



City of Dallas

Broadband & Digital Equity Strategic Plan

**City Council
Briefing Meeting**

August 4, 2021

Liz Cedillo-Pereira
Chief of Equity and Inclusion

Genesis D. Gavino
Resilience Officer

Agenda



- Background
 - Digital Divide Landscape
 - Actions to Bridge the Digital Divide During COVID-19
- Broadband and Digital Equity Strategic Plan
 - Findings
 - Recommendations
- Next Steps
 - Implementation
 - Fiscal Impact
 - Other Actions to Achieve Digital Equity

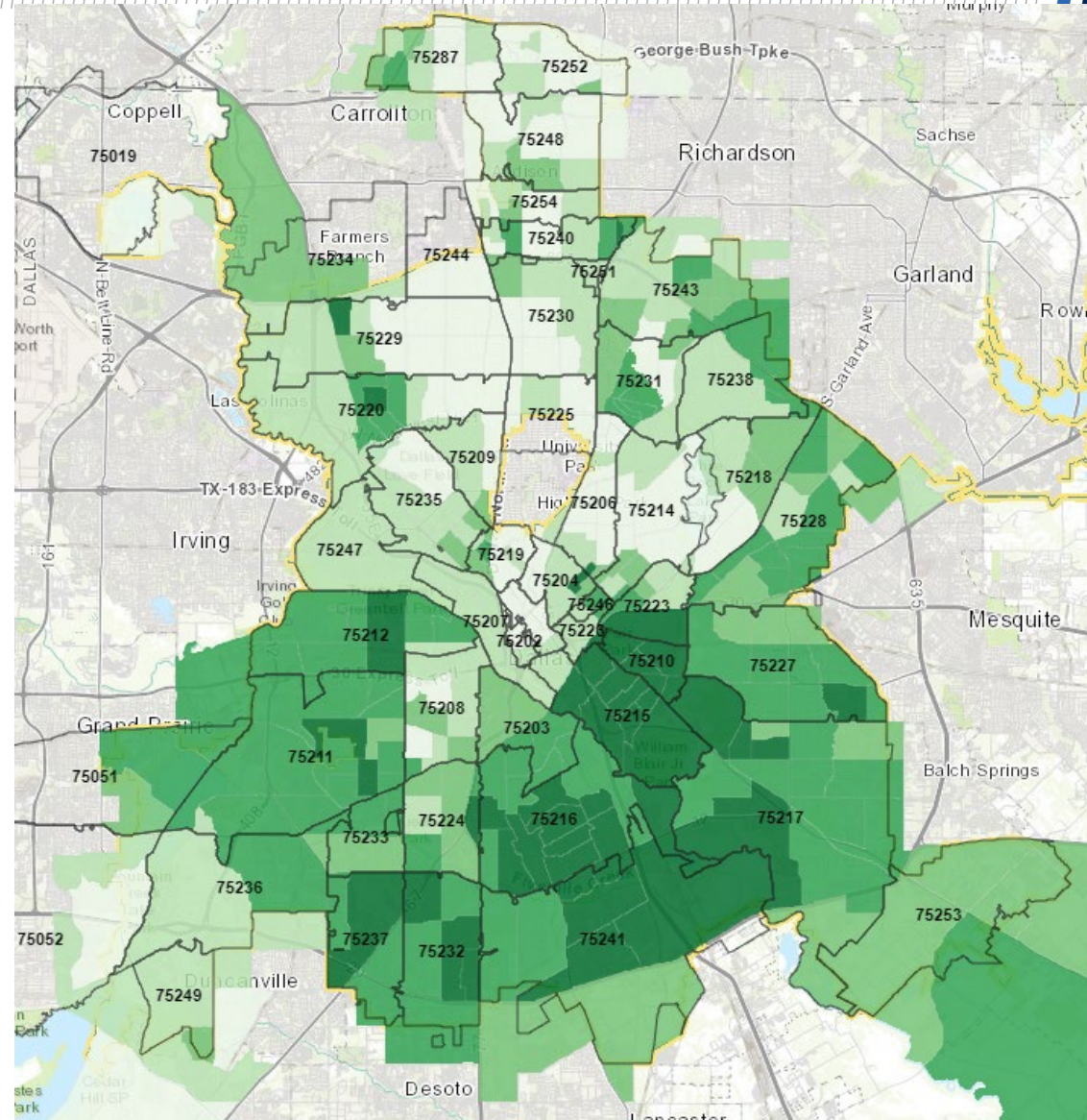


Digital Divide Landscape



Households with the least internet access

Rank	Zip Code	% of HH without Internet
1	75216	49.73
2	75241	46.02
3	75210	41.63
4	75237	40.99
5	75217	40.37
6	75215	39.51
7	75246	35.67
8	75212	32.20
9	75227	32.00
10	75211	30.47



Source: 2015-2019 American Community Survey



Internet for Dallas



powered by the Internet for All coalition

Education



Government



Business



Non-Profits, Community & Philanthropy



Collective Impact



Community Partnership Joint Vision



All households in Dallas will have high-speed, reliable internet and access to devices in their homes.



Actions to Bridge Digital Divide During COVID-19



- CARES Act Funding - \$8.8M

Short Term

Wi-Fi Hotspots/Hardware Purchase
Signal Extender Projects at Dallas Public Library (DPL)
Digital Navigators*
TEA Matching Fund
Support for ISDs in Dallas*

Medium Term

Broadband and Digital Equity Strategic Plan*
Private Wireless Networks*
Community WiFi Pilot
Street Light Pilot Project

Long Term

Implement Plan Recommendations
Smart City Integration
Leverage Additional Funding *

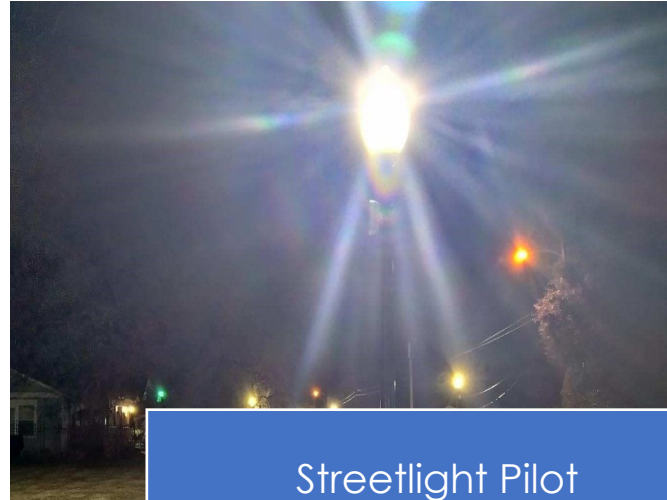


* City and DISD Collaborations

Digital Divide Actions During COVID-19



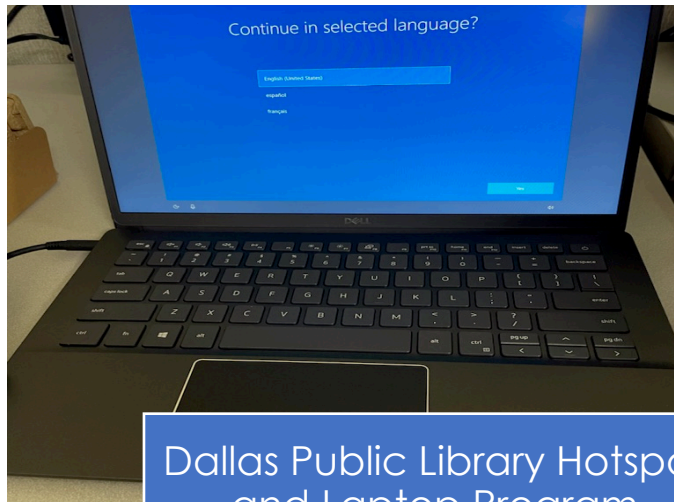
Digital Navigators Program



Streetlight Pilot



Community WiFi Pilot



Dallas Public Library Hotspot and Laptop Program

SpeedSurvey

To better understand and address the digital divide in our community, we are conducting an internet speed survey.

