DIGITAL EQUITY PLAN

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City of Haverhill, Massachusetts

JANUARY 2025

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Executive Summary

In an increasingly digital world, initiatives to enhance access to technology and digital skills are essential to prevent individuals from being left at a social, political, or economic disadvantage. The City of Haverhill is committed to advancing digital equity to better serve its residents.

With support from the Massachusetts Broadband Institute (MBI) and in partnership with Vanasse Hangen Brustlin (VHB), Haverhill undertook a six-month planning process to develop this comprehensive Digital Equity Plan, created through collaboration with local stakeholders and residents.

While broadband is available in most areas, affordability, device access, and digital skills training remain significant challenges in Haverhill. This Plan highlights how the digital divide disproportionately affects vulnerable populations in Haverhill and emphasizes the need for affordable, reliable, high-speed internet for all residents. As a Gateway City, Haverhill plays a critical role in supporting immigrants' integration and upward mobility, making it vital to address these disparities.

The Plan recognizes Haverhill's strengths in its vibrant community and existing digital equity resources, infrastructure, and partnerships while identifying opportunities to foster partnerships, expand broadband networks, and enhance services for greater equity.

Resumen Ejecutivo

En un mundo cada vez más digitalizado, las iniciativas para mejorar el acceso a la tecnología y las competencias digitales son esenciales para evitar que las personas queden en una situación de desventaja social, política o económica. La ciudad de Haverhill tiene el compromiso de promover la equidad digital para brindar un mejor servicio a sus residentes.

Con la colaboración del Instituto de Banda Ancha de Massachusetts (MBI) y en asociación con Vanasse Hangen Brustlin (VHB), Haverhill inició un proceso de planificación de seis meses para elaborar este Plan integral de equidad digital, que contó con la colaboración de las partes interesadas y los residentes locales.

Si bien en la mayoría de las zonas de Haverhill existe conexión de banda ancha, la asequibilidad, el acceso a los dispositivos y la formación en competencias digitales siguen siendo desafíos muy importantes. Este plan destaca cómo la brecha digital afecta de manera desproporcionada a las poblaciones vulnerables de Haverhill y hace hincapié en la necesidad de contar con un servicio de internet asequible, confiable y de alta velocidad para todos los residentes. Al ser una ciudad de entrada, Haverhill cumple un papel fundamental a la hora de apoyar la integración y la movilidad ascendente de los inmigrantes, por lo que es fundamental abordar estas disparidades.

El plan destaca como fortalezas de Haverhill a su comunidad dinámica y sus recursos de equidad digital, infraestructura y alianzas existentes, al tiempo que identifica oportunidades para promover alianzas, ampliar las redes de banda ancha y mejorar los servicios a fin de lograr una mayor equidad.

Resumo Executivo

Em um mundo cada vez mais digital, iniciativas para melhorar o acesso à tecnologia e as habilidades digitais são essenciais para evitar que os indivíduos fiquem em desvantagem social, política ou econômica. A cidade de Haverhill tem o compromisso de promover a equidade digital para melhor atender seus moradores.

Com o apoio do Massachusetts Broadband Institute (MBI) e em parceria com a Vanasse Hangen Brustlin (VHB), a Haverhill realizou um processo de planejamento de seis meses para desenvolver este Plano de Equidade Digital abrangente, criado por intermédio da colaboração com partes interessadas e moradores locais.

Embora a internet de banda larga esteja disponível na maioria das áreas, a acessibilidade financeira, o acesso a dispositivos e o treinamento em competências digitais continuam a representar desafios significativos em Haverhill. Este Plano destaca como a exclusão digital afeta desproporcionalmente as populações vulneráveis em Haverhill e enfatiza a necessidade de uma internet acessível, confiável e de alta velocidade para todos os residentes. Sendo uma Cidade Gateway, Haverhill desempenha um papel fundamental no apoio à integração e mobilidade ascendente dos imigrantes, por isso, é essencial abordar essas disparidades.

O Plano reconhece os pontos fortes da Haverhill em sua comunidade vibrante e nos recursos, infraestrutura e parcerias de equidade digital existentes, ao mesmo tempo em que identifica oportunidades para promover parcerias, expandir redes de banda larga e aprimorar os serviços para proporcionar maior equidade.

Rezime Analitik

Nan yon mond k ap vin nimerik pi plis chak jou, inisyativ ki pran pou amelyore aksè ak teknoloji e ak konpetans nimerik se bagay ki esansyèl pou evite ke moun yo dezavantaje sou plan sosyal, politik oswa ekonomik. Vil Haverhill la angaje l pou li avanse ak ekite nimerik la pou li sèvi rezidan li yo pi byen.

Avèk sipò ki soti nan men Massachusetts Broadband Institute (MBI) e gras ak patenarya li ak Vanasse Hangen Brustlin (VHB), Haverhill antame yon pwosesis planifikasyon pou sis mwa pou ki devlope Plan Ekite Nimerik konplè sa a, ki kreye atravè kolaborasyon ak pati prenant lokal yo epi rezidan yo.

Malgre wo debi a disponib nan pifò rejyon yo, aksesibilite finansye, aksè ak aparèy epi fòmasyon sou konpetans nimerik yo rete kòm defi ki enpòtan nan Haverhill. Plan sa a souliyen kijan frakti nimerik la afekte popilasyon yo nan Haverhill yon fason ki dispwopòsone e li mete aksan sou nesesite pou tout rezidan yo gen entènèt wo debi ki abòdab e ki fyab. Antanke yon Vil Dakèy, Haverhill jwe yon wòl enpòtan nan sipòte entegrasyon imigran yo ak nan mobilite asandan, sa ki rann li nesesè pou remedye ak disparite sa yo.

Plan an rekonèt fòs Haverhill yo ki chita nan kominote dinamik li yo ak nan resous pou ekite nimerik ki egziste yo, nan enfrastrikti ak nan patenarya yo pandan l ap idantifye opòtinite pou favorize patenarya, elaji rezo wo debi yo epi amelyore sèvis yo pou yon meyè ekite.

Haverhill Digital Equity Plan Key Findings

Internet Affordability and Accessibility

Rising internet costs are a barrier to access for many Haverhill residents. Community Wi-Fi initiatives, such as "lift-zones" or mesh networks in public spaces, can provide affordable connectivity options in high-traffic areas, helping bridge the accessibility gap.

Resource and Device Accessibility

Haverhill residents need better access to digital resources and devices. Creating a multilingual digital resource guide and partnering with local organizations for "learn-to-earn" programs and device refurbishment services will expand resource and device accessibility for those in need.

Digital Literacy and Training Needs

Gaps in digital literacy affect a wide range of groups in Haverhill, from students and parents to aging adults. Establishing and expanding upon existing digital literacy programs focused on cybersecurity, telemedicine, and digital citizenship will support these diverse learning needs and promote safer, more confident technology use.

Community Engagement and Inclusivity

Effective community engagement requires culturally relevant and accessible outreach. Collaborating with trusted local organizations and providing multilingual training options will help ensure that digital equity efforts reach all population groups.

Workforce Development and Broadband Infrastructure

Skill gaps in manufacturing and technology need to be addressed to prepare the public for the local workforce. Partnerships with local businesses can support blended learning models with classroom and on-site training. Reliable broadband in business parks like Ward Hill is essential to workforce and economic development efforts, with infrastructure upgrades enabling economic growth and attracting new enterprises.

Digital Equity Program Sustainability

Sustainable funding and dedicated staff, potentially including a Lead for America (LFA) fellow, are essential to ensure the long-term effectiveness of digital equity programming. Developing grant-writing resources and forming public-private partnerships can help secure ongoing financial and operational support.

Conclusiones más importantes del Plan de equidad digital de Haverhill

Asequibilidad y accesibilidad del servicio de internet

El costo creciente del servicio de internet representa un obstáculo para que muchos residentes en Haverhill accedan al servicio. Las iniciativas de wifi comunitario, como las zonas con acceso gratuito a internet o las redes en malla en espacios públicos, ofrecen opciones de conectividad asequibles en zonas con mucho tráfico de internet, lo que ayuda a reducir la brecha en la accesibilidad.

Accesibilidad de recursos y dispositivos

Los habitantes de Haverhill necesitan un mayor acceso a los recursos y dispositivos digitales. La creación de una guía de recursos digitales en varios idiomas y la asociación con organizaciones locales para implementar programas «aprender para ganar» y servicios de renovación de dispositivos ampliarán la accesibilidad de recursos y dispositivos para quienes más lo necesitan.

Alfabetización digital y necesidades de capacitación

La disparidad en la alfabetización digital afecta a grupos muy diversos en Haverhill, desde estudiantes y padres hasta adultos mayores. La creación y ampliación de programas de alfabetización digital orientados a la ciberseguridad, la telemedicina y la ciudadanía digital contribuirá a satisfacer estas diversas necesidades de capacitación y promoverá un uso de la tecnología con mayor seguridad y confianza.

Participación e inclusión de la comunidad

Para lograr una participación eficaz de la comunidad, es necesario que las actividades de difusión sean accesibles y pertinentes en términos culturales. La colaboración con organizaciones locales de confianza y la oferta de opciones de capacitación en varios idiomas ayudarán a garantizar que las iniciativas para la equidad digital lleguen a todos los grupos de la población.

Desarrollo de la fuerza laboral e infraestructura de banda ancha

Es necesario abordar la falta de competencias en el sector industrial y tecnológico capacitando a los ciudadanos para que se incorporen a la fuerza laboral local. Mediante alianzas con empresas locales se pueden implementar modelos de aprendizaje mixto con capacitación en el aula y en el lugar de trabajo. En zonas industriales como Ward Hill, es esencial contar con un servicio de banda ancha confiable que respalde las iniciativas de desarrollo económico y de la fuerza laboral, ya que la mejora de la infraestructura promueve el crecimiento económico y atrae nuevas empresas.

Sostenibilidad del programa de equidad digital

Para garantizar la eficacia de los programas de equidad digital a largo plazo, es fundamental contar con financiamiento sostenible y personal especializado, que incluya, por ejemplo, un becario del programa Lead for America (LFA). El desarrollo de recursos para asegurar el otorgamiento de subvenciones y la formación de alianzas público-privadas pueden ayudar a garantizar un respaldo financiero y operativo permanente.

Principais Conclusões do Plano de Equidade Digital da Haverhill

Acessibilidade e Custo da Internet

O aumento dos custos da Internet é uma barreira de acesso para muitos moradores de Haverhill. As iniciativas de Wi-Fi da comunidade, como "lift-zones" (zonas de conexão digital) ou redes mesh em espaços públicos, podem fornecer opções de conectividade a preços accessíveis em áreas de alto tráfego, ajudando a reduzir as lacunas de acessibilidade.

Acessibilidade a Recursos e Dispositivos

Os residentes de Haverhill precisam de melhor acesso a recursos e dispositivos digitais. A criação de um guia de recursos digitais multilíngue e a parceria com organizações locais em programas "learn-to-earn" (aprender para ganhar) e serviços de renovação de dispositivos irão expandir a acessibilidade a recursos e dispositivos para as pessoas que precisam.

Necessidades de treinamento e alfabetização digital

As lacunas em alfabetização digital afetam uma grande variedade de grupos em Haverhill, de alunos e pais a adultos com idade mais avançada. Estabelecer e expandir os atuais programas de alfabetização digital focados em cibersegurança, telemedicina e cidadania digital são iniciativas que irão apoiar essas necessidades de aprendizagem diversas e promover um uso de tecnologia mais seguro e mais confiante.

Inclusão e Envolvimento da Comunidade

Um envolvimento efetivo da comunidade requer iniciativas de extensão accessíveis e culturalmente relevantes. A colaboração com organizações locais de confiança e disponibilização de opções de treinamento multilíngue irão ajudar a garantir que os esforços de equidade digital alcancem todos os grupos populacionais.

Desenvolvimento da força de trabalho e infraestrutura de banda larga

É preciso enfrentar as lacunas de competências na fabricação e tecnologia para preparar o público para a força de trabalho local. Parcerias com empresas locais podem apoiar modelos de aprendizagem mistos, com treinamento em sala de aula e também no local de trabalho. Banda larga confiável em parques empresariais como Ward Hill é essencial para os esforços de desenvolvimento econômico e da força de trabalho, com atualizações de infraestrutura permitindo o crescimento econômico e atraindo novas empresas.

Sustentabilidade do Programa de equidade digital

Financiamento sustentável e uma equipe dedicada, possivelmente incluindo um bolsista Lead for America (LFA), são essenciais para garantir a eficácia de longo prazo dos programas de equidade digital. Desenvolver recursos para elaboração de propostas para obter bolsas e formar parcerias público-privadas pode ajudar a garantir suporte financeiro e operacional contínuo.

Konklizyon Prensipal Plan Ekite Nimerik Haverhill yo

Nivo Abòdabilite ak Askesibilite Entènèt la

Ogmantasyon pri entènèt la se yon obstak nan zafè aksè pou anpil rezidan Haverhill. Inisyativ pou Wi-Fi kominotè, tankou "lift-zones" oswa rezo ki konekte an gwoup nan espas piblik yo, kapab ofri opsyon konektivite ki abòdab nan zòn ki frekante anpil yo, sa ki ap kontribiye nan konble mank aksesibilite ki genyen an.

Aksesibilite pou Resous ak Aparèy

Rezidan Haverhill yo bezwen meyè aksè pou resous ak aparèy nimerik yo. Kreye yon gid pou resous nimerik nan plizyè lang epi fè patenarya ak òganizasyon lokal yo pou pwogram "aprantisaj" ak sèvis renovasyon aparèy pral devlope resous ak aksesibilite pou sa ki nan bezwen yo.

Bezwen pou Aprantisaj ak Fòmasyon sou Nimerik

Mank kilti nimerik ki genyen yo afekte yon gran kantite gwoup nan Haverhill, soti nan elèv ak paran rive nan adilt ki pi aje yo. Mete an plas epi devlope pwogram alfabetizasyon nimerik ki konsantre sou sibèsekirite, telemedsin, ak sitwayènte nimerik pral sipòte bezwen aprantisaj divèsifye sa yo epi ankouraje itilizasyon teknoloji ki pi sekirize, ki pi fyab.

Angajman ak Enklizivite Kominotè

Angajman kominotè ki efikas mande aksyon sansibilizasyon ki pètinan kiltirèlman e ki aksesib. Kolaborasyon ansanm ak òganizasyon lokal ki sètifye epi founi opsyon fòmasyon nan plizyè lang pral ede asire ke jefò ki fèt anfavè ekite nimerik yo rive jwenn tout gwoup popilasyon yo.

Devlòpman Mendèv ak Enfrastrikti Wo Debi

Yo dwe konble lakin ki egziste nan zafè kapasite nan domèn pwodiksyon ak teknoloji yo pou prepare piblik la pou mendèv lokal la. Patenarya ak antrepriz lokal yo ka sipòte modèl aprantisaj miks ki fèt ni nan salklas ni sou sit yo. Fyabilite wo debi nan pak aktivite komèsyal tankou Ward Hill yo esansyèl pou mendèv ak jefò pou devlòpman ekonomik yo, pou amelyorasyon enfrastrikti k ap favorize kwasans ekonomik e k ap atire nouvo antrepriz.

Dirabilite Pwogram Ekite Nimerik

Finansman dirab ak pèsonèl ki devwe, ki gen ladan yon bousye Lead for America (LFA), se eleman ki esansyèl pou asire efikasite alontèm pwogramasyon nan sa ki gen pou wè ak ekite nimerik. Devlòpman resous pou redaksyon demann sibvansyon epi kreyasyon patenarya ant sektè piblik ak prive ka ede sekirize sipò finansye ak operasyonèl pèmanan.

Haverhill Digital Equity Plan Goals

1. **Ensure equitable connectivity and broadband access** amongst Haverhill residents through collaboration with local, regional, and statewide partners.

2. **Promote opportunities for digital devices** to be available at home and in publicly accessible locations.

3. **Expand community educational opportunities** to increase digital literacy and resident's confidence with using digital technology.

4. **Maintain a strong momentum with public outreach** and engagement to make it easy for residents to keep up to date with the latest digital equity

5. **Strengthen internal capacity amongst local institutions** doing work to eliminate the digital divide in Haverhill.

6. **Prioritize workforce development** as a key component of digital equity work and engage appropriate partners.

7. **Promote public improvements** for digital equity in Haverhill.

Objetivos del plan de equidad digital de Haverhill

1. **Garantizar la equidad en la conectividad y el acceso a la banda ancha** entre los residentes de Haverhill mediante la colaboración de socios locales, regionalesy estatales.

2. **Promover oportunidades de acceso a dispositivos digitales** tanto en el hogar como en lugares públicos.

3. **Ampliar las oportunidades educativas en la comunidad** para aumentar la alfabetización digital y la confianza de los residentes en el uso de la tecnología digital.

4. **Mantener el impulso en la divulgación pública** y en el compromiso para facilitar que los residentes estén al tanto de las últimas novedades en equidad digital.

5. **Fortalecer la capacidad interna de las instituciones locales** que trabajan para eliminar la brecha digital en Haverhill.

6. **Priorizar el desarrollo de la fuerza laboral** como componente fundamental del trabajo de equidad digital y convocar a los socios adecuados.

7. **Promover mejoras públicas** para alcanzar la equidad digital en Haverhill.

Metas do Plano de Equidade Digital de Haverhill

1. **Garantir conectividade equitativa e acesso à banda larga** aos residentes de Haverhill por meio de colaboração com parceiros locais, regionais e estaduais.

2. **Promover oportunidades para que dispositivos digitais** estejam disponíveis em casa e em locais com acesso público.

3. **Expandir as oportunidades educacionais da comunidade** para aumentar a alfabetização digital e a confiança dos residentes no uso da tecnologia digital.

4. **Manter um momento forte com extensão ao público** e engajamento para tornar mais fácil para os residentes permanecerem atualizados com as últimas notícias sobre equidade digital resources.

5. **Fortalecer a capacidade interna entre as instituições locais,** trabalhando para eliminar os divisores digitais em Haverhill.

6. **Priorizar o desenvolvimento da força de trabalho** como um componente essencial do trabalho de equidade digital e envolver os parceiros apropriados.

7. **Promover melhorias públicas** em prol da equidade digital em Haverhill.

Objektif Prensipal Plan Ekite Nimerik Haverhill yo

1. **Asire konektivite ki ekitab ak aksè ak wo debi** kay rezidan Haverhill yo atravè kolaborasyon ak patenè lokal, rejyonal ak nasyonal.

2. **Ankouraje opòtinite pou gen aparèy nimerik** ki disponib ni adomisil ni nan espas ki aksesib pou piblik la.

3. **Elaji posibilite pou fòmasyon nan kominote a** pou ogmante kilti nimerik la ak konfyans rezidan yo nan itilizasyon teknoloji nimerik yo.

4. **Kenbe yon dinamik ki fò anpil gras ak sansibilizasyon** enplikasyon piblik la pou rann li pi fasil pou rezidan yo pou yo enfòme sou dènye nouvote ki genyen nan zafè ekite nimerik la resources.

5. **Ranfòse kapasite entèn pami enstitisyon lokal** k ap travay pou elimine diferans nimerik ki genyen nan Havervill la.

6. **Priyorize devlòpman mendèv** la kòm yon eleman prensipal anfavè ekite nimerik la epi enplike patenè ki apwopriye yo.

7. **Favorize amelyorasyon piblik** anfavè ekite nimerik la nan Haverhill.

02

Introduction

In today's evolving society, the digital divide influences the education, work, social interactions, and personal lives of Haverhill's residents. Special attention must be given to vulnerable groups, such as low-income families, older adults, and individuals living with language barriers, who are disproportionately impacted by the digital divide.

The digital divide creates inequities between those with and without access to broadband or devices. In an era of rapid technological advancements that transform our engagement with society, democracy, and the economy, communities must ensure that resources are available to help individuals safely connect to the internet. Digital devices today are necessities, rather than luxuries, as they are the means for individuals to access healthcare, personal finances, and other essential services. The COVID-19 pandemic significantly accelerated society's reliance on broadband and technology, highlighting the impacts of the digital divide. As technology continues to advance aspects of many people's lives, it also increases the risk for marginalized communities to be left behind.

Haverhill's Digital Equity Plan aims to analyze the digital divide and identify ways to improve digital equity for all of Haverhill's residents. This report provides a snapshot of the City's current digital equity conditions. Elected officials, municipal staff, digital equity partners, and community members have contributed to the goals of this plan in order to create a blueprint for a digitally equitable future for all Haverhill residents.

03

What is Digital Equity?

The digital divide refers to the disparity between individuals with affordable access, necessary skills, and support for effective online engagement, and those without these resources. Digital inclusion efforts aim to close this gap by ensuring that marginalized communities receive the additional assistance they may need. The ultimate goal is digital equity, where all community members have equal opportunities and support to fully participate and engage in the digital world.

Remedying the Digital Divide with Digital Inclusion

The work to remedy the digital divide is called **digital inclusion**. Digital inclusion refers to "activities necessary to ensure that all individuals and communities, including the most disadvantaged, have access to and use of Information and Communication Technologies (ICTs)."[1] ICTs are an extension of information technologies (ITs) which encompass the hardware, software, and systems that make up communications infrastructure. The National Digital Inclusion Alliance (NDIA) has outlined five key elements essential for enabling all individuals and households to utilize these technologies:

1. Affordable, robust broadband internet service;

2. Internet-enabled devices that meet the needs of the user;

3. Access to digital literacy training;

4. Quality technical support; and

5. Applications and online content designed to enable and encourage self-sufficiency, participation, and collaboration.

The Goal: Digital Equity

Digital Equity is defined as "a condition in which all individuals and communities have the information technology capacity needed for full participation in our society, democracy, and economy, facilitating lifelong learning and access to essential services."[2] This Plan strives to achieve digital equity by tackling issues related to **broadband access**, **device access**, and **digital literacy**. **Chapter 9** includes recommendations for addressing these key aspects of digital equity.

Broadband Access refers to the ability and use of high-speed internet services (defined by the FCC as 100/20 Mbps) through technologies like fiber, coaxial cable, fixed wireless, DSL, and satellite. Key aspects of broadband access include availability, affordability, and adoption through internet subscriptions.

Device Access refers to the ability of individuals to use electronic tools that process, store, and transmit digital data, including computers, tablets, smartphones, smartwatches, and other connected devices. Key aspects of device access include availability, affordability, and applicability.

Digital Literacy refers to skills required to navigate, evaluate, and create information using technology effectively and responsibly. These skills are crucial for using technology for education, employment, healthcare, civic activities, and social interaction.

