

BENZIE COUNTY

Benzie's Broadband Journey and Funding Challenges Looking Forward

1

Presentation to MAC, June 15, 2020

Keeping Perspective: Economic Development brainstorming ...

2



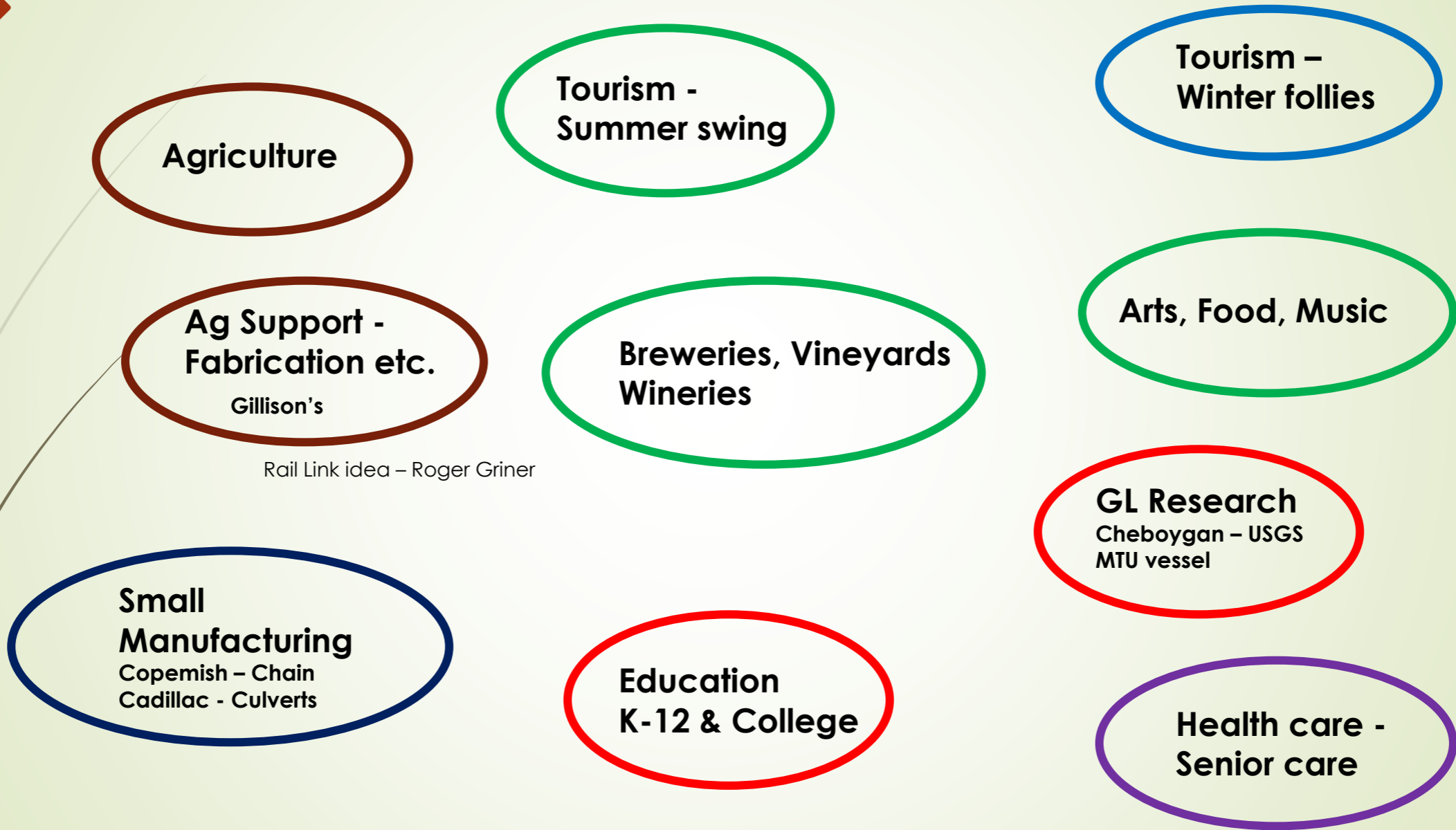
Not a good place for a gas-to-liquids plant



Nor we are a good place for an LNG plant ...

Economic reality revolves around these activities ...

