



Highland
February 2020

WHAT IS UTOPIA FIBER?

UTOPIA is a Utah Interlocal Entity and political subdivision of the State of Utah

Founding Members

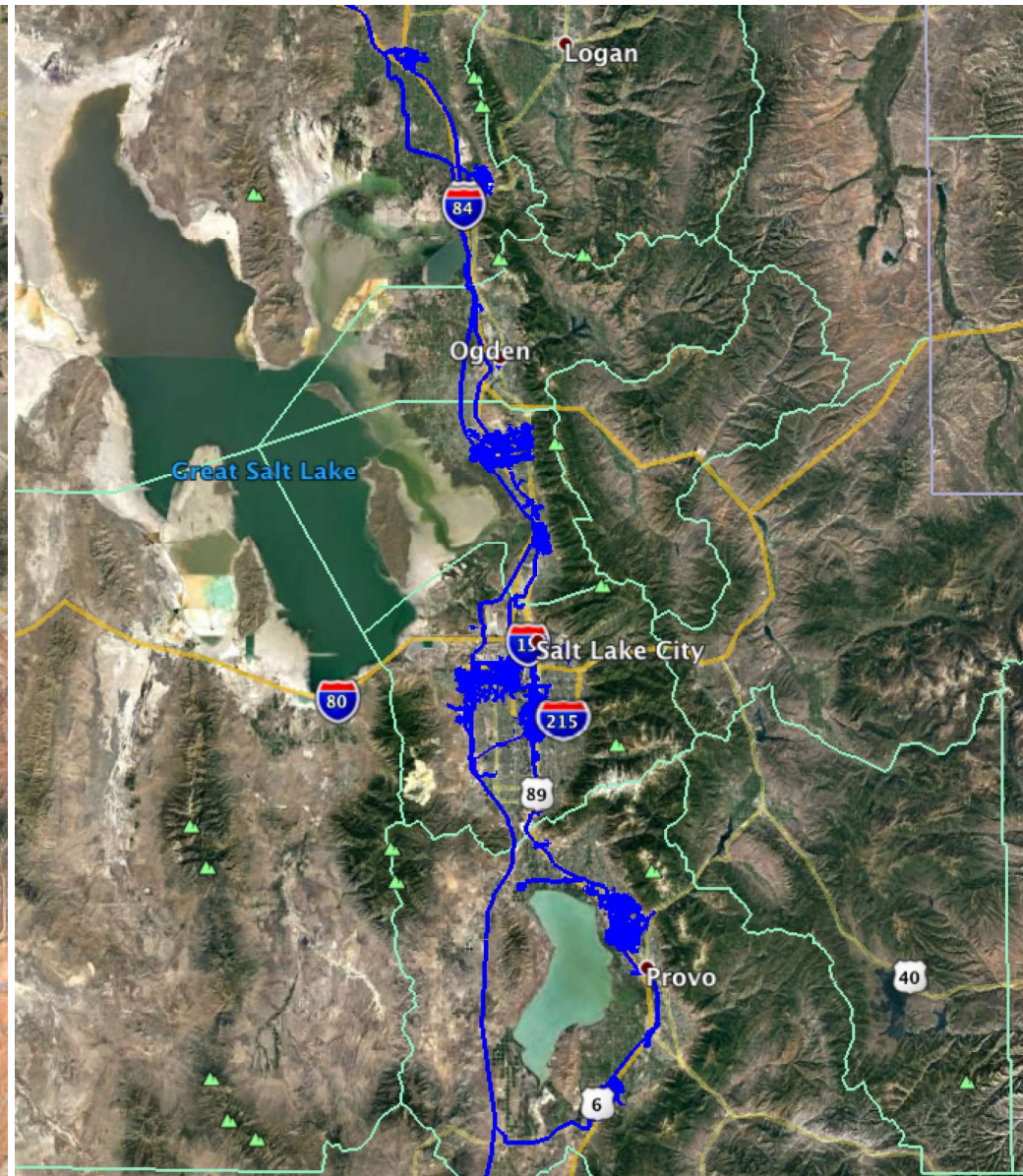
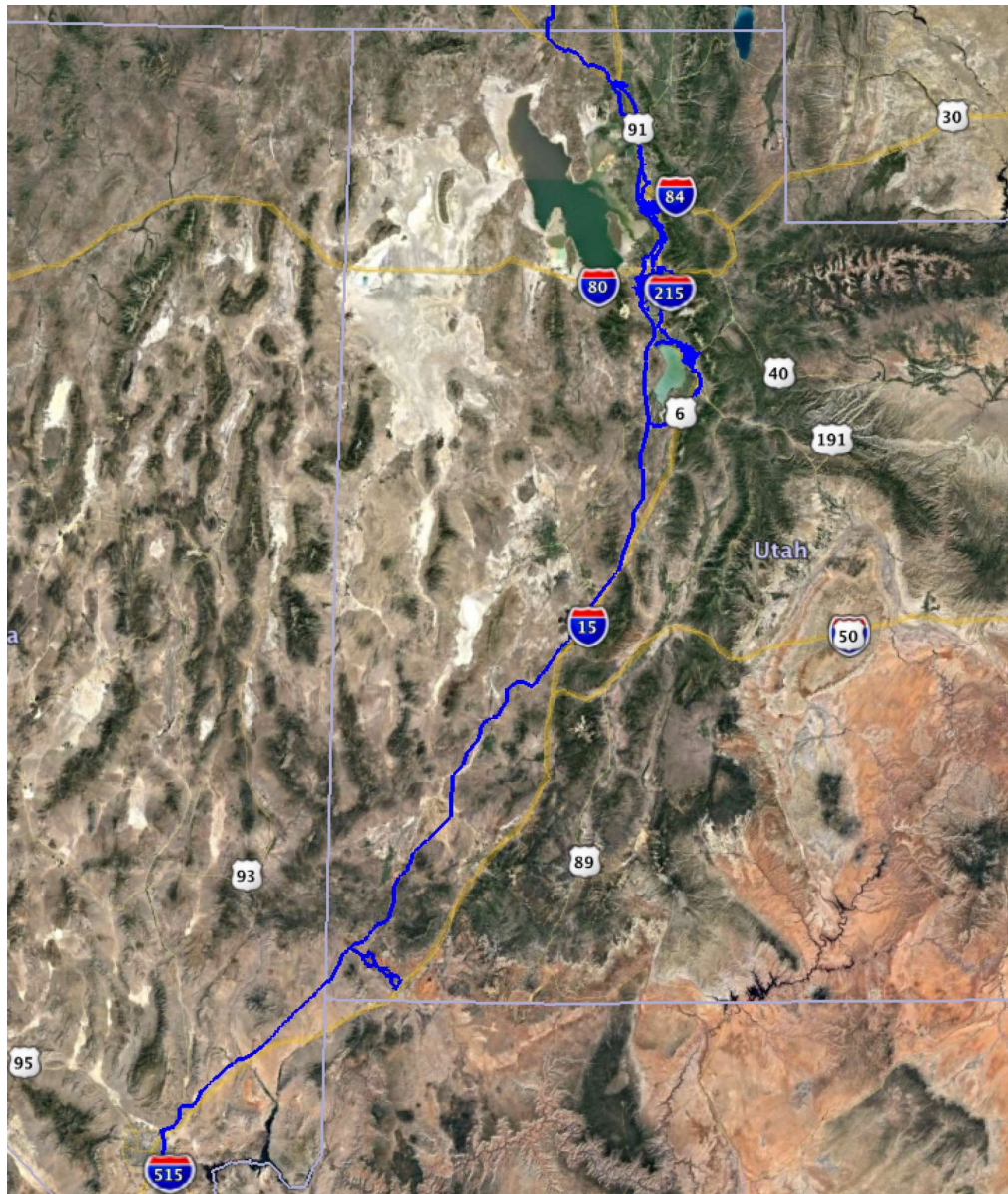
Brigham City	Centerville
Layton	Lindon
Midvale	Murray
Orem	Payson
Perry	Tremonton
West Valley City	

New Partner Cities

Woodland Hills	Idaho Falls
Morgan City	West Point
*****	*****
*****	*****

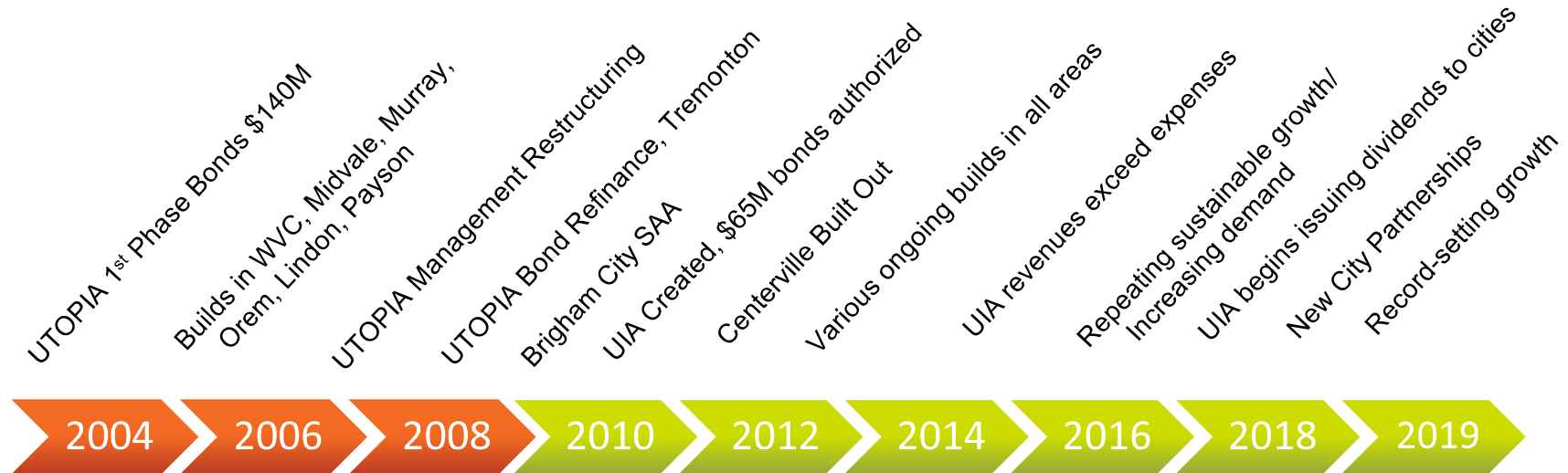


WHAT IS UTOPIA FIBER?



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WHAT IS UTOPIA/UIA FIBER?



UTOPIA - Phase 1

- Core Backbone Built
- Revenues lagged
- Higher expenses
- Few service providers

UIA - Phase 2

- Revenues exceeding debt service
- Sustainable buildouts
- Lower material and electronics costs
- Strong service provider competition



OPEN-ACCESS FIBER

- Is **pro-private sector** and **pro-competition**
 - 11 Utah-based service providers depend on UTOPIA Fiber to be able to offer services
- Industry term that means that the operator of the network and the service provider are separate entities.
- Sometimes referred to as a “wholesale model” or “infrastructure model”.
- Utah code refers to it as “leases, sells capacity in, or grants other similar rights to a private provider”



MUNICIPAL OPEN-ACCESS FIBER

Open-Access Roads



Municipalities provide street infrastructure that can be shared by competing private shipping companies.

MUNICIPAL OPEN-ACCESS FIBER

Open-Access Transportation Infrastructure



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MUNICIPAL OPEN-ACCESS FIBER

Open-Access Transportation Infrastructure

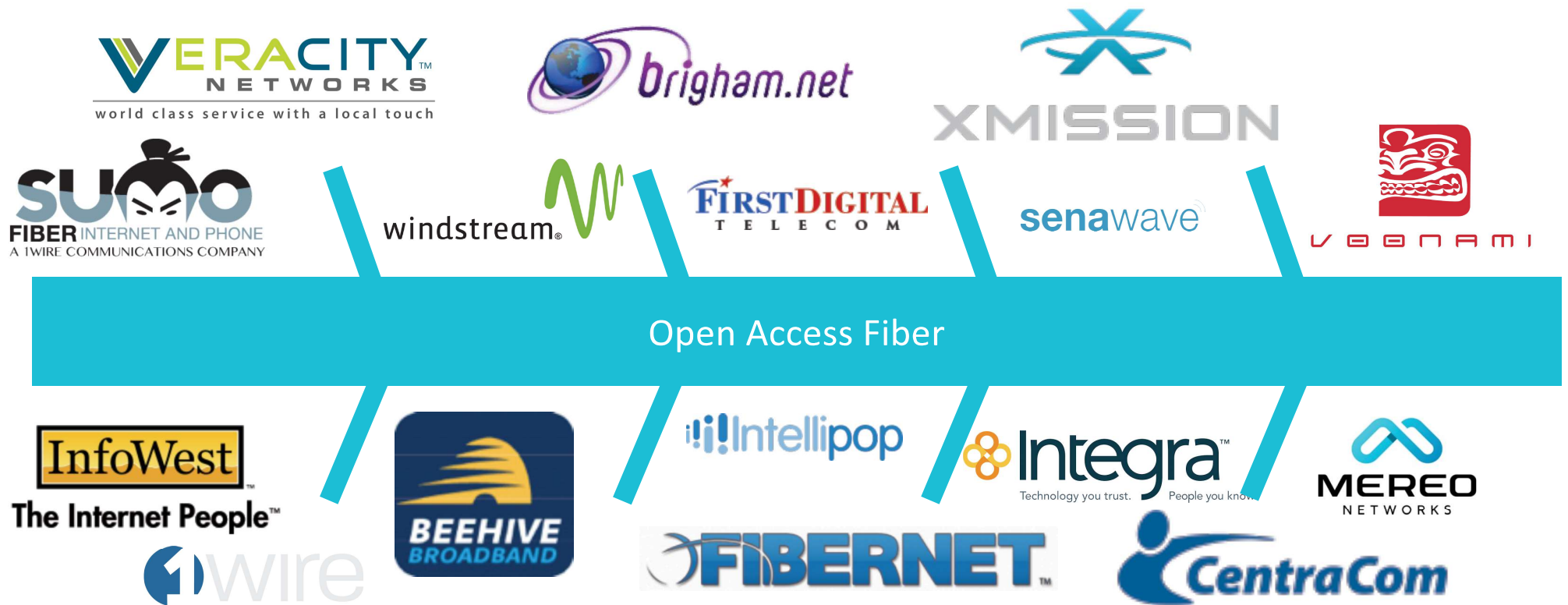


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MUNICIPAL OPEN-ACCESS FIBER












Shared Open-access Municipal Fiber Infrastructure



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UTOPIA FIBER SERVICE OPTIONS

PROVIDER	INTERNET			PHONE*			VIDEO*			
	250 Mbps \$34.95	1 Gbps \$49.95		Beehive Phone - Self Installation \$19.95	Beehive Phone - Technician Installation \$19.95		Lifeline Video Package \$34.95	Family Package \$64.95	Entertainment Package \$74.95	Total Video Package \$114.95
	250 Mbps \$35.00	1 Gbps \$54.95	10 Gbps \$199.99	Brigham.net Phone: Voice line includes 500 minutes Free Long Distance, Caller ID, Call Waiting, Call Forwarding, Voicemail, Follow me & E-911 services. \$24.95			Yondoo TV (Contact Yondoo for pricing and plan details 877-309-4462) \$0.00			
	250 Mbps \$34.95	1 Gbps \$49.95		CentraCom Phone \$15.00						
	250 Mbps \$35.00									
	250 Mbps \$35.00	1 Gbps \$48.00		InfoWest Phone \$20.00			Yondoo TV (contact Yondoo for details 877-309-4462) \$0.00			
	250 Mbps \$34.95									
	250 Mbps \$32.98	1 Gbps \$37.80		Standard Calling \$17.99	Premium US48 \$27.98					
	250 Mbps \$35.00	1 Gbps \$48.00	10 Gbps \$200.00	Unlimited Local Calling \$5.00	International Plan \$20.00	National Plan (Lower 48 States) \$10.00	Yondoo TV (Contact Yondoo for pricing and plan details 877-309-4462) \$0.00			
	250 Mbps \$34.99	1 Gbps \$54.99	10 Gbps \$199.99	Veracity Phone \$9.99			Total Vision (Basic) \$59.99	Beyond Vision (Expanded) \$76.99	Premier Vision (Expanded) \$114.99	
	250 Mbps \$34.95	1 Gbps \$54.95		Local Calling Plan \$4.95	National Calling Plan \$9.95					
	250 Mbps \$37.00	1 Gbps \$50.00	10 Gbps \$250.00	Xmission Phone \$15.00			Yondoo TV (Contact Yondoo for pricing and plan details 877-309-4462) \$0.00			



WHY OPEN-ACCESS FIBER?



- Avoid “Brain Drain” - residents moving out because of lack of connectivity
- Support home-based business
- Attract and Retain Business
- Improve quality of life for citizens
- Promote private service provider competitive market
- Decrease expenses for citizens, including non-subscribers
- Reduce pot-holing, utility boxes, utility locating, boring, utility attachments, etc.
- Reduce city costs
- Enable Smart-city solutions

WHY OPEN ACCESS FIBER?

