

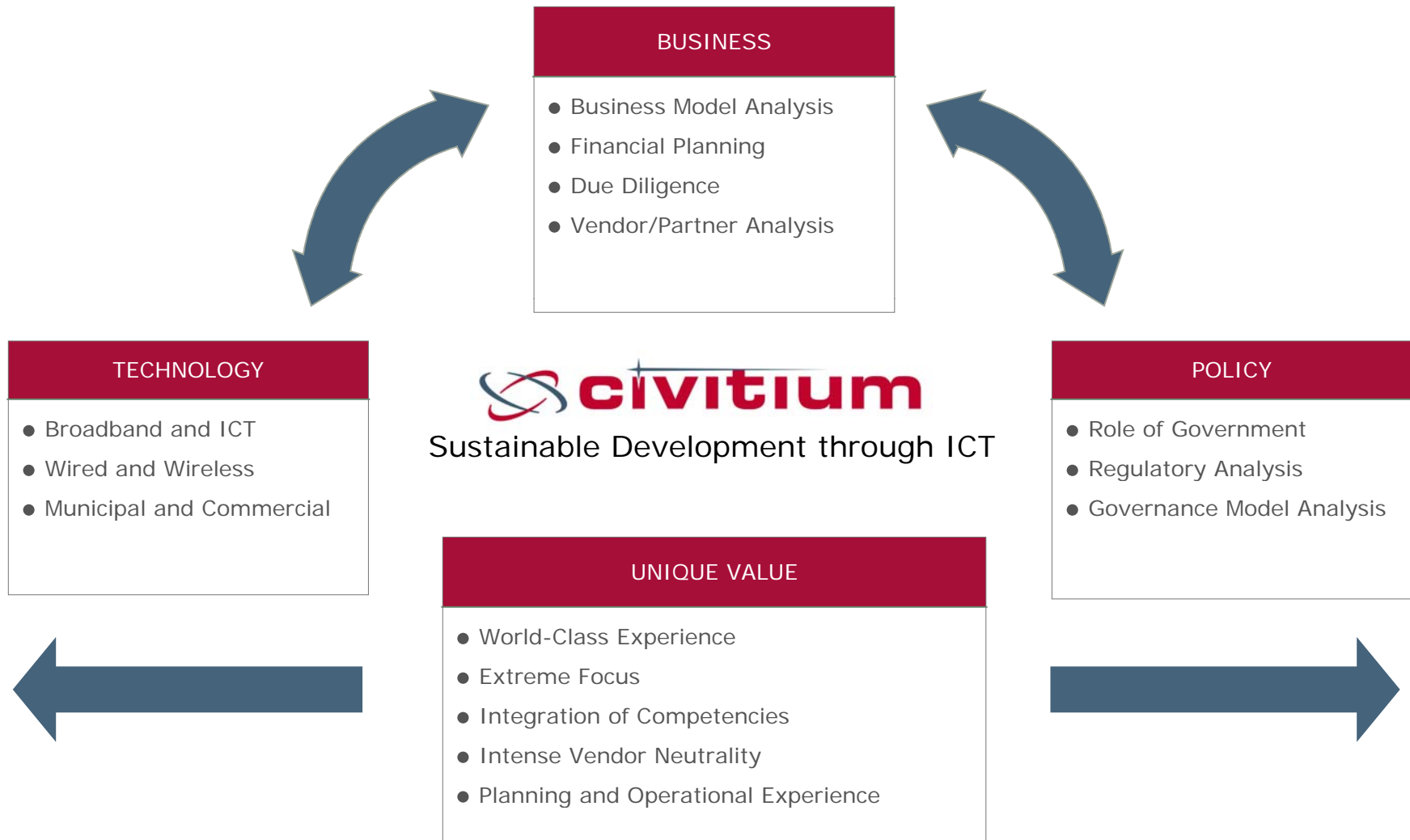
## **Municipal Broadband 2.0: What Can Cities and Counties Do Now?**

*Bailey White, Sr Partner, Civitium*

Would your city or county like a broadband system similar to Riverside's?

learn about relevant technology, business, and public policy concerns in an ever-changing market.

