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***Investing in Family Child Care Infrastructure: Addressing Historic Capital Inequities,
Environmental Justice, and Facility Quality in Home-Based Child Care
The Case for Expanding Massachusetts' Family Child Care Capital Grant Program***

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Key Facts:

- **Decades of Institutional Exclusion:** For many decades, home-based Family Child Care Providers (FCCPs) were systematically excluded from receiving public capital funds, leaving them without financial mechanisms to make permanent structural repairs or physical space upgrades.
- **Inextricable Link Between Housing & Childcare:** Housing insecurity among home-based educators threatens both their residence and their small business. Nationally, 25% of home-based educators report difficulty paying housing costs, with rates rising to 36% among Latinx educators.
- **Spatial Disparity in Fitchburg:** Analysis of licensed childcare data in Fitchburg, MA reveals that 90.5% of licensed facilities (114 of 126) are home-based FCCPs, whereas institutional centers account for just 7.1% (9 facilities).
- **Divergent Built Environments:** While institutional centers occupy commercial strips or civic campuses with professional facility management and modern HVAC systems, Fitchburg's FCCPs are concentrated in dense, high-poverty residential blocks, operating out of older, multi-family wood-frame homes (e.g., 1st/2nd-floor apartments). Because Family Child Care programs operate within residential buildings rather than purpose-built educational facilities, many providers must address housing-related challenges including building maintenance, aging infrastructure, rental restrictions, environmental exposure concerns, and limited access to capital improvements. National housing policy research emphasizes that the sustainability of home-based child care is closely linked to housing stability and facility conditions.
- **Biological Susceptibility:** During the first five years of life, children's neurodevelopment is uniquely vulnerable to environmental hazards such as toxic lead (Pb), fine particulate matter (PM_{2.5}), and heat-induced toxic stress.

- The Breakthrough Pilot Grant: To address this historical gap, the Massachusetts Department of Early Education and Care (EEC) and MassDevelopment launched the Family Child Care Capital Grant Pilot Program, offering up to \$25,000 for fixed physical space improvements and durable equipment.
- The Imperative for Continuation: Continuing and scaling this pilot program is essential to rectify decades of systemic neglect, expand capacity, and safeguard vulnerable children in Gateway Cities like Fitchburg.

Executive Summary & Background

How do historical environmental burdens, housing insecurity, and climate-related risks intersect with investments in early childhood infrastructure for home-based Family Child Care Providers (FCCPs) in post-industrial Gateway Cities?

This brief examines the physical, administrative, and capital funding systems that shape early childhood facilities in Fitchburg, Massachusetts. Particular attention is given to the Family Child Care Capital Grant Pilot Program, administered by MassDevelopment and funded by the Massachusetts Department of Early Education and Care (EEC), as a case study in addressing longstanding inequities in facility investment between home-based Family Child Care programs and other early childhood education settings.

As highlighted in national research by the National Association for Family Child Care (NAFCC), affordable housing and early childhood education are closely interconnected. Because Family Child Care businesses operate within residential properties, housing stability,² facility quality, and business sustainability are often inseparable. NAFCC research documents longstanding barriers faced by home-based educators, including housing instability, landlord restrictions, zoning limitations, and limited access to financing for facility improvements.² Unlike public schools and child care centers, home-based providers have historically had limited access to capital funding programs, leaving many responsible for funding repairs, safety upgrades, accessibility improvements, and environmental remediation costs with little or no public investment support. This inequitable financing structure has contributed to persistent disparities in the physical environments where many young children receive care and early learning services.

The Massachusetts Department of Early Education and Care (EEC), in partnership with MassDevelopment, established the Family Child Care Capital Grant Pilot Program to support licensed home-based providers through investments in facility improvements and durable equipment. Eligible projects include safety upgrades, accessibility improvements, HVAC systems, and other infrastructure investments intended to strengthen the quality and sustainability of Family Child Care environments.⁷

Background: Historical Exclusion, Housing Security, and Developmental Risk

Historically, public policy has viewed early childcare through an economic lens, either as a labor-force support mechanism for working parents or as a short-term school readiness tool. These frameworks ignore the physical reality of childcare facilities as biological, housing, and environmental infrastructure. Young children are uniquely vulnerable to environmental hazards because they consume more air, food, and water relative to their body weight than adults, while critical neurological, respiratory, and immune systems are still developing. Environmental exposures during periods of rapid growth can disrupt normal biological development and contribute to lifelong health consequences.¹³

In post-industrial Gateway Cities, these physical risks carry severe long-term developmental costs:

1. **Lead (Pb) Toxicity:** Microscopic blood lead levels cause irreversible neurological damage and impair executive functioning. Massachusetts continues to monitor childhood lead exposure through its Childhood Lead Poisoning Prevention Program, which identifies aging housing stock as an ongoing source of risk.⁹ Older homes constructed before modern lead paint regulations remain a concern in many Gateway Cities with aging residential infrastructure.

