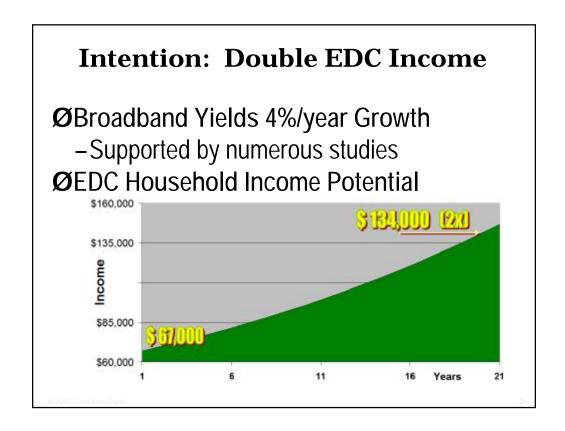
El Dorado County: Broadband or Backwater? Nothing happens unless first a dream...

-- Carl Sandburg

EDC Board of Supervisors October 5, 2010



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Principle: Move Bits, Not Bodies

- ØField Working (Low speed)
 - -Cell phones, radios, "smart" phones
- **Ø**Home Work (Moderate speed)
 - -eMail, Internet access, file transfers
- **Ø**Telecommuting (High speed)
 - -Webinars, shared desktop, secure access
- **Ø**Telepresence (Very High speed)
 - "PicturePhone", two-way television
 - -Telemedicine (live monitors, robotics)

Roads As Analogy

ØPaved Roads in EDC

,	1910	0 mi	
	1948	328 mi	0.86 mi/yr
	2010	2,395 mi	33.34 mi/yr

ØWhy? Capital Investment

- We base roads on rights (not ROI/BE)
- Benefits accrue to citizens and County
- ØEDC Falls Behind Without Investment
 - -Status: Permanent Backwater
 - EDC future decided by TelCos, not citizens

Where Roadway Analogy Fails

- **Ø**Private TelCos/ISPs *Are* ROI/BE-Driven
 - -The Mantra: "Shareholder Return"
- **Ø**Population Density Drives Deployment
 - –Which would a Public Company pick?
 - \$20 MM to serve 100,000 in West Sacramento or
 - \$20 MM to serve 1,000 in El Dorado County
- ØEven IF "El Dorado County" Got The Nod
 - -There are 2,000 more rural counties!

What's It Worth To Us?

- **Ø**Double Household Income
 - -Constant dollars, same population
- **Ø**Increase Tax Revenue by ±\$250 MM/yr
 - -Constant dollars, same population
- **Ø**More *Diversity* of Income
 - Lower unemployment
- **Ø**More Workforce Stays in-County
 - -Stop exporting 40% labor force every day
 - -Improves neighborhoods & families

The Current Situation

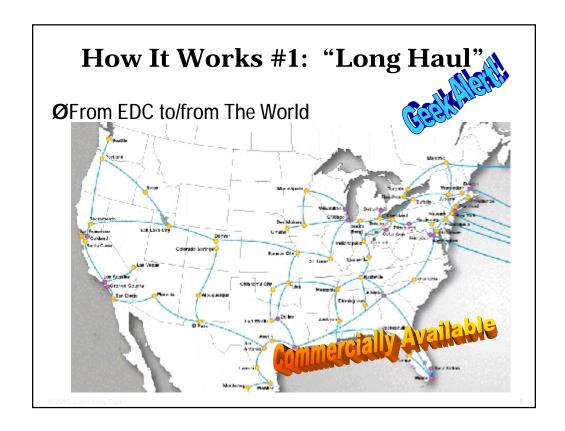
- Ø~20% of Residents Have Today's BB
 - -AT&T, Comcast, small ISPs/WISPs
 - -Vendors eager to reach more customers...
 - · ...if they could economically reach them

ØSparse Population Density Off US50

- Average, less than 2 adults/acre (and that excludes the National Forest!)
- -Virtually *NO* incentive for risk capital

ØBenefits Require Investment

-How do we bridge our "capital gap?"



