

# Strategies for Expanding Broadband in Lawrence

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**ctc technology & energy**

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engineering & business consulting

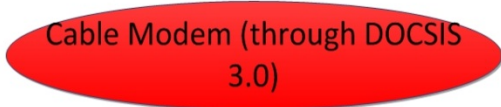
# Agenda

- Goals and parameters
- Technology: Why fiber?
- Existing broadband in Lawrence
- Middle-mile strategy




# Goals and parameters

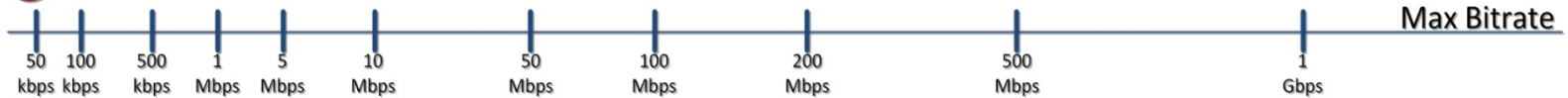
- Maximize benefits of existing infrastructure
- Explore options for expanding City infrastructure
- Minimize long-term risk of growing costs
- Maximize opportunity
  - Economic development
  - Education, health care
  - Competition
- Catalyze investment and differentiate Lawrence

# Data Speed Capacity



## Wireline Technology

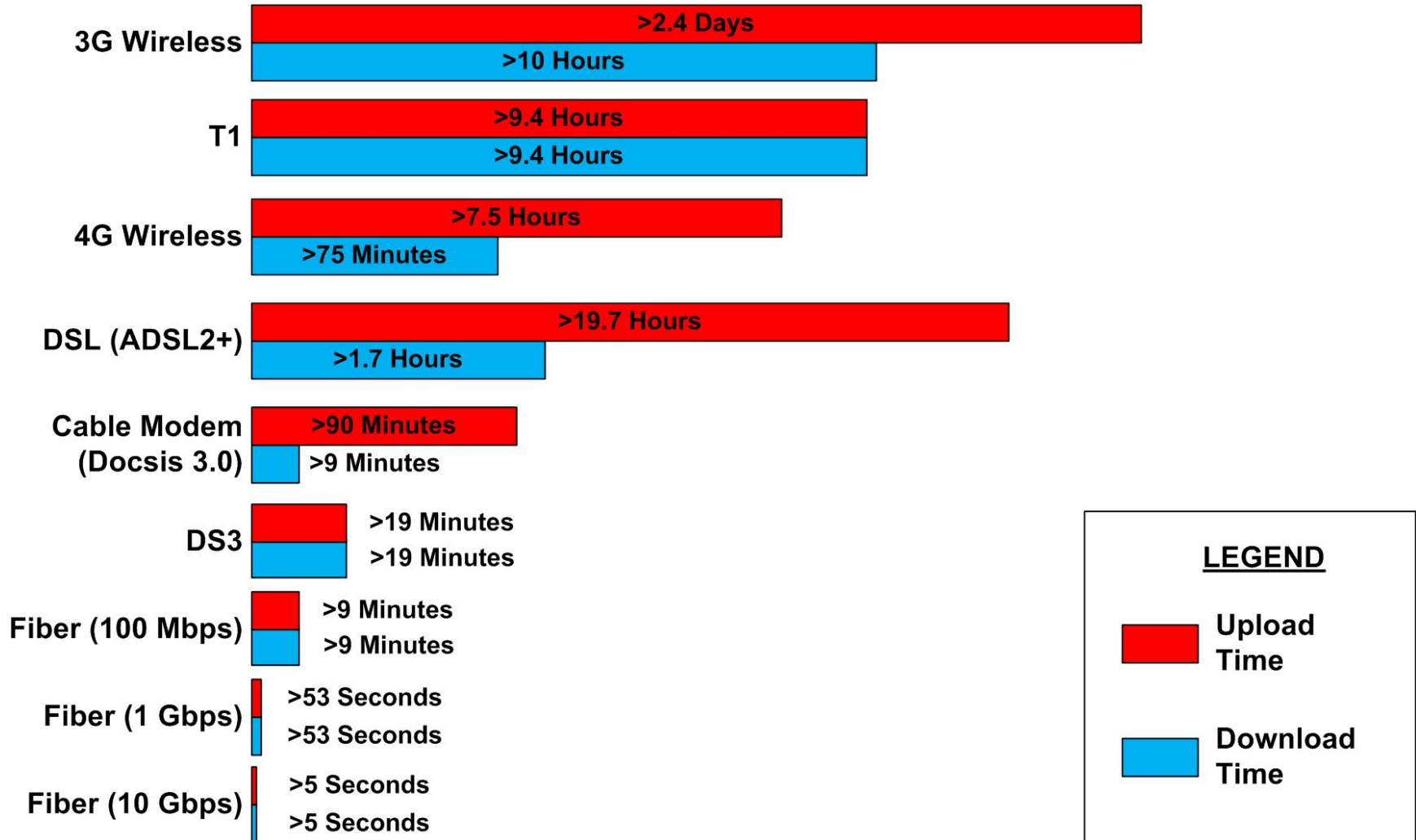
	Technology at a mature state of deployment
	Technology not widely deployed or standardized
	Technology at conceptual or developmental stage



