# EXPANDING INTERNET ACCESS FOR EARLY CHILDHOOD EDUCATION AND OPPORTUNITY YOUTH

MAYOR'S OFFICE OF EDUCATION

# EXPANDING INTERNET ACCESS

- Demand for high-speed internet access, defined as "broadband," has soared. Broadband traffic grew by almost a year's worth in the first few weeks of the pandemic.
- Millions of Americans still do not have access to or cannot afford quality internet service.
- Access to high-speed broadband remains inequitable and inadequate.
- Low-income Houstonians may have the internet outside their door but cannot afford the monthly fee.
- The cause-and-effect relationship between high-speed internet access and economic growth is undeniable. It is impossible to fully participate in today's economy without access to the internet.
- Broadband should be ubiquitously available like other public utilities.
- The goal should be access as far and wide as possible, regardless of who strings the cable.
- This is a social justice, educational access issue.

# ENHANCING ACCESS TO INTERNET ACCESS

| Texas Education Agency K-12 System | Early Childhood Education | Opportunity Youth | City of Houston | Future |
|---|---|---|---|---|
| Limited 3-4, 5-22 | 0-5 | 16-24 | All Ages | |

# TEXAS EDUCATION AGENCY, K-12 SYSTEM

Slides 5-10 created and shared by TEA, slight modifications by MOE.

# *Operation Connectivity*| Timeline

| Operation Connectivity Launch | | PHASE 1 | | | | PHASE 2 | | | PHASE 3 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Launch of Operation Connectivity | Initial Taskforce Work and Report | Procurement | Shipping and Delivery | LMRP | PPRP | Mapping Tool Develop-ment | Mapping of Available Broadband Shared with LEAs | Negotiation with Suppliers to Develop Uniform Rate Packages | Explore New Broadband Tech | DIR | Secure Funding for New Infra-structure | LEAs | Implement ation of New Infra-structure |
| May | June - July | July-August | Sept -Early Dec | Sept -Oct | Nov - Dec | Sept | Oct -Nov | Sept-Oct | Sept-Jan | Oct-Dec | | | |
| ✓ | ✓ | ✓ | → | → | ⏲ | → | → | → | → | → | ⏲ | ⏲ | ⏲ |

✓ Completed

→ In Process

⏲ Not Yet Started

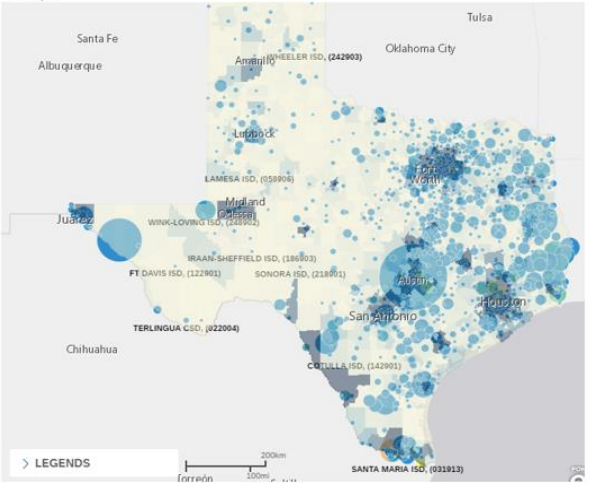
# *Op Con Phase 1* | Bulk Purchase Results

- ✓ **$300M of new devices** were purchased for LEAs across Texas in just over 6 weeks
- ✓ **760K Keyboarded E-Learning Devices** were purchased from Dell, HP, Apple and Lenovo at prices that were 20% to 40% lower than prices typically seen by LEAs
- ✓ **481K Hotspots were purchased** from AT&T, Verizon and T-Mobile, all with unlimited data and $15 per month annual fee
- ✓ **Over 1,000 LEAs** participated in the initial survey and over 900 LEAs participated in the Bulk Purchase
- ✓ **All ESC Regions** across the state participated