Haverhill Public Library Computers

04

Our Process

This chapter outlines the inclusive, data-driven approach used to understand the digital needs of Haverhill's residents. Through community engagement, stakeholder collaboration, and a thorough analysis of local challenges and opportunities, the planning process was designed to identify and address the unique needs of Haverhill's vulnerable populations and inform strategies to close the digital divide.

Digital Equity Steering Committee

The Digital Equity Steering Committee (the Committee) has worked in tandem with VHB to manage the processes of this Plan, provide connections with key stakeholders, and offer strategic planning support. The Committee consists of elected City officials, representatives of various City departments, the public library, and local non-profit organizations.

The Digital Equity Plan's Steering Committee:

- Andrew Herlihy, Division Director, City of Haverhill Community Development
- Dan Robertson, Haverhill Resident & Board Member, Open Hand Pantry,
- Doug Russell, Director of IT, City of Haverhill & Haverhill Public Schools
- John A. Michitson, Haverhill City Council
- Josselyn De León-Estrada, Mayor's Office, City of Haverhill
- Lisbeth Valdez, Program Director, MakeIT Haverhill
- Melinda Barrett, Mayor, City of Haverhill
- Renee McGuire, Program Director, MakeIT Haverhill
- Sarah Moser, Director, Haverhill Public Library
- Vinnie Ouellette, Director, City of Haverhill Human Services

Public Engagement

The City of Haverhill ensured public data for the Digital Equity Plan was enhanced through comprehensive community engagement. VHB worked with the Committee to identify well-attended public events to reach a broad audience while organizing dedicated digital equity events. These efforts included participation in pop-up events, stakeholder interviews, and related discussions, as well as hosting two Public Meetings to better understand Haverhill's specific needs regarding broadband access, device affordability, and digital literacy training. Insights from these community and stakeholder interactions were instrumental in shaping the goals and action items outlined in **Chapter 9**. Seven stakeholder sessions were conducted during the planning process, involving representatives from various organizations. All meeting notes are available in the **Appendix** of this report.

Stakeholder Interviews: Stakeholder interviews were hosted during the planning process. This includes discussions with representatives from the following organizations:

- Community Action, Inc.
- Emmaus Inc.
- Essex County Community Foundation (ECCF)
- Haverhill City & Public Schools IT Department
- Haverhill Community Development Department
- Haverhill Council on Aging
- Haverhill Housing Authority
- Haverhill Mayor's Office
- Haverhill Promise
- Haverhill Public Library
- Latino Coalition Haverhill
- MakeIT Haverhill (part of Community Action, Inc.)
- Merrimack Valley Planning Commission (MVPC), Community & Economic Development Department
- Northern Essex Community College
- Umass Lowell Haverhill Innovation Hub

Additional Interviews:

- Center for Assistance to Families (CAF) - Centro de Apoyo Familiar

- Comcast

- Merrimack Valley Transit Authority (MeVA)

VHB and the Steering Committee collaborated to identify public events at strategic stages of the planning process. All public engagement was conducted in person, at well-attended community events or dedicated public meetings focused on digital equity. Promotional flyers were used to encourage participation in MBI's statewide survey. These flyers were translated into Haitian Creole, Portuguese, and Spanish, and translators for these languages were present at all meetings and events to ensure inclusive community engagement.

LEFT: Community engagement at National Night Out pop-up on August, 6th 2024.
CENTER: VHB presents at Public Meeting #1 on August 29th, 2024.
RIGHT: VHB's Christa McGaha engages with resident at the Haverhill Farmer's Market pop-up on September 21st, 2024.

Public Meeting #1: Interested parties gathered at the Haverhill Public Library on Thursday August 29th, 2024 at 6:30 pm for a discussion on digital equity. Participants discussed Haverhill's digital equity needs and which resources could use more support.

Pop-up Event #1: VHB tabled National Night Out on Tuesday August 6th, 2024 from 5-8 pm at Swazey Field in Haverhill. Tabling included interactive activities so residents could vote on what changes they would like to see in Haverhill regarding digital equity and whether or not they thought their internet service was reliable.

Pop-up Event #2: VHB tabled the Haverhill Farmers Market on Saturday September 21st, 2024. Similar to **Pop-up Event #1**, VHB provided space for interactive activities so residents could vote on what changes they would like to see in Haverhill regarding digital equity.

Public Meeting #2: A second hybrid public meeting was held on Monday, November 18th, 2024, at 3:00 pm, both in person at Haverhill City Hall's Council Chambers and online via Zoom. Following a presentation on the planning process, participants joined breakout discussion groups, either virtually or in person, to provide feedback on the proposed goals and action items for the Digital Equity Plan.
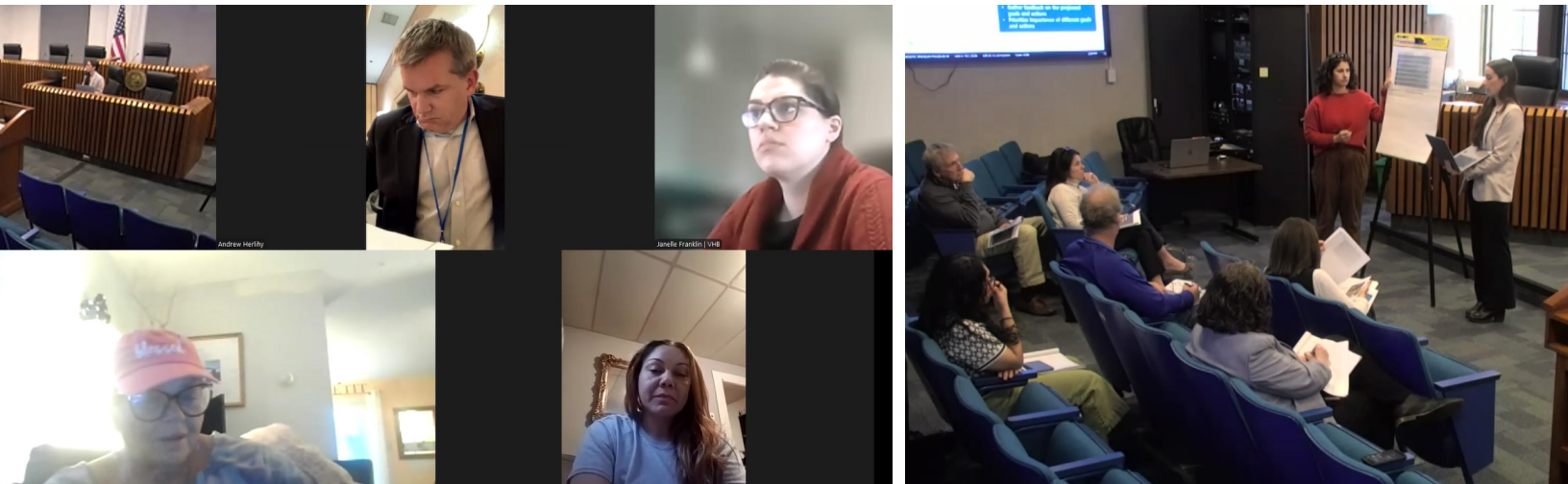
LEFT: Virtual breakout discussion at Public Meeting #2 on November, 18th 2024.
RIGHT: In-person discussion at Public Meeting #2 on November, 18th 2024.

Statewide Digital Equity Survey: In June 2023, MBI launched a Statewide Digital Equity Survey to understand Massachusetts residents' internet access and digital equity needs. As of October 10th, 2024, Haverhill participants comprised a sample group of 55 responses, all City residents, all aged 18 years and over.

Community Action Digital Needs Survey: Community Action, Inc. (MakeIT Haverhill) conducted a Digital Needs Survey targeting residents of two senior affordable housing communities in Haverhill: Phoenix Row and Button Woods. Phoenix Row, managed by Bethany Communities, provides 96 affordable apartments for individuals aged 62 and older. Button Woods, managed by the Order of American Hellenic Educational Progressive Association (AHEPA 39), serves low-income seniors aged 62 and above. The survey focused on assessing residents' digital equity needs, including internet access and digital resources within their buildings. On November 18th, 2024, Community Action presented the Digital Equity Steering Committee with 75 survey responses from the two properties, offering insights into internet access, Wi-Fi availability, and support for on-site digital literacy classes.

05

Community Assessment

The City of Haverhill, Massachusetts (population 67,415) is a vibrant city in the Merrimack Valley in Essex County. The City's unique character is defined by its diverse community, culture, and rich historical background. This chapter provides a comprehensive analysis of Haverhill's physical and digital landscape, examining residents' access, adoption, and digital literacy to identify gaps and inform targeted solutions.

Haverhill Existing Conditions

Downtown Haverhill is known for its riverfront along the picturesque Merrimack River, which bisects the city. Haverhill is one of 26 "Gateway Cities" in Massachusetts. Haverhill earned this classification due to the city being a mid-size urban center that serves as an economic anchor in the region. Historically, the City of Haverhill provided industrial jobs in shipbuilding as well as shoe, comb, and hat making. However, with the decline of manufacturing jobs, Haverhill, along with other Gateway Cities, struggled to attract new investments to revitalize the economy.

Haverhill has a strong sense of community and culture, with numerous local organizations, neighborhood associations, and volunteer groups actively working to improve the quality of life for residents. Neighboring communities include Methuen, Merrimac, Lawrence, North Andover, West Newbury, Groveland, and Boxford. Community institutions and organizations such as MakeIT Haverhill, UMass Lowell, the Citizen's Center, and the Haverhill Public Library ensure residents have access to various amenities and social activities.

Digital Equity Planning Work to Date

Summarizing digital equity planning work to date is essential for providing a comprehensive understanding of the City's progress, aligning efforts with broader regional and state initiatives, and identifying gaps or opportunities for future action. By reviewing

key documents like regional and state digital equity and economic development plans, the local master plan, and the public library's strategic plan, the city can ensure that its strategies are well-coordinated and support overarching goals. Additionally, reflecting on ongoing programs, such as Umass Lowell's Digital Equity Challenge and Partnership Programs, helps to showcase successes, highlight collaboration, and demonstrate a commitment to addressing digital disparities. This summary not only informs stakeholders but also creates a solid foundation for refining and advancing future digital equity efforts.

Figure 1: Haverhill Digital Equity Planning Work To Date
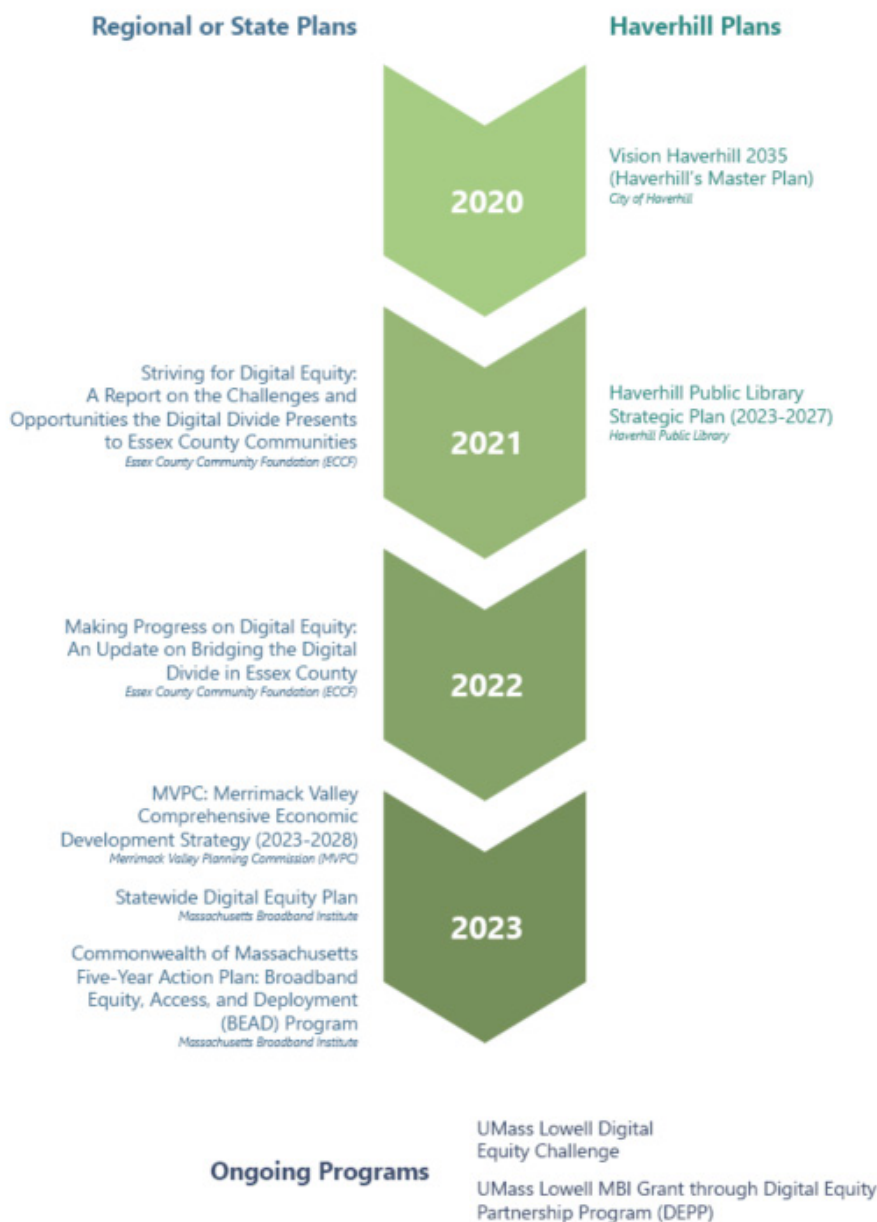
Broadband Internet Availability, Affordability, and Adoption

Massachusetts' Statewide Digital Equity Plan assessed broadband availability, affordability, and adoption across the Commonwealth.

Availability refers to an individual's ability to get high-quality, high-speed internet available for them to use, regardless of their ability to pay for this service.

Affordability refers to an individual's ability to pay for high-speed internet, regardless of the availability of high-speed internet.

Adoption was calculated by MBI as the combined outcome of both availability and affordability, whether residents subscribe to high-speed internet plans.

Figure 2: Common Internet Terms and Meanings

FIXED

Fiber Optic transmits data through fiber optic cables.

Cable Modem transmits data through the same cable that supplies cable television service.

VDSL—Very High-Speed Digital Subscriber Line transmits data over traditional telephone lines.

Fixed Antenna Wireless transmits data across radio waves using broadcast towers.

Satellite transmits data from a satellite, to an antenna, and then to a router or device. Traditionally used for remote locations.

FASTER

SLOWER

MOBILE

5G fifth generation wireless is the latest wireless technology and can be delivered by both 5G small cell antennas and large towers.

4G fourth generation wireless is the predecessor of 5G. It supports high speed internet but is slower than 5G.

3G third generation wireless led the use of a network of cell towers to pass signals for fast, stable internet.

Mobile Network provided by smartphone or mobile phone provider networks (AT&T, Verizon, T-Mobile, etc.)

Source: What is Broadband – Connect Beaver County

The following section assesses the availability, affordability, and adoption of internet services in Haverhill.

Availability

Haverhill residents have several options for internet connectivity, including wired connections like DSL, coaxial cable, and fiber optic cable, and wireless options like satellite and fixed wireless (transmitted through antennas).

The **Federal Communications Commission** (FCC) evaluates broadband availability and speeds at **Broadband Serviceable Locations** (BSLs), which are defined as business or residential locations in the U.S. where mass-market fixed broadband internet access can be installed. Examples of BSLs include single-family homes, townhouses, apartment buildings, restaurants, retail shops, and schools. Structures not considered BSLs include barns, sheds, accessory dwelling units (ADUs), and standalone garages. In 2024, the FCC updated the definition of high-speed broadband from 25/3 Mbps to 100/20 Mbps to align with advancing technologies.

Table 1 shows the number of unserved, underserved, and served BSLs in Haverhill and surrounding communities as of May 2024, according to the MBI's updated Broadband Map (May 2024). 26 BSLs in Haverhill are unserved, meaning these locations do not have internet at speeds of at least 25 megabits per second (Mbps) download and 3 Mbps upload (written 25/3 Mbps). Nine BSLs in Haverhill are underserved, meaning these locations do not have internet at speeds of at least 100/20 Mbps. 15,832 (99.78%) of BSLs in Haverhill are served, meaning these buildings receive broadband service at speeds exceeding 100/20 Mbps. Notably, Haverhill has a higher number of unserved BSLs than any of its surrounding communities.

Table 1: Number of Served, Underserved, Unserved BSLs Compared to Surrounding Municipalities.

Municipality	Served	Underserved <100/20 Mbps download/upload speed	Unserved <25/3 Mbps download/upload speed	Total BSLs
Haverhill*	**15,832** (99.78%)	**9** (0.06%)	**26** (0.16%)	**15,867**
Merrimac	2,279 (99.52%)	8 (0.35%)	3 (0.13%)	2,290
West Newbury	1,673 (99.82%)	1 (0.12%)	2 (0.06%)	1,675

|				
Groveland	2,202 (99.50%)	4 (0.18%)	7 (0.32%)	2,213
Boxford	2,771 (99.60%)	1 (0.04%)	10 (0.36%)	2,782
Methuen*	14,054 (99.93%)	2 (0.01%)	8 (0.06%)	14,064
North Andover.	7,840 (99.85%)	3 (0.04%)	9 (0.11%)	7,852
Lawrence*	11,799 (99.92%)	-	10 (0.08%)	11,809
Lowell*	20,073 (99.89%)	10 (0.05%)	12 (0.06%)	20,095
Dracut	9,316 (99.73%)	8 (0.09%)	17 (0.18%)	9,341

* Municipalities characterized as a Gateway City CC

Source: MBI Broadband Map, May 2024

Figure 3 indicates the location of unserved and underserved BSLs in Haverhill as shown on MBI's Broadband Map. Unserved and underserved locations are spread out in different areas of the city except for one major cluster of unserved BSLs at the Village at Brickett Hill, a condominium complex located on the city's northern edge that abuts the New Hampshire state line. **Figure 4** shows a more detailed picture of these 14 unserved BSLs that do not have internet access along Brickett Hill Circle.

Community Action Inc's Digital Needs Survey of residents of the Phoenix Row and Button Woods senior affordable housing communities reports that 77% (58 respondents) report having an internet connection at home, however, 23% (17 respondents) reported not having an internet connection at home.

Figure 3: Haverhill Underserved and Unserved Locations

Underserved Locations

Unserved Locations
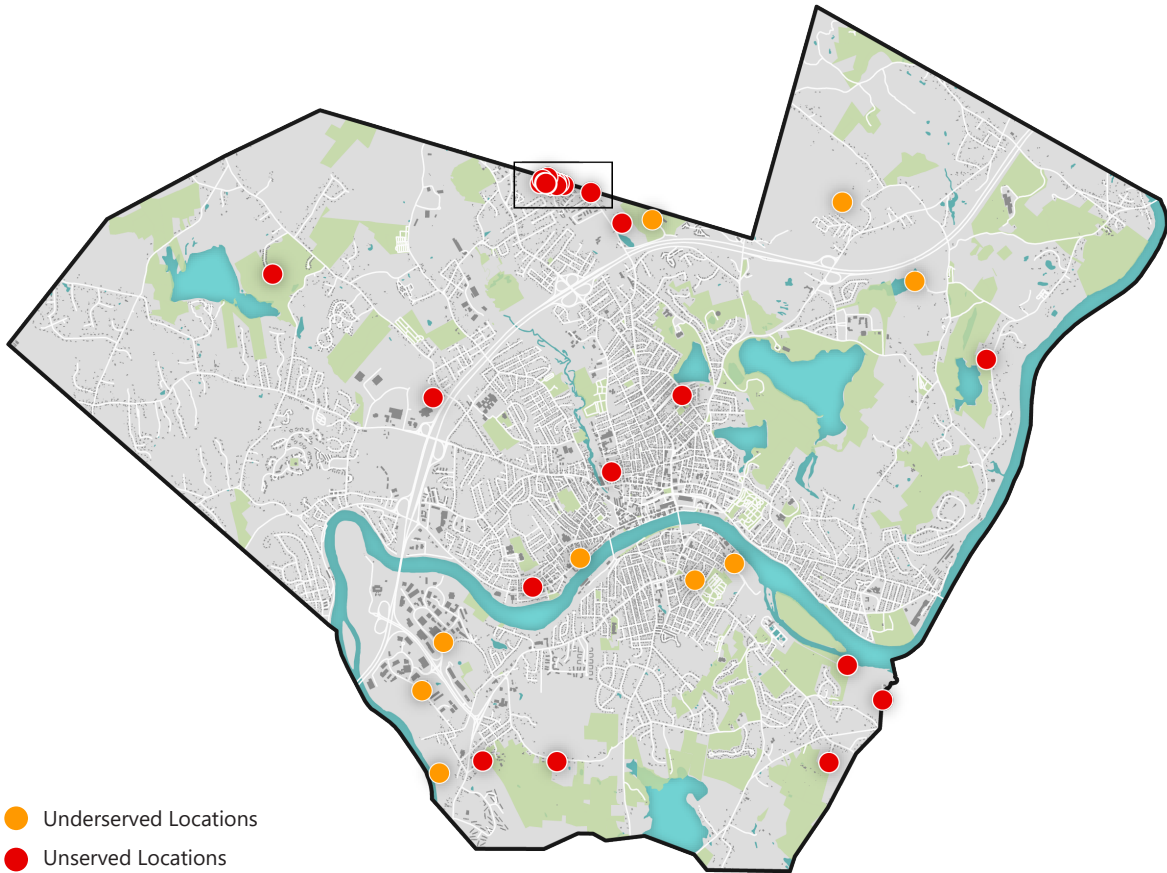
Source: MBI Broadband Map, May 2024

Figure 4: Partial Plan: Haverhill Residential Unserved Neighborhood

Source: MBI Broadband Map, May 2024

Adoption

The third pillar of internet access is **broadband adoption**, or the means by which individuals and households acquire access to internet services, typically through subscribing to an **internet service provider (ISP)**.

Despite challenges with service availability and affordability, an estimated 90% of Haverhill households subscribed to internet services in 2022, slightly below the estimates for Essex County (90%) and the state (90%). **Table 2** displays the number of households in Haverhill that have subscribed to internet services and the types of internet connections. According to 2022 ACS data, 90% of Haverhill households have broadband internet. Among these, 81% use wired connections like cable, fiber, or DSL; 7% rely solely on cellular data plans; and 3% use satellite. Meanwhile, 8% (or **2,015 households**) are not subscribed to any internet service. By improving broadband access and affordability, Haverhill could increase the adoption of reliable, high-speed broadband services in households.

