City of Gainesville, FL
FTTH Pilot Project - Business Plan

June 2022

Magellan
ADVISORS

Project Objectives, Vision and Goals

Make high-speed fiber Internet services available to all residents and businesses at an affordable price in order to close the digital divide. This is expected to:

- *Increase* the number of successful, sustainable, small and locally owned businesses

- *Reduce* the poverty level in the Gainesville community

- *Ensure* technology infrastructure/community broadband that is fast, reliable, and affordable to support businesses and home offices

- *Support* a diverse local economy (industrial and business) insulated from economic trends

- *Attract* new businesses to Gainesville consistent with vision and "targeted" businesses

- *Support* a successful MWBE (Minority and Women Owned Business Enterprise) program

Market Analysis

AT&T

RESIDENTIAL

$60-75 per month

- **940 Mbps download** & **880 Mbps upload** speeds
- **$20 price increase** after 12 mo.
- **Data Cap**:
  - DSL – 150 GB
  - Fixed Wireless - 350 GB
  - AT&T Internet – 1TB to Unlimited
- **Overage Cost** - $10/additional 50 GB (Max $100-200/billing cycle)
- Available at **5 out of 8 addresses**

BUSINESS

$50-120 per month

- **100 Mbps – 1 Gbps** speeds
- **Data Cap**:
  - DSL – 150 GB
  - Fixed Wireless - 350 GB
  - AT&T Internet – 1TB to Unlimited
- **Overage Cost** - $10/additional 50 GB (Max $100-200/billing cycle)
- Fiber available at **2 out of 8 addresses**
- Wireless available at **4 out of 8 addresses**
- >10 Mbps available at **2 out of 8 addresses**

COX

RESIDENTIAL

$19.99-99.99 per month

- **25-940 Mbps download** & **30 Mbps upload** speeds (Asymmetrical)
- **Data Cap**:
  - Cable Service – 1.25 TB
- **Overage Cost** - $10/additional 50 GB (Max $100/billing cycle)
- Available at **all addresses; 2 addresses pays $10 more**

BUSINESS

$69-129 per month

- **50 Mbps – 200 Mbps** speeds
- **Data Cap**:
  - DSL – 150 GB
  - Fixed Wireless - 350 GB
  - AT&T Internet – 1TB to Unlimited
- Available at **all addresses**
- Fiber is ICB & built on demand

GRUCom FIBER OPTIC COMMUNICATIONS
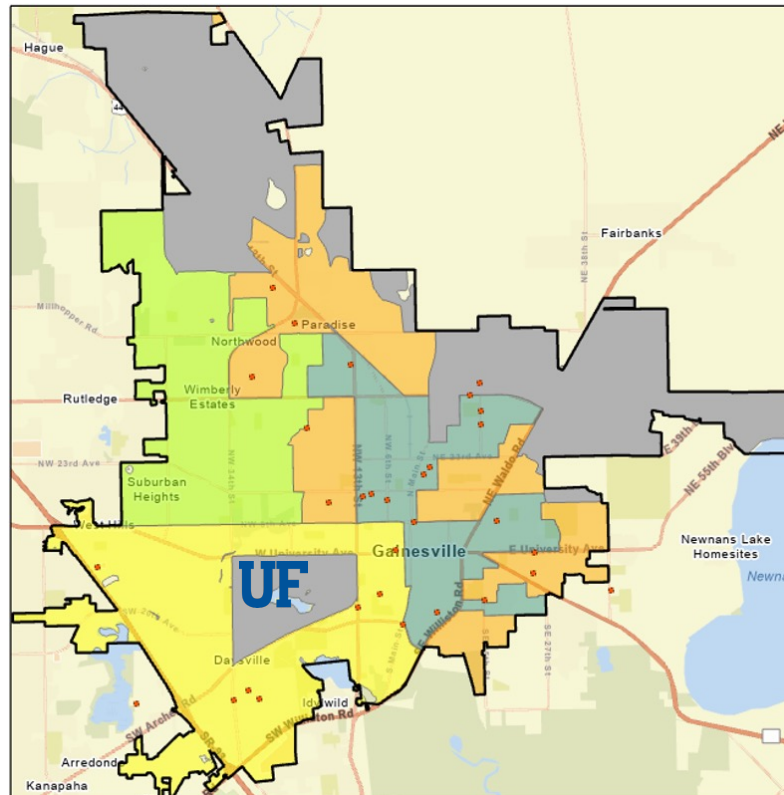
RESIDENTIAL