Top Political Issues – Benefit from municipal open access fiber

- **Air Quality and Environment**
- **Transportation and Traffic**
- **Education**
- **Government Spending**
- **Jobs and Economy**
- **Healthcare Taxes**
- **Gas and Energy Prices**
- **Ethics of Elected Officials**
- **States vs. Federal Government Rights**



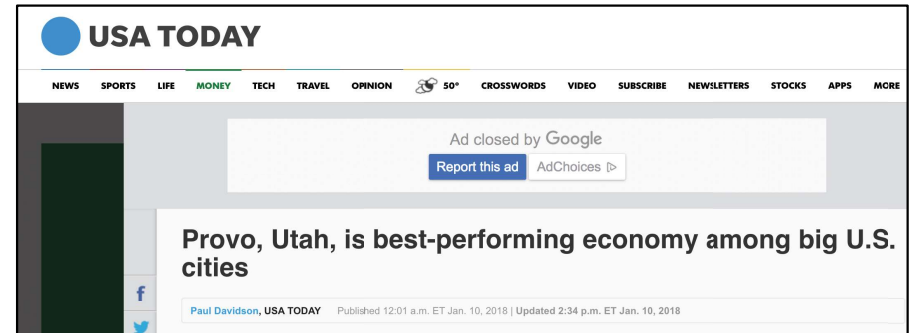
WHY OPEN ACCESS FIBER?

- **Net Neutrality**
- **Digital Divide – Digital Equity**
- **Rural Broadband Divide**
- **Competitive Options**
- **Top Speeds**
- **Low Prices**
- **Honest Marketing/Stable Pricing**
- **5G and other future technologies**
- **Enables Smart City Applications**
- **Economic Development Benefits**
- **Stops Brain Drain**



Why do cities desire open-access fiber?

- Economic Development
 - Attract & Retain High-Tech Businesses
 - Enhance Redevelopment
 - Reduce traffic with telecommuting
 - Support home-based businesses



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Section 3:
02

UTOPIA Fiber Connected Developments



Bingham Junction
Midvale



Hill Air Force Base, Falcon Hill
Layton



Thanksgiving Park
Lehi



Downtown SLC



Vista Station - Draper



Western Governors - Millcreek



Farmington Station



Fairbourne Station - WVC



Union Park - Midvale



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UTOPIA Fiber Connected Developments



Valley Grove
Pleasant Grove



Security National - Murray



University Place - Orem



Maverick Center - WVC



Rio Tinto Stadium - Sandy



Jordan Commons - Sandy



Legend Hills - Layton



Riverwoods - Provo



Canopy - Lindon

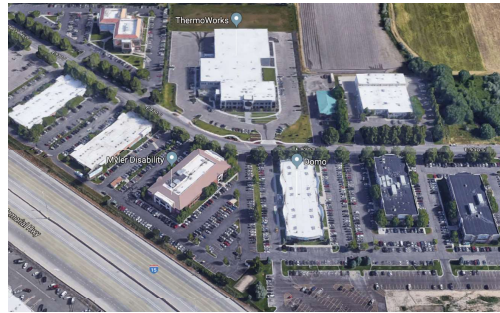


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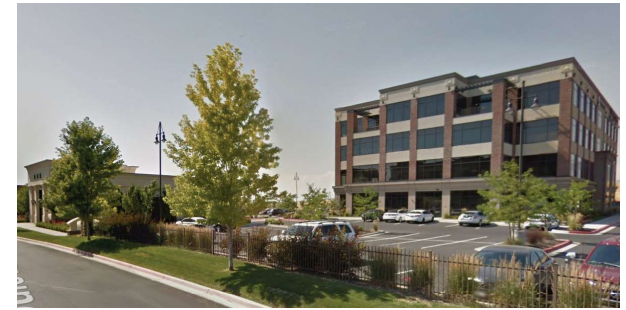
UTOPIA Fiber Connected Developments



Lake Park
West Valley City



Technology Park
American Fork



Marketplace/Weight Dev
Centerville



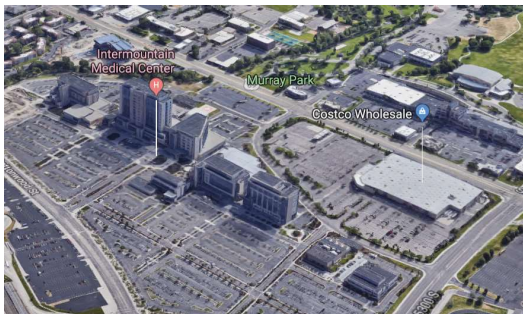
North Slope - Lehi



Prison Site (redev)– Draper



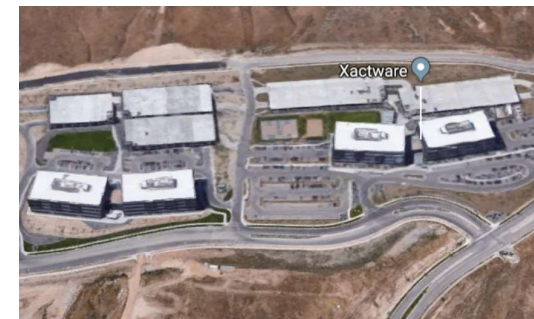
Decker Lake Park - WVC



IHC Medical Center - Murray



Benches - Draper



Traverse Ridge - Lehi



DATA CENTRES ON UTOPIA FIBER



- Downtown SLC
- Bluffdale



- Salt Lake City
- Lindon



- Salt Lake City



- St. George



- West Valley City
- Orem



- Orem



- Salt Lake City



- Provo




- West Valley City



- Eccles (SLC)
- UUDDC (SLC)
- UVU (Orem)



UTOPIA FIBER (IN PARTNERSHIP WITH XMISSION) PROVIDES THE LARGEST PEERING EXCHANGE IN REGION

 About					
Participant	AS	IPv4	IPv6	Speed	Contact
XMission	6315	204.228.158.1	2607:fa18:1:f00::1	20Gbps	peering@xmission.com
Veracity	29933	204.228.158.2	2607:fa18:1:f00::2	10Gbps	peering@veracitynetworks.com
InfoWest	11071	204.228.158.3	2607:fa18:1:f00::3	10Gbps	netops@infowest.com
UTOPIA Fiber	53407	204.228.158.5	2607:fa18:1:f00::5	10Gbps	noc@utopianet.org
Utah Education Network	210	204.228.158.6	2607:fa18:1:f00::6	10Gbps	eng@uen.org
SumoFiber	54329	204.228.158.7	2607:fa18:1:f00::7	5Gbps	noc@sumofiber.com
1Wire Communications	11475	204.228.158.8	2607:fa18:1:f00::8	10Gbps	noc@1wirecom.com
Google Fiber	16591	204.228.158.9	2607:fa18:1:f00::9	10Gbps	peering@googlefiber.net
YIPTTEL	33264	204.228.158.10		1Gbps	domains@yiptel.com
SenaWave	29844	204.228.158.11		1Gbps	noc@senawave.com
DataCenter IP	13739	204.228.158.12		10Gbps	peering@datacenterip.com
C7	13951	204.228.158.13	2607:fa18:1:f00::d	10Gbps	peering@c7.com
First Digital	13415	204.228.158.14	2607:fa18:1:f00::e	1Gbps	peering@firstdigital.com
Ace Data Centers	11798	204.228.158.15	2607:fa18:1:f00::f	10Gbps	peering@acedatacenters.com
Voonami	30247	204.228.158.16		1Gbps	peering@voonami.com
Cloudflare	13335	204.228.158.17	2607:fa18:1:f00::11	10Gbps	peering@cloudflare.com
High Speed Utah	23423	204.228.158.18		10Gbps	peering@highspeedutah.com
Mozy	22591	204.228.158.20		1Gbps	peering@mozy.com
Hurricane Electric	6939	204.228.158.21	2607:fa18:1:f00:15	10Gbps	peering@he.net



WHY OPEN ACCESS FIBER?

Enables Smart City Applications

- Video Surveillance
- Automated Metering Interface (AMI)
- SCADA
- Smart Irrigation
- Traffic Control
- Air Quality Monitoring
- Park Wi-Fi / Downtown Wi-Fi
- City Meetings
- Disaster Recovery
- Smart Parking
- Smart Facilities
- Wildfire Detection/Mitigation



SMART CITY APPLICATIONS

Video Surveillance



- Axis Q6128-E
 - 4k resolution
 - 0.03lux night vision
 - 150Mbps+ per camera
 - <\$3k

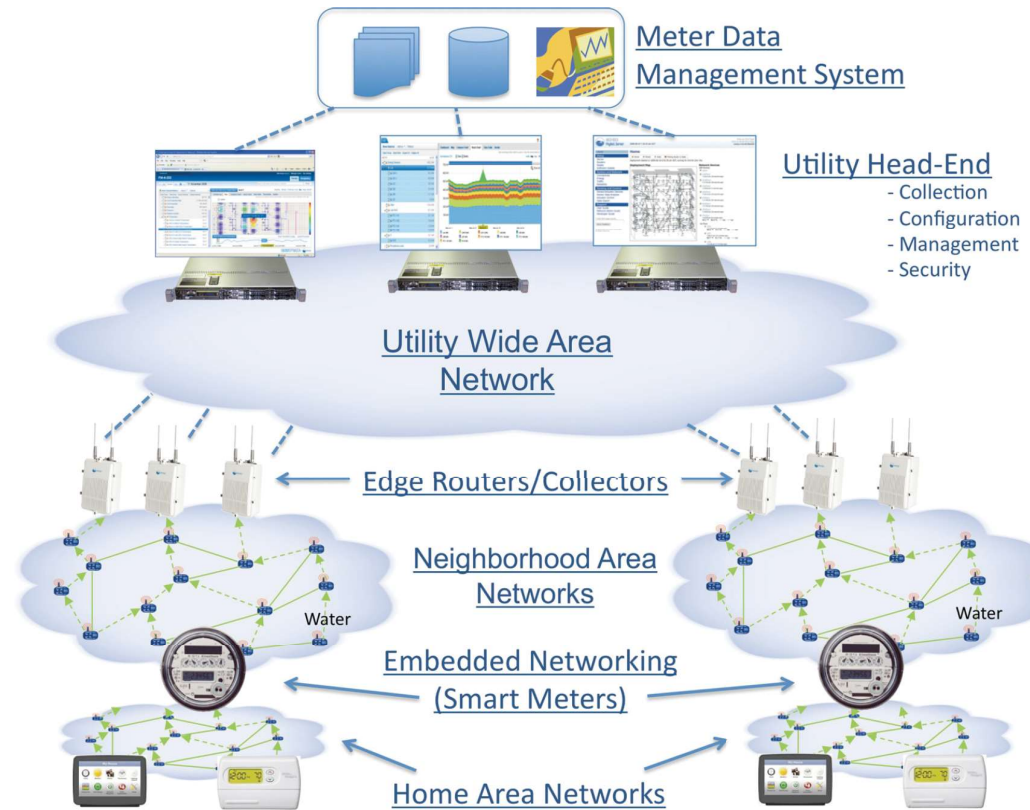


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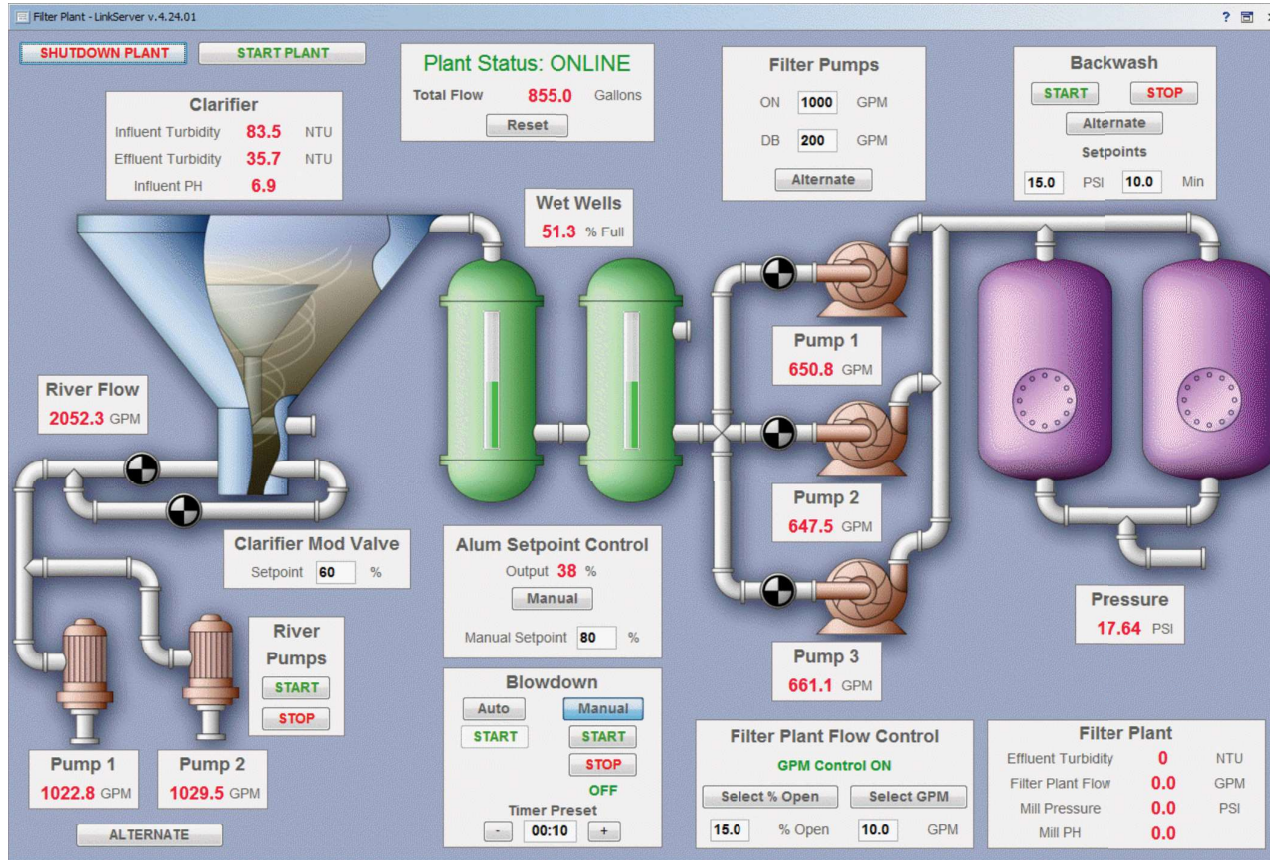
SMART CITY APPLICATIONS

Advanced Metering Infrastructure (AMI)



SMART CITY APPLICATIONS

NEXT-GENERATION SCADA



SMART CITY APPLICATIONS

Smart Irrigation



Skydrop
(American Fork Based Company)

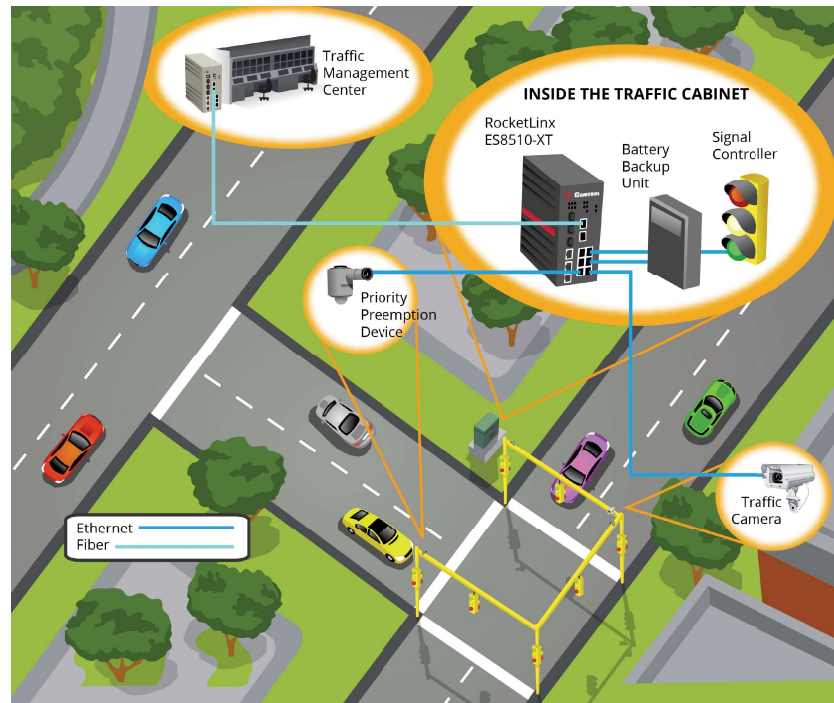
- Adjusts watering based on weather
- EPA WaterSense Certified



RainMachine Touch HD-16

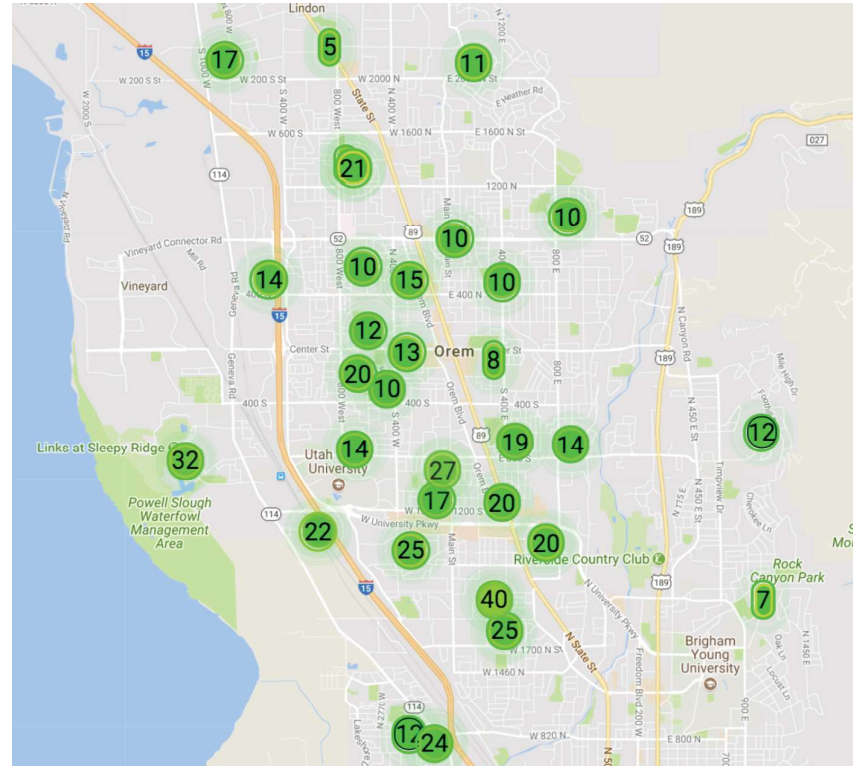
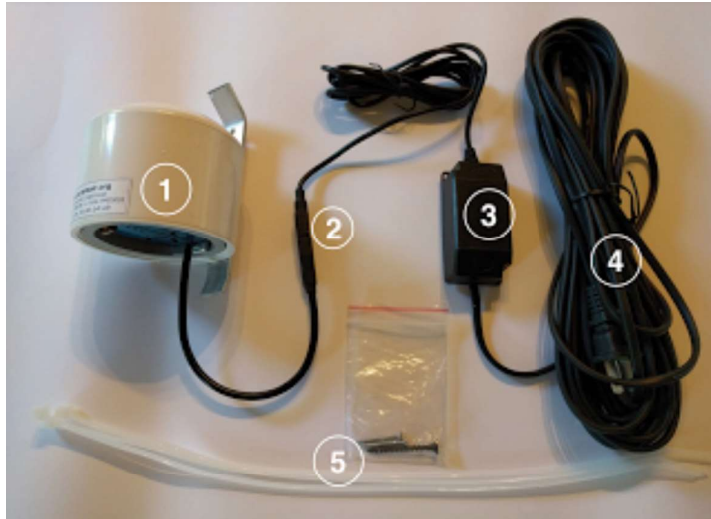
SMART CITY APPLICATIONS

Traffic Control / Monitoring



UTOPIA Fiber provides connectivity for UDOT and cities for traffic control systems.

