

# Brownsville Broadband Update


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For PUBCAP

On June 21, 2023



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WHAT WE DO | NEWS

# Worst-Connected U.S. Cities in 2014

by Angela Siefer | Sep 21, 2015 | Digital Inclusion News, Measuring Inclusion

The National Digital Inclusion Alliance today releases two new rankings of America's "25 Worst-Connected Cities in 2014" — for all households, and for households with annual incomes below \$35,000.

Using data from the 2014 [American Community Survey \(ACS\)](#) released last Thursday by the U.S. Census Bureau, NDIA ranked all 184 U.S. cities with more than 50,000 households by their percentages of households with no Internet at home. The ACS provides this data in Tables B28002 ("Presence and types of Internet subscriptions in household") and B28004 (Household income in the last 12 months... by presence and types of Internet subscriptions in household").

The 25 Worst-Connected Cities in terms of overall household Internet coverage range from Brownsville, Texas (45% of households with no Internet access) to Providence, Rhode Island (29%). Immediately below Brownsville on the list are Detroit, Jackson (MS), Laredo and Hialeah — all with overall non-connection rates above 35%.





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# Where the Digital Divide Is the Worst

Low-income Americans still connect to the internet at far lower rates than wealthier households.

September 01, 2017 • Michael Maciag











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## Most Read



Why the Need:  
Ripped from the Headlines

# Why the Need: In Our Own Words

Seven anchor Institutions, including PUB, met in December 2019 and commissioned a feasibility study with community survey, each contributing \$20,000 towards the cost of this professional service.

Community survey, later reiterated in state-wide broadband plan, made clear the digital divide is a consequence of both access and affordability.

# 1,594

Number of residents who took the survey



## 66.59%\*

Brownsville households without cable, fiber optic, or DSL



## 23.08%

Brownsville households with no broadband of any type, including cellular data plans



## 32%

Speed tests that failed to pass the FCC's broadband definition speed of 25/3 Mbps



## 93%

Respondents who indicated a likelihood to sign up for enhanced broadband services if made available



## 38%

Respondents who indicated their options for internet were too slow, unreliable, too expensive, or not available



## 99.2%

Speed test results that fell below 1000 Mbps for download speed



## 65.5%

Speed test results that fell below 100 Mbps for download speed

# What We Did

## Middle Mile

- City is investing **\$19.5 Million in American Rescue Plan Act funding**
- The City will be the owner of Middle Mile infrastructure to serve essential locations by redundant ring architecture that is 100% underground.
- With open architecture, the Middle Mile will be available through a lottery system to other potential Internet Service Providers, enabling market competition (no obligation to subscribe or to switch).

## Last Mile

- Lit Texas/BTX Fiber will be investing **\$70mm in private equity funding** to build the Last Mile network.
- BTX Fiber will build the Last Mile network progressively as the Middle Mile network is built.
- BTX Fiber understands the importance of affordability when offering broadband access and will be implementing a 100 Mbps download / 100 Mbps upload service tier that is 100% subsidized through the Affordable Connectivity Program (for eligible households; affordable for those who aren't eligible).



## Introducing BTX Fiber

BTX Fiber is a new fiber internet project to serve residents and businesses in Brownsville, Texas. The project is a public-private partnership between Lit Communities and the City of Brownsville.



# Fiber Network – Scope and Scale

## Network Architecture

- Priority A, B, C Sites
- COB Sites - 59 total
- BPUB Sites - 206 total
- BPUB AMI - 39 Towers
- Fiber Last Mile Network (FLMN)
- Smart City (COB):  
Streetlights, Traffic Control Boxes (best effort)
- Other Stakeholders: BISD, CC, SoT, USG, etc (best effort)
- Boca Chica Spur (priced separately)

## Contractual Relationship Options

- Build, Transfer, (Operate, BT(O))
- Build, Operate, Transfer (BOT)
- Build, Own, Operate (BOO)
- Public-Private Partnership (PPP)
- Hybrids of above

## Respondent Qualifications

- Technical experience
- Financial capacity





# We Inked the Deal

Three Parties to the Public-Private Partnership in July 2022

[Brownsville Fiber Signing Ceremony](#)

FIBER NETWORK COORDINATION AGREEMENT SIGNING

CITY HALL  
BROWNSVILLE TEXAS

# Where We Are: Fiber Coordination Agreement

## Elements:

Right of Way and Encroachment Agreement  
Engineer, Procurement and Construction  
Contract (EPC)

Priority List and Price Sheet  
Indefeasible Rights of Use (IRU)