GatorNet – popular offering to MDU and Student Housing Communities as a rental amenity

BUSINESS

ICB

- **Symmetrical bandwidth up to 10 Gbps**
- Business class broadband connections up to 1 Gbps
- Fiber is ICB & **built on demand**

- 3

Broadband Priority Areas – Initial Areas

Priority Area	Total Units Throughout the City
1	12,058
2	10,144
3	35,388
4	12,016
5	1,120

•	Public Housing
—	City Boundaries

*Data sources used: Priority Area : HUD Low Mod, Household and Block Census, FCC Availability data, Units: GRUCom Data.

Project CAPEX Estimates – Initial Cost Estimates

CAPEX for premise drops is dependent on number of connected premises – only Single-Family home considered in models.

- **Amenity option** = 100% premise drop connections *(as depicted below)*
- **Utility option** = Number of premise drops is dependent on customer uptake percentage
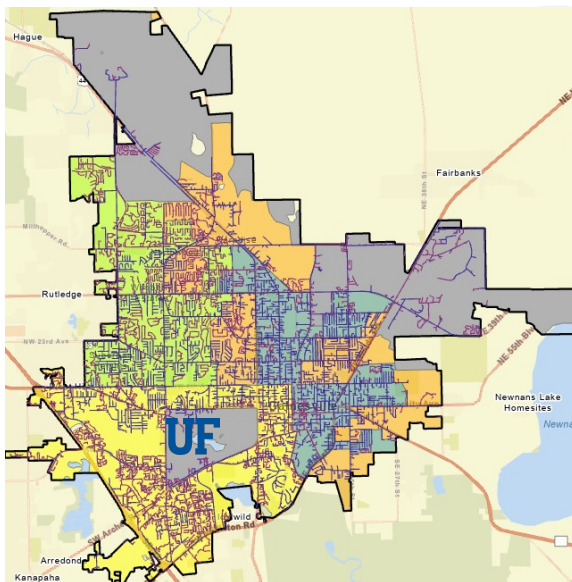
OSP Construction (681 mi) [20% contingency]	$ 75,747,600
Buildings/PoPs	$ 1,500,000
PM/CM/CI	$ 2,340,000
Network Equip/Systems/Refresh	$ 4,949,635
General Equip/Other CapEx	$ 1,608,600
100% Premise Drops	$ 49,928,992
	$ 136,074,827

March 2022 Commission Direction and Assumptions

The Council directed City Staff and Magellan to finalize
a **FTTH Pilot Project for a revised Priority Area 1**
with a maximum amount of ARPA funding at $9.6M, and to
include the Wireless Deployment in Priority Area 1 as well.

Assumptions into Pilot Project include:

➤ **$9.6M in ARPA** funding maximum

➤ GRUCom offers an **expanded residential and business "best-effort" internet service**

➤ GRUCom's **reorganization plan** is underway, and **voice services offerings** are available to sell to new customers

➤ **Wireless Deployment** is not in the Business Plan but represented **as a stand-alone project**

➤ No **expansion** contemplated in this presentation due to significant debt requirement but **documented in the Business Plan report**.

