

Fiber-to-the-Home Council

North America

TAP INTO THE MOST VALUABLE BROADBAND RESOURCE AVAILABLE



North American FTTH/FTTP Deployment Status

Presented by:
Michael C. Render

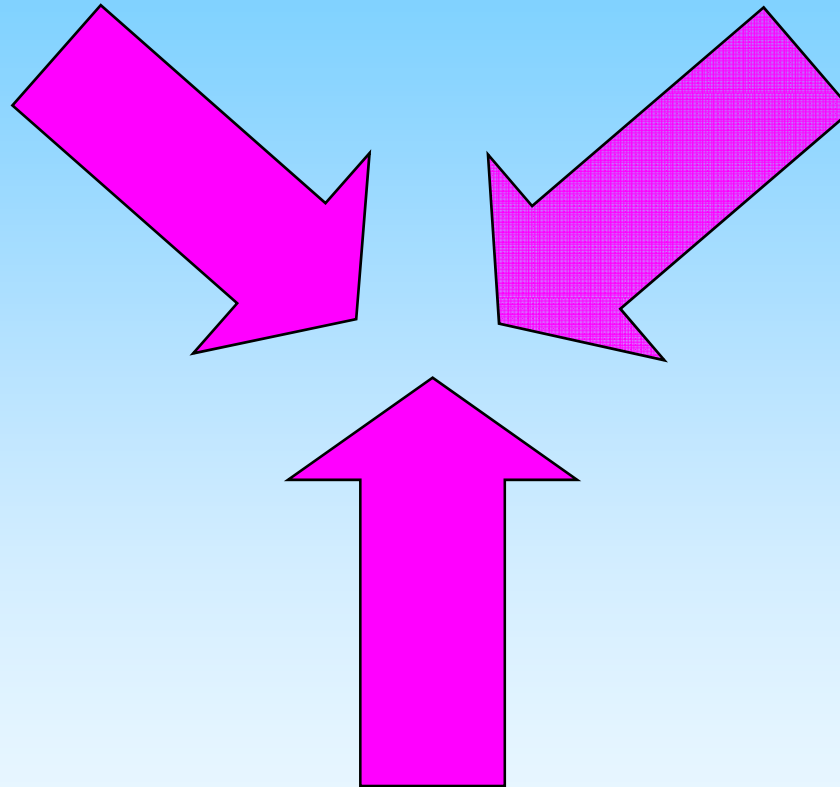
RVA LLC
Market Research & Consulting



Market research objective: High accuracy

Vendor information
and interviews (nearly all)

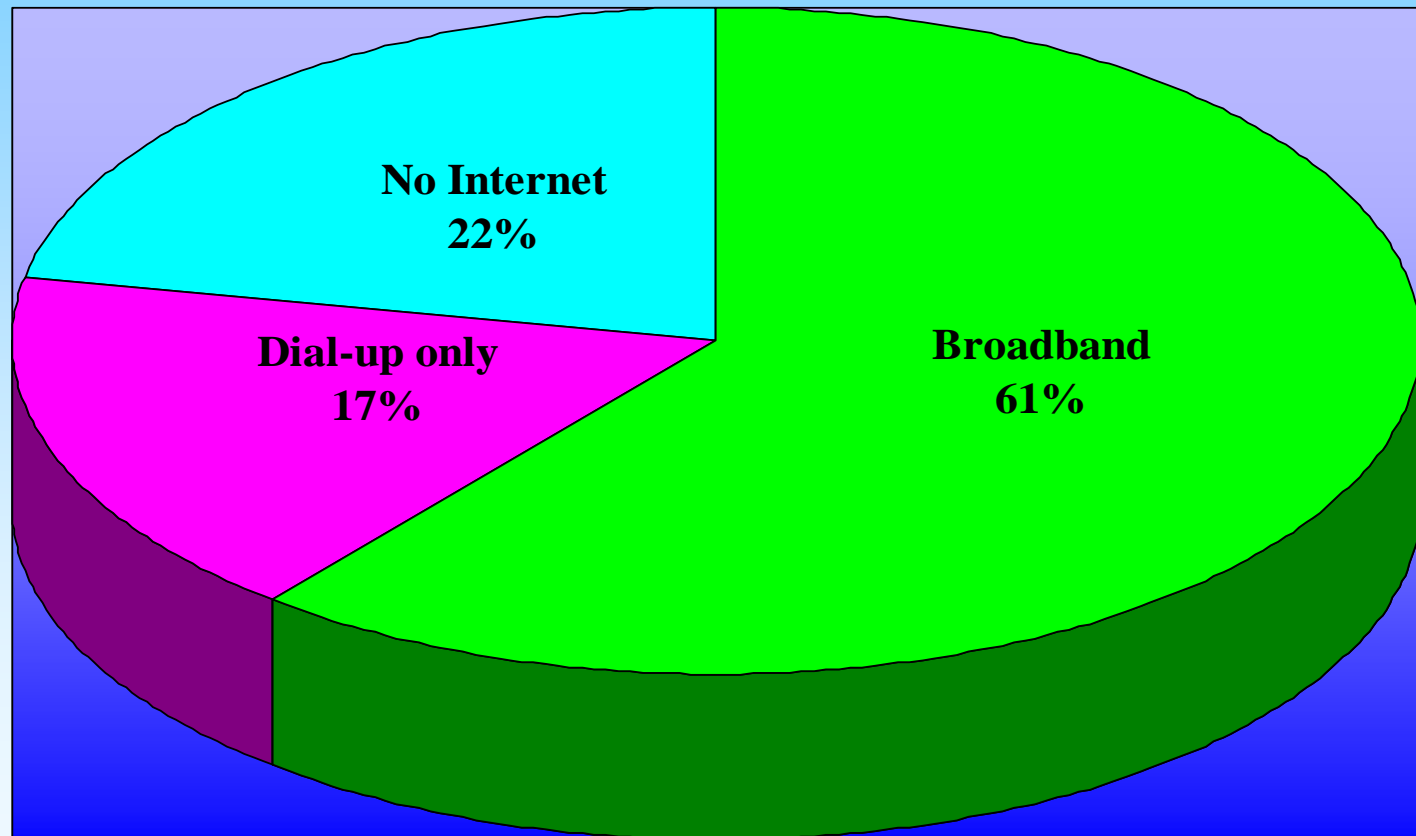
Provider information and
detailed interviews (over 1/3)



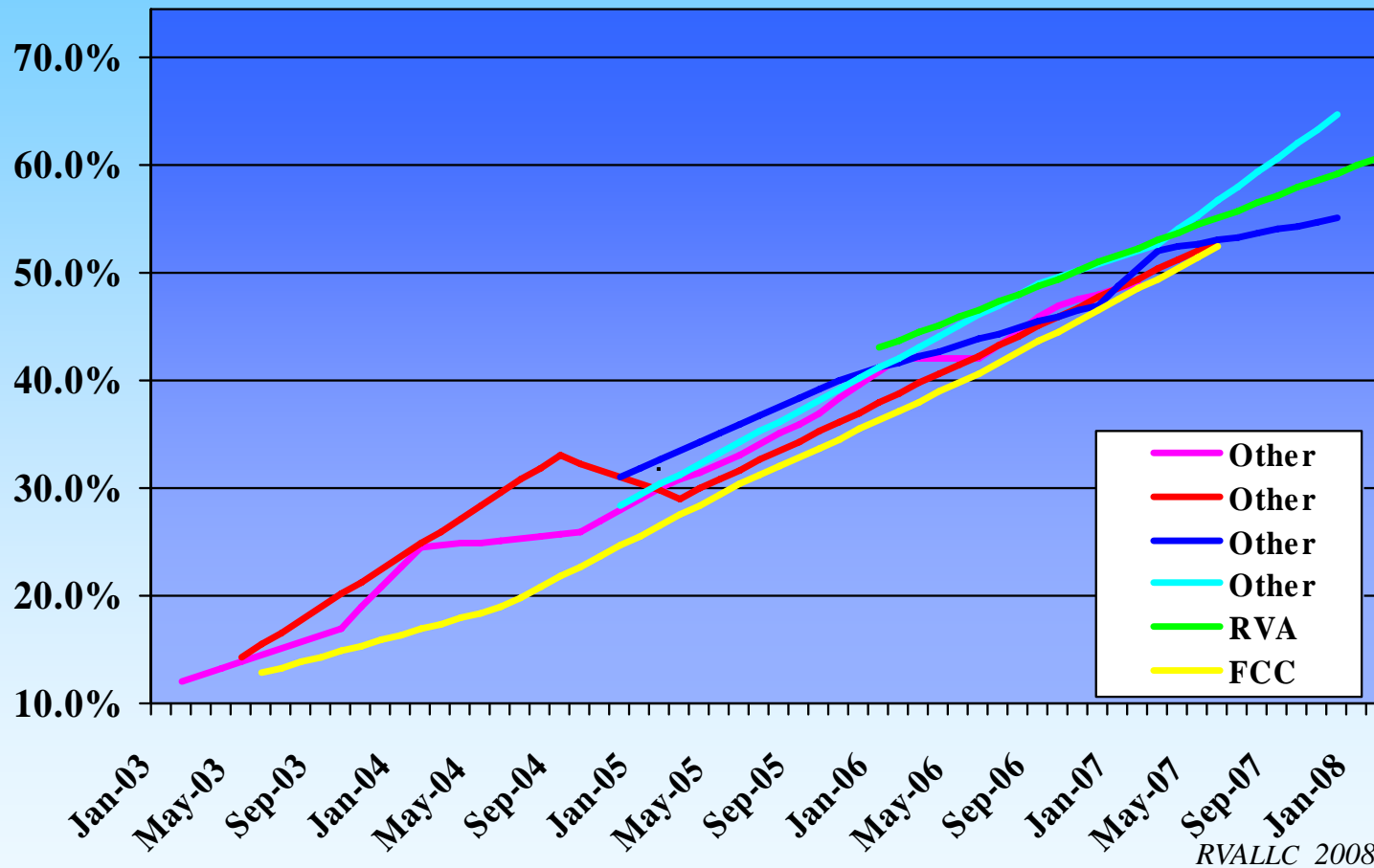
Consumer input
(initial 100K panel)

Background: Broadband is growing.