# *Op Con Phase 1* | Bulk Purchase Mapped Results by Number of Devices

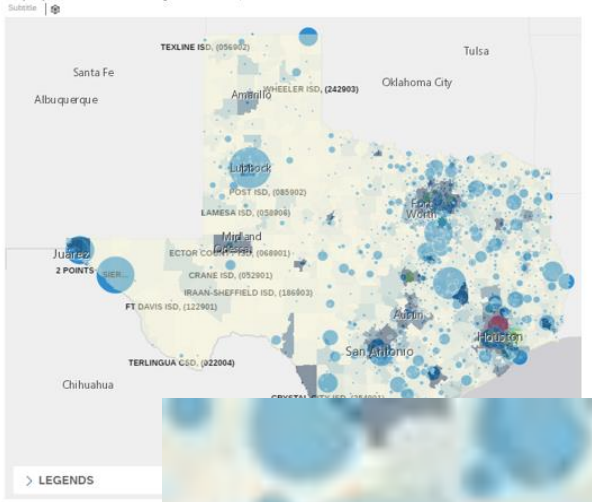
## Hotspots

Hotspots - Size - by Enrollment, Color - #




## Laptops & Tablets

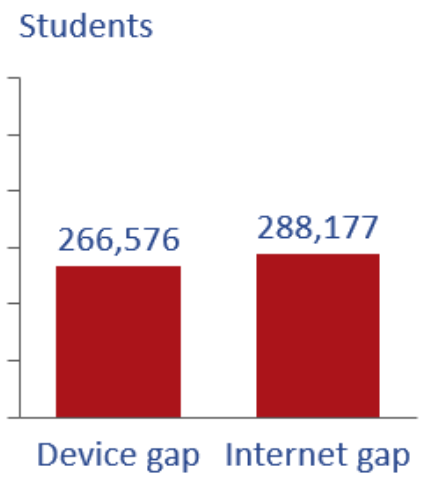
Laptops & Tablets - Size by Enrollment, Color - #





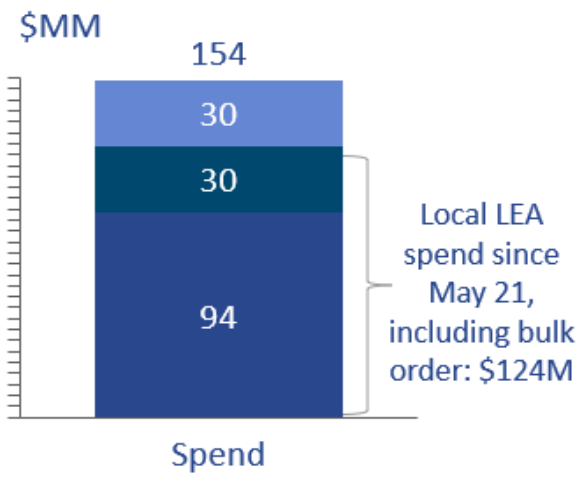
# Est. connectivity gap exists for over 260K Houston students; LEAs and TEA will have contributed >$120MM since 5/21, but we believe that a gap still exists

**Over 260K (~28%) of Houston's 987K students lack connectivity[2]**

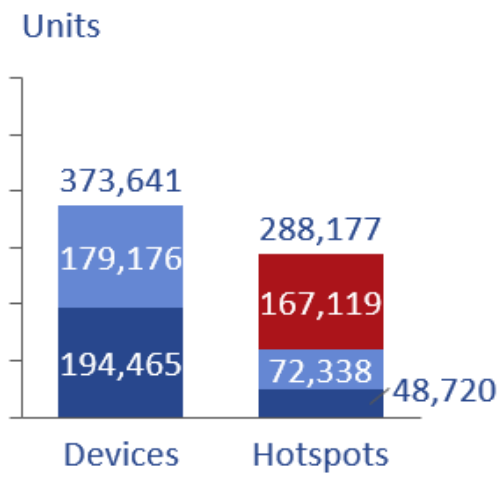



~64% of Houston students are categorized[1] as "economically disadvantaged"

**LEAs and TEA will have spent $124MM since 5/21[3] to close gap**




**Estimate that >165K students still lack internet**




Note: LEA spend on fixed internet solutions excluded from analysis as large majority of solutions reported did not provide internet access to students in their home; Determined charter schools in county and city using https://txcharterschools.org/find-a-charter-school/ 1. October 2019 PEIMS submissions; 2. number of students lacking connectivity (device or high speed internet subscription) determined based on max between LEA submissions in June 2020 Operation Connectivity survey and American Community Survey census data. For many charter schools, the gap is not calculated as they neither responded to the LEA survey nor can be tagged to a specific census tract; 3. Spend between May 21 and July 21 reported by LEAs in TEA bulk order request; bulk order amounts as of 7/28 and include only those orders that are part of match funding

