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## Schools Health & Libraries Coalition response to RFI 909-25-1939AH - Broadband Information on Multi-Dwelling Units

Questions about this response can be directed to:

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### BDO Section D, Part I: **Broadband Information on MDUs**

1. Please describe current broadband availability for MDUs in the Texas geographical region you serve, reside, or have information on.

The Schools, Health & Libraries Broadband (SHLB) Coalition is a nonprofit, 501(c)(3) advocacy organization. We strive to close the digital divide by promoting high-quality broadband for anchor institutions and their communities. Our members include hundreds of commercial and nonprofit organizations who support our mission. We advocate for connectivity “to and through” anchors – to anchors, and through to their communities.

We support the Texas Comptroller creating an MDU program because of the critical way that public and affordable housing can serve as a community anchor. Oftentimes, public or affordable housing complexes may include facilities or programs that meet the needs

of the surrounding community, including childcare, healthcare, community development, or job training and other workforce development efforts.

A good example of this is Project Row Houses in Houston.<sup>1</sup> Project Row Houses aims to preserve the history, culture, and traditional style of architecture in the northern Third Ward of Houston. By the 1930s, the Third Ward had grown into a thriving middle class African-American community, but was ravaged by the drug epidemics of the 1980s. Community leaders, including Project Row Houses, began its restoration beginning in the 1990s. Today, homes in the Third Ward play a larger role than simply housing; they preserve a legacy of culture and history for Houstonians.

It is well-known that BEAD dollars, in states that have high deployment costs and a large number of BSLs to serve (like Texas), will not reach MDUs. Families in the Third Ward of Houston without access to fiber are wonderful candidates for an MDU program. The public and affordable multifamily buildings that do not yet have fiber in the Greater Third Ward of Houston are listed below. There are 26 properties that are home to 1,160 families.

Address	Units	City	Zip
3800 CANFIELD ST	74	HOUSTON	77004
3737 BURKETT ST	87	HOUSTON	77004
3721 TUAM ST	12	HOUSTON	77004
3710 TIERWESTER ST	67	HOUSTON	77004
3700 BURKETT ST	96	HOUSTON	77004
3514 ATTUCKS ST	12	HOUSTON	77004
3300 WINBERN ST	50	HOUSTON	77004
3300 ALABAMA ST	86	HOUSTON	77004
3280 ALABAMA ST	13	HOUSTON	77004
3238 ALABAMA ST	17	HOUSTON	77004
3211 TIERWESTER ST	74	HOUSTON	77004
3200 TRUXILLO ST	112	HOUSTON	77004
3154 GRAY ST	52	HOUSTON	77004
3124 GRAY ST	16	HOUSTON	77004
3113 SAINT CHARLES ST	26	HOUSTON	77004

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<sup>1</sup> <https://www.huduser.gov/portal/casestudies/study-062421.html>

3008 TRUXILLO ST	20	HOUSTON	77004
2907 BARBEE ST	15	HOUSTON	77004
2819 BERRY ST	12	HOUSTON	77004
2719 CANFIELD ST	10	HOUSTON	77004
2619 HADLEY ST	22	HOUSTON	77003
2617 NAPOLEON ST	15	HOUSTON	77004
2502 WEBSTER ST	93	HOUSTON	77003
2501 DELANO ST	16	HOUSTON	77004
2419 BASTROP ST	21	HOUSTON	77004
2307 TUAM ST	24	HOUSTON	77004
2222 CLEBURNE ST	118	HOUSTON	77004

3. What barriers exist to bring high-speed reliable internet to MDU residents? What methods or strategies should the BDO consider in order to address barriers and bring reliable, high-speed, internet to residents that live in MDUs for rural areas and urban areas in Texas?

When ISPs run their cost equations in their business estimates for affordable housing, they assume because it is low-income housing there will be a lower subscription rate among the residents than market rate housing. As a consequence, **more of the capital cost of upgrading MDU infrastructure is passed onto residents in affordable housing than market rate housing.** This not only results in higher service costs to the residents, it also results in ISPs being less likely to invest in infrastructure upgrades for affordable housing. **The Comptroller can remedy this in Texas by subsidizing some or all of a service provider's upfront expenses to lower their risk while also lowering the resident's monthly bill** because the provider does not need to include the recovery of their capital investment in the monthly fees.