You can help us by completing 3 easy steps:

1. Visit www.dallas.speedsurvey.org
2. Complete the survey from where you use the internet
3. Share with another Dallas resident to complete the survey

The Speed Survey

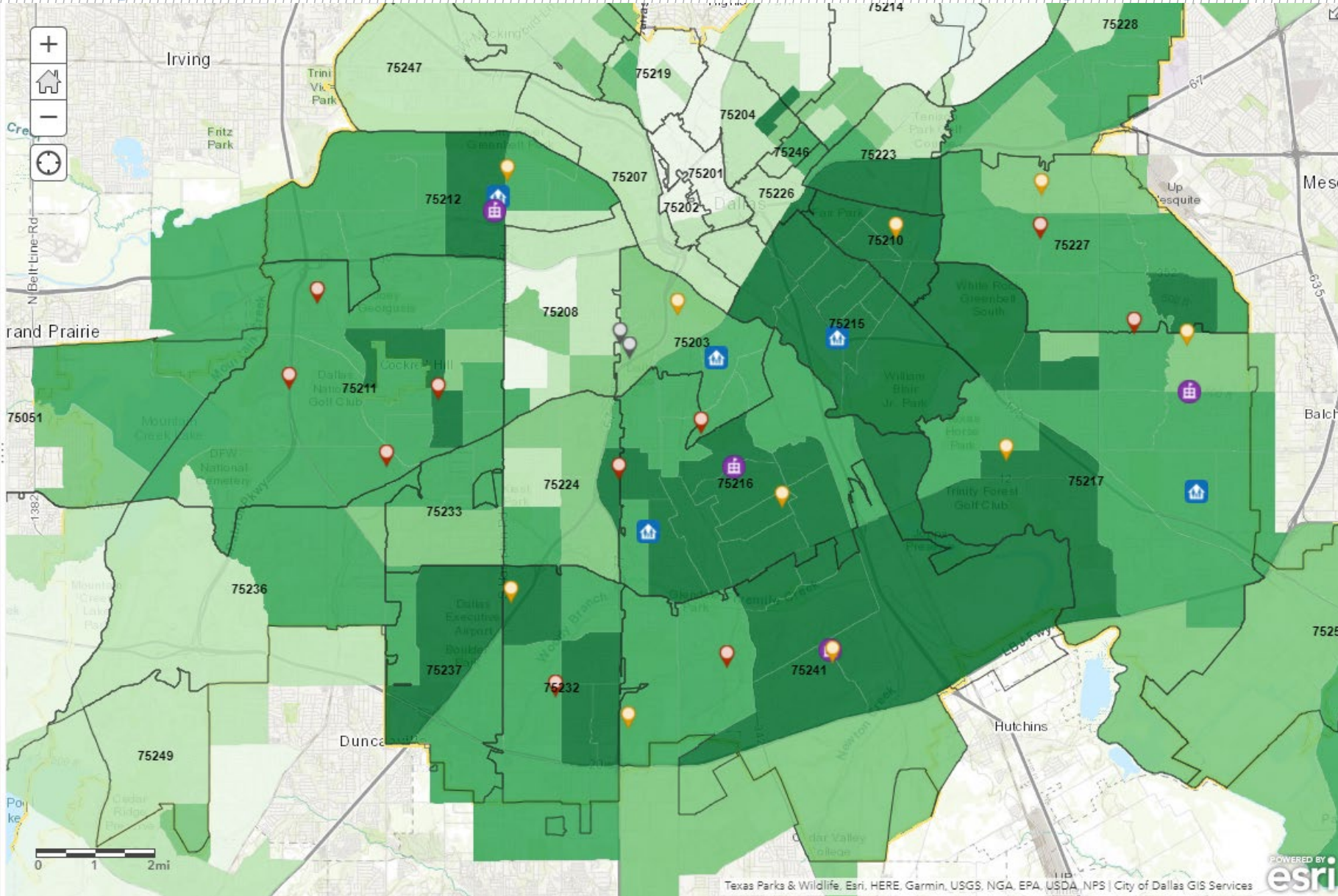
- Identifies locations that lack such service.
- Reported information will be used solely for the city's planning efforts.

Qu

Community SpeedSurvey



Digital Divide Actions During COVID-19



Legend

- Fiber Optic/Wireless Broadband Projects
- Streetlights/WiFi Projects
- Integrated Streetlights
- Libraries
- Schools
- Zip Code Layer
- ACSInternetAccess
- Percentage Households with No Internet Access
 - > 50 To 80
 - > 30 To 50
 - > 20 To 30
 - > 10 To 20
 - 0 To 10

Source: 2014-2018 American Community Survey

Internal Working Team



Office of Equity and Inclusion – Resilience Division



City Attorney's Office



Dallas Public Library



Information and Technology Services



Park and Recreation Department



Public Works Department



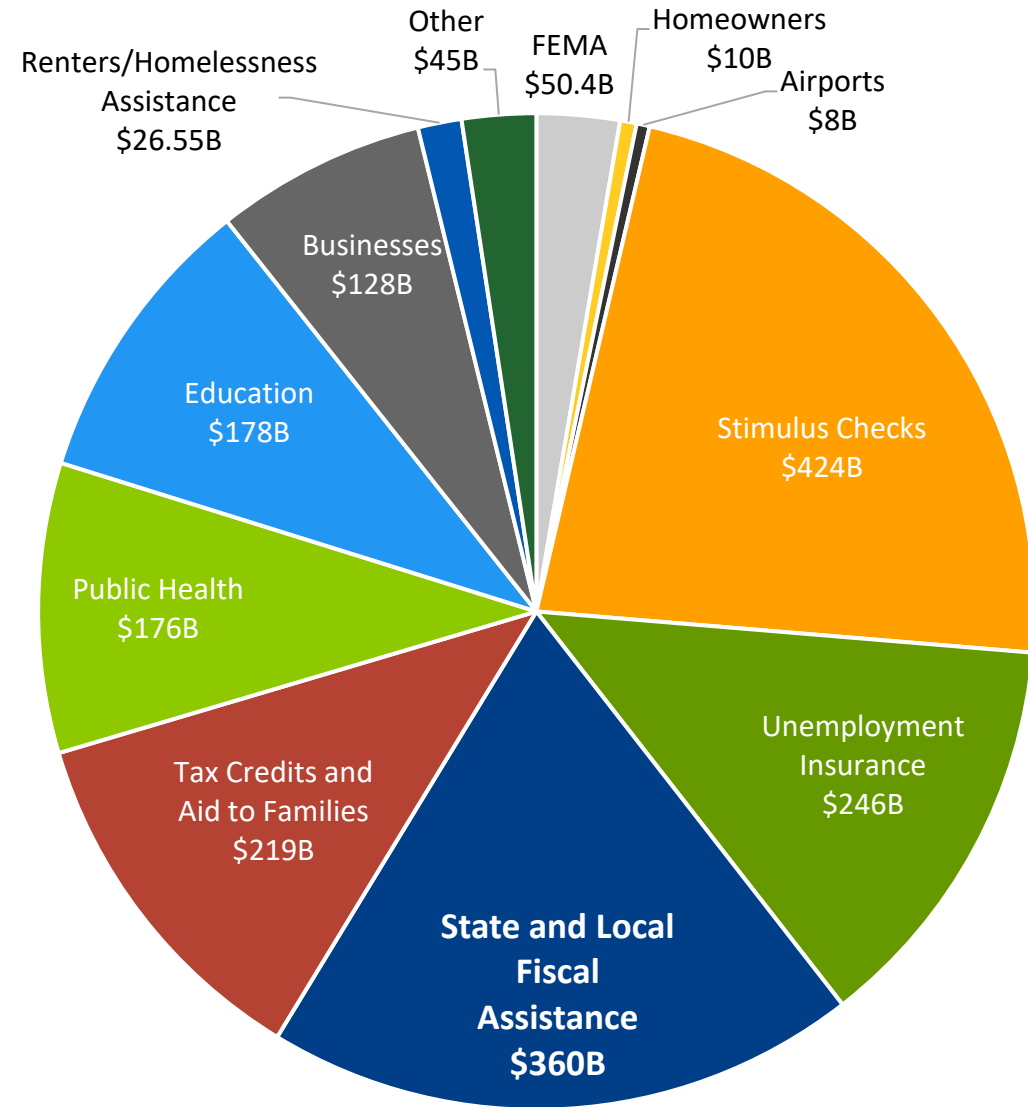
Transportation Department



American Rescue Plan Act (ARPA)



- President Biden signed the **\$1.9T** American Rescue Plan Act of 2021 (ARPA) into law on 3/11/21
- City of Dallas will receive \$355.4M from Local Fiscal Recovery Funds with 50% now and 50% in May 2022

