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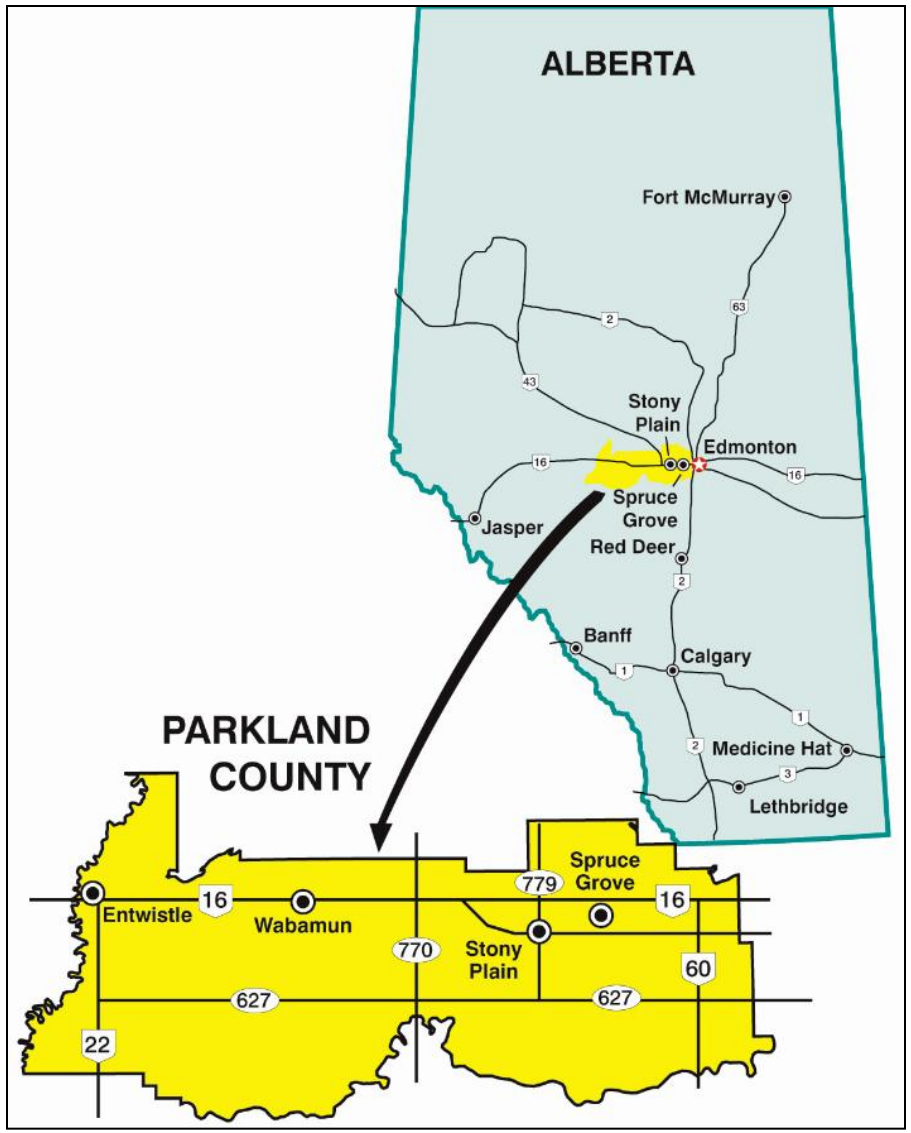
Parkland County Rural Communications Utility Model

FCM Saskatoon June 1, 2012

Topics

- **Rural Communications (broadband, mobility, public safety)**
- **Rural Communications – Parkland Utility Model**
- **Parkland - Intelligent Community Project**
- **Next Steps**

Parkland County



- **30,000 pop. 2nd largest conventional rural in AB**
- **600,000 ac parkland, lakes & rivers**
- **farms, ranches & acreages**
- **TransAlta heavy industry world-scale power plants**
- **Acheson Industrial Area – 12,000 ac – one of largest in N. America**

Topics

- **Rural Communications (broadband, mobility, public safety)**
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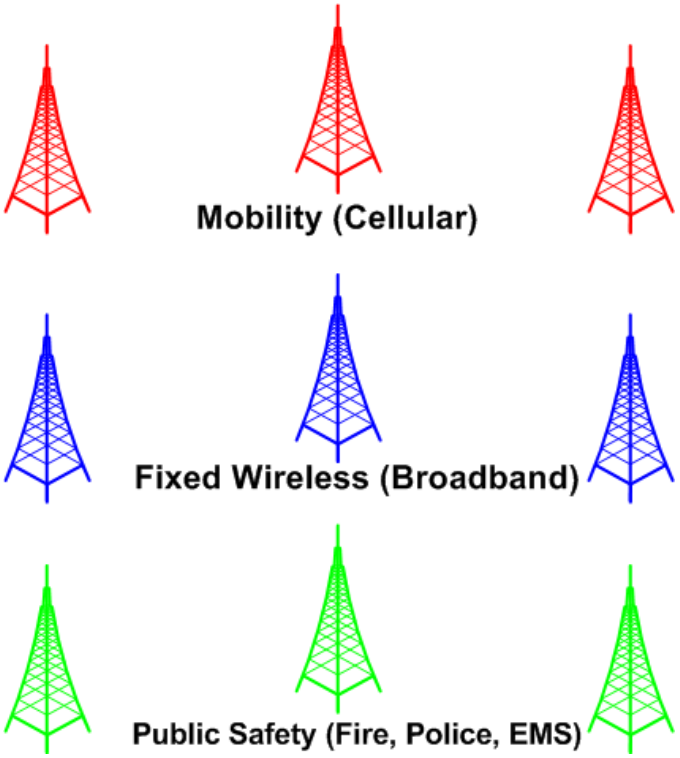
- **Parkland - Intelligent Community Project**
- **Next Steps**