Table 2: Presence and Types of Internet Subscriptions in Households in Haverhill 2022

Types of Internet Subscriptions	Estimated Number of Households	Estimated Percent of Total Households
With an Internet subscription	23,300	89.7%
Dial-up with no other type of Internet subscription	24	0.1%
Broadband of any type	23,276	89.6%
Cellular data plan	21,824	84%
Cellular data plan with no other type of Internet subscription	1,906	7.3%
Broadband such as cable, fiber optic or DSL	21,029	81%
Broadband such as cable, fiber optic or DSL with no other type of Internet subscription	1,348	5.2%
Satellite Internet Service	643	2.5%
Satellite Internet Service	8	0.03%
Internet access without a subscription	661	2.5%
No internet access	2,015	7.8%

American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B28002, 2022

Haverhill residents can access the internet through a variety of technologies and service providers. **Table 3** provides an overview of ISPs and connection types available in Haverhill. Haverhill's most prominent ISP is Comcast Communications (Xfinity), which provides coaxial cable that serves 20,343 locations (99.7% of Haverhill's total BSLs). In addition to wired connections, Haverhill's residents and businesses can also access the internet via wireless connection types, including satellite (through ISPs such as HughesNet and Viasat) and licensed fixed wireless with T-Mobile.

Table 3: ISPs and Reported Speeds in Haverhill

Internet Service Provider	Connection Type	Percent Households Serviceable	Advertised Maximum Speeds (Download/ Upload Mbps)
Hughes Network Systems, LLC	Satellite	100%	25/3
Space Exploration Technologies Corp.	Satellite	100%	100/20
Viasat, Inc.	Satellite	100%	25/3
Charter Communications (dba Comcast) Source: MBI Broadband Map, May 2024	Cable	94%	250/25
Verizon Communications Inc.	Cable	72%	100/20
T-Mobile USA, Inc.	Fixed Wireless	57%	100/20
Comcast Corporation	Fixed Wireless	0.5%	250/25

Source: FCC National Broadband Map, 2022

This data does not account for speeds during peak usage times (e.g. internet usage is typically higher at 2 pm than at 4 am), which can significantly reduce internet speeds. Speed test diagnostic data can highlight discrepancies between speeds reported by ISPs and the actual speeds experienced by households and businesses.

Table 4 shows Ookla speed test data collected from November 2021 to December 2022[4]. During this period, 14,473 tests were submitted by 2,227 unique BSLs in Haverhill. Of these tests, 2% reported speeds below 25/3 Mbps, 5% were below 50/10 Mbps, and 18% were below 100/20 Mbps. Only 42% of all tests in Haverhill showed speeds above 100/20 Mbps, the FCC's minimum standard for high-speed broadband service.

Table 4: Customer Reported Broadband Speeds (Nov. 2021- Dec. 2022)

| Criteria	Number of Tests	Percent of Total
Total Tests	14,473	-
Unique ID Tests	2,227	15.4%
Jitter >50	742	5.1%
Latency >100 ms	57	0.4%
Latency >500 ms	5	0%
Speeds less than 25/3 Mbps	294	2%
Speeds less than 50/10 Mbps	938	5%
Speeds less than 100/20 Mbps	2,613	18%
Speeds at least 25/3 Mbps	13,246	92%
Speeds at least 50/10 Mbps	10,379	72%
Speeds at least 100/20 Mbps	6,044	42%
Speeds at least 100/100 Mbps	24	0.2%

Source: Ookla 2022

Broadband Affordability

The second key aspect of broadband access is affordability. Even if a household can connect to the Internet, the monthly subscription cost may be too expensive for some. Survey data gathered during the digital equity planning process will show how much Haverhill residents pay each month for their internet services.

An additional challenge to affordability is the rollback of the FCC's **Affordable Connectivity Program** (ACP). Funded through the Bipartisan Infrastructure Law, the ACP formerly provided a $30 per month internet subsidy to eligible households. Households previously enrolled in the ACP were eligible to receive a one-time discount of up to $100 to purchase a desktop computer, laptop, or tablet from participating ISPs. **Figure 5** demonstrates the percent of households that formerly subscribed to ACP in Haverhill in 2022 (25,976 households, or 10% of total households in zip codes 01830, 01832, and 01835) compared to surrounding geographies including Lowell, Lawrence, Methuen, and Dracut.

Figure 5: Percentage of ACP subscribers per households - Municipality Comparison 2022
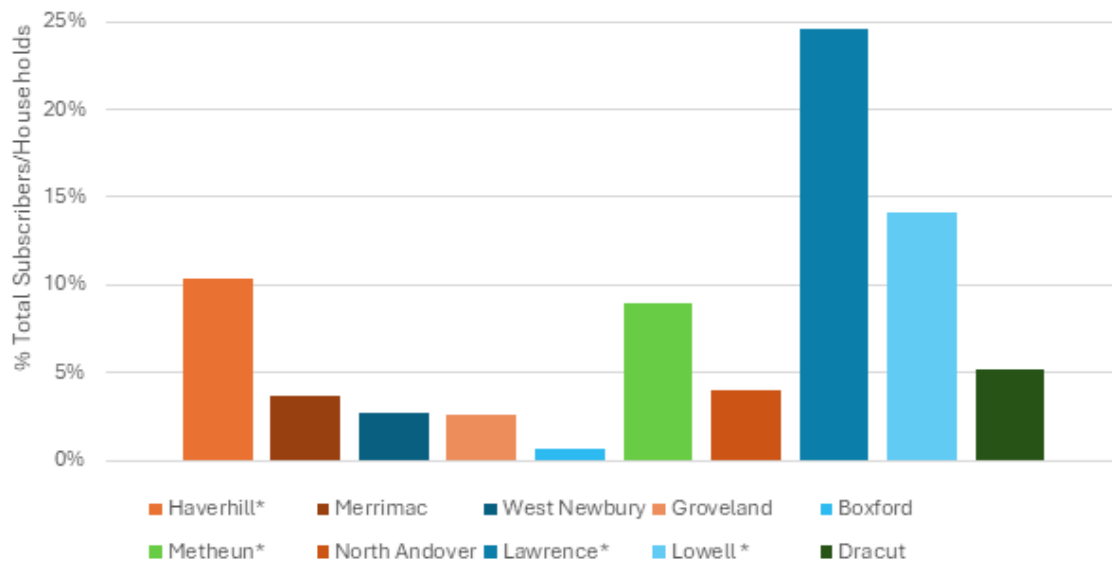
Source: USAC, ACP Households by Zip, December 2022 / U.S. Census Bureau. "Selected Social Characteristics in the United States." American Community Survey, ACS 5-Year Estimates Data Profiles, Table DP02, 2022

In January 2024, the FCC announced that ACP enrollment would be halted as funding runs out. To address this new gap between ACP enrollees and affordable internet, the City needs to identify and promote alternative internet subsidy options for residents. Options include discount programs provided by ISPs like the Comcast Internet Essentials program or government subsidy programs such as FCC's Lifeline.

- **Comcast Internet Essentials** can provide household with speeds up to 50 Mbps for only $9.95/month. (Xfinity)
- **Lifeline** provides up to a $9.25 monthly discount on service for eligible low-income subscribers. (FCC)

Device Access

According to 2022 American Community Survey data, about 95.2% of households in Haverhill have a computer, slightly higher than the rates in Essex County (94%) and the state (94%). The data also shows that most Haverhill households access the Internet through a desktop or laptop (82.2%) or a smartphone (87.5%). Additionally, 65.6% of households have a tablet or another wireless computer. However, around 6.4% of households (1,655) reported having only a smartphone with no other computing device, and 4.8% of households (1,250) reported having no computer at all.

Table 5: Types of Computers in Households in Haverhill

Types of Computers	Estimated Number of Households	Estimated Percent of Total Households
Speeds less than 25/3 Mbps	24,726	95.2%
Desktop/Laptop	21,348	82.2%
Desktop/Laptop with no other type of computing device	1,071	4.1%
Smartphone	22,740	87.5%
Smartphone with no other type of computing device	358	6.4%
Tablet or other portable wireless computer	17,043	65.6%
Tablet or other portable wireless computer with no other type of computing device	358	1.4%
Other Computer	465	1.8%
Other computer with no other type of computing device	0	0
No computer	1,250	4.8%

Source: U.S. Census Bureau. "Types of Computers in Household." American Community Survey, ACS 5-Year Estimates Detailed Tables, Table B28001, 2022

Even for households with one computer, a single device might not be sufficient to meet all residents' needs. Different household members may require a computer for various purposes such as work, school, entertainment, or personal projects. Sharing one device can be inconvenient and impractical if multiple individuals need to use it simultaneously. Additionally, sharing devices can pose privacy risks, as one computer stores browsing history, files, and potentially sensitive information. Multiple devices can enhance privacy for each user.

For residents without a computing device, public computers can be a solution. The Haverhill Public Library currently offers 26 computers for patron use and provides six laptops and 16 hot spots that can be checked out for up to one week. For those who wish to purchase a device but cannot afford the high upfront cost, community organizations like MakeIT Haverhill partner with groups that sell refurbished devices.

Digital Literacy

Digital literacy is a critical pillar of digital equity and involves the ability of users to understand and comfortably navigate technology and the Internet. Offering both in-person and virtual training opportunities can cater to various learning styles, accessibility needs, and personal preferences, ensuring broad participation and success. Virtual formats, such as video tutorials, online quizzes, web conferencing, and webinars, provide convenient and flexible learning options, allowing users to learn at their own pace and schedule. Many free online resources are available to improve digital literacy, including Digital Learn, Khan Academy, Microsoft Digital Literacy Curriculum, EdX, and Northstar Digital Literacy.

MakeIT Haverhill Located at 301 Washington St in Haverhill

In-person classes are also valuable, offering direct, hands-on learning experiences that benefit those who prefer face-to-face interaction or struggle with virtual learning. These classes provide immediate feedback and a better understanding through traditional teaching methods. Currently, the Haverhill Public Library, MakeIT Haverhill, the UMass Lowell Innovation Hub Haverhill, and Haverhill Public Schools offer classes or tech support services to individuals needing help with basic computer tasks, such as sending emails,

setting up passwords, or accessing telehealth portals.

Community Action Inc's Digital Needs Survey of residents of the Phoenix Row and Button Woods senior affordable housing communities reports that 51% (37 residents) would be very likely to attend on-site classes offered by a digital navigator. Additionally, 59% (42 residents) report the same for scheduling an appointment with a digital navigator to answer specific digital questions.

Vulnerable Populations

The Digital Equity Act of 2021 identified eight "covered populations" that are historically vulnerable to digital inequity because of certain demographic and economic characteristics. These eight categories are:

- Individuals who live in covered households (household income no more than 150% of federal poverty threshold)
- Aging individuals (60 years and older)
- Incarcerated individuals, other than individuals who are incarcerated in a federal correction facility
- Veterans
- Individuals with disabilities
- Individuals with a language barrier, including individuals who are English learners and have low levels of proficiency
- Individuals who are members of a racial or ethnic minority group
- Individuals who primarily reside in a rural area

The **National Telecommunications and Information Administration's** (NTIA's) Digital Equity Act Population Viewer allows users to visualize Census data pertinent to "covered populations" at the national, state, county, and tract level. This viewer shows that 63.9% of Haverhill's population is considered "covered."

Table 6 shows Haverhill's various covered populations. 29.5% of the population in Haverhill are of racial or ethnic minority, 19.5% are over the age of 60, 18.3% have a language barrier, and 13.7% have a disability. Identifying Haverhill's covered populations illuminates where the city can focus and help connect these individuals to resources to bridge the digital divide.

Table 6: Digital Equity Act Population Viewer Covered Population in Haverhill

Key Markers	Haverhill Average of the 14 census tracts*	Essex County	State of Massachusetts
Total Population[1]	4,498	789,034	6,981,974
Total Covered Population[1]	2,914	534,130	5,014,000
Covered Population[1]	63.9%	67.7%	72.2%
In covered households[1]	20.1%	16.6%	15.8%
Aged 60 or over[1]	**19.5%**	23.3%	24.9%
Incarcerated[1]	0%	0.2%	0.2%
Veteran[1]	4.5%	4.2%	3.5%
With a disability[1]	**13.7%**	12.4%	13.1%
With a language barrier[2]	**18.3%**	21.5%	19.5%
English Learners[1]	6.3%	11.11%	10.1%
Low Literacy[3]	N/A	19.0%	17.3%
Racial or ethnic minority[1]	**29.5%**	29.7%	33.0%
Rural[4]	0%	3.9%	15.0%
Population in households lacking fixed broadband availability[5]	N/A	1.1%	1.3%
Population in households lacking computer or broadband subscription[1]	13.2%	10.9%	5.4%
Population not using the internet[6]	N/A	N/A	19.5%
Population not using a PC or tablet computer[6]	N/A	N/A	30.5%

Census tracts: 2601, 2602, 2603.01, 2603.02, 2604.01, 2604.02, 2605, 2606, 2607, 2608, 2609, 2610, 2611.1, 2611.02

[1] U.S. Census Bureau, 2022 1-Year American Community Survey (ACS) Estimates
[2] U.S. Census Bureau, 2022 1-Year American Community Survey (ACS) Estimates;
[3] National Center for Education Statistics (NCES), 2017 Program for the International Assessment of Adult Competencies (PIAAC)
[4] U.S. Census Bureau, 2022 1-Year and 2018–2022 5-Year American Community Survey (ACS) Estimates
[5] Federal Communications Commission (FCC), 2024 Section 706 Report, released March 18, 2024
[6] National Telecommunications and Information Administration (NTIA), 2021 NTIA Internet Use Survey

Environmental Justice Populations in Haverhill

In Massachusetts, **Environmental Justice** (EJ) populations refer to communities that experience disproportionate environmental burdens and may lack the resources to effectively address those impacts. The state defines EJ populations using specific criteria, often focusing on areas where residents may be more vulnerable to environmental risks due to factors like income, language, and race. The City of Haverhill has multiple communities with EJ populations, including the following:

- Minority*
- Minority & Income**
- Minority & Income & English Isolation***

*Minority: the block group minority population is ≥40%, or the block group minority population is ≥25% and the median household income of the municipality of the block group is <150% of the Massachusetts median household income
**Income: at least 25% of households have a median household income ≤65% than the statewide median household income
***English Isolation: ≥25% of households lack English proficiency

Identifying EJ populations is crucial for digital equity planning in a Gateway City because these communities are often disproportionately impacted by digital exclusion. These populations may face barriers such as limited access to affordable internet, devices, or digital literacy programs, which can deepen existing inequalities in education, employment, healthcare, and civic participation. By pinpointing where these populations are located and understanding their specific needs, Haverhill can tailor digital inclusion initiatives to ensure these communities are prioritized in efforts to close the digital divide. Targeted interventions can help bridge gaps in access, fostering economic mobility and social inclusion, while also aligning with broader goals of equity and EJ.

Figure 7 shows a concentration of minority and low-income populations surrounding downtown Haverhill expanding out to the Washington Street and Main Street Village Centers. The Primrose Street Village Center area is shown to be the most vulnerable with low-income and minority populations that also struggle with English isolation. Heavily promoting digital equity resources, trainings, programs, and initiatives in these specific locations in Haverhill in multiple languages like Spanish, Haitian Creole, and Portuguese is necessary to reach the communities most vulnerable to the impacts of the digital divide.

Figure 7: Map of Massachusetts 2020 Environmental Justice Populations in Haverhill

Minority
Minority & Income
Minority & Income & English Isolation
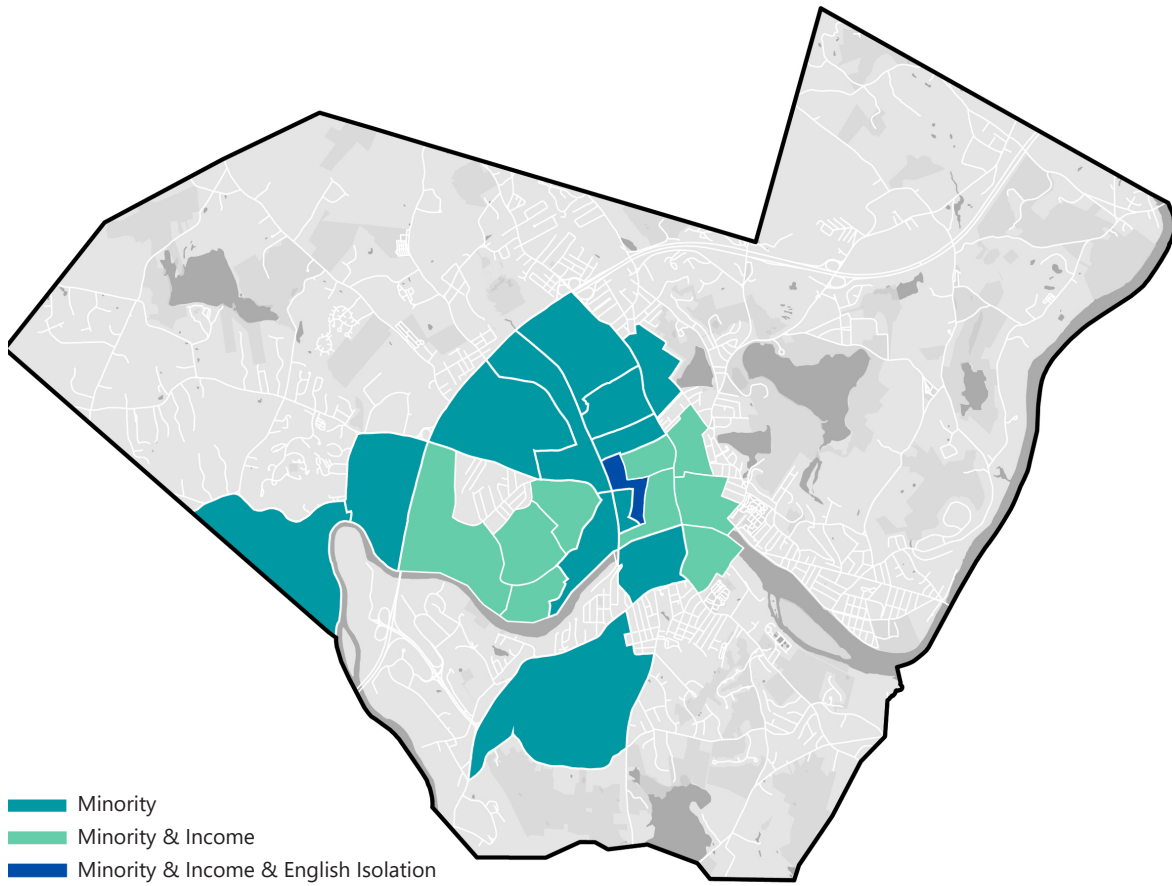
Source: US Census Bureau data released in October 2021 and March 2022

06

Digital Equity Assets

Local digital equity programs and resources were identified through baseline conditions research and collaboration with the Steering Committee and stakeholders. The following organizations, programs, and public facilities are important resources providing the community with access to broadband, digital devices, and providing digital literacy training.

Community Anchor Institutions (CAIs) serve as critical access points for vulnerable populations by providing essential services and resources to low-income, minority, and other disadvantaged groups, making them natural partners for expanding digital access and literacy. By mapping and engaging with these institutions, the City can leverage their established trust within communities to deliver digital inclusion initiatives more efficiently, whether through providing public internet access, offering digital literacy training, or distributing devices. Additionally, these institutions can act as hubs for outreach and collaboration, ensuring that digital equity programs reach the people who need them most and fostering a more connected, inclusive community.

Figure 8 expresses the different CAIs recently determined by MBI. Given the data by MBI and the research performed on each institution, the CAIs can be filtered into four main categories: Public Institutions, Housing, Healthcare, and Educational Institutions. A majority of these institutions, regardless of their category, are located in the downtown area adjacent to the river, with a few along the city's northeast border.

Figure 8: Community Anchor Institution Categories

CAI: Public Institutions

- 🟢 Haverhill City Hall*
- 🔷 Employment Center
- 🔴 Fire Station
- 🟣 Haverhill Public Library
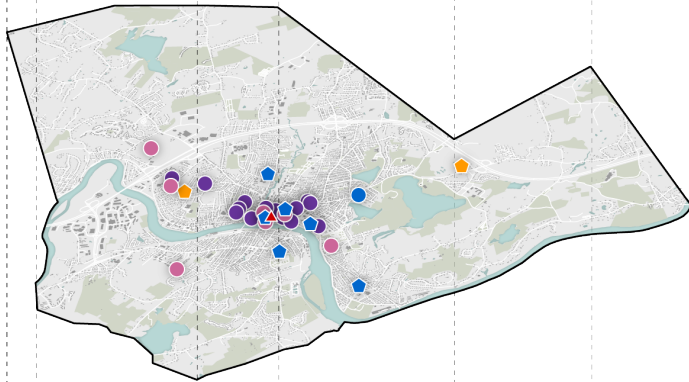- 🔵 Police Station
- 🟠 Citizen Center

Not defined as a CAI by MBI
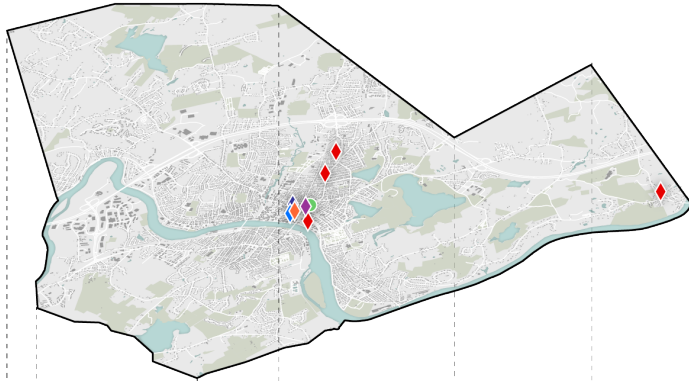
CAI: Private & Public Housing Institutions

- 🟠 Elderly Living
- 🔵 Housing
- 🟣 Low Income Housing Tax Credit Properties*
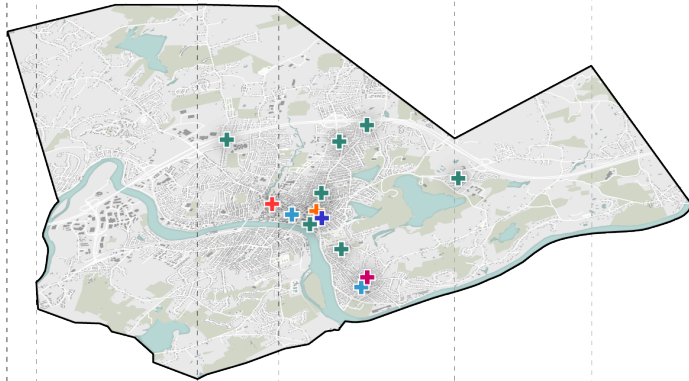- 🟣 Multifamily Properties - Assisted*
- 🔺 Public Housing Authority*

Not defined as a CAI by MBI
Public Housing Facilities defined by HUD

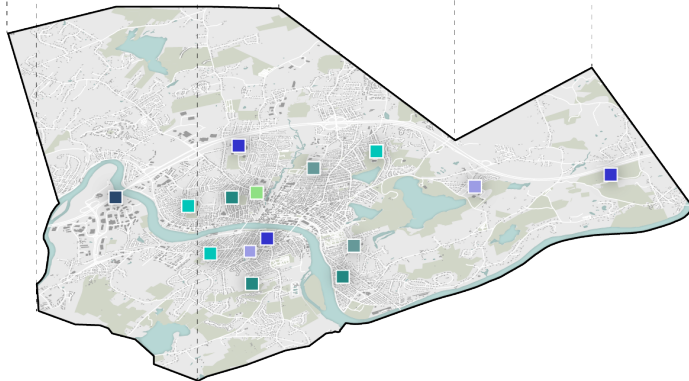### CAI: Healthcare Institutions

- ➕ Medical Center
- ➕ Mental Health Care Center
- ➕ Nursing Home
- ➕ Pediatrician
- ➕ Psychiatric Hospital
- ➕ Veterans Center

CAI: Educational Institutions

- ◼ Charter School
- ◼ Elementary School
- ◼ Elementary + Middle School
- ◼ High School
- ◼ Middle School
- ◼ Private Educational Institution
- ◼ Higher Education

Source: MBI Broadband Map, May 2024

Compiling a list of community, digital equity, business, education, and healthcare organizations is a key step in planning for digital equity in Haverhill because these groups bring diverse perspectives, resources, and expertise that are critical to addressing the multifaceted nature of the digital divide. Each type of organization plays a unique role in the digital equity ecosystem: community groups offer grassroots insights, digital equity advocates drive targeted solutions, businesses provide technological infrastructure and funding opportunities, while education and healthcare organizations directly serve populations most affected by digital inequities. Coordinating with these stakeholders allows for Haverhill to develop more informed, collaborative, and inclusive strategies that reflect the real needs of its residents. This network enhances the potential for outreach, implementation, and sustained impact, ensuring that digital equity efforts are holistic and supported by all sectors of society.