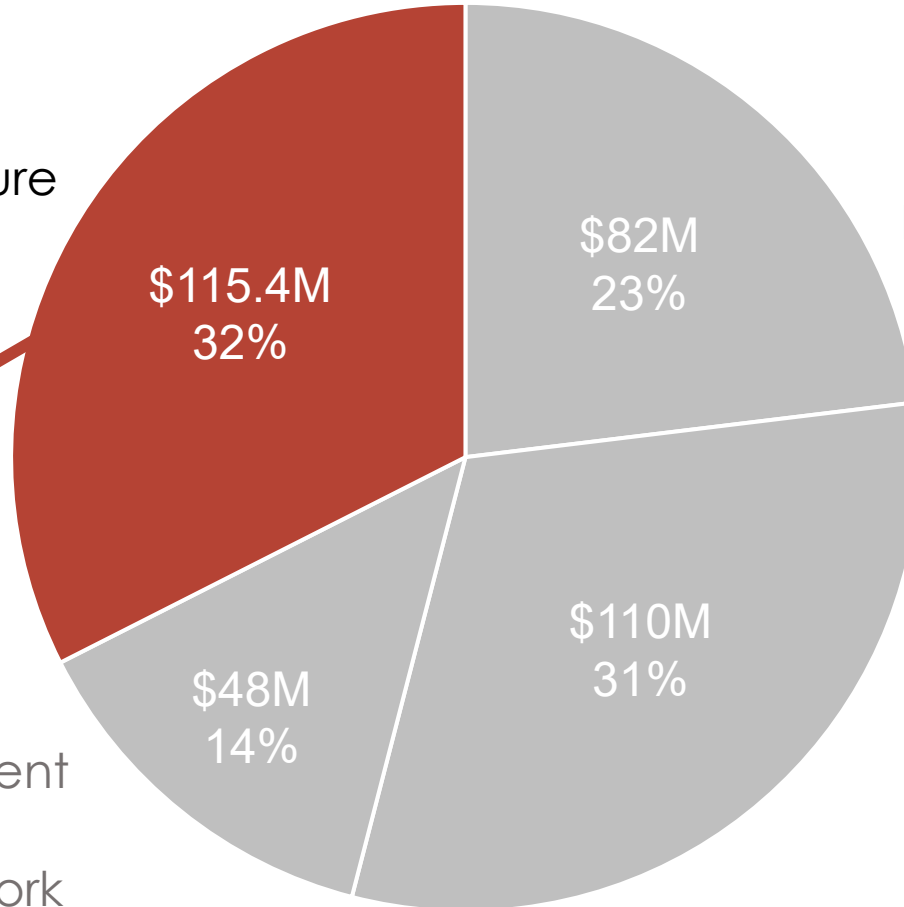


ARPA Funding Proposed Spending Framework



Infrastructure
Invest in the future

\$43M – Bridge the Digital Divide
- \$3M – WiFi at PKR Facilities
- \$40M – Other Projects



Health & Safety
Keep employees and the public safe

Economic Development
Get residents and businesses back to work

Fiscal Recovery & Sustainability
Replace lost revenue



Does not include an additional \$22.4M for health and safety for residents experiencing homelessness

Prioritizing Funds for Long-Term Sustainability



Short Term

6 months
to 1 year

Tier 1: Immediate Relief

Meet immediate public health and safety needs and support people in crisis

Tier 2: Budget Sustainability

Replace lost revenue and take actions to further fiscal sustainability

Tier 3: Service Delivery

Analyze and prioritize programs and services

Tier 4: Regional Partnerships

Pursue local solutions at scale and leverage partnerships to optimize resources regionally

Tier 5: Big Swings

Fuel results through bold resource investments; spend to save more

Long Term

1 to 3 years





Broadband & Digital Equity Strategic Plan

Prepared for the City of
Dallas & Dallas Independent
School District

Joanne Hovis, President
CTC Technology & Energy



Project Objective: Develop strategic approach to addressing digital equity issues in Dallas



DISD & the City have taken significant steps to address the digital divide, but barriers to equitable internet access & use remain in Dallas—just as they do across the country

This project aimed to identify digital equity issues & broadband gaps, & to develop solutions to ensure all Dallas residents & DISD students have access to high-speed home broadband service



Project Approach:



Collect new data, identify & analyze immediate opportunities to develop a robust, targeted strategic plan for the medium to long term

Assess the broadband marketplace

Collect and analyze data regarding use of broadband & devices

Develop budgetary estimate for pilot broadband solutions for low-income student and family connectivity

Develop recommendations for programs to increase digital participation, including for skills and device access