SMART CITY APPLICATIONS - Air Quality Sensor Network



UTOPIA Fiber is #1 provider of PurpleAir air quality sensors in Utah, available live on purpleair.com and KSL weather.



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SMART CITY APPLICATIONS

Wi-Fi Solutions

UAP-AC-HD - Ubiquiti Networks example

- MU-MIMO Beamforming
- 1.7Gbps Aggregate per AP

Applications

- Park Wi-Fi
- Downtown Wi-Fi
- Public Safety Wi-Fi



SMART CITY APPLICATIONS

City Meeting Broadcasting



LEHI CITY

City Council

Index Share Embed

- 1) Welcome and Opening Comment
- 2.1) Update on the I-15 Technology Corridor - UDOT
- 2.2) Skate Park Update
- 3) Agenda Review
- 6) Consideration of adjourning into a Closed Executive Session to discuss the character, professional competence, or physical or mental health of an individual; discuss pending or reasonably imminent litigation; and discuss the purchase of real property.
- Regular Session, 7:00 p.m.
- 1) Welcome, Roll Call, Pledge of Allegiance
- 2.1) Presentation of Managing Officer Program Certificate to Eddie Hales from Fire Chief Craft.
- 3) 20 Minute Citizen Input
- 4) Consent Agenda
- 6) Consideration of adjourning into a Closed Executive Session to discuss the character, professional competence, or physical or mental health of an individual; discuss pending or reasonably imminent litigation; and discuss the purchase of real property.

Agenda

LEHI CITY

Lehi City Council Meeting
**** Amended Agenda ****
March 28, 2017

5:30 PM Pre Council / 7:00 PM Regular Session
Lehi City Council Chambers (153 N. 100 E., Lehi, Utah)

Pre-Council, 5:30 p.m.

1. Welcome and Opening Comment
2. Presentations and Reports
 - 2.1. Update on the I-15 Technology Corridor - UDOT
 - 2.2. Skate Park Update
3. Agenda Review
4. Administrative Report
5. Mayor and Council Reports
6. Consideration of adjourning into a Closed Executive Session to discuss the character, professional competence, or physical or mental health of an individual; discuss pending or reasonably imminent litigation; and discuss the purchase of real property.

Regular Session, 7:00 p.m.

1. Welcome, Roll Call, Pledge of Allegiance
2. Presentations and Reports
 - 2.1. Presentation of Managing Officer Program Certificate to Eddie Hales from Fire Chief Craft.
3. 20 Minute Citizen Input
(for public comments on items not listed on the agenda. Comments limited to 3 minutes per person with a time limit not to exceed 20 minutes for this item.)
4. Consent Agenda
 - 4.1. Approval of the March 14, 2017 City Council Minutes.
[031417 CC.pdf](#)
 - 4.2. Approval of Purchase Orders.
[PO Index.pdf](#)
[PO Mountainland.pdf](#)
[PO AC Excavation.pdf](#)
[PO Codale.pdf](#)
[PO Geneva.pdf](#)

Lehi City Council Meeting
March 28, 2017
Page 2

4.3. Declare certain properties of Lehi City as Surplus

Page 1 / 3

SMART CITY APPLICATIONS

Disaster Recovery



- UTOPIA has 15 on-net data centers for off-site backup

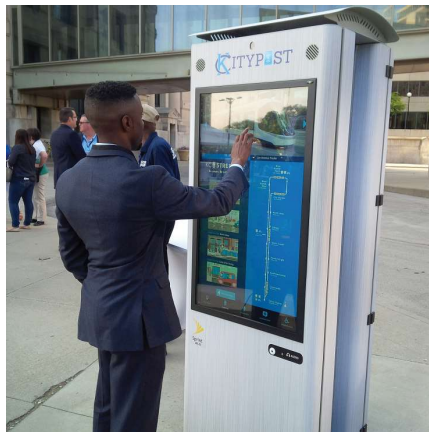
SMART CITY APPLICATIONS

Signage/Information: Indoor



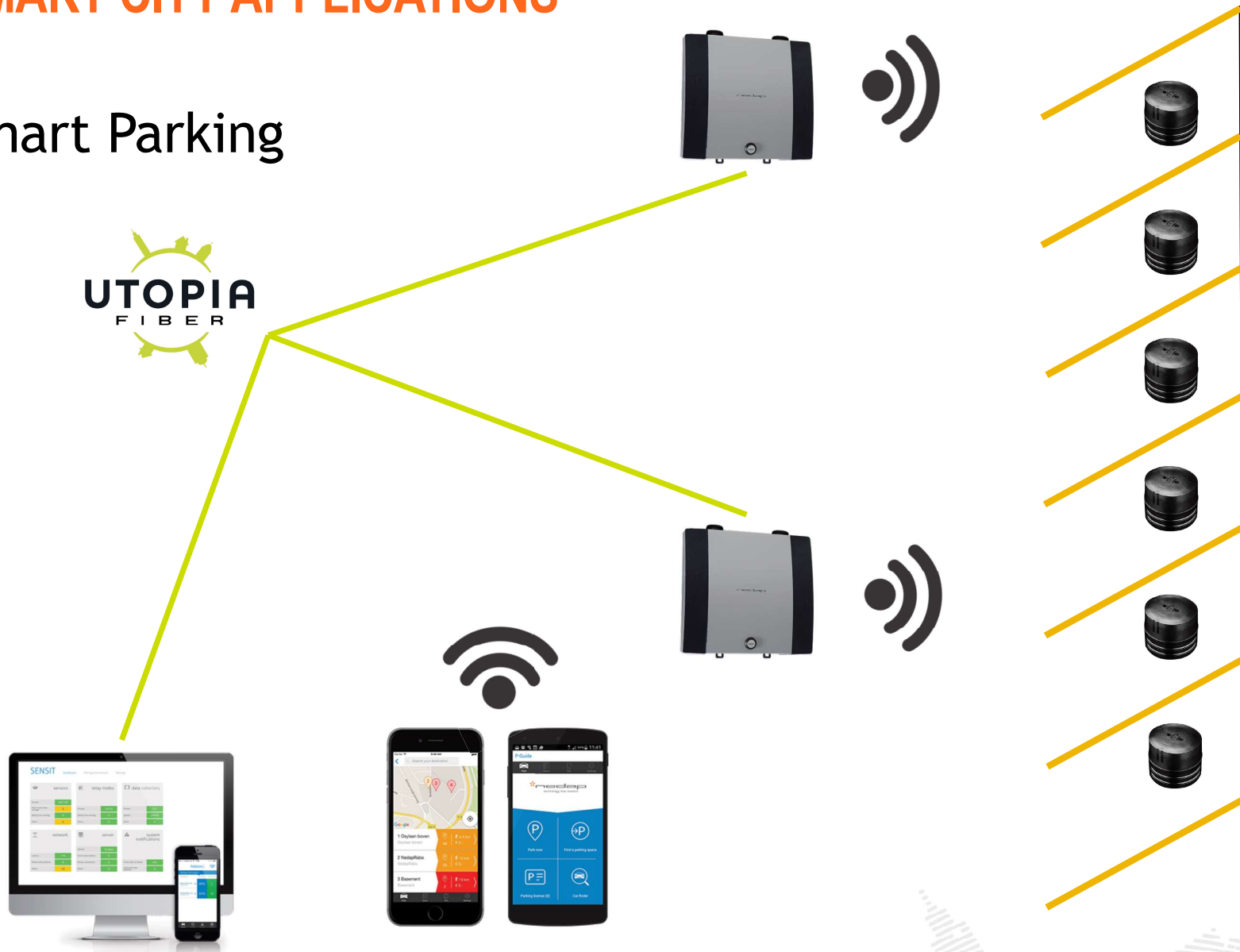
SMART CITY APPLICATIONS

Signage/Information: Outdoor



SMART CITY APPLICATIONS

Smart Parking

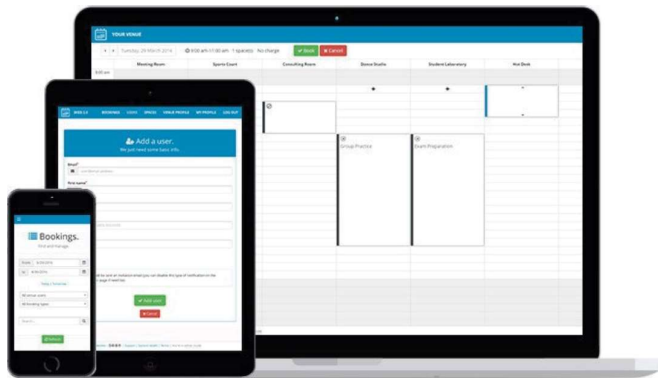


SMART CITY APPLICATIONS

Smart Municipal Facilities

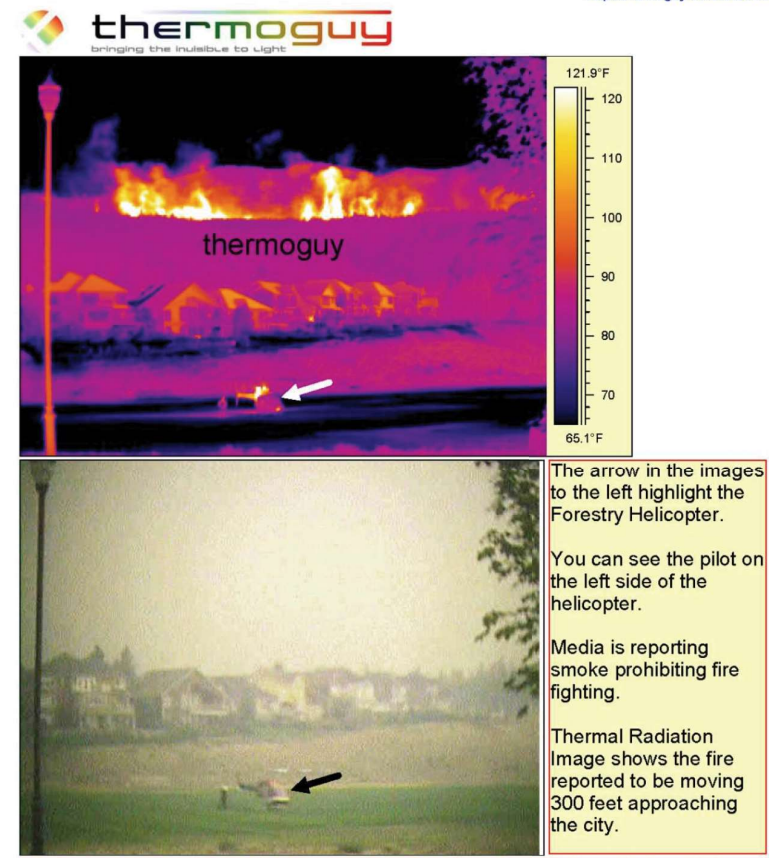
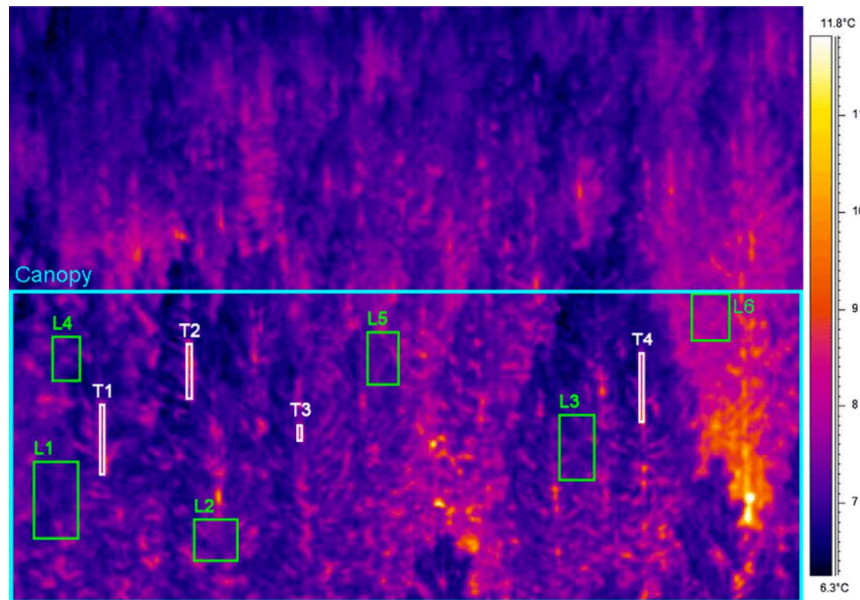


- Park Pavilion Scheduling
- Sport Court/Field Scheduling
- People Counting
- Demand Analysis



EARLY WILDFIRE DETECTION SYSTEM

Thermal Imaging Examples



<https://www.researchgate.net/publication/267287486> Canopy temperature of a ponderosa pine forest The relationship with environmental drivers and forest metabolism

<https://thermoguy.com/forest-fires/>

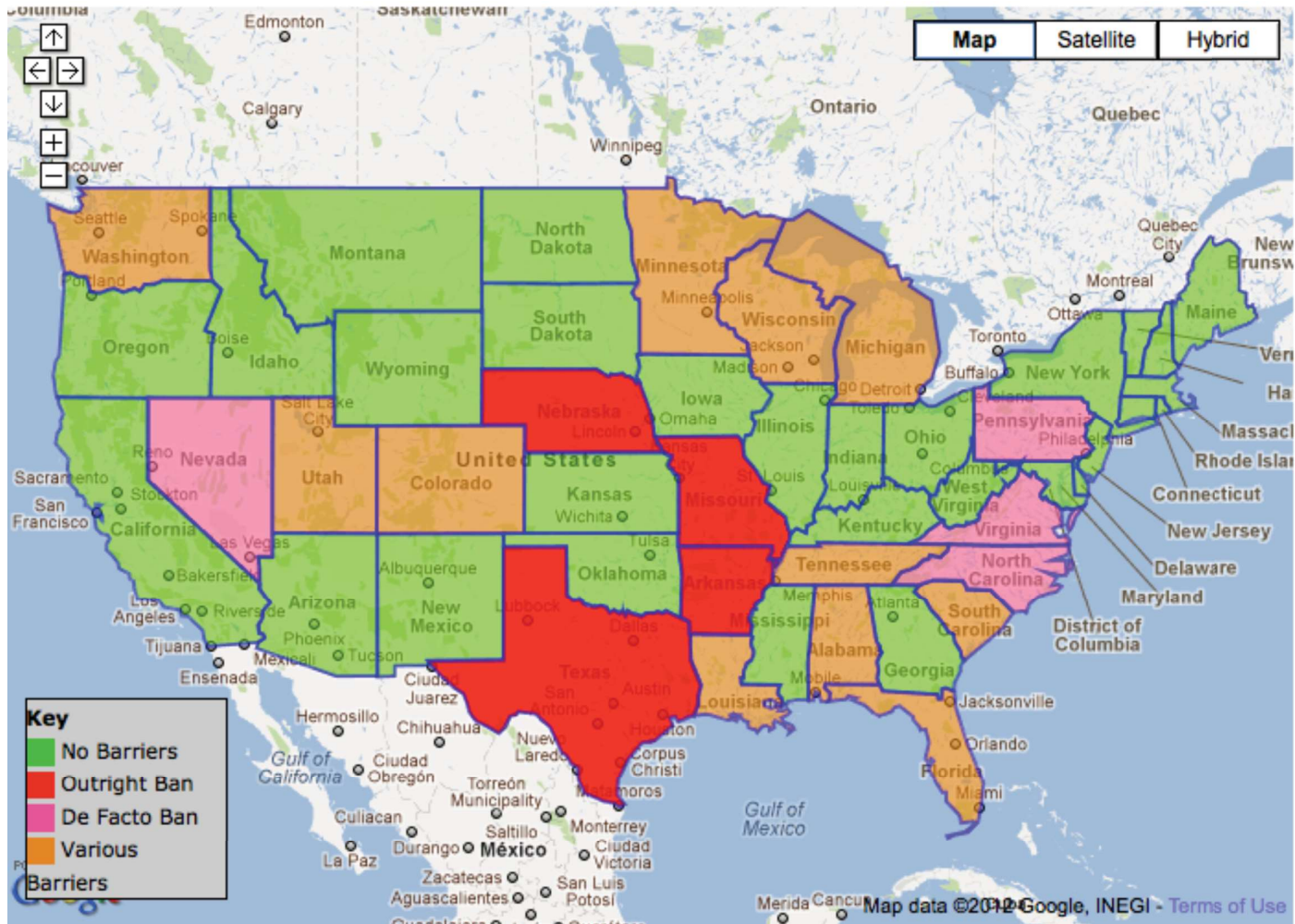


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What are the restrictions on municipal fiber?



