



Las Virgenes Malibu  
Council of Governments  
Feasibility Analysis  
May 1, 2024

# Scope of Work

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- Design & engineer 165,000-foot underground fiber network
  - Intelligent traffic control & management
  - Interconnect 5 cities in redundant loop
    - 30% (High Level Design)
    - 60% (Low Level Design)
      - + Field survey
    - 90% (Final Design)
      - + Bill of Materials
      - + PE Stamps
      - + Bid package

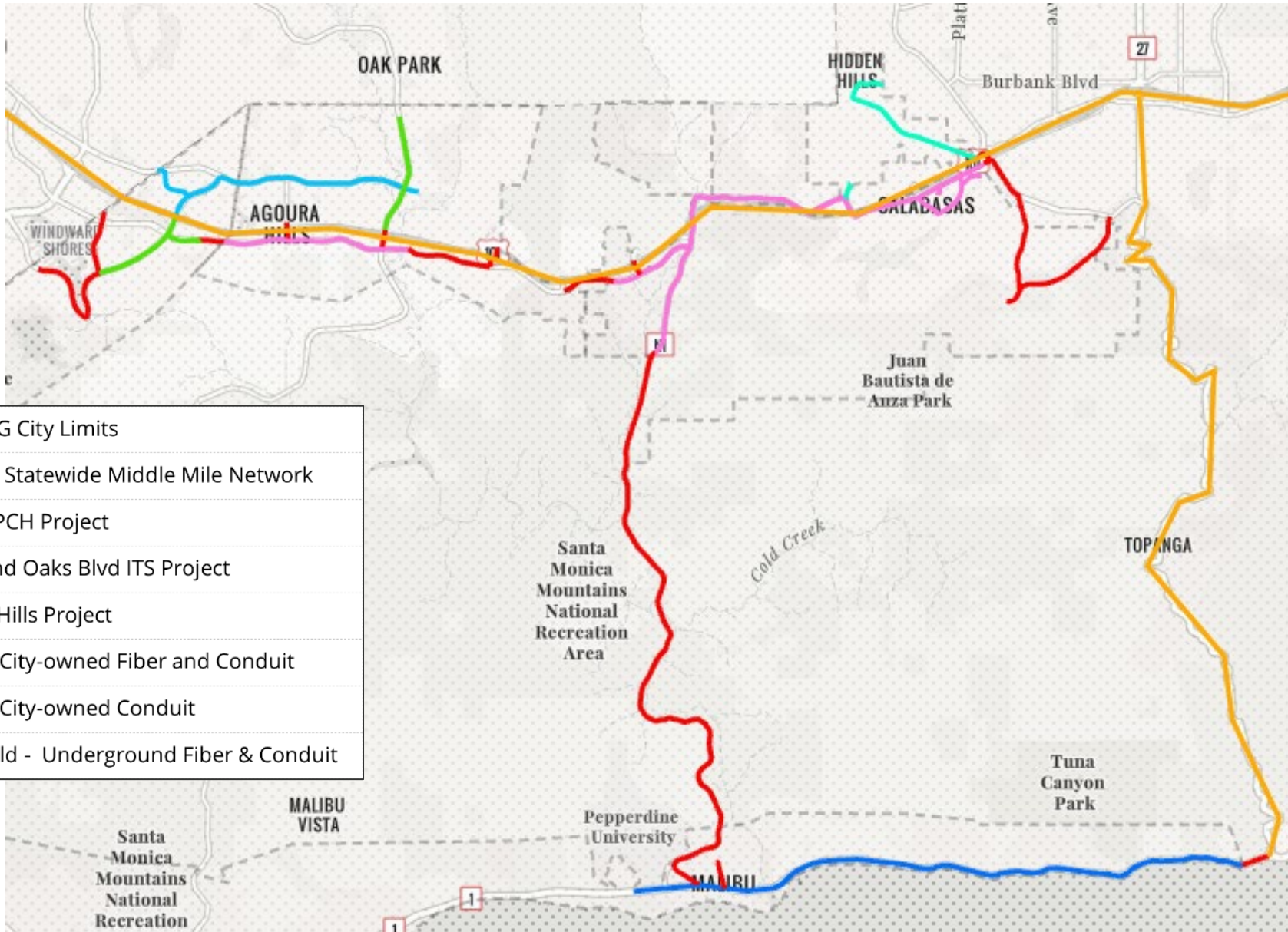
## Maximizes Existing Assets:

- Fiber & conduit
- Signalized intersections
- Cameras & smart city technology
- Public safety sites
- Water and wastewater facilities
- Planned CIP projects
- Planned California Statewide Middle Mile Network (MMBI)



# 60% Low-Level Design (LLD)

76 signalized intersections (excluding blue)



-----	LVM COG City Limits
—————	Planned Statewide Middle Mile Network
—————	Malibu-PCH Project
—————	Thousand Oaks Blvd ITS Project
—————	Hidden Hills Project
—————	Existing City-owned Fiber and Conduit
—————	Existing City-owned Conduit
—————	New Build - Underground Fiber & Conduit



# Estimated Lengths – Updated 4/29

by Jurisdiction & Construction Type

## Hwy 101 Corridor

Lengths (LF)	Underground	New Fiber Pull	Conduit Upgrades & new Fiber	TOTAL
Malibu	-	-	-	-
Agoura Hills	8,976	19,064	-	<b>28,040</b>
Calabasas	14,833	42,869	-	<b>57,702</b>
Hidden Hills	-	-	-	-
Westlake	14,573	-	11,453	<b>26,026</b>
County/LA City	7,365	-	-	<b>7,365</b>
<b>TOTAL</b>	<b>45,747</b>	<b>61,933</b>	<b>11,453</b>	<b>119,133</b>

## Malibu Loop

Lengths (LF)	Underground	TOTAL
Malibu	8,046	<b>8,046</b>
Agoura Hills	-	-
Calabasas	-	-
Hidden Hills	-	-
Westlake	-	-
County/LA City	37,452	<b>37,452</b>
<b>TOTAL</b>	<b>45,498</b>	<b>45,498</b>

*\* Design routes, lengths, and estimated costs, are subject to change based on existing conditions discovered during the design process, direction from the LVMCOG, changing market conditions, or validation of assets.*



# Estimated Costs – Updated 4/29

by Jurisdiction & Construction Type

Hwy 101 Corridor				
Estimated Costs	Underground	New Fiber Pull	Conduit Upgrades & new Fiber	TOTAL
Malibu	\$ -	\$ -	\$ -	\$ -
Agoura Hills	\$ 1,166,880	\$ 571,920	\$ -	\$ 1,738,800
Calabasas	\$ 1,928,290	\$ 1,286,070	\$ -	\$ 3,214,360
Hidden Hills	\$ -	\$ -	\$ -	\$ -
Westlake	\$ 1,894,490	\$ -	\$ 572,650	\$ 2,467,140
County/LA City	\$ 957,450	\$ -	\$ -	\$ 957,450
<b>TOTAL</b>	<b>\$ 5,947,110</b>	<b>\$ 1,857,990</b>	<b>\$ 572,650</b>	<b>\$ 8,377,750</b>

Malibu Loop		
Estimated Costs	Underground	TOTAL
Malibu	\$ 1,045,980	\$ 1,045,980
Agoura Hills	\$ -	\$ -
Calabasas	\$ -	\$ -
Hidden Hills	\$ -	\$ -
Westlake	\$ -	\$ -
County/LA City	\$ 4,868,760	\$ 4,868,760
<b>TOTAL</b>	<b>\$ 5,914,740</b>	<b>\$ 5,914,740</b>