Current Status Of U.S. Internet Use



U.S. Broadband Penetration Estimates From Various Market Research Sources

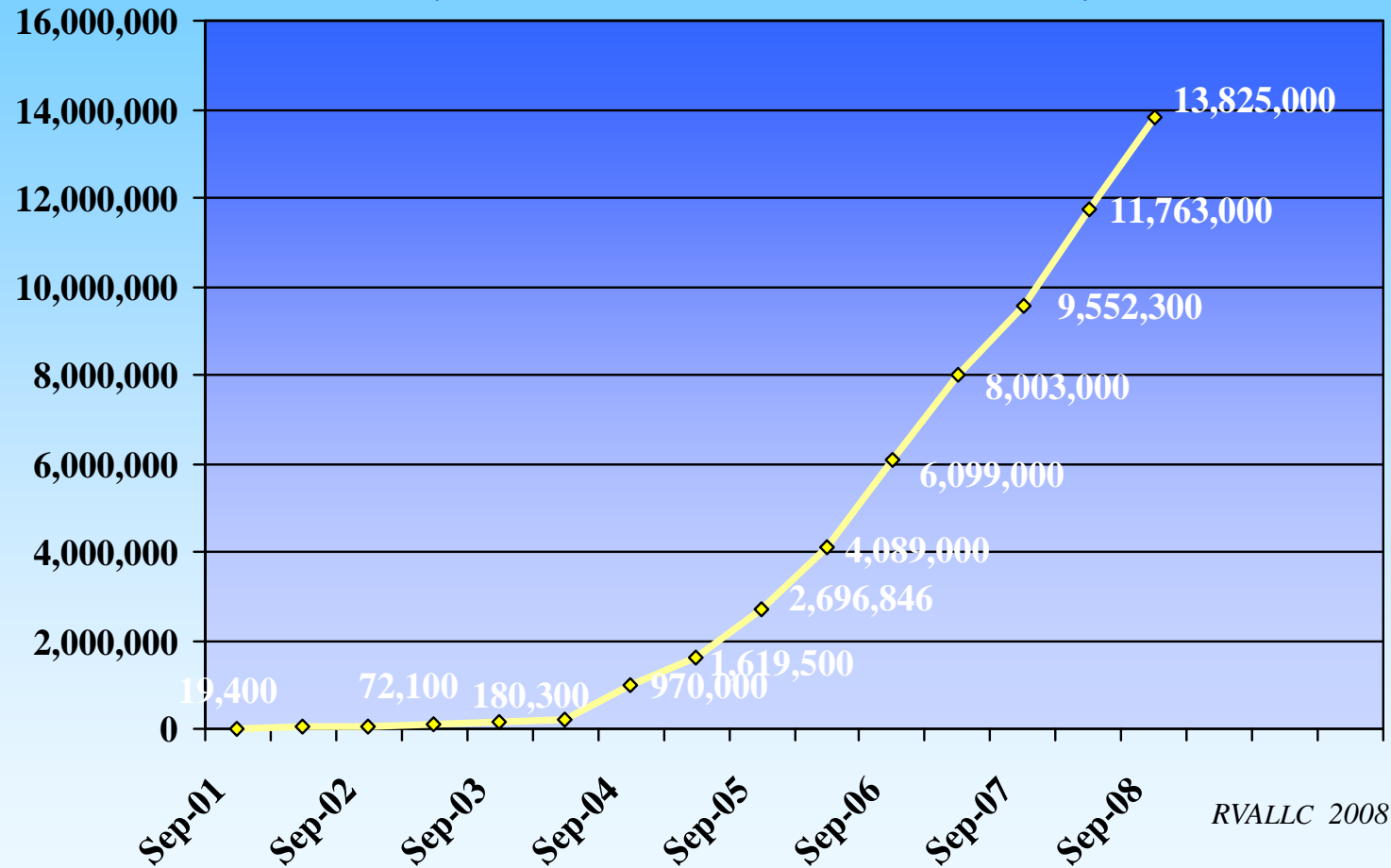


Notes: Other market research sources from public releases. FCC data before 2005 includes small business. Linear trends filled between data points.

FTTH is growing.

(Fiber all the way to the living unit used for services such as television, Internet, telephone, security, and meter reading)

FTTH Homes Passed (Cumulative – North America)

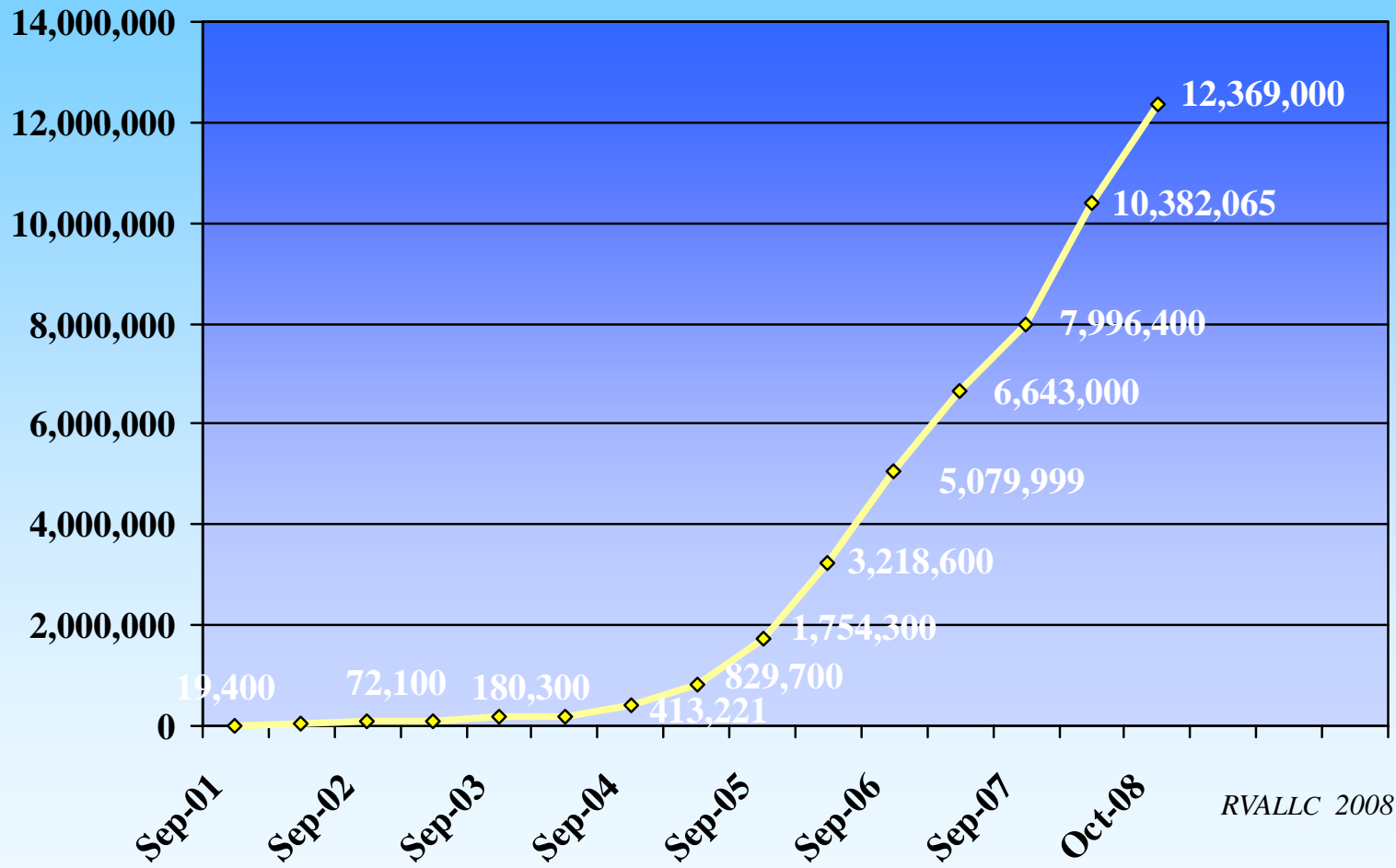


RVALLC 2008

Note: Over 98% in US

FTTH Homes Marketed

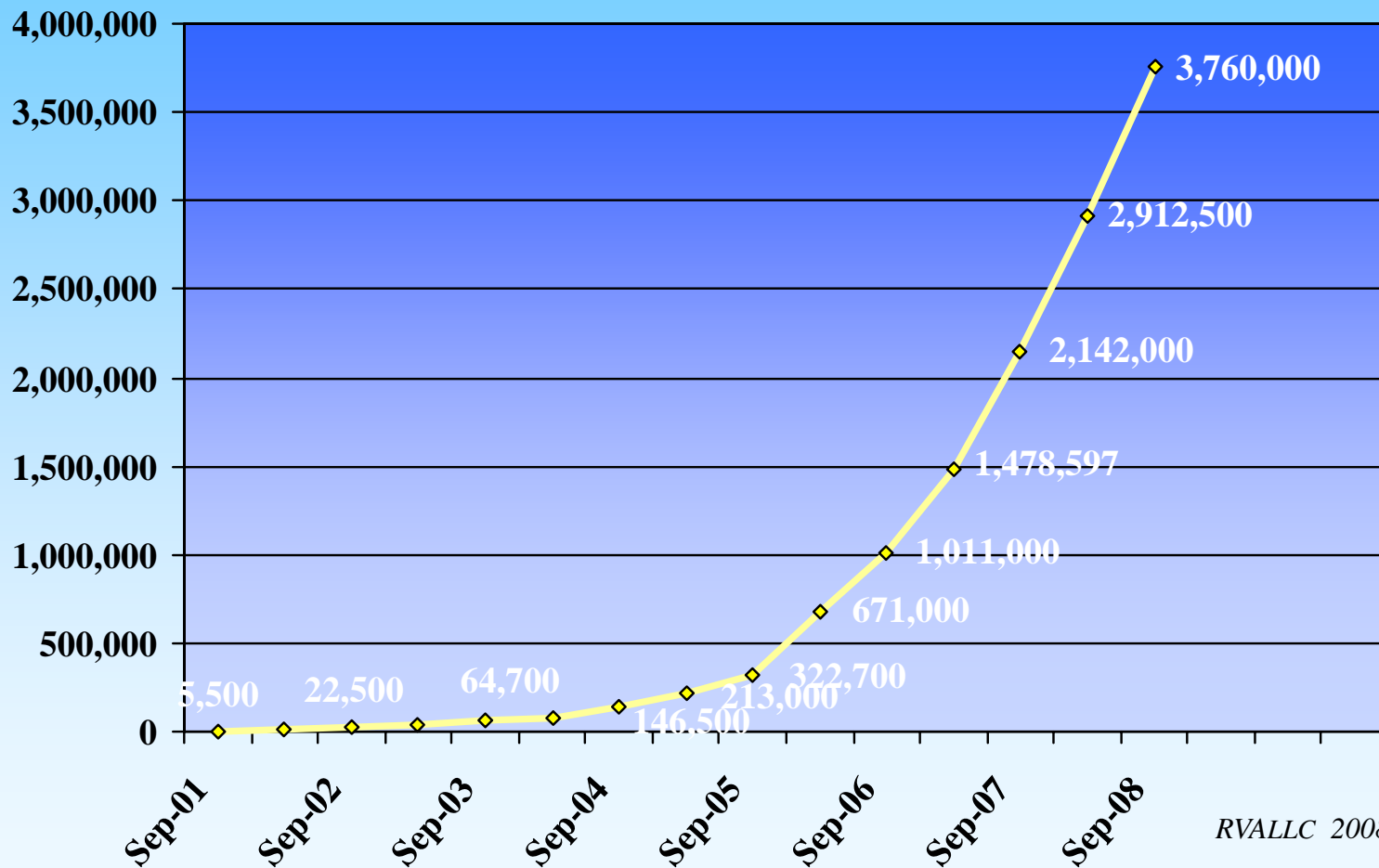
(Cumulative – North America)



