



Fiber Optics

Interesting Internet Facts

- In one day enough information is consumed by Internet traffic to fill over 168 million DVDs
- Over 294 billion emails are sent
- Over 2 million blog posts are entered
- Over 172 million different people visit Facebook
- Over 4.7 billion minutes are spent on Facebook
- Over 250 million photos are uploaded
- Over 22 million hrs of old TV shows and movies watched on Netflix
- Over 864,000 hours of video are uploaded to YouTube
- Over 18.7 million hours of music are streamed on Pandora
- Over 1300 new apps are created and 35 million are downloaded



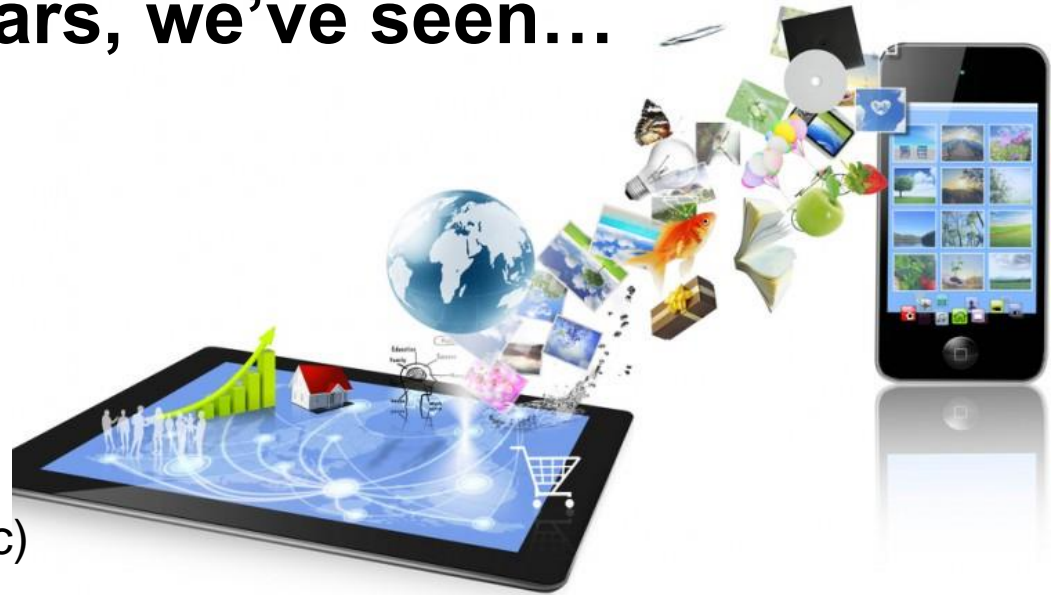
imagine

Change, change, change.....

■ **In the past 15 years, we've seen...**

- The Internet
- iPods
- HDTVs
- DVRs
- Smartphones

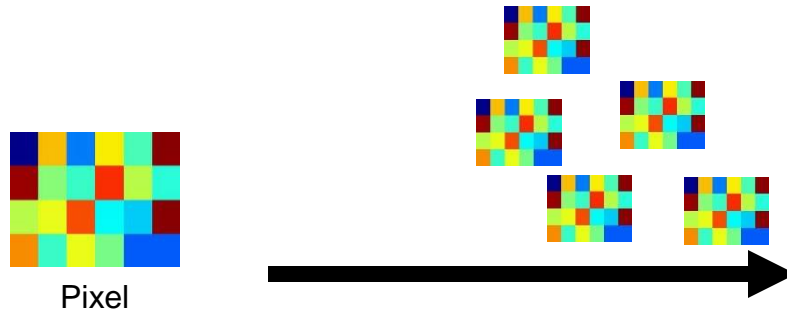
(Blackberry, iPhone, etc)



- **All of these revolutionary technologies require more BANDWIDTH (telecommunications capacity)**

We must expect and plan for more and faster changes in the future

Uses of telecommunications capacity – *HD television*



- A TV image is built on a screen, pixel by pixel
 - 1080P = 1920 x 1080 pixels
- The image is re-generated 30x per second (more or less)
- One HDTV program = 8-12 Mbps
- 4 TVs watching 4 streams
- 4 x 12 Mbps = 48 Mbps/house