This list is not comprehensive—it would be in the best interest of the City to maintain an up-to-date list of resources for residents to access via the City's website.

Table 7: Local Digital Equity Assets

	Organization	Details	Location
COMMUNITY	Haverhill Cultural Council	Cultural funding network supporting community-based projects in the arts, humanities, and sciences.	10 Welcome Street, Haverhill
	Haverhill YMCA	Community organization providing facilities and programs including physical exercise, arts and humanities, early learning, and community development.	81 Winter Street, Haverhill
	Power of Self-Education (POSE) Inc.	**Faith-based community organization providing hands-on services, open format educational dialogues, grassroots community organizing, and social justice advocacy.**	293 Washington Street, Haverhill
	The Arc of Greater Haverhill-Newburyport	Non-profit enhancing the human and civil rights of people with disabilities.	57 Wingate Street, Suite 301, Haverhill
	UTEC, Inc.	Organization focusing on workforce development, educational support, and enrichment programs aimed at reducing recidivism and promoting community engagement.	35 Warren Street, Lowell
	Veterans Northeast Outreach Center, Inc.	Non-profit providing support services to veterans, including housing, case management, counseling, and employment assistance	10 Reed Street, Haverhill
	Youth Empower House	Organization offering out-of-school programs for kids including STEM, sports, art, and theater.	7 William Street, Haverhill
	YWCA Northeastern Massachusetts	Community organization providing year-round out-of-school programming, domestic violence services, and family services.	107 Winter Street, Haverhill
	Boys & Girls Club of Greater Haverhill	Community organization that provides academic support and leadership programming to local students.	55 Emerson Street, Haverhill

DIGITAL EQUITY	Community Action, Inc. / MakeIT Haverhill	Non-profit that provides resources and services such as adult education, digital literacy, daycare, food & clothing, fuel & energy assistance, housing, and workforce training.	3 Washington Square, Haverhill
	Essex County Community Foundation	Foundation that manages charitable assets, strengthens and supports nonprofits, and engages in strategic community leadership initiatives. Leads digital equity efforts.	500 Cummings Center, Suite 5450, Beverly
	TEK Collaborative	Non-profit that provides internet enabled devices to anyone in need. Forms strategic partnerships with businesses, organizations, schools, and government offices to tackle the digital divide to create an ecosystem of device access, internet access, and education.	14 Cedar Street #213, Amesbury
BUSINESS	UMass Lowell Innovation Hub (Haverhill)	Institutional hub for local startups and entrepreneurs to develop, nurture, and grow their business.	2 Merrimack Street, 3rd Floor, Haverhill
	Haverhill.biz	Public organization that provides business advocation for issues like transportation, parking, public safety, signage, and zoning.	2 Merrimack Street, 3rd Floor, Haverhill
	HP3 (Haverhill's Public-Private Partnership)	Public-private partnership that connects students with mentors, briefs students on career fields, and assists with career planning and development.	45 Fountain Street, Haverhill
	MassHire Merrimack Valley Career Center	Career center providing services and resources to job seekers and employers, including job placement assistance, career counseling, training programs, resume workshops, and recruitment events.	160 Merrimack Street, Haverhill
	Mill Cities Community Investments	Community development financial institution (CDFI) offering support with small business loans, residential loans, and business consulting.	50 Island Street Entry B, Suite 103, Lawrence
EDUCATION	Haverhill Promise	"Thought partner" advocating for reading proficiency.	45 Fountain Street, Room 106, Haverhill
	Kids in Tech Inc.	Non-profit providing interactive tech and STEM after-school programs.	P.O. Box 9057, Lowell

Source: VHB Research and Stakeholder Input, 2024

Making the comprehensive list of community, digital equity, business, education, and healthcare organizations available in multiple languages is essential for ensuring inclusivity and equitable access to information. Many residents in a city, particularly in immigrant and non-English-speaking communities, face language barriers that can limit their ability to benefit from digital equity initiatives. By providing this list in multiple languages, such as Spanish, Portugese, and Haitian Creole, the city can ensure that all residents—regardless of their primary language—have the opportunity to connect with the organizations that offer crucial services like internet access, digital literacy training, and health or educational resources. This approach promotes transparency, fosters trust within diverse communities, and ensures that non-English-speaking populations are not left behind in digital inclusion efforts. Ultimately, it supports the goal of achieving digital equity for all residents, regardless of language or cultural background.

07

Future Focused: An Approach to Haverhill as a Smart Community

Smart Communities and Digital Equity

The connection between smart communities and digital equity is fundamental to ensuring that all residents can equally benefit from advancements in technology. As cities increasingly adopt "smart" technology, where services and infrastructure rely on digital technology, digital equity and access to digital tools, resources, and services becomes a critical priority.

Smart cities, when designed with a focus on addressing community-identified needs, have the potential to significantly advance digital equity. Initiatives that expand internet access, promote digital literacy, and ensure public services are available online can help bridge the digital divide. Examples of such initiatives include providing free or low-cost community Wi-Fi, distributing devices to low-income households, and offering digital skills training programs. These efforts not only enable residents to take full advantage of smart city services but also equip them with skills that are increasingly necessary in the digital age.

A truly smart city is not only technologically advanced but also inclusive and equitable. It leverages technology to improve the quality of life for all its residents, not just the privileged few. Digital equity, therefore, is an essential consideration in smart city planning and development. By focusing on closing the digital divide, cities can ensure that their technological advancements serve everyone, fostering a more inclusive and resilient urban future.

What is a Smart Community?

Many cities are on the verge of rapid transformation driven by technological advancements, with local and county governments increasingly integrating digital tools into their operations. A "**Smart Community**" refers to a city or county that has developed, or plans to develop, a robust digital infrastructure that enables the collection, aggregation, and real-time analysis of data. These communities aim to use this data to enhance the quality of life for their residents through informed decision-making and efficient resource management.

Smart Communities may employ technologies such as artificial intelligence (AI) to automate workflows, filter data, and guide policy decisions. They may also integrate renewable energy sources with smart metering to conserve water and energy, build autonomous vehicle infrastructure for last-mile connectivity, expand electric vehicle charging networks, and deploy environmental sensors to monitor critical factors like flooding and groundwater flow. Additional smart features might include dynamic street lighting to improve public safety or the use of digital twin simulations to visualize and analyze urban planning scenarios.

To ensure that smart technologies address real community needs, each city or county should engage in a thoughtful visioning and planning process. This process must involve collaboration with stakeholders to create a forward-looking vision that selects the most appropriate technologies for addressing critical local challenges and promoting digital equity.

Foundational Elements of Smart Communities

VHB recommends that Smart Communities use the following foundational elements, or guiding principles, during the plan creation and implementation of projects:

People-Focused/Community-Driven: The needs and challenges of residents, businesses and visitors are the primary focus for adoption of new technology and innovation

Co-Created: Residents, businesses and government participate in the decision making process, including identification of challenges and opportunities

Healthy: Smart Communities promote active lifestyles that improve physical and mental health

Equitable: A Smart Community is a compassionate community that works to enhance vulnerable and disadvantaged populations, reducing gaps to access and opportunity

Sustainable: A Smart Community has an equilibrium between environmental protection, social equity, and economic development

Resilient: A Smart Community maintains continuity of governance and business during chronic and acute stressors, including climate and severe weather impacts

Data-Driven: A Smart Community collects and analyzes data to provide better and more efficient digital and physical services for all

Solution-Oriented: A Smart Community matches the right technological and innovative solutions to identified and established community issues and challenges

Transparent: A Smart Community discloses what data it collects and how it is used. The public understands how decisions are made

Interconnected: A Smart Community is connected digitally by information technology and physically through urban planning and mobility solutions

Benefits of Smart Communities

A Smart Communities Plan for Haverhill would focus on identifying and implementing technologies that address current challenges while preparing for future growth and innovation. This could include incorporating renewable energy sources, promoting green building practices, and developing efficient transportation systems. Equally important is ensuring equitable access to essential resources and services such as affordable housing, transportation, and healthcare for all residents. By leveraging technology to solve pressing community issues, Haverhill can evolve into a more livable, sustainable, and resilient place for all its residents, ensuring that technological advancements benefit everyone equitably.

Example Smart Communities

City of Holyoke, MA

The City of Holyoke, Massachusetts (pop. 38,000) went from having the last coal-powered plant in the Commonwealth to utilizing Smart Grid technology to monitor and improve the efficiency of its electrical supply and operating one of the largest solar farms in the region. The shift is being led by Holyoke's municipal energy provider, Holyoke Gas & Electric (HG&E), whose goal is to "expand carbon-free sources of electric generation in environmentally sensitive ways and promote the reduction of energy use through energy efficiency programs, all while maintaining some of the lowest electric rates in the Commonwealth of Massachusetts." Together, the City of Holyoke and HG&E have shifted to greener energy sources and have prioritized the use of Smart Technology for enhanced efficiency and monitoring.

Key Outcomes:

» 18,000 smart meters that assist HG&E with data analytics, energy efficiency assessments, consumption management, outage communication, power quality reporting, and remote accessibility

» A Clean Energy Dashboard for users to learn about the City's electrical and renewable energy efforts

» Automated "Smart Grid" equipment that can sense the system's operation and attempt to "self-heal" when issues arise

» A "Connected Homes Smart Device Monthly Incentives" program through which customers can receive a $5-$8/month incentive for enrolling a qualifying smart thermostat, HVAC control, or water heater

City of Orlando, FL

The City of Orlando, Florida (pop. 307,000) adopted its Future-Ready City Master Plan in 2021. The planning process required abundant collaboration and consensus among stakeholders to prioritize programs and efforts that will address current and future challenges. Community input was collected through stakeholder discussions, focus area round tables, public workshops, and an online virtual feedback platform. This input helped the City to identify and prioritize short-term strategies, then prepare conceptual plans, life cycle assessments, and business models to implement these strategies.

Key Outcomes:

» Mobile Tablet and Wi-Fi hot spot checkout program to bridge the digital divide

» Smart parking and digital way finding advancements

» Autonomous shuttle pilot project

» Resilience hubs at community centers with battery backup for climate hazards

» Zero Waste Plan

» Smart building pilot in community center

» Advanced Air Mobility transportation plan

Town of Morrisville, NC

The Strategic Plan for the Town of Morrisville, North Carolina (pop. 29,000) aims to transform itself into a smart city through technological advancements intended to enhance the overall wellbeing and lifestyle of its residents. This plan leverages technological advancements to enhance residents' quality of life, focusing on key areas such as connectivity, infrastructure, and digital inclusion. The town aims to expand high-speed broadband access to bridge the digital divide and improve service delivery through centralized data. By investing in smart infrastructure like digital kiosks, sensor-based LED streetlights, and smart grids, Morrisville is laying the foundation for a smart city. The plan also emphasizes digital inclusion by providing low-cost or free devices and services for lower-income households, sustainability through renewable energy and waste management solutions, and public safety improvements via advanced emergency and crime prevention technologies. Additionally, enhanced citizen engagement will be achieved through upgraded websites, mobile apps, and social media integration. The town will collaborate with technology companies and pursue grants to implement its Smart City Plan.

Key Outcomes:

» Deployment of occupancy sensors at tennis courts and moisture sensors at athletic fields

» Digital dashboard with real time availability for recreational amenities

» Received two Smart City 50 Awards in 2023 from Smart Cities Connect for its mobile application and connected parks initiative

Next Steps for Haverhill

To successfully implement the prioritized Smart Community strategies, it's recommended that Haverhill develop a Smart Community Plan. This plan will serve as a roadmap for integrating Smart Community strategies and technologies into the City's current policies and processes. The VHB Smart Community Playbook provides a framework for this effort, structured into three distinct phases.

1. **Exploration**: This internally focused phase establishes the smart community vision. It involves evaluating the City's existing assets and technology needs, appointing a champion to lead the initiative, and aligning departmental priorities and success metrics. Additionally, it includes identifying "pillar focus areas," or key topics of importance to the community, such as transportation, housing, environmental protection, energy, public safety, or other essential public services. The outcome of the Exploration Phase guides the direction for the components to be analyzed and incorporated in the Planning Phase.

2. **Planning**: This phase involves community engagement to identify shared challenges and explore potential solutions. Smart Community plans should be developed collaboratively with residents, businesses, and other community stakeholders. This can include stakeholder focus group meetings, public workshops, online surveys, and other methods of civic engagement. Haverhill should aim for inclusivity and equity by accommodating EJ communities, non-English speakers, and other vulnerable groups. After gathering input, the City should brainstorm with the community to prioritize potential Smart Community strategies that address both current and future needs. Haverhill would then evaluate use cases, constraints, feasibility, benefit-cost analysis, and determine the responsible department or partner agency, potential cost-sharing partnerships, risks, and alignment with existing policies and planned projects.

3. **Implementation**: Once the previous phases are complete, this phase focuses on funding, procurement, and project execution. Haverhill should formally adopt the recommended Smart Community Plan goals, objectives, and policies into its strategic or regulatory documents (such as the Community Development Strategy or Strategic Plan) through a resolution or ordinance. This formal adoption establishes the public policy, purpose, and need for project implementation. The plan should be periodically reviewed and updated to account for changes in policies, laws, climate hazards, and technology. Projects should then be incorporated into the City's annual or five-year Capital Improvement Program (CIP) budgeting process. Where applicable, the City should pursue grant funding or explore opportunities for public-private partnership (P3) funding.

The final product is a Smart Community Master Plan, serving as the comprehensive guidance document for programming technology and innovation investments across departments and agencies. Without a well-defined plan, there is a risk of pursuing isolated pilot projects with limited impact and long-term viability.

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Available Funding

The City of Haverhill can leverage numerous state and federal funding opportunities to support digital equity initiatives. These funding programs target critical implementation areas of digital equity planning, including workforce development, digital literacy education, device distribution, broadband adoption, infrastructure, and outreach.

Statewide Digital Equity Planning

At the State level, MBI is developing a Statewide Digital Equity Plan for Massachusetts, integrating efforts conducted under the Municipal Digital Equity Planning Program (MDEPP).[5] Massachusetts has received funding under the State Digital Equity Planning Grant Program, one of three grant programs established by the $2.75 billion federal Digital Equity Act (DEA). The DEA aims to "promote the achievement of digital equity, support digital inclusion activities, and build capacity for efforts by States relating to the adoption of broadband by residents of those states."[6] In December 2024, Massachusetts was awarded $14.1 million from the NTIA under the Capacity Grant Program to implement parts of the Statewide Digital Equity Plan.

Massachusetts municipalities must understand their digital divide and identify opportunities for advancing digital inclusion to inform statewide planning efforts. This plan provides a road map for addressing Haverhill's digital divide, identifying implementation areas to inform prioritization and allocation of funding.

Funding for broadband infrastructure
(e.g. construction, equipment, materials)

Funding for planning
(e.g. feasibility, data collection, mapping)

Funding for digital inclusion
(e.g. broadband adoption, devices, training, tech support)

Funding Sources

The City of Haverhill can support partner organizations in utilizing the following funding programs to support the implementation of this plan.

AARP Community Challenge

Funding Cycle/Deadline: Annually in March

The AARP Community Challenge grant program has awarded $16.4 million through 1,370 grants since its debut in 2017. Grants are awarded through three separate opportunities: Flagship Grants ($500-$50,000), Capacity-Building Microgrants ($2,500), and Demonstration Grants ($10,000-$20,000). Organizations in several communities (including Randolph and Worcester) have used AARP Community Challenge funds to tackle local digital equity projects including the purchasing of computers to community rooms and installing additional internet sources. Eligible applicants include government entities, 501(c)(3), 501(c)(4) and 501(c)(6) nonprofits, and other types of organizations considered on a case-by-case basis.

Haverhill Housing Authority can apply for AARP Community Challenge funding to install public internet (via hotspot) in senior housing properties or to procure technology for a new computer lab at a Community Anchor Institution.

Essex County Community Foundation Digital Equity Initiative Partnership Grant

Funding Cycle/Deadline: Annually in December

The Digital Equity Initiative Partnership Grant provides support for collaborative projects focused on digital equity related needs serving communities in Essex County. Funding will prioritize the four impact areas of our digital equity plan: devices, access, literacy, and collaboration. Proposals may take on any or a combination of these focus areas and must be submitted as a collaborative project with at least one other partner. Integrated systems based projects are highly encouraged.

Only nonprofit organizations recognized as tax exempt or those with fiscal sponsorship under section 501(c)(3) of the Internal Revenue Code are eligible for consideration.

Funding Sources: State

The City of Haverhill can leverage the following state funding programs to support the implementation of this plan.

Commonwealth Corporation (CommCorp) YouthWorks Funding

Commonwealth Corporation's YouthWorks is a state-funded youth employment program that supports skills training for youth up to age 25 from households earning less than 200% of the federal poverty rate.[7]

YouthWorks funding can support workforce training in Haverhill for roles in the local broadband economy. YouthWorks participants can also participate in a formalized local network of digital navigators in Haverhill.

Massachusetts Community Compact Cabinet: Efficiency & Regionalization Grant Program

Funding Cycle/Deadline: Annually in October

The Efficiency & Regionalization (E&R) Grant Program, administered by the Division of Local Services, is a competitive grant program that provides financial support for government bodies interested in regionalization and other efficiency strategies. Funds may be administered by government entities, regional school districts, regional planning agencies, and councils of governments. Example eligible expenses include equipment or software, technical assistance, or transition or project management costs for one year. All municipalities that are not grantees of the program's previous fiscal year-round are eligible.

The City of Haverhill or Haverhill Public School District can apply for E&R Grant Program funding to improve collaboration and systems management between municipal departments and neighboring communities.

Massachusetts Community Compact Cabinet: IT Grant Program

Funding Cycle/Deadline: Annually in February

The Massachusetts Community Compact IT Grant Program, administered by the Division of Local Services, provides grants of up to $200,000 to support the implementation of innovative IT projects, including one-time capital needs related to planning, design, installation, implementation, and initial training, as well as Software-as-a-Service costs like subscriptions, cloud hosing, on-going maintenance, and operational costs. All municipalities that are not grantees of the program's previous fiscal year-round are eligible.

Haverhill can leverage the IT Grant Program to expand public services through updated hardware and software.

Massachusetts Community Compact Cabinet: Municipal Fiber Grant Program

Funding Cycle/Deadline: Annually in April

The Massachusetts Division of Local Services Municipal Fiber Grant Program assists municipalities with the construction and completion of municipal fiber networks.[9] A cohesive municipal network "allows for centralized management of IT infrastructure, including an enterprise approach to network monitoring, cyber security, records management, and backup and recovery." All municipalities that are not grantees of the program's previous fiscal year round are eligible.

Haverhill can leverage Municipal Fiber Grant Program funds for creating redundancy for the municipal closed-loop fiber network.

Massachusetts Department of Elementary and Secondary Education: Miscellaneous Grant Programs

Funding Cycle/Deadline: Varies

The Department of Elementary and Secondary Education has a variety of annual grant programs available to public schools, many of which Haverhill Public School District actively applies for and expends.

Haverhill Public School District should continue to apply for grant programs to enhance internet capacity, device access, and network security in the school system.

Massachusetts Department of Public Health: Community Health & Healthy Aging Funds

Funding Cycle/Deadline: Annually in the spring

The Massachusetts Department of Public Health (DPH) Community Health & Healthy Aging Funds are used to remove barriers to health by removing barriers to healthy living, including structural and institutional racism, poverty, and power imbalances, through community-centered planning and policymaking. Three funding streams make up the program: Policy, Systems, and Environmental Change; Healthy Aging; and Community Health Improvement Planning (CHIP). Eligible applicants include Massachusetts-based nonprofit organizations with a 501(c)(3) status, quasi-governmental organizations and municipalities, and community development corporations.

Haverhill can leverage Community Health & Healthy Aging funds to expand services to older adults, including to educate and support residents with telehealth services.