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Advocates for Benzie County (ABC)

Provide a Better Quality of Life for All

- Started by Rick Robb to energize concerned citizens and facilitate discussion with county officials & employers
- Workshops & discussions with largest county employers identified:
 - Need strategies to provide adequate & affordable workforce **HOUSING**
 - **EDUCATION** system serves youth including day care & programs for seniors
 - Adequate & Affordable **HEALTH CARE** (now including Telehealth)
 - Improve **INFRASTRUCTURE** designed for future growth (local governance)
 - A bit of surprise - identified by the Employers – Drug Abuse: feel like if proper **EMPLOYMENT** opportunities then hopelessness abates and with it drug use

Held **adult vocational training** summer 2018 & 2019 (success but lacks funding)

Benzie County – EDC

Broadband Subcommittee – a Standing Committee

VG #1

6

A Chronology of 2019 EDC Broadband (BB) Efforts

- Held **open solicitation** for joint EDC-BB Provider participation to increase rural and county-wide BB infrastructure
 - Only three parties responded: **Aspen; Eclipse and Merit**
 - This is to give a Recap of BB provider interviews – early June 2019
- Merit: chief contact – Katie Jensen, N. Mich Engagement Manager
- Aspen Wireless: contact Jim Selby, President (former VP CenturyLink)
 - Dakota Chase, System Administrator for Benzie area
- Eclipse Communication: contact Chris Varenhorst, owner

Benzie County – EDC

VG #2

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Broadband Subcommittee

Interviews: Merit

- Merit – key takeaways:

LONG TERM

- Nonprofit since 1960s with over \$100 million in funding grants
- Installed ~3,000 miles of independent REACH fiber optic cable (FOC) for underserved areas since major carriers (AT&T, CenturyLink et al) are not open access to third parties – so called “Backbone Network”
- Fiber is the long-term solution
- Suggests using Merit’s community collaborative network model (MAC, MITE, SCOPE, MIND et al); ensure you have the right partners to solicit funding
- Strongly suggest we put together a consortium (multi-county/township)
- FCC available radio frequencies could be pursued as a revenue source
- Active Projects: Moonshot Program (ERATE funds from FCC)

Benzie County – EDC

Broadband Subcommittee

Interviews: Aspen

- Aspen – key takeaways:

NEAR & LONG TERM

- Aspen has very broad overview of the business with grass roots systems developed in Boston, El Paso and Vail – nationally renown
- But ... 11 years after Aspen wrote Benzie grant request it still does not have BB/WISP and Crystal Mountain has DSL limitation due to copper pairing
- Fiber optic is the long-term choice (50/500 vs 3/10 Mbps); leverage Merit backbone as several on/off ramps exist
- Suggests Metro Act & Long-term Consortium as the path forward: example - Convis/Marshall Township using USDA/RUS funding
- Examples from Merit's REACH-3 middle mile fiber: TCL&P Scada, E. Jordon, Marshall Township, Coldwater, Charlevoix county and city segregated marina, park, theater

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Interviews: Eclipse

- Eclipse – key takeaways: SHORT to LONG TERM
 - Fiber (FOC) not cost effective in short term – needed longer term
 - Tower methods used by Eclipse are scalable and fast
 - Has numerous recent tower access agreements or buildouts with significantly increased coverage; continuing to build-out to less served areas
 - Basic speed plan covers 100mb down/50 mb (can be increased to 500/500)
 - See Chris' overview

NMCA – Broadband Review

- **Cellular** cell towers – ATT, Verizon et al tower range – some latency
 - **Satellite** dish – HughesNet and ViaSat signal latency & weather
 - **DSL** digital subscriber link uses telephone lines – copper wire
 - **Cable** coaxial old tech – wiring issues
 - **Microwave** point to point off FOC true broadband – topography
- FCC now refers to adequate broadband as 25 Mbps versus 10 Mbps previously; FCC data errant and incomplete; for grant writing they consider one connection in a SMSA as the whole SMSA having broadband connectivity

The Honorable Tricia L. Foster, Director
Department of Technology, Management and Budget
George W. Romney Building
111 South Capital Avenue
Lansing, MI 48933
RE: DTMB Grant Solicitation by Eclipse Communications
FCC Database Flaws and Objection to it use in grant assessment

Dear Director Foster,

I recently signed a letter of support for a grant application to expand broadband to the underserved citizens of Benzie County. This is to add my personal note on use of FCC data in grant analysis.

