% with Smartphones (2013)
Seniors (65+)	53%	39%	18%
Household income under \$30K annually	71	46	43
Less than HS education	68	49	36
Hispanics	75	51	60
Blacks	77	54	64

Main reasons people do not adopt broadband at home (FCC 2010)

- **Cost** – 36% cite a reason pertaining to this:
 - 15% specifically point to monthly fee for service
 - 10% say they cannot afford a computer
 - 9% activation fee/reluctance to enter into long-term contract
- **Digital literacy** – 22% of non-adopters:
 - 12% say lack of comfort with computers
 - 10% cite hazards of online life (e.g., worries of “bad things that can happen” online)
- **Relevance** – 19% of non-adopters:
 - Content with current dial-up service/don’t need more speed (5%)
 - Believe internet is a waste of time (5%)
 - Nothing they want to see online (4%)
 - Don’t use internet much (4%)
- Remaining reasons:
 - 15% -- other or combination of several reasons
 - 5% -- not available where they live
 - 3% -- can use the internet all they want at work

Barriers to adoption

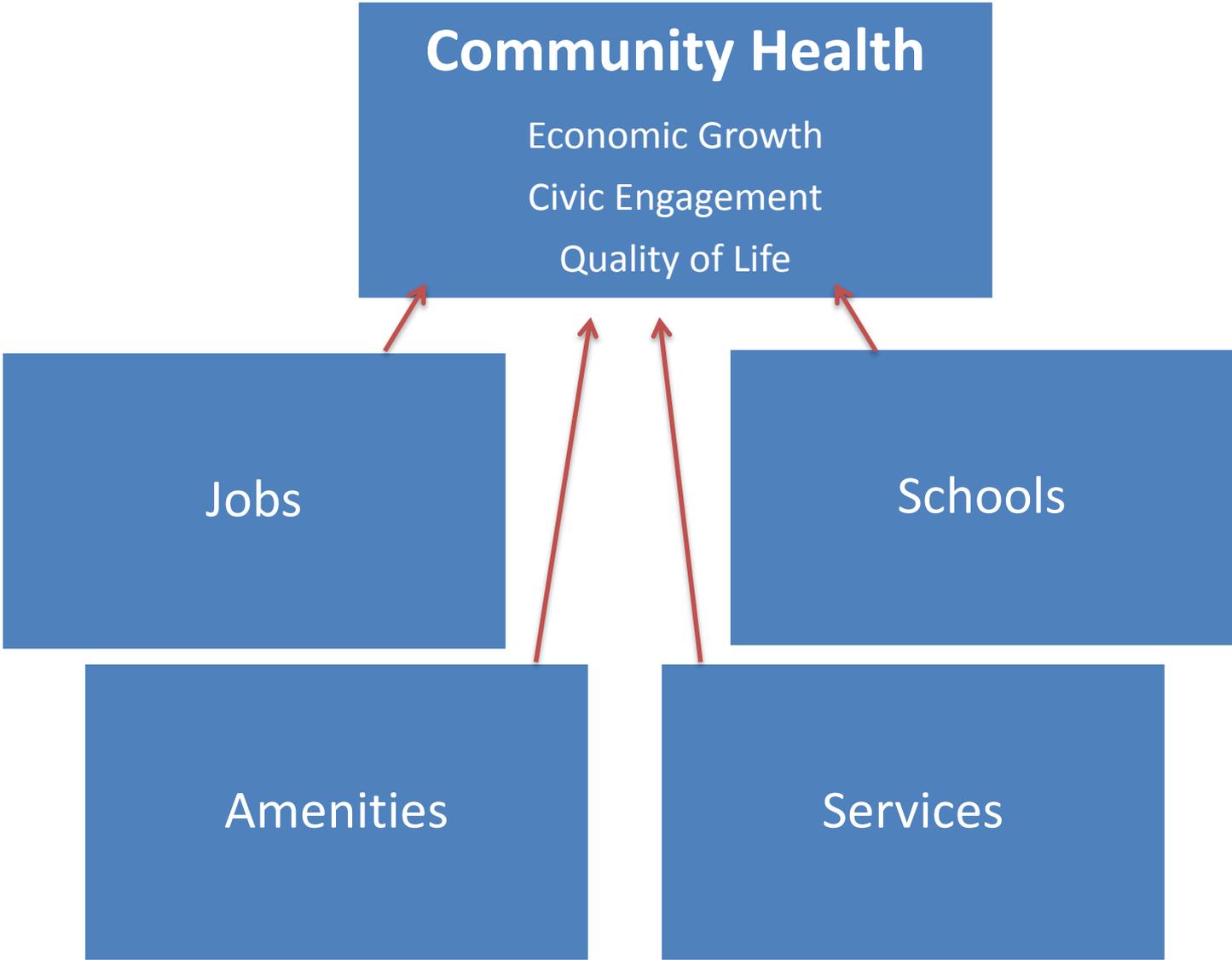
(when respondent can choose more than one, FCC 2010)