Massachusetts Executive Office of Housing and Livable Communities: Community Development Block Grant (CDBG) Program

Funding Cycle/Deadline: Annually in the spring

Administered by the Executive Office of Housing and Livable Communities (EOHLC), the CDBG Program is a competitive grant program that helps communities address local needs, including housing, infrastructure, economic development, and public services. Eligible activities include the infrastructure development, internet access, wiring, hardware and software purchases, development of computer rooms, and digital literacy/workforce development training. Eligible applicants include municipal governments.

Haverhill can apply for state CDBG funding to expand existing broadband infrastructure or organize/facilitate digital literacy classes or workforce development training.

Massachusetts Executive Office of Technology Services and Security: Municipal Cybersecurity Awareness Grant Program

Administered by the Office of Municipal and School Technology (OMST), this program covers the costs for OMST-facilitated end-user training, evaluation, and simulated cybersecurity challenges. Eligible applicants include municipal governments, public school districts, municipal libraries, police and fire departments, planning commissions, municipally-operated utility departments, and housing authorities.

The City of Haverhill, Haverhill Public Library, Haverhill Public School District, and other organizations can leverage this grant program to enhance employees' cybersecurity skills.

Massachusetts Broadband Institute: Municipal Digital Equity Implementation Program (MDEPP)

Funding Cycle/Deadline: One-time award, application open through July 2025

MBI's Municipal Digital Equity Implementation Program awards municipalities up to $100,000 to undertake initiatives outlined in the community's municipal digital equity plan or study. Funds can be used to support one or more focus areas: staff capacity for digital equity; Wi-Fi access and innovative connectivity technology; public space modernization; connectivity for economic hardship; digital literacy; device distribution and refurbishment; and education, outreach, and adoption. Eligible applicants include municipal governments.

The City of Haverhill, alone or partnered with other CAI's, should apply for implementation funding to pursue one or more programs or projects outlined in this report's Goals and Recommendations section.

Massachusetts Broadband Institute: Residential Retrofit Program

Currently in its second round, MBI's Residential Retrofit Program deploys fiber infrastructure to public and affordable housing.

The Haverhill Housing Authority has submitted an Expression of Interest to the Residential Retrofit & Apartment Wi-Fi programs.

Metropolitan Area Planning Council: Apartment Wi-Fi Program

Funding Cycle/Deadline: Ongoing

The Metropolitan Area Planning Council's (MAPC) Apartment Wi-Fi Program works with municipalities, public housing authorities, and affordable housing developers to build Wi-Fi networks for residents. The Apartment Wi-Fi Program provides funding, project management, and procurement support to fund the construction of Wi-Fi networks, providing residents with equal or superior service to what is available from commercial ISPs at no cost to residents. Program funding covers all capital costs associated with network design, construction, equipment, and the first year of ongoing operating expenses.

Haverhill Housing Authority can speak with MAPC to learn about the Apartment Wi-Fi Program and find out if there are any opportunities to leverage this program in Haverhill's affordable housing properties.

Funding Sources: Federal

The City of Haverhill can leverage the following federal funding programs to support the implementation of this plan.

AmeriCorps Lead for America/American Connection Corps

Funding Cycle/Deadline: Annual

The Lead for America American Connection Corp (ACC) is a service membership focused on advancing economic prosperity and bridging the digital divide. The ACC member network supports broadband development, digital inclusion, and civic leadership in communities through capacity-building services for the host organization or municipality. MBI has funding to cover host-site funding matches for up to 15 municipalities in Massachusetts. Eligible applicants include government agencies or nonprofit organizations.

Haverhill Public Library, MakeIT Haverhill, or a similar institution can apply to host an ACC Fellow to assist with public outreach and education regarding digital skills training opportunities and subsidies for broadband internet and devices.

Economic Development Administration: CARES Recovery Assistance

The Economic Development Administration (EDA) received $1.5 billion through the CARES Act to support economic recovery programs that help communities address the challenges of the COVID-19 pandemic. Administered under the flexible Economic Adjustment Assistance (EAA) program, this funding provides financial aid to assist communities in responding to and recovering from pandemic-related impacts.

Federal Communications Commission (FCC): E-Rate Program

Funding Cycle/Deadline: Annually in the summer

Administered by the Universal Service Administrative Company (USAC) under the direction of the FCC, the E-Rate program helps schools and libraries acquire telecommunications infrastructure and information services. Eligible institutions may apply individually or as part of a group, requesting funds under two categories of service: (1) data transmission services, and (2) internal connections. Discounts are determined by poverty levels and location (urban or rural) and range from 20% to 90% of service costs. Eligible applicants include public schools and libraries.

Haverhill Public School District or Haverhill Public Library can use E-Rate funding to improve internet connectivity and create network redundancy, increasing network reliability.

Institute of Museum and Library Services: Laura Bush 21st Century Librarian Program

Funding Cycle/Deadline: Annually in September

This program aims to train and develop library and archives professionals to meet community information needs. Funding may be used for professional development and training programs or to support initiatives or programs encouraging diverse or underrepresented students to pursue careers in library and information science. Awards range from $25,000 to $1,000,000. Eligible applicants include public libraries.

Haverhill Public Library can apply for funding to support additional staff trainings or to fund training programs for students interested in library services.

Institute of Museum and Library Services: National Leadership Grants for Libraries

Funding Cycle/Deadline: Annually in September

The National Leadership Grants for Libraries Program (NLG-L) funds projects that develop or share practices, programs, models, or tools to enhance library and archival services. The

grants focus on meeting public learning needs and improving community well-being. Eligible programs can include initiatives in workforce development, digital inclusion, and informal STEM learning. Awards range from $25,000 to $1,000,000. Eligible applicants include public libraries

Haverhill Public Library can apply for funding to support additional staff trainings or to fund training programs for students interested in library services.

09

Haverhill's Digital Equity Goals

1. **Ensure equitable connectivity and broadband access** amongst Haverhill residents through collaboration with local, regional, and statewide partners.

2. **Promote opportunities for digital devices** to be available at home and in publicly accessible locations.

3. **Expand community educational opportunities** to increase digital literacy and resident's confidence with using digital technology.

4. **Maintain a strong momentum with public outreach** and engagement to make it easy for residents to keep up to date with the latest digital equity

5. **Strengthen internal capacity amongst local institutions** doing work to eliminate the digital divide in Haverhill.

6. **Prioritize workforce development** as a key component of digital equity work and engage appropriate partners.

7. **Promote public improvements** for digital equity in Haverhill.

Implementing the Plan

The following Implementation Matrix provides a blueprint for the City of Haverhill to work towards achieving the digital equity goals outlined above. These actionable strategies, shaped in conjunction with the community, City staff, and Steering Committee members, are essential for accomplishing the City's long-term vision. Certain actions were influenced by previous or ongoing partnerships (such as the partnership with MakeIT Haverhill), while others are based on new community feedback, existing best practices, and evolving technology trends.

The Implementation Matrix includes anticipated requirements for each strategy, addressing the following:

Champion	the City department or board/committee that holds responsibility for implementation
Cost	an approximation of the financial cost (capital or operational), defined as "$" (less than $10,000), "$$" ($10,000-$100,000), "$$$" (more than $100,000)
Funding Opportunities	potential funding agents or partners that could provide financial support, through grants or direct investment, to implement a certain strategy
Timeframe	the anticipated length of time for completion of a given strategy, defined as "Short-term" (less than 2 years), "Medium-term" (2–5 years), "Long-term" (more than 5 years)

Goal 1. Ensure equitable connectivity and broadband access amongst Haverhill residents through collaborating with local, regional, and statewide partners.

Index	Action	Champion	Cost	Available Funding	Time Frame
1.1	Take advantage of ECCF/Comcast partnership – installation of "Lift Zones" (spaces in community centers that provide free Internet access and digital skills training).	Digital Equity Committee, to work with ISP's	$$$	ECCF, Comcast, private donations, ARPA funds	Short-term
1.2	Conduct housing-specific Wi-Fi survey at all public housing properties to determine current connectivity gaps or deficiencies.	Digital Equity Committee, Haverhill Housing Authority	$	Federal CARES Act funding, HUD Community Development Block Grants (CDBG)	Short-term
1.3	Find more affordable internet options for residents and with a specific focus on eliminating the broadband gap between White and Latino residents.	Digital Equity Committee, to work with ISP's	$	MBI Implementation Funding, BEAD Program	Medium-term
1.4	Partner with organizations like Emmaus House to create pathways for persons experiencing homelessness or living with disabilities to have a reliable way to exchange information with supporting agencies.	Digital Equity Committee, Emmaus House & Haverhill Housing Authority	$	MBI Implementation Program, MA Department of Housing and Community Development	Medium-term

Goal 2. Promote opportunities for digital devices to be available at home and in publicly accessible locations.

Index	Action	Champion	Cost	Available Funding	Time Frame
2.1	Expand the library's device and hotspot loan program.	Library Director, Digital Equity Committee	$	Institute of Museum and Library Services (IMLS), CARES Act, MBI Digital Equity Implementation Program	Short-term
2.2	Establish a supply of refurbished devices for students to purchase using learn-to-earn funds upon graduation.	Haverhill Public Schools Director, Digital Equity Committee	$$	MA Department of Elementary and Secondary Education, private tech donations (e.g., Dell, Microsoft)	Short-term
2.3	Include digital facilities (desktops) at existing common spaces at Haverhill Housing Authority properties.	Digital Equity Committee & Haverhill Housing Authority	$$	MAPC Apartment Wi-Fi Program, MBI Residential Retrofit Program	Medium-term

Goal 3. Expand community educational opportunities to increase digital literacy and resident's confidence using digital technology.

Index	Action	Champion	Cost	Available Funding	Time Frame
3.1	Form a Digital Equity Committee with a designated champion to organize and publicize events at Community Anchor Institutions.	Digital Equity Committee	$	Local government, ECCF grants, Community Foundations	Short-term
3.2	Organize phone trainings (1-to-1 and group workshops) for seniors.	Digital Equity Committee, COA Director	$	MBI Digital Equity Implementation Program, MA Executive Office of Elder Affairs, private foundations	Short-term
3.3	Establish relationship with organizations specializing in disability services (Vinfen, Haverhill Clubhouse) to provide accessible, relevant training.	Digital Equity Committee	$	MBI Partnerships Program, MA Rehabilitation Commission	Short-term
3.4	Assign digital navigators as part of the local institutions network to aid in common classes, available programs, workshops, etc.	Digital Equity Committee	$$	MBI Digital Equity Implementation Program, National Digital Inclusion Alliance (NDIA)	Short-term
3.5	Expand existing digital literacy programming and ensure that services are available in multiple languages including the following groups Haverhill Public Library, Umass Lowell Innovation Hub (Haverhill), Northern Essex Community College, MakeIT Haverhill.	Digital Equity Committee	$$	MBI Digital Equity Implementation Program, Workforce Innovation and Opportunity Act (WIOA), MA Department of Education	Medium-term
3.6	Expand access to educational facilities and digital literacy support by extending hours and offering virtual resources during evenings and weekends.	Digital Equity Committee, CAI's	$$	FCC E-rate program, local city funds	Medium-term
3.7	Promote and offer digital citizenship trainings for all residents.	Digital Equity Committee	$$	MBI Digital Equity Implementation Program	Medium-term

Goal 3. Expand community educational opportunities to increase digital literacy and resident's confidence using digital technology.

Index	Action	Champion	Cost	Available Funding	Time Frame
3.8	Fund an expansion of the existing digital skills program for ESL parents of Haverhill Public School students.	Haverhill Public Schools	$$	Title III English Learner (EL) Funds, ARPA, MA Department of Elementary and Secondary Education	Medium-term
3.9	Partner with other gateway cities to establish a robust network of non-profits aimed at minimizing duplicate efforts and sharing successful frameworks.	Digital Equity Committee	$	-	Long - term

Goal 4. Maintain a strong momentum with public outreach and engagement to make it easy for residents to keep up to date with the latest digital equity resources.

Index	Action	Champion	Cost	Available Funding	Time Frame
4.1	Create dedicated one-stop webpage on City's website for digital equity resources that promotes local digital equity resources like classes offered from MakeIT Haverhill, Haverhill Promise, the Haverhill Public Library, and Haverhill Public Schools.	Digital Equity Committee, Haverhill IT Director	$$	MBI Implementation Program	Short-term
4.2	Ensure that all community members have access to internet and digital literacy resources by providing multilingual support and materials.	Digital Equity Committee, Haverhill IT Director	$	MBI Implementation Program	Medium-term

Goal 5. Strengthen internal capacity amongst local institutions doing the work to eliminate the digital divide in Haverhill.

Index	Action	Champion	Cost	Available Funding	Time Frame
5.1	Strengthen relationships and connections between different local partners such as the Haverhill Public Library, YMCA, Haverhill Public Schools, CAF, etc.	Digital Equity Committee	$	MBI Partnerships Program, ECCF	Short-term
5.2	Promote ECCF's digital equity newsletter among Digital Equity Committee and municipal staff members.	Digital Equity Committee, Haverhill IT Director	$	-	Short-term
5.3	Create ways to measure implementation progress and make opportunities to reevaluate goals according to future needs.	Digital Equity Committee, Haverhill IT Director	$	MBI Digital Equity Implementation Program	Short-term
5.4	Establish CIO "Technology Officer" to oversee local digital navigators and oversee grant funding.	Digital Equity Committee, Haverhill IT Director	$$	MBI Digital Equity Implementation Program	Medium-term

Goal 6. Prioritize workforce development as a key component of digital equity work and engage appropriate partners.

Index	Action	Champion	Cost	Available Funding	Time Frame
6.1	Engage the Greater Haverhill Chamber of Commerce to collaborate with businesses that may face language barriers when looking for digital support.	Digital Equity Committee, Chamber of Commerce	$ -		Short-term
6.2	Enhance collaboration among local employers to share their needs, enabling non-profits to strategically align their adult job training programs and optimally prepare individuals for job fairs.	Digital Equity Committee to work with CAI's and related organizations	$	Local employer contributions, WIOA, MA Department of Labor	Medium-term
6.3	Take advantage of ECCF's workforce development programming to advance career pathways in technology in Haverhill.	Digital Equity Committee to work with CAI's and related organizations	$	WIOA, ECCF	Medium-term
6.4	Equip students with the skills and resources to proficiently use both Chromebook and Microsoft systems to ensure their readiness for the workforce and higher education.	Haverhill Public Schools	$	MBI Digital Equity Implementation Program, ESSER (Elementary and Secondary School Emergency Relief) Funds	Medium-term

Goal 7. Promote public improvements for digital equity in Haverhill.

Index	Action	Champion	Cost	Available Funding	Time Frame
7.1	Consider making public Wi-Fi available surrounding school grounds and fields, in Washington Square, and at Haverhill Public Parks.	Digital Equity Committee, Haverhill IT Director	$$$	FCC E-rate program, Community Compact Cabinet IT Grant Program	Medium-term
7.2	Adopt policies that establishes Haverhill as a "Smart City".	Digital Equity Committee to work with Haverhill City Council & Haverhill Mayor's Office	$	Community Compact Cabinet IT Grant Program	Medium-term

Appendices

END NOTES

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GLOSSARY

Broadband Adoption: Broadband adoption has traditionally been defined as residential subscribership to high-speed internet access. But for those in the field working to increase the digital capacity of communities, broadband adoption is daily access to the internet:

» At speeds, quality and capacity necessary to accomplish common tasks,

» With the digital skills necessary to participate online, and

» On a personal device and secure, convenient network (NDIA)

Broadband Equity: Broadband equity is achieved when all people and communities are able to access and use affordable, high-speed, reliable internet that meets their long-term needs (NDIA)

Broadband: A transmission system granting users access to the internet. Broadband refers to a high-capacity transmission technique using phone lines, coaxial cable ("coax"), or fiber optic cable, enabling a large amount of information to be communicated simultaneously

Broadband Serviceable Location (BSL): A BSL is a business or residential location in the United States at which mass-market fixed broadband internet access service is, or can be, installed (FCC)

Coaxial Cable: Coaxial cable (or simply coax) is a type of electrical cable that is used as a transmission line for radio frequency signals. Coax networks operate at faster speeds and higher reliability than DSL but is slower than fiber

Community Anchor Institution (CAI): NTIA defines "Community Anchor Institution" as an entity such as a school, library, health clinic, health center, hospital or other medical provider, public safety entity, institution of higher education, public housing organization, or community support organization that facilitates greater use of broadband service by vulnerable populations, including, but not limited to, low-income individuals, unemployed individuals, children, the incarcerated, and aged individuals

Digital Divide: The gap that exists between those who have access to information and communication technologies and those who do not

Digital Equity: Equal access to digital tools, resources, and services, and the capacity to utilize them effectively

Digital Inclusion: Digital Inclusion refers to the activities necessary to ensure all individuals have access to and use of Information and Communication Technologies (ICTs). The five elements of Digital Inclusion include:

1. Affordable, robust broadband internet service;
2. Internet-enabled devices that meet the needs of the user;
3. Access to digital literacy training;
4. Quality technical support; and
5. Applications and online content designed to enable and encourage self-sufficiency, participation and collaboration. (NDIA)

Digital Literacy: Digital Literacy is the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills. (American Library Association)

Digital Navigators: Digital navigators are trusted guides who assist community members in internet adoption and the use of computing devices. Digital navigation services include ongoing assistance with affordable internet access, device acquisition, technical skills, and application support. (NDIA)

Digital Subscriber Line (DSL): DSL is a type of internet connection that transmits digital data over the wires of a local telephone network. DSL offers a faster connection than dial-up but is slower and less reliable than cable or fiber.

Fiber: Fiber optic cable is a type of high-speed cable that transmits data as pulses of light. Fiber is referred to as the "gold standard" for telecommunications networks because of its speed, reliability, and resiliency.

High-Speed Internet: The FCC defines high-speed internet as speeds that exceed 25/3 Mbps. This baseline was raised from 4/1 Mbps in 2015. Today. some members of the FCC are calling for another increase of the baseline to 100/20 Mbps.

Homework Gap: The homework gap refers to the disparity between students who have reliable, high-speed internet access at home and those who do not. This gap can hinder students from completing homework assignments, conducting research, and accessing educational resources online and disproportionately affects low-income, rural, and minority students. The gap became increasingly evident during the COVID-19 pandemic as schools moved to remote learning platforms.

Internet: A communications network transmitted to users by broadband. The internet refers to a global computer network providing information n and communication facilities consisting of interconnected networks using standardized communication protocols.

Internet Service Providers (ISPs): Companies that provide subscribers with services for accessing and using digital tools, entertainment, and services

"Last-Mile" Infrastructure: Last-mile internet connections refer to the final leg of telecommunications networks that deliver broadband services to end-users or customers. These connections link the broader, high-capacity middle- and first-mile backbone networks with smaller, local networks that directly serve households or businesses

Massachusetts Broadband Institute (MBI): MBI, at the MassTech Collaborative, was established in 2008 with a mission "to make affordable high-speed internet available to all homes, businesses, schools, libraries, medical facilities, government offices, and other public places across the Commonwealth." MBI facilitated the funding of this plan

"Middle-Mile" Infrastructure: Middle-mile internet connections refers to the segment of a telecommunications network that connects first- and last-mile networks. Typically, this infrastructure includes high-capacity, long-haul fiber optic cables that transmit data over large distances

National Digital Inclusion Alliance (Ndia): NDIA is a national non-profit organization that brings together 600 non-profit organizations, policymakers, and academics with a mission to "advance digital equity by supporting community programs and equipping policymakers to act"

National Telecommunications And Information Administration (NTIA): NTIA is the federal agency responsible for the State Digital Equity Planning Grant Program which funded the creation of this plan

Network Redundancy: Network redundancy refers to the process of adding extra, duplicate hardware, software, or network devices to a network infrastructure to serve as a backup or fail-safe system in case the primary network components fail. Network redundancy between towns or ISP's ensure there is no single point of failure and enhances overall reliability and performance of the network

Satellite: Satellite internet involves a dish installed at a user's location to communicate with a satellite in space. Satellite internet is prevalent in rural areas where cable, DSL, or fiber may not be available. Satellite connections are generally slower than cable and fiber options and its reliability can be affected by weather conditions

WI-FI: Wi-fi provides users with a wireless broadband connection. Wireless fidelity, or Wi-Fi, refers to a wireless network connection between devices and broadband networks
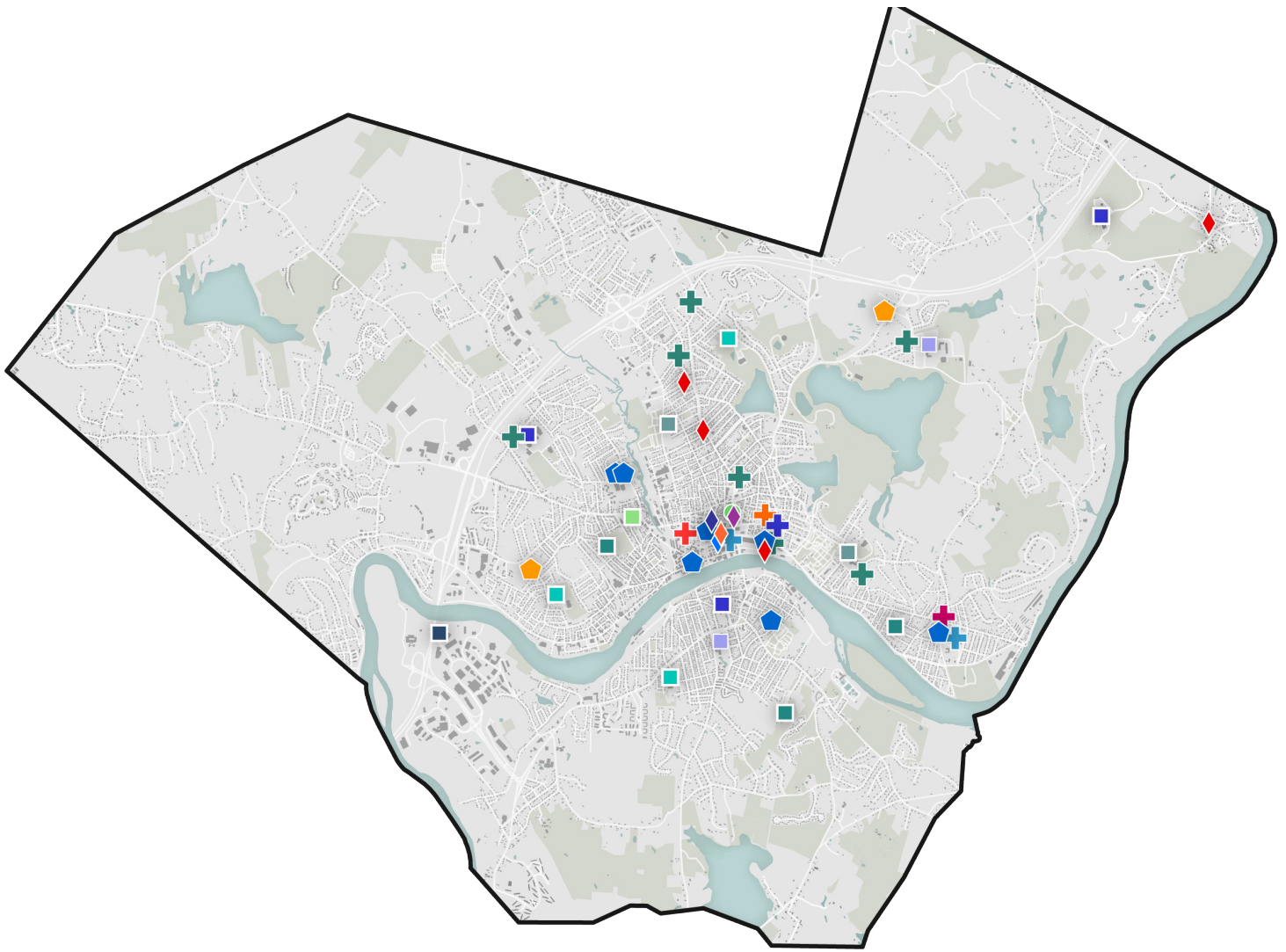
Map of Haverhill's Community Anchor Institutions (CAI's)

■ Charter School   ✚ Medical Center   ● Haverhill City Hall   ⬠ Elderly Living

■ Elementary School   ✚ Mental Health Care Center   ◆ Employment Center   ⬠ Housing

■ Elementary + Middle School   ✚ Nursing Home   ◆ Fire Station

■ High School   ✚ Pediatrician   ◆ Haverhill Public Library

■ Middle School   ✚ Psychiatric Hospital   ◆ Police Station

■ Private Educational Institution   ✚ Veterans Center   ◆ Citizen Center

■ Higher Education

Public Engagement Material:
Ensuring that all material was available in the common languages in Haverhill to be able to reach all residents; *English, Spanish, Portugese, andf Haitain Creole*

Pamphlet distributed during all public engagement activities

Digital Literacy & Access

Skills • Devices • Connectivity • Applications • Training & Tech Support

Education
- Higher education literacy
- Vocational training
- Early childhood education
- Language

Health Care System
- Patient portals
- Health apps
- Wearable sensors

Economic Sustainability
- Shopping choices
- Online banking
- Employment
- Medical Bills

Community & Social Context
- Community engagement
- News

Neighborhood & Physical Env.
- Housing
- Safety
- Transportation
- Parks

Food
- Food banks
- Safety net programs
- Fresh food delivery

Broadband access is assessed on:
- Availability of services
- Affordability of services
- Adoption of services

Haverhill Resources
1. Haverhill Public Library
2. Haverhill City Hall
3. YMCA Haverhill
4. Citizens Center
5. Boys & Girls Club
6. MakeIT Haverhill

DIGITAL EQUITY PLAN

Haverhill, MA

WHAT IS DIGITAL EQUITY?