Priority 1 Area – FTTH Pilot Project
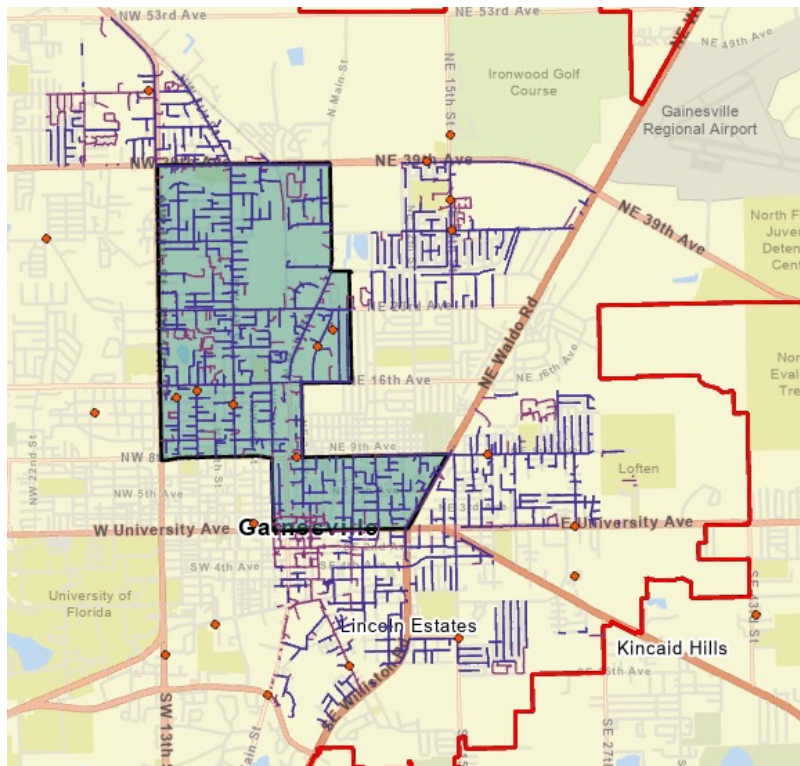
Priority Area Count of Building Passed by Parcel

	Place Type	Count
	Public Housing	6
	Residential Primary	31
	Residential	2373
	Commercial Primary	12
By Parcel	Commercial	522
	Total Residential	2404
	Total Commercial	556
	Total Building Points	**2960**
	Total Address Points	5447
	Remainder (shared parcel)	**2487**

Priority 1's Estimated Cost for Aerial and Underground Fiber Deployment (56-miles)

Priority 1		
	FTG	MILEAGE
Aerial	217,557	41.21
Underground	75,667	14.33
Estimated Cost	**$5,452,100.16**	

FTTH Pilot Project – CAPEX and OPEX

Projected Buildout/Startup Capital Expense ($8,781,029) Breakdown

- Premise Connections[1], $748,350 , 9%
- Network Equipmen $360,975 , 4%
- PM/CM/CI, $846,000 , 10%
- General Equipmen $470,400 , 5%
- Design/Permits, $357,994 , 4%
- OSP Construction, $5,997,310 , 68%
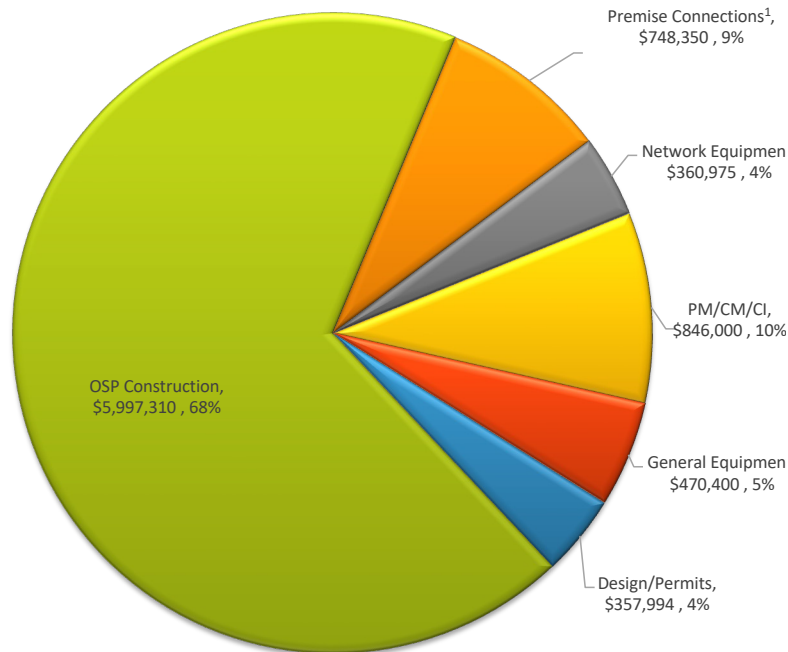
Average Annual Operations Expense ($562,790)