According to the Massachusetts Department of Public Health, lead paint remains the primary source of childhood lead exposure in the Commonwealth, which has the fourth-oldest housing stock in the nation. Approximately 68% of Massachusetts housing units were built before 1978, when lead-based paint was banned for residential use.⁹ The Department notes that there is no safe level of lead in blood and that even relatively low levels of childhood exposure can result in severe and irreversible developmental harm. Because many Family Child Care Providers operate from older residential properties, maintaining healthy indoor environments and addressing lead hazards remain important considerations for protecting children's health and supporting equitable early childhood infrastructure investments.

2. **Fine Particulate Matter (PM_{2.5}):** Growing evidence suggests that prenatal exposure to fine particulate matter (PM_{2.5}) is associated with adverse cognitive, language, and motor development outcomes during early childhood.¹² A 2025 systematic review further identified associations between (PM_{2.5}) exposure and neurodevelopmental conditions, including autism spectrum disorder (ASD) and developmental delays.⁴
3. **Toxic Stress & Allostatic Load:** Toxic stress occurs when stress-response systems remain activated for prolonged periods without supportive relationships that help children recover from adversity. Harvard University's Center on the Developing Child notes that chronic exposure to significant stress can disrupt brain architecture and biological systems, increasing the risk of developmental and long-term health challenges.³

Decades of Capital Exclusion and Housing Barriers

While center-based facilities and public elementary schools have historically had access to municipal bonds, commercial capital, and institutional grants, home-based Family Child Care Providers (FCCPs) were excluded for decades from capital funding streams. Because FCCPs

operate within residential properties, public agencies have often categorized facility costs as private household expenses rather than essential early childhood infrastructure. Educators also face barriers related to landlord restrictions, homeowners' association (HOA) requirements, and local regulatory policies.²

Analysis of licensed Family Child Care Provider addresses identified approximately 22 programs (about 19% of licensed FCCPs) operating from residential units with explicit multi-unit designations, including apartments and upper-floor units.⁷ While public licensing records do not indicate whether providers own or rent their homes, these data suggest that a substantial portion of Fitchburg's home-based child care infrastructure operates within multi-family housing. This finding highlights the importance of ensuring that capital improvement and facility investment programs are accessible to both homeowner and tenant providers.

As a result, many home-based providers who disproportionately serve low-income, immigrant, and racially and ethnically diverse working families have been responsible for funding facility maintenance, repairs, and improvements out-of-pocket while operating on limited reimbursement rates and narrow profit margins.

Examining Capital Needs and Local Infrastructure in Fitchburg

To better understand these spatial dynamics, this brief examines Fitchburg, Massachusetts, a designated Gateway City with an aging industrial legacy along the Nashua River and an under-five child poverty rate of 6.3%.¹¹ Fitchburg also contains areas designated by the Massachusetts Executive Office of Energy and Environmental Affairs (EEA) as Environmental Justice (EJ) populations, reflecting communities that may experience cumulative environmental, economic, and public health burdens.⁹ State EJ mapping tools provide a valuable framework for understanding how early childhood infrastructure intersects with environmental conditions and community well-being at the neighborhood level.