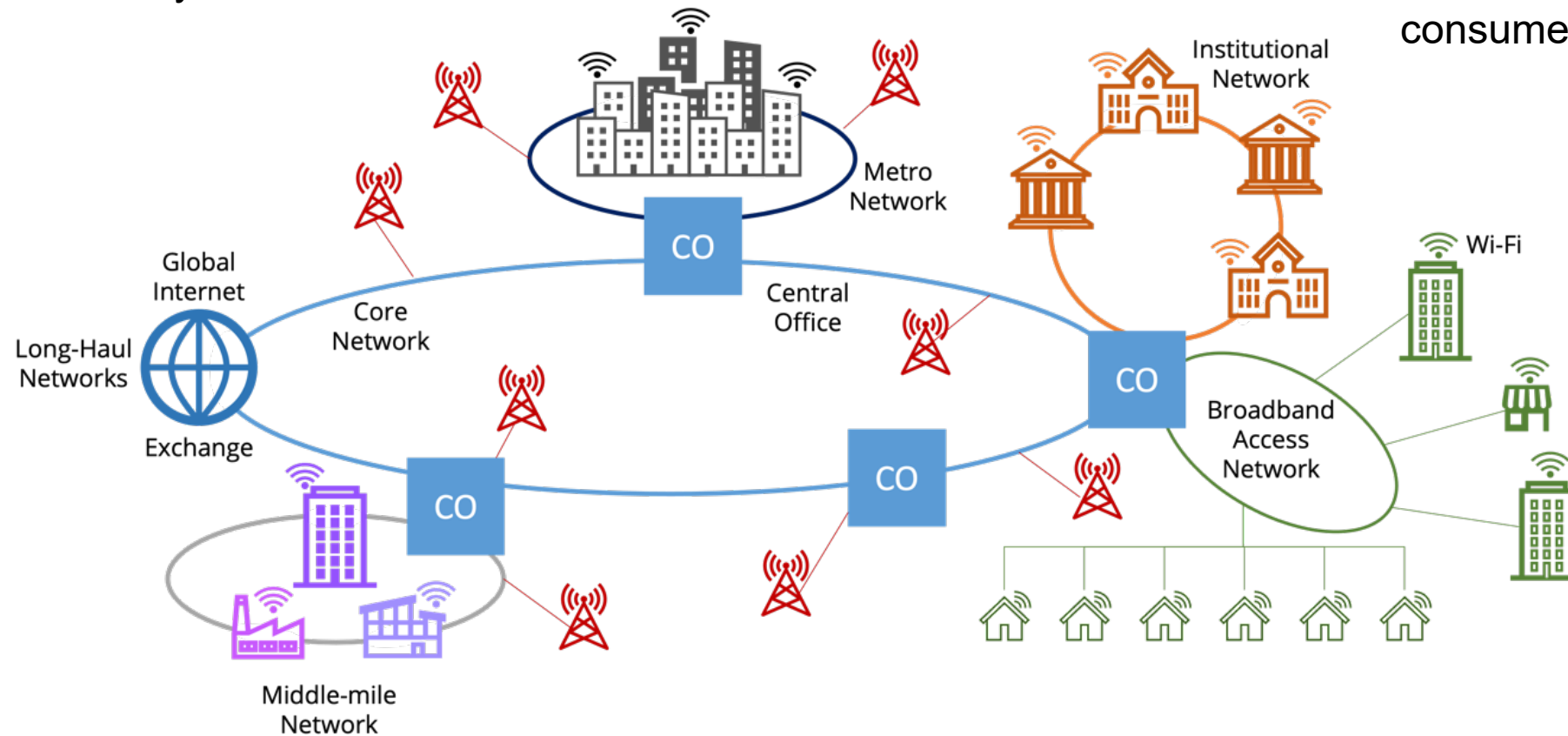
\* Construction costs are based on Entrust’s analysis of comparable cities, recent construction bids, equipment and material costs, and a regional assessment of the labor and construction market. Full construction estimates are pending the completed Final Design and Bill of Materials.



# Benefits of a Public Broadband Network

Complex Networks form the foundation of the Digital economy.

Invest to support municipal operations, institutions, and consumer options.



# Model & Assumptions

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- ***Transport vs. Access Services***
- Assessed estimated revenues, network operational expenses (OPEX), & equipment & additional start-up capital (CAPEX)
- **“Stand-alone” dark fiber network (Transport)**
  - Connects anchors with 2 strands of dark fiber @ \$55/month per strand-mile
    - Requires Service Level Agreement → drives OPEX
  - Service drop costs borne by subscriber
    - *Excludes City Halls & traffic signals*
  - Staffing assumes minimal FTEs (fully-loaded)
- **“Alternative” analysis considers P3 model**
  - Reduces O & M – economy of scale
  - ISP Could expand with private-funded Access Services extension (increase revenues)
    - Businesses
    - Residential



# Network Passings

- Analyzed network ‘passings’
  - sites located within 175’ of backbone that could be connected through service drop
- 13 total public & private anchors

Asset Type	Owner	Total Locations
Signalized Traffic Intersections	Agoura Hills	10
	Calabasas	25
	Malibu	13
	Westlake	6
	LA County	14
City Halls	Caltrans	8
	Agoura Hills	5
	Calabasas	
	Hidden Hills	
	Malibu	
Westlake		
Priority Public Facilities	Calabasas	10
	Water District	14
ALPR Sites	Agoura Hills	11
	Calabasas	16
Fire Stations	LA County	4
Sheriff Facilities	LA County	5
Public Works Facilities	LA County	3
Libraries	LA County	1
Schools	Public	6
Private & Charter Schools	Private	3
Hospitals	Private	2
<b>TOTAL</b>		<b>156</b>