# *Op Con Phase 2* | TEA Connect Texas (TEACT) Overview

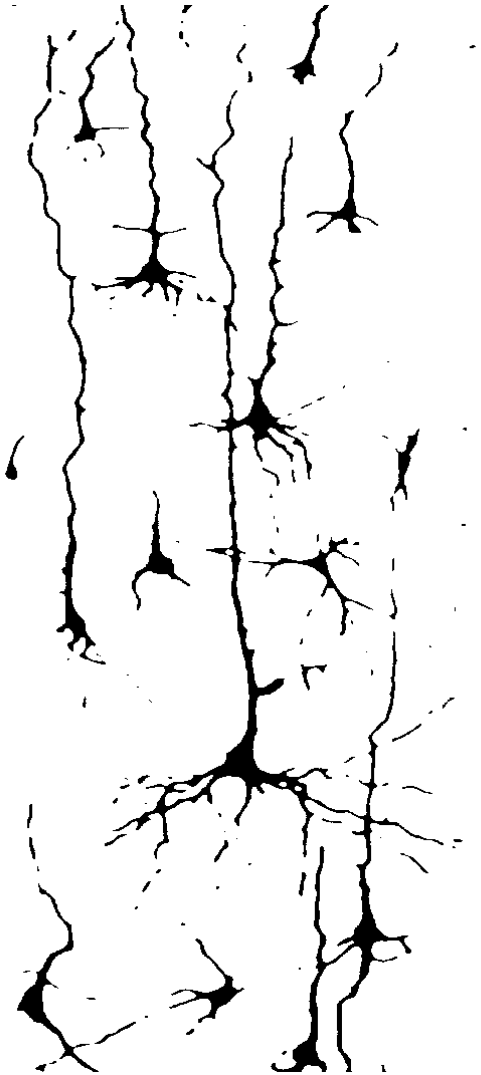
**TEA Connect TEXAS (TEACT)** is a long-term connectivity program designed to enable digital equity and economic empowerment for the school-age children of Texas for years to come. TEACT will partner with districts and low-cost, high-speed internet providers, so that students who have access to existing broadband infrastructure are connected to it and can use that service free of charge. This will be accomplished by:

1. Up-to-date mapping of existing infrastructure
2. Negotiated innovative programs that have uniform low pricing for existing high-speed services

# *Op Con Phase 3*| DIR RFO for Broadband Infrastructure Development

**The Texas Department of Information Resources (DIR) executed** an RFC process in August. 2020 for Communication Technology Services. This covered **both traditional** wireless, fixed and satellite technologies, as well as newer **and more innovative technologies** such as radio wave and private LTE networks. The full RFO process will launch by mid-October and will include specific reference to the unique needs of broadband for education. The entire process is expected to conclude in late December; the TEA has been invited to act as SME's during the Offer Review Process.

# EARLY CHILDHOOD EDUCATION



Birth

Age 3

Age 14

# IMPORTANCE OF EARLY CHILDHOOD EDUCATION

FIGURE B

**The achievement gap is largely set by age 5**

IQ/test scores in standard deviations, by parent income quartile

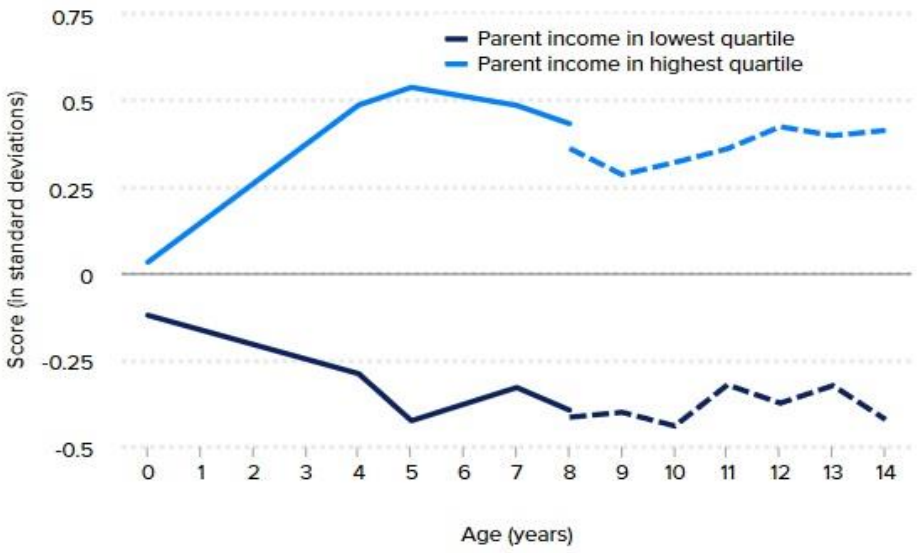



Chart Data

**Note**: IQ scores are available through age 8 and are represented by a solid line. After age 8, math test scores are shown. A 3-year moving average is used for math scores, represented by a dotted line.