What are the restrictions on municipal fiber?



What are the restrictions on municipal fiber?

Very difficult for municipalities to do alone

Utah Restrictions/Obstacles for Municipal Fiber

(Utah Code, Title 10, Chapter 18)

Various barriers including:

- Pre-feasibility public hearings
- Feasibility Consultants
- Feasibility Studies
 - Revenues must cover operating expenses
 - Profitability after 1st year, and over 5 years
- More public hearings
- Publication of rates
- Rate amount requirements
- Many other restrictions/obstacles



What are the restrictions on municipal fiber?

Wholesale Exemption

- The restrictions/obstacles in the Utah code do not apply to a municipality or inter-local entity that operates on a wholesale basis
- Utah Code 10-18-105(2)
- Examples
 - Provo City (iProvo)
 - UTOPIA Fiber
 - Spanish Fork City grandfathered into previous legislation



Why dedicated Ethernet?

- Future-Proof
- Dedicated capacity to each home and business
- Never congested, **ever**
- Supports carrier-class services to any address
- Recent industry and technology advancements have made it cost competitive with GPON
- Better performance (lower latency, jitter)
- Same architecture as business-class fiber from other providers
- No legitimate technical reason for providers to not be able to interoperate and utilize UTOPIA infrastructure
- Can pass industry standard tests for carrier transport

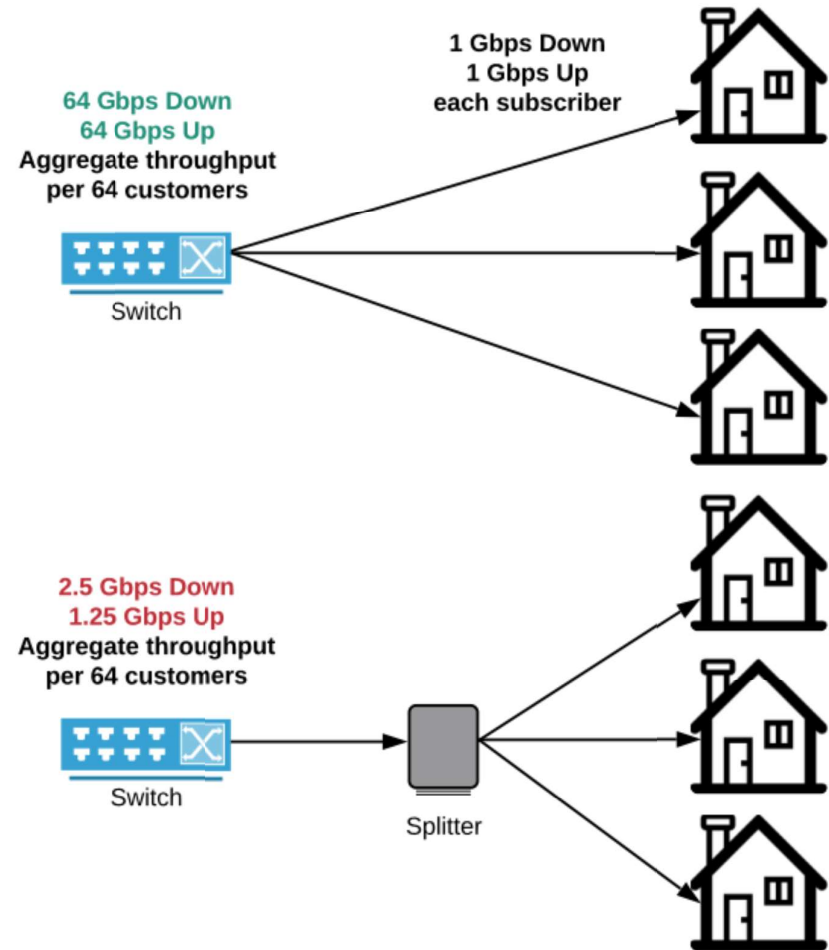


SUPERIOR, FUTURE-PROOF ETHERNET ARCHITECTURE

- Supports dedicated capacity per customer
- 10 Gbps now available across UTOPIA Fiber, 100 Gbps for businesses



Ethernet
Dedicated fiber capacity for every
home/business



Other Fiber Providers

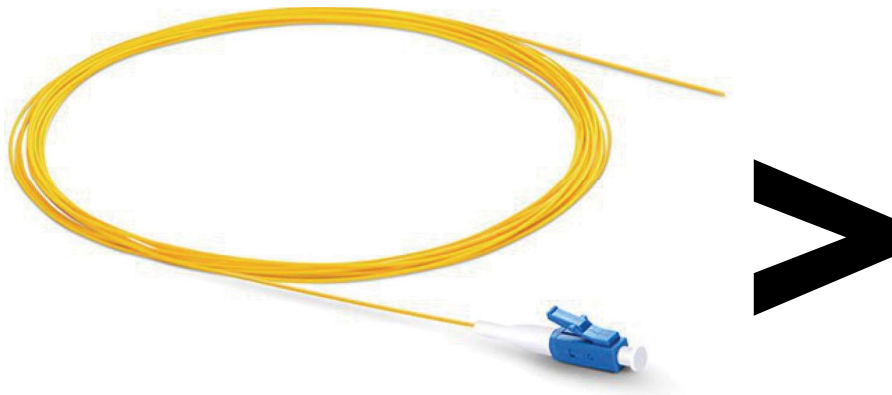
- Google Fiber
- CenturyLink

GPON

Shared capacity, uses timeslots
and splitters to connect groups of
customers on shared fiber



What about wireless?



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Section 7:
01

5G HYPE

- **“unlimited data” – CNET**
- **“10X Speed of 4G” – CNET**
- **“coming in 2019” – CNET**
- **Will enable self driving cars, smart city applications, etc.**
- **Better reliability**
- **Available everywhere**

<https://www.cnet.com/news/5g-phone-networks-could-ease-data-limit-worries/>

<https://www.wsj.com/articles/dial-down-the-5g-hype-11546430401>

<https://www.zdnet.com/article/5g-mobile-why-dialling-down-the-hype-is-the-smartest-move/>



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5G REALITY

- “Millimeter-Wave 5G will never materially scale outside dense urban areas” – T-Mobile
- Promised speeds only under ideal conditions – CNET
- Will requires \$100B+ investment per carrier
- “signals don't travel very far because trees, buildings, your body and even the air can stop them” – CNET
- 5G still depends on heavy oversubscription and sharing
- 5G Home plans will have speed/bandwidth caps
- 5G Mobile will be deployed initially to large urban cities (3-5 years), later to suburban (5-10 years), and rural (10+ to never)
- Consumers may not notice any difference - Huawei

CONCLUSIONS

- Will be incrementally better than LTE for mobile devices
- Will not dramatically change the overall mobile experience
- Will not meet broadband needs of homes and businesses

<https://www.extremetech.com/mobile/290069-t-mobile-millimeter-wave-5g-will-never-materially-scale-outside-dense-urban-areas>

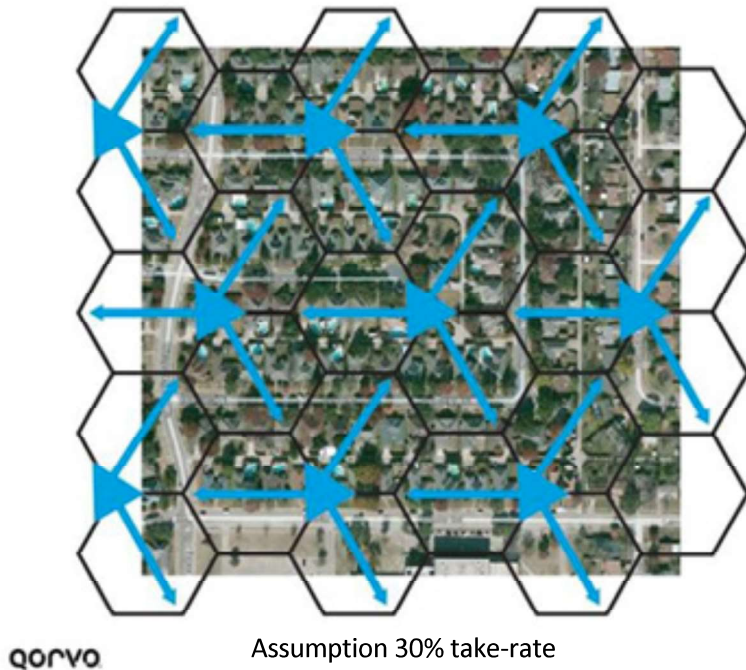
<https://www.cnet.com/news/5g-phone-networks-could-ease-data-limit-worries/>

<https://www.techradar.com/news/huawei-dampens-5g-expectations>



5G vs Fiber Comparison

- Full 5G deployment obstacles



5G Fixed Wireless

- Slower than fiber
- Not enough capacity for high take-rates
- Requires significant fiber investment
- Tower locations difficult to site and install
- 3 Gbps shared per sector (35 houses & 200+ mobile)
- Sharing forces providers to utilize usage caps
- Trees, house elevations block signal
- Some houses ineligible for service
- 5 year lifecycle
- Impacted by rain/snow

Fiber

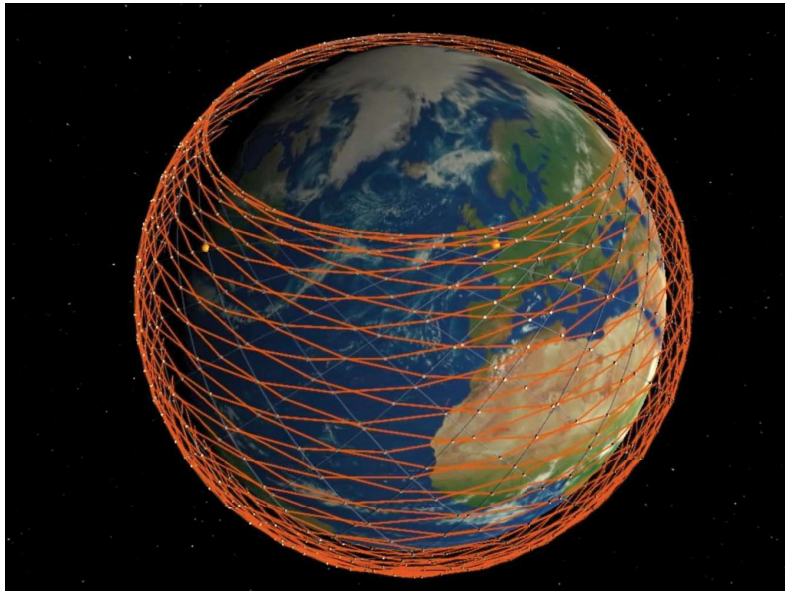
- Similar costs to full 5G deployment
- Supports 100% take-rate
- Sub-surface infrastructure (no towers, pedestals, boxes)
- 10 Gbps dedicated per house capability, no cap
- Works for every house in a city
- Infrastructure lasts 30+ years
- Unaffected by weather
- More reliable
- Needed for 5G, even if deployed on a limited basis

<https://www.microwavejournal.com/articles/31319-rf-front-end-technology-and-tradeoffs-for-5g-mmwave-fixed-wireless-access>



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SATELLITE BROADBAND (NEXT-GEN)



SpaceX Starlink

Pros

- Covers most of the Earth
- Good for cruise ships, military, extreme rural
- Survives natural disasters
- Better than current satellite broadband

Cons

- Far less throughput/speed than fiber
- Much higher latency than fiber (due to additional 2000km+ roundtrip distance)
- Major aggregation problems
 - Only ~30 accessible above entire US at a given time
- Subject to interference, blockages
- Requires low bandwidth caps to support heavy oversubscription

Math

Surface area of 75% Earth – 148M mi²

Final phase – 1600 satellites (early deployments much smaller)

1 desk-sized satellite to cover 92,297 mi²

Size of Utah 84,899 mi²

<https://www.businessinsider.com/spacex-starlink-satellite-internet-how-it-works-2019-5#spacex-plans-to-launch-60-close-to-production-starlink-satellites-at-a-time-with-its-falcon-9-rockets-each-satellite-weighs-about-500-pounds-227-kilograms-and-is-roughly-the-size-of-an-office-desk-theyll-deploy-into-orbit-about-273-miles-440-kilometers-up-2>



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CURRENT OPTIONS IN CITY

ars TECHNICA BIZ & IT TECH SCIENCE POLICY CARS GAMING & CULTURE

AND PRICE HIKES, AN ICONIC DUO —

promised not to raise prices—guess what happened next

accused of renegeing on "lifetime" price promise in Google Fiber city.

JON BRODWIN - 9/19/2019, 11:59 AM

PHILADELPHIA BUSINESS JOURNAL Where Philadelphia's top chefs are eating in 2020 >

Media & Marketing

to pay \$15.5M to settle class-action lawsuit over set-top box rentals

By Michelle Caffrey — Reporter, Philadelphia Business Journal
Sep 25, 2019, 1:42pm EDT

FierceTelecom

AI TELECOM TECH PLATFORMS

Operators

to pay \$8.9 million in fraudulent billing case

by Martha DeGrasse | Jan 10, 2020 10:30am

StarTribune
BUSINESS

agrees to \$1.1 million in refunds in deceptive practices lawsuit

AG, cable giant settle deceptive-practices suit.

By Mike Hughlett Star Tribune | JANUARY 15, 2020 — 7:18PM

NEWSWATCH 12 KDRV.COM Watching Out For You

HOME NEWS WEATHER SPORTS VIDEO FEATURE

OREGON REACHES \$4 MILLION SETTLEMENT WITH FOLLOWING CONSUMER COMPLAINTS

The Attorney General's office said that it had received more than 1,200 customer complaints about , prompting the suit.

Posted: Dec 31, 2019 3:57 PM
Updated: Dec 31, 2019 4:06 PM
Posted By: Jamie Parfitt



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UTOPIA FIBER CUSTOMERS



January 18 at 12:59 PM

I am trying to switch Internet providers Comcast is way expensive. I've been looking into Utopia fiber. Is there anyone in Layton that uses any of the Network they provide . And is it good?



4

22 Comments



Like



Comment



Utopia is wonderful. I will not switch back to anything else. We use Sumofiber for the actual isp and love them.

Like · Reply · 2w



4



We have used it for a few years. Love it. I would never go back to Comcast

Like · Reply · 2w



2



I have used XMission for years, and have never had a single issue. Won't ever use anything else as long as I live here.

Like · Reply · 2w



3



We have xmission and haven't had any problems. We had Comcast for many years and Xmission is alot better.

Like · Reply · 2w · Edited



6



Utopia is by far the best in the state. Had xmission for years with no issues.

Like · Reply · 2w



3



I'm a utopia + xmission user and have been for about 2 years now. No issues. No rate hikes. Fast internet! I don't plan on leaving at any point.

Like · Reply · 2w



4



I use utopia through intellipop. They are awesome. And inexpensive after the installation is taken care of

Like · Reply · 2w



1



A couple Comcast reps approached me at Walmart and asked who I have for internet. I told them I have Utopia and they were like "oh... well you have a great day then!"

That's how good Utopia is.

Like · Reply · 2w



7



I love Utopia We have had no problems. The only thing is you have to buy your own router and ours sucks. We have had to call in twice to have them fix it. And now we'll have to pay the next time for them to fix it. Do not get the Netgear nighthawk one.

Like · Reply · 2w



3



We use XMission for utopia. No problems. When we had Comcast we regularly had problems and they were more expensive for slower speeds.

Like · Reply · 2w



3



Okay thank you so much everyone!

Like · Reply · 2w



I've been with Utopia for 6 months. \$78 a month for 1gb up and 1gb down. Never had any issues with my service and speed is consistent

Like · Reply · 2w



2



With the fiber network we have in Layton, there's no reason anyone should have to deal with Comcast any longer. Get the Utopia hooked up. Choose any ISP (they're all fine) XMission and Sumo are the two I hear used most often. Had XMission for about 2.5 years. Works fantastic.