Category	Amount
Staffing	$215,364
Direct Internet Access (DIA)	$116,423
OSP Maintenance	$60,522
Headend Equipment Maintenance	$46,232
Professional/Legal Fees	$29,739
Facilities Maintenance	$23,285
Bad Debt	$19,073
Sales and Marketing	$13,925
Utilities	$11,642
Compliance Reporting	$6,011
Office Expense	$5,948
Other Services	$5,948
Vehicle Maintenance	$3,500
Pole Attachment Fees	$2,619
Miscellaneous	$2,560

Additional Resources	Positions	Average Annual Compensation
Customer Support Representative	1	$66,383
Field Services Technicians	2	$148,981

FTTH Pilot Project – Service Rates and Projections

Residential Services	MRC
100x100MB (Lifeline)	30.00
300x3000MB	49.95
500x500MB	59.95
1x1GB	79.95
DP Internet Lifeline + Phone	49.95
DP Internet 300x300MB + Phone	69.90
DP Internet 500x500MB + Phone	79.90
DP Internet 1x1GB + Phone	99.90
Managed Services	9.95

Business Services	MRC
300x3000MB	150.00
500x500MB	200.00
1x1GB	250.00
Managed Services	29.95
Small Bus Phone (avg 3 lines)	150.00
Medium Bus Phone (avg 10 lines)	400.00

Households			
Projected Uptake	25%	35%	45%
Estimated Premises (Based on 2,404 Units)	601	841	1,082
Businesses			
Projected Uptake	15%	20%	25%
Estimated Premises (Based on 556 Units)	83	110	138
20-Year Projected Cap-Ex			
OSP Construction Costs	$ 6,355,304	$ 6,355,304	$ 6,355,304
Premise Drops	$ 1,187,402	$ 1,642,337	$ 2,101,658
Network Equipment/Refresh/Systems/Project Mgmt	$ 1,206,975	$ 1,206,975	$ 1,206,975
General Equipment/Other CapEx	$ 470,400	$ 470,400	$ 470,400
	$ 9,220,081	$ 9,675,016	$10,134,337
20-Year Projected Op-EX			
Operations	$ 9,051,416	$ 9,051,416	$ 9,051,416
SG&A	$ 1,512,459	$ 1,730,720	$ 1,953,399
	$ 10,563,875	$ 10,782,137	$ 11,004,816
Funding / Debt Service			
Cap-Ex plus working capital to be funded	$ 9,103,883	$ 9,302,069	$ 9,492,801
City Contribution (up to $9.6M)	$ 9,103,883	$ 9,302,069	$ 9,492,801
Net To Be Funded	$ -	$ -	$ -
20-Year Projected Revenue	$ 12,074,222	$ 16,475,806	$ 20,967,393
20-Year End-of-Year Cash	$ 1,401,618	$ 5,591,035	$ 9,888,337

FTTH Pilot Project – Risk Factors

Magellan ADVISORS

Competitively Matured Market Risks

- **Lawsuits** against municipalities that causes delay or stops their deployments
- Using **local marketing campaigns** to influence public opinion and political leadership
- **Lobbying local and state legislatures** to pass new laws limiting municipal providers
- **Launching public relations campaigns** against City-provided services
- **Locking customers** into long-term contracts through discounted promotional pricing
- **Increasing speeds** on current high-speed internet packages
- **Upgrading their networks** in cases where their internal rate of return is achieved to provide competitive services.