Findings

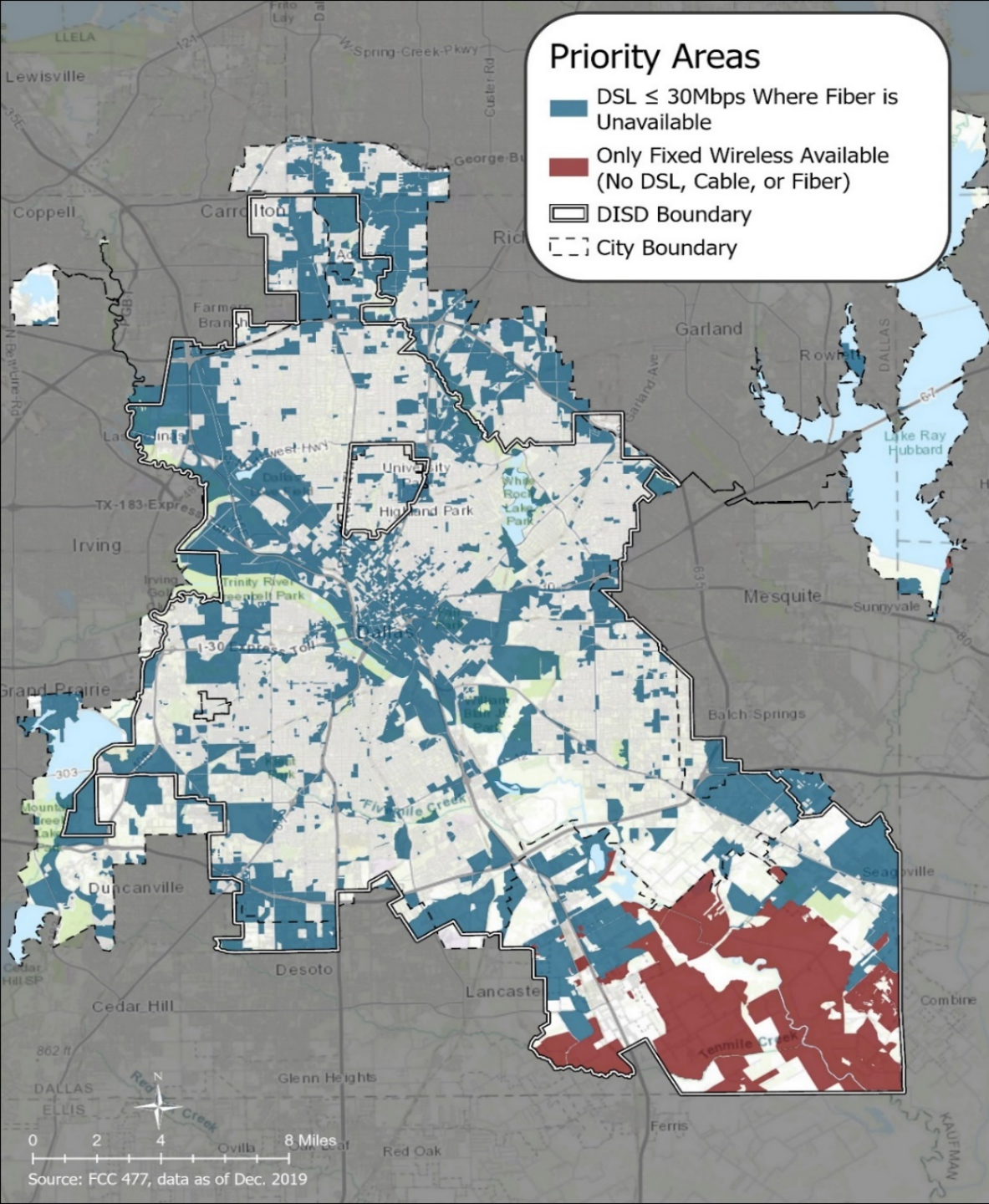




Network investment is inconsistent

Charter, AT&T serve almost all premises but gaps persist

Areas with higher poverty often have lower network investment





DSL \leq 30Mbps Where Fiber is Unavailable

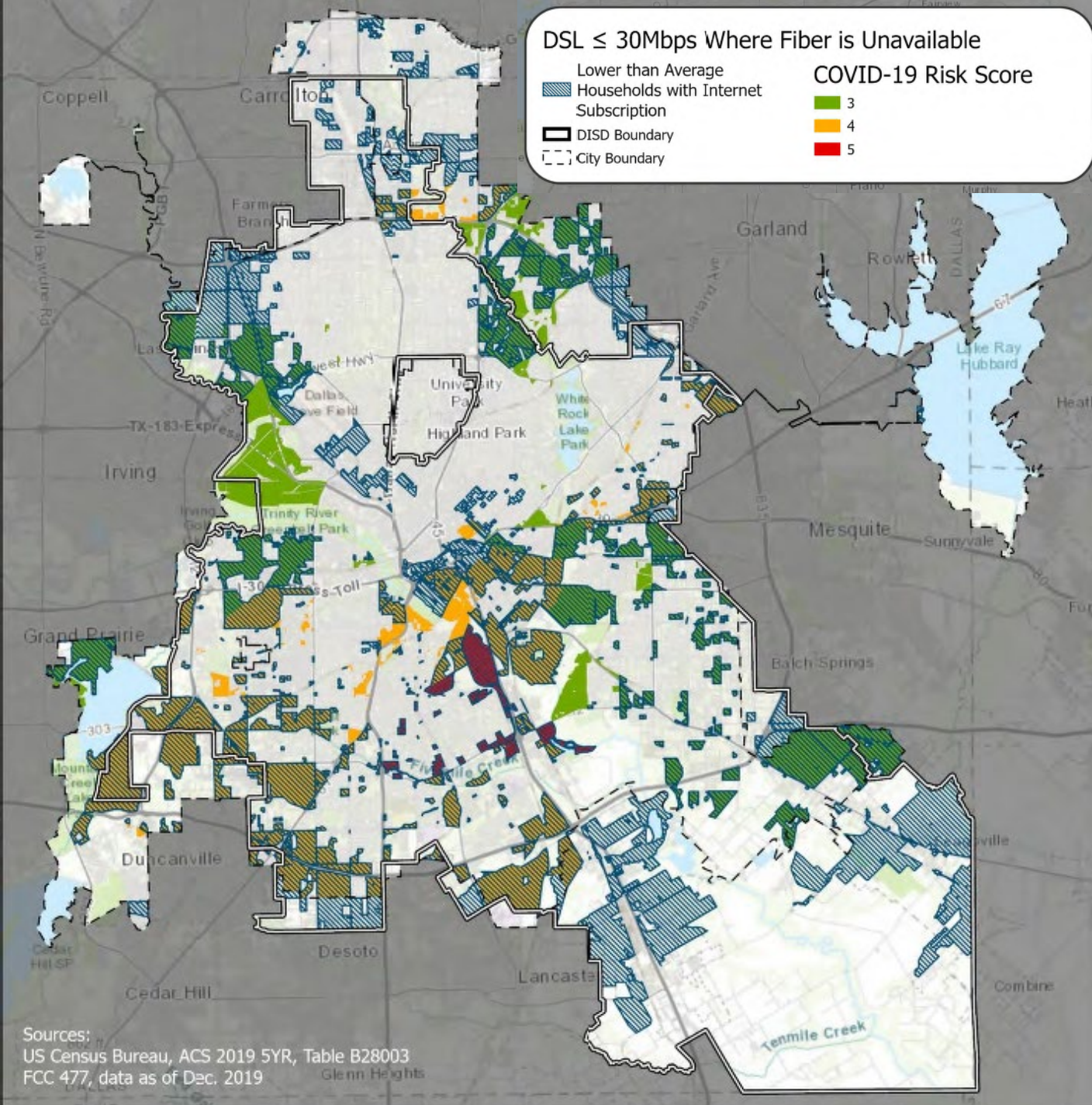
Lower than Average Households with Internet Subscription

DISD Boundary

City Boundary

COVID-19 Risk Score

- 3
- 4
- 5



Low-investment areas overlap neighborhoods with low computer ownership

Sources:
US Census Bureau, ACS 2019 5YR, Table B28003
FCC 477, data as of Dec. 2019
Glenn Heights



Survey demonstrates broadband & device gaps

Almost all respondents have internet access, but service was inadequate to meet all students' needs during the pandemic

Lower-income households lack service at a much higher rate than the overall population

Students & residents have challenges with access and affordability of computers

City of Dallas and Dallas Independent School District Internet Usage Survey

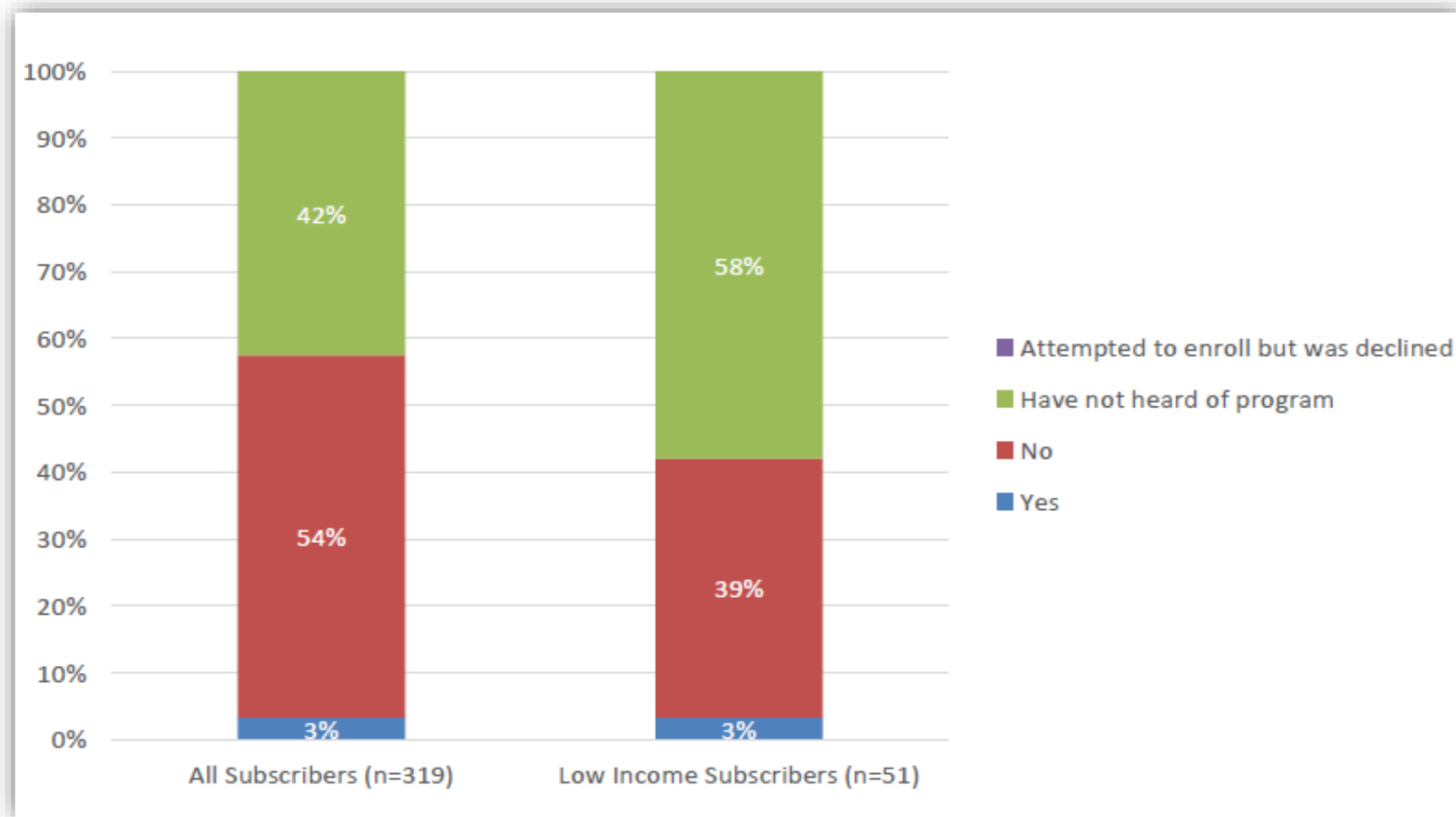


December 2020

Even if you do not have home internet service, please complete this survey form and return to us. Your opinions, experiences, and information are important to us. If you need help completing this survey in your language, please email officeofresilience@dallascityhall.com or rebsanchez@dallaisd.org or call [972-925-5671](tel:972-925-5671).