Most grantors rely on the FCC database in assessing grant applications, but I would like to highlight that this data is not sufficiently accurate for use. I have worked many consultants internationally and key to any work is the reliability of the underlying data.

In a Radio Resource article titled “Broadband Mapping Pilot Pinpoints Flaws, Offers Suggestions” (Thursday, August 22, 2019 – REF noted below), US Telecom notes from its pilot studies of the FCC database for Missouri and Virginia that:

48% of rural location counts in the states of Missouri and Virginia were wrong – often substantially

Geocoded locations for rural homes were off significantly (25 – 330 feet)

38% of homes/businesses listed as served by broadband were not

US Telecom is proposing to do a complete study for the FCC over the next two years (if funding is approved). Unfortunately we do not have two years to wait on yet more studies – an infrastructure kickoff is needed now should we have any hope to begin catching up to broadband that is otherwise common place nationally.

With deep appreciation,
Robert M. Russell, Chair
Benzie County EDC Broadband Subcommittee

BS Geological Engineering, Michigan Technological University
MBA-Project Management Aspen University
International Project Construction Manager – KBR: Iraq, Nigeria, Thailand

Cc: The Honorable Gretchen E. Whitmer, Michigan Governor
111 S. Capitol Ave., Lansing MI 48933

The Honorable Curtis S. VanderWall, Michigan State Senator 35th District
201 Townsend Street, Suite 4500, Lansing MI 48909-7536

<https://www.rrmediagroup.com/News/NewsDetails/NewsID/18624>

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Broadband Subcommittee

- Planning for the future: *Drivers - Optics*
 1. Ensure the best **long-term** option for county-wide coverage
 2. Retain **influence/control** over LT fiber optics
 3. **Develop a Public-Private partnership to last;** a LT consortium to control our destiny or else the market decides for us (that hasn't worked so well in the past for Benzie county)
 4. Focus on key needs:
 - a. Students having to do homework in library parking lot instead of at home
 - b. Health Care (Merit says we are early in developing this out)
 - c. Schools, libraries, non-profits, government & public safety – law enforcement
 5. Set goals and work plans for the long term, but include short term focus needs

Benzie County – EDC

Broadband Subcommittee

DRAFT GOALS

VG #6

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- Broadband Action Plans & Goals (BS Draft)
 1. Underserved Benzie County Constituents:
 - A. Identify families who lack BB and must rely on sitting in the Library parking lot to tap into WiFi to enable their children to complete school homework (much of which is online)
 - B. Identify area's by township in and around Benzie County
 2. Identify existing FOC and BB Tower routes
 3. Identify possible routes to underserved areas: e.g., Benzie County controlled old RR grade to the SE in Weldon Township as FOC option to Thompsonville
 4. Identify and investigate (high level basis) BB needs or shortfalls in Healthcare, Education, Nonprofits, New Business Development and Public Safety (to be followed in near/long term planning by consultant as further grants are pursued)
 5. Manage and keep current short, near and long-term county Broadband planning
 6. As an Alliance engage network of regional entities that could influence BB growth