# About Civitiium



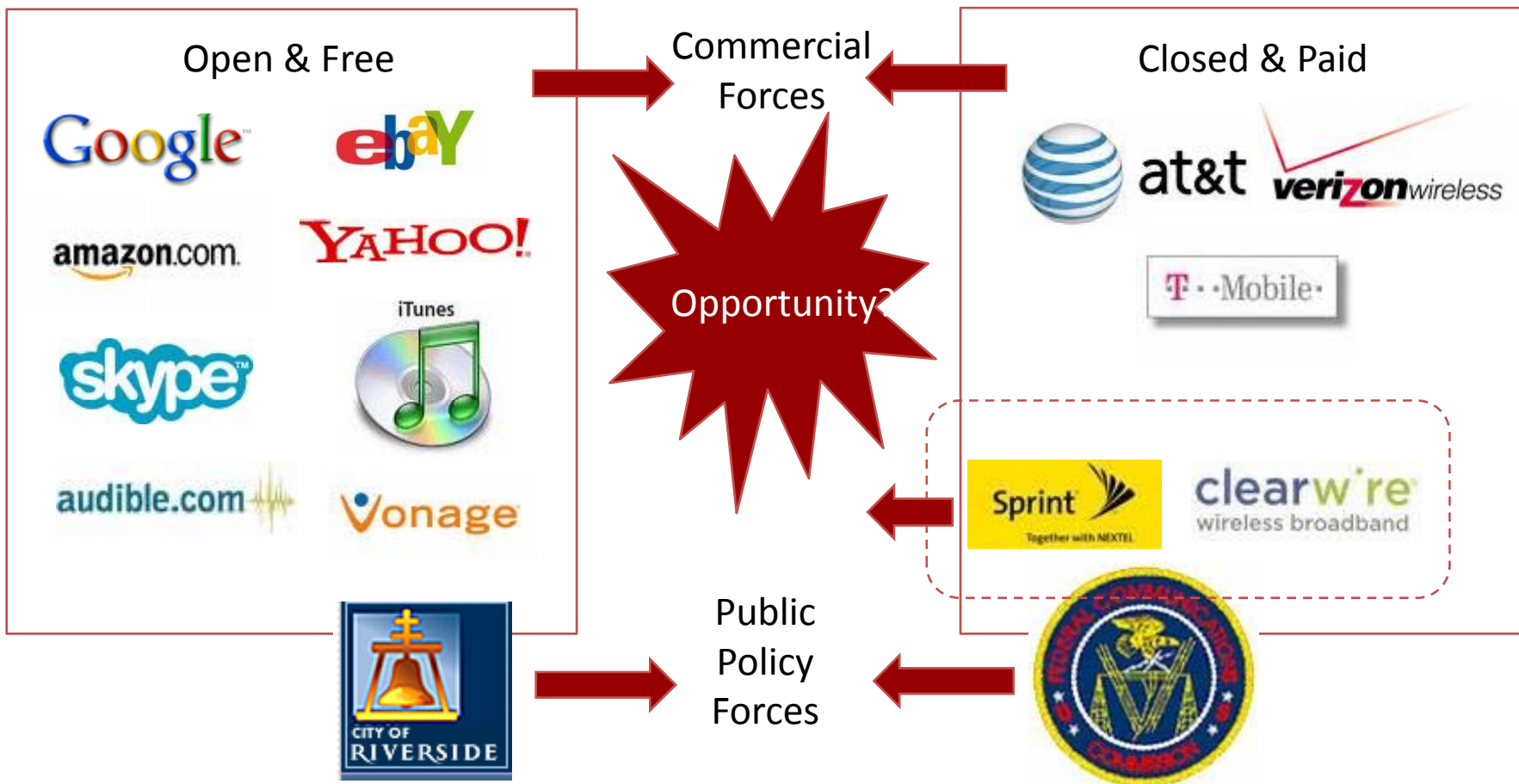
# Example Clients



# Market tension in broadband is growing

Their **growth** depends on **abundance**..