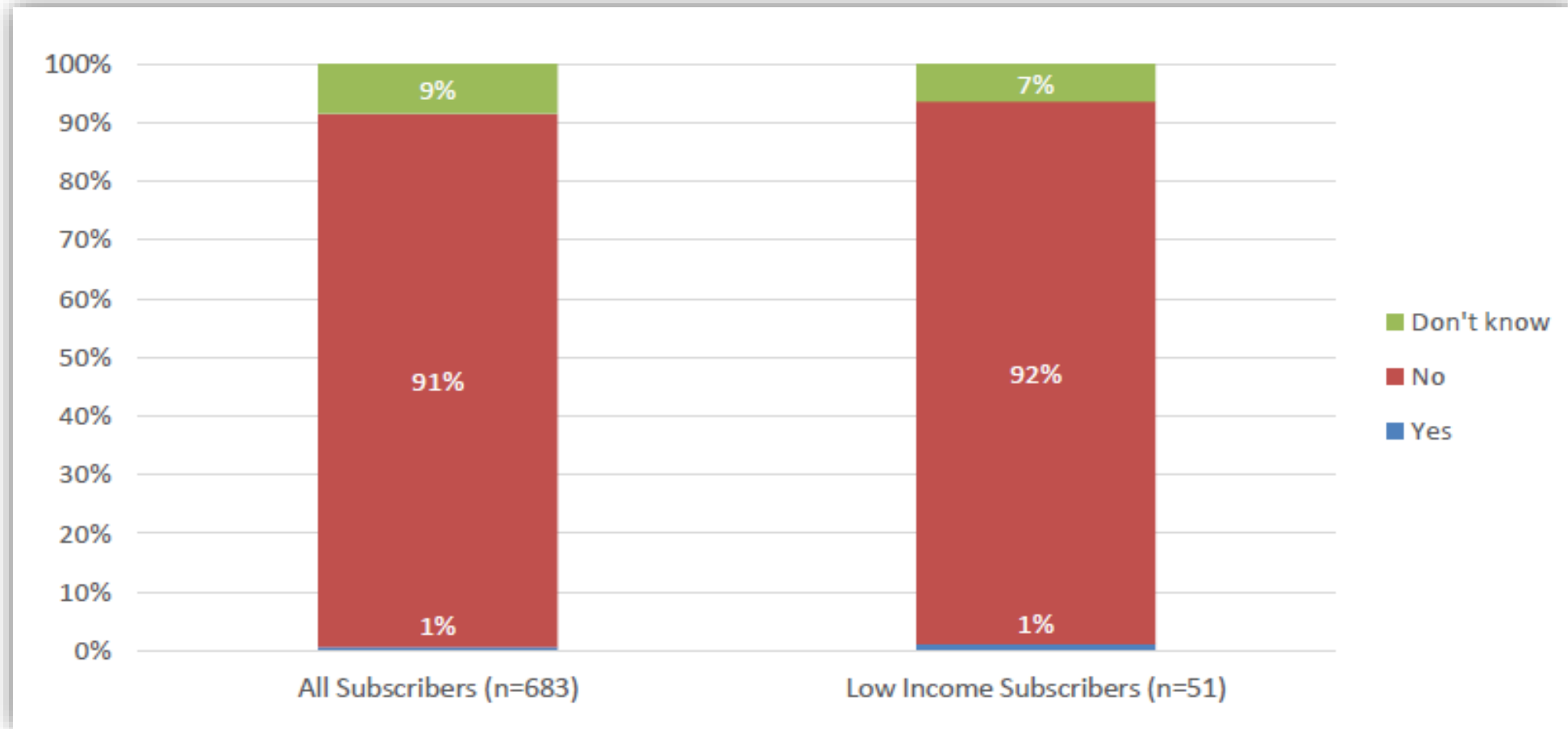
Charter & AT&T low-cost programs are underutilized



Survey found only 3% of low-income residents are enrolled in Spectrum Internet Assist program—58% have not heard of the program



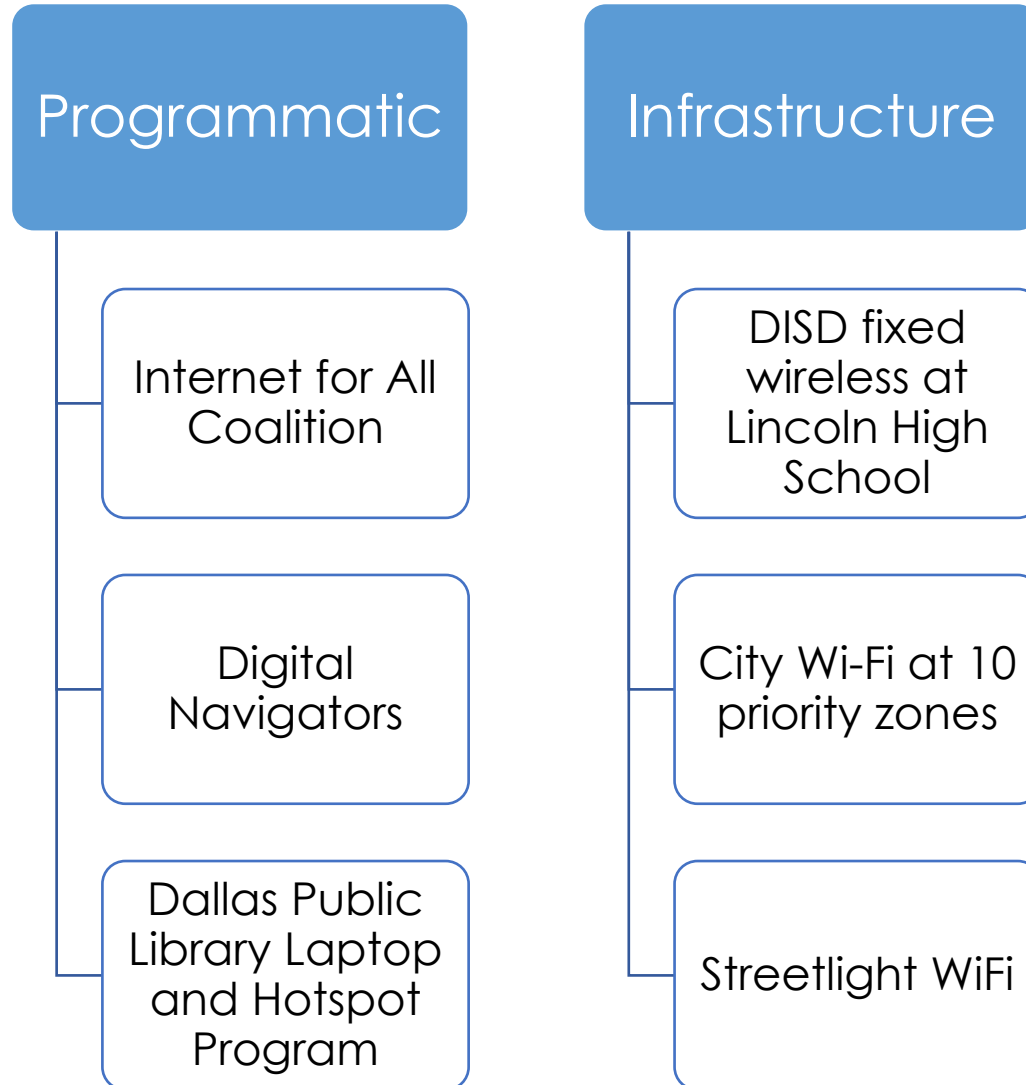
The FCC's Lifeline program is underutilized



Survey found only 1% of low-income residents are receiving the FCC Lifeline program's \$9.25 monthly subsidy



Extensive efforts by the City & DISD have made Dallas a national leader in advancing digital equity