RVALLC 2008

Note: Over 98% in US

FTTH Homes Connected (Cumulative – North America)

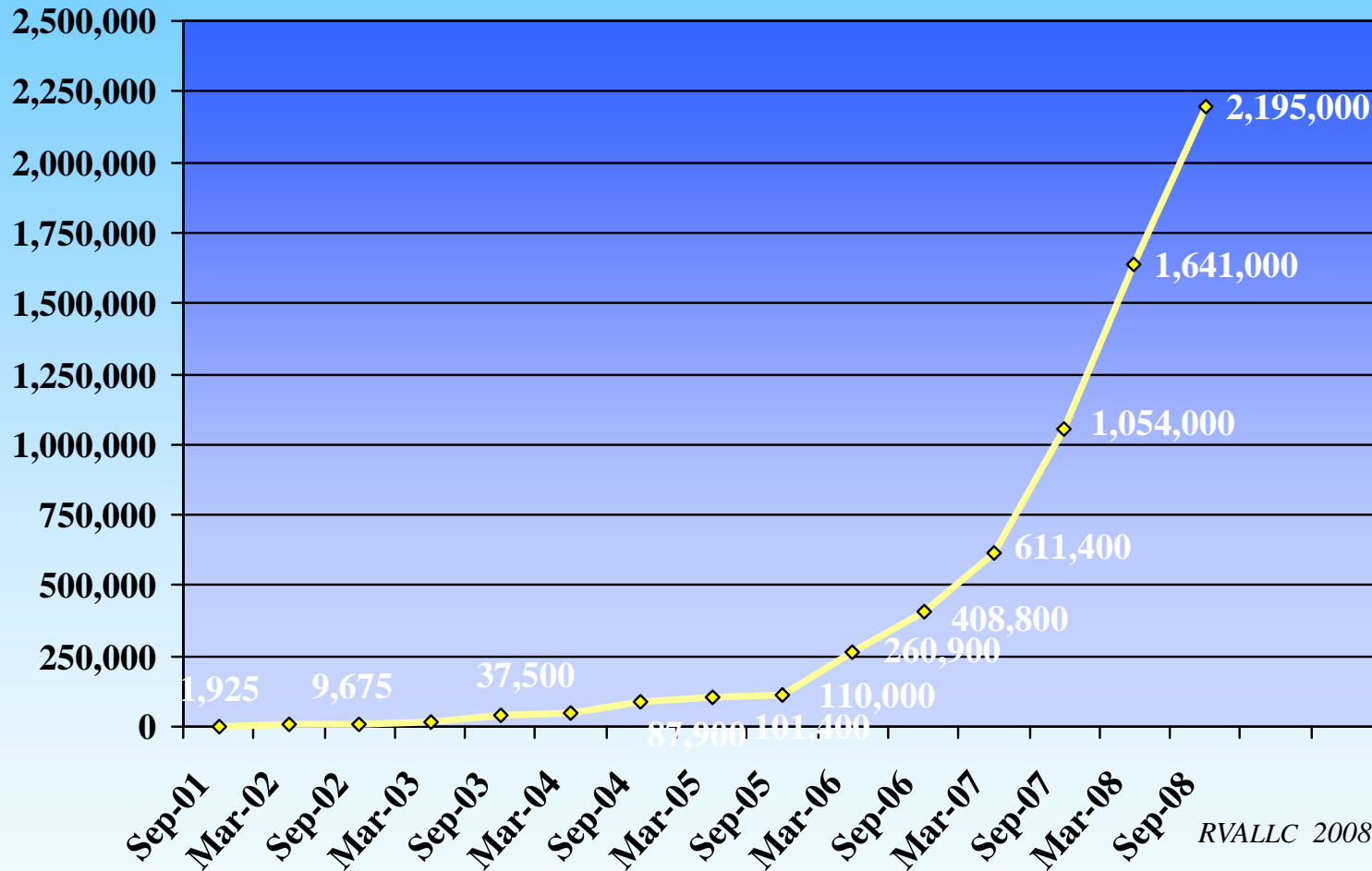


RVALLC 2008

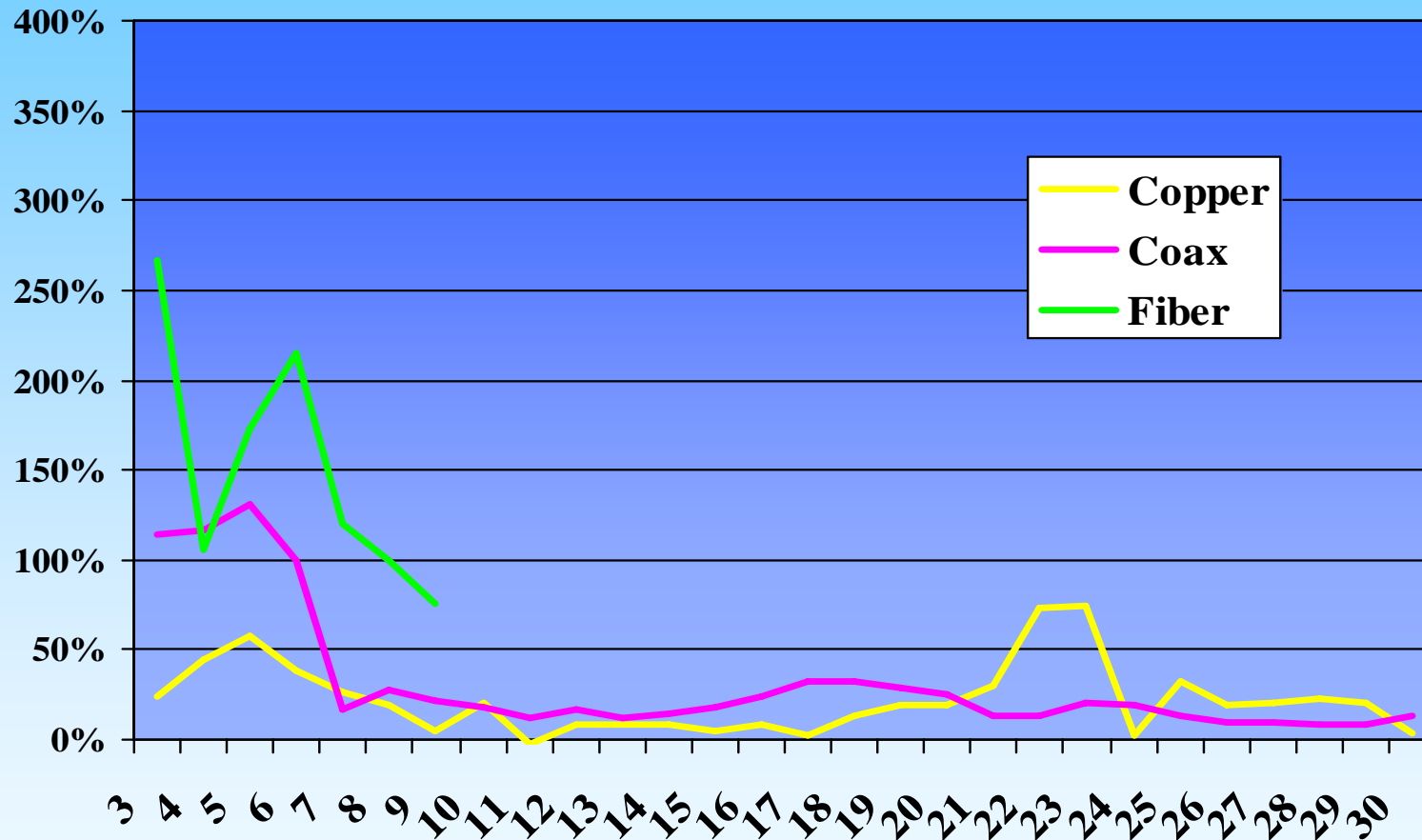
Note: Over 98% in US

FTTH Video Homes Connected

(Cumulative – North America)



Year-to-Year Growth In Homes Connected (12 month averages)