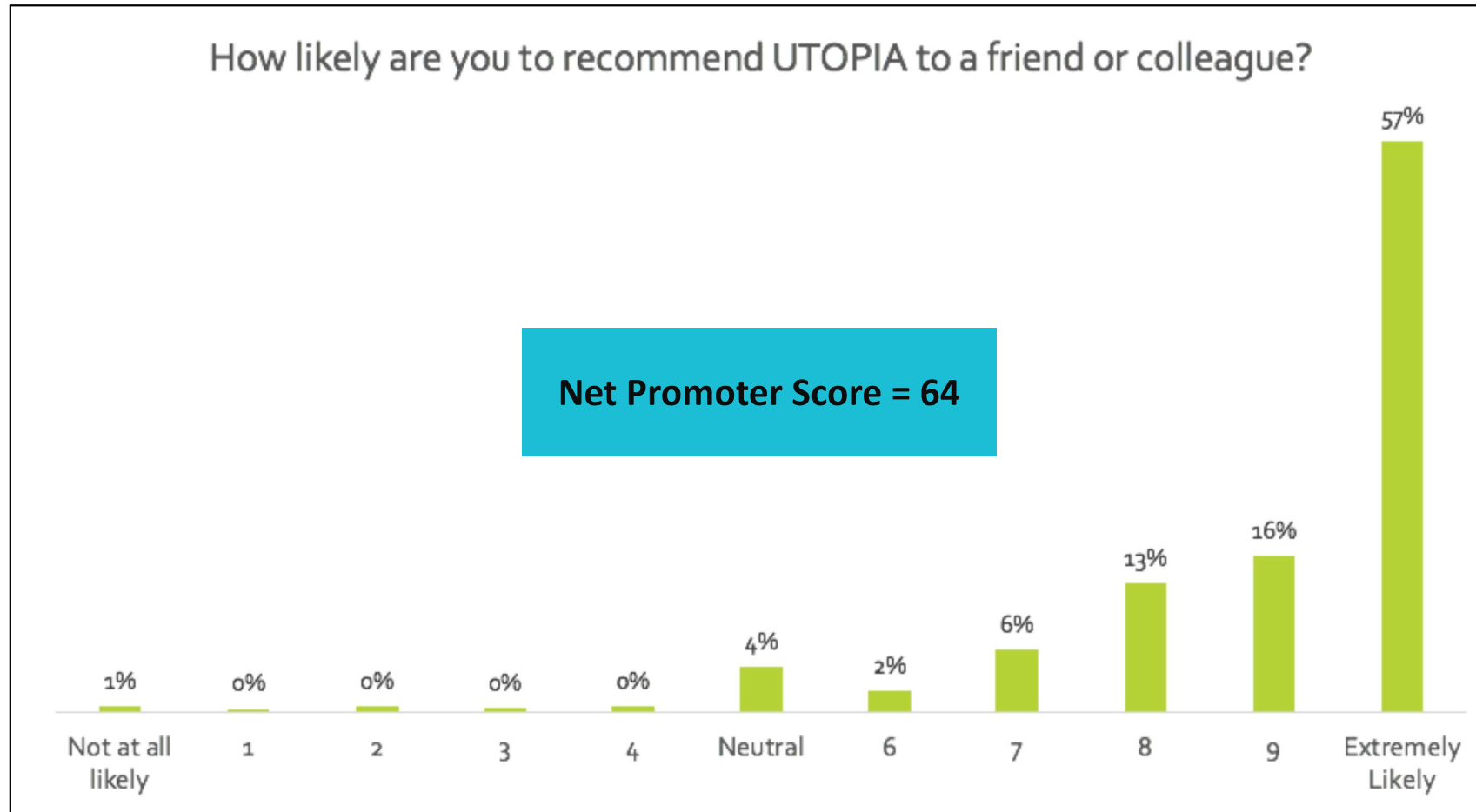
Like · Reply · 2w



3

NET PROMOTER SCORE

Highest customer satisfaction



Third-party survey conducted August 2018 by Boncom



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GOOGLE RATINGS

UTOPIA Fiber is the #1 rated provider in region

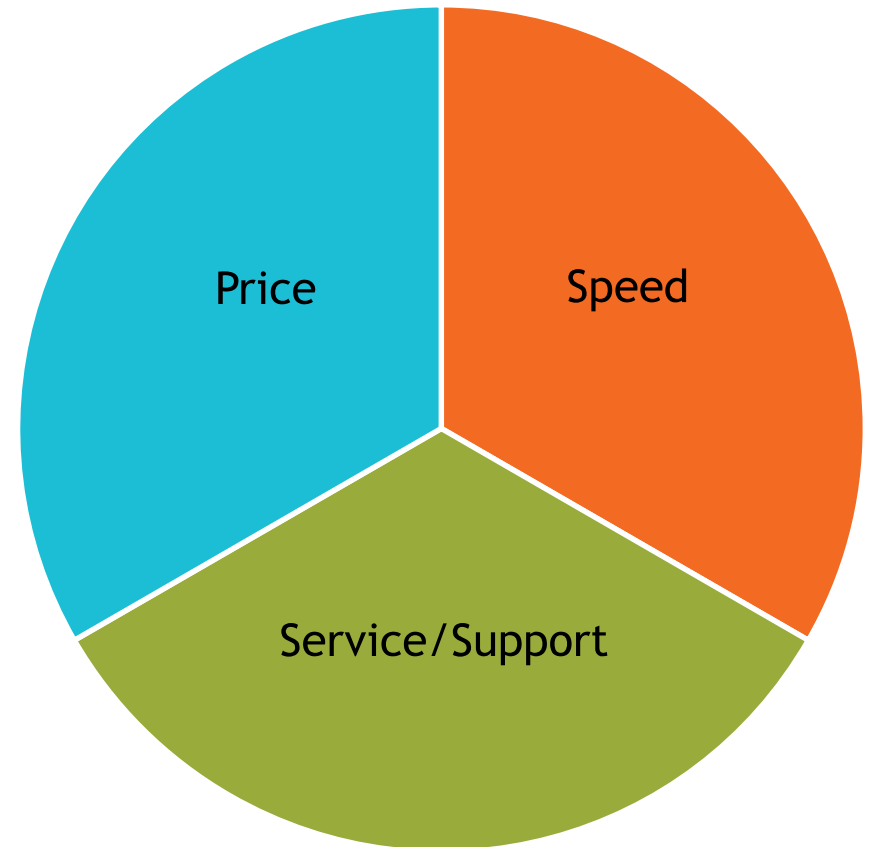
Provider	Score	Source
All West	2.2	https://goo.gl/maps/DKr99kKBxAk
Beehive Broadband*	4.2	https://goo.gl/maps/ha5s3zSCNZ72
Comcast	3.1	https://goo.gl/maps/e2B7BfDLVyB2
Centracom*	3.1	https://goo.gl/maps/b9y29wadCrR2
Centurylink	1.4	https://goo.gl/maps/fNjf6TwPj2U2
Emery Telcom	1.9	https://goo.gl/maps/A76PxxYsfEx
Google Fiber	3.7	https://goo.gl/maps/xEksEoo3ob12
UTOPIA Fiber	4.5	https://goo.gl/maps/8xeqhDQ6KU82
Xmission*	4.5	https://goo.gl/maps/DXF6Uw3mcYv

*UTOPIA Fiber partner provider



UTOPIA FIBER - KEYS TO SUCCESS

- Fastest in country
 - 10 Gbps Residential
 - 100 Gbps Business
- Top Rated
 - Net Promoter Score = 64
 - Google Rating - 4.5 Stars
- Best Value
 - 250 Mbps - \$65
 - 1 Gbps - \$78

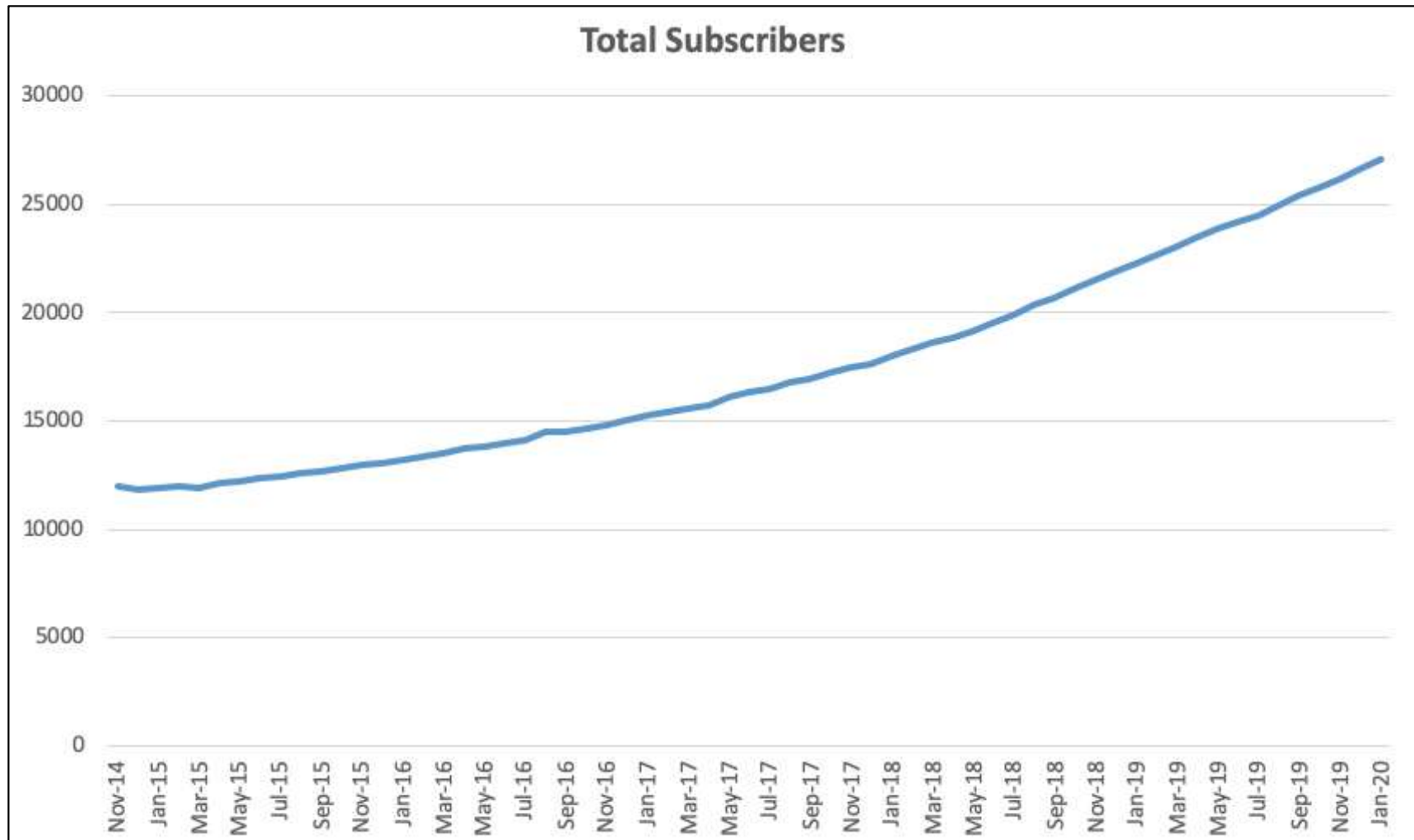


Is UTOPIA Fiber financially sustainable?

- Phase I
 - UTOPIA is covering all of its operational expenses
 - UTOPIA cities are paying for original UTOPIA bond obligations
- Phase II
 - UIA is covering all of its operational expenses and debt service
 - UIA net revenues continue to grow
 - No cost to participating communities



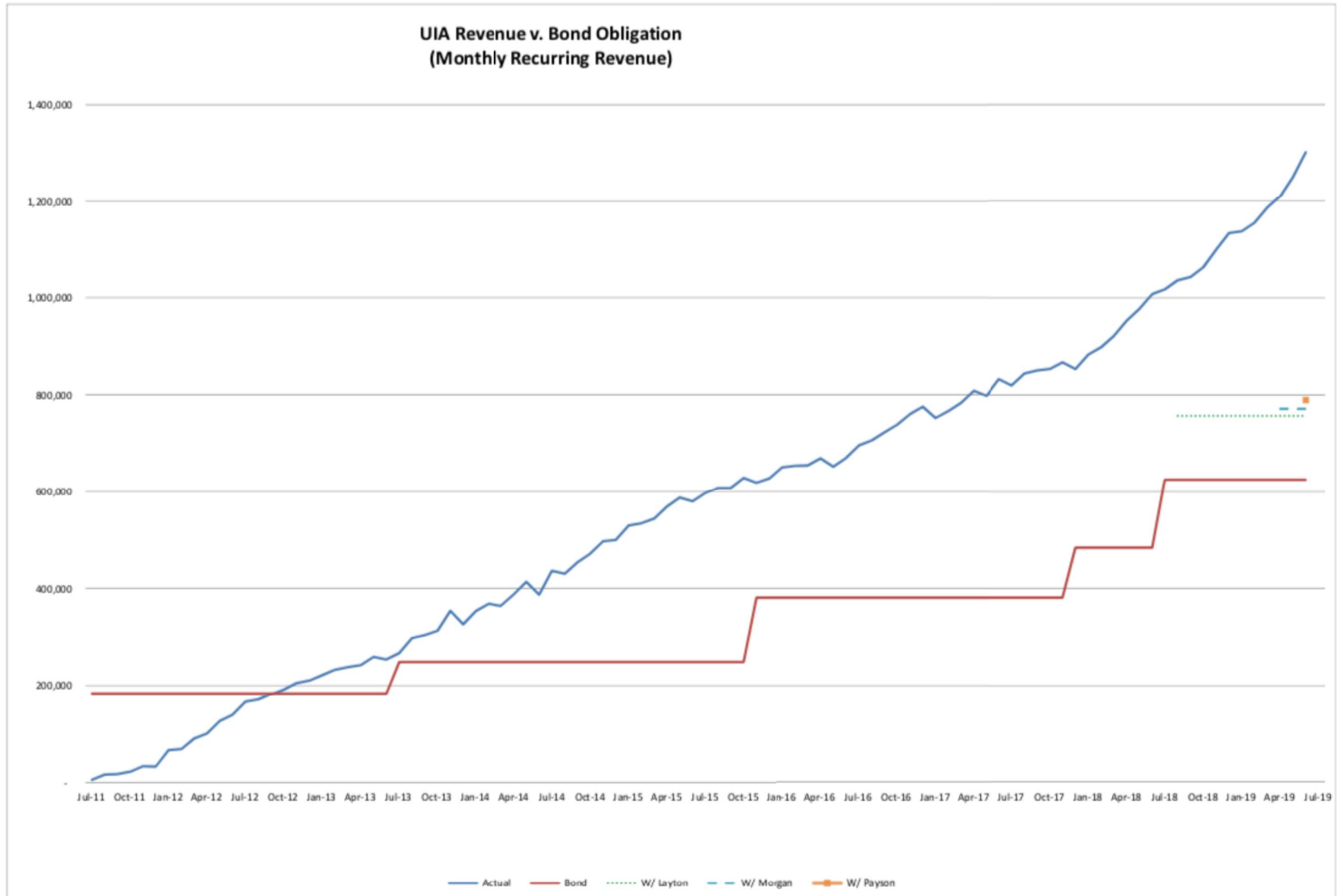
Increasing Demand



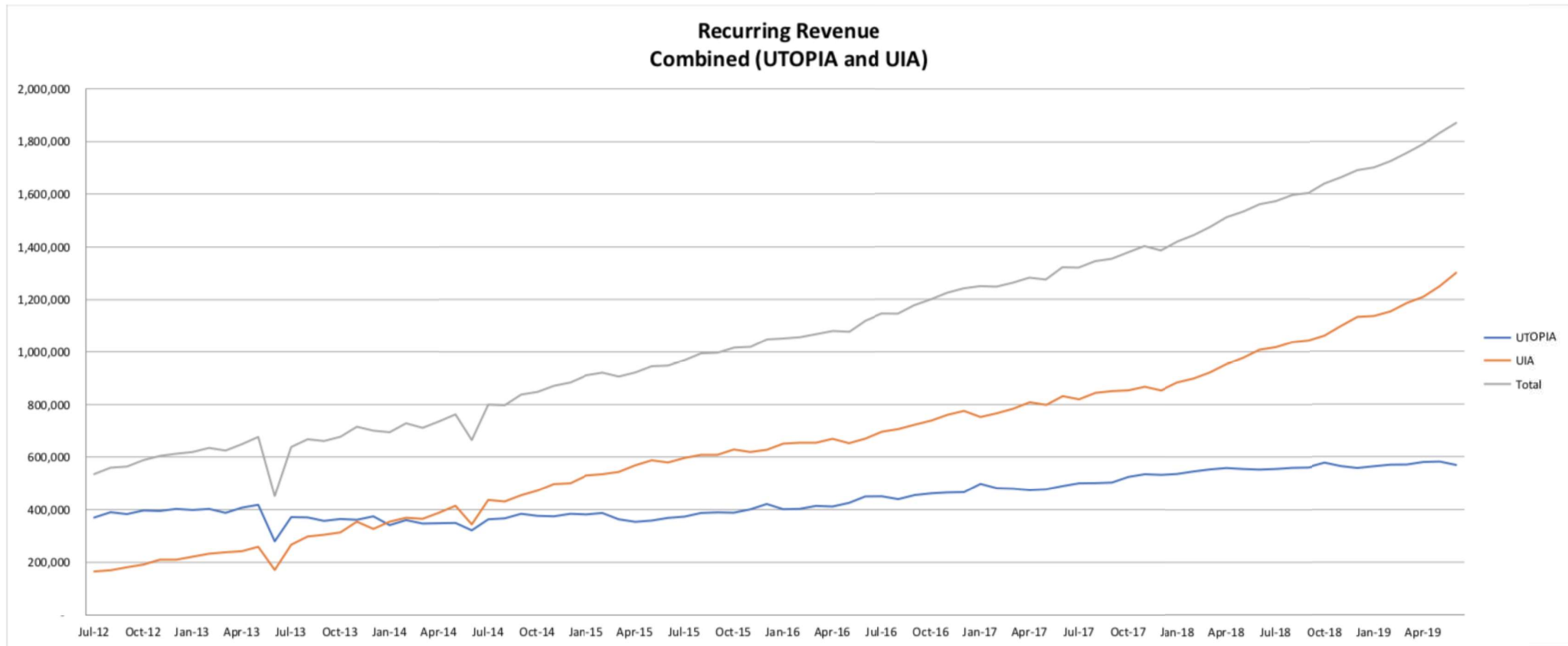
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Is UTOPIA Fiber sustainable?