...on in which all individuals ...munities have the information ...gy capacity needed for full ...ion in our society, democracy, ...omy.

...divide is the issue.
...nclusion is the work.
...quity is the goal.

...o Digital Inclusion

Devices • Digital Skills

...necessary to ensure that all ...d communities, including the ...taged, have access to and ...ion and Communication ...CTs).

Fill ... the Survey!
Scan ... QR code and give your input ...the MBI survey to help close ...divide.

Action Item Implementation Schedule

Champion: Haverhill Digital Equity Committee

ACTION ITEMS - DIGITAL EQUITY COMMITTEE	IMPLEMENTATION TIMELINE		
	Short-Term (less than 2 years)	Medium-Term (2 - 5 years)	Long-Term (5+ years)
3.1: Form a Digital Equity Committee with a designated champion to organize action items and publicize progress and events at Community Anchor Institutions.	▮		
3.3: Establish relationships with organizations specializing in disability services (Vinfen, Haverhill Clubhouse) to promote accessible, relevant training.	▮		
3.4: Assign digital navigators as part of the local institutions network to aid in common classes, available programs, workshops, etc.	▮		
5.1: Strengthen relationships and connections between different local partners such as the Haverhill Public Library, MakeIT Haverhill, YMCA, Haverhill Public Schools, CAF, etc.	▮		
3.5: Work with Haverhill Public Library, Umass Lowell Innovation Hub (Haverhill), Northern Essex Community College, and MakeIT Haverhill to expand existing digital literacy programming ensuring that services are available in multiple languages.		▮	
3.6: Expand access to educational facilities and digital literacy support by extending hours and offering virtual resources during evenings and weekends.		▮	
6.2: Enhance collaboration among local employers to share their needs, enabling non-profits to strategically align their adult job training programs and optimally prepare individuals for job fairs.		▮	
6.3: Take advantage of ECCF's workforce development programming to advance career pathways in technology in Haverhill.		▮	
3.7: Promote and offer digital citizenship trainings for all residents.		▮	
7.1: Apply for funding to ensure that EV Charging Stations are installed in new large-scale developments.		▮	
3.9: Partner with other gateway cities to establish a robust network of non-profits aimed at minimizing duplicate efforts and sharing successful frameworks.			▮

Champion: Haverhill Digital Equity Committee in Coordination with Internet Service Providers, Haverhill Housing Authority, Haverhill Public Schools, and Haverhill Public Library.

	IMPLEMENTATION TIMELINE		
ACTION ITEMS	Short-Term (less than 2 years)	Medium-Term (2 - 5 years)	Long-Term (5+ years)
INTERNET SERVICE PROVIDEERS			
1.1: Take advantage of ECCF/Comcast partnership – installation of "Lift Zones" (spaces in community centers that provide free Internet access and digital skills training).	▌		
1.3: Find more affordable internet options for residents and with a specific focus on eliminating the broadband gap between White and Latino residents.	▌		
HAVERHILL HOUSING AUTHORITY			
1.2: Conduct housing-specific Wi-Fi survey at all public housing properties to determine current connectivity gaps or deficiencies.	▌		
2.3: Include digital facilities (desktops) at existing common spaces at Haverhill Housing Authority properties.		▌	
1.4: Partner with organizations like Emmaus House to create pathways for persons experiencing homelessness or living with disabilities to have a reliable way to exchange information with supporting agencies.		▌	
HAVERHILL PUBLIC SCHOOLS			
2.2: Establish a supply of refurbished devices for students to purchase using learn-to-earn funds upon graduation.	▌		
3.8: Fund an expansion of the existing digital skills program for ESL parents of Haverhill Public School students.		▌	
6.4: Equip students with the skills and resources to proficiently use both Chromebook and Microsoft systems to ensure their readiness for the workforce and higher education.		▌	
HAVERHILL PUBLIC LIBRARY			
2.1: Expand the Public Library's device and hotspot loan program.	▌		

Champion: Haverhill Digital Equity Committee in Coordination with the Haverhill Council on Aging, Chamber of Commerce, Haverhill IT Department, and Haverhill Mayor & City Counselors.

ACTION ITEMS	IMPLEMENTATION TIMELINE		
	Short-Term (less than 2 years)	Medium-Term (2 - 5 years)	Long-Term (5+ years)
ACTION ITEMS - HAVERHILL COA			
3.2: Organize phone trainings (1-to-1 and group workshops) for seniors.	▌		
ACTION ITEMS - HAVERHILL CHAMBER OF COMMERCE			
6.1: Engage the Greater Haverhill Chamber of Commerce to collaborate with businesses that may face language barriers when looking for digital support.	▌		
ACTION ITEMS - HAVERHILL IT DEPARTMENT			
4.1: Create dedicated one-stop webpage on City's website for digital equity resources that promotes local digital equity resources like classes offered from MakeIT Haverhill, Haverhill Promise, the Haverhill Public Library, and Haverhill Public Schools.	▌		
5.2: Promote ECCF's digital equity newsletter among Digital Equity Committee and municipal staff members.	▌		
5.3: Work to create ways to measure implementation progress and make opportunities to reevaluate goals according to future needs.	▌		
5.4: Establish CIO "Technology Officer" to oversee digital navigators and oversee grant funding.	▌		
4.2: Ensure that all community members have access to digital equity resources by providing multilingual support and materials.		▌	
7.2: Consider making public Wi-Fi available surrounding school grounds and fields, in Washington Square, and at Haverhill Public Parks.		▌	
ACTION ITEMS - HAVERHILL MAYOR & CITY COUNSELORS			
7.3: Adopt policies that establishes Haverhill as a "Smart City".			▌

Stakeholder Sessions

Healthcare & Older Adults	Tuesday, July 16, 2024	11 AM
City & Library	Tuesday, July 16, 2024	2 PM
Community & Cultural Organizations	Monday, July 22, 2024	11 AM
Small Business & Economic Development	Thursday, July 25, 2024	2 PM
Education & Higher Education	Friday, July 26, 2024	11 AM
Haverhill Public Schools and City IT	Thursday, September 5, 2024 11 AM	
Public Housing	Emailed responses, August 23, 2024	
Haverhill Public Schools and City IT	Thursday, September 5, 2024 11 AM	

STAKEHOLDER SESSION #1 – HEALTHCARE & OLDER ADULTS

Date: Tuesday, July 16, 2024

Attendees:

» Eunice Zeigler (EZ), Vice President of Strategic Planning and Administration, Emmaus

» Mary Connolly (MC), Council on Aging Director for the City of Haverhill

1. **Introductions / your position, organization, current digital equity-based projects**

    EZ:
    - VP in strategic planning and administration in Haverhill - oversees affordable housing and satellite sites as well for people who are facing housing concerns
    - Part of the digital equity committee with ECCF
    - Have a meeting tomorrow with UMass Lowell tomorrow on a potential partnership for the units specifically - open to it and they have more properties that they are trying to identify the possibilities for all their clients

        - Columbia park property 32 unit bldg. - low to moderate income populations - want to work on this potentially on creating affordable internet options

    MC:
    - Public health nurse + Director of COA
    - Currently partnered with UMass and doing digital literacy with the chrome book - one in the spring and one now, which is for Spanish speakers, and they leave with a chrome book
    - A lot of need for the use of phones and do not know how to - as staff they help them

with 1-1 lessons
- Library will see for training people with laptops and chrome books by appointment
- In the building we do have free Wi-Fi for people to use
- Some people who are living in specific housing do not have access to Wi-Fi
- Several Haverhill housings does not have free internet access
- The ability to obtain a device is not the issue since there are different resources – people are also open to using the ones in the library – the main issue is just they don't know how to use it once in front of the device

2. **Do you have a physical space for the community to gather? Is there Wi-Fi or computers/devices in this space for community use? What technology is available? Do the communities you serve have reliable internet access?**

EZ:
- Does not currently exist
- It has been in conversation over the last few years with ECCF that they want to get this project off the ground

MC:
- 2 computers available in the Veterans area of the building
- Large conference room / multipurpose room
- It has a projector with large screens

    - We have temporary devices in use when UMass brings devices during the trainings
    - Or when someone comes to the dining room for a 1-1 training session

3. **What are the types of properties you manage? Do they have available broadband?**

EZ:
- Wi-Fi is through contacting their own internet providers
- 8/9 properties are a mix between shelter of individual and family shelter programs and permanent support housing (maple drive / Columbia St. / Welcome St. / House St.)

4. **What means so you use to engage with the community to collect feedback/ raise awareness about services or events for your communities? What community outreach strategies have been most effective? Using online or printed resources?**

EZ:
- Via email and print flier
- Case managers that meet with the client regularly - rely more on the face-to-face communication more to assess how they're doing and of available resources

MC:
- Produce a monthly newsletter, which can be picked up from different places and properties
- E-digital newsletter subscribers
- Website + Facebook page (targeted towards younger older adults)
- WHAB

- Robocalls

5. Members with disabilities - Do you have certain processes when helping with members with disabilities?

MC:
- Disabilities are very broad - a lot of members collect social security for different reasons some are for mental health etc.
- Vinfen may be a good contact who receive mental support

    - Haverhill Clubhouse too

EZ:
- Rely on case managers to assess what clients need if there is any form of impairment or disability, we try to ensure that resources are available to them
- Work with Vinfen and other resources to provide the needs of members

6. Potential for funding - What are you hoping to do for future upgrades?

MC:
- Access to assistance - 1 day a week to help people and navigating people with the use of
- Outreach to Haverhill housing to those members and are In a digital silo

EZ:
- Long term 2 to 3-year timeline – so we are thinking of how we continue to support clients outside of that margin
- Set clients up to be successful even after thew 2 to 3-year margin
- Its critical for us to establish a baseline of trust with clients
- We do know that Verizon / Comcast offer with a discounted rate - they're stepping away from that a bit

7. Final General Notes / Identifying a project for a focus to use the MBI Grant:

- Both show interest in the MAPC grant and Retrofit Program + Comcast service
- No specific project in mind / they both would want to engage members and then can suggest focus for grant

MC:
- We can distribute the survey if it is not reliant on just a QR code – suggested if they can do paper survey – agreed and we can pass stuff around before bingo when we gather a majority of the residents

EZ:
- Survey verbally or paper to know from them what they are looking to collaboratively agree on the need

STAKEHOLDER SESSION #2 – CITY & LIBRARY

Date: July 16, 2024

Attendees:

» Sarah Moser (SM), Haverhill Public Library Director

» Andrew Herlihy (AH), Community Development Division Director, City of Haverhill

» Josselyn DeLeon-Estrada (JD), Deputy Chief of Staff, City of Haverhill

» Melinda Barrett (MB), Mayor, City of Haverhill

1. Introductions

SM:

Library Resources available to the public:
- Wi-Fi is present throughout building
- We recently upgraded the Wi-Fi system

    - This was after we received a lot of complaints last year
    - High demand for better internet

- Outside the building in close proximity you can potentially hook onto the internet
- Different types of computers available for the different users: adults + teens + children
- We have hardwired to the internet and connected to the printer and scanners Wi-Fi

    - These resources are free to use for library card holders

- Laptop and hotspots can be checked out as long as you return them (they are free unless you lose the item and need to be replaced)
- Access to a ton of databases that the library/state pays for

    - A lot of info/resources available both scholarly and entertainment databases
    - Allow people to stream
    - All free

2. What demographic groups does the library provide IT support for (e.g., students, seniors)? Please characterize the services provided for these groups. Are there certain demographic groups that come in with specific needs frequently?

SM:
- Very diverse groups that come in for the streaming services offered
- Laptop + hot spots + labs- tend to be checked out by people who are economically challenged as well as people who face homelessness – they do have a phone but come into library for Wi-Fi and come in to also use the charging stations since they cannot charge their devices elsewhere

- In terms of student wise teenagers/junior high school kids who come in and use the resources together tends to be more of a social gathering - come together to do something collectively socially
- Elderly folks who have no digital literacy skills come in to know how to use their devices such as a kindle
- People who are also applying for jobs and have little experience in CV drafting come in for help
- They get help from the general Library staff – do not have specific advisors

3. Classes offered - Please discuss existing services or programming does the library provide. Is there significant participation in the programming you offer, and how do you market these resources?

SM:
- Usually we do trainings around the holiday - Around post-Christmas - kindles / iPad / iPhone so tons of people usually come around that time so we do programs then
- Intro to X program always given
- Staff also note on the commonly asked questions of certain programs and may suggest doing a class
- Sometimes it is a class format sometimes it is a 1-1 level of instruction if staff is available, and people prefer that as they are not embarrassed of asking any kind of question when it is individual guide
- One week Microsoft, one week X, etc.

4. What existing partnerships exist? What programs do you currently use? Are there additional partnerships or resources that could support the IT facilities capabilities?

SM:
- Previously worked with citizen center + YMCA
- It's always about making the training sessions work
- It is usually the shortage of staff to make the event work
- Schools usually reply a bit later due to time limitations
- Scheduling is the most critical thing that may delay process

5. What are the community needs that you observe?

SM:
- Mix of needs but the priority is access as it is cost prohibited
- Devices have become relatively cheaper
  - Even people who are homeless can buy a phone but it is the access to broadband that serves as a barrier

6. Looking to the future, how would you like to improve the library - technological innovation – any particular focus?

SM:
- Can always use more of everything
- Increase as many computers as possible that are available to circulate and, in the labs

+ always room for more devices and it's not a cost issue but it is a space capacity issue

- We cannot fit 50 computers to meet the demand

- Do not have the footprint to build facilities like a makerspace for teen groups

7. Follow up Question: Any current renovation projects?

SM:
- Yes, we do have a current renovation project in the works

    - It is a trustee project $30 to $40 million renovation
    - Trustees own the building

- Working with an architecture firm
- Looking at the renovation starting in the next 9 months
- The plan is for integrating tech. and a maker space is definitely part of that discussion

8. What is the current state of digital infrastructure / is there public Wi-Fi available?

MB:
- The schools have in their zone, but it is tight in location and cannot be accessed far from the buildings
- MakeIT Haverhill as a small Wi-Fi hub
- City hall Wi-Fi is not strong enough
- Aside from those resources, City staff is unaware of available public Wi-Fi

9. Is the city interested in emerging technologies for the public? Is there interest in becoming a "Smart Community"?

MB:
- It is not a top priority but when looking at grant we are looking at smart technology and we do not have an i-net system
- School-pumpstations-library
- Talked to Doug (IT Director) about that yesterday
- Doug has a plan to connect to fiber through a grant for the school department and work off that for the rest of the buildings
-

10. If Emmaus House is interested in partnering with Haverhill for the $4mil, next step will be a site survey with the UML team, including our technical advisor who is an expert on wireless technology. - What are other potential sites that this ($100k) implementation funding could be used for public Wi-Fi? Does the city want to focus on infra or public Wi-Fi or more towards digital literacy trainings? Is infrastructure where the $100k should be focused?

MB + JD:
- Questioned how far will $100K take you in terms of infrastructure
- If UMass has a good portion of the 4 million that goes to Haverhill that is more

promising to create more access
- Areas to potentially focus on:

    - Redeveloping a portion of Merrimack Street along the redevelopment project
    - Train station
    - Riverside park
    - Washington square - community action

11. If you had to pinpoint any public locations that would benefit from public Wi-Fi - bus stops? Vision for the future of Haverhill to have public Wi-Fi incorporated?

- Makes sense in Washington square (that's where community action and development go in and out for food benefits and help with utility bills so it would be a priority)
- The parking garage along the "Merrimack street redevelopment project"

    - 5 acres of land that has a public plaza (timeline: taking down the old parking garage now - a few years out) redevelopment along Merrimack street that has public space - train station - bus station - riverside park

- The list can keep going on, but priority would be Washington square

12. Any technical challenges and limitations that affect the community that need to focused on? What are key technical challenges or limitations that affect the ability to bridge the digital divide in the community?

JD:
- Calls all over the city to connect
- Digital literacy generally - people who come into the office mostly come are Spanish speakers
- Do not know how to use phone for paying bills come in and do not speak English so it is not only that they don't know how to use it but it's also the language barrier
- Issues with comcast

    - Customer service
    - Cost too

13. Is another provider coming in and will give Comcast some competition?

JB:
- Breezeline is just coming in the city - been having difficulty to access the poles from national grid and Verizon and starting to build out - poles changes and have a plan 2 year build out for the whole community maybe a little less

MB:
- We have been considering additional providers:

    - Been working on that - talked to Sci-fi for poles on the roadway
    - It is a great concept but see how it plays in the community and the northeast - Salem had a contract with them - might have had problems with fulfilling the project

- East Hartford, Connecticut also was working with them
- Would like to see how it plays out with maybe somebody else down the line
- We are aware that they had issues with the technique

14. Would you consider having municipal owned Wi-Fi?

MB:
- Not on radar unless we went to a third party
- Do not have the band width to pull it off on our own
- Not much knowledge about the plans
-

15. Are there IT/cybersecurity concerns?

- 17 school buildings who Doug is linked / City Hall suggest reaching out to him regarding to that
- Cybersecurity concerns:

    - Doug would be more knowledgeable
    - Received cybersecurity funding but might not be able to use it because a CIO would need to implement it - 44,000$

16. General Final Notes:

AH:
- Back in 2021 got the money and bought a Chromebook for every student in the public school system
- Hundreds of kids that could not connect to Wi-Fi but had a device - maybe schools have data from that (if it exists Doug has it)
- This info could be beneficial data to understand who was affected

MB:
- If they lived in an apartment and the landlords did not want inspectors coming in due to potential violations, residents had to figure out different ways to get access for Wi-Fi and that's why a lot of them did not have access
- HUD is making larger focus in their planning efforts like broadband - actively working on that community development side
- Last notes on potential partnerships

    - Non - profits
    - Northern Essex community college we partnered with but never digital equity before
    - School system
    - YMCA
    - Boys & Girls Club
    - Their programs are evolving
    - Citizen center - might be another point for public Wi-Fi

STAKEHOLDER SESSION #3 – COMMUNITY & CULTURAL ORGANIZATIONS

Date: July 16, 2024

 Attendees:

» Kathleen Machet, Director of Strategic Initiatives and Government Relations, ECCF

1. Introductions:

- Runs digital equity for the foundation
- The foundation started in 2020 / brief history:
    - It started in a meeting of 100 people
    - Talked about re-imagining and Essex County post Covid-19 in May of 2020 with equity vision especially in the grant making process works in philanthropy
    - Had a big impact on health and mental health support for instance
    - 150-million-dollar community foundation - 14 in Massachusetts - nonprofit to invest for individuals and has a family of 300 funds that are managed by family foundations, and they help them with that process - house the money and grant out to partners
    - Practice system philanthropy after the gas station in Columbia gas – became crisis philanthropy experts since - took the assets for the individuals and the whole process - no infrastructure in place within the 34 cities/towns so within Columbia gas instance that added knowledge on business resilience - first philanthropic effort
    - Do some of it in house like arts & culture and digital equity - all the other they are supported by ECCF but we are not running them

- We build the stakeholder coalition - and through data base too which is evident through their published plans - worked with tufts and allows for transparency for everyone to see where funds go and will refresh data in September
- Investment area ECCF Map: https://www.eccf.org/interactive-map/
    - Access goal: was raised to 20,000 help access for individuals- added at the YMCA, food pantries-homeless shelter - MakeIT Haverhill
    - Coalition - goals of a 100 – now at 275
    - Equipment goal of 5000 pieces - now over 7000 - target 4000 a year - helped incubate the TEK Collaborative
    - Literacy - worked with tech goes home Boston - MakeIT Haverhill was the first pilot site and expanded across the county