Take Rate Risks

The factors below can all lead to not meeting the effective take rates 25% - residential and 15% - business. This in effect will cause a 20-year end-of-year loss.

- **Organizational** roadblocks
- Ineffective **Sales and Marketing**
- **Political Will** decision biases
- Falling Behind **Technological Changes**
- Time To Market
- Operational

Price Erosion

Competitors may also reduce GRUcom's take rates and lower its revenue by :

- Decreasing their promotional and standard **price**
- Providing **incentives** to attract municipal subscribers
- Locking in customers through **long term contracts**

Cost Increase

Cost increases and escalations below may pose risks to GRUcom's deployment, lower its profits and increase funding requirement.

- **Fixed Costs** Increase
- **Variable Costs** Increase
- **Capital Cost** Increases: fixed and variable capital costs

FTTH Pilot Project – Implementation Timeline

Scope of Work Task	Month																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Design, Engineer, Permit	■	■	■	■	■															
Fiber OSP RFP And Procurement						■	■	■												
Equipment And Component Procurement								■	■	■										
Fiber Construction										■	■	■	■	■	■	■	■	■		
Equipment Racking, Stacking and Turnup/Testing										■	■									
Service Launch and Provisioning												■	■	■	■	■	■	■		

Priority 1 Area Wireless Overlay

Max. channel throughput - ...

- ≥ 50 Mb/s
- 50 to 25
- 25 to 0
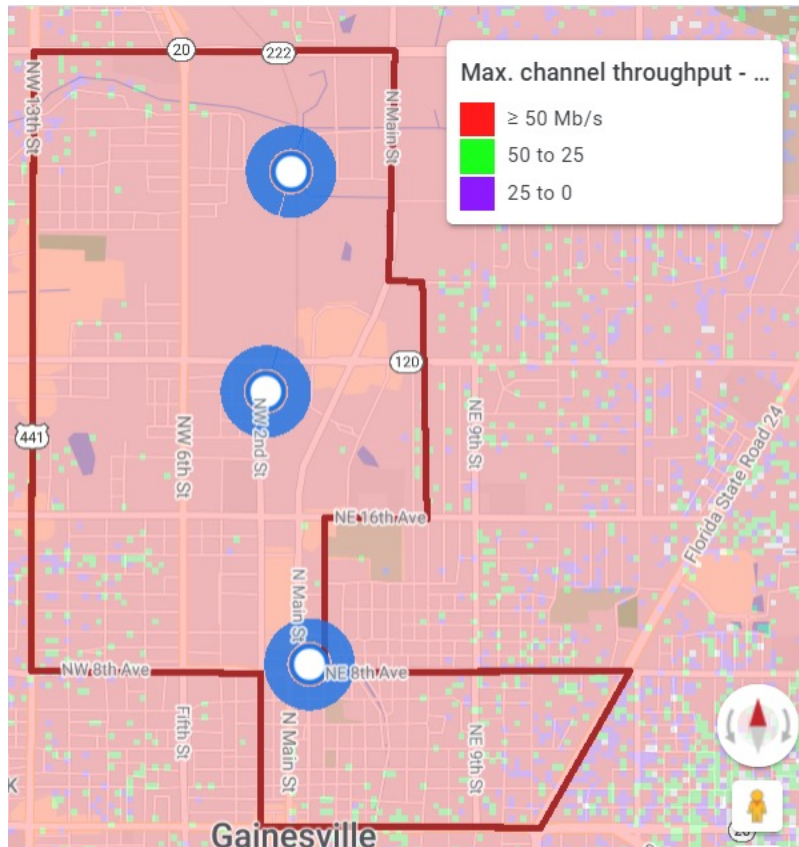
Gainesville Priority 1 Estimated CBRS Wireless Overlay Cost-CAPEX						
Item	Cost		Units	Total Cost		
Tower Capex Existing Towers	$	-	1	$	-	
Tower Cost New City/County Owned Towers/Water Tanks	$	150,000	-	$	-	
	$	-	2	$	-	
Base Station + Antenna Cost	$	15,000	12	$	180,000	
Base Station Installation	$	2,000	3	$	6,000	
Microwave Equipment	$	3,000	-	$	-	
Outdoor Router	$	1,000	3	$	3,000	
Outdoor Cabinet	$	1,000	3	$	3,000	
Tower Study	$	2,000	3	$	6,000	
Electric Service (if needed)	$	5,000	3	$	15,000	
UPS (if needed)	$	10,000	3	$	30,000	
10 KW generator (if needed)	$	5,000	3	$	15,000	
CPE cost ($356 equipment, $350 labor)	$	706	-	$	-	
EPC Access Fee Per CPE	$	35	-	$	-	
Subtotal				$	258,000	
Engineering, Project & Construction Mgmt		15%		$	38,700	
Total Estimated Capex Cost				**$**	**296,700**	

