

# Pope County Broadband Feasibility Study

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CCG Consulting and Finley Engineering

# The Study Area

- ▶ Excludes area served by the Federated Telephone Cooperative that already have fiber.
- ▶ Excludes area served by Runestone Telephone Company that are expected to get fiber
- ▶ Excludes the city of Starbuck that is served by Mediacom and that advertises speeds greater than 100 Mbps.
- ▶ Includes Glenwood, Sedan, Villard and all other rural parts of the County.
- ▶ CenturyLink and Frontier will be upgrading rural DSL to at least 10 Mbps sometime during the next 4 years.

# Why Broadband Matters

- ▶ Lower property values / County tax base
- ▶ Education
- ▶ Agriculture
- ▶ Medical
- ▶ Working at home
- ▶ Taking part in modern society
- ▶ Expanding demand - home broadband usage is doubling every 3 Years.

# Designs & Business Plans We Considered

- ▶ Build Fiber to entire study area.
- ▶ Hybrid model that builds fiber to Glenwood, Sedan, Villard, areas around the lake and to customers living close to fiber. Build wireless to serve the rural areas.
- ▶ Second hybrid model that excluded Glenwood.

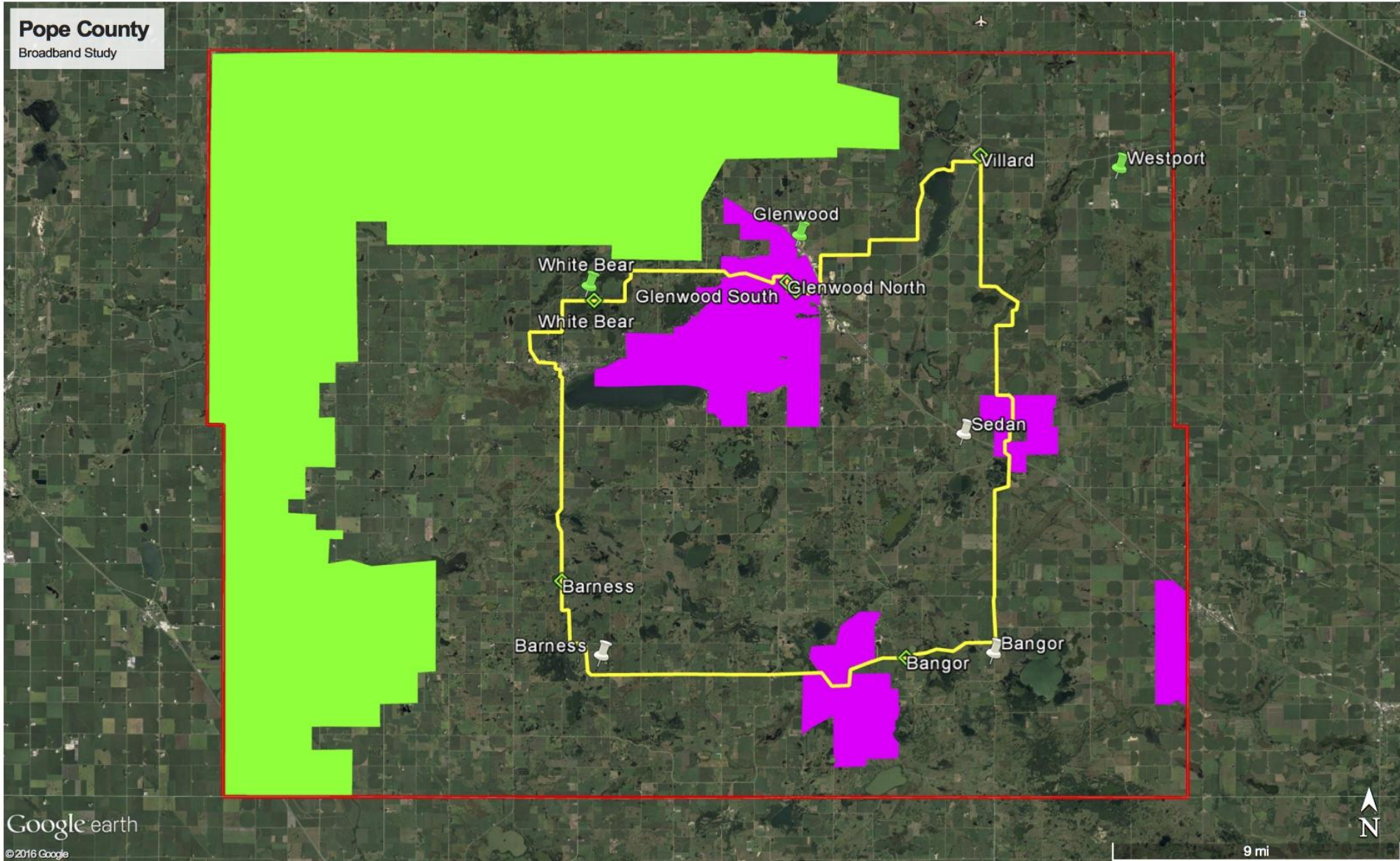
# Potential Customers for Broadband

For the all-fiber scenario	4,626
For wireless & hybrid scenarios	
▶ On Fiber	1,358
▶ On wireless	3,226

# Network Design

- ▶ Construct a 67.6 mile long fiber ring to cover the service area.
- ▶ There are 765 miles of roads that would need fiber (includes the 67.6 miles of the fiber ring).
- ▶ It's cost effective to bury the whole network, but the network could be placed on rural poles.

**Pope County**  
Broadband Study



# Rural Wireless Scenario

- ▶ Would construct wireless towers throughout the County, fed by fiber.
- ▶ The fiber ring provides the path towards eventually getting fiber to everybody.