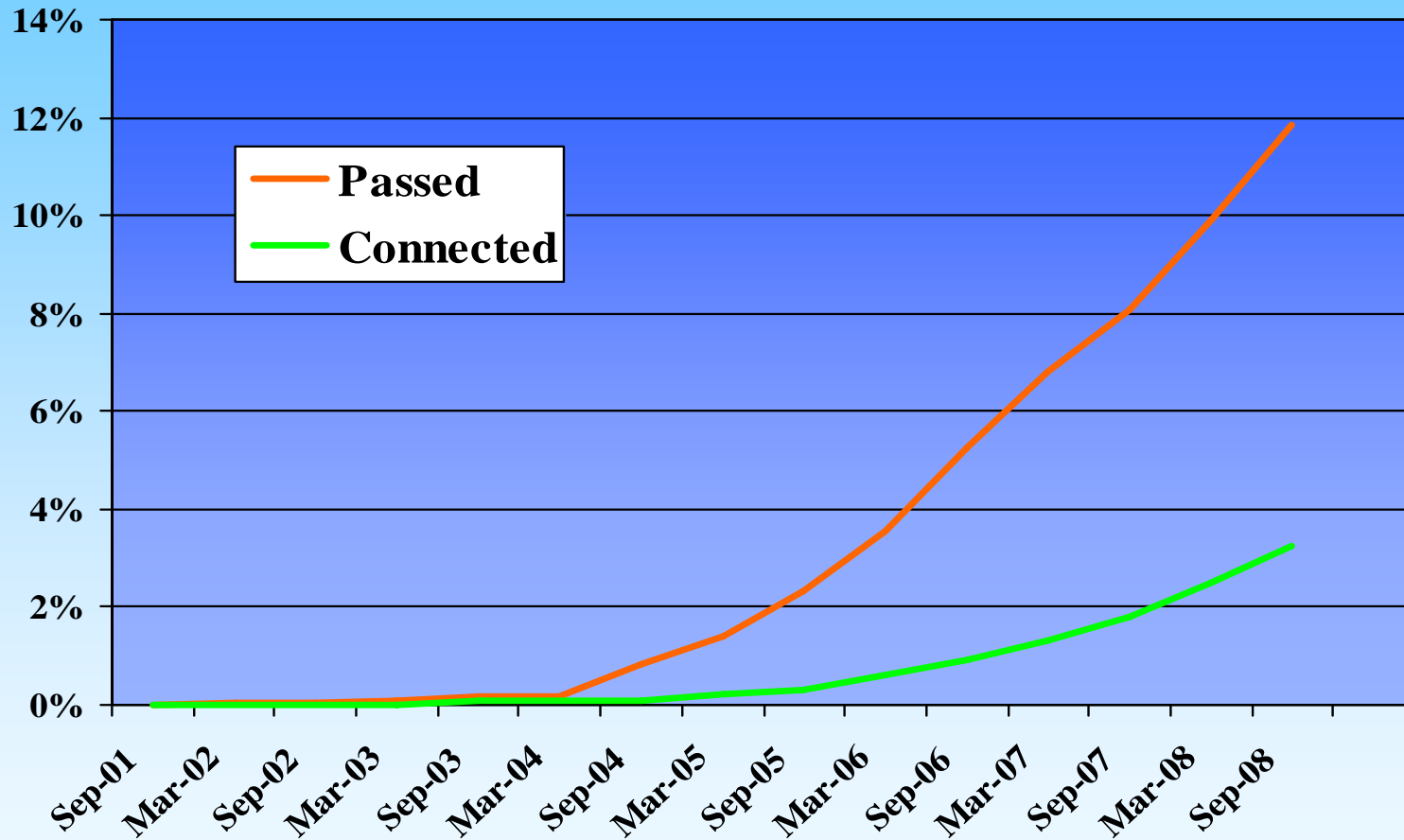


Note: Years since start of installations

RVALLC 2008

**North American FTTH
penetration is increasing.**

FTTH Penetration (Cumulative – United States)



RVALLC 2008



US GLOBAL RANK

-2nd in actual number of true FTTH connections

-Approximately 4th in true FTTH penetration

-Approximately 8th in fiber to the building penetration



In U.S. areas covered by Verizon or Tier 3 ILECs (About 1/3 of households), **over 7%** of homes are already directly connected with fiber. (Most by telcos, but some MSO and other competition has begun.)



In U.S. areas covered by AT&T, Qwest, or Tier 2 ILECs (About 2/3 of households), **less than 1%** of homes are directly connected with fiber. (Most from competitive providers, such as facilities-based CLECs and Munis, though telcos are connecting some new homes.)



In North America outside of the U.S., only **0.2%** of homes are connected with fiber.

How Does California Rank?

California FTTH Statistics

- California has about 68% covered with broadband (State ranking 7th)
- California has about 268,000 FTTH Connections or about 2% penetration. (State Ranking 16th)
- All types of Providers are represented in California: RBOC, ILEC, CLEC, MUNI, Developer
- California is breaking ground in some areas:
 - Urban competitive CLEC
 - Gigabit to the home service

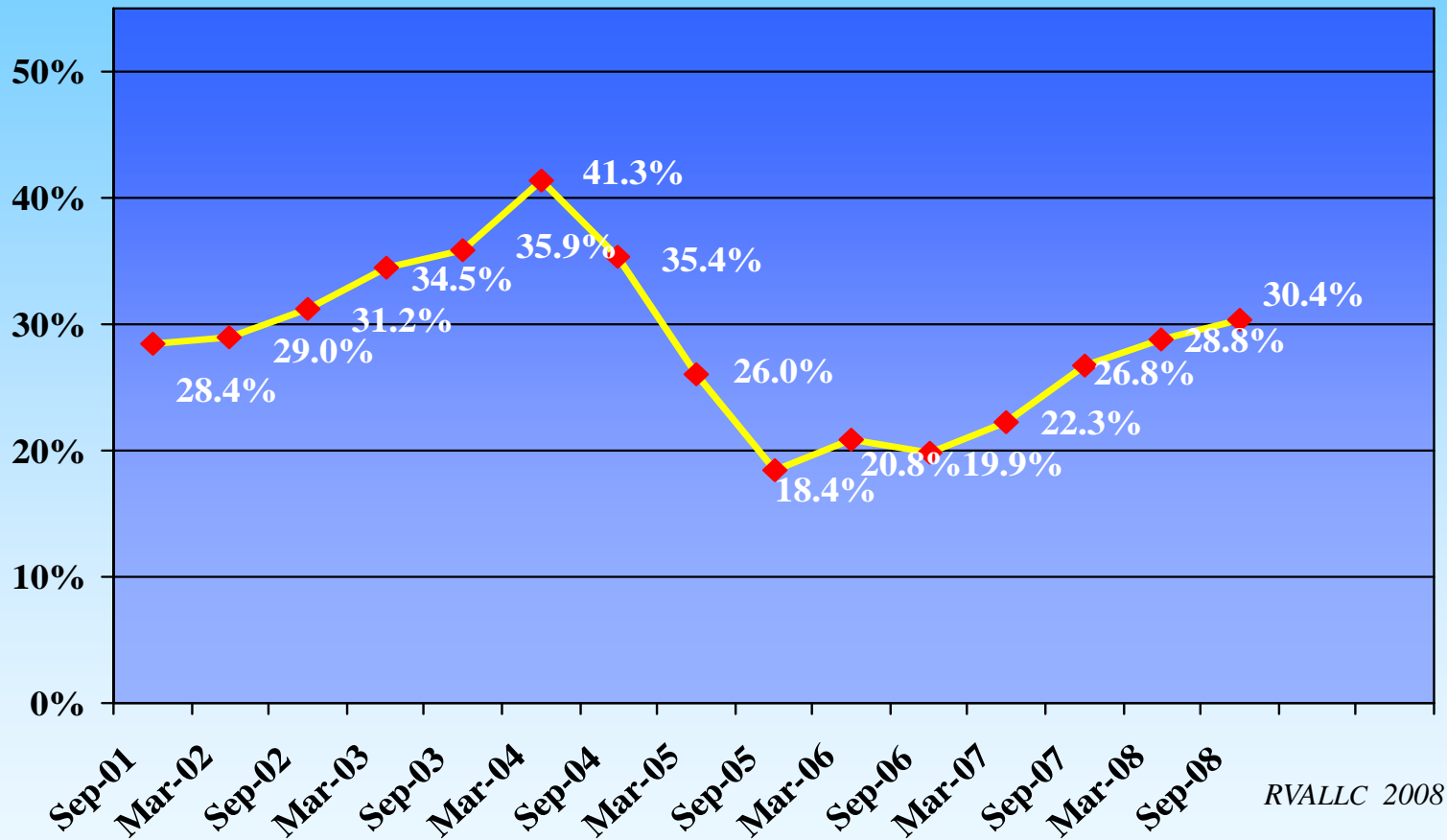
What Does the Future of FTTH Hold?

Some Slowdown, Then Acceleration

- Greenfield FTTH has been hit hard by the residential building collapse, but will start to increase again at some point.
- CLEC and Muni FTTH are suffering from capital problems but public and private help could be coming.
- RBOC and ILEC FTTH have been least affected, but will show some slowdown before accelerating.

FTTH take-rates are growing.

Overall Take-Rate For FTTH (Cumulative – North America)



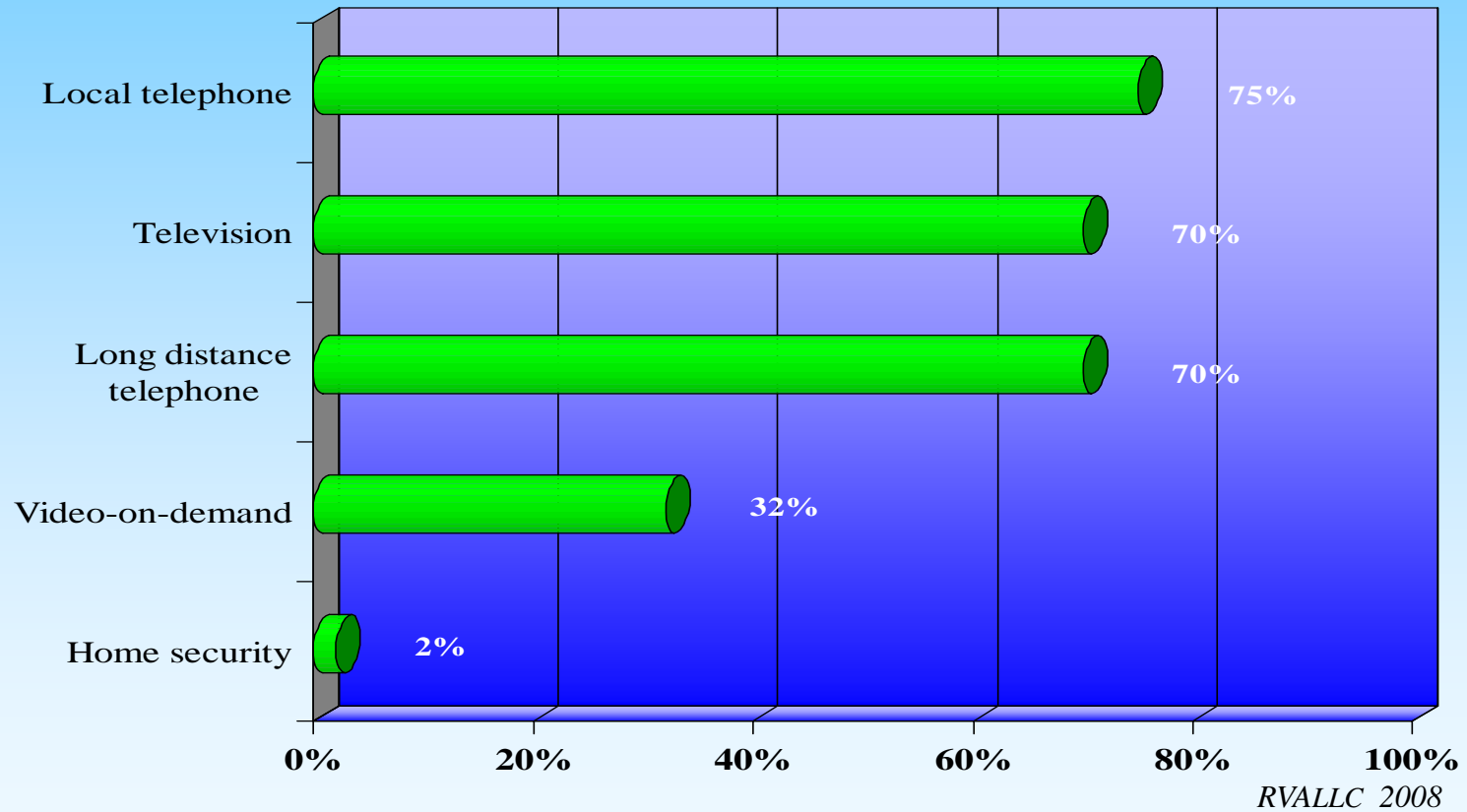
Notes: Percent of all homes-marketed taking something over fiber. Take-rates dropped for a time as Verizon built infrastructure much faster than homes were connected.