## Wireless Technology



# Minimum Time Required for Downloading and Uploading a 5 GB File



# Current broadband environment

- Broadband is universally available
- Cable, DSL, and mobile services are comparable to other communities
- Fiber to the Home footprint is small but may be growing

# Recent Developments

## **Since the report was released...**

- Wow completed the Knology transition, has eliminated data caps, and is now offering speeds up to 50 Mbps
- Wicked Broadband exploring expanding Fiber to the Premises infrastructure and gigabit services

# Cable Offerings: Lawrence

Max. Download	Monthly Cost (Without Discounts)
<u>Cable – Knology</u>	
3 Mbps (5 GB Data Limit)	\$32.95
18 Mbps (50 GB Data Limit)	\$47.95
Variable Speed, (No Data Limit) “Optimized for video”	\$57.95

Modem rental is \$5 per month; \$10 per month discount when bundled with TV. Additional charges for exceeding data limits.

# Cable Offerings: Champaign-Urbana, IL

Max. Download	Monthly Cost (Without Discounts)
<u>Cable – Comcast</u>	
3 Mbps	\$29.95 to \$39.95
6 Mbps	\$49.95
20 Mbps	\$42.95 to \$62.95
50 Mbps	\$74.95
105 Mbps	\$114.95

Modem rental is \$7 per month; various discounts are available when bundled with TV and voice service

# Cable Offerings: Madison, WI

Max. Download Speed	Monthly Cost (Without Discounts)
<u>Cable – Charter Communications</u>	
30 Mbps	\$29.99

# Cable Offerings: Ann Arbor, MI

Max. Download Speed	Monthly Cost (Without Discounts)
<u>Cable – Comcast</u>	
3 Mbps	\$29.95 to \$39.95
6 Mbps	\$49.95
20 Mbps	\$42.95 to \$62.95
50 Mbps	\$74.95

Modem rental is \$7 per month; various discounts are available when bundled with TV and voice service