1080
pixels

1920 pixels

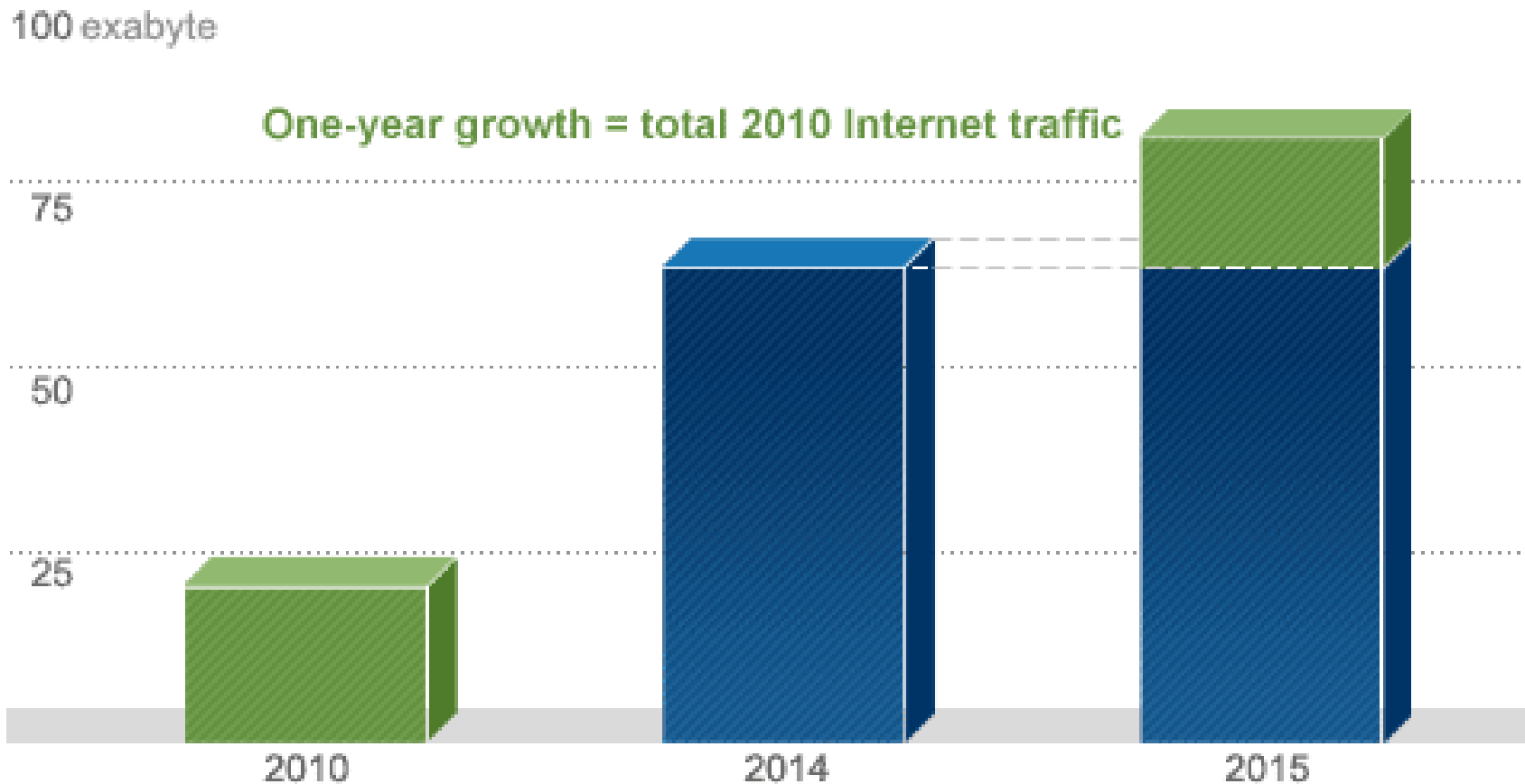
1 house = 48 Mbps
bandwidth, just for video,
today...