**Source:** Adapted from Council of Economic Advisers (2014)

Economic Policy Institute

- James Heckman and Jack Shonkoff, Proceedings of National Academy of Sciences, 2006: "The most effective strategy for strengthening the future workforce, both economically and neurobiologically, and improving its quality of life is to invest in the environment of disadvantaged children during the early childhood years."
- "Virtually every aspect of early human development from the brain's evolving circuitry to the child capacity for empathy, is affected by the environment and experiences that are encountered in a cumulative fashion, beginning in the prenatal period and extending throughout the early childhood years." Neurons to Neighborhoods, IOM, 2002
- 15% Return on Investment: Increased Earnings and Tax Revenues • Decreased Reliance on Social Services • Decreased Criminal Activity – Juvenile and Adult • Improved Health Behaviors – Better health outcomes and less reliance on health services • More Skilled Workforce – Increased productivity and earnings • Stops cycle of poverty

Meeting families' basic needs increases parental capacity to receive parenting support and to engage with their children in ways that reduce the risk of adverse brain development in their child.

# POLICY BRIEF 06.30.20

## America's Children: Responding to the Crisis Now with the Future in Mind

**Quianta Moore, M.D., J.D.**, Fellow in Child Health Policy, Center for Health and Biosciences, Rice University's Baker Institute
**Christopher Greeley, M.D.**, Professor of Pediatrics, Baylor College of Medicine

### INTRODUCTION

The Covid-19 pandemic has illuminated the fragility of American life, with the stock market in turmoil, high unemployment rates, supply chain shortages, and excessive hoarding of everyday goods. Even as

and developmental biology demonstrate that the first few years of life are critical for brain development.[1] During this time, the foundational architecture of the brain is built in a hierarchal fashion through neuronal connections that occur at a rate of one million new connections per second.[2]

# COVID-19'S IMPACT ON BABIES AND THEIR FAMILIES

QUIANTA MOORE, M.D., J.D. AND CHRISTOPHER GREELEY, M.D.

# How to Support Children During the Pandemic, Harvard University, Center on the Developing Child

## 1. Practice "Serve and Return"

**1** **Practice "serve and return,"** or back-and-forth interaction with your little ones. Even before they learn to talk, infants and children reach out for attention—babbling, gesturing, or making faces. When young children "serve up" a chance to engage with them, it's important to "return" with attention. It can be as simple as a game of peek-a-boo. Or, if a toddler points at a toy, name it out loud as you hand it to the child.

***Why?*** Serve-and-return interactions help build developing brains and resilience, something we all need in these challenging times.

*Helpful Resources:*

Video: **5 Steps for Brain-Building Serve and Return** (Center on the Developing Child)

Handout: **Serve and Return for Parents & Caregivers** (Center on the Developing Child)

Podcast: **The Brain Architects: Serve and Return** (Center on the Developing Child)

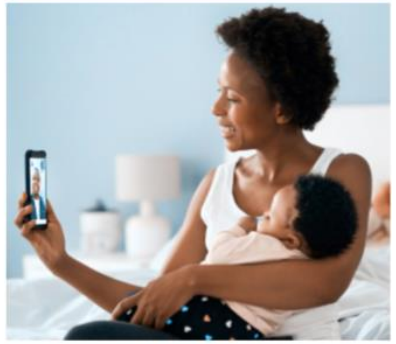
Video: **Mini Parenting Master Class with Center Director Jack P. Shonkoff, M.D.** (UNICEF)

Smartphone Apps: **Vroom** and **Kinedu**

## 2. Maintain Social Connections

**2** **Maintain social connections.** Stay-at-home measures are helping to slow the spread of the virus, protect our health, and protect our hospitals. But, while we are staying apart from each other physically, it's even more important to connect socially, to protect our emotional well-being. Keep up relationships and social contacts—while maintaining physical distance outside your own home.

***Why?*** Responsive relationships—like those with lots of serve and return interactions *(see #1 above)*—between children and adults, adults and other adults, and children and other children all help buffer us against the effects of ongoing stress.



*Tips & Helpful Resources:*

**Talk with family and friends via video chat or phone.** This is a great way to connect children with other adults (and give you a short break!).

If talking live isn't an option, **write emails or old-fashioned letters to friends and family.** Encourage children to ask questions of their grandparents and other adults.