Their **value** depends on **scarcity**..



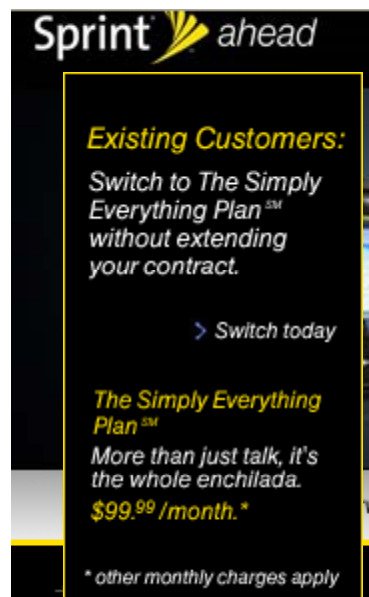
# Wi-Fi is Becoming Free



\$330M earmarked for free  
Wi-Fi over New York



Acquired Starbucks Wi-Fi,  
free to AT&T customers  
Offering free service here  
in Riverside



Sprint ahead

**Existing Customers:**  
Switch to The Simply  
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\* other monthly charges apply

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# CBS Mobile Zone NYC

## CBS mobile ((ZONE))



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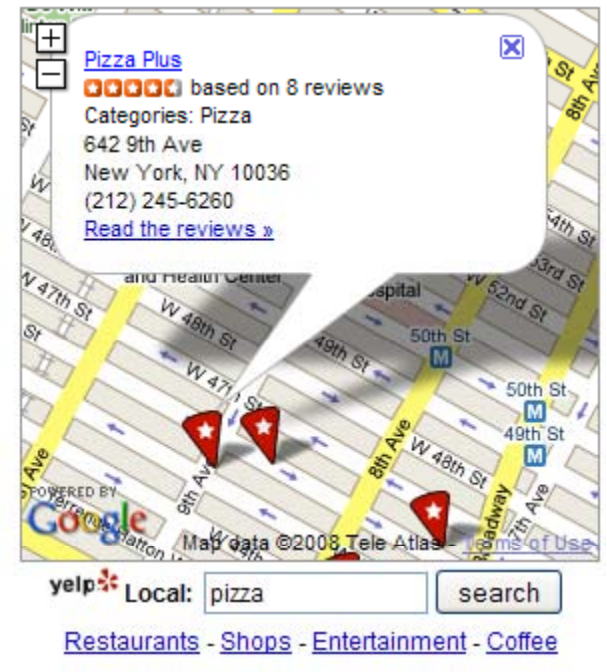
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yelp Local: pizza search