What is Rural Communications?



- **Mobility (Cellular)**
- **Fixed Wireless (Internet/Broadband)**
- **Satellite (Internet/Broadband)**
- **Public Safety (EMS, Fire, Police)**

Mobility Towers

Fixed Wireless Towers

Public Safety

- **Fire Communications**
  - Analog, Digital radios

- **Police Communications**
  - Digital radios
  - Secure & Encrypted

- **Emergency Medical Services (EMS)**
  - Private radio systems
  - iDen platform “Mike”

Public Safety Towers

Topics

- Rural Communications (broadband, mobility, public safety)
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Rural Communications Options?

1. **Status Quo**
2. **Preferred Partnership**
3. **Utility Communications**

Status Quo

Municipality allows market forces to provide broadband coverage.

Multiple Wireless Internet Service Providers (WISPs) competing for market share.

Advantages:

- No additional municipal resources are required

- No capital investment required by the municipality

Disadvantages:

- WISPs will provide services only in the higher density areas

- Network design will be based on providing basic connectivity

- May not meet the capacity requirements of the residents & businesses

Preferred Partner

Municipality selects and funds a single Wireless Internet Service Provider (WISP) to provide broadband coverage.

Advantages:

- Improves wireless provider's overall cash flow
- Provides basic broadband connectivity
- Potential to set minimum download/upload speeds

Disadvantages:

- Reduces market forces in rural areas
- Does not support mobility and public safety coverage

Utility Communications

Municipality recognizes that rural communications is a utility and uses capital funding to design/build a utility grade network.

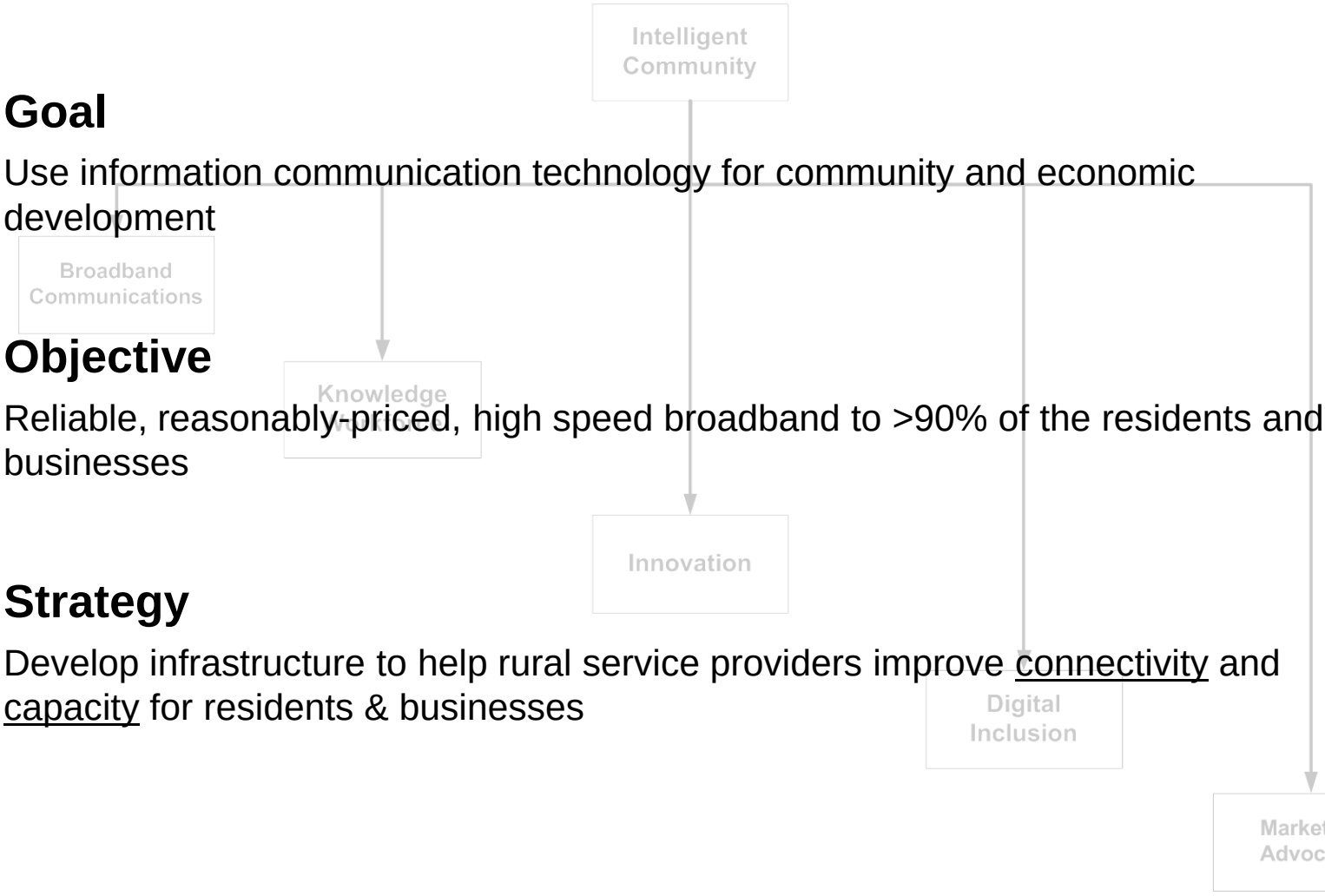
Advantages:

- Provides broadband, mobility, and public safety coverage
- Improves wireless provider's overall cash flow
- Enhances market forces in all areas
- Collocation revenues subsidize operating costs
- Municipality controls which areas get priority
- 20 - 30 year municipal asset

Disadvantages:

- More complex implementation
- Requires ongoing resources to work with partners

Parkland County Strategy



Goal

Use information communication technology for community and economic development

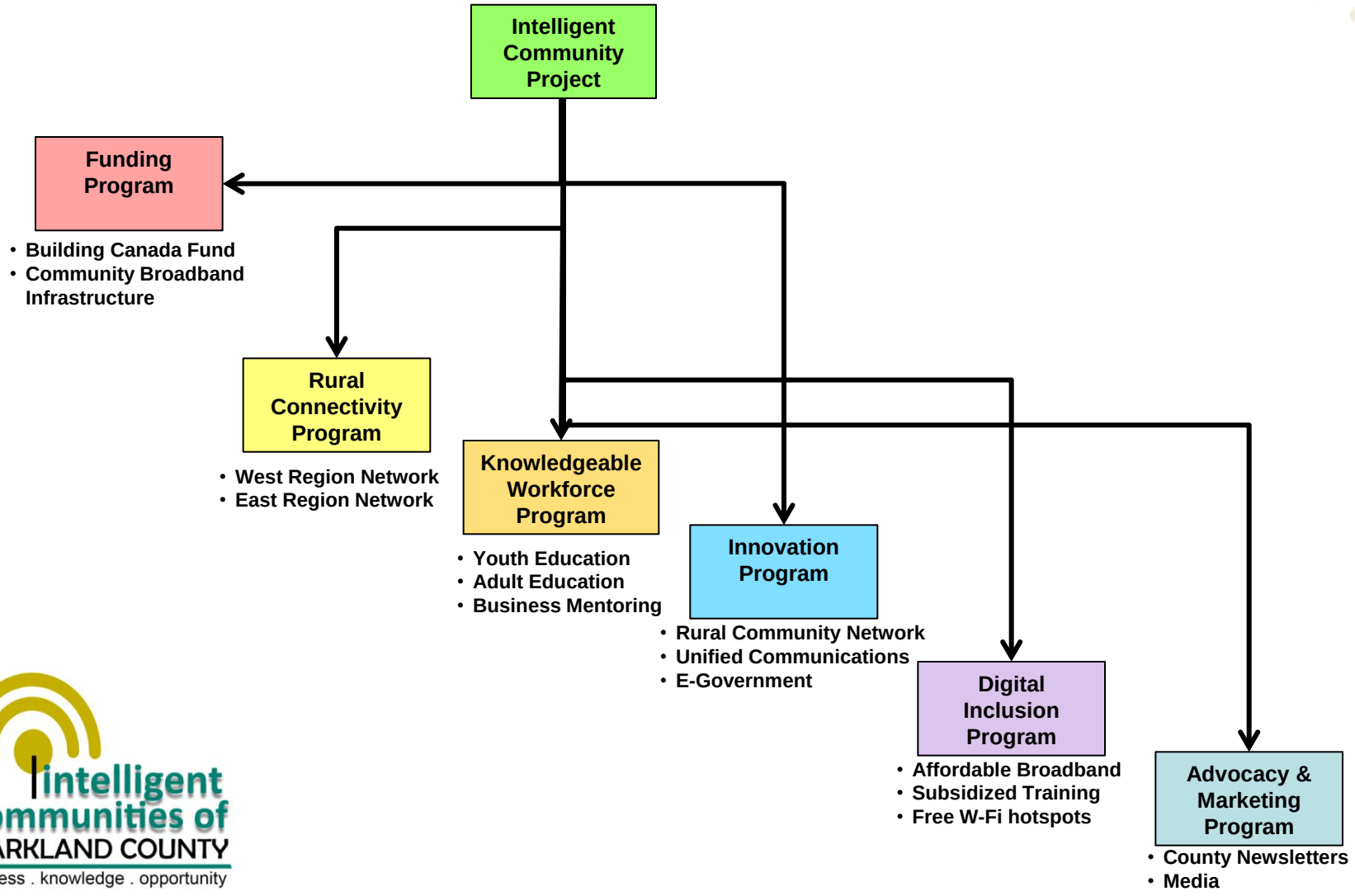
Objective

Reliable, reasonably-priced, high speed broadband to >90% of the residents and businesses

Strategy