Is UTOPIA Fiber sustainable?

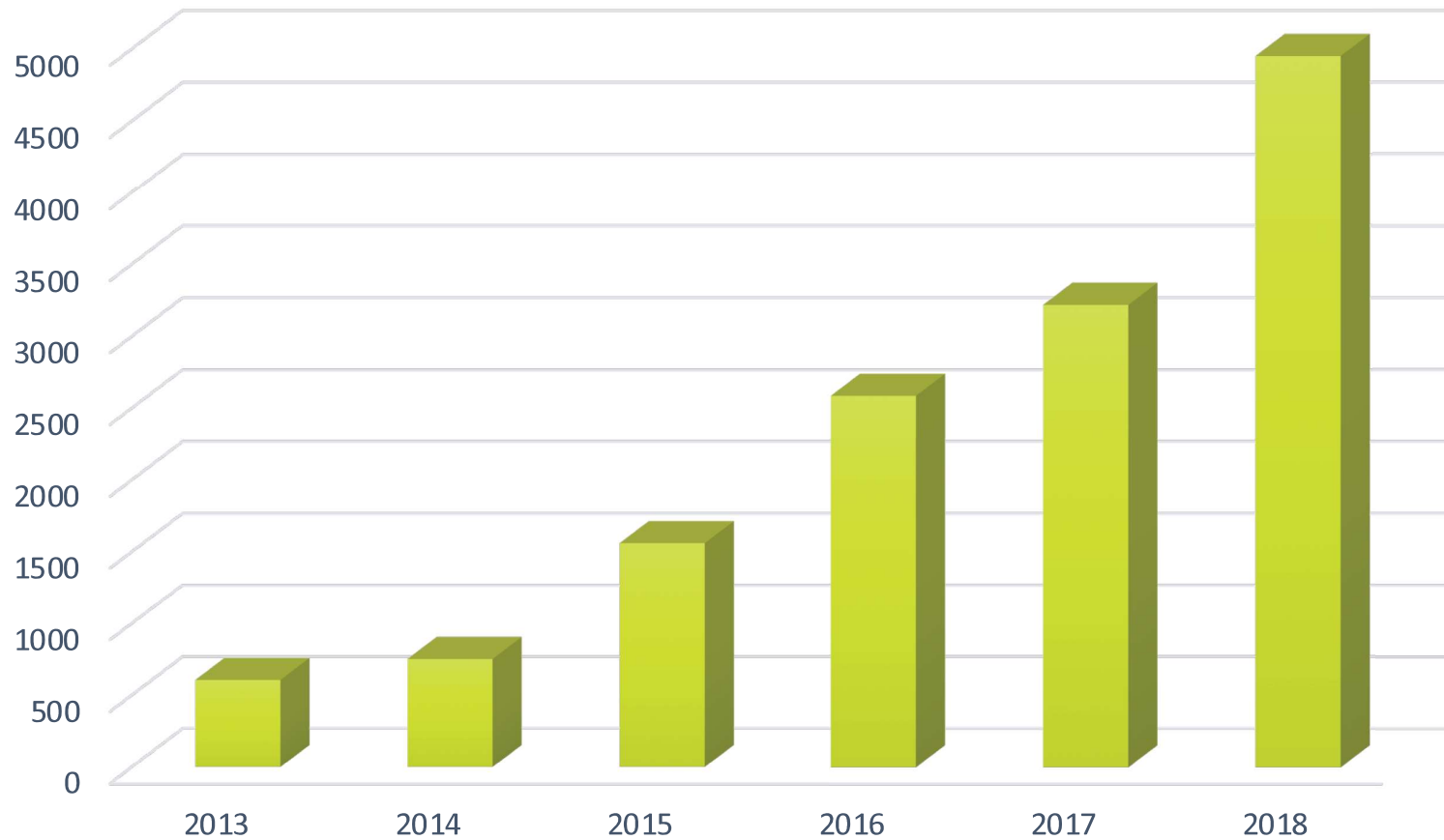


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Skyrocketing Demand

RESIDENTIAL SALES 2013-2018



Potential partnership with UTOPIA Fiber



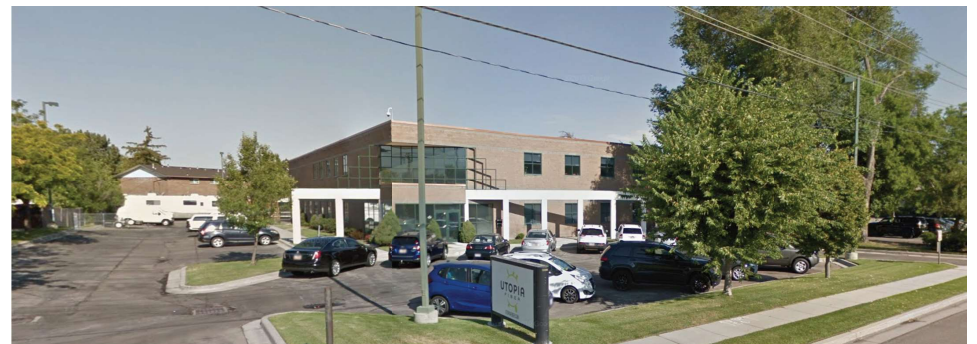
Partnership with UTOPIA Fiber

Municipality (individual or collectively)

- Services agreement based subscribers paying for system with 40% take-rate (45%+ expected)
 - City revenues, business revenues buffer against any risk
 - Increasing demand, technology advancements, 5G revenue trends reduce risk
- No obligation to previous investments in backbone, UTOPIA facilities, core network, etc. or future (additional cities) projects

UTOPIA/UIA

- Finances the project (bonds for the project, and pays off the bond with no city debt)
- Receives portion of subscriber fees to cover operational expenses
 - Electronics replacement
 - Fiber maintenance
 - Utility locating
 - Repairs
 - Backbone interconnectivity
 - Network Operations Center monitoring
 - Service provider interconnectivity
 - Billing
 - Marketing



Potential partnership with UTOPIA Fiber

Entire project is paid for by the voluntary subscription fees of those who choose to sign up for a better and lower cost service than what they have now. Project is financed, designed, built, operated, and maintained by UIA.

Municipality Benefits vs Risk

- At 100% cost of project, there would be significant net benefit to the residents, businesses, and city
 - Reduced costs of services (\$27/mo average savings*)
 - Increased property values (3.1% average*)
 - Protection of net neutrality
 - Eliminate digital divide
 - Quality of life improvement
- No other municipal project brings a more dramatic and immediate change in economics and quality of life improvement than fiber
- UTOPIA/UIA partnership brings all of the benefits of fiber provider competition, top-rated services, reliability, fastest Internet speeds with **no cost, taxes, or subsidies.**

[*https://medium.com/@fiberbroadband/when-gigabit-internet-comes-to-town-it-could-mean-savings-for-consumers-4feccd69223](https://medium.com/@fiberbroadband/when-gigabit-internet-comes-to-town-it-could-mean-savings-for-consumers-4feccd69223)



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Why Partner with UIA/UTOPIA?

- Established partner with proven successful model
- City avoids startup costs, risks, pitfalls
- City avoids legal challenges, referendum risk
- Economy of scale benefit
- 25+ service providers in place
- Simple structure based on proven UIA model
- Lower costs from UTOPIA volume materials and labor purchasing
- Proven track record (\$140M+ successful projects)
- Leverage existing resources of UTOPIA Fiber



UTOPIA Fiber Available Resources



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UTOPIA Fiber Available Resources

- 24/7 Network Operations Center (5x Full Time)
 - Monitoring, Provisioning, Troubleshooting, Tier 2 tech support, Emergency Dispatch
- Network Engineering Team (4x Full Time)
 - Network Architecture, Updates, Cybersecurity, Electronics Refresh



UTOPIA Fiber Available Resources

- Operations (7x Full Time)
 - Order Management, Customer Service Team



UTOPIA Fiber Available Resources

- Field Services (6x Full Time)
 - Network Repair, Maintenance, Emergencies
- Utility Locating (7x Full Time)
 - Marking of utilities for Blue Stakes of Utah



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UTOPIA Fiber Available Resources

- GIS (3x Full Time)
 - Mapping, Documentation
- Accounting/Billing (4x Full Time)
 - Billing, collections, accounts payable
- Information Technology (2x Full Time)
 - Software/Systems
 - Servers
 - Cyber Security
- Sales/Marketing (6x Full Time)
 - City Events
 - Inbound/outbound sales
 - Business Sales



UTOPIA Fiber Available Resources

- Warehouse/Purchasing
 - Inventory, Forecasting, Materials Management



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UTOPIA Fiber Available Resources

- Over 60 Full time staff managing new and existing networks across 50 Utah cities
- No Cost to Cedar Hills other than user service fee built into UTOPIA Fiber rates at lower cost than it would cost to do it independently



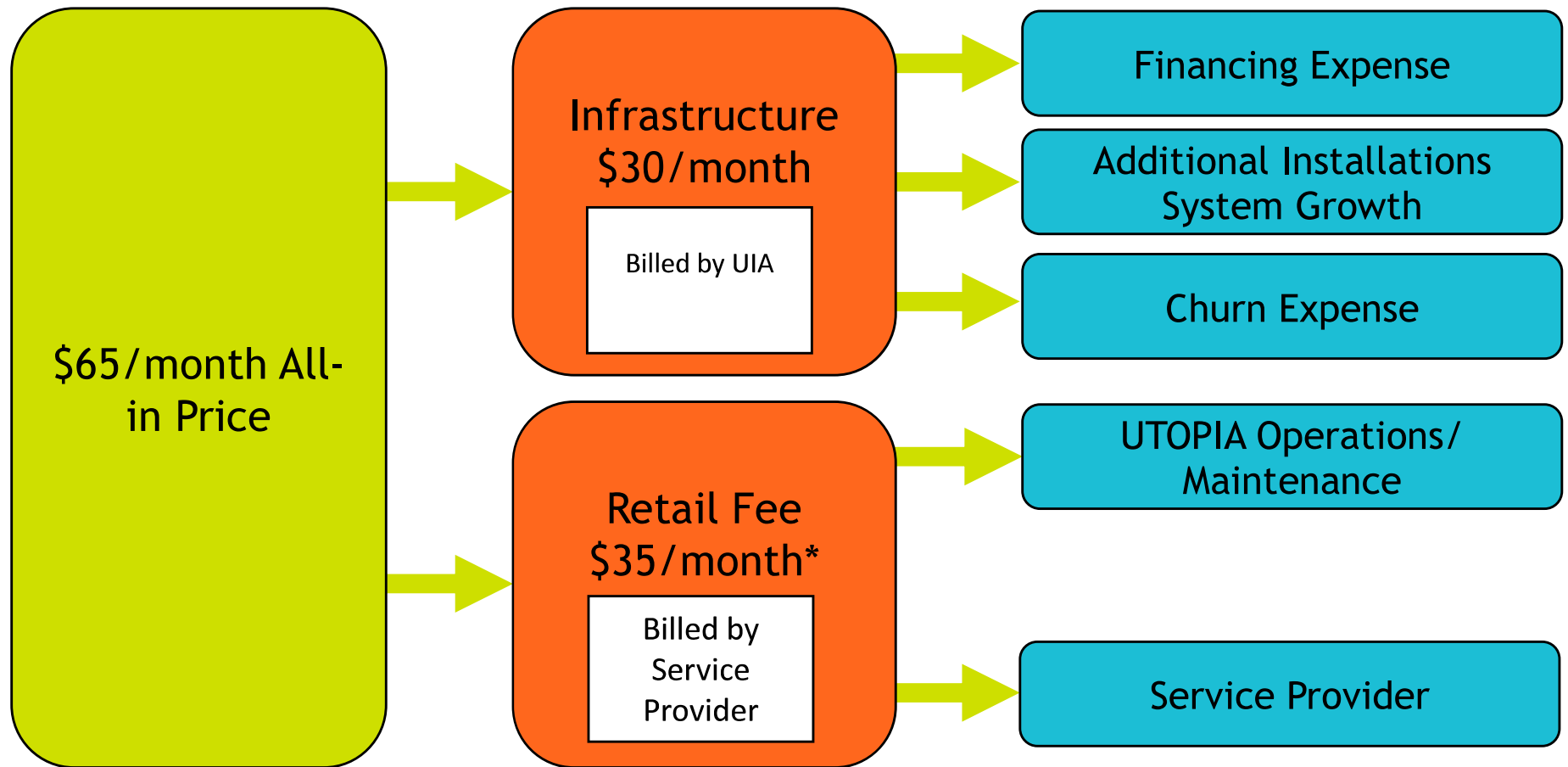
UTOPIA Fiber Available Resources

- On-net Connectivity to
 - Alpine School District Aggregation sites in AF, Lindon, Saratoga Springs
 - State Capital for State Agencies Use
 - UVU and UofU for schools, libraries, etc
 - All major Utah Data Centers for businesses
 - 25+ service providers
 - Various Smart City Systems
- Over 3000 route-miles of fiber in place



REVENUE DISTRIBUTION OF SUBSCRIBER FEES

Example - Minimum 250/250 Mbps Internet Package, 1yr commitment



*varies by a few dollars depending on choice of provider



UTOPIA FIBER SERVICE OPTIONS

Current UTOPIA Fiber Residential Offerings

**250 Mbps
\$65/month**












**1 Gbps
\$78/month**

**10 Gbps
\$229/month**

- No Installation Costs, Month-to-Month Term
- Includes \$30/mo infrastructure fee to pay financed cost of project, and expansion of system
- Available from 11 different residential service providers
- All-in cost, covers entire cost of the fiber project



UTOPIA FIBER SERVICE OPTIONS -

PROVIDER	INTERNET			PHONE*			VIDEO*			
	250 Mbps \$34.95	1 Gbps \$49.95		Beehive Phone - Self Installation \$19.95	Beehive Phone - Technician Installation \$19.95		Lifeline Video Package \$34.95	Family Package \$64.95	Entertainment Package \$74.95	Total Video Package \$114.95
	250 Mbps \$35.00	1 Gbps \$54.95	10 Gbps \$199.99	Brigham.net Phone: Voice line includes 500 minutes Free Long Distance, Caller ID, Call Waiting, Call Forwarding, Voicemail, Follow me & E-911 services. \$24.95			Yondoo TV (Contact Yondoo for pricing and plan details 877-309-4462) \$0.00			
	250 Mbps \$34.95	1 Gbps \$49.95		CentraCom Phone \$15.00						
	250 Mbps \$35.00									
	250 Mbps \$35.00	1 Gbps \$48.00		InfoWest Phone \$20.00			Yondoo TV (contact Yondoo for details 877- 309-4462) \$0.00			
	250 Mbps \$34.95									
	250 Mbps \$32.98	1 Gbps \$37.80		Standard Calling \$17.99	Premium US48 \$27.98					
	250 Mbps \$35.00	1 Gbps \$48.00	10 Gbps \$200.00	Unlimited Local Calling \$5.00	International Plan \$20.00	National Plan (Lower 48 States) \$10.00	Yondoo TV (Contact Yondoo for pricing and plan details 877-309-4462) \$0.00			
	250 Mbps \$34.99	1 Gbps \$54.99	10 Gbps \$199.99	Veracity Phone \$9.99			Total Vision (Basic) \$59.99	Beyond Vision (Expanded) \$76.99	Premier Vision (Expanded) \$114.99	
	250 Mbps \$34.95	1 Gbps \$54.95		Local Calling Plan \$4.95	National Calling Plan \$9.95					
	250 Mbps \$37.00	1 Gbps \$50.00	10 Gbps \$250.00	XMission Phone \$15.00			Yondoo TV (Contact Yondoo for pricing and plan details 877-309-4462) \$0.00			



PROJECT STEPS



1. Community Survey
2. UTOPIA Fiber Proposal
3. RFP
4. Contract Award/Approval
5. UIA Financing of Project
6. Project Build
7. Marketing/Sales