Estimated CBRS Wireless Overlay Cost-OPEX/Month					
Item	Cost		Units	Total Cost	
Tower Rental for Commercial Towers	$	700	1	$	700
Utilities	$	100	3	$	300
Internet Data 1 Gb (if needed)	$	1,500	1	$	1,500
Subtotal				$	2,500
Contingency		15%		$	375
Total Estimated Cost				**$**	**2,875**

Digital Inclusion Considerations

The City should communicate all opportunities to its neighbors and make targeted investments where necessary.

➢ **Continue to engage the community through community organizations, and directly to City neighbors**

- Work with Library and Alachua Schools, and other not for profits who directly support the Gainesville citizenry, and ensure the City has a role in supporting at-risk populations

➢ **Communicate and inform the community regarding all digital opportunities**

- Inform of all subsidy programs available like the Affordable Connectivity Program (ACP)
  - $30 monthly subsidy toward broadband services, and one time discount of not more than $100 per device from participating provider
- Develop or support programs that build digital skills, for all age groups, and ethnicities

➢ **Make Targeted Investments in Infrastructure where appropriate**

- Continue to deploy City Wi-Fi at Government facilities, parks and important public spaces
- Build fiber and wireless systems to provide fast, reliable and affordable broadband services under the right business model

Funding Options Review

Bonds

Special Assessments

State of Florida

Federal

ARPA

Infrastructure Investment and Jobs Act (IIJA) through NTIA

OTHERS

$1.9 T

Coronavirus State and Local Fiscal Recovery Fund (SLFRF)

$350 B

Available Now

Funds to be incurred by 2024 and completed by 2026

$1.2 T

State Digital Equity Capacity Grant Program

$1.5 B

$6M for Planning available on FY2022
$1.4 B available between FY2022-2026

Funds to be used by State within 5 years

Middle Mile Broadband Infrastructure Grant Program (MMBI)

$1 B

NOFO released in May 2022

Funds available until Sep 30. 2026

Broadband Equity, Access, and Deployment Program (BEAD)

$42.45 B

NOFO released in May 2022

Funds available after NOFO and until exhausted

Digital Equity Competitive Grant Program

$1.25 B

$250M available/yr from FY2022-2026

Grants must be spent within 4 years
Awardee must submit annual evaluation reports

Affordable Connectivity Program (ACP)

$14.2 B

Transition from EBB to ACP

Lasts until funds exhausted

Next Steps

Presentation
January 10, 2022

- Present findings
- Determine next steps
- Develop consensus with the City's Digital Access Committee (DAC)

Presentation
January 27, 2022

- Present findings
- Determine next steps
- Develop consensus with the City's Policy Committee

Presentation
March 3, 2022

- Present to City leadership and the City Commission
- Determine next steps

Presentation
June 20, 2022

- Present Business Plan details for Pilot Project

Finalize Business Plan

THANK YOU

Magellan
ADVISORS