- ▶ Would use combination of WiFi and licensed 3.65 GHz spectrum. Designed to deliver speeds of at least 25 Mbps.
- ▶ Could possibly upgrade in future years to white space spectrum to increase bandwidth.



# Network Costs

- ▶ Fiber everywhere - \$29.3 Million
- ▶ Hybrid scenario 1 - \$ 9.0 Million
- ▶ Hybrid scenario 2 - \$ 6.5 Million

# Products offered

- ▶ For customers on fiber - Triple play of fast Internet, cable TV and telephone
- ▶ For wireless customers - Internet and telephone only

# Financial Results

## Fiber Everywhere

- ▶ No reasonable scenario to immediately finance fiber everywhere.
- ▶ Would require a grant for as much as 70% of the cost to be feasible.
- ▶ Expensive to finance: Commercial loans - \$34 M; GO Bonds - \$36.7 M; Revenue bonds - \$40.2 M.

# Financial Results

## Hybrid 1 (Includes Glenwood)

- ▶ Financially viable.
- ▶ Breakeven penetration rate needed is only 43%, even without grant funding.
- ▶ Cost to finance: Commercial loans - \$9.8 M; GO Bonds - \$11.2 M; Revenue bonds - \$12.4 M.
- ▶ At a 60% penetration would return \$12.1 M in cash over 25 years. At a 70% penetration would return \$17.8 M.

# Financial Results

## Hybrid 2 (Excludes Glenwood)

- ▶ Financially viable.
- ▶ Breakeven penetration rate needed is 49%, even without grant funding.
- ▶ Cost to finance: Commercial loans - \$7.8 M; GO Bonds - \$8.3 M; Revenue bonds - \$9.1 M.
- ▶ At a 60% penetration would return \$8.4 M in cash over 25 years. At a 70% penetration would return \$13.1 M.

# Next Steps

- ▶ Talk to partners / operators (Already started)
- ▶ Offer County assistance for grant process
- ▶ For areas that don't get interest for grants:
  - ▶ Consider a survey / pledge drive.
  - ▶ Community education and outreach
  - ▶ Consider County funding

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