Recommendations



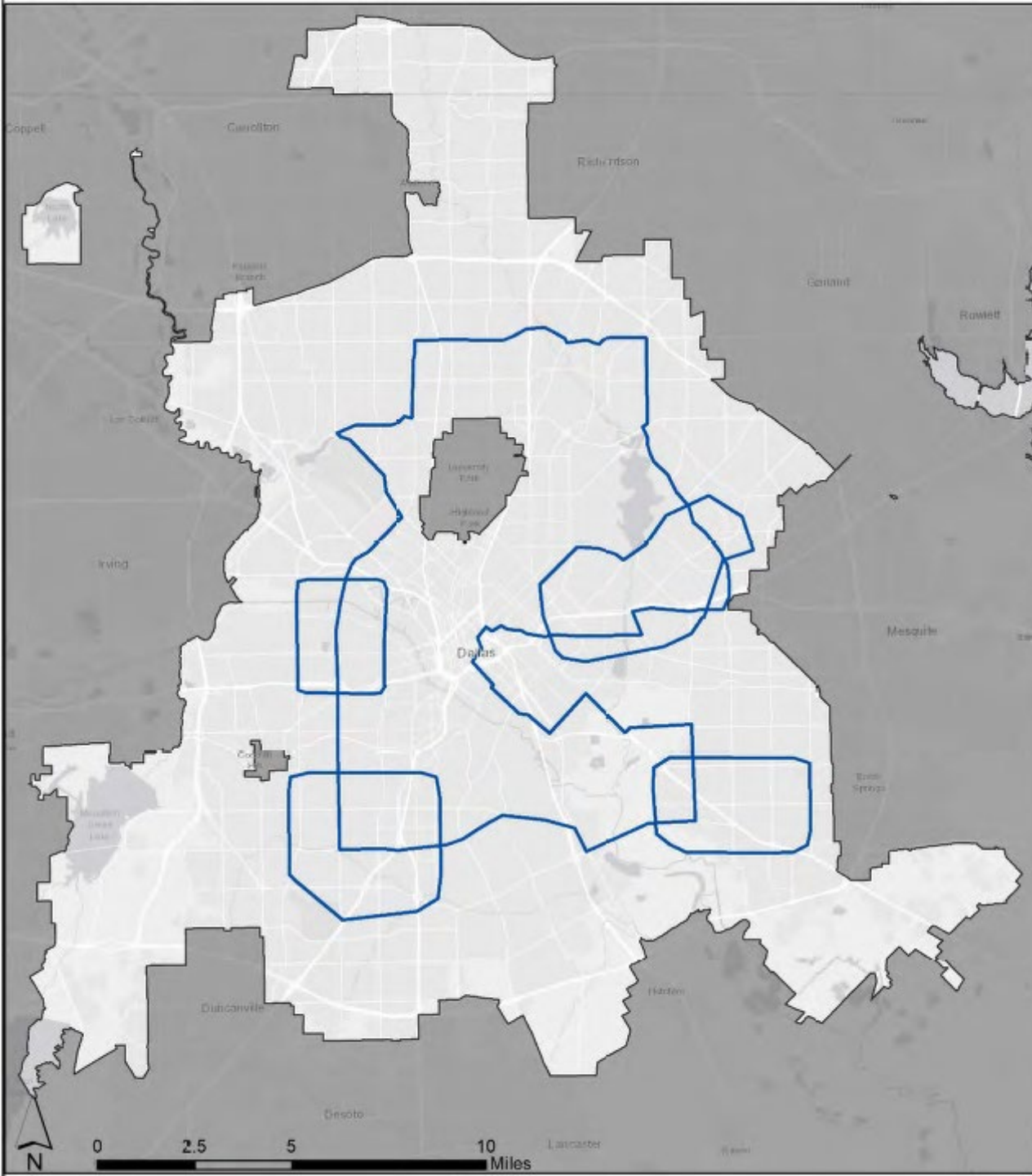


Recommendation 1: City should invest in fiber

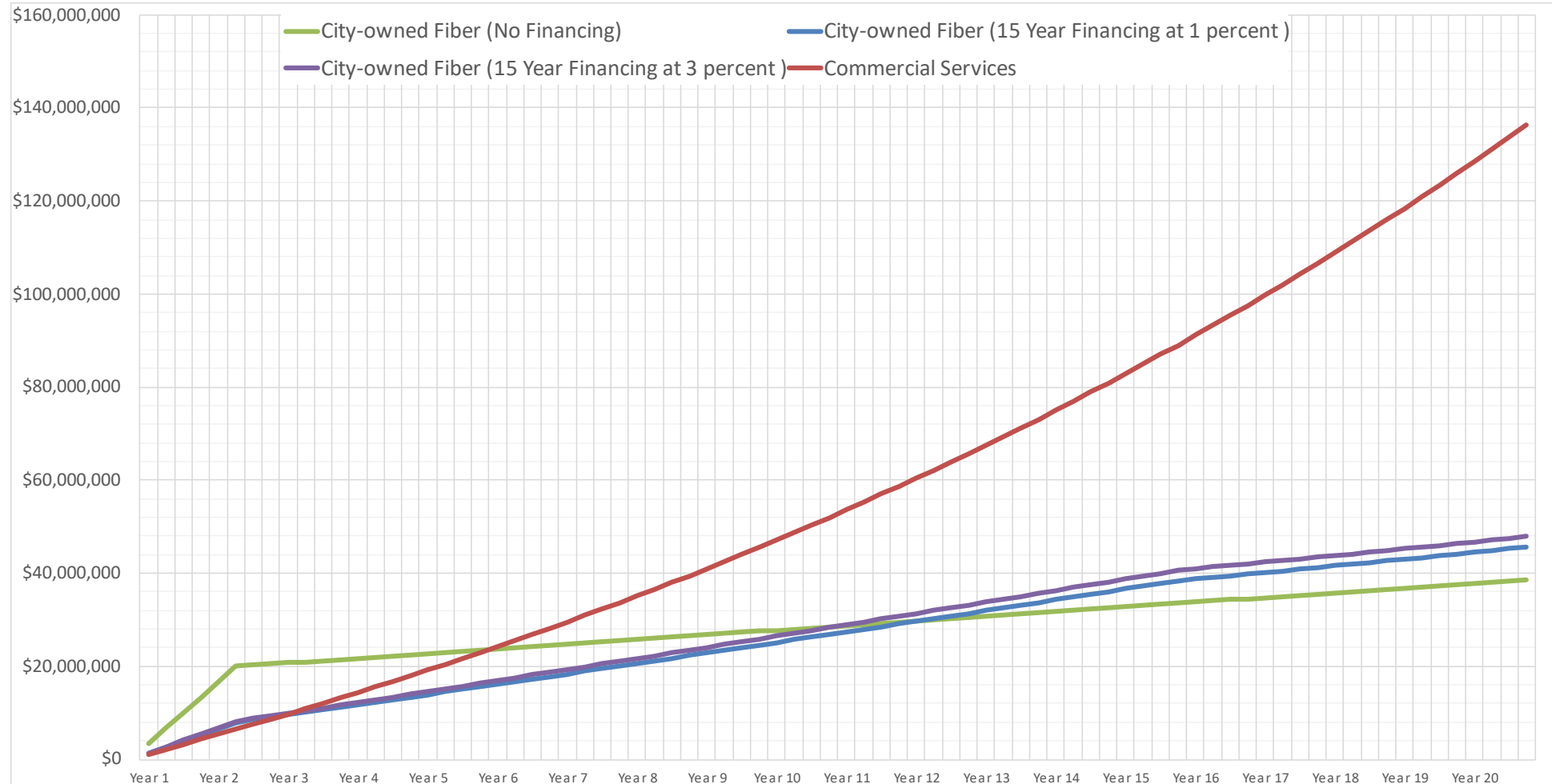
Build fiber backbone that connects City buildings and is routed strategically to reach areas with low broadband investment

City-owned fiber will enable cost-effective, best-in-class City networking

Uses to include future equity initiatives such as free public wifi, targeted deployment to community anchor institutions, and lower-income services



