

# TILSON

City of Gainesville:  
Oral Presentation

# WHO WE ARE

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- 600+ employee team
- 23 offices nationwide
- Inc. 5000 list for 9 consecutive years
- Real Estate
- Engineering
- Construction
- Municipal Partnerships
- IT Consulting and Programming
- Maintenance



TILSON

# PROJECT APPROACH

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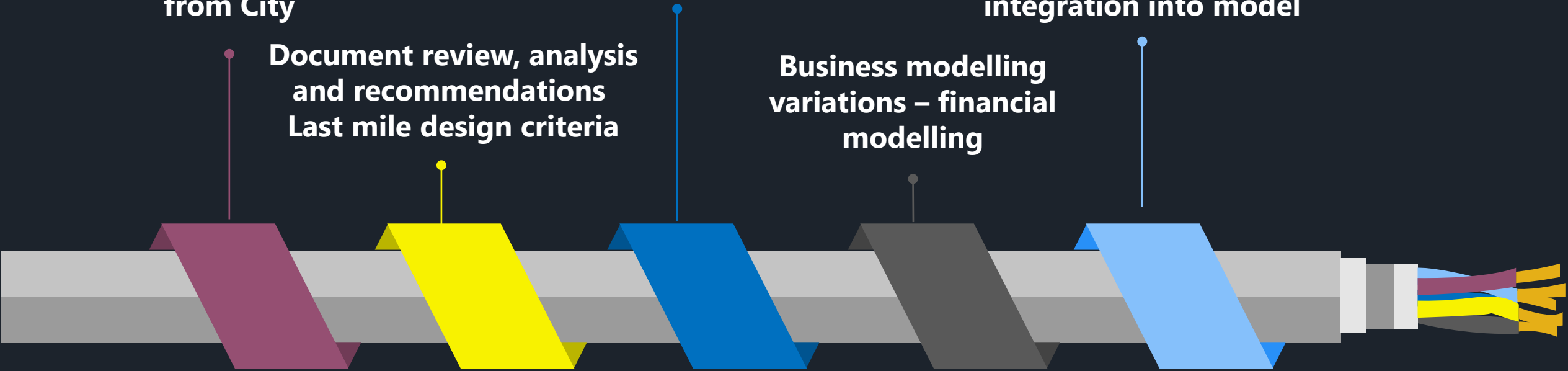
**Collect GIS and  
other information  
from City**

**Document review, analysis  
and recommendations  
Last mile design criteria**

**High level network designs  
bills of material  
cost estimation for  
financial modelling**

**Business modelling  
variations – financial  
modelling**

**Digital inclusion strategy  
recommendations, examples and  
integration into model**



# Required City Resources

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## Shapefiles

- Poles/Conduit
  - Aerial/underground
- Fiber - splice enclosures, slack loops, points of middle mile interconnection
- Primary/secondary
- Meters (type)

## Location information

- Last mile on-net locations vs. enterprise, business and MDU locations

## GRUCom business model for analysis

- Financial statements
- Maps and inventory of current assets
- Revenue projections and ARPU breakdowns per customer class and/or tier of service
- Other GRUCom revenue assumptions