Take-Rates Vary By Provider Type

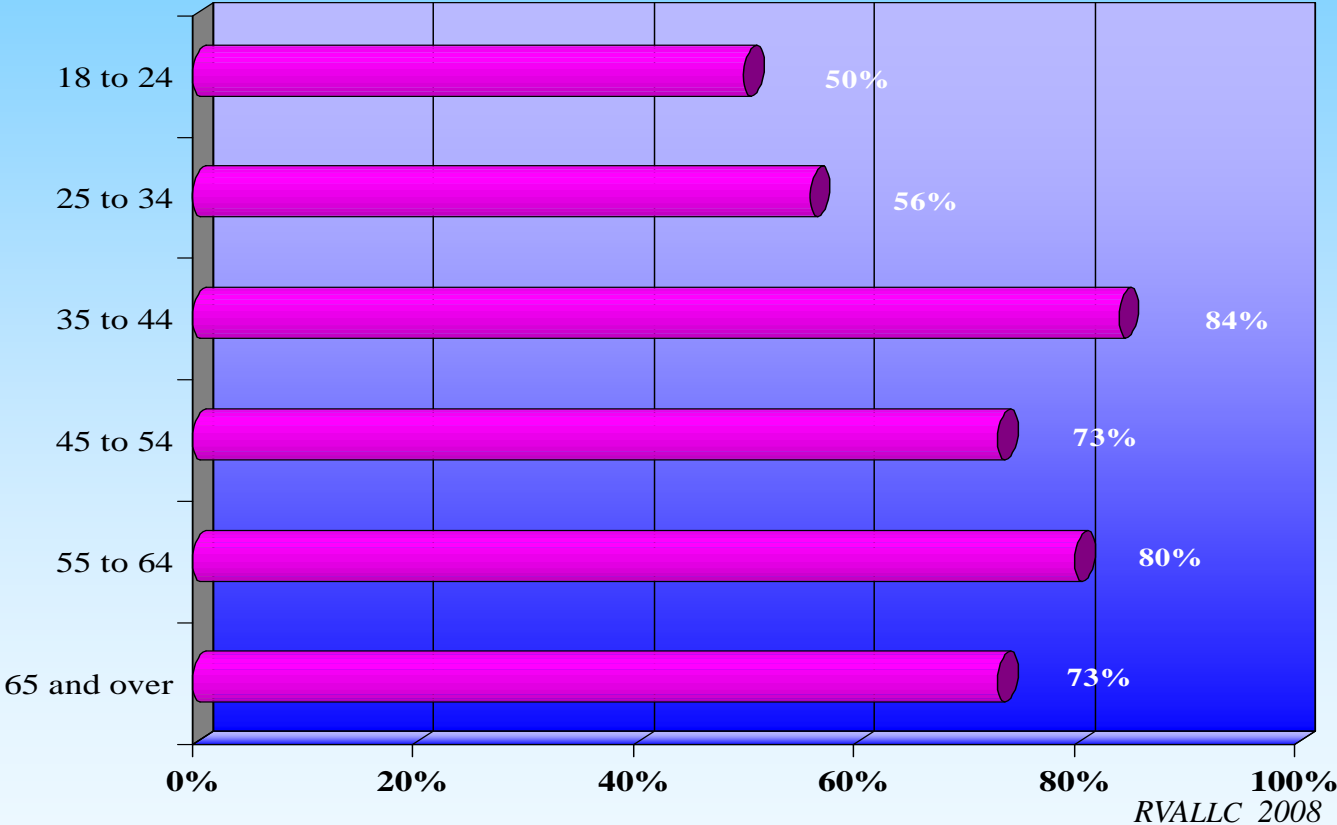
- CLEC in competitive area – about 29%
- RBOC in competitive area – about 35%
- Small / mid size municipality (retail) – about 54%
- CLEC in underserved area – about 55%
- Rural ILEC – about 58%
- Development – about 80%

Bandwidth Usage Is Growing

Services Subscribed To Over FTTH (Besides Internet)

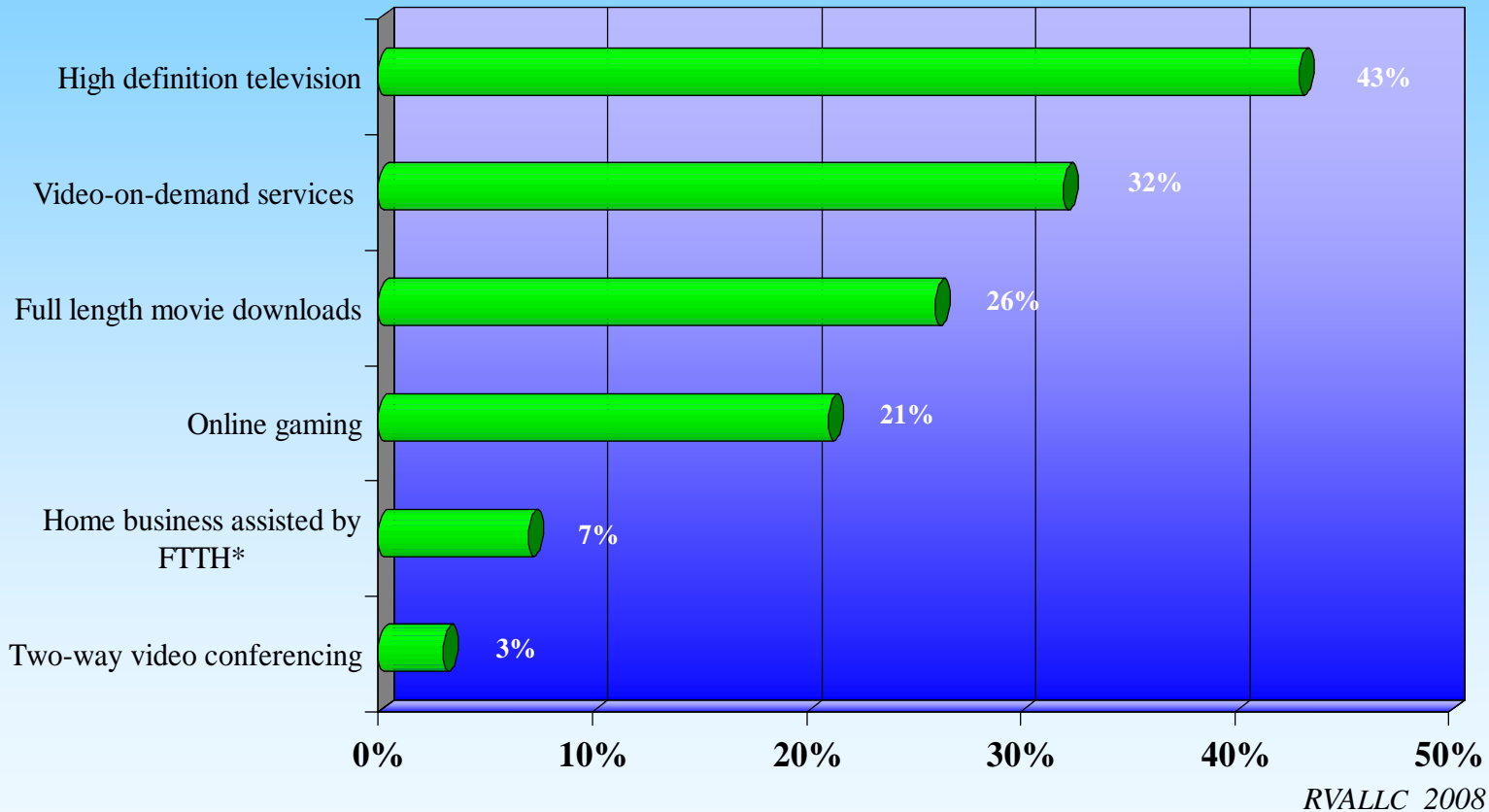


Subscribe To Local Telephone Via FTTH By Age



Important: This chart shows the percent of those in each subgroup with a given opinion/attribute

Selected Advanced Customer Uses Of FTTH



* Home businesses more efficient or only possible with FTTH

2008 Research Continues To Show That FTTH Users Work About One Additional Day Per Month At Home Because Of FTTH



Change In Work From Home:

- 9% work more from home directly because of FTTH – average of 11 days more

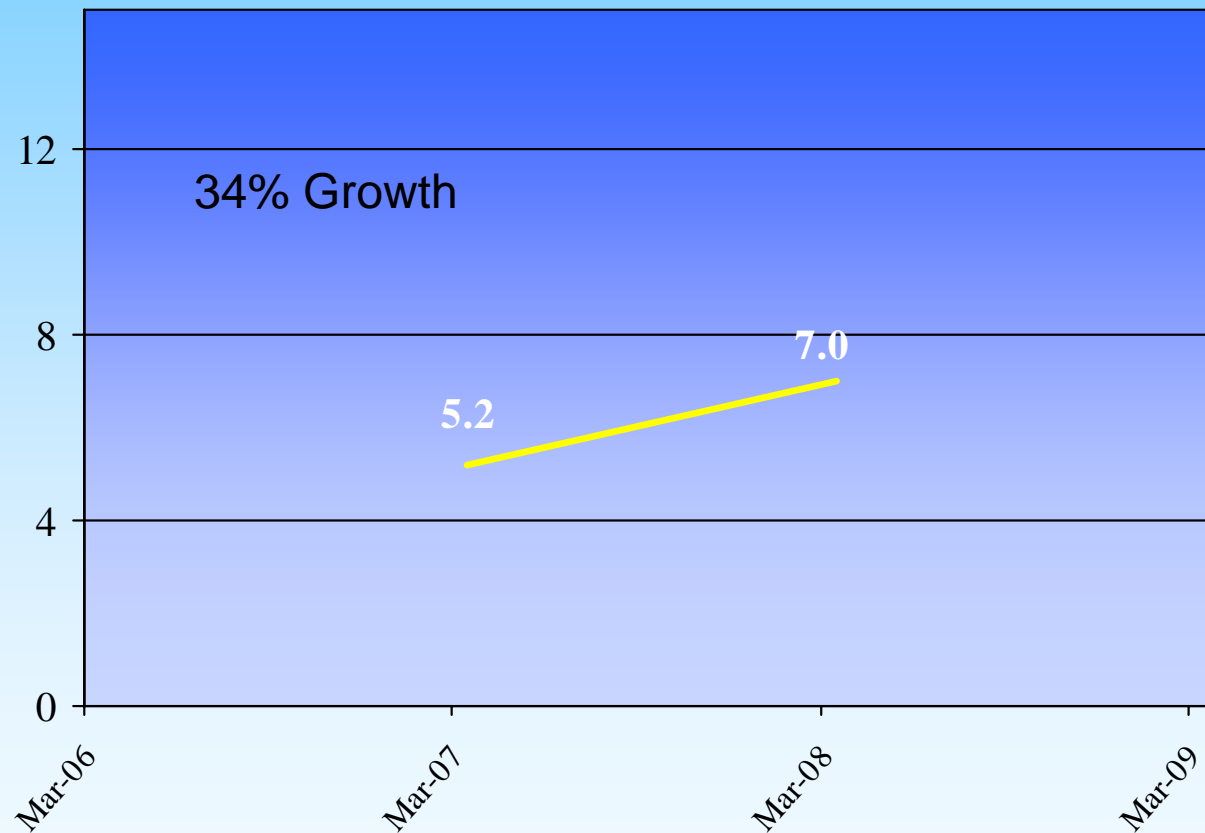
2008 Research Continues To Show That FTTH Users Work About One Additional Day Per Month At Home Because Of FTTH



If everyone had FTTH...