Monthly cost too expensive	51%
Activation/installation too much	44%
Worried about bad things online	35%
Not comfortable with computer	32%
Cannot afford computer	32%
Nothing online I want to see	25%
Internet is waste of time	24%
Not available where I live	16%
Uses internet at work	9%

Why does broadband adoption matter to communities?

- Inclusion as a social & economic value
- Cost of digital exclusion
- Driver of network investment
- Efficiencies in service delivery

Where does broadband fit?



Measuring Impact: Complications

- Technology Diffusion Lag
 - Sunk Costs
 - Sunk Thought
- Because broadband is a **general purpose technology** and an **input good** – measuring overall economic impact is difficult
- As a contributor to **social welfare**, most standard economic impact studies will miss important effects

Measuring Impact of Broadband

Jobs

Higher employment,
businesses growth,
housing rental rates
Lehr et al (2006)

Efficiency

10% increase broadband
= 3.6% increase efficiency
Thomson & Garbacz
(2008)

Income

10% increase broadband
= 1.21-1.38% increase
GDP
(World Bank)

Productivity

1% increase in adoption
increases workforce
productivity 0.13%
Waverman et al. (2005)

Cumulative Impact: Texas

A one percentage point increase in broadband adoption in Texas could result in...

- An additional \$110.6 million per year saved in visits to the doctor's office and emergency rooms +
- An additional \$162 million per year saved in driving costs +
- An additional reduction in automotive CO₂ emissions valued at \$703,000 saved per year +
- 40.8 million hours saved by Texans doing things faster online, worth approximately \$427.9 million.

\$700 million per year for residential consumers alone

Source: Connected Texas, *How Broadband Impacts the Texas Economy* (2013)

http://www.connectedtx.org/sites/default/files/connected-nation/Texas/files/tx_economy_report_final.pdf

How Can Communities Achieve these Results?

ENGAGE

- Community Technology Advisors
- Community champion
- Multi-sector community broadband team

ASSESS

- Identify technology assets, resources, and local projects
- Assess local broadband access, adoption, and use

PLAN

- Collaborate to develop a technology action plan, framed by the National Broadband Plan

PROMOTE

- Build awareness locally via events & media
- Community of Communities
- Promote status via Connected Certification

Connected Community Assessment

- Is our infrastructure adequate?