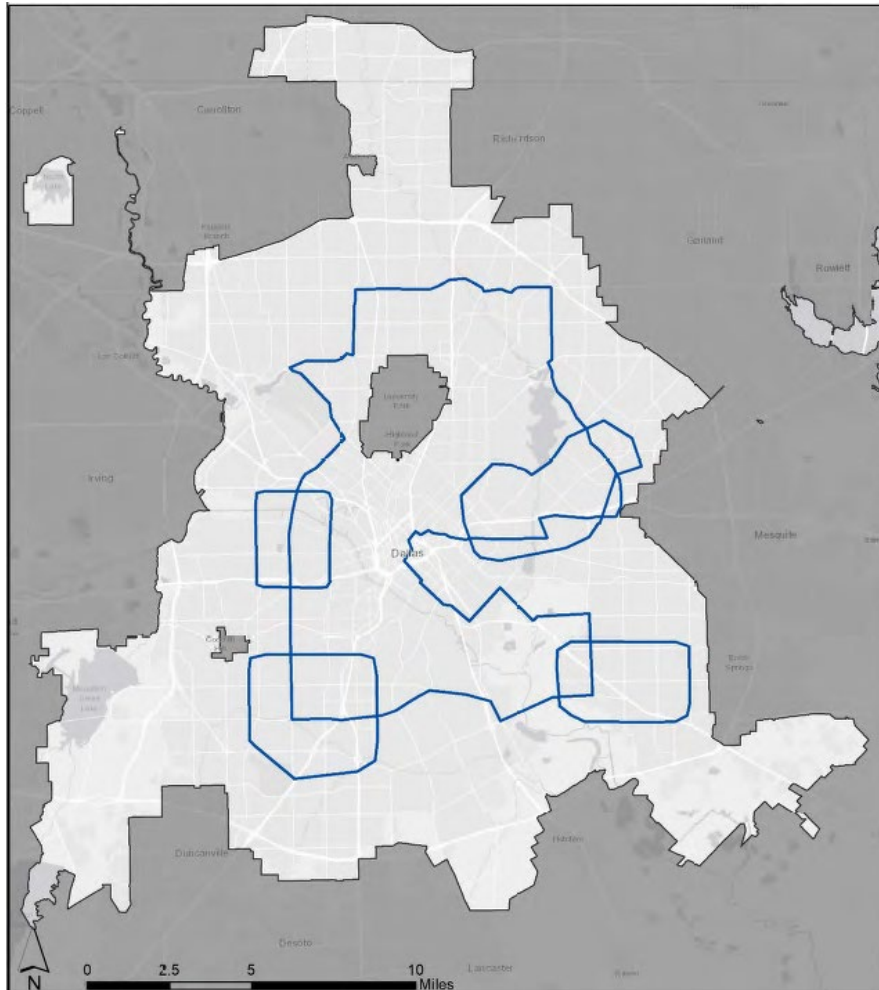
Cost Scenario for City-Owned 100-Mile Fiber Backbone



Scenarios for City-Owned Fiber Backbone



100-mile Fiber Ring - \$13.5M



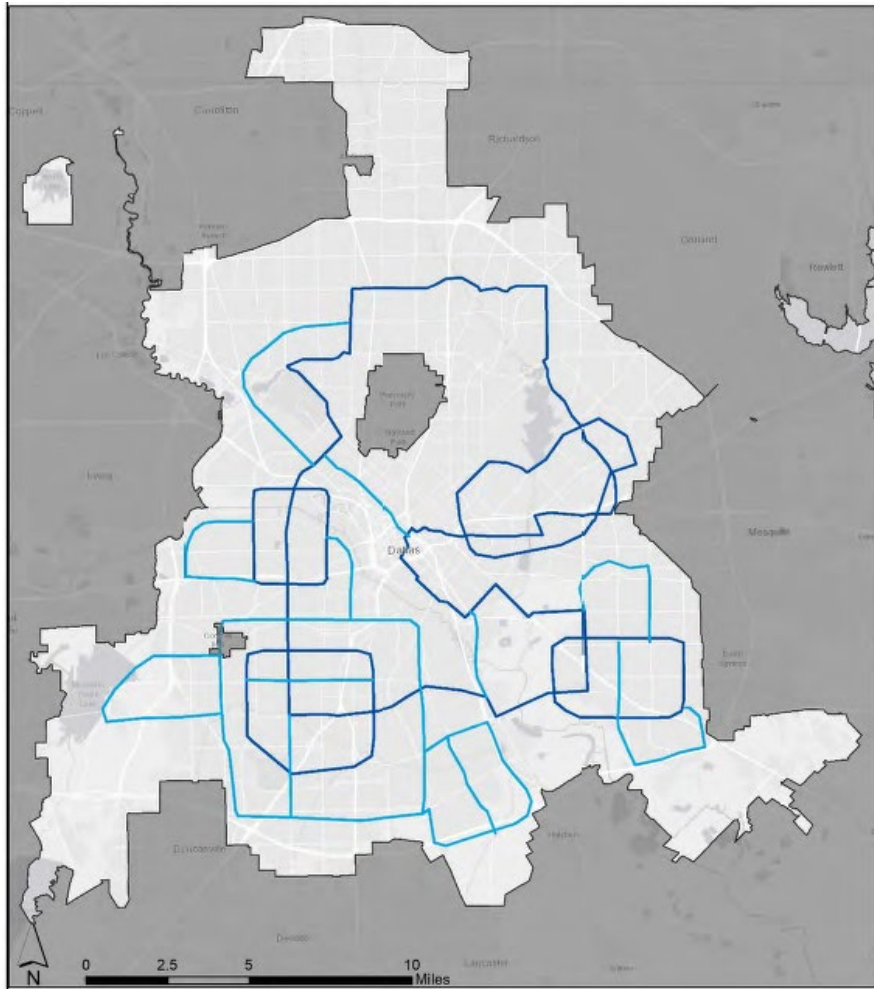
Item	Cost
Fiber Optic Outside Plant (OSP) Construction	\$12,500,000
Network Hardware	\$800,000
Network Integration and Testing	\$200,000
Total Capital Costs	\$13,500,000
Annual Operating Costs	\$1,000,000



Scenarios for City-Owned Fiber Backbone



180-mile Fiber Ring - \$25M



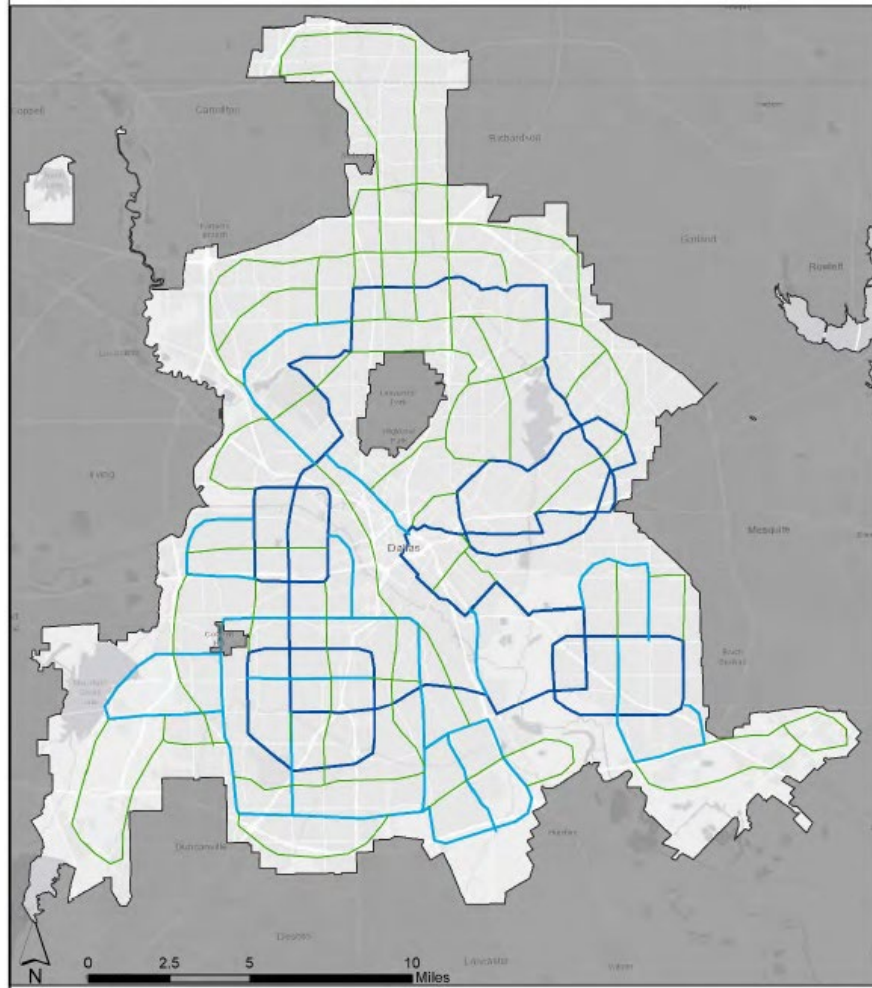
Item	Cost
Fiber Optic Outside Plant (OSP) Construction	\$22,500,000
Network Hardware	\$2,000,000
Network Integration and Testing	\$500,000
Total Capital Costs	\$25,000,000
Annual Operating Costs	\$2,000,000



Scenarios for City-Owned Fiber Backbone



360-mile Fiber Ring - \$50M



Item	Cost
Fiber Optic Outside Plant (OSP) Construction	\$45,000,000
Network Hardware	\$4,000,000
Network Integration and Testing	\$1,000,000
Total Capital Costs	\$50,00,000
Annual Operating Costs	\$4,000,000