What about tomorrow?

Uses of telecommunications capacity – *Internet*

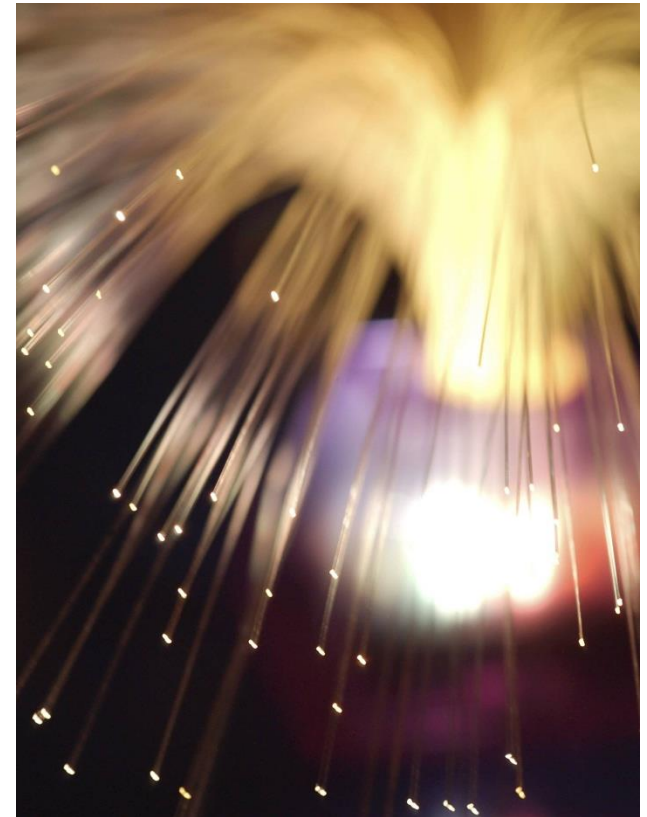
HOW THE INTERNET IS GROWING

GLOBAL INTERNET TRAFFIC
IN EXABYTES PER MONTH



Why Fiber?

- **Copper technologies are approaching their useful limits**
- **Copper (telephone) and coaxial cables (Cable TV)**
 - More expensive, less reliable, less capacity
 - Requires lots of maintenance
- **Wireless systems have significant capacity limitations**
- **Fiber optic cable is less expensive than copper, more reliable and has more capacity**
- **Fiber capacity is exploding by leaps and bounds**

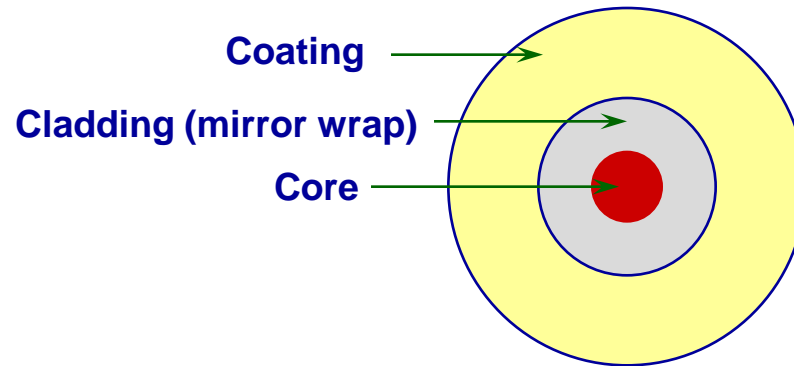


Why Fiber?



Optical Fiber

Fastest communications pipe available



Light travels in core and bounces off of the cladding and keeps going

Core is almost the same diameter as a single strand of hair

Plastic coating protects pure silica (glass) & cladding

1 fiber can handle hundreds of millions of telephone calls at once

Breakthrough technologies to date

- **Lasers**
 - Invented in 1960s
- **Fiber manufacturing**
 - Invented in 1970s
- **Single-mode fiber**
 - Invented in 1980s
- **Quality and cost improvements**
 - 1980s through present
- **Fiber to the Home**
 - Began in early 2000s
(heavily populated areas)



TriCounty's Investment

- **\$16 million project**
 - TriCounty supply
 - \$2 million from cash
 - Borrow \$4 million
 - Grant \$10 million
- **359 miles of Fiber to install**
- **350 miles of Fiber already in the ground**
- **\$1,300 per house/business to connect**



What is next?