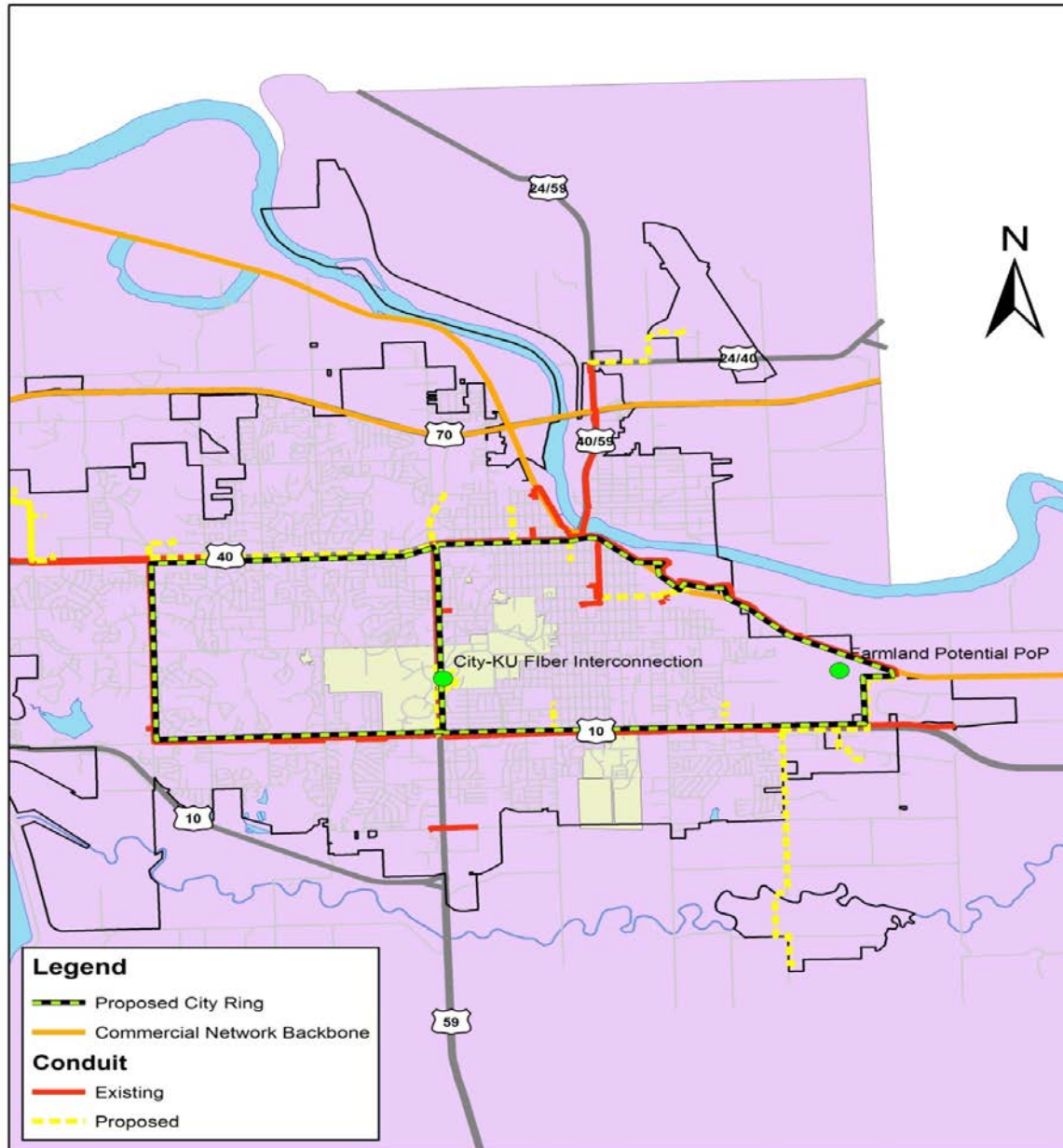
# Current City Fiber Environment

- Impressive roster of completed and proposed fiber/conduit projects
- Good coordination among departments and with KU, County
- Innovative partnerships underway
- Some fiber leasing to enable local entrepreneurial service

# Recommended Middle-Mile Strategy

- Connect existing fiber routes into rings
- Estimate \$320,000 to \$650,000 to enable completion of 17-mile fiber backbone ring
- Replace legacy and leased circuits (currently paying about \$50,000 per year)
- Lease access to excess City fiber and conduit
- Commission directive for inter-department coordination and planning