Develop infrastructure to help rural service providers improve connectivity and capacity for residents & businesses

Intelligent Community Framework



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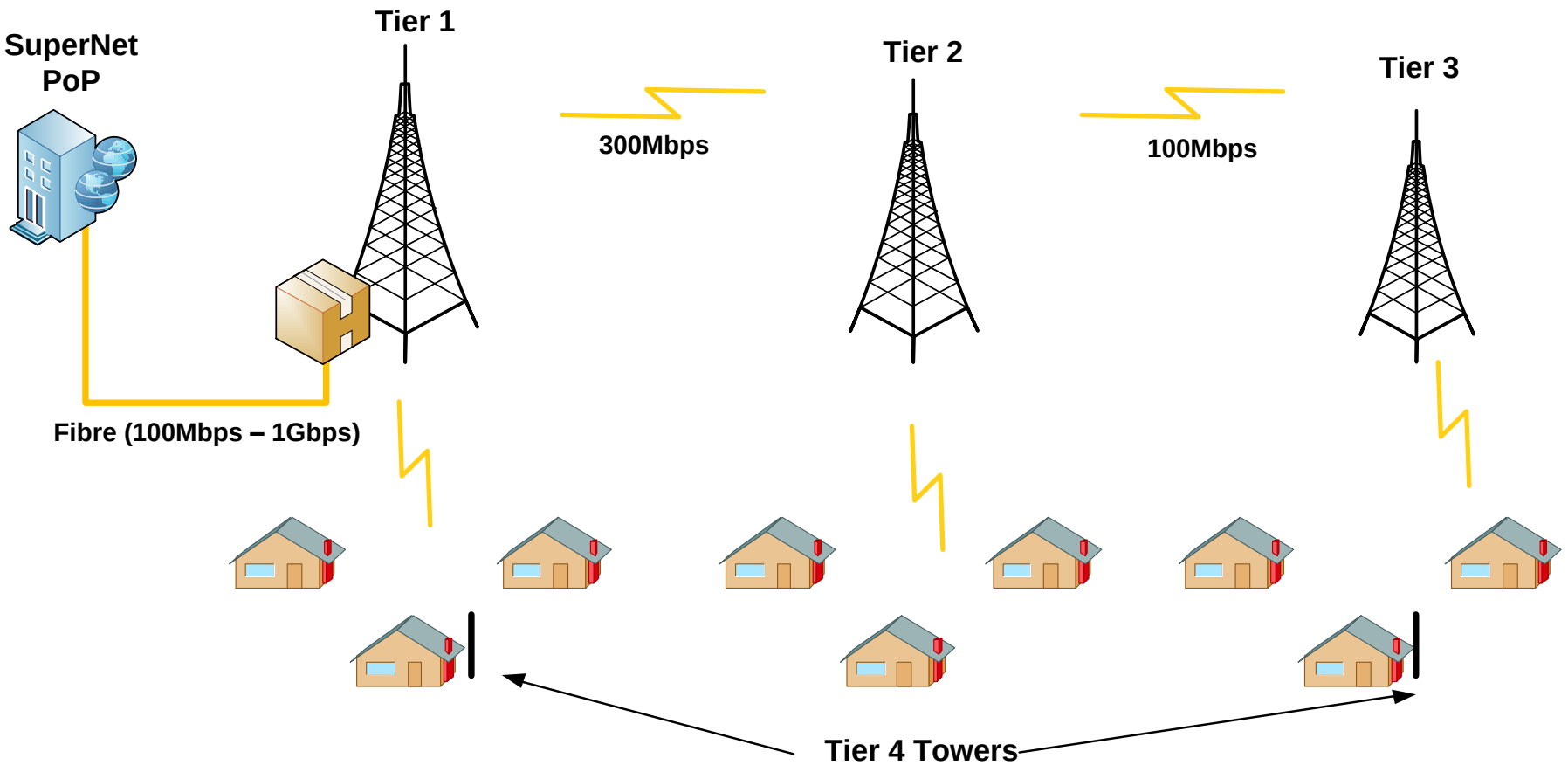
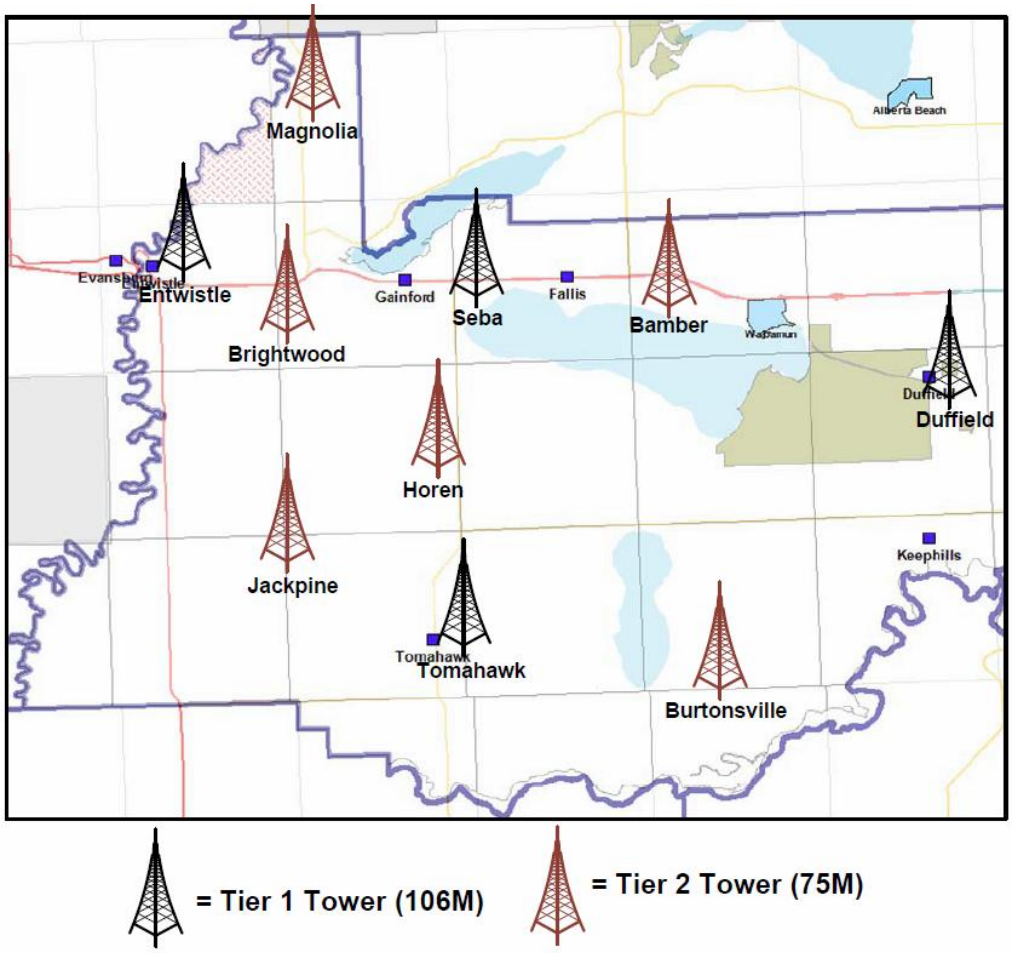
Utility Communications Network