How It Works #2: "Middle Mile"

ØUrban: Telco to Residence

-Common copper wire

-Distances: 100' to 10 miles



ØRural: "Long Haul" to Neighborhood

-Fiber Optic cables buried in County roads

Convert back to copper at each intersection

-Distances: 100' to 10,000 miles

ØRequires Public Funding

A universal rural problem

How It Works #3: "Last Yard"

ØFrom Intersection to Doorstep

- Local connections at the road
- Goal: 100 Million bits/second
 - Residence (Internet, TV, Phone)
 - Business (Commercial users)
 - New data-intensive businesses



ØSolutions Unique To Each Neighborhood

- Flats, valleys and canyons
- Provided by private business partner
- Wired and/or wireless loc

Who Would Pay, and For What?

- Ø"Long Haul": Available Today, Low Cost
- Ø"Middle Mile": Infrastructure Capital Costs
 - -Inadequate Return-on-Capital for TelCos
 - -ISPs would pay for customer access
 - Loans convert future cash flow to capital
- Ø"Last Yard" Capital Costs
 - -TelCos, ISPs, WISPs own their gear...
 - ...and run their own "local loop"
- **Ø**Clear Public/Private Partnership Need

Rural Broadband as Partnership

- **Ø**Broadband Infrastructure Costs Money
 - –Roughly \$350 MM for "Middle Mile"
 - Infrastructure ≈ \$200 MM (in ≈ \$15M phases)
 - Operations, 20 years ≈ \$150 MM
 - Commercial Lending/Funding, or Grants
- **Ø**Broadband ROI/BE Longer Than 20 Years
 - -TelCos' ROI needs inhibit rural investment
 - Universal Service Fund (USF) <u>might</u> help
- **Ø**Federal Grants *Might* Be Available
 - -Political climate not favorable in near term

What Are Partner's Resources?

ØPublic Institutions (e.g., County)

- Right-of-way
- Citizens needing Broadband (customers)

ØPrivate Entities

- -Deliver services for revenue
 - · Installation, Technical Support, Billing
 - Customization of services to market
- Pay for use of infrastructure from revenues
 - Converts future cash flow to debt service

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Partner's Unique Roles

ØPublic: Leverage Lending Capacity

- -Guarantee debt service with contracts
 - "If we build it they will come" versus

"If you guarantee it, we will build it"

ØPrivate: Leverage Competition

- -Nimble players lead with new technology
- -Large-scale TelCos & ISPs provide stability
- -Deliver ever-expanding range of services

Next Steps

- Get the Message Out to County
- 2. Build "Advisory Council" of Citizens
- 3. Recruit Founding Management Team
- 4. Build Business Plan
- 5. Obtain Grants/Loans for Pilot

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1. Get Message Out to County

ØMany Rural Citizens Don't Yet "Get It"

- -With only slo-o-ow dial-up, how could they?
 - -Primary uses: eMail, Browsing
- **Ø**Citizens Are Motive Force for Deployment
 - -"If you build it, they will come?" (not likely)
 - -"Do you want to be richer?" (who says NO?)

ØGrant Funding for Education Available

California Emerging Technology Fund (CETF)

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2. Build Advisory Council

Øldentified in EVERY Successful Grant

- -Grantors need to know money used well
- -Passionate evangelists for the concept

ØParticipation In Two Tiers

- -"General Interested Public"
 - Irrespective of qualifications, skills
- –"Leadership"
 - Technologists, Business Management
- -Next meeting: October 21st, 2010

3. Recruit Founding Team

ØEDC Is Home To Qualified, Retired CxOs

- -Silicon Valley émigrés
 - "Eagles don't flock;

you have to find them one at a time."

ØKey Positions: CEO, CTO, CMO, CFO

ØTeam Responsible For:

- -Business Plan
- -Establish Funding for Pilot Project

ØNo Team è No Capital è No Broadband

How You Can Help

Let's focus, together, on creating new wealth for <u>all</u> citizens.

ØPass the "Broadband Support" Resolution
ØCommit To Support Broadband

- -Strategic: "Broadband for all in EDC"
- -Tactical: Encourage broad support
 - Among citizens
 - Within EDC Departments and Agencies

What IS Our Highest Calling...

...if not enabling and creating new wealth for <u>all</u> citizens?

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