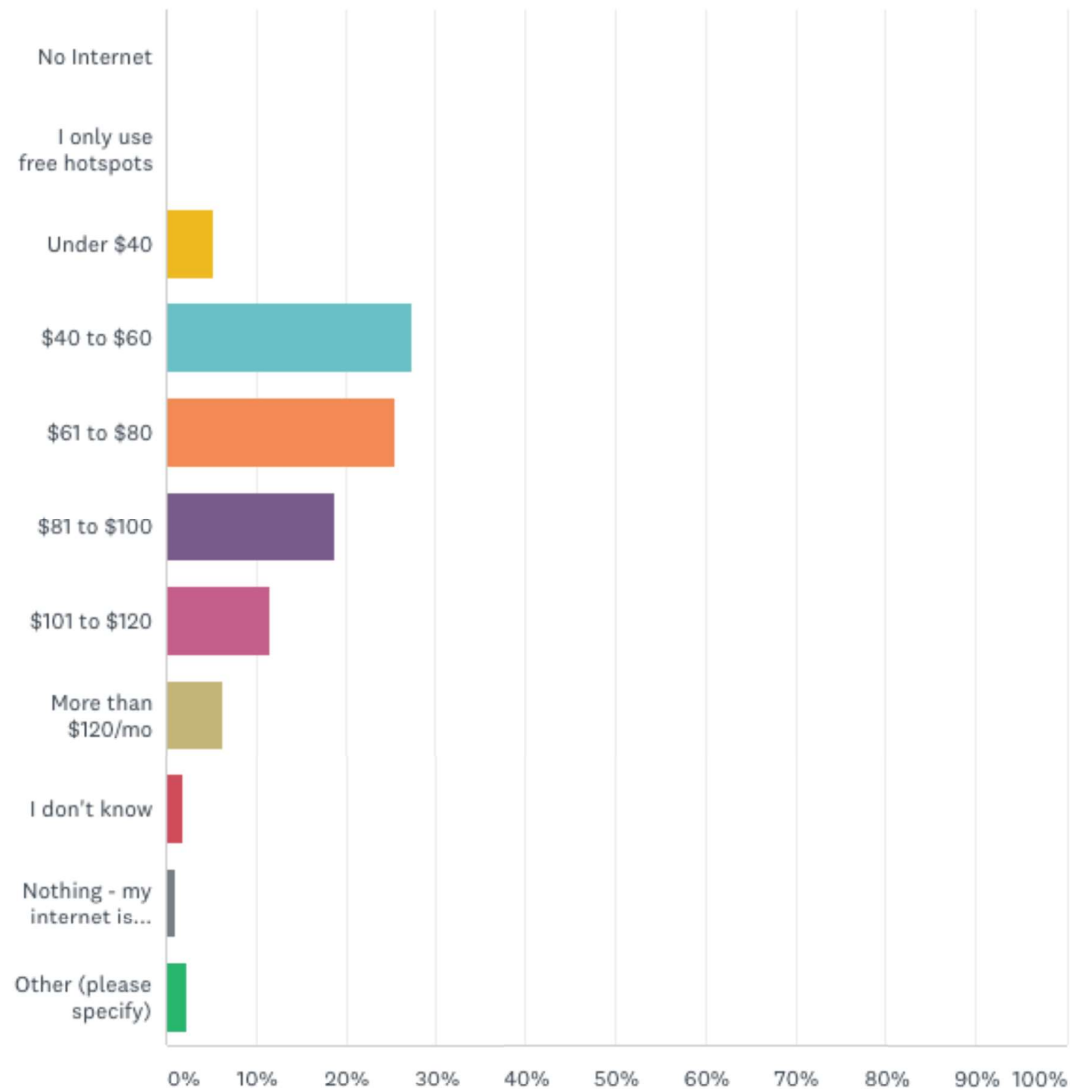
2-3
years for
project
completion



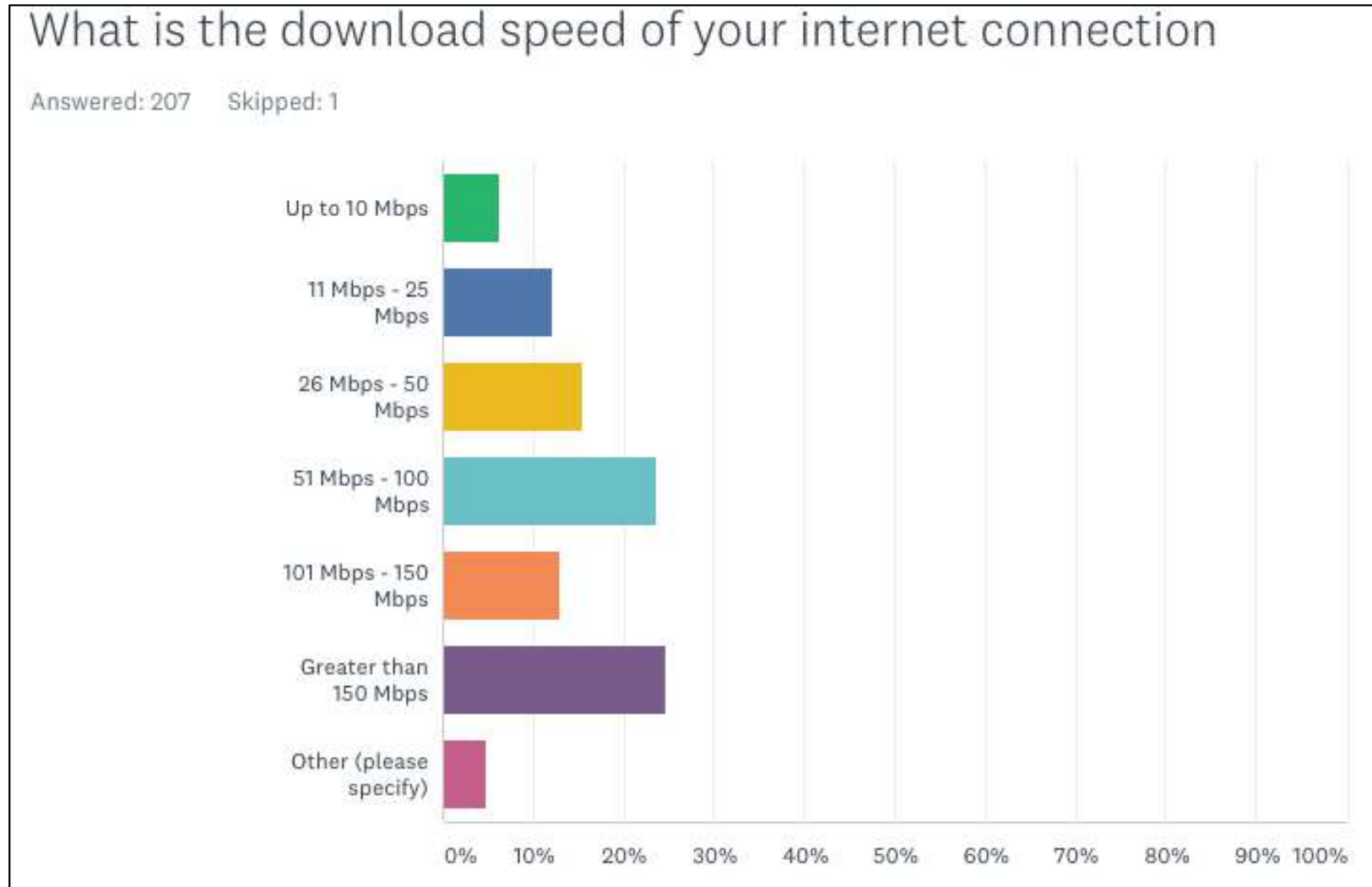
HIGHLAND – SURVEY RESULTS

Currently, how much do you pay for internet service each month?

Answered: 208 Skipped: 0



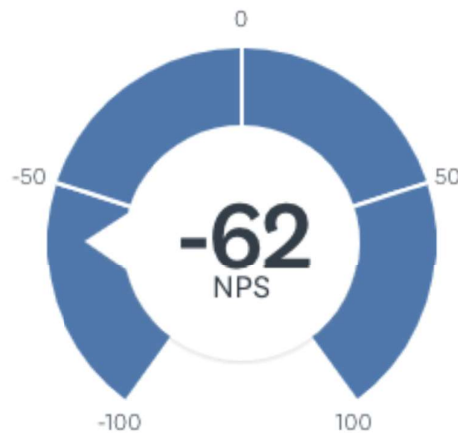
HIGHLAND – SURVEY RESULTS



HIGHLAND – SURVEY RESULTS

How likely is it that you would recommend your current Internet service to a friend or colleague?

Answered: 208 Skipped: 0



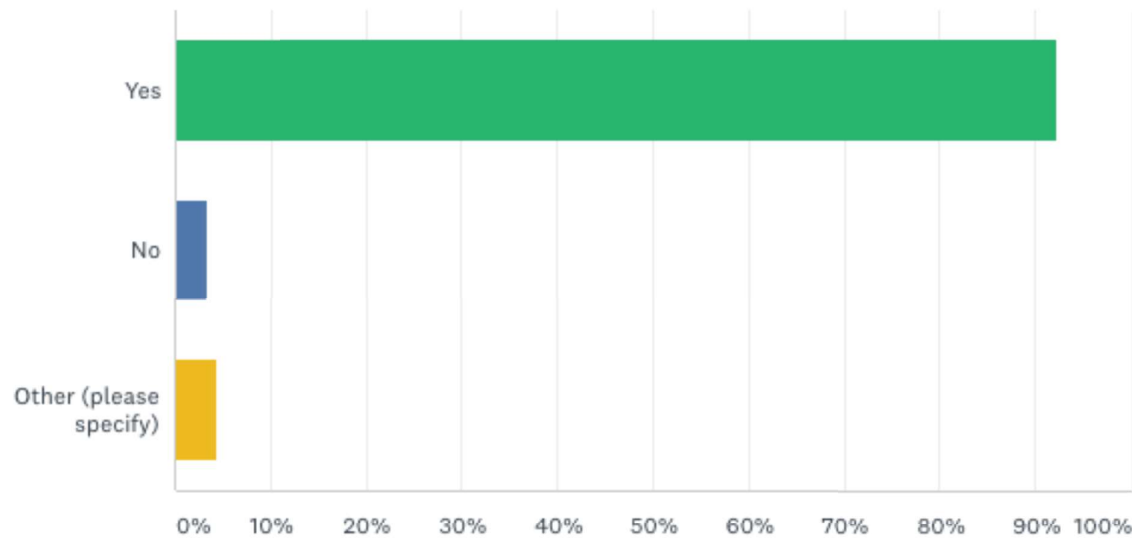
DETRACTORS (0-6)	PASSIVES (7-8)	PROMOTERS (9-10)	NET PROMOTER® SCORE
69% 143	24% 50	7% 15	-62



HIGHLAND – SURVEY RESULTS

Are you supportive of the city actively pursuing additional broadband options for our community?

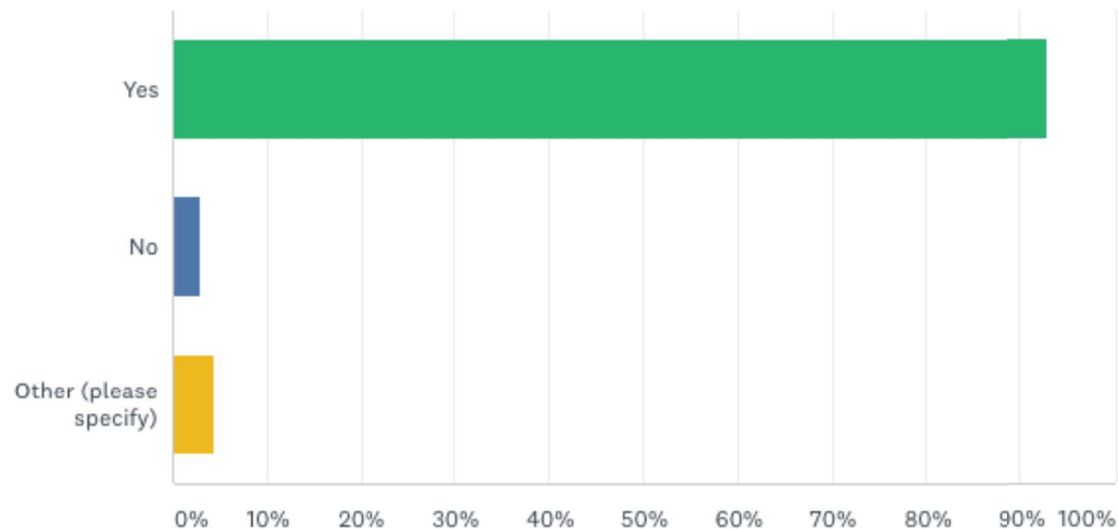
Answered: 208 Skipped: 0



HIGHLAND – SURVEY RESULTS

Are you supportive of the city building a fiber-to-the-home network if it can be paid for only by those that voluntarily sign up for services (no taxes or fees for non-subscribers)?

Answered: 208 Skipped: 0



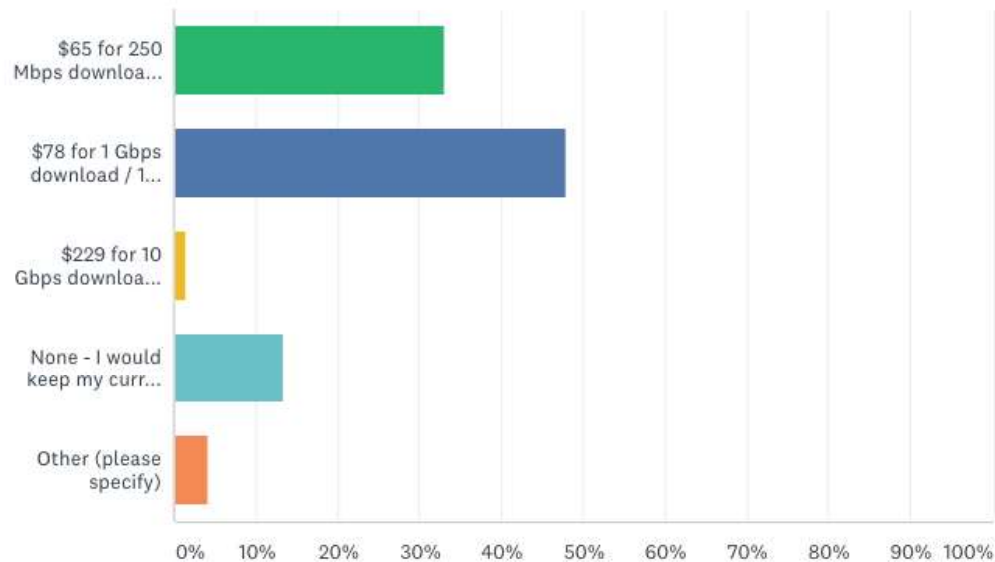
ANSWER CHOICES	RESPONSES	
Yes	92.79%	193
No	2.88%	6
Other (please specify)	Responses 4.33%	9



HIGHLAND – SURVEY RESULTS

If you were offered the following options from a fiber broadband provider, what would you sign up for?

Answered: 832 Skipped: 0

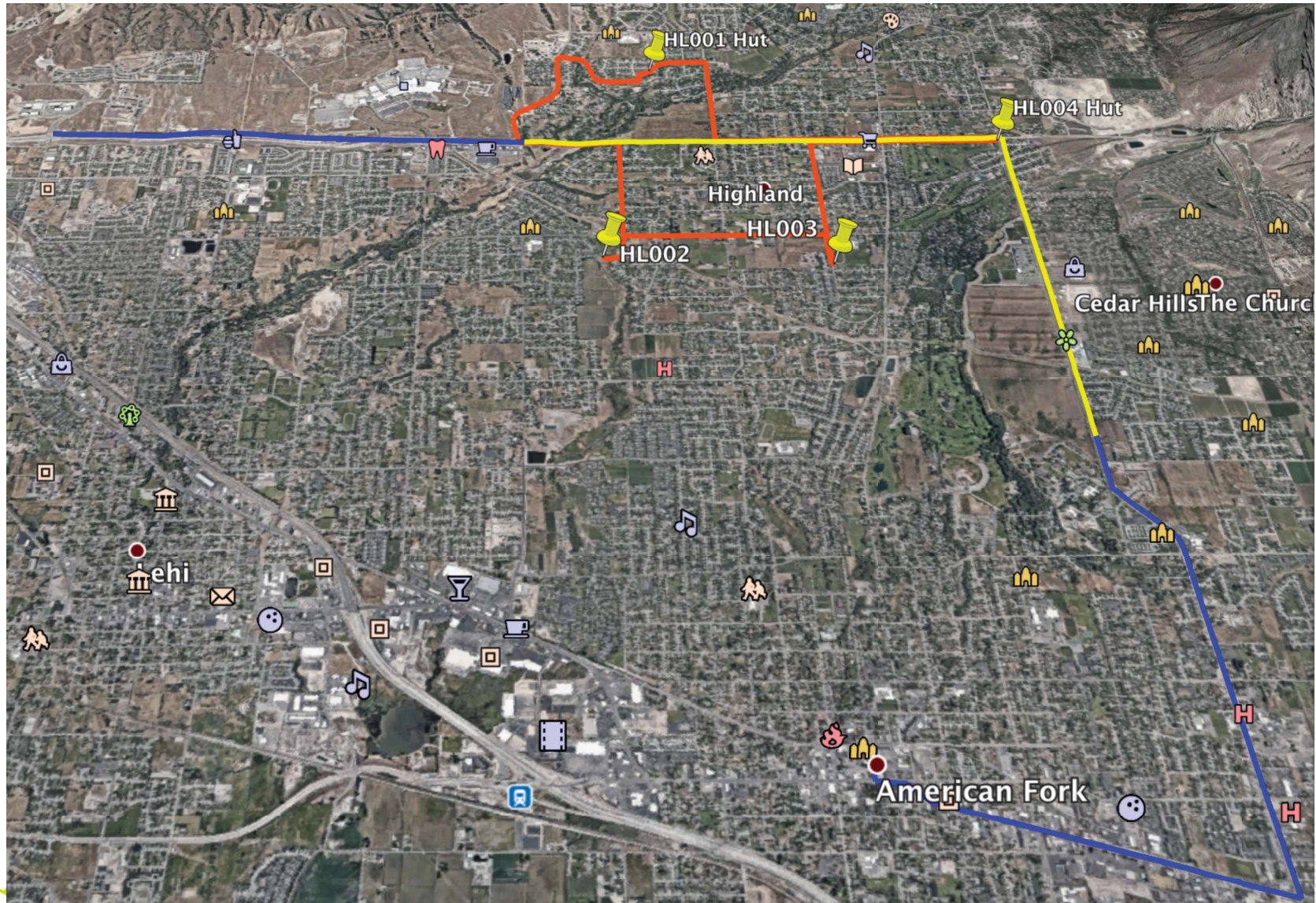


ANSWER CHOICES	RESPONSES	
▼ \$65 for 250 Mbps download / 250 Mbps upload	33.05%	275
▼ \$78 for 1 Gbps download / 1 Gbps upload	47.84%	398
▼ \$229 for 10 Gbps download / 10 Gbps upload	1.44%	12
▼ None - I would keep my current service	13.46%	112
▼ Other (please specify)	Responses 4.21%	35
TOTAL		832