- September 23rd coalition meeting - virtual meeting which VHB is welcome to join
- 6 of the commonwealth gateway cities are within our line of work - have had the highest investment

2. How far out are the targeted goals set?

- 3-year goal target – these are being exceeded however the need is still there Public computer

3. **What are the main needs/barriers you see around the use of technology in your communities?**

- The work to go into Haverhill should be where the investment is being made currently – continue the current work being done
- Focus areas in Haverhill:

  - MakeIT Haverhill should remain
  - Masshire as well
  - Mount Washington Neighborhood is also an important part of Haverhill
  - Digital equity place-based work

- Further investment in those areas to them to keep their work going and building out the neighborhood in mount Washington neighborhood - huge opportunity
- Emmaus is looking at that neighborhood that they serve and thinking about the infrastructure and digital literacy
- Senior center literacy training
- All the nonprofit center - free machines and literacy trainings in the city
- Haverhill is unique they are at the end if the line of water and border – "last mile" locations in that city is important to ensure that you have equal access
- What needs to happen in the city is a coalition - mayor is already starting to do that – have to identify a champion to take on that mission - advice is to look at someone who can lead that effort like MakeIT - City may not want to put one nonprofit as the one main lead but potentially using their lead and expertise

  - They have graduated literacy students than any of our other sites

4. **Tell us about any existing partnerships you have. What additional partnerships would be beneficial to enhance digital equity in Haverhill?**

- Public schools donate their laptops to TEK Collaborative which has been substantial to the system - very important role - commended Doug as a good resource
- Kerry perry from community action is also important innovative programs in the childcare realm - within their housing programs - setting up a community room to aid in those programs as well to run their process
- Highly recommends asking for the budget from UMass Lowell or the City

5. **What means so you use to engage with the community to collect feedback/ raise awareness about services or events for your communities? What community outreach strategies have been most effective?**

- We would never do it ourselves - we would do it through our non-profit

  - MakeIT Haverhill
  - Senior center
  - Community action inc.
  - Mayor had suggestions about these as well
  - YMCA have not received formal work

- Haverhill Promise is one of our grant recipients over the summer - funded kids Pre-K for ESOL Learning for kids - only 11-12% have access to pre-k

6. **When looking at recommendations, work with Jocelyn on the contacts that want to work on specific items (MBI List related to non-profits in the city)**
   - Haverhill has the biggest opportunity out of all our cities

7. **Did you do any research for alternative for ACP program?**
   - We do internet essentials and residential free Wi-Fi and built that network it is not impacting big neighborhoods in Salem and Lawrence
   - Hot spot program is the one we are falling on especially on the new arrivals with population increase within the model for those facing housing insecurity and domestic violence
   - City of Haverhill is not getting hot spots anymore because CARE Program is out
   - Another option for schools is the 10 million T mobile project - did that In Lynn

8. **Final General Notes:**
   - Andy Vargas - also a good option to interview - knows the city pretty well
   - Mayor can give good advice on needs

STAKEHOLDER SESSION #4 – SMALL BUSINESS & ECONOMIC DEVELOPMENT

Date:　　　　　July 25, 2024

Attendees:

» Allison Heartquist (AH), Director HP3

» Ian Burns (IB), Community & Economic Development Program Manager MVPC

» Kerri S. Perry (KP), President & CEO Community Action

» Erin Paszko (EP), Program Director of Adult Education Community Action

» Lisbeth Valdez (LV), MakeIT Haverhill Director

» Nairoby Sanchez (NS), Latino Coalition Haverhill, Business Outreach

1. **Introductions:**

   EP:
   - Community action, community director E
   - Some of the major programs offered are ESOL Classes
   - Digital literacy and distributing chrome books
   - Even with all the programs available, access is still an issue

   AH:
   - Director of HP3, non-profit that provides one on one mentoring
   - Workforce development

- Target audience: middle to high school
- Now currently working with boys and girls club
- One noticeable thing is that when these students they graduate from high school they lose chrome books they've been working on
- Available program "earn as you learn" program that gives students 500$ to learn and they earn money

    - Incentive for students to join this program is for them to be able to gather funds to then buy a device since they lose the one that they acquire during classes

IB:
- Economic and development team at the Merrimack Valley Commission
- Various planning initiatives - business development, housing, etc.
- Worked on plans previously tackling education/job training …
- Worked with ECCF - when they did a county wide assessment on needs a few years ago

KP:
- CEO of community action in Haverhill
- Work ranges from Haverhill to the coast
- Aids households in adult education, early learning programs, energy and utility program of the city, snap outreach, homeless shelter, etc.
- Many of the programs have digital needs in terms of access
- Many have smartphones, do not have access to device or the know-how to use a device
- See an issue in basic English literacy skills

LV:
- MakeIT Haverhill Director
- Work on a range of services some of them include workforce development, digital literacy, and equity

NS:
- Part of the Latino coalition
- Work with small-business outreach with Hispanic business
- ~60-64 identified businesses are Hispanic-owned
- Digital literacy is important
- Owners are looking for every type of resource to promote their business
- The team helps them with paperwork that they cannot fill out themselves
- No word on internet needs but does not mean that it is not there
- 30 businesses part of the coalition when they initially started, and it has grown immensely
- One of the first barriers is permitting for owners
- Digital literacy: applying for something on the city's website is not the easiest thing for owners – know-how may be missing and that is why they come to us or someone younger

2. **Community and population they work with - what type of vulnerable populations are you seeing coming in the most and the issues you identify with them?**

KP:
- We work extremely low-income community members and a range of people from 0 to a 100-year-olds
- Cover a large breadth of people
- Mostly people come in with English literacy training needs
- Adults-ed program has doubled in the last two years
- English language learners need as well
- 1-2% of the population cannot access housing
- Even if people have a voucher there is no place to house them
- All sorts of barriers
- The people who come in to learn and get a better job - are there every single day and working towards improving their life

EP:
- Lack of affordable internet
- Students have access to phones but even the connection on it is unstable
- Can't get material needed in class due to that
- Impossible to find access to affordable internet programs

  - NS asks follow up: even with the programs coming up how big of an issue is it?
  - EP: A lot of income eligibility access has been difficult to access - working with comcast and Verizon has been difficult for some reason
  - There should be a way to access affordable internet without having to sign up for something or being part of a non-profit for instance

3. **With the rollback of ACP what do you think can help with the lack of federal funding programs that support having affordable access? What programs help with that?**

KP:
- What is happening right now with the MBI program to give help to low-income students and populations is the most promise we are seeing
- The plan in the works is the start to the help needed

4. **What are some of the gaps that you have identified and what are some of the partnerships that you already have? Any interest in more partnerships?**

IB:
- Gaps identified:
- Opportunity for partnerships across municipalities
- A lot of great non-profits between our gateway cities
- A lot of their work crosses boundaries
- Thus, having that alignment between them would be a good route
- Encouraging more cross collaboration would be beneficial
- The knowledge of what other organizations are doing in their own communities is helpful

- Haverhill has a strong non-profit network so that is a great start for the city

LV:
- We have a lot of partners as part of our mission and programs

    - Most recently partnered with UMass Lowell
    - MBI
    - ECCF
    - And many more

- The work that we are doing should not just be on the non-profits
- State needs to be working on this message as well since the issues arising include everyone

    - It is beyond a certain population, every type of group has needs

- A training program that is not seen as a training program for everyone in a sense that it needs to be part of a bigger system
- Bleeding some of the bounds of the program's around and not categorizing things into the various niches
- Different groups have different needs as well

    - Difficulties arise when working with an immigrant population

EP:
- Helping with digital literacy with under aged, unemployed, etc. populations
- We are providing digital literacy because they are not plugged in through any other way

    - The know-how of the use of devices is an integral part of every class
    - People who do not know how to type, write emails, use a computer, etc.

- We are filling in those gaps for those who do not have any other educational access in the city
- It is not fully recognized in terms of funding for the provided services

    - We are targeting populations that have fallen behind for them to gain opportunities in improving their life

- Some recognition for the work that we are doing through better funding would be the key to it all

KP:
- Too many partnerships to name
- One main event that we work on through MakeIT Haverhill are the In-person job fairs, and one is happening today at 4 at Washington sq

    - It is a community-based program
    - 12 employers come seeking employees
    - 50-100 community members come in
    - Usually not the same people come in – we do have duplicates, but we see

new community members coming in every time
- The outreach happens through word of mouth + market basket connection
- One of the first things they need to do is to register on a computer first – this way we have an immediate knowledge of their know-how of skills

- Whole range of issues linked to digital literacy appear
- MakeIT Haverhill have a good base of programs
- A ton of the requirements from the employers is a 6th to 8th grade level literacy
- Access to employment starts with people knowledge of how to register
- Funding must be addressed

5. Follow up question: What types of companies attend the job fair, from what industries? Where do you see the people who go through these programs end up in? What are their typical industries?

LZ:
- Manufacturing and assembling since it is entry level requirement such as amazon
- Basic level of knowledge to know such as being aware of emergency protocols
- Once they take English courses and enter those job - if they want to further their education, they can get to higher level positions like in healthcare, administrative which a lot of members do aspire for
- Transportation + healthcare + manufacturing always come as employers
- Every month it is different employers - new companies a lot in Haverhill so that adds opportunities

  - Arrow space coming in today - it is manufacturing however some positions require some digital competency - so some require more tech savvy person-nel

6. IB Follow up Question: How many people come in with an international degree and that is not recognized here?

LZ:
- We see these people a lot of the people in our computer classes –people have very different degrees and require the help to adjust here
- Some do not want to transfer degree because it is too much work/process
- Our forms ask what their education level before enrolling in the class so we do have data about the members in our classes

EP:
- 80-100 ESOL students

  - 1/3 of them have degrees
  - Tons of people with backgrounds in accounting and finance and looking for training opportunities
  - People who are from tech + healthcare also join our classes

- The transitioning is what is the barrier to get an entry way into the system here and to get a job, talking to someone about the possibility, etc.

- Some of them have a the know how - We recommend for some of them transferring to Northern Essex College in the same degree or something different to keep improving their skills
- A lot are getting any type of job to make ends meet

7. **What do you think are potential opportunities that can help/programs that can be expanded upon through this plan around people who do not speak English as their first language?**

EP:
- Programs like professional development and workforce development with contextualized to their domain English training classes to prepare for their specific career
- We are encouraging members to join Northern Essex College to get that local knowledge
- Having something lined up besides the basic English classes for them to take after they finish is always a challenge

    - People who are looking for the next step after the class ends

- Building upon the classes beyond the ones that they are already in that specialize in particular domains

    - Career pathways class + job exploration + specialized computer science class + knowledge on job expectations - culture of that profession in the United States (since it may be different than the one they were exposed to previously) + along with the digital literacy training there are needs to help with job placement
    - Job exploration + specific profession classes are important to work on

- Every year we give out 130 chrome books and students have to turn them back in

    - During the summer they do not have access to any of the material they've been working on
    - So having the opportunity for them to maintain the device they've been working on or any device is another key thing that needs work

AH:
- Our target group are students in middle school to 12th grade
- Having them have to return their chrome books after graduation is the biggest barrier we see
- Potentially partnering with a non-profit that refurbishes old computers - a few around – more work in that may add an opportunity for students to purchase their chrome books
- Having those devices gives confidence to students
- Chromebooks become so obsolete once taken back – it is a difficult thing to deal with

IB:
- Haverhill has the largest or is second largest city that has Broadband access gap exists between White and Latino communities

- Racial gap is very big

- Also for the senior population - the challenge for them is that they do not want to reach out so they are disconnected due to that – and then they are not linked to any of the trainings or awareness of them so they remain distant and not part of community

KP Follow up on point about seniors:
- We do digital literacy workshops for seniors through our organization
- Sometimes we see that they cannot join them due to mobility issues or transportation issues
- Seniors are super excited to come in and learn - first thing for them to open a laptop and plug it in and that sometimes is a struggle for some
- They were very isolated and living in a low-income housing that has no broadband access in the community room
- Bringing services and devices for those populations is what is most critical

LV:
- The intention was to do it in their common room / living headquarters
- Since they do not have any internet there, we then needed to order a hotspot for each student and supervisor as well so that was not the ideal scenario, so we proposed to make it an easier process we wanted to bring them to MakeIT Haverhill and have the session here

  - Some people could not come in even though they wanted to

- The need for a computer and printer in their building would make a huge difference

  - A lot of seniors ask about needing the help with printing something

8. **Final thoughts on the potential opportunities, needs / Anything else that that needs to be addressed in the plan:**

   KP:
   - We are conducting a senior survey

     - We can share it

   - Haverhill needs someone who is waking up and thinking about this everyday
   - It is an issue that not everyone is connected
   - Money needs to be invested beyond the fiber-optics it is important for people to know how use it as well

   IB:
   - In any way that the plan can incorporate the housing needs and highlighting it as one of the connected issues
   - It is part of conversation for full access

   KP:
   - Are u talking to employers as well?

- Could be important to know about their needs about who they need to hire
- Getting them together could be a good conversation
- The Job fair we have every month would be a good start point – you are welcome to talk to them - since they are open to working with the most vulnerable populations

STAKEHOLDER SESSION #5 – EDUCATION & HIGHER EDUCATION

Date: July 26, 2024

Attendees:

» Jacob Quiring (JQ), Northern Essex Community College, Academic Technology Department

» Stephanie Guyotte (SG), UMass Lowell, Associate Director of the Haverhill Innovation Hub

» Jessica Kallin (JK), Haverhill Promise, Executive Director

1. Introductions:

SG:
- Runs UMass Lowell - the innovation hub branch in Haverhill
- Support entrepreneurs and business start ups
- Involved with the ECCF digital equity coalition
- The iHub has hosted the digital equity challenge the past three years
- Recently, UMass Lowell received the grant to work in 3 communities, one of which is Haverhill
-

JQ:
- Works at the Northen Essex Community College NECC Haverhill campus
- Academic technology position
- Helps students with their introduction to the academic technology especially at the beginning of the school year
- The campus has computer labs
- One of the main issues is finding students to have access to have laptops continuously throughout the year
- Individual programs within the college have applied for grants for their students for access to devices
- Last semester w got state funding for computer use/lend in the semester
- We are working towards greater technology equity

JK:
- Executive director of Haverhill promise
- Intersection of collective impact, early literacy programs, Kindergarten readiness program, etc.
- One of the winners of the digital equity challenge
- Free resources for families to continue education at a young age

2. **What are the greatest needs that you see in Haverhill?**

JK:
- There are tons of resources available but most of them are available in English

    - We have a large diverse community where not everyone speaks English

- Having low-cost internet opportunities that are more accessible in multiple languages would be good
- Comcast does a discounted internet service so it is difficult to navigate for someone new to the system
- Language access as one of the greatest needs

SG:
- People have access to devices

    - People may have a cellphone but they don't have computers and a chrome book
    - You can't do everything on the phone

- Literacy as a gap

    - MakeIT Haverhill working on that however the demand is very high where not all needs are being met

- We would need a multiprong approach: access to device but also the skills to use them effectively
- Questioning: What impact the end of the ACP program - few years ago the city worked on getting people onto the program - do the people registered then, have access now? How is affecting the low-income families?

JQ:
- One equity issue we are running in particular to the college itself is that their system is based on Microsoft system
- However, individuals can get access to chrome books
- So, the device system is incompatible with the college's Microsoft system
- Device access is an issue in that sense
- Tech Goes Home - they work with Chromebooks and we've worked with them previously
- Basic literacy exists among students however the extra hurdle is to fully use the device due to different operating system

SG:
- Computers4people – Recommended organization - they worked with Dell and distributed computers and work with any refurbished devices so worth NECC to check out that resource

JK:
- Worked with TEK Collaborative and they use Chromebooks, which can hit end of life and cannot run the programming for long periods of time

- Some websites won't load
- Very responsive team at TEK Collaborative

  - Donate to a lot of organizations
  - They are part of the ECCF coalition

3. What partners do you have for digital equity? Are there additional partnerships or resources that could support your institution's IT capabilities?

SG:
- ECCF has been a great resource – they host quarterly meeting and has a wide network
- Through the digital equity challenge we have expanded our network like computers4people
- iHub facilitated a connection between Somebody Cares New England and computers4people
- TEK Collaborative - getting businesses to donate their old devices and make them usable for somebody else
- An important action/need is to expand on engagement to create these kinds of connections

JQ:
- More outreach and partnerships can reach out to more organizations
- We mostly want to work on helping students on device access
- Internet access is not one of the major issues we get from our students
- We want to try working to get hot spots to lend out at the library
- Most of the students go to their local library because they can borrow hot spots there

4. Does Haverhill promise have headquarters in Haverhill?

JK:
- Haverhill promise has been working 2 years since September
- Built up like a community campaign
- We utilize support from upstart
- Program started by the Utah State
- We provide a registration
- Interpreters available at the event
- Upstart then has advisors who helps people on ground
- We do not have a location in Haverhill
- My office is in the school district
- Would be interested in the Hot spot conversation

  - A lot of our students travel internationally so access to devices is a barrier especially during the summer months when they are away back home visiting family.

5. **Does UMass Lowell lend hot spots?**

SG:
- We do not have any public hot spots
- We just have campus Wi-Fi
- Anything on the main campus is the main UMass network
- We are a membership model system, so they all have a user and password for Wi-Fi and guests also have that guest Wi-Fi access
- Public does not really drop into the space
- We do have open days during the year where business owners come in and they use guest Wi-Fi

6. **Any challenges with the current technology or do you want to upgrade systems? Are you currently working on plans to advance your systems technologically? Future plans?**

SG:
- We have a fiber cable network built so we do not need comcast or any other service
- Very good internet connection – it was expensive cost that the university took out
- We have a small collection of 20 Chromebooks that are used when having student programs that are usually 2 to 3 times a year - not too many
- When we were running regular classes, we had computers on campus
- You needed to be a UML student to access the computers in the facilities
- Working with high schools and MakeIT definitely more to help with the need for devices

JQ:
- On campus resources are robust
- Computer lab / Wi-Fi / etc.
- The students need are usually after hours and on weekends since we are closed
- So, we are doing semester long loans for computers with the grant we recently acquired - only 12 computers for now so we will test this program out in the fall
- Always get questions from students and staff
- Classes are mostly online or have an online component, so the need is there
- We have online digital literacy classes so I meet with them 1-1 and work with them to let them know that the resources are there to help them succeed

7. **How many students/members do each of your institutions serve? How many digital equity related classes do you offer?**

SG:
- Works mainly in the iHub not the campus itself but believes it has 8000 students
- Don't work with students directly rather iHub members

    - 22 member companies at the iHub

JQ:
- Literacy classes
- Academic technology workshop in the fall in both Haverhill and in Lawrence campus-

es (someone in the same position as myself works in the Lawrence campus)
- We have a couple of these intro. sessions during the day and some in the evening too

    - Winter has less attendance

- We encourage more 1-1 meetings especially at the beginning of the students first semester
- Students come in and they have an overview of everything, course access, emails and during the semester the department is available during the week and year round

JK:
- Now working with 35 households

    - Looking to scale up
    - Working with us comes with the on-boarding with a Chromebook

- We are also partnered with MakeIT Haverhill if support is needed

8. Any topic that you find is an issue and is a gap that you may want work on in the future and any programs to be offered? For instance, Cybersecurity safety classes.

SG:
- Language barrier and programs working towards being inclusive would be an important action in any digital literacy component

JK:
- I do believe student data privacy is something we need to work on
- Tech vendors and accessing free resources / the data giving them – people are not aware of where their data is going
- Lack of awareness is absent in all languages
- So being aware of the safety measures would be important

JQ:
- Language barrier is an issue
- Safety is not so much a concern
- Most of our students have an issue in understanding where their stuff are being saved

    - It is a lot of apps and folders so the cloud system know-how is not clear
    - Questions come in:
    - Where did my saved data I was working on go?
    - Where do you save something and access information?

9. Opportunities: Do you have programs that are going well and want to expand upon? Any future plans for your organizations?

SG:
- Looking to expand on the digital equity challenge

    - Pitch event
    - Beyond the ECCF funding
    - It provides seed funding for important organizations that can really jump start

projects

- We want to continue to look for entrepreneurs to be part of the challenge and become more invested in the community too

    - Social impact entrepreneurs and expand their reach in Haverhill and the region

JQ:
- No current programs
- Lending library laptops will be growing hopefully

JK:
- Scale up Haverhill Promise Program and provide it for everyone free of cost
- 17 states are providing this program
- It is available in multiple languages
- The hope is to scale it up and take it to the state
- A resource to provide a device and would like to also provide internet connection (to work on in the next year)

10. Different funding sources that you rely on?

SG:
- Receive funding from ECCF and the MBI grant

JQ:
- Laptop program grant was part of the larger mental health program by the State Funding through the Department of Higher Education

JK:
- ECCF and the city of Haverhill through youth activities and mental health fund

11. Final thoughts on how you think this plan can help serve this community / any ideas / thoughts

SG:
- I believe the work needs to be focused on broad community engagement and outreach
- A lot of resources and program but not everyone knows about it whether they are busy or it is language barrier
- Outreach that is done through the City about resources are mostly through Facebook and email – and that will not reach the people who need the resources the most since they do not have access for instance
- Business community sends out an email about the program they have and that means of outreach is not pushing the bounds enough – we need to think about for instance the Hispanic owned businesses which won't be able to know about the resources through email

    - Not going to having a door-to-door may be missing since we are not pushing

> ourselves to meet the people who need the help the most and who are the least connected

JQ:
- The issue is helping people be aware of the resources they have around
- Maybe finding stakeholders that can pass out the information for those who need it is a potential route to work on
- Even on a personal level at the college we can do more with reaching out to various organizations to provide more for students
- Finding people for referrals is huge

STAKEHOLDER SESSION #6 – PUBLIC HOUSING

Date: August 23, 2024

Written response to interview questions emailed by Patrick Driscoll, Haverhill Housing Authority

1. **What are the current digital access challenges faced by residents in your housing developments, and has that impacted residents' quality of life, education, and employment opportunities?**
   - That would be specific to each tenant but it is fair to say that cost is one of the greatest challenges faced by our tenants. Whether it's the inability to afford digital access or having to use inadequate/outdated equipment or services. In this digital age, that will have an impact on any person, regardless of economic or socioeconomic standing.

2. **What percentage of your housing units have access to high-speed internet? Are there any plans to upgrade or expand internet infrastructure within the housing developments? Are there any with glaring needs?**
   - The Haverhill Housing Authority does not provide free Wi-Fi to tenants. All units are capable of having internet installed but tenants would have to set up and pay for their own internet service.