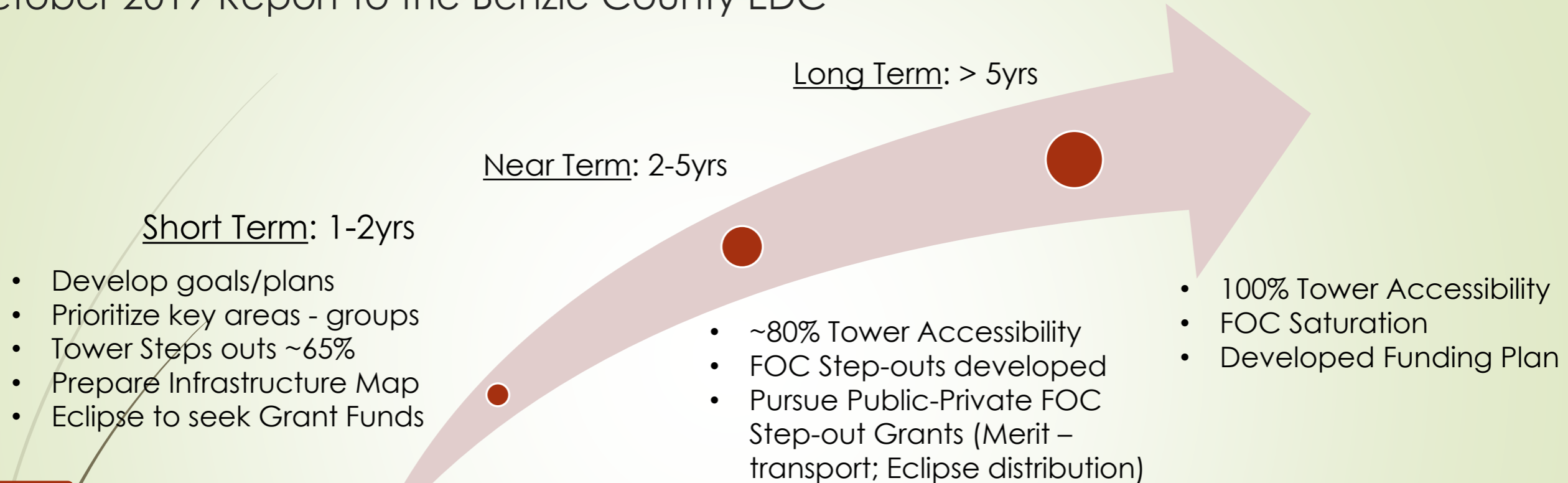
Benzie County – EDC

Broadband Subcommittee Members

- Mitch Deisch – County Administrator
- Chris Varenhorst – Eclipse Communications
- Jim Moran/Katie Jensen – Merit
- Paula Fugaro – IT/GIS expert; Communication Plan focal point
- Dino Cortesis – 30+ yrs Wireless -> Non-profit focal point
- Rose Fostick – Betsie Valley Community Center -> Community NW focal point
- Barb Zimmerman – Crystal Mountain -> Area Employer focal point
- Matt Weaver – Platte Lake Twnshp
- Mark Grafe – Platte Lake Twnshp
- Robert Russell – 40 yrs International Project Mgmt -> SC Chair

EDC Broadband Subcommittee October 2019 Report to the Benzie County EDC

VG #8



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- **Supported \$400K DTME “Connect Michigan” grant submitted by Eclipse August 31st, 2019; and ~\$35K SBIR grant by October 31st (Eclipse filed another grant in 2018 – delayed due to Federal Budget freeze – still pending)**
- **Developed draft goals and plans – Merit (Schools/Health); Eclipse (all other)**
- **Initiated assignment of action items to committee member; need to set date milestones**
- **Completed Initial MOU for EDC signature – key to LT growth (Merit Board 20% private revenue limits)**

Benzie County – EDC

Broadband SubCommittee

SHORT TERM

- Broadband – Short-term Action Items/Goals (Draft) 1- to 2-year period
 1. Eclipse – seek monthly feedback on their needs:
 - a. Permitting issues?
 - b. Township approvals?
 - c. Letters of Support ? (for municipal tower access, funding, collaboration with Merit, etc.)
 2. For students with BB needs, immediately field survey (by library) activity and reach out to area schools to solicit needs; develop an initial needs map
 3. Begin working on infrastructure map with Eclipse to chiefly document existing FOC and BB Tower routes in addition to all infrastructure
 4. Identify all railroad grades and open ROW to post on working map
 5. Assign to each S/C member an area in either Healthcare, Education, Non-profits, and Public Safety to research
 6. Develop list of stakeholders for sub-committee participation (now/future)
 7. Identify funding needs

Benzie County – EDC

Broadband Subcommittee

NEAR TERM

- Broadband – Near Term Action Items/Goals (Draft) 2 – 5 year period
 1. Eclipse – continual feedback on:
 1. Bottleneck development - Routing?
 2. Operating or interface issues with Merit and Consortium/Network?
 2. Begin to address major routes using tower and/or FOC step-outs (e.g. – Indian Hill Rd.)
 3. Prepare for and creatively leverage other infrastructure efforts (keep a “hot list” of opportunities)
 4. Prepare plan to begin staging in FOC routes
 5. Maintain overall county map of all Infrastructure
 6. Identify funding needs and resource planning (USDA grants, private solicitation, et seq)
 7. Establish a “class of service” rates for qualifying families (HH income level)