Restaurants - Shops - Entertainment - Coffee

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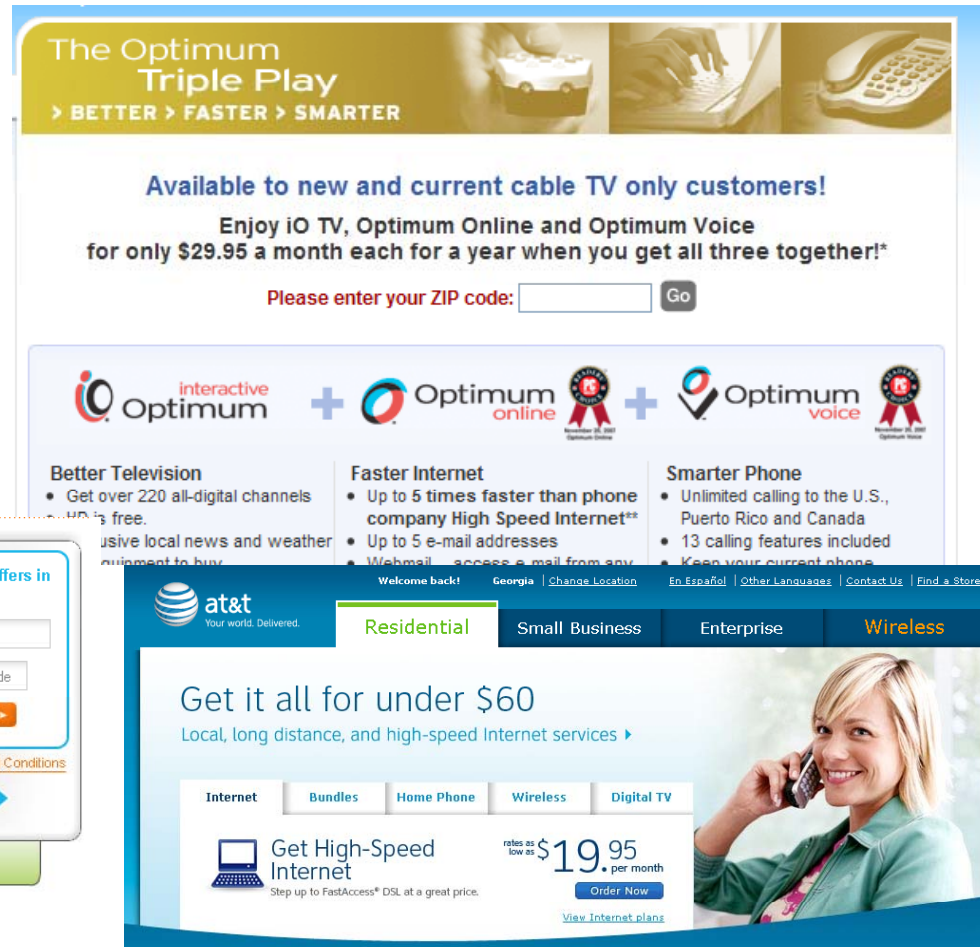
## Who Pays?

- Premium service users:
  - Utilities
  - Public safety
  - Business Users
  - Colleges
- Advertisers / Broadcasters

# Battle Over The Home

High Stakes Game for single provider:

- Phone
- TV
- Internet
- Wireless



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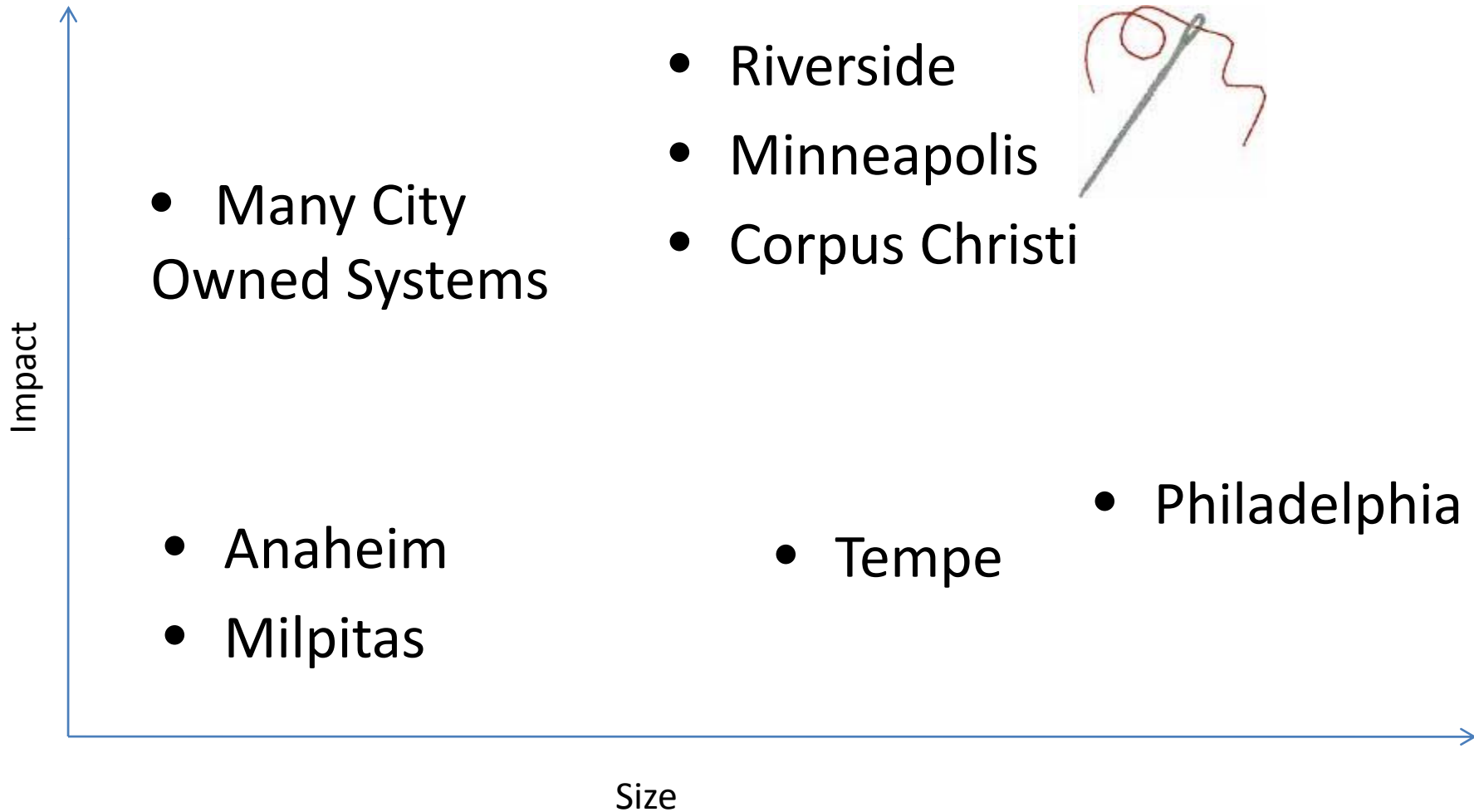
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# Only a Few Cities Made it Through Muni Wi-Fi 1.0



## Market Dynamics Are Ever Changing

- 700 MHz Auction success and D Block Public Safety failure
- 3.65 GHz no cost availability
- 4.9 GHz public safety success
- 2.4 GHz 802.11n
- EarthLink investments and divestiture
- Clearwire / Sprint / Intel WiMAX movements
- AT&T iPhone and increasing mobile data usage
- Verizon Wireless Open Access
- Fiber to the Home
- HSDPA and EV-DO Rev A
- LTE

# Technology Options for Wireless

## CURRENTLY AVAILABLE

### License-Exempt

ISM 900MHz

Municipal Wi-Fi 2.4GHz

Unlicensed ISM/UNII 5GHz

11GHz, 24GHz, 60GHz (PtP Only)

### Exclusive License

2G/3G Cellular

LMDS 28GHz

WIMAX WCS 2.3GHz & BRS 2.5GHz

23GHz, 80GHz (PtP Only)

### Non-Exclusive License

Wireless Broadband 3.65GHz

Public Safety 4.9GHz

## NOT CURRENTLY AVAILABLE

### License-Exempt

IEEE 802.22 WRAN TV Whitespace

### Exclusive License

700 MHz Upper D-Block

4G Cellular / Long Term Evolution (LTE)

### Non-Exclusive License

- *No New Unlicensed Allocations* -

# What Are My Options Now?

- Partner with Existing Service Providers
  - Leverage existing infrastructure
  - Exploit synergies
  - Utilize spectrum?
  - Brave changing markets
- Build a Network
  - Public Safety precedent
  - Full control
  - Operational considerations
  - Heightened risk of obsolescence.

In either case, is the leader a non-profit, a utility, or an IT department?



## Potential Funding Sources

- Public Safety
- Education
- Transportation
- Electric, Water, or Gas Utility
- USDA
- Economic / Technology Development Authorities

# Questions?

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404-775-1039