3. **Are there any barriers to applying for affordable housing that directly relate to someone's digital literacy/ device access? What issues can you identify?**
   - Digital literacy and/or device access does not prevent any person from applying for affordable housing as paper applications can be picked up from the office or sent through the mail upon request. The same is true for all Housing Authorities in Massachusetts.
   - One barrier that comes to mind would be if somebody chose or preferred to apply online but wasn't digitally literate.
   - The real issue for some applicants is after they've applied. Many applicants don't keep their contact information up-to-date on their CHAMP applications, many are also homeless, disabled, or both. It is imperative that applicants are able to receive communications from CHAMP and Local Housing Authorities (LHA's) either by mail or email. For homeless or disabled individuals who are otherwise unable to call or go

into a LHA to check the status of, or update their application, digital access would be required as well as digital literacy.

4. **What's the breakdown of CHAMP applications you receive between digital and paper?**
   - The Common Housing Application for Massachusetts Public Housing or CHAMP, is used state-wide to apply for Public Housing in the Commonwealth. As such, we don't know the volume of digital CHAMP Applications where Haverhill is selected as a Housing Authority that somebody is interested in applying to. The paper CHAMP applications on the other hand, we receive and process an average of 21 per month.

5. **Are there common spaces at any of the public housing sites? What kind of digital facilities do they have (if any)/ what condition are they in?**
   - There are Community Rooms at roughly half of our Public Housing locations. They are in good condition. They do not have digital facilities.

6. **Are residents automatically enrolled in utility services, or do they have choice?**
   - Haverhill Housing Authority adheres to state and federal requirements set forth by the EOHLC and HUD.
   - For Public Housing: tenants who pay for their own utilities receive a utility allowance towards their rent amount. They are not automatically enrolled and have to contact service providers to get the utilities set up in their name. Haverhill Housing Authority's policy requires tenants in family housing pay some utilities and tenants in elderly housing pay no utilities.
   - For Section 8 & MRVP: Participants are housed by private landlords and whether utilities are included would depend on individual rental agreements.

7. **Do you feel like many residents work from home? Are the majority of your properties multi-bedrooms, do you know how many children under 18 you have living in your properties?**
   - Unsure. While tenants are required to report their income and any income changes to the Haverhill Housing Authority, including who their employer is and where they are located, they are not required to disclose whether their position is remote or in-office.
   - Tenants Under 18 = 130
   - Multi-Bedroom Properties =
     - 4/9 properties are Family Housing
     - 138 multi-bedroom units out of 434 total units.
     - Multi-Bedroom units comprise 31.8% of our total number of apartments

8. **What digital equity initiatives or programs are currently in place? How successful have these programs been and what metrics do you use to measure their success?**
   - The HHA doesn't have any digital initiatives or programs at present.
   - Previously, we informed applicants about the Affordable Connectivity Program (ACP) if the concern of digital equity was raised. We informed all tenants of this Program and also had a workshop with MakeIT Haverhill but only had an estimated 2% turnout. Unfortunately, the ACP ended on June 1, 2024.

- There is another program called "Lifeline" offered by the Universal Service Administrative Company (USAC) which is directed by the FCC. It is a Federal program that can assist low-income individuals and families with a monthly benefit amount to be used towards phone or internet services.

9. **Do you collaborate with any local organizations, tech companies, or educational institutions to enhance digital equity?**
    - We work with AgeSpan a lot. They have created or hosted varying programs and initiatives for the elderly tenants. One such program in the last year was aimed at providing free tablets to low-income elderly tenants. For more information, please reach out to Kelsey Reden at kredden@agespan.org

10. **What digital literacy training programs and support services (e.g., tech help desks, digital navigators) are available to residents?**
    - The HHA does not have digital literacy training programs or support services. There have been previous programs offered by the Public Library and MakeIT Haverhill.

11. **How do you assess and address the digital needs of your residents, including access to necessary devices and digital literacy? Are there any existing engagement strategies for assessing the impact the digital divide has on residents?**
    - On a case-by-case basis. When tenants make us aware of their digital needs, we provide them information on programs already in-place that we are aware of whether they be local, state, or federal programs. Additionally, we may refer them to the Community Action Building who may be aware of additional programs or resources that we are not.

12. **Can you share any success stories or testimonials from residents who have benefited from digital equity programs?**
    - This question would be best answered by Kelsey Redden at Agespan who coordinated the tablet initiative for low-income elderly tenants this past year.

13. **If there was an unlimited budget specifically for digital spending within the Housing Authority, what would be your long-term vision for digital equity amongst residents be?**
    - For an Unlimited budget with no restrictions: it would be great to build additions to the existing community rooms and construct new community rooms at the properties that don't have them and include computer facilities in each. If that existed, we could then try and host digital literacy seminars using this unlimited budget. This would be after having consulted with IT and Cybersecurity professionals to ensure that all the appropriate safeguards are instituted.
    - For an Unlimited budget specific to digital spending only, with no leeway: A desktop computer and laptop could be provided to each and every tenant with a subscription to an anti-virus software. Tenants would have a home workstation and the laptops could be used for work or school. Our concern would be whether the Unlimited Budget had an expiration date because there are recurring costs associated with this. Anti-virus software is subscription based and would have to be renewed each year for all tenants. Further, computer systems have a finite life-span and would require

eventual replacement or repair.
- No matter what, the first step would be consulting and hiring professional IT and Cybersecurity experts to assist in the design and development of these ideas or plans.

14. **Have you applied for any grants specifically for addressing connectivity gaps/ deficiencies, and if so, where? Is there any interest in applying for residential retrofit/ apartment WIFI programs?**
- No, we have not.

15. **Are there any resident advisory boards or committees focused on digital issues?**
- No, not at this time.

STAKEHOLDER SESSION #7 – HAVERHILL PUBLIC SCHOOLS & CITY IT

Date: Thursday, September 5, 2024

Attendees:

» Douglas Russell (DR), Director of Technology City of Haverhill & City of Haverhill Public Schools (HPS)

1. **What are the biggest needs in Haverhill? What's the digital equity vision?**

   DR:
   - All schools have full broadband. Students have full access to the internet. But we filter. Every student in public schools have a Chromebook.
   - These devices can be kept over the summer. Repair and replace as need be throughout the year.

2. **Are Wi-Fi services on every bus?**

   DR:
   - Yes, on all NRT busses unless it's a spare. All Chromebook will automatically join that Wi-Fi. About 75% of special education busses also have Wi-Fi.
   - Limewise program for parental computer monitoring. 1,000/8,000 parents probably use it.
   - We started with Limewise right before Covid to handle filtering of our devices. Cleaner than a standard firewall. Implemented 6 months before Covid. Before Covid devices were all kept in school in carts (no take homes). Main component is filtering, second is mental health awareness. Team gets alerted immediately if a child is flagged for a mental health crisis.
   - Parents can download an app called Custodial (from Limewise) it will enroll their school owned devices into that system and allow them to lock devices down.
   - Every week students can go in and answer yes and no questions. Allows people to know where certain students are struggling.

3. Are there any new services for digital literacy?

DR:
- Digital citizenship training (starting in kindergarten) teaches proper uses of social media etc. Working on a grant that can go to all grades. Funding is a constraint that impacts the ability to train staff.
- Limewise has a webpage that we share out that allows parents to get access to resources for what might be safe for kids.
- Parents can use a browser to translate webpage.
- Tech at home webpage from Doug's office gives tips at home.

4. Are there any recurring issues with students/parents?

DR:
- Landlords wouldn't allow renters to install a satellite dish or anything that would cause structural changes. A year after Covid we started offering hot spots to those families. Haven't heard much about that anymore. We used emergency connectivity fund, but that's gone away.

5. Are there any plans to advance any technological systems?

DR:
- School & City's fiber network and the contract with Comcast expires in 2030. There is the question of how can we convince Comcast to allow us to buy that network (for schools).
- We evaluate speed needs on a yearly basis. We recently made upgrades.
- There are only a couple of spots that allow for Wi-Fi outside of school buildings which highlights a greater need. Get Wi-Fi to the field behind the high school.
- Everything is Comcast. Pretty much only provider that is hardwire is Comcast.
- Comcast Lift Zones are great, but they need to have a place that is more internal than external. Need someone there. Mesh Wi-Fi is better or connecting to a fiber network that we allow for access after school hours.

6. Washington Square has been mentioned as a potential location for Wi-Fi. In your opinion what are the best locations?

DR:
- Washington St, Downtown Haverhill area. Public Wi-Fi there would be huge and help out some of the businesses too. All sports fields would be great locations. Different sporting events are always going on and if they were covered it would help everyone.

7. Is there any interest on branding Haverhill as a Smart Community?

DR:
- I would need to understand better what a Smart City entails before having an opinion on that.
- Haverhill might not have the capacity to be a Smart City, MEVA didn't have any immediate plans to get Wi-Fi at the bus stops or the busses. The busses are free, there aren't any funds coming from that. City might not have the capacity to decide

to be a Smart City.

8. What is the largest digital equity need you have observed from Haverhill residents?

DR:
- Digital Literacy or digital citizenship are most important. Setting up an actual platform that everyone (schools and public) would be huge. Almost everyone can get online, but people don't understand what exactly they're doing online. This could be online or in person.

9. Is having a dedicated webpage for digital equity resources on Haverhill's website something the City would be interested in?

DR:
- If we had a really good page that had all resources that would be good.

10. Are there existing partnerships for devices or trainings? Is this something the School District or the City would be interested in?

DR:
- For HPSs the only partnership we have is that we take our end of life devices and donate them to an organization through Essex County Community Foundation. They take broken Chromebook and refurbish them and give them out to the public to use.
- We fund Chromebooks ourselves (it's budgeted in) but previously went through government services.

11. Do you have consistent funding sources that you use or are there others that you rely on?

DR:
- We try our best to apply for Grants, used a lot of funds from Fed after Covid, spent the past four years increasing our budget to get to a point where we could be self-sustainable.
- Had to cut the budget this year, we're not purchasing as many devices this year. Both the mayor and superintendent understand

12. Haverhill has a large population of non-native English speakers and people with disabilities. Is there anything specific that is done by HPS or the City for these groups?

DR:
- On the school side we have a multi-lingual director. She recently found a little bit of funding to provide parent English classes. They have some Chromebook and do basic google training and at the end of the training they get to keep their devices. Would love to see that program increased. They do it all internally. The multi-lingual director does it all in-house.
- Goal could be to increase that program. Funding could be increased to cover an expansion of that, we have the staff just need the money.
- The City does not have any programs for people with disabilities that I am aware of..

- HPS does a needs assessment for each disabled student and gets things accordingly. It's on an as need basis.

13. How would you describe the state of the City's network?

DR:
- The City's network needs a huge overhaul. It's outdated. A lot of work to think about before being able to do anything for the City.
- Mayor says there is no interest in municipal owned network. It really comes down to cost.
- There's internet access and then there's the citywide fiber network.
- E-rate funding. 90% of what we need to pay for is funded through the Federal Government. They also pay for internet access.
- No matter what the school will always have access to the funding for internet access.
- 17 school buildings and most are on the way or near to public buildings, so if we decided to make updates the E-Rate program would make that significantly cheaper.

14. Is there anything else you think needs to be upgraded in Haverhill?

DR:
- EV charging stations were at parking garage that they just tore down. HPS just installed charging stations for smaller busses. They are trying to make that available to the community after school hours. Pay for parking in all downtown Haverhill but there's no charging on streets. That could be an area for improvement. .
- Ultimately if we had better resources for the public to understand the resources they have. Lots of places will give out free devices, but a lot of the public doesn't know about it. Having a one-stop shop for devices
- Grant was applied for by consulting company before I got here. In that grant they said they were going to do three different things, and the State said that we can adjust the budget. Meeting tomorrow to go over that.
- Three things: response plan so that each dept knows what they're responsible for a cybersecurity attack. Table-talk exercise: run through scenarios. WISP: Written Information Security Policy.
- Ransomware attack shortly after COVID-19 was fixed within 24 hours. Been there done that don't want to do it again.

Interviews

Merrimack Valley Transit (MeVa)	Thursday, July 11, 2024	11 AM
Comcast	Thursday, July 11, 2024	1 PM
Centro de Apoyo Familiar		
Center for Assistance to Families (CAF)	Thursday, September 5, 2024	2 PM

Haverhill Digital Equity Planning Work to Date

UMass Lowell Digital Equity Challenge

Since 2022, the Haverhill UMass Lowell Innovation Hub and the Essex County Community Foundation have annually presented the Digital Equity Challenge, which funds community-based, entrepreneurial solutions to digital equity issues in Essex County. The challenge focuses on increasing digital literacy, access to devices and technology, and elevating racial equity in digital resources and opportunities. To date, the challenge has awarded $30,000 to local digital equity projects throughout the county. Several Haverhill-based organizations such as MakeIT Haverhill have been recognized and awarded funds to expand on their digital equity initiatives in the City. The Digital Equity Challenge has supported projects like an internet connectivity program in Haverhill and a county-wide device refurbishment program.

UMass Lowell Grant

In 2023, UMass Lowell received a $4 million, two-year grant from MBI to lead a Digital Equity Partnership project in the Gateway Cities of Leominster, Fitchburg, Lowell, Haverhill, and Lawrence. This initiative, supported by UMass Lowell's higher education community partners, aims to deploy neighborhood-scale mesh Wi-Fi networks, enhance broadband service in public facilities, and create a multi-tiered digital literacy initiative with a regional help desk. The project will distribute 1,200 new or refurbished devices and funds training for students as "digital navigators" to teach digital literacy classes, offering free Chromebooks to graduates, and supports installing mesh broadband networks for low-income residents. Other local partners include Northern Essex Community College, MassHire Merrimack Valley, MakeIT Haverhill, ECCF, and Community Teamwork.

Previous Reports

Statewide Digital Equity Plan

Massachusetts Broadband Institute, 2023

The Massachusetts Statewide Digital Equity Plan, led by the Massachusetts Broadband Institute (MBI), aims to ensure digital equity across the state. The plan was guided by a unified vision developed through comprehensive stakeholder and community engagement, which was conducted through a statewide survey and 10 regional listening sessions throughout the state. This vision directs future investments in state-wide digital equity initiatives.

The plan highlights the foundational work previously conducted by MBI and details

support for future programs through grants, stakeholder engagement, and partnerships. It identifies specific gaps in digital equity throughout the state and uses the National Telecommunications and Information Administration's (NTIA) measurable objectives to track progress. The plan also includes a framework for achieving outlined state goals and objectives, ensuring a coordinated approach to closing the digital divide in Massachusetts.

Together this Statewide Digital Equity Plan and the Initial Proposal for the Broadband Equity, Access, and Deployment (BEAD) Program create the Massachusetts Internet for All Plan. The full, completed, plan is available on MBI's website. In December 2024, Massachusetts was awarded $14.1 million under the Capacity Grant Program to implement parts of this plan.

Commonwealth of Massachusetts Five-Year Action Plan: Broadband Equity, Access, and Deployment (BEAD) Program

Massachusetts Broadband Institute, 2023

The second plan from MBI, along with the Statewide Digital Equity Plan, makes up the Massachusetts Internet for All Plan. This Five-Year Action Plan aims to establish a collaborative, safe, and sustainable system for universal internet connectivity in Massachusetts. The plan provides a comprehensive strategy to maximize BEAD fund investments, uniting government agencies, private sector partners, community organizations, and residents to expand broadband access. The plan emphasizes transparent and efficient use of federal funds, leveraging existing infrastructure, and coordinating with other federal programs, particularly those funded by the ARPA Capital Project Fund. At its core, this plan is dedicated to equity, inclusivity, and recognizing broadband access as a basic right in Massachusetts.

Haverhill Public Library Strategic Plan (2023-2027)

Haverhill Public Library, 2021

The Haverhill Public Library is a focal point of the community, meeting the lifelong learning needs of Haverhill residents. The Public Library Strategic Plan was created by library staff to identify key areas of need for the library to focus on during the next 5 years. The plan was formed through input from the community planning committee, Board of Trustees and Friends and a community survey. During the Library's Strategic Planning process, the following service goals were identified: community inclusion, technology and innovation, development and expansion, and relevancy and evolution.

Plan Goals & Recommendations:

- The Haverhill Public Library strives to be a welcoming place by strengthening its connections with community members, diversifying its collections, programming, and outreach offerings, as well as strengthening its relationships with local partners and non-profits.
- The library aims to offer up-to-date services and instruction through upgrading building-technology and mobilizing technology offerings for patrons and staff.
- The library strives to maintain an up to date, relevant, wide-ranging collection with expanded access to different formats as well as the Special Collections. It is curated for the varying interests and needs of the community identified through expanded engagement, outreach, and involvement.

Making Progress on Digital Equity: An Update on Bridging the Digital Divide in Essex County

Essex County Community Foundation, 2022

This report is a follow-up to the initial 2021 report "Striving for Digital Equity" by ECCF. It conducts a new analysis using the latest Census data, noting new areas of focus where the original report's goals and objectives should be reevaluated. Following the 2021 report, ECCF formed a county-wide digital equity coalition to drive systemwide change and invest in various high-impact, community-led initiatives. Plans include supporting a regional digital literacy program, pioneering e-recycling efforts, and implementing two communitywide free Wi-Fi programs. In the next few years, this coalition aims to provide free broadband to tens of thousands of households and businesses, distribute 5,000 devices, and offer digital literacy training to 1,000 residents in Essex County.

Key Findings:

- Efforts to close racial disparities should be amplified through specific investments and grants.
- Partnerships with local organizations connected to the communities experiencing the least access to digital resources should be prioritized.
- The importance of cell phones should be further considered in efforts to provide equipment and devices to individuals, families, and small businesses across Essex County.
- Focus on areas where philanthropy can complement other sources of funding, including from the state and federal government.

Striving for Digital Equity: A Report on the Challenges and Opportunities the Digital Divide Presents to Essex County Communities

Essex County Community Foundation, 2021

The 2020 report by the Essex County Community Foundation (ECCF) addresses the digital divide in Essex County, mapping out its challenges and opportunities. The plan identifies core elements of digital equity—secure, affordable broadband access, modern equipment with video capabilities, privacy for comfortable working and learning spaces, and training to build computer skills. It highlights how the digital divide impacts different communities and how these issues are influenced by existing racial and economic inequities. The report presents key findings and opportunities for change to improve digital equity across the county.

Key Findings:

- Essex County has its share of digital deserts and there is opportunity for improvement in every community.
- Latino residents in Essex County are disproportionately affected by the digital divide. (In Haverhill the broadband rate for white populations is 77% and it is only 64% for Latino populations).
- Children in Essex County can flourish with additional digital support and training.
- Seniors in Essex County will benefit from online learning and telehealth. (In Haverhill only 63% of populations 60+ reported internet use).

Plan Goals & Recommendations:

- Broadband Access: Explore municipal broadband opportunities and providing public Wi-Fi through hotspots and mesh networks and negotiate with internet service providers (ISPs) to provide subsidies for internet cost to lower income families.
- Equipment and Privacy: Provide computers and devices for every family, build corporate partnerships to meet community needs, create a digital equity fund to distribute grants to vulnerable populations, and create free internet access centers in large community spaces and provide headphones/mics.
- Digital Trainings: Recruit younger people to help provide digital training for seniors and provide technical digital trainings for educators.

Vision Haverhill 2035 (Haverhill's Master Plan)

City of Haverhill, 2020

Vision Haverhill 2035 is the city's current master plan, shaped by community values, needs, and input. It aims to foster growth by attracting younger generations and promoting industrial development, revitalizing Haverhill's downtown and riverfront, and developing village centers. Some of the plan goals is to provide the community with access to jobs, opportunities, and education, as well as the growth of local businesses and industrial parks.

Plan Goals & Recommendations:

- Create opportunities that allow Haverhill residents to work near where they live and ensure that residents can get training and education needed to contribute to the regional economy.
- Partner with regional institutions to encourage work opportunities in STEAM (Science, Technology, Engineering, Arts, and Mathematics) and provide entrepreneurial training.
- Work with UMass Lowell to better integrate their new waterfront campus downtown with expanded classes and programming.
- Undertake targeted business recruitment efforts to attract companies offering low barrier-to-entry jobs and job training opportunities.
- Create a robust infrastructure to grow Haverhill's innovation economy through active recruiting, local workforce training, shared working spaces, skill-sharing, etc.
- Create tools and resources to support homegrown and small businesses choosing to locate in Haverhill, through start-up funding, storefront improvement programs, technical assistance programs, streamlined permitting, etc.

MVPC: Merrimack Valley Comprehensive Economic Development Strategy (2023 – 2028)

Merrimack Valley Planning Commission, 2023

The Comprehensive Economic Development Strategy (CEDS) is a strategic five-year plan created by the Merrimack Valley Planning Commission that outlines the future economic trajectory of the Merrimack Valley. This plan was developed in collaboration with over 40 stakeholders, including representatives from state and local governments, nonprofits, community development organizations, and local businesses. The plan sets forth key priorities and actionable recommendations for advancing the region's economy to guide local governments and organizations in implementing priority projects over the next five years.

Plan Goals & Recommendations:

- Ensure businesses have resources and workforce to thrive in the Merrimack Valley to enhance economic mobility by expanding career training programs and improving technical and digital literacy training opportunities, which is executed through the collaboration across workforce development organizations.
- Attract workers to the region by addressing transportation, childcare, and housing needs and support business growth in emerging industries like clean energy and advanced manufacturing, while expanding industrial space.
- Provide equitable access to resources for small business growth and sustainability through simplifying pathways for starting a business, streamlining municipal resources, breaking down growth barriers, promoting local businesses, and fostering business-to-business relationships.
- Develop resilient downtowns and commercial districts as hubs for community and economic activities through creating inviting public spaces with mixed-use zoning, arts initiatives, and pedestrian-friendly designs. This can also be achieved by activating these public places through arts and cultural programming, promoting tourism and engaging community.
- Enhance infrastructure resilience to climate change by integrating conservation efforts, energy efficiency, and green infrastructure.

Gateway City Economic Snapshot

MassDevelopment, 2018

MassDevelopment published this study, which analyzed Gateway City economies and specifically examined Transformative Development Initiative (TDI) districts, such as the Merrimack Street TDI district in Haverhill. The study highlighted significant investments in

the district from 2014 to 2016, totaling $51.5 million in public funds and $22.5 million in private funds. The study showed that half of the built area in the TDI district is dedicated to office space, with lower retail and residential rents compared to the rest of Haverhill. However, the district also has high commercial vacancy rates.