Benzie County – EDC

Broadband Subcommittee

LONG TERM

- Broadband – Long Term Action Items/Goals (Draft) >5 years
 1. Maintain and update comprehensive FOC plan to take staging efforts to completion
 2. Prepare for EDC/Public a bi-annual report on status of goals and actions
 3. Continue to maintain overall county map of all Infrastructure (leveraging)
 4. Establish a more formal consortium or alliance with Aspen and Merit
 5. Look to Merit to lead in any major FOC spurs
 6. Look to Aspen for consultancy help where needed in preparing grants/FCC permits
 7. Complete and periodically update funding needs and resource planning (USDA grants, private solicitation, et seq) drawing upon the considerable talent in our network: Venture North, MEDC, EGLE, USDA, others – but chiefly Eclipse, Aspen (consultants) and Merit (consultants and backbone provider)

Company & Operations Introduction

Public-Private Partnership with Benzie County

Prepared for the Benzie County EDC et al

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- Presented by Christopher M. Varenhorst



Introduction

Christopher M. Varenhorst

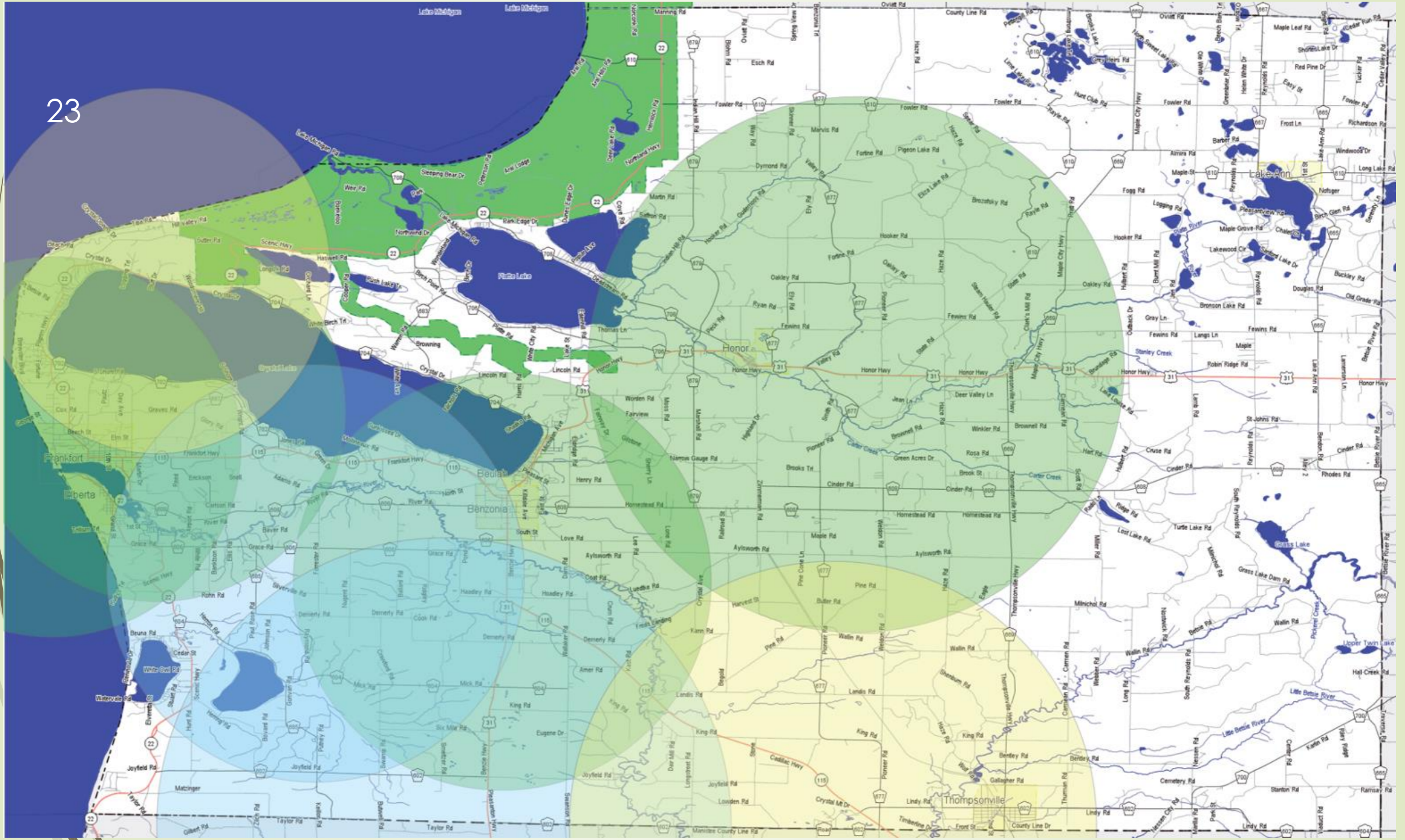
- ▶ Founder of Eclipse Communications. Co-Founder of SyncWave LLC.
- ▶ IT Professional with nearly twenty years industry experience.
- ▶ Expert in wireless systems architecture, network design and systems administration.
- ▶ Ten years experience developing broadband networks across NW Michigan.
- ▶ Engaged in communications infrastructure engineering and deployment in Benzie County.