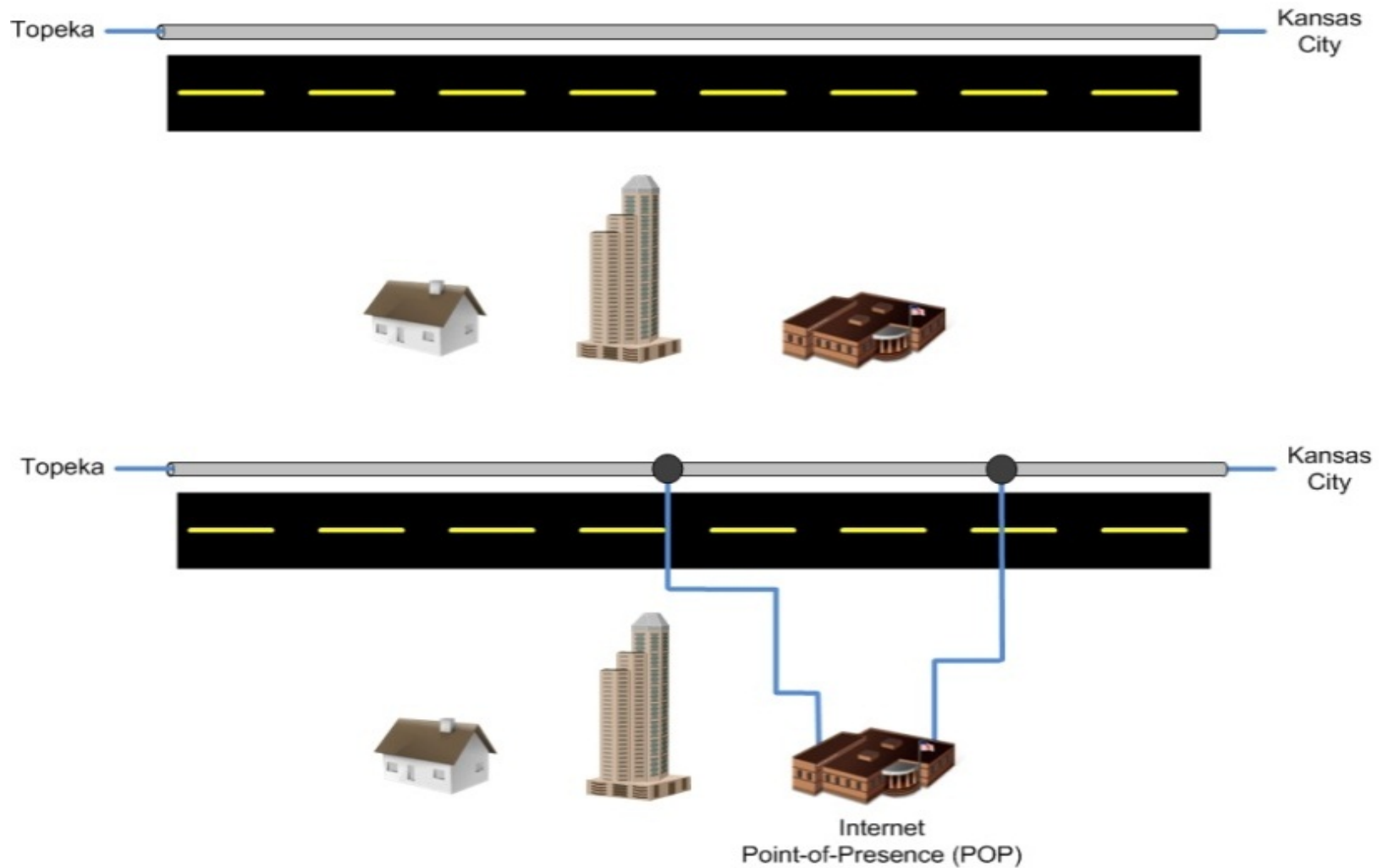
# Map of Potential Fiber and Conduit Network Rings



# Additional benefits

- Competition
- Incentive to invest
- Resulting economic development

# Internet Point-of-Presence





City facilities



Business park



Connection to  
Internet POP