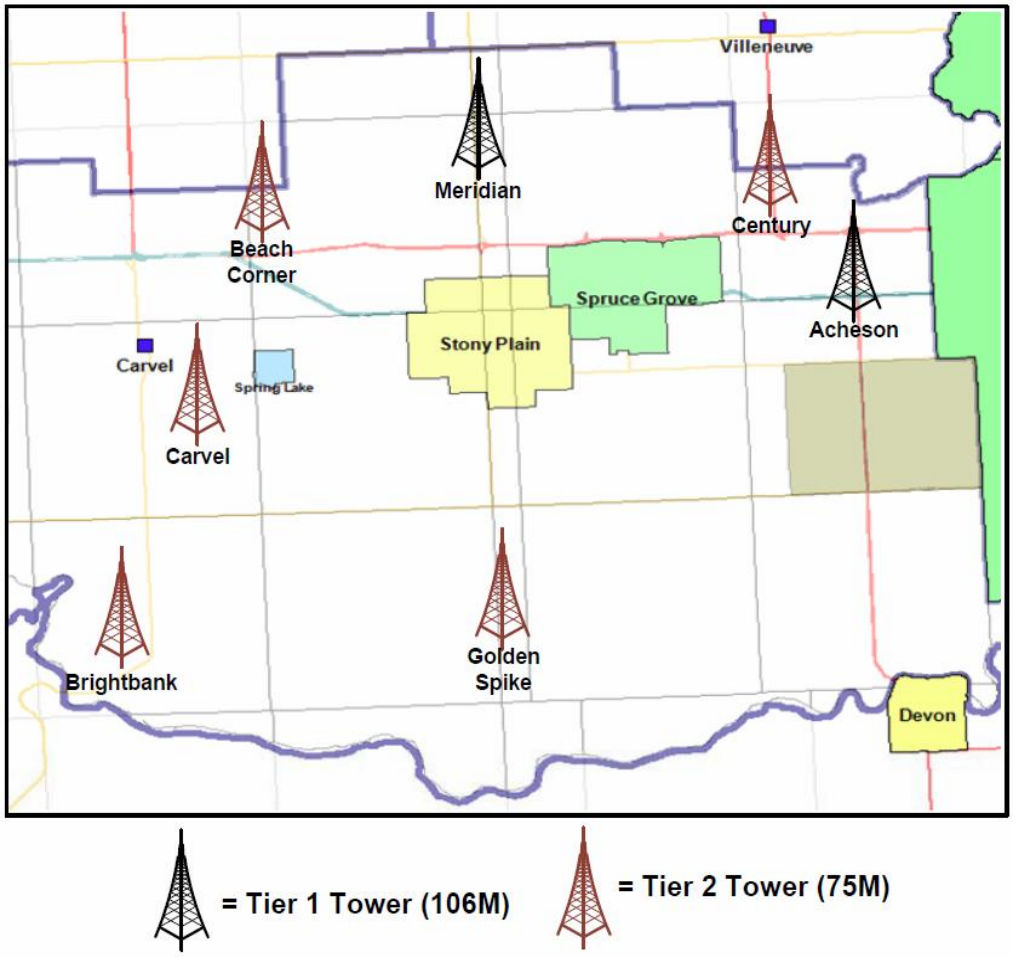


West Region



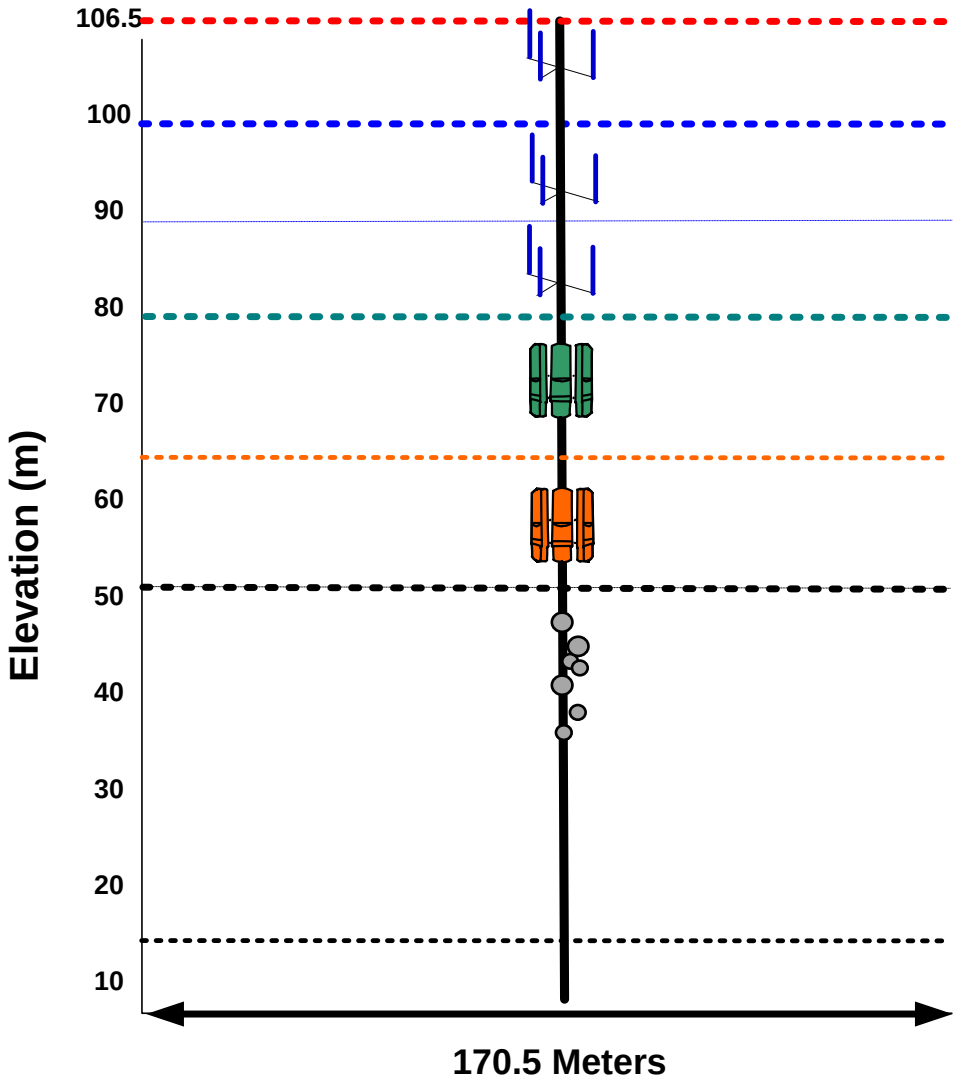
- Ten Towers
- Four – 106m (350’)
- Five – 75m (250’)
- One Existing (Horen)