**Make encouraging posters and signs** and put them in your windows to support your neighbors. This can also be a fun craft project to do with children!

**Go outside and say hello** to neighbors, friends, people passing by. Just make sure to keep at least 6 feet away from anyone who doesn't live with you.

Article: **Coronavirus (COVID-19): Physical Distancing and Family Wellbeing** (Raising Children Network)

Article: **Keeping Classroom Connections Alive** (Harvard Graduate School of Education)

Article: **Resources for Supporting Children's Emotional Well-being during the COVID-19 Pandemic** (Child Trends)

## 3. Take a Break

**3** **Take a break** (with or without children). If you feel overwhelmed, find a way to give your stress response a rest. Take a walk around the block. Try a few minutes of meditation or deep breathing. Call a friend *(see #2 above)*.

And, **give yourself a break.** Remember you're not alone—everyone is struggling with these unexpected changes to our lives, and many of us need some extra support from our communities. Be kind to yourself and understand that you can't do it all.

***Why?*** When you can find ways to give yourself a break, you'll return to your children better able to meet their needs and support their development.

*Photo by Natalia Figueredo on Unspla*

*Helpful Resources:*

Infographic: **What We Can Do About Toxic Stress** (Center on the Developing Child)

Video: **Stress and Resilience: How Toxic Stress Affects Us, and What We Can Do About It** (Center on the Developing Child)

Brief: **The Science of Resilience** (Center on the Developing Child)

Article: **COVID-19: Stress and Coping** (Centers for Disease Control and Prevention)

Article: **COVID-19: Taking Care of Your Emotional Health** (Centers for Disease Control and Prevention)

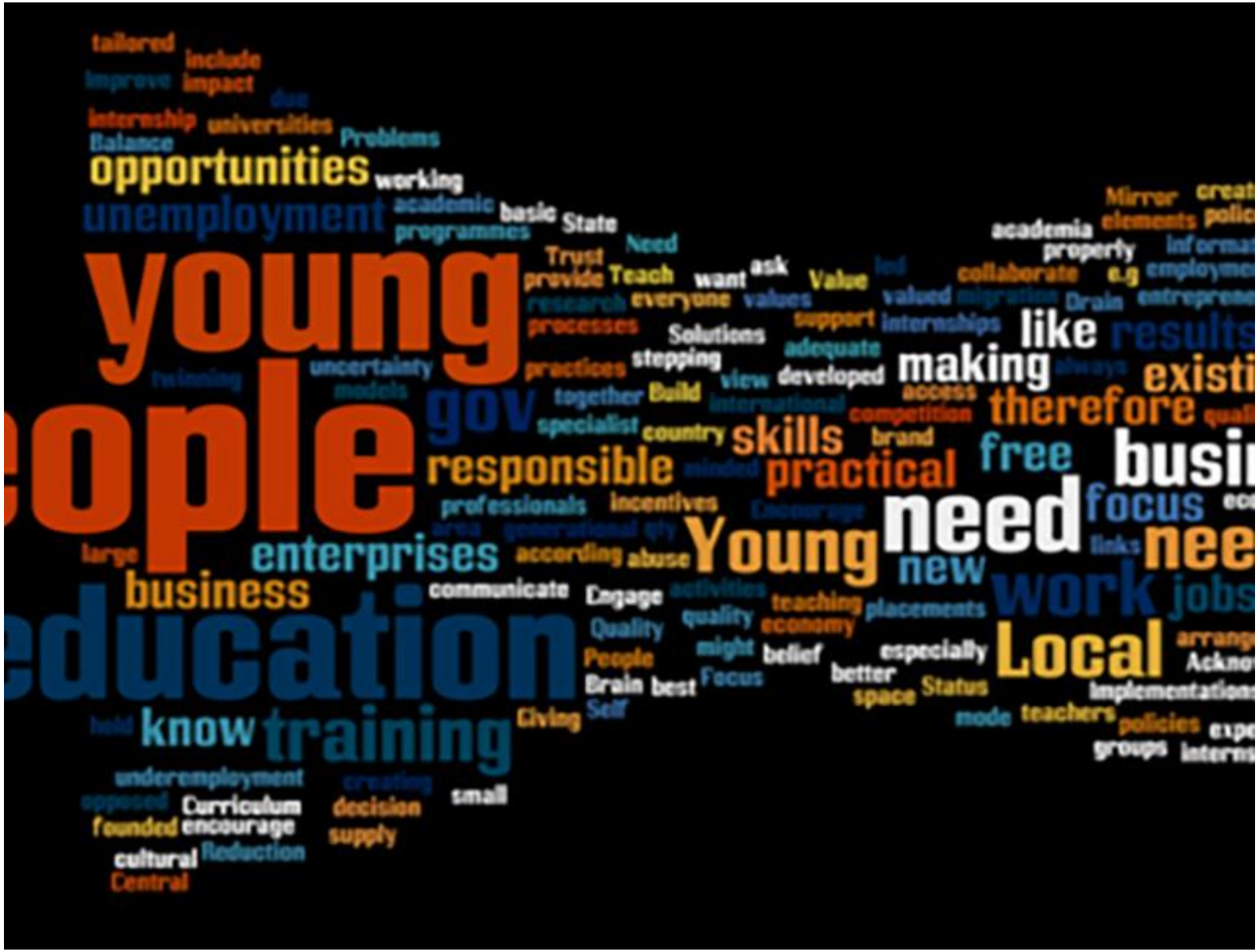
Tool: **Free Meditations for Reducing Stress** (Calm.com)