- 5% reduction in gasoline use
- 4% reduction in CO2 emissions
- \$5 billion in lower road expenditures
- 1.5 billion commute hours recaptured
- Direct savings to business

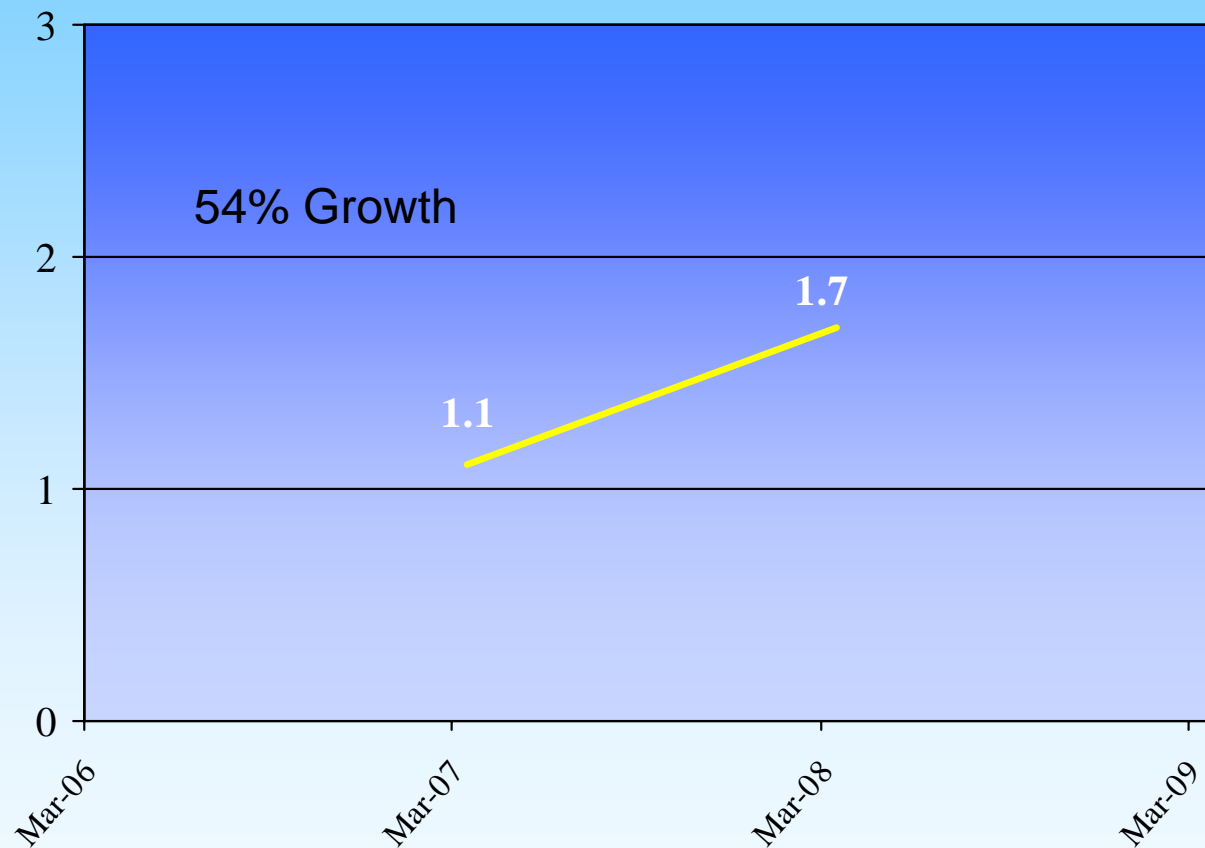
FTTH Median Tested Download Internet Speed (Mbps)



(3 times higher than all Broadband:2.4Mbps in June 2008 per CWA using a non scientific sample)

RVALLC 2008

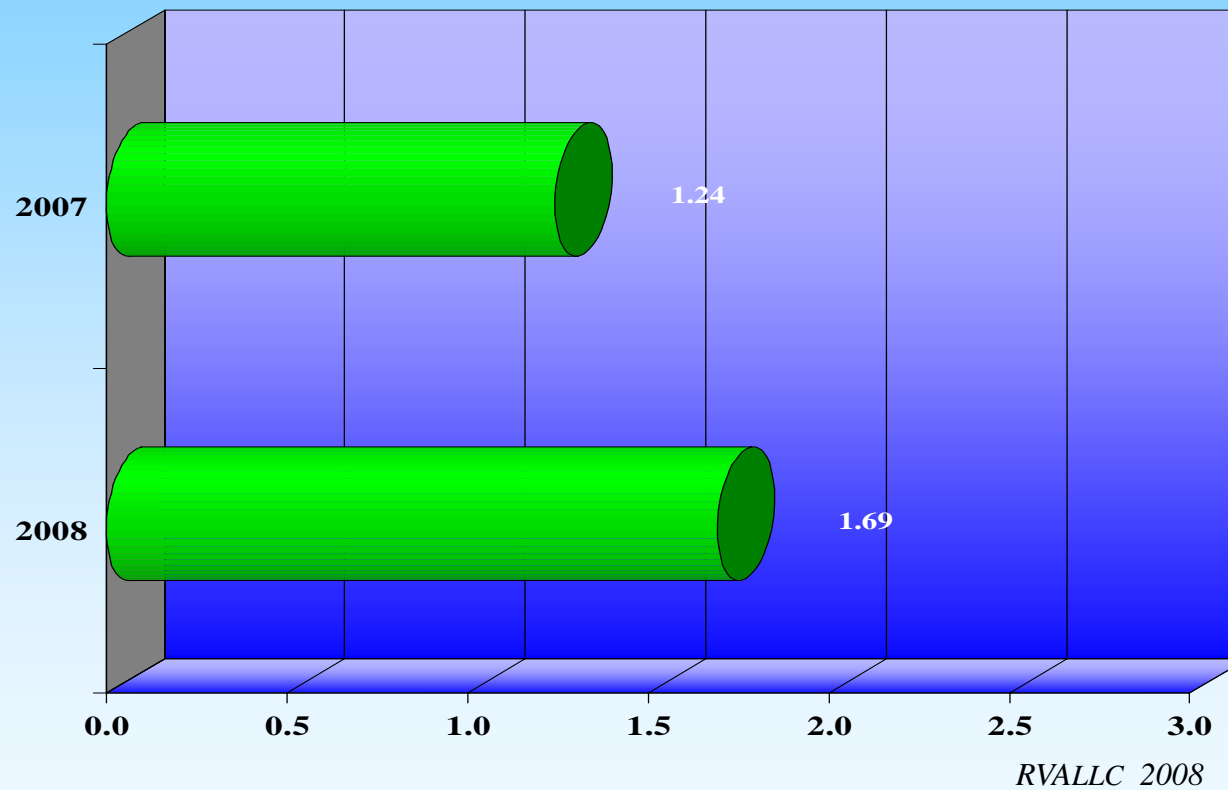
FTTH Median Tested Upload Internet Speed (Mbps)



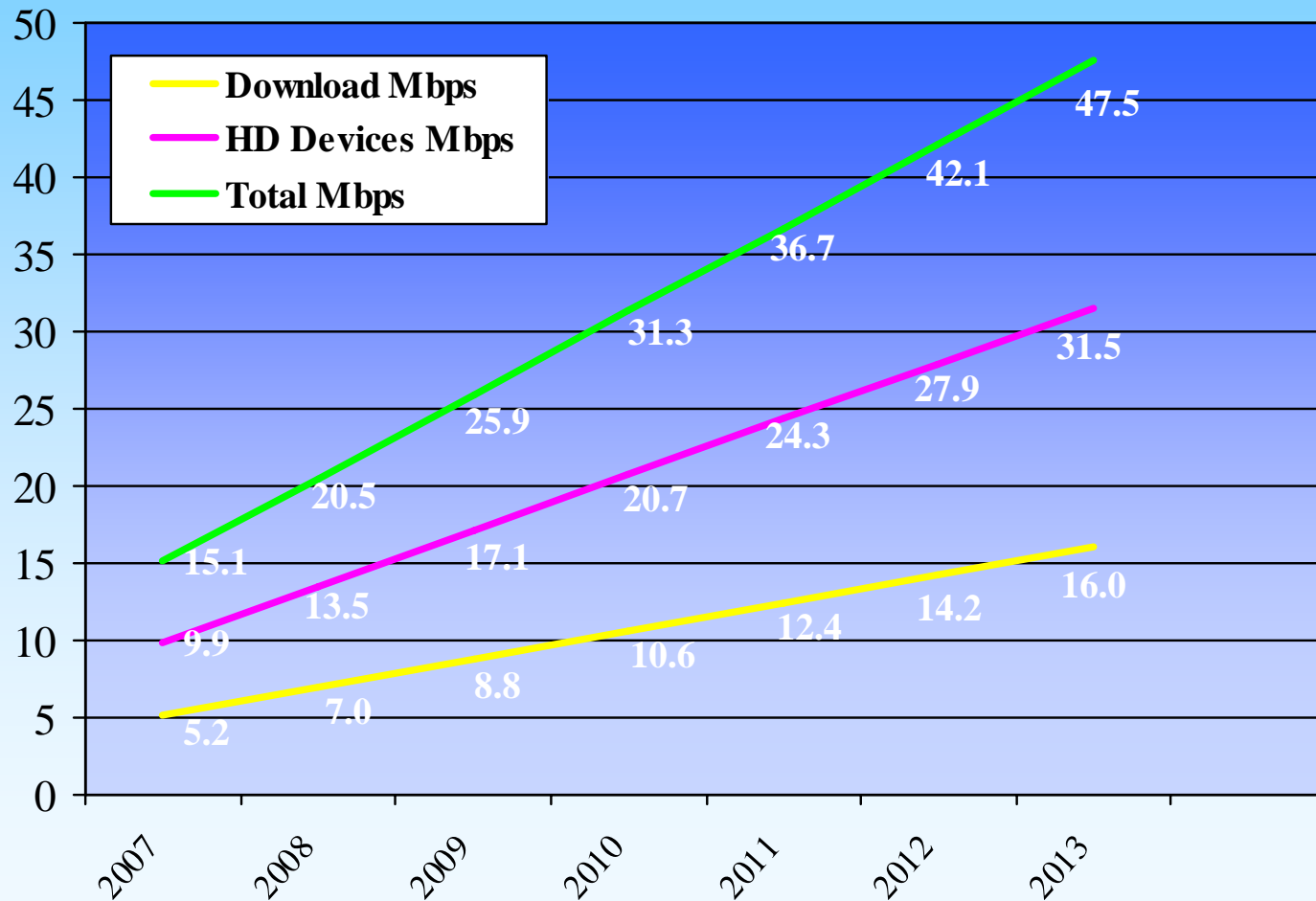
(4 times higher than all broadband : .4 Mbps in June 2008 per CWA using a non scientific sample)