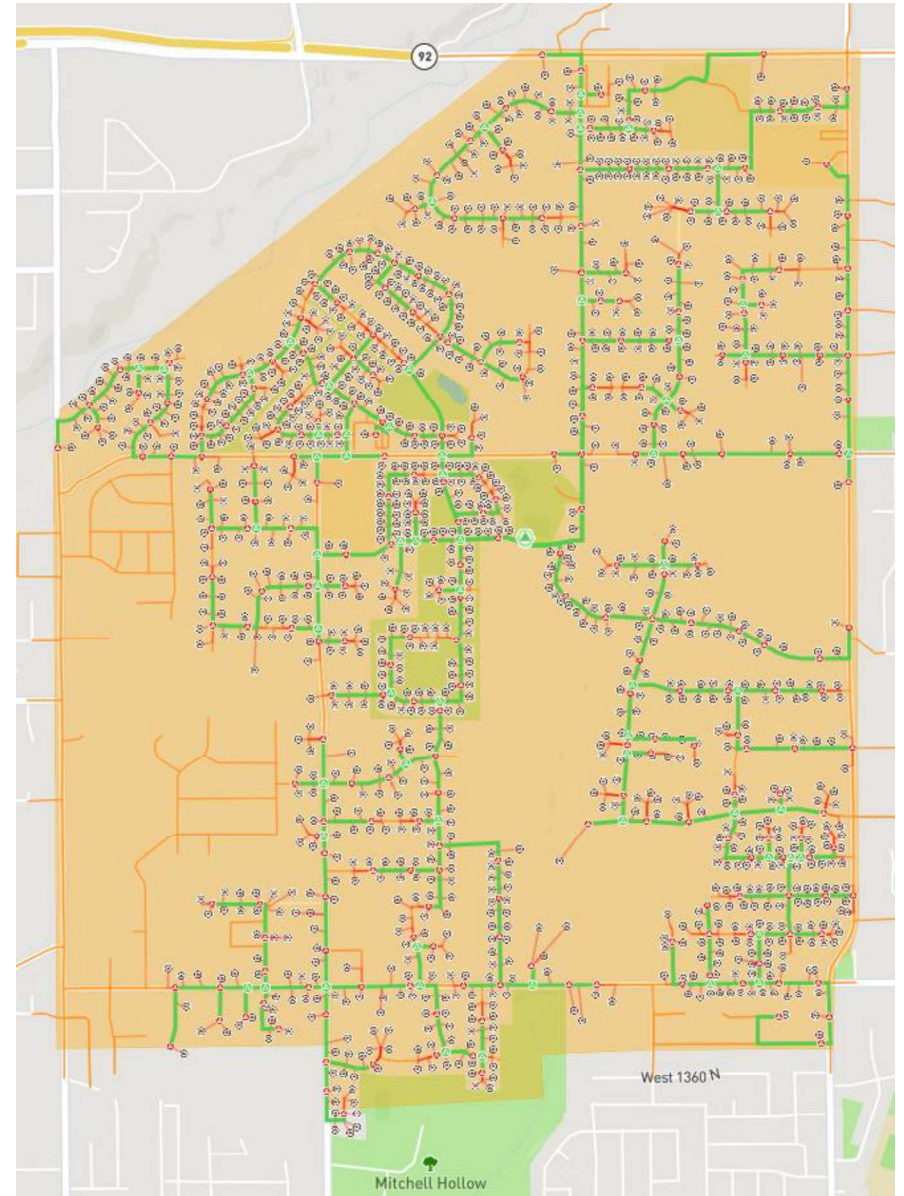
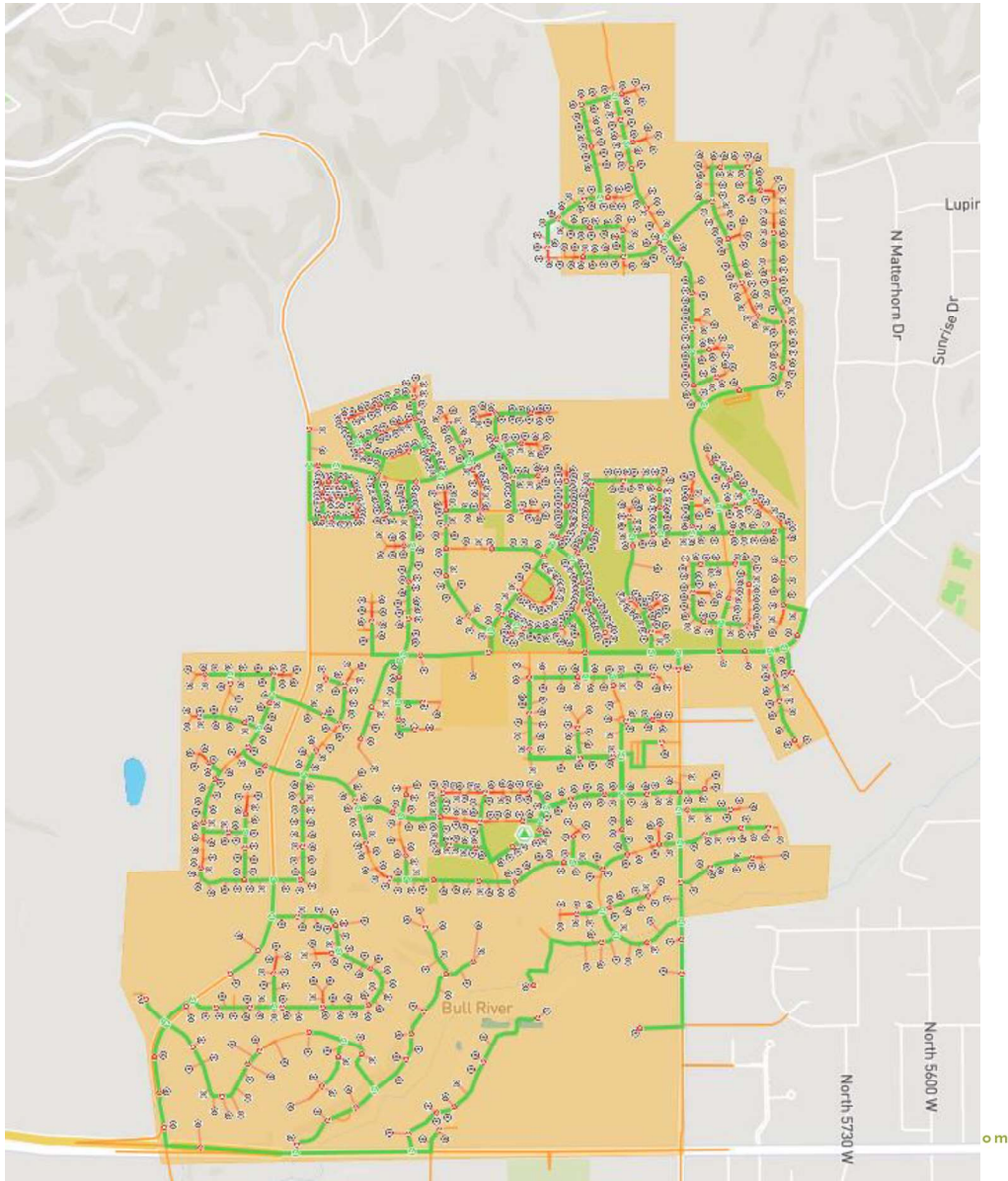
HIGHLAND – PROJECT OVERVIEW

Backbone - (existing fiber trade, no cost to project)



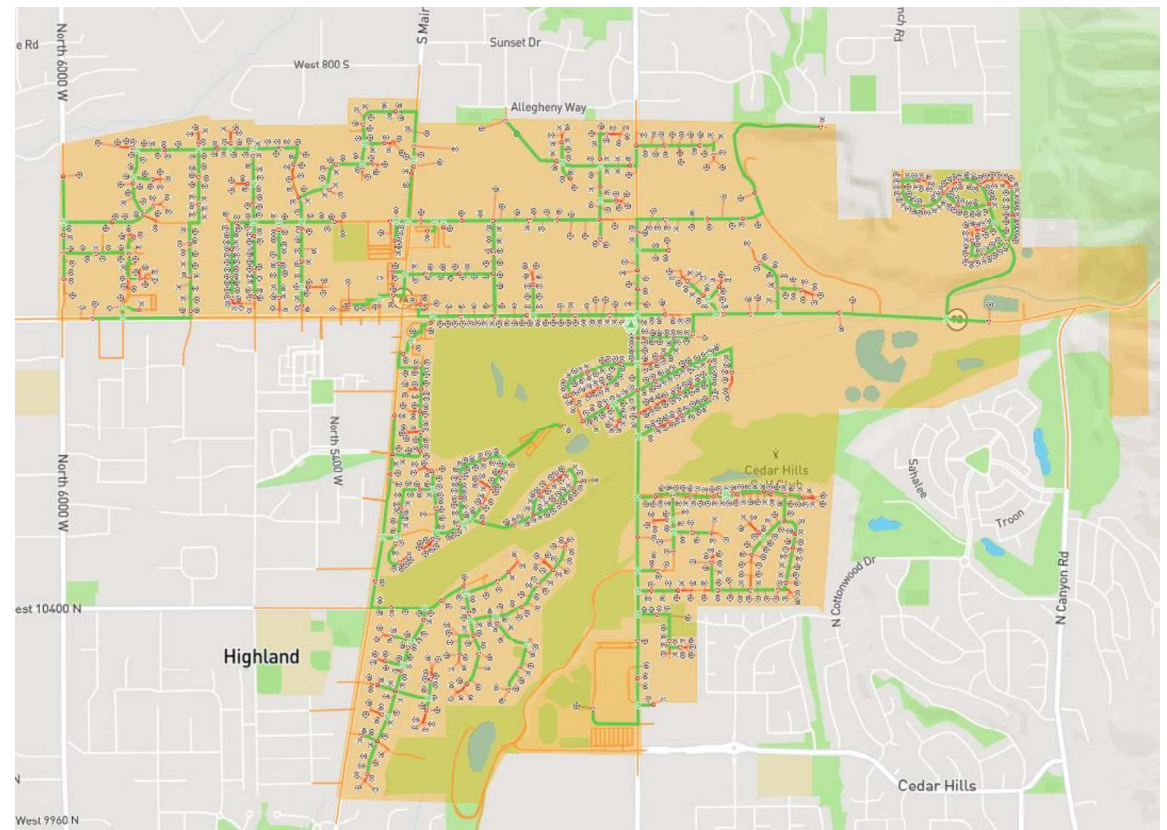
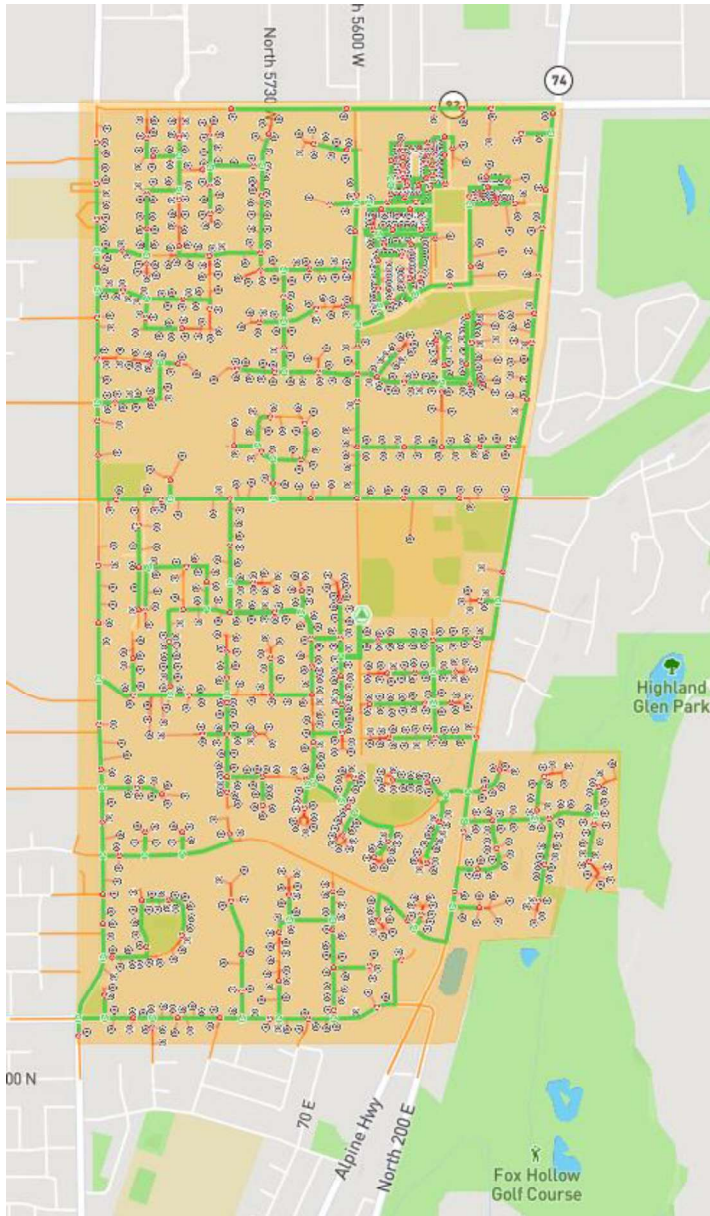
HIGHLAND – PROJECT OVERVIEW

Fiber Buildout



HIGHLAND – PROJECT OVERVIEW

Fiber Buildout



PROJECT STEPS



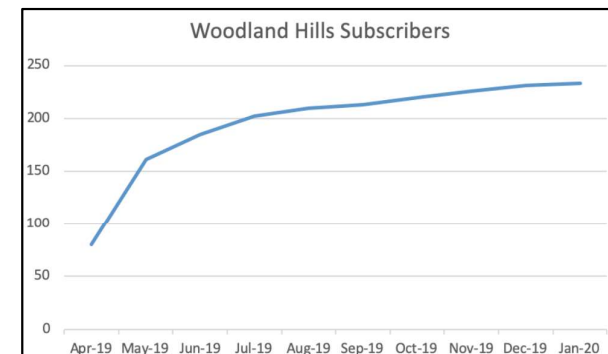
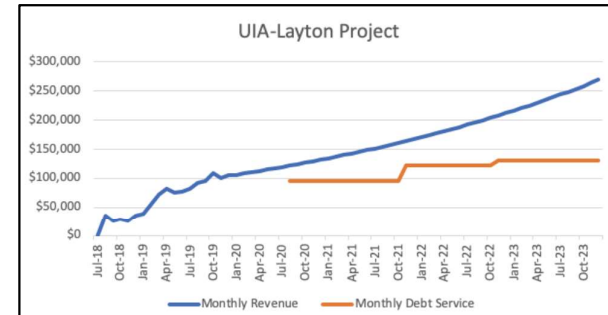
1. Community Survey
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5. UIA Financing of Project
6. Project Build
7. Marketing/Sales

1-2
years for
project
completion



OTHER SIMILAR PROJECTS

- General UIA Projects (~\$170M)
 - Revenues are exceeding debt service for all projects
 - Approximately \$1.4M/mo revenues covering approx. \$1.1M/mo monthly debt service for all UIA projects
- Layton City 2nd Half (\$23M)
 - Contract Approved - July 2018
 - Buildout nearing Completion
 - Revenues exceeding debt service with 6 months remaining on capitalized interest period
- Woodland Hills
 - Contract Approved - October 2018
 - Construction Completed March 2019
 - Current Take-rate (of actual homes) - **70%**
- Morgan City (\$2.5M)
 - Contract Approved – January 2019
 - 1/3 Construction Completed
 - Take-rate of 25% after 1 month
- Payson City 2nd Half (\$3.5M)
 - Currently under construction
- West Point (\$7.2M)
 - Currently under construction



Why Partner with UTOPIA Fiber?

- **Lowest Cost to City**
- **Lowest Risk to City**
- **Fastest Buildout**
- **Most Existing Connectivity**
- **Largest Open-access System in Country**
- **Stable Finances**
- **Resources in place to ensure successful project**
- **Trusted Partner (Highly recommended from other cities)**
- **Legal, Technical, Financial, Feasibility work already completed at no cost to city**
- **“Shovel Ready”**
- **Various cost/performance guarantees**



Questions?

Roger Timmerman, Executive Director

rtimmerman@utopiafiber.com

www.utopiafiber.com

801-613-3855