East Region



- Seven Towers
- Three – 106m (350’)
- Four – 75m (250’)

Tier 1 Tower Profile



Public Safety 100m -106m
- Fire, Police, EMS

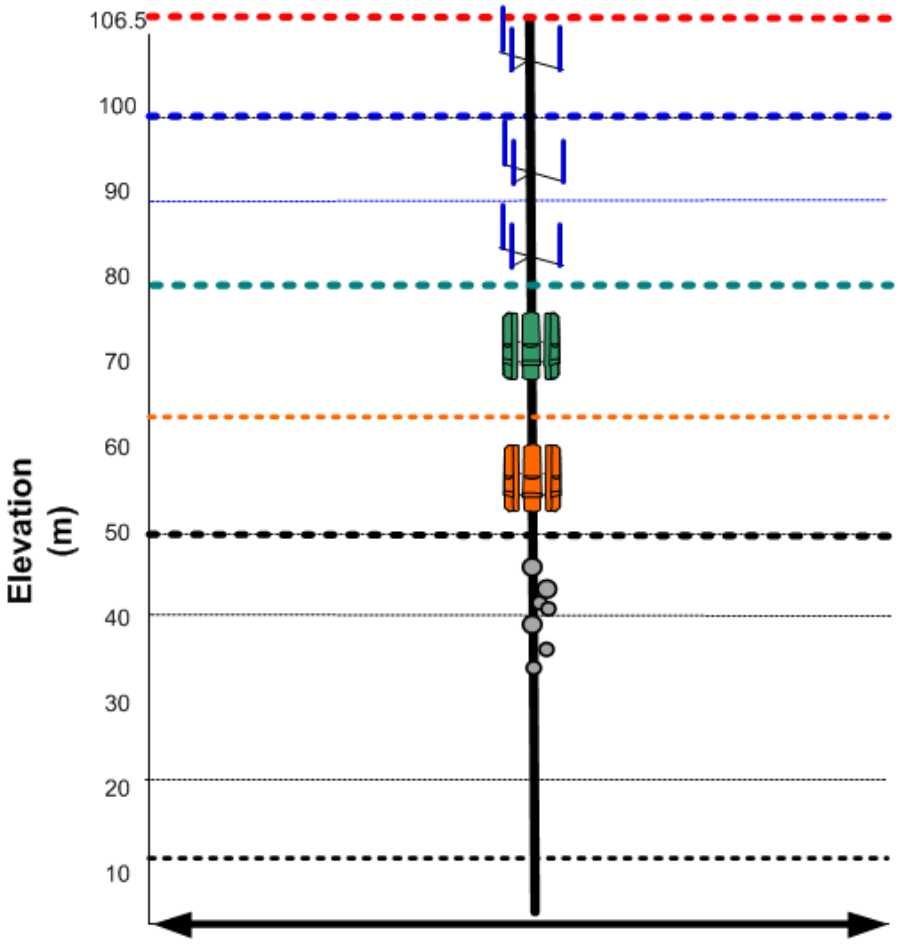
Mobile Providers 75m - 100m
- Max: 2 Providers

Licensed WISP 65m – 75m
- Max: 2 WISP

Unlicensed WISP 50m –65m
- Max 1 WISP

Backhaul/Private Business
10m - 50m

Sustainable Business Model

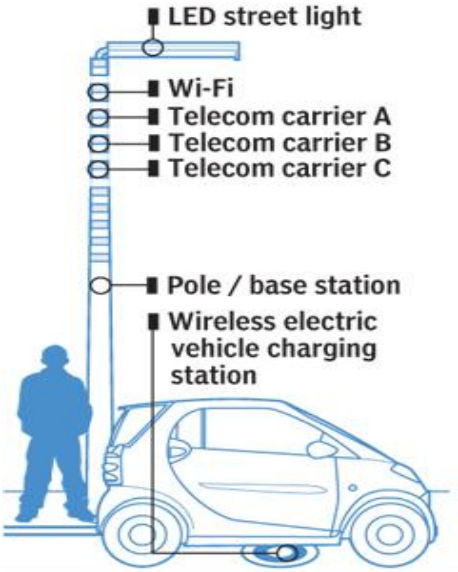


- Tower collocation revenue
- Collocation tenants
  - Public Safety
  - Mobility
  - Broadband
  - Rural Gas Co-ops
  - Private Enterprise
- WISPs subsidized in low density pop. areas
- Financially sustainable in 3 to 5 years

Collocation – V-Poles

THE V-POLE

The V-Pole ("V" for Vancouver) is a multi-frequency, multi-standard device that can be mounted anywhere there is power and a broadband connection. It uses lightRadio, a new architecture where the base station is broken into its component elements and distributed through the network.