RVALLC 2008

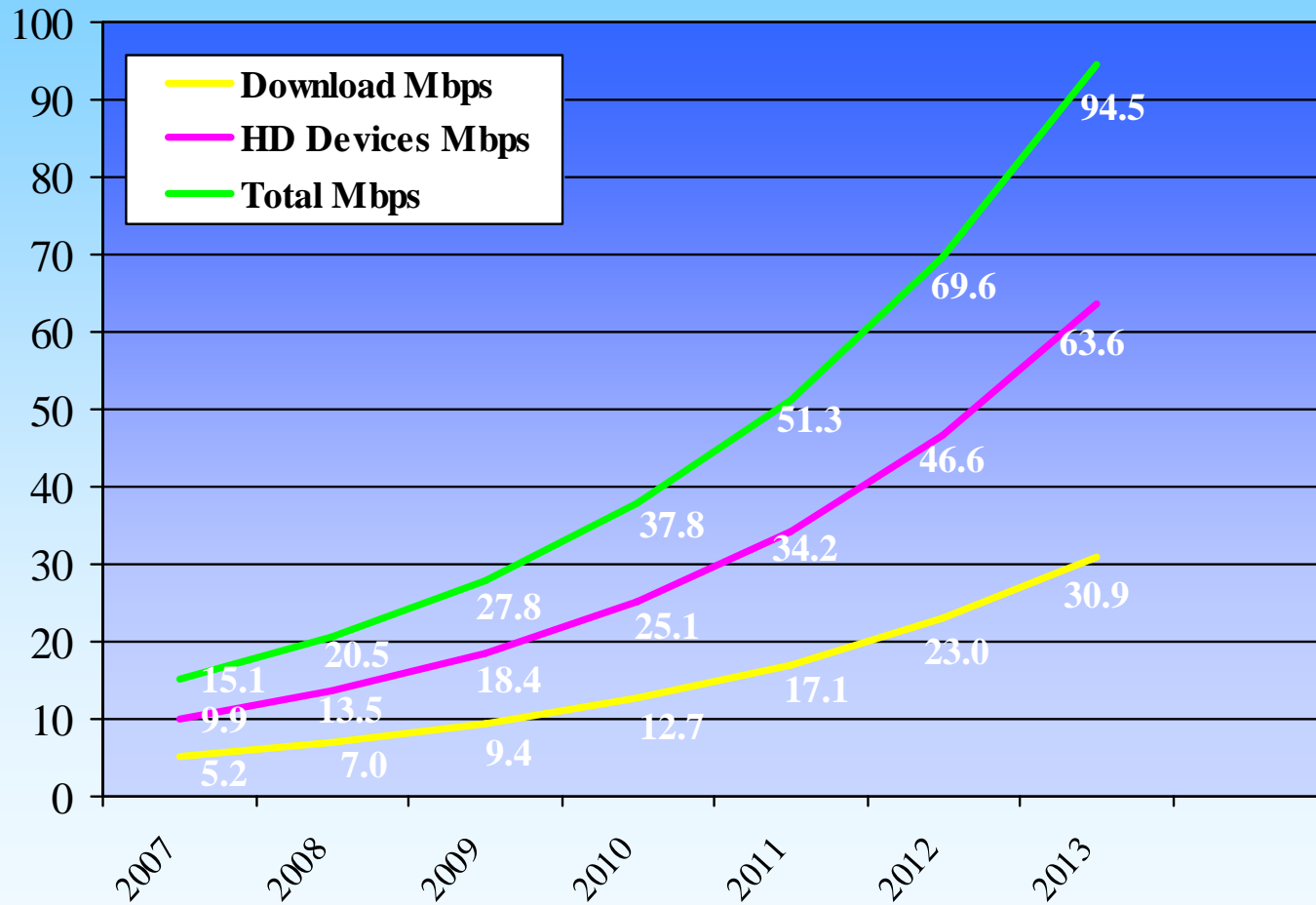
Average Number Of HD And DVR Devices In Home



Peak Bandwidth Demand Per Average FTTH User (Including Internet Download and IPTV HD Devices)

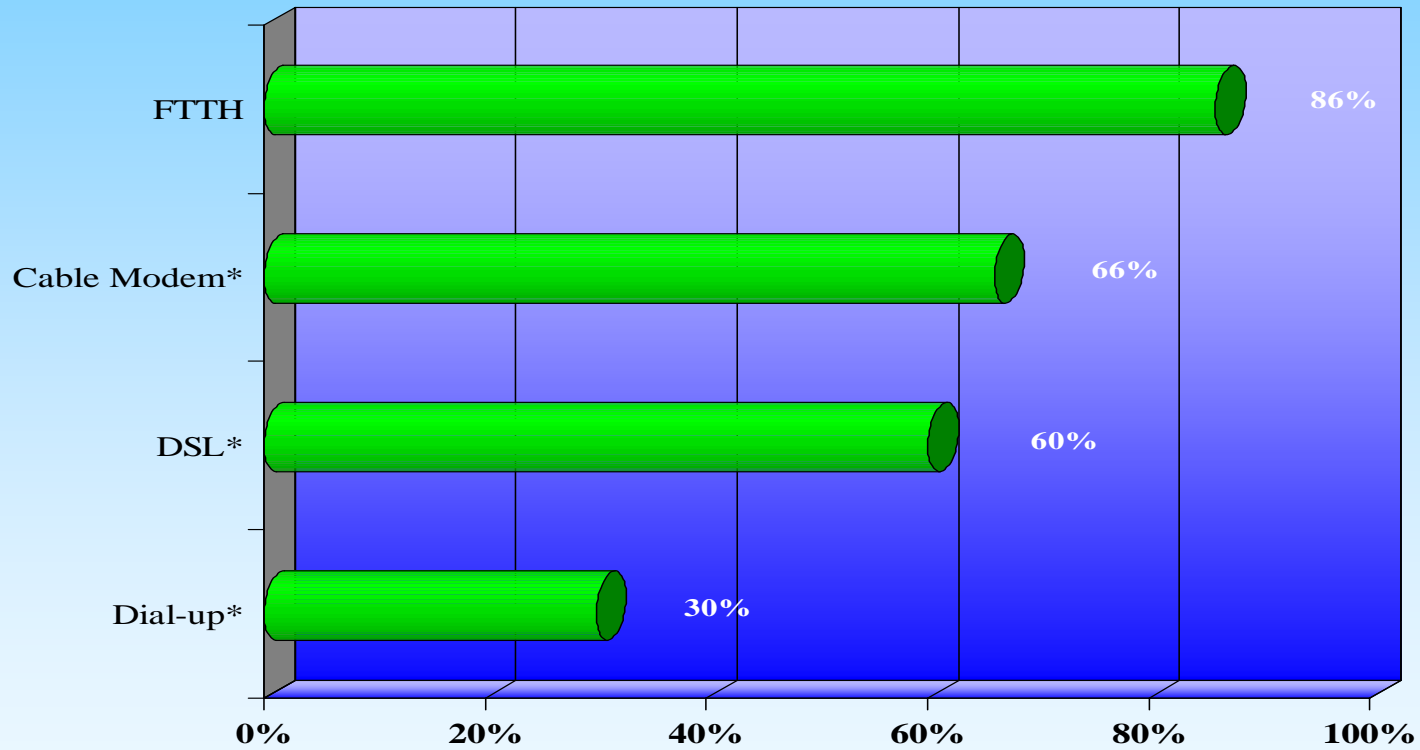


Peak Bandwidth Demand Per Average FTTH User (Including Internet Download and IPTV HD Devices)



Satisfaction And Perceived Importance Is High

Internet Customer Satisfaction Comparison With Other Services (Those somewhat or very satisfied)