4. What are the anticipated infrastructure costs (external/internal plant wiring, labor associated with construction, CPE, etc.) to connect and maintain each unit within MDUs to high-speed internet?

- a. What are costs associated with retrofitting MDUs?
- b. What anticipated costs are associated with upgrading wiring or expanding wiring for MDUs?"

**How much does one unit cost?**

Retrofitting an existing MDU with new inside wiring infrastructure typically costs **between \$700 and \$1500 per unit.** These costs vary primarily based on three factors:

1. Building type (garden style, mid-rise, high-rise) and available conduit/pathway
2. Building construction material (wood frame, concrete, etc)
3. Local labor rates

For the purposes of this proposal, we will take as our per-unit estimate the average of these two numbers which is \$1,100.

At \$1,100/unit for the **1,160 units across the 26 Third Ward properties listed above, this comes out to \$1.3M.** This funding could come from the Texas Broadband Infrastructure Fund (BIF) and would cover costs such as building condition assessments and materials and labor for retrofitting the properties with new networking infrastructure. Again, **all of these properties are public or affordable housing**, meaning that this BIF money would complement BDO's efforts with their [Texas Digital Opportunity Program](#), which aims to assist Covered Populations in a fiscally responsible way.<sup>2</sup>

## BDO Section D, Part II: Program Development for MDUs

9. What role(s) do community anchor institutions play in expanding broadband access in MDUs?

Community anchor institutions play a critical role in expanding broadband access to MDUs. From a strict network architecture perspective, a large anchor like a school, public library, or healthcare facility with high-speed broadband can then turn into a centralized hub for a network, significantly lowering the cost to ISPs to build out last mile connections to community residences like MDUs.<sup>3</sup> Further, the presence of a large anchor aggregates demand, again making the business case for a provider to build out further footprint in the region easier. Finally, anchors may even enter into a public-private partnership with ISPs, further extending the benefits and reach of the network to surrounding communities. For example, the Castleberry Independent School District (CISD) in River Oaks, Texas designed a private LTE wireless network to help alleviate the

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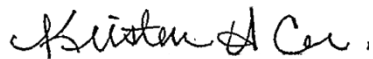
<sup>2</sup> <https://comptroller.texas.gov/programs/broadband/funding/digital-opportunity/>

<sup>3</sup> SHLB and the Open Technology Institute at New America commissioned a research report by Dr. Raul Katz to analyze the economic benefits of extending broadband from a community anchor institution (an "anchor-enabled network") to surrounding households. Dr. Katz's research found that deploying wireless connections via an anchor-enabled network "can often be the most low-cost and financially sustainable option to connect households in unserved and underserved areas." See Dr. Raul Katz, *The "To and Through" Opportunity: An Economic Analysis of Options to Extend Affordable Broadband to Students and Households via Anchor Institutions*, at 3 (August 2022), available at [https://assets.noviams.com/novi-file-uploads/shlbc/PDFs\\_and\\_Documents/SHLB\\_Research\\_and\\_Publications/Raul\\_Katz\\_Economic\\_Study1-281a0448.pdf](https://assets.noviams.com/novi-file-uploads/shlbc/PDFs_and_Documents/SHLB_Research_and_Publications/Raul_Katz_Economic_Study1-281a0448.pdf)

“homework gap” for many students without reliable home internet. They erected three towers that utilized free spectrum in the General Authorized Access (GAA) portion of the CBRS band, which ensured coverage for all CISD student households at Castleberry Elementary, Joy James Elementary, and A.V. Cato Elementary. Student homes are then connected via indoor CPE antennas, and fiber backhaul is sourced from commercial ISPs.<sup>4</sup>

SHLB wishes to thank the Texas Comptroller for exploring this program for residents of MDUs.

Sincerely,

A handwritten signature in black ink that reads "Kristen Corra". The signature is written in a cursive, flowing style.

Kristen Corra

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<sup>4</sup> More information about CISD’s network and other “anchor-enabled” networks is captured in a series of twelve case studies that SHLB and the Open Technology Institute at New America commissioned in 2022, available at [https://assets.noviams.com/novi-file-uploads/shlbc/PDFs\\_and\\_Documents/SHLB\\_Research\\_and\\_Publications/OTI\\_Case\\_Studies-72d84d35.pdf](https://assets.noviams.com/novi-file-uploads/shlbc/PDFs_and_Documents/SHLB_Research_and_Publications/OTI_Case_Studies-72d84d35.pdf)