Height	3.6 m or higher
Coverage	approx. 1.5 city blocks
LightRadio power consumption	55 – 80W
LightRadio connectivity	Fibre optic, ethernet or copper-twisted copper pair incorporating DSL

SOURCE: V-POLE.COM
ANDREW BARR / NATIONAL POST

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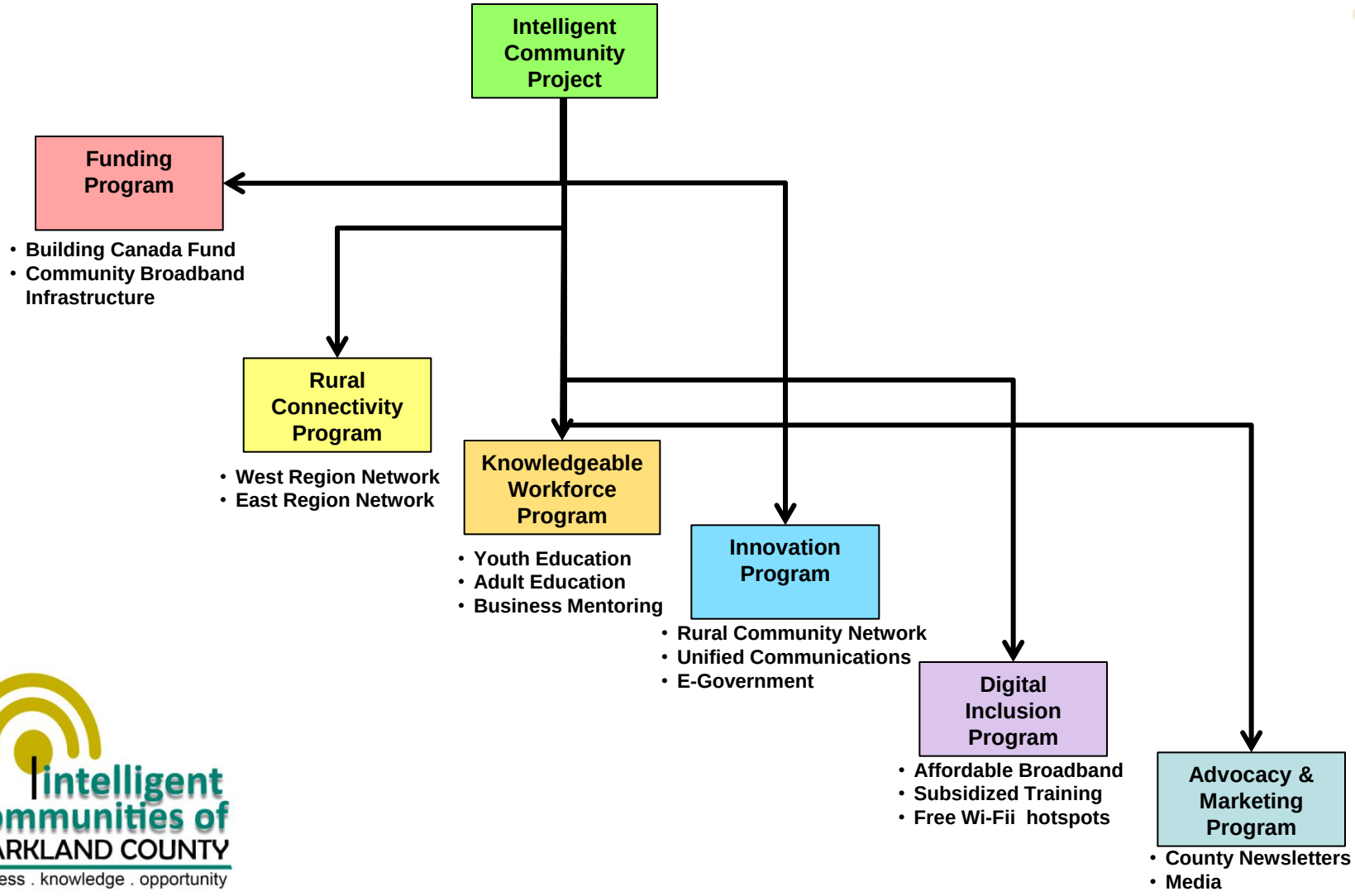
Intelligent Community Framework



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10 Success Factors

1. Leadership
2. Strategy & advice
3. Intelligent Community framework
4. Utility grade infrastructure
5. Open access – Collocation
6. Maintain market forces
7. Technology neutral
8. Scalable – fibre backhaul
9. Partnerships & collaboration
10. Sustainable Business Model

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Next Steps

1. Advocate for long-term dedicated capital grants
2. Build out rural communications network
3. Expand partnerships & collaboration (municipal, educational, research, business)
4. Continue internet training workshops
5. Business incubators
6. Develop 24/7 online community portal
7. Implement online reservation system for community facilities & programs
8. Expand Wi-Fi hotspots – community halls, restaurants, recreation facilities