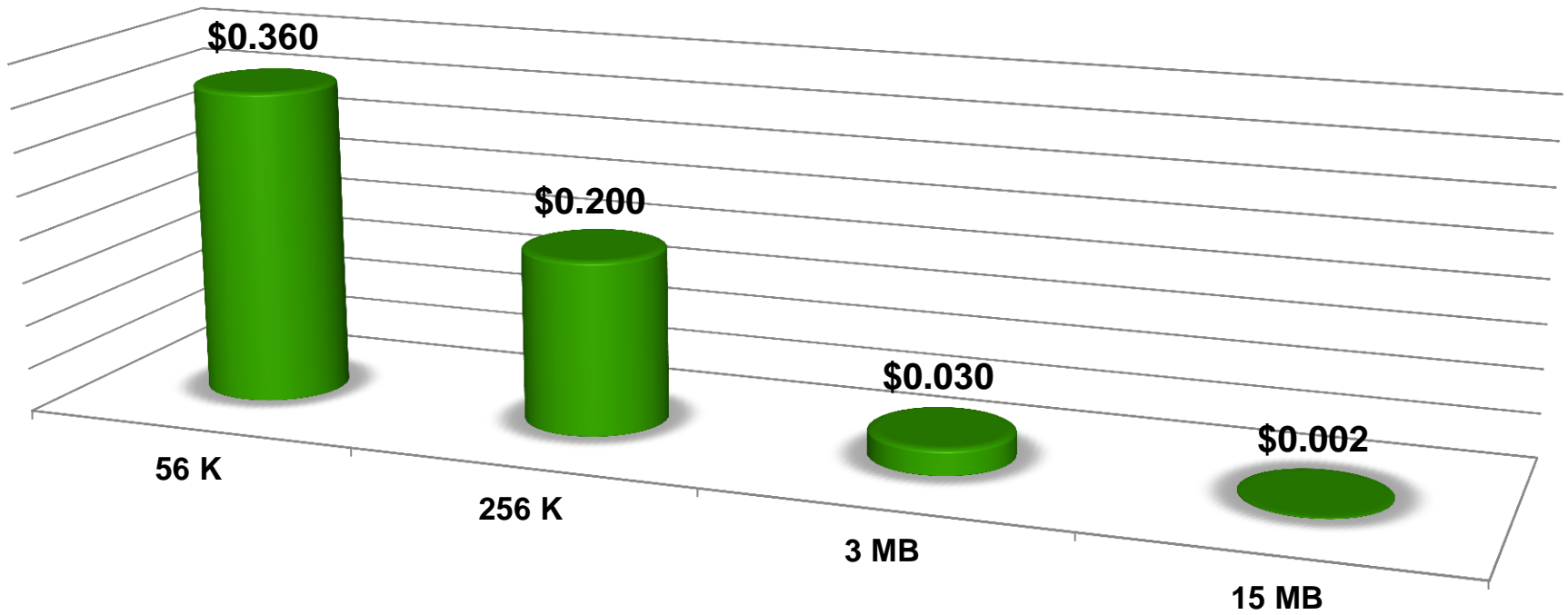
- **We have created a network that can grow with demands and help to future proof our area.**
- **A fiber network catches the eye of businesses interested in relocating to our area.**



Internet Bandwidth Cheaper



Price Per Kilobyte



Benefits of fiber for our community



- **Much faster internet speeds**
 - **Almost limitless possibilities**
- **Able to take advantage of future technologies immediately**
 - Telemedicine, distance learning



Telemedicine



Teleconferencing



Distance learning

Questions



Greg Coltrain, CEO/GM

greg@gotricounty.biz

252-964-8243