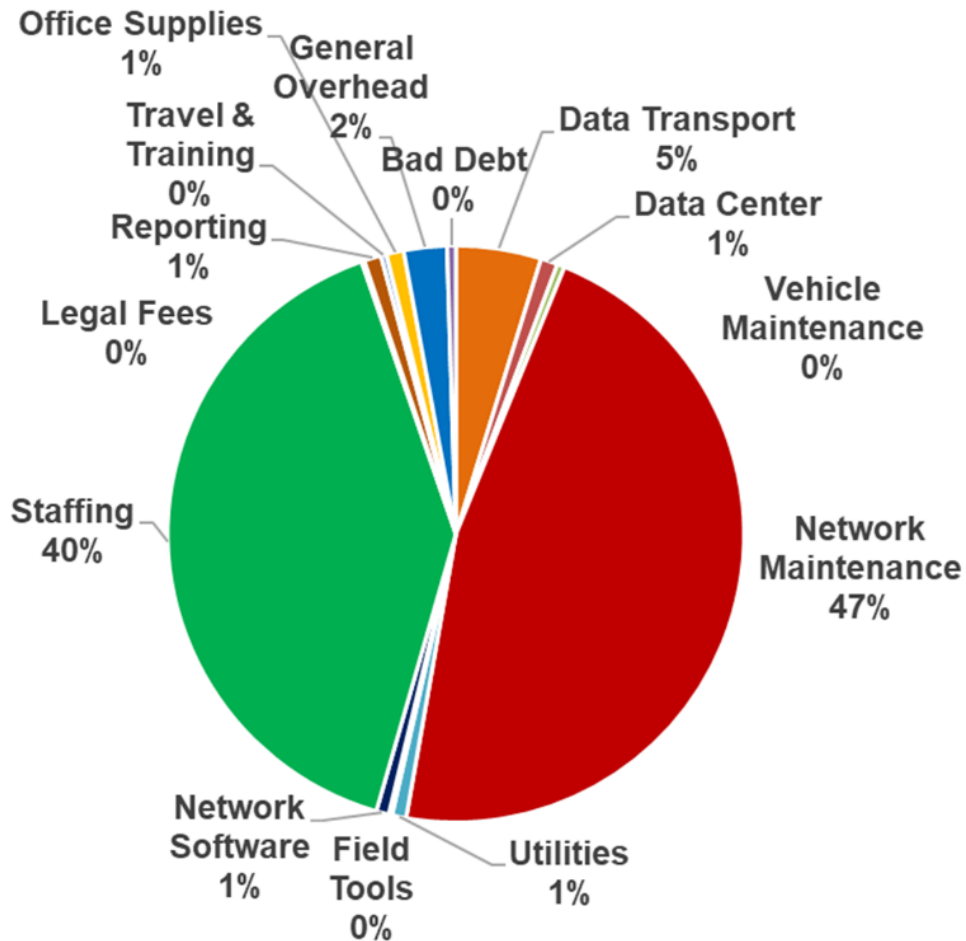




# Baseline Model

## COG-operated Transport (Dark Fiber) Network

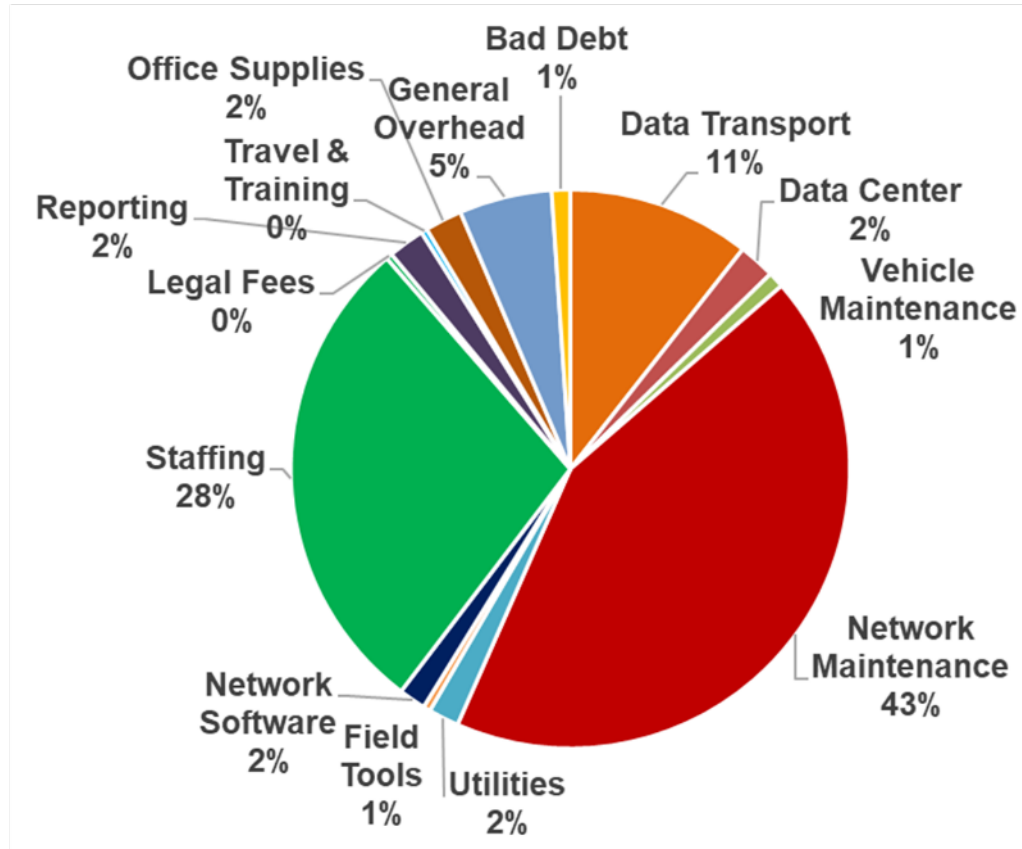
Average Annual Revenue Estimate		
Dark Fiber Lease Revenues (MRC)	\$	608,400
<b>TOTAL ANNUAL REVENUES</b>	<b>\$</b>	<b>608,400</b>
Average Annual Expenses Estimate		
Direct Cost of Services		
Data Transport	\$	60,000
Data Center	\$	12,000
Vehicle Maintenance	\$	5,250
Network Maintenance	\$	585,000
Utilities	\$	10,000
Field Tools	\$	2,333
Network Software	\$	8,877
<i>Subtotal</i>	\$	683,460
Administrative Expenses		
Staffing	\$	504,953
Legal Fees	\$	2,000
Reporting	\$	12,000
Travel & Training	\$	4,000
Office Supplies	\$	12,168
General Overhead	\$	30,420
Bad Debt	\$	6,084
<i>Subtotal</i>	\$	571,625
<b>TOTAL ANNUAL OPEX</b>	<b>\$</b>	<b>1,255,085</b>
<b>EBITDA</b>	<b>\$</b>	<b>(640,601)</b>



# Alternative Model

## P3 – ISP operated Transport & Access Network

Average Annual Revenue Estimate		
Dark Fiber Lease Revenues (MRC)	\$	608,400
<b>TOTAL ANNUAL REVENUES</b>	<b>\$</b>	<b>608,400</b>
Average Annual Expenses Estimate		
<b>Direct Cost of Services</b>		
Data Transport	\$	60,000
Data Center	\$	12,000
Vehicle Maintenance	\$	5,250
Network Maintenance	\$	243,750
Utilities	\$	10,000
Field Tools	\$	2,333
Network Software	\$	8,877
<i>Subtotal</i>	\$	342,210
<b>Administrative Expenses</b>		
Staffing	\$	160,056
Legal Fees	\$	2,000
Reporting	\$	12,000
Travel & Training	\$	2,000
Office Supplies	\$	12,168
General Overhead	\$	30,420
Bad Debt	\$	6,084
<i>Subtotal</i>	\$	224,728
<b>TOTAL ANNUAL OPEX</b>	<b>\$</b>	<b>566,938</b>
<b>EBITDA</b>	<b>\$</b>	<b>47,546</b>



# Next Steps

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- May 2024 – COG review of 60% LLD
- June 2024 – Final Design, BOM, bid package
- Future
  - RFQ/P for P3 operator
  - Access Network Analysis





# Questions & Feedback