Technical Competence

- Full life cycle expertise – what does this mean exactly?
 - Providing broadband services is far more involved than simply installing equipment.
- All planning, spectrum analysis, EM propagation studies, conceptual engineering, network engineering, network design, infrastructure installation, client installation, network management & maintenance, support and client services and general administration.
- ..constitute a life cycle, and is a good representation of the requisite knowledge, experience and expertise needed to develop broadband networks.

Primary Services

- WISP (Wireless Internet Service Provider) - consumer, commercial and enterprise class internet connections. Our commercial and enterprise connections are capable of providing symmetric gigabit speeds with a variety of options.
- MSP (Managed Services Provider). Managed services is the practice of outsourcing day-to-day management responsibilities and functions as a strategic method for improving operations and cutting expenses.
- IT Consulting including systems and network design/deployment, wireless systems architecture (Wi-Fi), and support-oriented services.



Recent and Upcoming Operations

- December 2017 – June 2019: Completed two 'distribution' fiber backbones, seven service area expansions, and multiple enterprise management platforms
- Now: Business development involving acquisition of a provider in NW Michigan. Expansion on Cinder Rd. for Turtle Lake area.
- Future*: Ten expansions/developments planned (1 pending scheduling, 1 in planning, 3 in active negotiation, 1 nearly approved, 2 contingent, remainder in various other stages, 2 fiber connections queued.

* as of 4th quarter - 2019

Benzie County Demographics

- ▶ 6,911 year round households with 17,462 year round residents
- ▶ 12,416 total households
- ▶ Seasonal influx varies - probably doubling population
- ▶ 34% of Benzie County is tax exempt federal lands
- ▶ Moderate to severe housing fragmentation
- ▶ High topographic relief on west side of county requires towers-FOC

Broadband Funding

- ▶ Eclipse made a loan with the help of Networks Northwest to purchase the M22 project: Eclipse expanded its footprint to improve critical mass thus ensuring broader organic growth
- ▶ Eclipse has made three grant applications – none successful !
- ▶ Latest request was through the Michigan DTMB for \$400,000 to expand into Lake Ann area and west via tower and FOC connects – critical rural (potential Empire)
- ▶ Discussing use of EDC funds to prepare grant to secure funding for tower expansion – planning with adjacent counties in mind
- ▶ EDC idea for Rail Link in Weldon Township would foster BB over to Copemish area

Concluding Remarks

- From broadbandmap.gov – 85% of the U.S. population has access to 25 Mbps (latest FCC minimum criteria) or greater; **the rest of us are falling behind!**
- Clearly from our efforts the past two years, competing for grant funds is a time consuming and complex process
- To serve rural Michigan as so well flaunted in the media, **Granting Authorities need to take a hard look at their criteria, political tilt, and award efficacy**
- We look forward to engaging with other counties to see how we can work together – funding should be developed on a “county integrated” not project by project basis. **“A rising tide lifts all boats”**
- **FDR saw the need to reduce poverty in rural America (REA providing electricity); now Broadband is our “electricity”. It can help shift people out of poverty, hopelessness and associated drug use.**