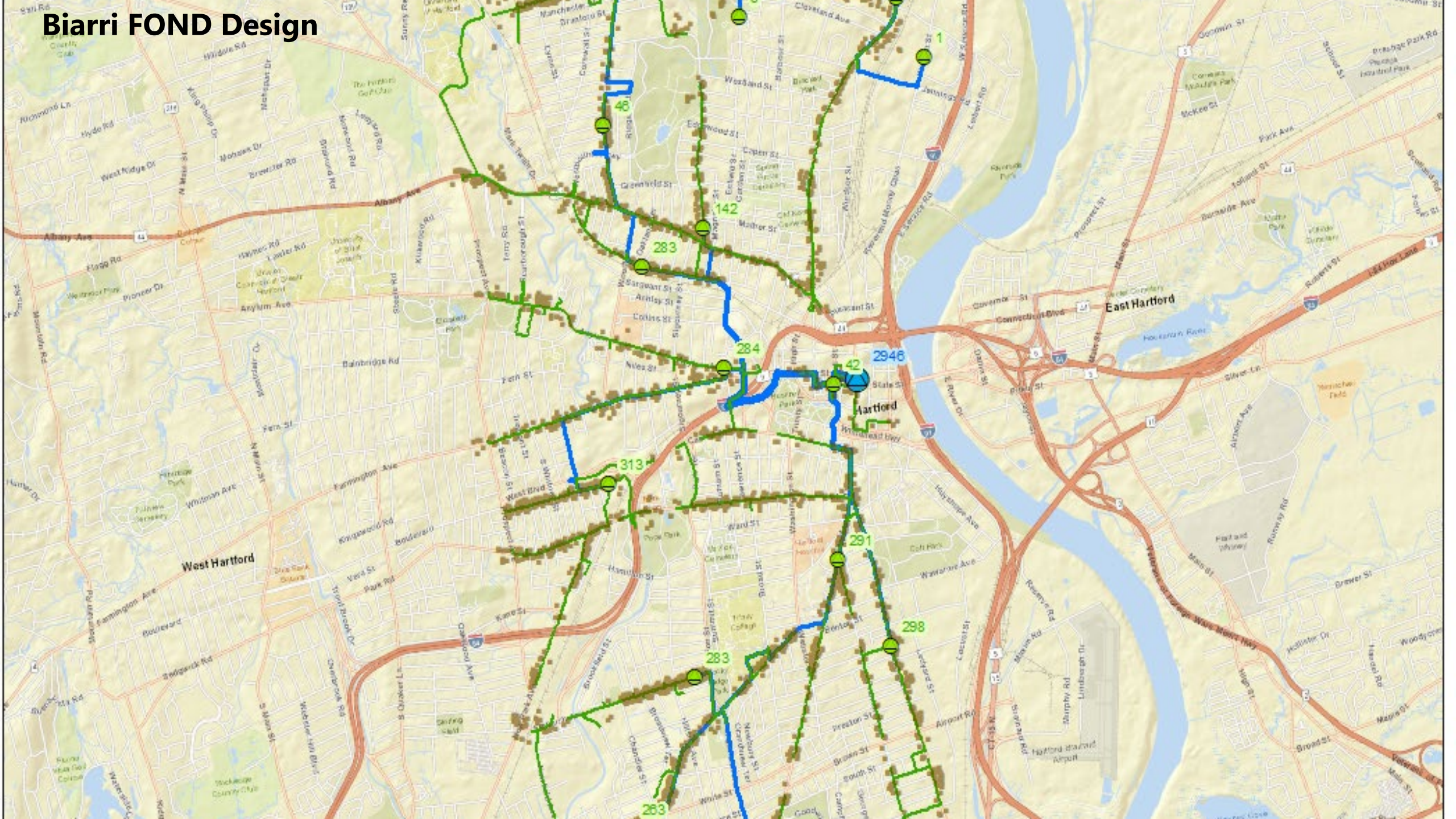
## GRUCom Requirements for digital inclusion strategy (for final modeling)

- Facilitate dialogue with education sector regarding bulk purchases for home connections

# Document Review and High- Level Design Process – Task 1

- Document review, analysis and recommendations
  - Informs high level design and modeling
- Identification of last mile design areas and locations
  - Residential vs. enterprise/MDU
- Identification of aerial and underground routes
- Identification of last mile architecture
- Design considerations to incorporate digital inclusion strategies
- High level design production

# Biarrri FOND Design



# Bill of Materials - Example



## BILL OF MATERIALS ESTIMATE

Please use the area below to estimate costs. Examples have been provided. Add or remove material/labor costs as needed.