https://developingchild.harvard.edu/resources/how-to-support-children-and-yourself-during-the-covid-19-outbreak/

# INTRODUCING DIGITAL CONNECTIVITY IN EARLY CHILDHOOD EDUCATION CAN HELP BRIDGE THE DIGITAL DIVIDE

- Families need digital connectivity to remain connected to the economy, and they need supports and guidance to appropriately integrate technology to enhance their child's learning and development.
- Without a minimal level of digital literacy upon entry into kindergarten, students may begin to fall behind in the classroom, as the K-12 system incorporates and relies more heavily on digital connectivity.
- The challenge for policymakers is to ensure that digital connectivity can help bridge opportunity and achievement gaps that disadvantaged children experience.
- Children need access to learning materials at home, early stimulation, and responsive care by caregivers. They need attendance in quality early childhood education with loving providers to enhance learning and developmental outcomes.




# OPPORTUNITY YOUTH

Nearly a half-million youth, 16 to 24 years old, are not enrolled in any classes in Texas in 2020.

"Disconnected," the state deems them "opportunity youth" for their potential.

Texas is among the highest in the nation with youth out of school and out of work.

The Houston region has approximately 111,000 opportunity youth.

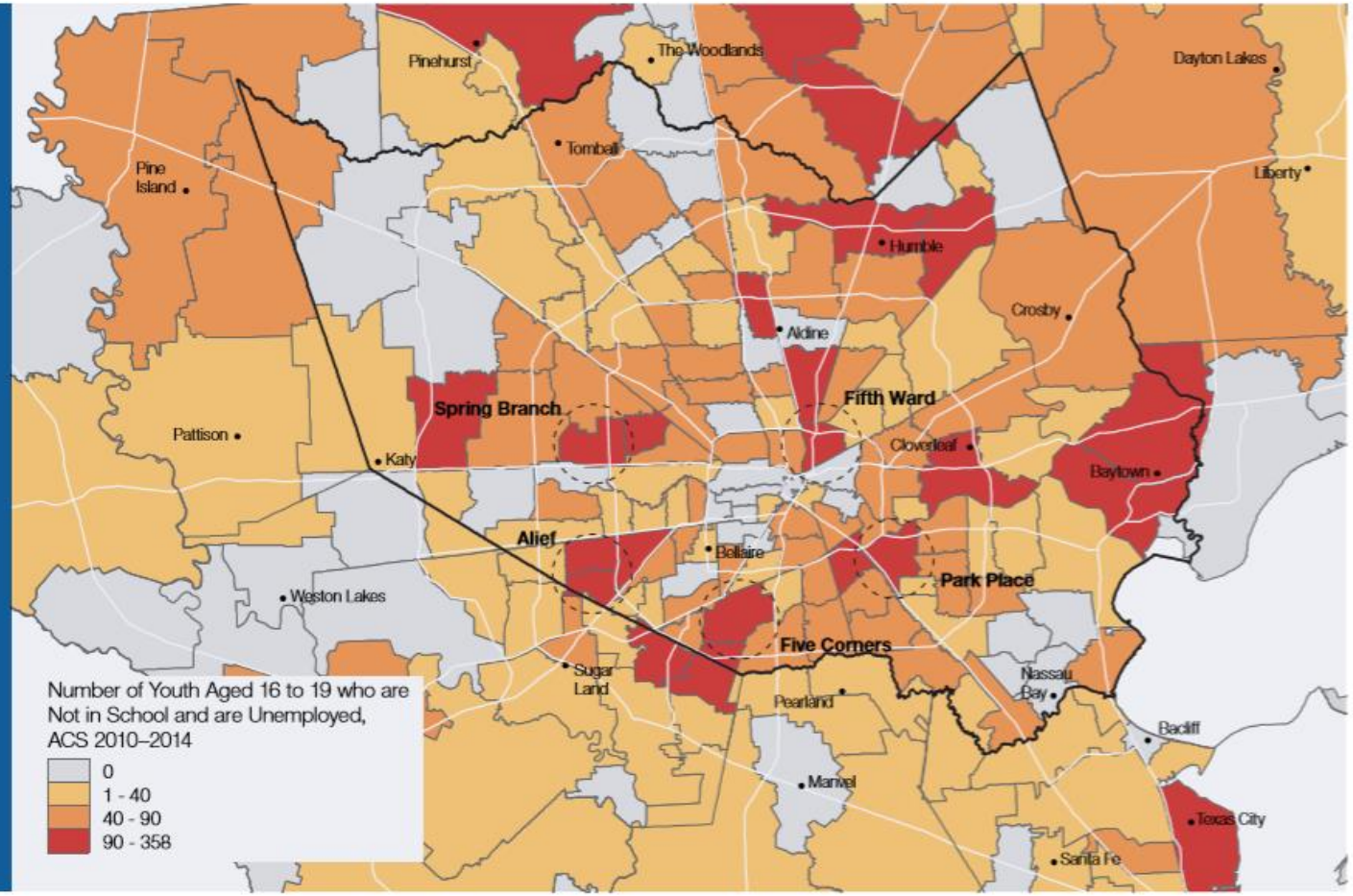
## TABLE 1. OYYA Characteristics

| | 18–24 Non-OYYA | OYYA |
|---|---|---|
| **Relationship Status** | | |
| Never Married (%) | 85.6 | 57.8 |
| Married/partnership | 12.1 | 38.1 |