## Terms:

Guaranteed Maximum Price  
Right of First Offer (ROFO)  
ARPA Compliance  
Affordable Services

Dark Fiber to Community Anchor Institutions  
Open Access through Lottery to two additional ISPs  
Port Connection Fees + Operations and  
Maintenance Services

**WHEREAS**, in lieu of certain Right of Way Agreement and IRU fees, Lit/BTX (direct or through a subcontractor) shall provide: (i) operations and maintenance services to the FMMN, (ii) a project plan and design for the FTTP Network that includes capacity for at least three (3) Service providers, (iii) in-kind services to certain City buildings that will be specified and mutually agreed by the City and Lit/BTX, (iv) affordable services to FTTP customers as defined in ARPA, and (v) FTTP connection to priority locations identified in the Middle Mile Network Priority List; and

# The Fine Print: Texas Statutory Constraints on the FMMN

**WHEREAS**, neither the City nor BPUB will provide telecommunications services, pursuant to the Texas Utilities Code; and

**WHEREAS**, in accordance with Texas Utilities Code, Section 54.202, BPUB is not offering, nor shall it offer, for sale to the public, pursuant to this or any other agreement, either directly or indirectly through a telecommunications provider: (1) a service for which a certificate of convenience and necessity, a certificate of operating authority, or a service provider certificate of operating authority is required; or (2) a nonswitched telecommunications service used to connect a customer's premises with: (A) another customer's premises within the exchange; or (B) a long distance provider that serves the exchange; and

**WHEREAS**, any conflict between a provision of this or any related agreement and the prior two recitals shall yield to, and be harmonized to the greatest extent possible with, such prior two recitals; and

**WHEREAS**, in accordance with Texas Utilities Code, Section 54.2025, a municipality is not prevented from leasing any of the excess capacity of its fiber optic cable facilities (dark fiber), so long as the rental of the fiber facilities is done on a nondiscriminatory, non-preferential basis; an