Table 1: Fitchburg Socioeconomic and Demographic Profile ¹⁴		
Indicator	Fitchburg	Massachusetts
Population	42,136	7.1M+
Median Household Income	\$73,040	\$103,960
Under-5 Poverty	6.3%	4.9%
Non-English Language	31.8%	25.1%

Source: U.S. Census Bureau, QuickFacts: Massachusetts and Fitchburg City, Massachusetts

Why Environmental Justice Matters for Early Childhood Infrastructure

Massachusetts has formally identified Environmental Justice (EJ) populations through statewide mapping and policy initiatives designed to recognize communities that may experience disproportionate environmental, economic, and public health burdens. Because many licensed Family Child Care Providers in Fitchburg operate within or near these communities, investments in healthy physical environments including improved indoor air quality, climate-appropriate cooling

systems, lead hazard remediation, accessibility improvements, and safe outdoor learning spaces can contribute to healthier settings for children, families, and educators. Massachusetts climate assessments indicate that rising temperatures and more frequent extreme heat events present growing challenges for community infrastructure, including facilities that serve young children.¹¹ Environmental justice research increasingly recognizes that young children are especially vulnerable to environmental hazards because their neurological, respiratory, immune, and other biological systems are still developing.¹ As a result, the quality of the environments in which children live, learn, and receive care should be considered a critical component of both public health and early childhood infrastructure planning. For a community such as Fitchburg, where the majority of licensed providers operate home-based Family Child Care businesses, housing conditions and environmental quality are inseparable from the health, safety, and sustainability of the early childhood system.

To better understand how environmental justice, housing conditions, and early childhood infrastructure intersect locally, cross-referencing licensed childcare program inventory in Fitchburg demonstrates how care options map onto distinct physical spaces and environmental exposure profiles:

Table 2: Fitchburg Licensed Child Care Infrastructure Profile⁶			
Facility Modality	Programs (% of Licensed Providers)	Capacity Range	Built Environment Characteristics
Institutional Centers (Large Group Centers)	9 (7.1%)	30–165 children Average: ~71 slots	Commercial corridors, civic campuses, schools, religious institutions, and purpose-built facilities
Family Child Care Providers (FCCPs – Home-Based)	114 (90.5%)	6–10 children per provider	Residential neighborhoods, older single-family and multi-family housing, home-based learning environments
Informal Care Programs	3 (2.4%)	Varies	Residential and community-based settings

Source: Massachusetts Department of Early Education and Care (EEC), Massachusetts Licensed Child Care Program Search.

Family Child Care Providers (FCCPs) represent 90.5% of all licensed child care providers in Fitchburg, making home-based programs the dominant component of the city's early childhood infrastructure. Because these programs operate primarily in residential settings, housing conditions, environmental quality, and access to capital improvements are directly linked to the health, safety, and sustainability of early learning environments.

Using the Early Childhood Environmental Health Vulnerability Index (EC-EHVI) bioecological framework,⁵ we see a stark spatial divide between these modalities:

- Institutional Centers (7.1% of providers): Concentrated along primary commercial corridors (e.g., John Fitch Highway, South St) or civic/religious property lots (e.g., Wallace Ave, Rindge Rd, Vernon St). These sites benefit from dedicated facility budgets, modern air filtration/HVAC, professional maintenance, and structural outdoor shading.
- Family Child Care Providers (90.5% of providers): Overwhelmingly dominate the care ecosystem but are concentrated in dense residential neighborhoods (e.g., Prichard St, Blossom St, Main St, Summer St, Albee St, Boutelle St, Morris St, Water St). Operating out of older, multi-family wood-frame structures—with over 15% of addresses explicitly indicating multi-unit arrangements ("*Apt 1*", "*2nd Floor*", "*1st Floor*"), these providers face micro-urban heat island effects, lack commercial cooling systems, and sit adjacent to peeling exterior lead paint or heavy transit corridors.

Analysis of the Family Child Care Capital Grant Pilot

To break the historic cycle of exclusion, the EEC and MassDevelopment established the Family Child Care Capital Grant Pilot Program. Designed specifically for licensed home-based providers, this breakthrough grant offers up to \$25,000 for fixed, integrated physical investments:⁷

- Tier 1 (Durable Equipment): Purchases of durable integrated goods with a useful life of 3+ years, such as commercial washers/dryers, fixed play equipment, security systems, and food preparation appliances.
- Tier 2 (Capital Improvements): Physical space modifications, including HVAC/air conditioning systems, window replacements, roof repairs, security fencing, electrical upgrades, and accessibility modifications (e.g., enhanced bathroom facilities and grab bars).
- Evaluation Preferences: Priority scoring is given to programs located in Gateway Cities (such as Fitchburg), low Child Opportunity Index (COI) zones, programs accepting state childcare vouchers/subsidies, providers offering non-traditional hours, and projects incorporating energy-efficiency upgrades aligned with state climate goals.