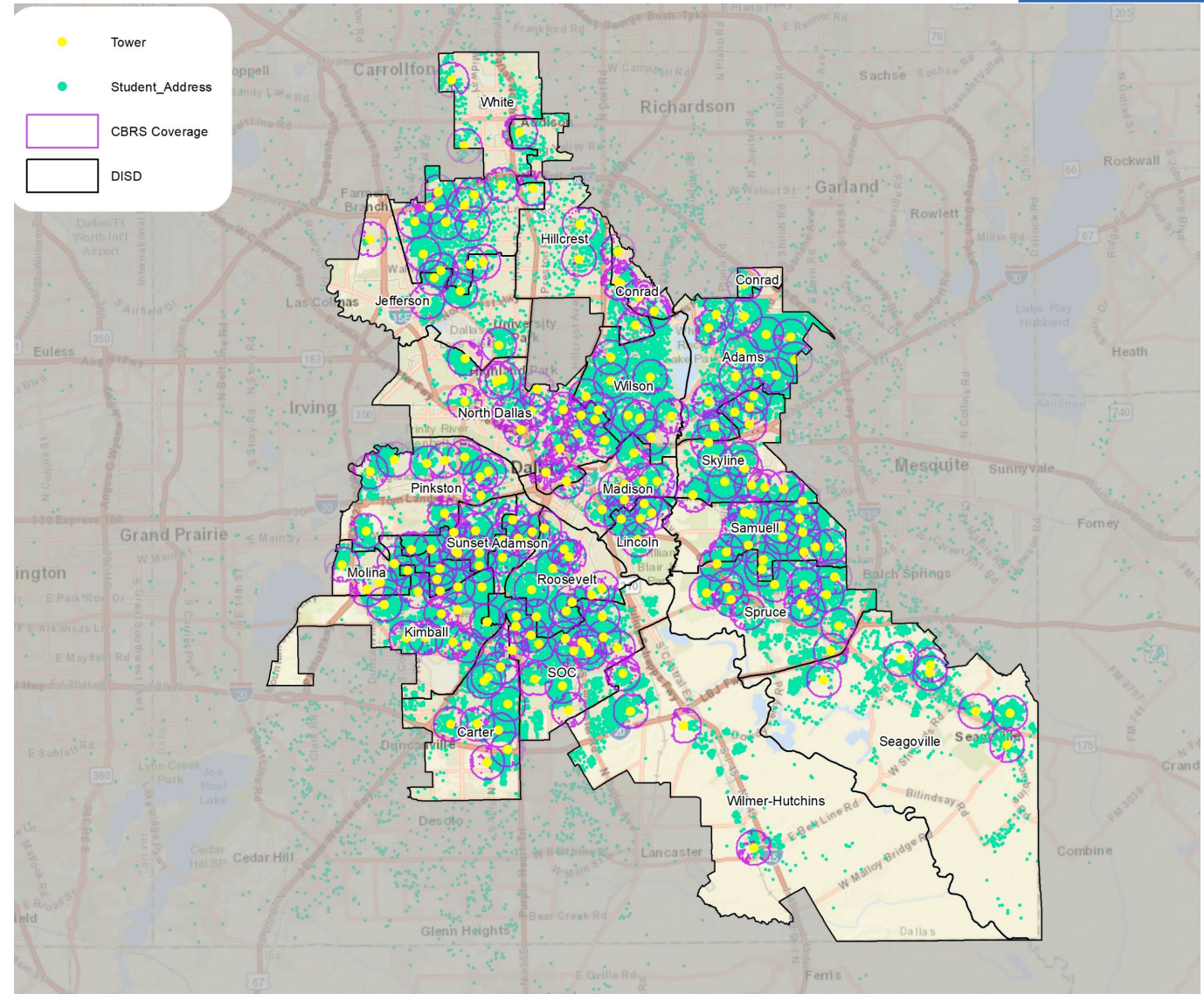


Recommendation 2: Develop new wireless infrastructure to fill broadband gaps

Fixed wireless could cover most student addresses from DISD rooftops

Service should be provided to lower-income families to ensure sufficient capacity for those who can't afford service

A shared network between the City and DISD could enable efficiencies and shared costs



Estimated Fixed Wireless Cost Scenarios



Model	Households Served	One-time Capital Cost	One-time Capital Cost per Household	Annual Operating Cost	Annual Operating Cost per Household
1: DISD families at all schools	74,500	\$38,173,800	\$854	\$4,334,500	\$97
2: DISD families at schools with CRI* of less than 40	44,800	\$20,993,280	\$781	\$2,548,250	\$95
3: All City residents in areas with less existing broadband infrastructure	28,235	\$21,870,831	\$1,291	\$2,265,725	\$134
4: All City residents in COVID Risk 5** areas	774	\$893,664	\$1,926	\$453,040	\$976
5: All City residents who can be served from DISD rooftops – CRI<40	106,721	\$56,156,064	\$877	\$8,424,700	\$132

**Prioritization established by the DISD Community Resource Index (CRI), a tool created by the Child Poverty Action Lab “to inform investment decisions and resource allocations”*

***COVID risk areas designated by Equity Impact Assessment Tool developed by City of Dallas’ Office of Equity and Inclusion*

Numbers have been rounded





We recommend that the fixed wireless service be offered at no cost to low-income users.

Offering free service entails less operating cost & complexity than a paid service with respect to sales, marketing, billing, collections

Even with no revenues and high operating costs, a free wireless network will be less costly than paying for commercial services for lower-income students & families

Given the significant cost barriers associated with low adoption of broadband, a free service has potential for far greater impact than a paid service



Recommendation 3:



Expand digital equity initiatives

Expand

Expand the Digital Navigators program to help families enroll in ISPs' low-cost programs & federal subsidy programs

Fund

Fund the expansion of digital skills training and other best practice programs offered through the Digital Navigators program

Create

Create a program to provide devices

Prepare

Prepare for procurement of home-based services under the Emergency Connectivity Fund (DISD)



Digital Equity Initiatives Estimated Budgets



Estimated Budget for Digital Navigators Training Program

Category	Budget
Training cost per student	\$200
<i>Estimated cost if 5,000 residents are assisted</i>	<i>\$1,000,000</i>

Estimated Initiative Budget – Providing Resources to Help Residents Enroll in Low-Cost and Subsidy Programs

Year One	Budget
Creation and distribution of informational materials such as web pages, fliers, inserts, and mailers	\$20,000
Call center technology and software licenses	\$20,000
Three full-time call center staff (\$40 hourly rate)	\$249,600
Total	\$289,600
<i>Estimated cost per household if 8,000 households are assisted</i>	<i>\$36</i>
Subsequent Years	Budget
Creation and distribution of fliers, inserts, and mailers	\$5,000
Maintenance of call center and equipment	\$10,000
Three full-time call center staff, based on an hourly rate of \$40	\$249,600
Annual Costs for Year Two Onward	\$264,600
<i>Estimated cost per household if 8,000 households are assisted</i>	<i>\$33</i>





Next Steps



Next Steps: Implement Recommendations



- **Recommendation 1: City Fiber Back Bone**

- Begin by building 180 miles of fiber
- Focus on areas of the city that are least serviced by broadband and those with the greatest need for connecting City services
- City infrastructure connectivity (traffic cameras, traffic signal controllers, data centers)

- **Recommendation 2: Fixed Wireless Infrastructure**

- Scenario 5: Expand fixed wireless infrastructure for city residents in areas with less existing broadband infrastructure
- Shared infrastructure with DISD

- **Recommendation 3: Digital Equity Initiatives**

- Expand the Digital Navigators program to help families enroll in ISPs' low-cost programs & federal subsidy programs
- Fund the expansion of digital skills training offered through the Digital Navigators program



Next Steps: Fiscal Impact



Source of Funds: ARPA Funding \$40M to Bridge the Digital Divide

Recommendation	Initial Investment	Ongoing Costs
1. Fiber Back Bone – 180-mile Ring	\$25,000,000	\$2,000,000
3. Digital Equity Initiatives		
- Digital Navigators Program	\$1,000,000	\$1,000,000
- Subsidy Support Program	\$289,600	\$264,600
SUB TOTAL	\$26,289,600	\$3,264,600
2. Fixed Wireless Infrastructure – Scenario 5	\$56,156,064**	\$8,424,700**
<u>TOTAL</u>	<u>\$82,445,664</u>	<u>\$11,689,300</u>

***Potential Shared Cost with DISD and External Partners*



Other Next Steps to Achieve Digital Equity



- Receive and review public comment and feedback
 - Comment Period: July 23 - August 6, 2021
 - **Full Report:** bit.ly/dallasdigitaldivide
- Utilize ARPA funding allocation to implement recommendations
- Coordinate and align investment opportunities with external partners and stakeholders
- Target additional federal, state, and private funding





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