Category	Materials	Description	Manufacturer	QTY/Hours	Unit Costs	Total Cost
	Conduit					\$0.00
	Vaults					\$0.00
	Manholes					\$0.00
	Hand Holes			58	\$473.00	\$27,434.00
	Terminals (MST)					
	12 Port					\$0.00
	8 Port					\$0.00
	4 Port					\$0.00
	Splice Cases "C"	C size splice case	Commscope	32	\$298.00	\$9,536.00
	Splice Cases "D"	D size splice case	Commscope	2	\$394.00	\$788.00
	Fiber Optic Cable					
	288 Count					\$0.00
	144 Count	single armor, single jacket, single mode, dry fill, loose tube buffers	Prysmian	0	\$1.03	\$0.00
	120 Count					\$0.00
	96 Count	single armor, single jacket, single mode, dry fill, loose tube buffers	Prysmian	0	\$0.80	\$0.00
	72 Count					\$0.00
	48 Count	single armor, single jacket, single mode, dry fill, loose tube buffers	Prysmian	85312	\$0.47	\$40,096.64
	24 Count	single armor, single jacket, single mode, dry fill, loose tube buffers	Prysmian	13804	\$0.35	\$4,831.40
	12 Count	single armor, single jacket, single mode, dry fill, loose tube buffers	Prysmian	85884	\$0.30	\$25,765.20
	Miscellaneous Materials	ground rods, line marking posts, couplers, warning tape,...				\$6,000.00
						\$163,139.74
Subscriber						
	Fiber drops	4-fiber single armor, single jacket, single mode, dry fill, loose tube b	Prysmian	17250	\$0.24	\$4,140.00
	1" Inner duct	1"ID HDPE SDR11 duct, with tape, smooth wall, gray	Bulldog Pipe and/or Duraline	17250	\$0.28	\$4,830.00

# Business Modeling Scenarios - Task 2

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- Tilson's financial model is closely integrated with our GIS and network design and engineering tools (which include software packages such as Esri ArcGIS and Biarri FOND)
- Those tools then produce key quantities – such as number of feet of cable and conduit, optical line terminations, and other cost factors – which act as inputs to our financial model. This integration allows Tilson to forecast capital and operating expenses based on actual network designs, rather than approximations
- It also permits us to rapidly update the financial model based on different variations, scope changes and evolving network designs and produce pro forma financial model reports
- Deliverables will include narrative explanations of the assumptions of each model scenario and the differences between them, and capex projections, take rate curve, pro forma cash flows, etc.
- Each business modeling scenario will achieve the City's objective of the Digital Inclusion Strategy



# Digital Inclusion Strategy – Task 3

Tilson will build upon City of Gainesville Digital divide data, planning and reports

May 2019 CCG Community Broadband Study

- Survey of broadband offerings landscape, pricing structures, citizen interest

Nov. 2019 Digital Inclusion Initiative - City Wide Strategies prepared for the City's Digital Access Subcommittee

- Relevant strategies outlined
- Community partnerships identified; City role established
- Digital Inclusion Plan Roadmap presented
- Recommendations from this report folded into the CCG Community Broadband Study

Deliverables

- Apply Tilson business modeling scenarios to CCG's digital design pricing and survey results
- Validate CCG's suggestion of another residential survey to better define options presented
- Suggest next steps that compare Tilson analysis, CCG recommendations with the City's Digital Inclusion Strategic Plan

# Digital Inclusion Strategy - Example

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## Bulk Purchasing to Facilitate Digital Inclusion

- Example: EPB Power and Fiber (municipally-owned utility in Chattanooga TN) has a bulk purchase agreement with the county school district for broadband home connections to 28,000 students
  - Funding sources include the city, county, state, BlueCross BlueShield of Tennessee, Smart City Venture Fund
- Similar initiatives can occur locally with K-12 as well as post secondary institutions
  - Universities and colleges bulk purchase for home connections for students, faculty and staff

## Existing Digital Inclusion Programs

- Participation in existing federal digital inclusion programs such as USAC's **Lifeline** program and the recently established FCC **Emergency Broadband Benefit program**, as well as any modifications to E-Rate allowing home connections

# CONTACT

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