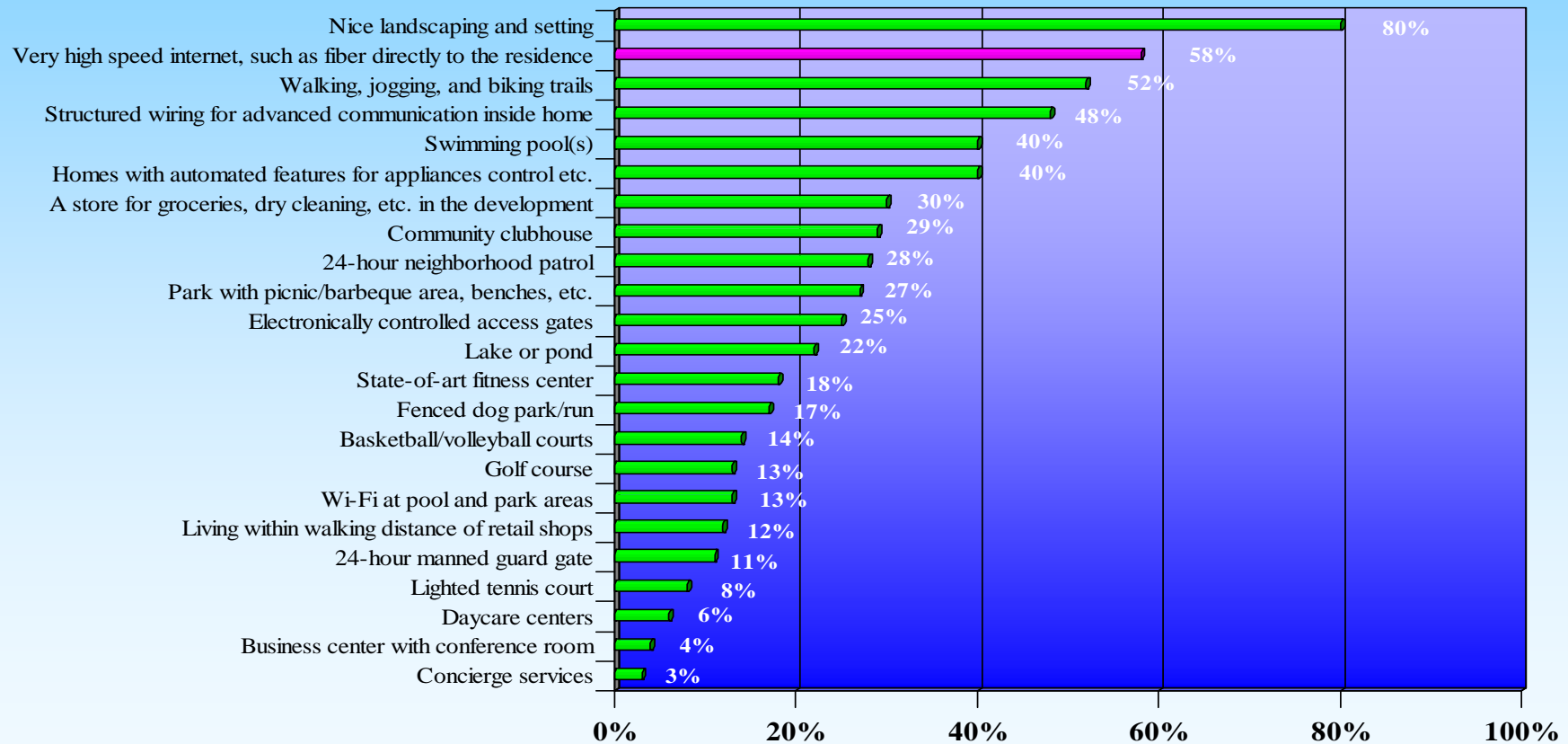


RVALLC 2008

* From 2006 data

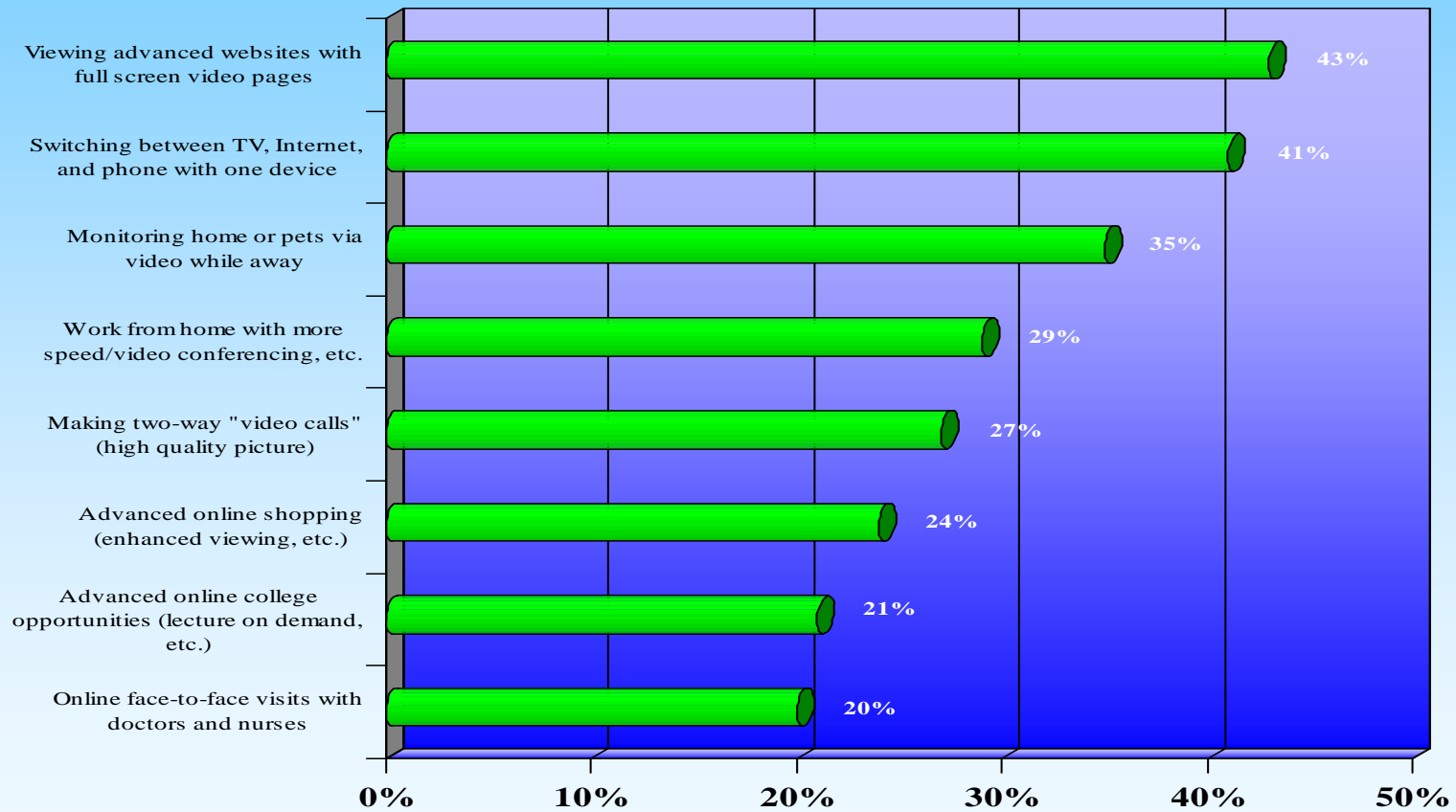
Perceived Importance Of Development And Home Amenities If Shopping For New Home Today

From Study For A Real Estate Developer In South Central US
(Percent rating somewhat or very important)



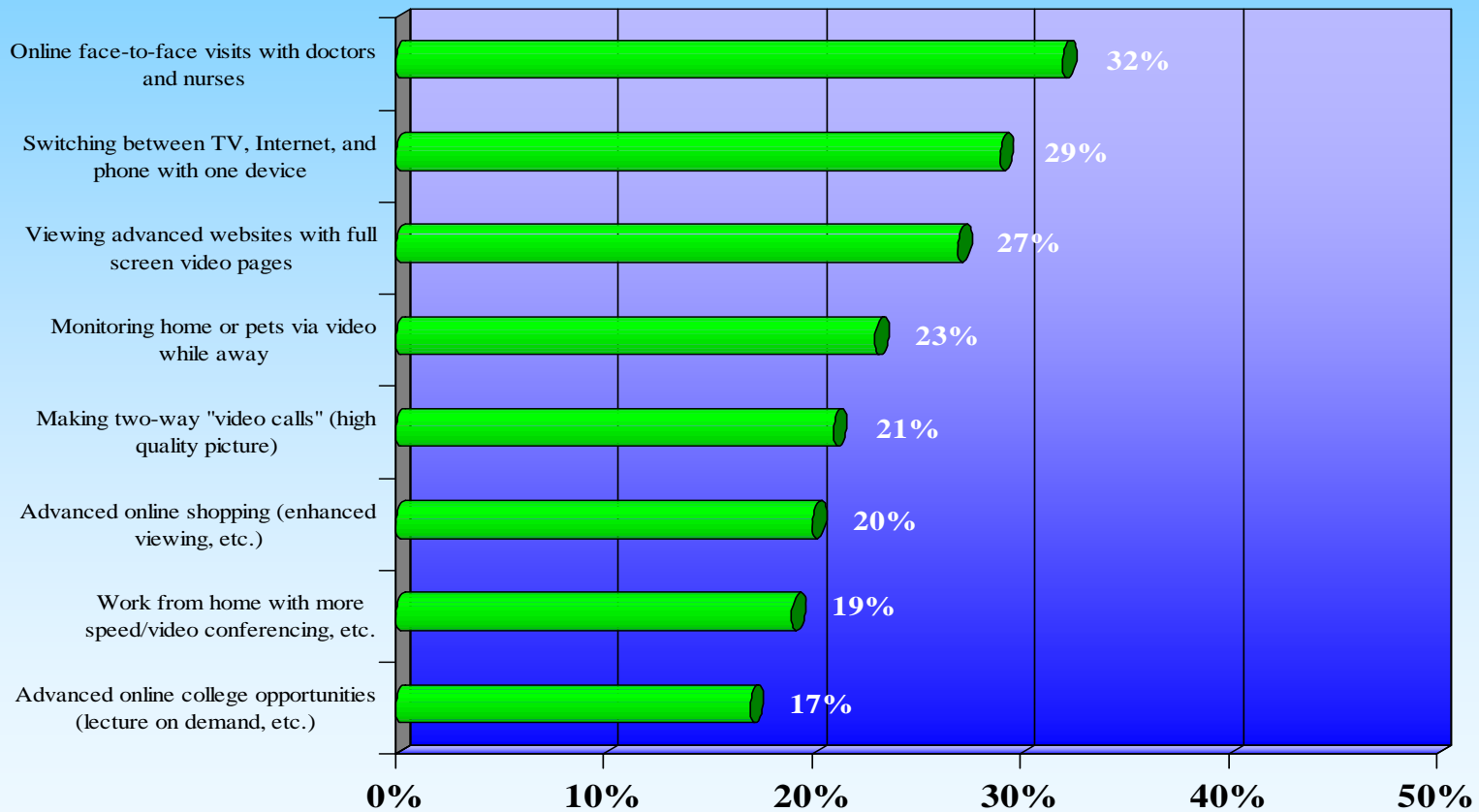
The Future Will Be Groundbreaking

Percent Believing Future Non Entertainment FTTH Applications Are Important Among Those Under 35



RVALLC 2008

Percent Believing Future Non Entertainment FTTH Applications Are Important Among Those 55 And Over



RVALLC 2008

Examples Of Life Changing FTTH Applications Simply Not Possible With Any Other Infrastructure

- Teachers utilizing two-way video conferencing from home to teach Korean students English (in off hours, i.e. time difference) (Powell, Wyoming)
- Scientist working as a NASA consultant from a rural location (Washington state)
- Elementary student requiring isolation for a rare skin disease being able to participate in local class work via two-way video. (Salem, IL)

North American FTTH... The Future looks bright

Fiber-to-the-Home Council

North America

TAP INTO THE MOST VALUABLE BROADBAND RESOURCE AVAILABLE



North American FTTH/FTTP Deployment Status

Presented by:
Michael C. Render

RVA LLC
Market Research & Consulting