| **Children** | | |
| Household with No Child (%) | 84.4 | 49.9 |
| **Household Income* (%)** | | |
| < 25k | 31.8 | 54.7 |
| 25k – 50k | 33.3 | 30.9 |
| 50k – 75k | 17.7 | 9.4 |
| 75k – 100k | 7.4 | 1.4 |
| 100k + | 9.9 | 3.6 |
| **Education (%)** | | |
| Less than HS | 10.0 | 22.2 |
| HS Degree | 37.6 | 46.6 |
| Some College (no A.A.) | 16.1 | 12.0 |
| 2 or 3 years / A.A. | 23.5 | 12.0 |
| B.A. College + | 12.9 | 7.3 |
| **Job Opportunities (%)** | | |
| Poor | 19.5 | 27.5 |
| Fair | 38.1 | 39.0 |
| Good | 31.2 | 23.7 |
| Excellent | 9.7 | 6.8 |

Source: Kinder Houston Area Surveys (2005–2016), Harris County.
* Note that about one third of the respondents of each group chose not to reveal their household income.

**FIGURE 5**

**Number of OYYA aged 16 to 19 who are not in school and are unemployed in Harris County, by ZIP Code (2010–2014)**




Source: ACS 2010–2014.

# 2016

https://kinder.rice.edu/sites/default/files/documents/OYYA-report-0928.pdf

# COVID-19'S IMPACT ON OPPORTUNITY YOUTH

## Pre-COVID-19

- At the start of 2020, we celebrated ongoing annual declines in the number of opportunity youth nationwide.
- After years of coalition work – scaling best practice, advocating for systems change, and investing in youth-led efforts – the number of opportunity youth dropped to less than 5 million nationally.

## Post-COVID-19

- Years of gains have been wiped out.
- The estimated number of young adults in our country who are no longer connected to school or work has likely more than tripled.
- Some staggering estimates places the figure around18 million or more.