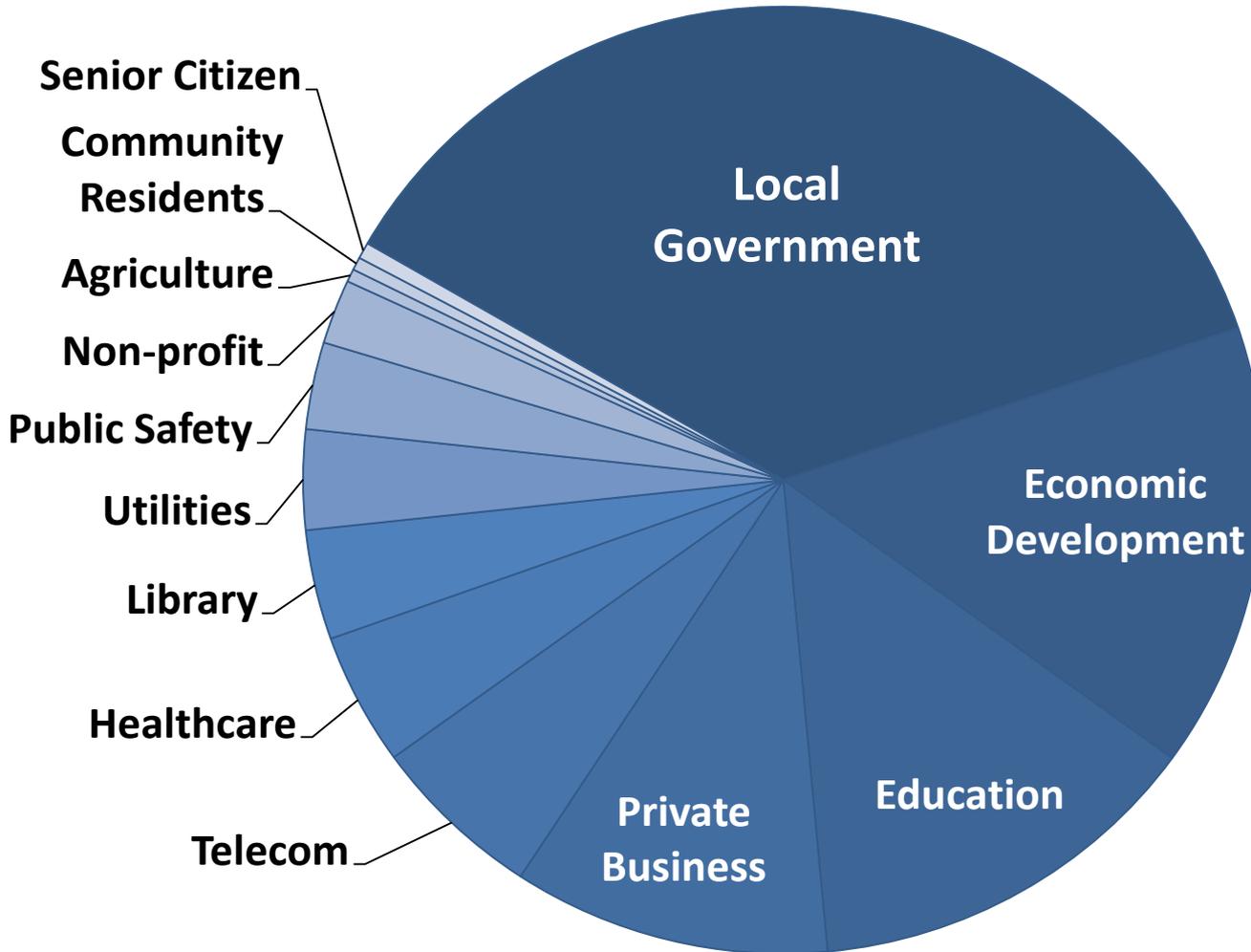
- Are we addressing barriers to home and business broadband adoption?



- Are we pursuing meaningful broadband applications?



Connected: Gathering the Unusual Suspects



170 Communities in 7 states, pop. >5 million

Grant-Funded

Communities range from 783 (Esmeralda NV) to 188,488 (Anderson SC)

Diverse Array of Participants

Observations

- Broadband is crucial to the future of your community
- Increasing broadband access, adoption, and use is not automatic
- Every community faces different challenges – need to research, assess and understand the gaps your particular community faces
- Community leaders *can* affect the “digital destiny” of their communities
 - How easy is it to bring broadband here?
 - How are schools using technology?
 - Is the local library adequately equipped to meet community tech needs?
 - How are workers trained in technology skills?
 - Can local government purchasing of broadband improve the lot for the whole community?
- Discovering solutions broadband requires **proactive, broad-based** and **informed** community engagement

Contact Information

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