Housing security and access to capital investment are foundational to the sustainability of home-based Family Child Care businesses. Continuing and expanding the Family Child Care Capital Grant Pilot can help address longstanding inequities in facility funding while supporting healthier and safer early learning environments for young children.

Why Continuation of the Capital Grant Pilot is Essential

The creation of the Family Child Care Capital Grant Pilot was a vital first step, but it must not remain a one-time initiative. Continuing and expanding this program is critical for three primary reasons:

1. Rectifying Historic Capital Inequities: Over 90% of Fitchburg's licensed care providers are home-based. A single grant cycle cannot undo decades of systemic financial exclusion across residential provider networks. Long-term capital commitment is necessary to rebuild aging physical care environments in Gateway Cities.

2. **Unlocking Licensing Capacity and Expansion:** Physical facility limits (such as single-bathroom limits, egress pathway bottlenecks, or inadequate electrical circuits) directly cap provider licensed capacity (currently capped between 6 and 10 children per FCCP). Capital grants enable providers to upgrade facilities and expand enrollment slots in communities experiencing acute childcare deserts.
3. **Addressing the Renter & Multi-Unit Housing Gap:** The pilot round was strictly restricted to homeowners, leaving out tenant providers who rent multi-family units in high-poverty EJ blocks. As noted by NAFCC, protecting tenant rights and supporting leasehold improvements are vital to prevent provider displacement and loss of care slots.

Actionable Policy Roadmap

Aligning with NAFCC's national housing policy framework, state and local policymakers should implement the following recommendations:

1. **Institutionalize the Capital Grant Program as a Permanent Budget Line:** The Massachusetts Legislature should transition the pilot into a permanently funded state program, increasing annual appropriations to meet massive statewide demand.
2. **Extend Capital Access & Leasehold Support to Tenant FCCPs:** MassDevelopment and the EEC should establish a dedicated leasehold improvement grant tier or tenant-landlord agreement framework, allowing home-based providers who rent multi-family units to access capital for essential safety, accessibility, and environmental upgrades.
3. **Eliminate Local Zoning & Municipal Barriers:** The City of Fitchburg and municipal planning boards should ensure local zoning, building permits, and fees do not create administrative hurdles for home-based care programs operating in residential zones.
4. **Deploy Municipal CDBG Micro-Grants for Local Remediation:** The City of Fitchburg should utilize Community Development Block Grant (CDBG) funds to establish local capital micro-grants for home-based providers to fund immediate interventions such as HEPA air purifiers, soil lead testing, and outdoor shade structures.
5. **Integrate Childcare Assets into Climate Resiliency Planning:** Municipal planning boards must designate home-based and center-based early childhood facilities as critical infrastructure nodes within municipal Climate Vulnerability Assessments, prioritizing them for tree-canopy expansion and emergency power backup.

Future Empirical Research Agendas

To support long-term capital policy interventions, future interdisciplinary research must focus on three empirical tracks:

- **High-Resolution Indoor Audits:** Deploying IoT sensor networks inside home-based FCCPs to record real-time PM_{2.5}, VOC, and thermal data before and after capital HVAC upgrades.
- **Capital Cost Modeling:** Conducting bottom-up economic evaluations across Gateway Cities to calculate the exact per-facility capital costs required to bring aging residential provider spaces up to a standardized "Healthy Early Learning Environment" benchmark.

- Longitudinal Health & Attendance Tracking: Monitoring pediatric asthma, absenteeism, and cognitive development before and after capital facility remediations (*such as window replacements and HEPA installations*).

About the Author & Organization

Marites MacLean is the President and Founder of Empower Children for Success (ECFS). A retired Family Child Care Provider with three decades of direct frontline experience, she served as a member of the Massachusetts Department of Early Education and Care (EEC) Advisory Council from 2015 to 2021. Her research and advocacy center on facility equity, municipal policy, capital funding streams, and environmental justice across home-based care networks.

Empower Children for Success (ECFS) is an all-volunteer, community-based nonprofit organization dedicated to advancing early childhood equity, facility quality, and environmental justice across North Central Massachusetts. Through community partnerships, policy research, advocacy, and direct support for educators and families, ECFS works to ensure that every child regardless of race, income, language, or zip code has access to safe, healthy, and enriching early learning environments.

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