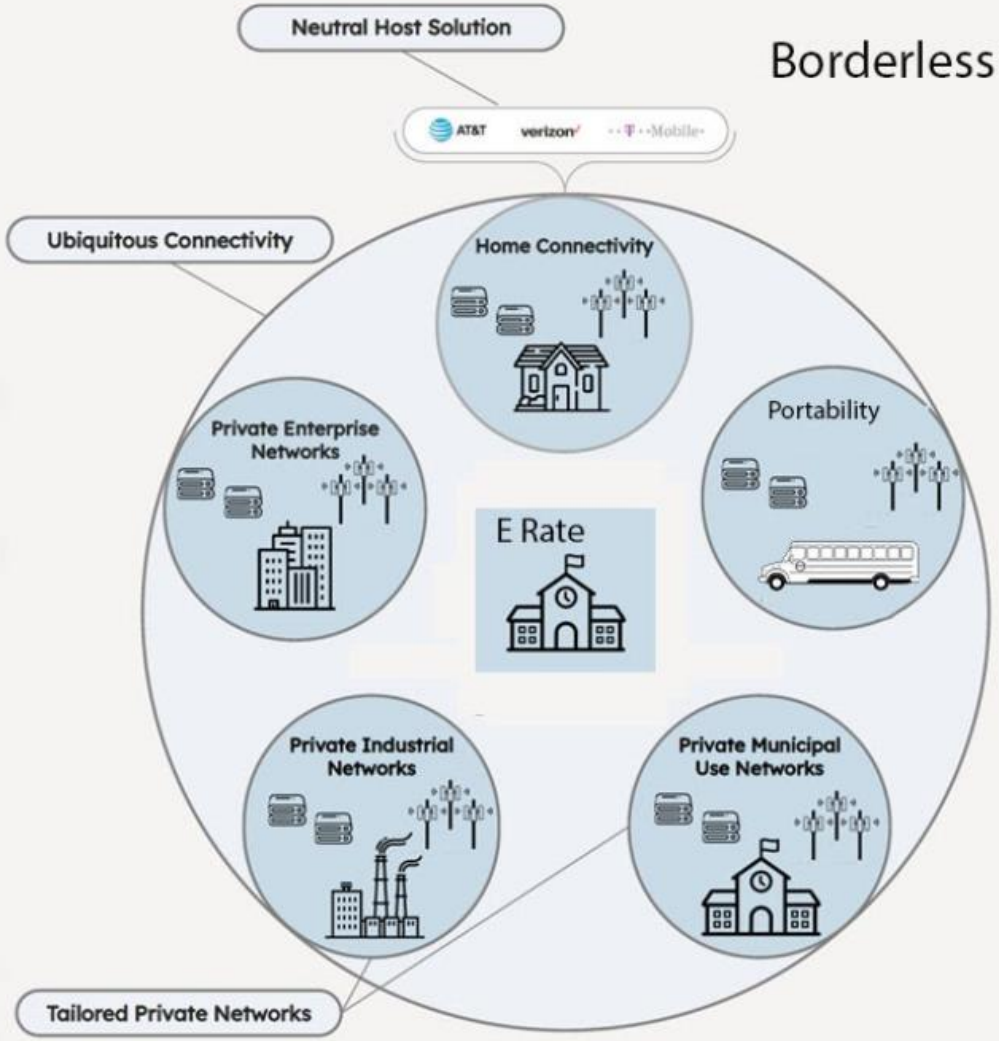
- Opportunity youth have mobilized to help their neighbors during the pandemic. In Houston, we recruited opportunity youth to serve as our COVID-19, Community Health Education Fellows (CHEFs), with generous support from JP Morgan Chase and multiple partners.
- Opportunity youth have suffered the disruptions of distance learning without the resources to successfully transition online that are available to youth in the K-12 system.
- Without internet access or a reliable computer, they remain disconnected. Patchy cell phone service is not effective for distance learning or remote work.
- Opportunity youth have been largely overlooked in CARES relief funding efforts, and they face barriers that compromise their ability to qualify for the limited relief available.
- One way to support opportunity youth to reengage in school, the job market, and the local economy is to empower them with digital connectivity and link them with supports, resources, and networks.

# CITY OF HOUSTON

RESPONDING TO THE PANDEMIC

- The Mayor's Health Equity Response (HER) Task Force's Technology Access subcommittee is working to increase technology access for households that do not have school aged children.
  - Specifically, seniors, people with disabilities, opportunity youth, and households with children under the age of 5.
- This program is still in development, but includes:
  1) Internet vouchers,
  2) Hardware, including expanding access to Wi-Fi hotspots and computers, and
  3) Expanding publicly accessible Wi-Fi at City of Houston facilities.
- The team is working with technology partners to finalize this program and looks forward to sharing more in the coming weeks.

# Borderless Classrooms




For more information contact: Stephen Goldsmith, stephen_goldsmith@hks.harvard.edu

# THE FUTURE: DIGITAL EQUITY REQUIRES UBIQUITOUS BROADBAND CONNECTIVITY