# We Broke Ground

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October 2022

THE  
DER





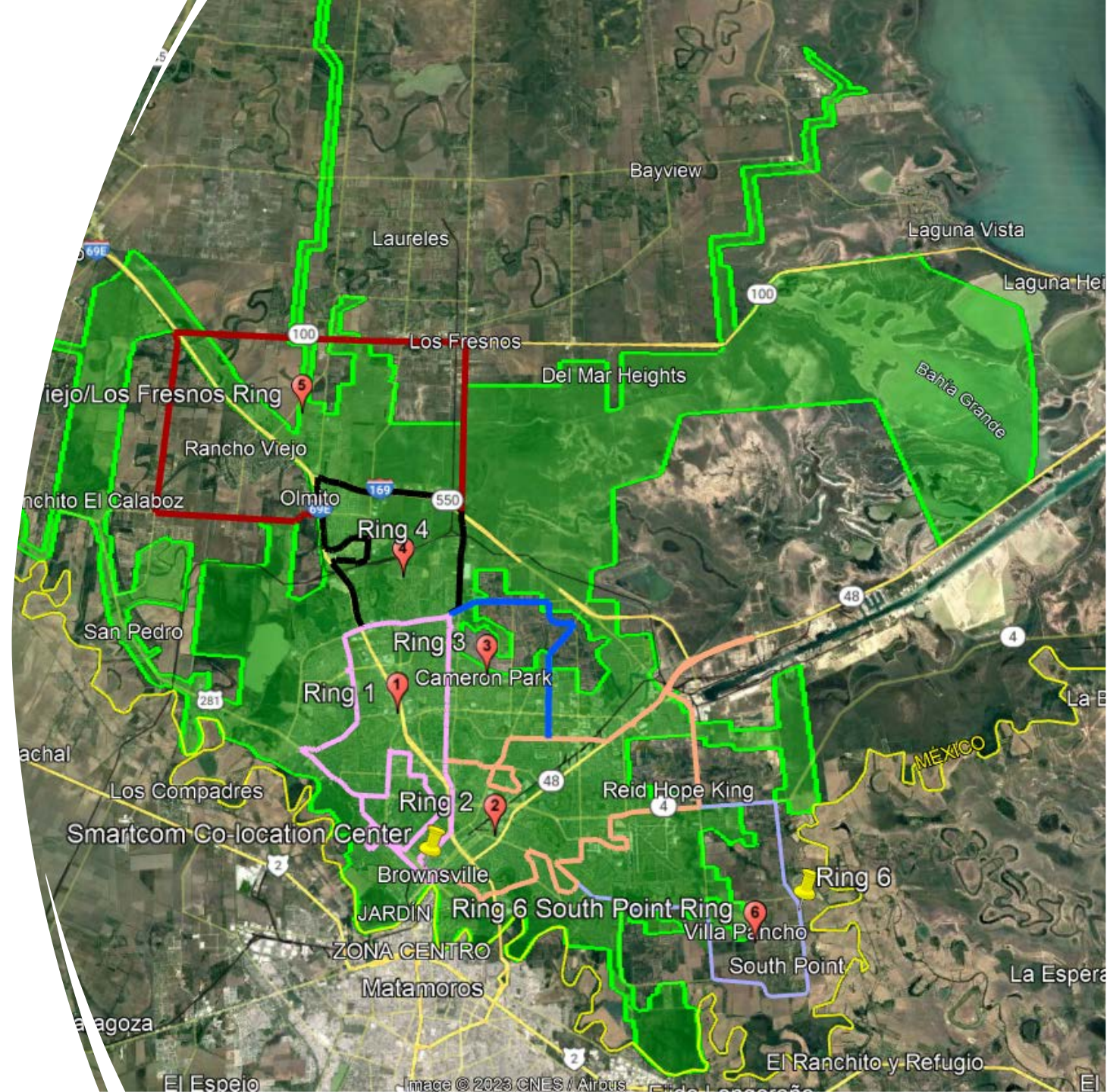
## PUB Engagement

- BPUB represented in Procurement Evaluation towards a P3 and is a named partner in the Fiber Network Coordination Agreement, executed July 2022
- No construction cost to BPUB
- Agreement identifies participation through public use easements, right-of-way, and pole attachments
- It defends PUB against statutory constraints of Texas Utility Code against telecommunications market participation
- 100 miles of Middle Mile which includes 281 BPUB sites not including AMI radio telemetry and 61 COB sites
- BPUB requested 288 fiber strands including 26 Dark Fiber and City utilizes another 144 fiber strands
- Total ARPA Allocation: \$19.5M; Value of BPUB Fiber Infrastructure: \$9.75M
- Operations and Maintenance in negotiations, with fiber termination costs included for all Priority A locations
- Permit review is the ACCELA pilot initiative, with 14 PUB employees enrolled in software demonstration
- Design built on BPUB maps

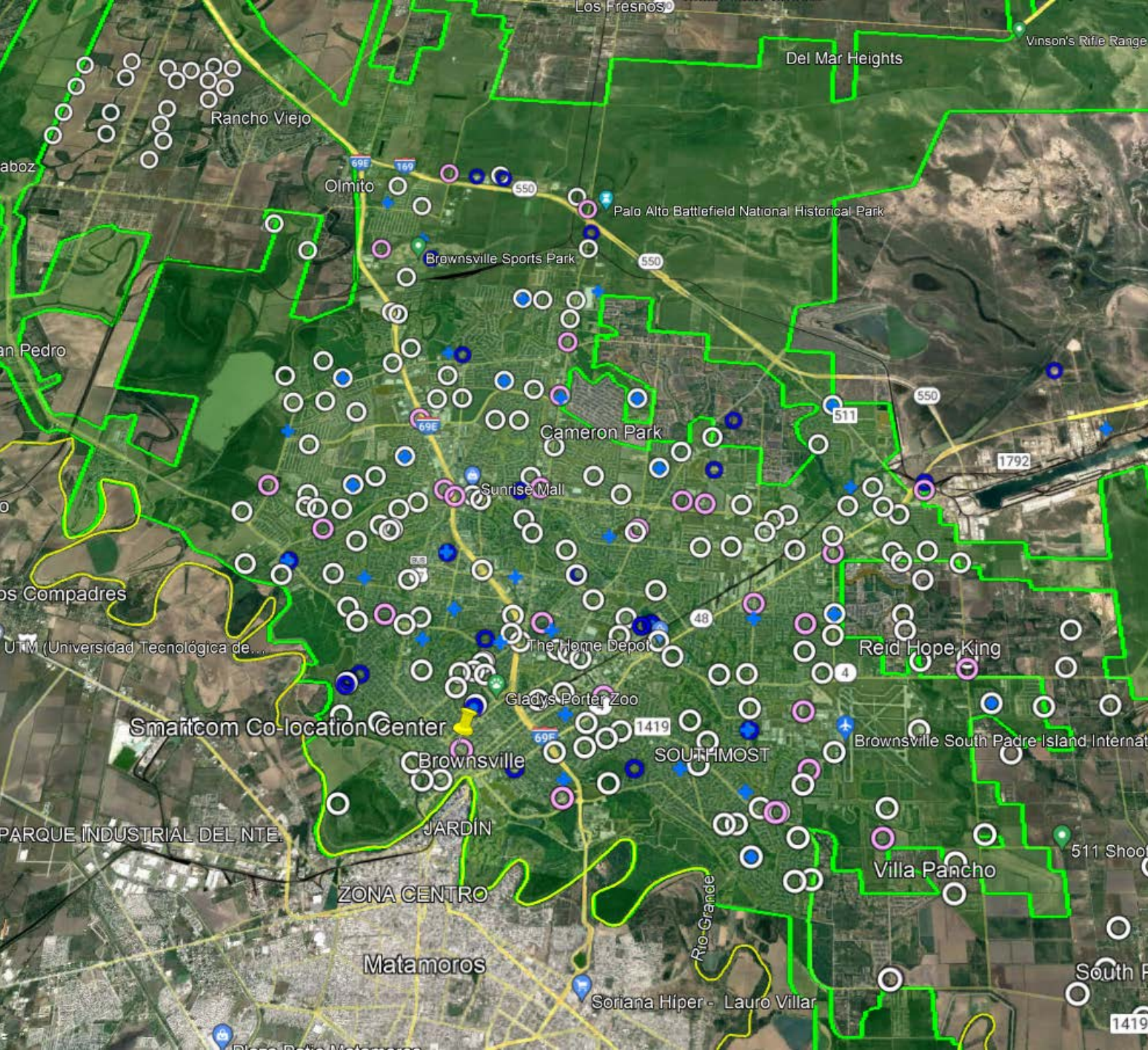
# High Level Design

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- Six rings with redundant architecture, building for Brownsville residents first
- Passes within 1,000-feet of all Priority A locations, as many Priority B as feasible
- As this is Middle Mile construction, it did not include fiber termination (PUB original request) but value-added in design-build of network







# BPUB Priority Sites

Key:

Blue: A sites

Pink: B sites

White: C sites



# Line Breaks

Started where hardest – most dense, most fragile infrastructure and maps – but also most connections;

Best practices – locates, exploratory potholing, pressure washer, field knowledge;

Digging deep, laying conduit under existing BPUB infrastructure, to mitigate future risk;

Active field with other contractors: Brownsville on the Grow!

Strike #	Date	Utility	PUB Contact	Located	At Fault	Comments
1	03/28/23	Water	N	Not Located	N	The private water line was not located. Resulting in unmarked utility strike
2	03/31/23	Water	N	Located	Y	While utilizing a pressure washer and vac truck to locate a marked utility, the pipe cracked. This resulted in a utility strike
3	04/19/23	Gas	N	Located	Y	While utilizing a pressure washer and vac truck to locate a marked utility, the pipe cracked. This resulted in a utility strike
4	04/04/23	Water	N	Not Located	N	While preparing to set a vault, the mini excavator struck an unmarked water line
5	04/20/23	Water	N	Located	Y	While utilizing a pressure washer and vac truck to locate a marked utility, the pipe cracked. This resulted in a utility strike
6	04/24/23	Water	N	Not Located	N	While pulling back with the reamer, an unmarked water line was struck.
7	05/03/23	Water	N	Not Located	N	While pulling back with the reamer, an unmarked water line was struck.
8	05/04/23	Water	N	Located	Y	While pulling back with the reamer, an unmarked water line was struck.
9	05/20/23	Water	N	Not Located	N	While pre-reaming to widen the path to place conduit an un marked water line was struck
10	05/31/23	Sewer	N	Not Located	N	While pulling back with the reamer, an unmarked sewer line was struck.
11	06/06/23	Water	N	Not Located	N	While pulling back with the reamer, an unmarked water line was struck.
12	06/12/23	Water	N	Not Located	N	While pulling back with the reamer, an unmarked water line was struck.
13	06/12/23	Fiber/Phone	N	Located	Y	While pulling back with the reamer, a marked fiber/phone line was struck.
14	06/13/23	Power	N	Not Located	N	While deploying the anchor drill to stabilize the machine, it struck an un marked power line
						June 12 COB Meeting requested to contact PUB if a line is not found once potholing is done for 2nd Opinion
						Reamer size 10"
						Entry Bore bit 4"



## How to Connect



Scan to visit  
[BTXfiber.com](https://BTXfiber.com)